Sustaining Efficient Bureaucracies: What Does Gift Exchange Theory Say?
Sustaining Efficient Bureaucracies: What Does Gift Exchange Theory Say?*

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January 2007

Abstract
Some mystery altruistic phenomena in the superior-subordinate relationship in the workplace can be explained within the framework of gift exchange theory. In this paper we discuss this theory, compare its merits to the standard pay-for-performance approach, and review its fundamental ideas, results and implications.

We apply gift exchange theory to the analysis of relationships in the government sector taking into account both horizontal and vertical connections. This topic proves overwhelmingly important in light of the significant informal and implicit relationships between civil servants especially on the higher levels of the hierarchy.

The paper describes some opportunities of the gift exchange practices to make better coordination and contract efficiency in public bureaucracies. We use the market for externalities framework to demonstrate that a gift exchange can lead to a Pareto-optimum outcome when two (or more) government agencies interact horizontally.

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* We would like to thank Yaroslav Kuzminov and Eric Brousseau for their invaluable help and guidance. We are grateful to Konstantin Sonin, Nicolas Carayol and Marina Odintsova for fruitful discussions on this and related topics. We also acknowledge Sidney Winter, Nuno Garoupa, Ivan Ribeiro and Angela Stanton, Eshien Chong and Claudine Desriex for their beneficial comments and other ESNIE and Thinking&Doing 2006 participants who provided critique and helpful advices.

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Introduction

The standard solution of the principal-agent problem implies that a principal who cannot observe an agent’s efforts motivates him (her) to high effort by setting rewards related to outcomes. However such a pay-for-performance approach can be associated with a loss of efficiency, especially if an agent is more risk-averse than a principal. In cases of high uncertainty where exogenous factors can have a dramatic impact outcome-based incentives generate inefficient risk sharing. The agency theory assumes that any action undertaken by an agent is a response to one or another stimulation mechanism imposed by a principal and that an agent always pursues his own ends taking into consideration neither common norms nor informal agreements.

Nevertheless many existing types of principal-agent relationships are beyond the limits of the standard theory of incentive contracts. The pay-for-performance approach does not allow us to explain mystery altruistic phenomena in relationships between superiors and subordinates, or such phenomena in relationships among subordinates. For example, in practice one may observe that an employee works conscientiously and even makes efforts greater than the minimum level required, while for initially unaccountable reasons an employer pays a worker in excess of the market-clearing wage\(^3\). One of the most interesting ways to explain these phenomena and also to propose a solution for the inefficient risk-sharing problem consists in the alternative approach to agency theory – gift exchange theory.

This approach implies that agents (participants in a relationship) experience benevolence toward each other, which expresses itself in specific actions and services called gifts. In other words agents conclude an informal agreement to respond to kindness with kindness.

The gift exchange theory has been broadly applied. Its elements are used to analyze social relations [see Lowrey, Ottes, Ruth (2004), Titmuss (1971), Arrow (1972), Camerer (1988), Caplow (1982)] and trade [see Murrell (1982)] ones, to examine relationships in political [see Matthews (1959)] and university academic [see Antal, Richebe (2005)] environments, to study charitable activity [see Falk (2004), Andreoni (1989)] and competitive experimental markets [see Fehr, Kirchsteiger, Riedl (1998)]. However, gift exchange theory has been most comprehensively applied and developed in the gift exchange analysis of superior-subordinate relationships in the workplace\(^4\), and this new approach differs sharply from the standard principal-agent analysis of contract theory.

\(^3\) The basic study of this phenomenon belongs to Akerlof (1982).

The main distinction is that the standard incentive scheme implies activity on only one side (which provide incentives) whereas the gift exchange approach implies reciprocity. This reciprocity determines a self-enforcing nature of relationships. Mutual trust leads to greater intrinsic motivation of exchange participants, and consequently an agent chooses an effort level above what is required and a principal pays the wage above the market-clearing level. Thus in the context of this approach the standard stimulation problem of agency theory is converted into the problem of defining conditions that ensure a gift exchange among a principal and an agent. Incentive mechanisms guided by the agent’s intrinsic motivation prove to be more efficient than pay-for-performance incentives.

In public bureaucracies formal incentives, such as financial remuneration, do not play a large role and informal and implicit incentives are placed in the forefront. Thus relationships in the bureaucratic environment where market mechanisms are suppressed prove a fertile field for the gift-exchange development. This is concerned with a number of distinguishing features of the government sector such as peculiarities of its hierarchical structure, conflicts of interests (the problem being that government agencies and politicians are not expected to maximize the social welfare but rather to pursue their own interests), political policy dependence, multiplicity and fuzziness of goals, lack of comparison (many government agencies have a monopoly position in their activity, making their performance hard to assess), heterogeneity of owners’ tastes, dispersed ownership and so on. It is necessary to recognize that the principal-agent relationship in bureaucracies has its proper specific character and therefore analyzing the possibility of applying gift exchange to public settings can be useful, with a view to using it as an instrument for regulating the activities of civil servants and government agencies.

However a large existing literature on gift exchange is devoted to the study of the superior-subordinate relationship in the private sector while its specificity in the state sector remains beyond the scope of the analysis. However informal and implicit relationships dominate in bureaucratic organizations even if they remain confidential. So they become a fertile field of the gift exchange development. In particular, the reciprocity tradition inheres in almost all bureaucracies.

Whereas the distinguishing features of the state sector listed above impose some constraints on the analysis of gift exchange in public environments, they occasion its specific nature. In particular, following the hierarchy structure we divide gift exchange practices into two main types: vertical (between officials of different ranks) and horizontal (between officials of the same rank). Prevailing nature of implicit incentives and informal relations causes trust and reputation to become the key inducements of civil servants. If in the private sector pecuniary motivation is weighty then intrinsic motivation proves fundamental in the government sector so
gift exchange among civil servants can serve to increase the power of their incentives. Moreover due to greater informality and the lack of objective comparison measures of efficiency in the public sector subjective estimates and perceptions of agents are necessary to be taken into account. The gift exchange framework ensures all this.

Gift exchange theory provides a wide range of prospects to analyze interactions among agents in the state sector both employees and government agencies as it allows to examine the specificity of public relationships that can not be explained within the standard framework of contract theory. However most studies focus on negative effects of gift exchange. Indeed such an exchange can contribute and really make for the relational efficiency growth between civil servants but at the same time it can entail a decline in the public welfare. In that case strengthening of social contacts among officials involves negative consequences for the whole society – one can observe this tendency in Russia where the high level of corruption and pursuing private ends result in forming networks of implicit agreements on rendering reciprocal services, that are frequently illegal, as well as on trading of rights to break the law and public rules. So it comes as no surprise that such phenomena as clientelism, cronyism, nepotism, patrimonialism become widely examined in the literature. Although they advert to a gift exchange they interpret it as a particularly negative phenomenon. They put in the forefront its feature to increase efficiency of officials’ interactions to the detriment of the optimal public welfare.

One of the examples of gift exchange relations realized in practice is clientelism that is defined as a form of social contacts of domination, subjection and favoritism. However the distinctive feature of such relations consists not only of interdependence between participants but

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5 Favoritism shown to old friends without regard to their qualifications (as a rule cronyism is a result of long-run friendly relations between higher-level bureaucrats). [http://en.wikipedia.org/wiki/Cronyism](http://en.wikipedia.org/wiki/Cronyism)

6 Favoritism shown or patronage granted to relatives or close friends by those in power (for example, by giving them jobs). [http://en.wikipedia.org/wiki/Nepotism](http://en.wikipedia.org/wiki/Nepotism)

7 Or neopatrimonialism is “a term used for patrons using state resources in order to secure the loyalty of clients in the general population, and is indicative of informal patron-client relationships that can reach from the very high up in state structures down to individuals”. [http://en.wikipedia.org/wiki/Patrimonialism](http://en.wikipedia.org/wiki/Patrimonialism)


9 “… patrons and clients are linked by their ability to make credible agreements with each other regarding the exchange of personal favors and gifts”. See Keffer, Philip (2004), Clientelism, Credibility and Democracy. World Bank Working Paper. The second Version. March. P. 2.

10 As Brian Kermath says “…powerful and rich "patrons" promise to provide powerless and poor "clients" with jobs, protection, infrastructure, and other benefits in exchange for votes and other forms of loyalty including labor. While this definition suggests a kind of "socioeconomic mutualism," these relationships are typically exploitative, often resulting in the perpetual indebtedness of the clients in what is described as a "debt-peonage" relationship. In some places, patrons employ coercion, intimidation, sabotage, and even violence to maintain control, and they frequently fail to deliver on their promises. Moreover, patrons are generally unaccountable for their actions. Thus, clientelistic relationships are often corrupt and unfair, thereby obstructing the processes of implementing true sustainability”. [http://www.uwsp.edu/cnr/gem/ambassador/what_is_clientelism.htm](http://www.uwsp.edu/cnr/gem/ambassador/what_is_clientelism.htm)
also of recognizing an agent from the crowd with the purpose to provide him (her) protection and other benefits in exchange for his (her) votes and loyalty\textsuperscript{11}.

A large body of the comparative politics and sociological literature analyses this and other phenomena\textsuperscript{12}. Huge evidence also supports the expansion of clientelism and nepotism in the state sectors of different countries. For example according to the survey of Russian young officials, Gimpelson and Magun\textsuperscript{13} conclude that hiring of young civil servants as a rule rests not on procedures providing selection of applicants on the basis of their skills and competences but on personal contacts and recommendations. Formal exams and qualification tests are used extremely rarely. Quite often official patronage to relatives and “his people” is a gift of the official of the higher rank to his subordinates in response of their loyalty and extra effort or to his colleagues against their counter services.

At the same time there is a small number of studies that display positive effects of gift exchange although they touch upon the point of gift exchange indirectly – these are works concerning the political risk influence, excessive control and the problem of moral hazard in state organizations. In our context they are interesting as they help to imagine how the informal exchange can improve performance and its lack, on the contrary, can decrease operating efficiency\textsuperscript{14}.

For example Warwick (1974) has ascertained that the presence of political risks induces risk-averse bureaucrats to do nothing but stick to written rules and formal hierarchical orders even in cases when they appear to be inefficient. The author cites the experience of the US State Department “led by a transitory and distant Secretary of State resulting in that its Foreign Service officers feel exposed to political risks form Congress. Warwick analyzes an attempt to improve their performance by decreasing stifling hierarchy and relaxing rules”\textsuperscript{15}. However with time civil servants have required to intensify formal and explicit rules and define more concretely the levels of the hierarchy. In other words, trying to insure themselves from risks, officials will rather conform to strict instructions (that are not necessarily efficient) and rest upon them as the basis for each action. Thus a protection of bureaucrats from political risks proves to be an important prerequisite of performance improvement in the public sector.

The other important conclusion is that tight control negatively affects the intrinsic motivation of performers\textsuperscript{16}. Scholz (1991) considers the problem of control in the relationship of the government regulator and firms. Using a nested game framework the author explains “why a cooperative strategy can increase enforcement effectiveness”\textsuperscript{17}. However cooperation requires greater administrative discretion while tight control results in minimal compliance and willingness to compromise. Thus the main contribution here is that flexible control and information exchange are able to provide more efficient regulation and at the same time reduce monitoring costs.

Finally it is interesting to mention the finding of Brehm and Gates (1997) asserting that under definite selection rules that type of bureaucrats becomes dominating in the equilibrium that will reduce the moral hazard problem. State employees will be involved in such a gift exchange relationship that their behavior will answer public purposes.

Although these investigations do not advert to the gift exchange as itself they demonstrate its advantages as an instrument contributing to cooperation of civil servants and describe inefficiency of their activity in the absence of such an exchange.

Thus there is contradiction in the literature on gift exchange. Nevertheless the main point is that gift exchange can really increase contract efficiency and strengthen social ties between government employees but at the same time it can be accompanied by the public welfare decline. In that case corruption, shadow networks, nepotism, clientelism and so on will flourish in the state sector. Thus it is extremely important to provide exogenous conditions and construct specific institutions ensuring such gift exchange expansion that would favor the public welfare growth rather than pursue the officials’ private interests. This is a wide area of further inquiries. This paper focuses on advantages of the application of gift exchange theory to the analysis of informal relations in the government sector. We consider positive effects of such reciprocity relations, study their nature in public bureaucracies, and examine subjects\textsuperscript{18}, motivation components and attributes of gifts. Finally we demonstrate with practical examples how gift exchange can improve performance in the state sector.

In public settings, quite often the efficiency of one official’s activity influences on the production of the others’; there are both positive and negative externalities. Mutual concernment of employees leads to the establishment of benevolence among them that can be expressed consciously in specific actions and reciprocal services, such as responsibility expansion, performance improvement, speeding-up activity, and others that just reinforce positive


\textsuperscript{17} Ibid. P. 115.

\textsuperscript{18} Here by “subject” we apply items or articles participants of a relationship exchange with each other.
interferences of government servants. Otherwise mutual discontents and conflicts lead to impediments that substantially increase collective action costs and provide worse performance. From the formalistic standpoint gifts can be considered as positive production externalities, so the gift exchange is a market for externalities. In that case the externality economics framework allows to demonstrate visually the influence of gift exchange on efficiency of interactions among government agents and agencies.

Thus the purpose of this paper is to analyze an informal gift exchange in the relationships of civil servants and the interactions of government structures within public bureaucracies.

This paper is intended to carry out three main tasks. The first one is to describe the fundamental idea and the results of gift exchange theory that will contribute to our understanding of the nature of such reciprocity relationships. The second one is to disclose the potential of the adoption of this approach to the analysis of relationships in public bureaucracies, to reveal the role of reciprocity in the government sector. The third one is to demonstrate with realistic examples the phenomenon of gift exchange relationships in the state sector, studying a variety of reasons of their development in different countries with specific cultures and customs. The fourth one consists in the formal proof with the help of the externality economics framework that in the case of two (or more) interacting government agencies and under condition of their interdependence activity gift exchange among them leads to Pareto improvement.

The paper is organized as follows. In the first part the nature of the gift exchange phenomenon is analysed. The second part describes some relevance examples of the application and specificity of gift exchange in the state sector. Furthermore subjects of gifts and motivation components of gift giving in public settings are considered. As well as opportunities of the gift exchange employment to increase efficiency of interactions between civil servants are discussed. Then a new approach of formal modeling of gift exchange is proposed. In terms of the market for externalities it is proved that gift exchange between two horizontally interacting government structures allows to achieve an efficient equilibrium. The final part presents some evidence and conclusions.

1. The nature of gift exchange

*Gift exchange* is defined as a benevolence among agents that is expressed in specific actions and services called *gifts*. As a classic example in this field one may consider a gift exchange between an employer and an employee. George Akerlof (Akerlof (1982))\(^{19}\) examined in detail a case when a firm pays the workers more than the market-clearing wage and the

workers in their turn work harder than required. The idea to regard a labour contract as a gift exchange is caused by phenomena observed in reality and in practice in the workplace.

Akerlof points out the significance of norms and informal rules of the behaviour in the group where an exchange occurs, as well as the solemnity of a sense of kindness that the workers experience with each other and with the firm. Trust, reciprocity and fairness are of great importance in the gift exchange relationship.\textsuperscript{20}

Both holistic and individual approaches are applied to the analysis of gift exchange. The individual approach assumes that a decision of giving is a solution of the agent’s utility maximisation program. As a rule studies in this context emphasize a signal function of a gift and underline a strategic nature of gift-exchange. Gifts can serve as a signal of the agent’s type or an intension about future investment in a relationship. It is worth noting that gifts at first glance seemed inefficient (for example, expensive “senseless” presents) can be even better signals.\textsuperscript{21}

Under the holistic approach, which is also broadly accepted, a gift exchange is regarded as a prevailing social norm.\textsuperscript{22}

To better understand the nature of the gift exchange phenomenon in the agents’ relationship, we consider in detail the possible subjects, attributes and motivation components of giving, first in general and then in public settings.

\textbf{1.1. Subjects of giving}

Depending on the aim of giving and the nature of a relationship there is a wide variety of subjects of giving. Reciprocal services, material goods, extra efforts, loyalty, reputation and so on can serve as a gift.

In a standard labour contract one may find the following subjects of giving

\begin{itemize}
\item proposed by an employer
  \begin{itemize}
  \item a flat wage above the market-clearing wage;
  \item relaxation of direct control and monitoring;
  \item bearing most risks (connected with business cycles, recessions, accidents and so on);
  \item career development;
  \end{itemize}
\item proposed by an employee
  \begin{itemize}
  \item extra effort improving performance;
  \item observance of labour discipline;
  \end{itemize}
\end{itemize}

\textsuperscript{20} Ibid. P. 552-556.
- conscientious work;
- initiative.

However, they do not exhaust the list of subjects of giving. In each special relationship one can use not only listed subjects but also the most diverse ones.

### 1.2. Attributes of giving

A large existing literature on gift exchange distinguishes different features of such relations. We dwell on four principal attributes: reciprocity, trust, adequacy, and apparent voluntarism.

#### Reciprocity

Reciprocity is one of the main attributes of gift exchange. In 1923-1924 in the seminal essay “The Gift: The Form and Reason for Exchange in Archaic Societies” a social anthropologist Marcel Mauss\(^\text{23}\) stressed the reciprocal nature of giving. He paid attention to the similarity of roots in Western European languages for “poison” and “gift”\(^\text{24}\) that corroborates the obligatory nature of reciprocity of a gift: formerly there is a threat of harm to a recipient who failed to reciprocate. Moreover, due to the strong influence of traditions and norms in archaic cultures gift exchange had a function of mutual insurance: a more successful hunter shared the results of the hunt with those who proved less successful\(^\text{25}\).

After Mauss\(^\text{26}\), Akerlof marks out reciprocity as the most important attribute of gift exchange in the labor contract: a worker increases output in exchange for wage growth. In the proposed model Akerlof explains an existence of the situation where the workers expend effort above the minimum required. In response to this the firm does not raise standards of work and pays the workers more than the market-clearing wage.

It is worth mentioning that gift exchange differs from market exchange. A gift exchange represents a personalized exchange in which a real value of the gift and participation in the exchange is determined by personal feelings and subjective perceptions of a donor and a recipient (in particular, the value of a gift for a recipient is in many respects determined by the

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\(^{24}\) The similarity of roots can be traced “in two major branches of Western European languages. Since in ancient German the word gift means both gift and poison, and the Greek word δοσις for poison, which is the root of the English dose has the same root as the Greek word to give.” See Akerlof G. (1982), Labor Contracts as a Partial Gift Exchange // Quarterly Journal of Economics. Vol. 97. No. 4. P. 549.


\(^{26}\) Also Codere (1950) emphasizes reciprocity of gift exchange. At the same time it is not always so, for example Camerer (1988) and Van De Ven (2000) stress that it is "especially misleading to assume that modern gift-giving must be reciprocal" (Camerer 1988, P. S181).
identity of a donor and the nature of their relationship\textsuperscript{27}). At the same time on the market anonymous participants exchange to each other under prices that are taken as exogenous\textsuperscript{28}.

\textit{Trust}

To form trusting relations is of great importance because it is trust that guarantees reciprocity of exchange. By trust we imply “the belief that another will reciprocate a beneficent act not motivated by short-term self-interest (a gift)”\textsuperscript{29}. Thus a gift itself is a sign of trust. So an agent who first makes a gift in such a way demonstrates his trust to the partner.

A number of studies test a problem of trust by means of different experiments\textsuperscript{30}. The results prove to be similar to theoretical conclusions. For example Fehr et al. (1993)\textsuperscript{31} tests the efficient wage hypothesis and find that employers in most cases have enough trust to pay more than a minimal wage and employees are in their turn ready to make higher effort than is formally required. Furthermore it is revealed that social history does matter: trust is reinforced if in the past an exchange was reciprocal and adequate\textsuperscript{32}.

\textit{Adequacy}

Jeroen van de Ven defines adequacy of a gift in the following way: “if gifts do not maximize the receiver’s utility given his preferences and the costs incurred be the giver, we call them inadequate gifts”\textsuperscript{33}.

Following this definition we consider an adequacy of a gift in two perspectives:

- matching by form,
- matching by value.

\textsuperscript{27} To get a small attention from the near relation is much more fascinating than a great gift from a slight acquaintance.

\textsuperscript{28} Kranton, Ven and Klundert examine in detail a connection between market and gift exchange. On the one hand the authors conclude that the market economy (gifts in exchange for money) represents the more effective means of exchange. In the equilibrium subject to thickness of the market – more agents on the market reduce search costs – all transactions of gift exchange vanish and the size of the market increases. On the other hand in reality such a kind of transactions as gift-exchange persists even if it is inefficient. The authors explain this fact by the value of social interactions in themselves. They extend the utility function and take into account the value of social relations in the form of symbolic utility that people obtain only in the case of gift exchange. As a result the authors come to conclusion that if such symbolic utility is positive then high market and gift exchange can coexist. See Kranton R. (1996), Reciprocal Exchange: A Self-Sustaining System // American Economic Review. Vol. 86. No. 4. P. 830-851. Klundert T. and J. van de Ven (1999), On the Viability of Gift Exchange in a Market Environment. CentER Discussion Paper 99113.


Matching by form implies a choice of the adequate form of a gift: a worker will not offer to his employer money but prefer instead to make extra effort or services valuable for the employer. The form of a gift in many respects depends on common mentality and culture in a particular community. And matching by value describes a choice of the adequate size and value of a gift: for instance, extra efforts of an employee must be high enough to increase total productivity of the firm.

**Apparent voluntarism**

Marcel Mauss mentions that a gift exchange combines voluntarism and obligation. In spite of the lack of formal enforcement mechanisms a recipient experiences a social pressure: he has to reciprocate not to lose a reputation. Thus a gift giving can be a deliberate strategic act that puts a recipient in the position of a “debtor” while a donor obtains an advantageous position of a “benefactor”. Gift exchange “is calculated to create a network of obligation that will guarantee social position for the giver”. Also according to Miller and Whitford (2002) such a strategic form of a gift can be widely used in career development.

The concept of apparent voluntarism is closely related to the notion of calculative trust of Williamson (1996) that implies the agents when make contracts on the basis of reputation, compare benefits and costs of the contract continuation and its rupture for their partners. Such trust assumes that stability of relations is more profitable for agents than breaking the contract off. Besides it can be asserted that the gift exchange relationship includes another type of trust of Williamson’s concept – personal or pure trust – that is the result of expediency and profitability of the contract as itself. In other words agents benefit from cooperation and meeting their engagements even in the presence of incomplete contracting and bounded rationality.

**1.3. Motivation components of giving**

Jeroen van de Ven (2000) distinguishes the following six elements of gift exchange motivation (Table 1):

<table>
<thead>
<tr>
<th>Motivation of giving</th>
<th>Aim of giving</th>
</tr>
</thead>
<tbody>
<tr>
<td>Altruism</td>
<td>Making others happy</td>
</tr>
<tr>
<td>Egoism 1</td>
<td>Exchange</td>
</tr>
<tr>
<td>Egoism 2</td>
<td>Warm glow, social approval</td>
</tr>
</tbody>
</table>

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36 In the gift exchange relationship it is corresponding to such an attribute of a gift as trust.
<table>
<thead>
<tr>
<th>Strategical</th>
<th>Signaling, building trust</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fairness</td>
<td>Norms, reducing inequality</td>
</tr>
<tr>
<td>Survival</td>
<td>Selection</td>
</tr>
</tbody>
</table>

**Table 1. Motivation of giving**

This is the most complete classification of the gift exchange motivation that describes roots of the exchange participants’ behavior. However in our opinion it is needed to add another element of motivation that is based on such a feature of a gift as a social obligation of reciprocity: a donor expects a recipient to return. Giving many people belonging to one group an agent experiences concernment of his position in this group, he proves in the role of the informal leader. We call this motive *social power*.\(^{38}\)

It is necessary to note that in any particular case one or another attribute of a gift can be lacking or revealed indirectly\(^{39}\). For instance donating blood is in most cases an anonymous gift that does not imply any reciprocity. This example illustrates remarkably altruism and the high intrinsic motivation of giving and so it is very often considered in the literature.

### 1.4. Reverse interdependence of pecuniary and intrinsic motivation

The classic example of the blood donation displays clearly a reverse connection between financial incentives and intrinsic motivation of an agent. Many people are for some reasons (altruism, fairness, social approval, etc.) ready to give blood free of charge. But the structure of givers changes if donation becomes paid. In that case people who are interested in financial compensation may become donors and their state of health will not be necessarily good. So medical institutions will face with the adverse selection problem\(^{40}\).

Such a situation can be explained above all by the fact that financial incentives may lower or even destroy an intrinsic motivation. A man getting remuneration for blood looses his philanthropic status and feels no more proper pride in public opinion. Frey (Frey, 1999) asserts that “if the non-pecuniary motivation is endogenous, and a function of the pecuniary motivation, then pecuniary rewards could crowd out other motivations for giving blood”\(^{41}\). Formal financial incentives lead only to the second-best solution while intrinsic motivation can provide the first-best one\(^{42}\).

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\(^{38}\) This motivation constituent is one of the most important in public bureaucracies.


\(^{42}\) Ibid. P. 256-258.
Thus gift exchange can contribute to the efficient solution of the incentive problem in agency theory as such reciprocity relations are based on intrinsic motivation of agents. However while elaborating incentive schemes we should take into account a reverse interdependence of pecuniary and intrinsic motivation. And so it is necessary to control financial incentives do not crowd out the intrinsic motivation of giving.

2. Gift exchange in public bureaucracies

2.1. Gift exchange practices in the state sector: cross-country evidence

So far we have discussed the fundamental ideas of gift exchange in general. Now we pass on to its nature in public settings. Gift exchange practices as a special phenomenon can be found in government bureaucracies of different countries. Without any reference to the state sector primarily it is born in times of archaic societies and stems from relations between tribe members. It is interesting that under various institutional traditions and the course of history of communities and countries gift exchange developers differently. Nowadays one can find traces of the reciprocity norm in many state and bureaucratic environments. For example, in China it is deeply rooted in ancient communication patterns, in the Soviet Union and other dictatorships profitable connections substituted the market exchange and even in Japan where the bureaucratic order and formal nature of relationships reserve little space for the gift exchange development there are also examples of exchange relations among the central and local governments.

Chinese gift economy is well known as the art of Guanxi by which it is implied profitable social connections and social exchange. The art of Guanxi started to spread in practice about two or three years after the Cultural Revolution. Popular disputes emphasize the ethics of gift exchange to be held – the ethics of obligation and reciprocity, and mutual aid and the responsibilities of friendship and kinship. The literature also stands the question how official corruption in China and popular practices of guanxi are related. On the other side such ethics provides intrinsic motivation and any deviation is excluded. As the author asserts a gift economy arose as “a social response to the deep penetration of state power into everyday life and the politicization of social relationships during the Cultural Revolution”.

Japan presents the other interesting example of the gift exchange development that is realized in the formal system of staff rotations within the government. Inoki cites the data on

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an extremely high frequency of personnel loans and transfers within the state sector of Japan and emphasize close contacts among the central and local governments. At first sight it is rather surprising in view of the formal system of strict rules and clear hierarchy in Japan. However the author stresses not only budgetary reasons of this phenomenon but also other benefits that among other things have the implicit nature, such as the creation of information networks (transmitting information on skills and specific knowledge), the way to mitigate local tensions and balance political powers, positive effects on production efficiency. This system implies such elements of gift giving as resource sharing, reputation exchange as well as protection from political risks and free opportunities for employees to raise their qualification level.

According to Lazarev and Gregory (2003) there was the political gift exchange in the Soviet Union. They test the phenomenon of the distribution of vehicles in the time under Molotov’s regime. The authors conclude that the process of the distribution can be more likely explained by buying loyalty rather than pure economic rationality.

In attempt to explain negative consequences of gift exchange for Russia it is necessary to mention its function of internal mechanism of greasing the palm relations and regulating activity of officials. Non-pricing mechanism, and consequently, extensive networks of profitable connections of more than 70 years practice has been only strengthened for the post-transition period. The implicit trade and “barter” of services became one of the balancing mechanisms in the state sector of Russia. Most responsibilities are fulfilled illicitly through good connections or due to the backstairs influence.

This widespread practice of gift exchange leads to that profitable connections could replace professionalism in the state sector. And the trade-off between loyalty and competencies becomes very crucial. What does it prove more efficient to hire more loyal or more professional? We have a multiple effect that a low level of professionalism and competencies contributes to the gift exchange development resulting in that unique competencies are placed by unique contacts and so on. For instance according to the survey of Russian young officials in 2003 only 17% of hiring employers were outsiders. The other 83% employees were appointed due to personal references and direct proposals from above47.

In order to persist the gift exchange tradition but extract from it benefits for the public good it is needed to allow for the culture and customs of the country as well as to create institutions that support benevolence of civil servants and so provide positive effects of gift exchange. In case of high corruption and the absence of trust to the government policy it makes sense to destroy social exchange and mutual aid relations between officials that may be done

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through the strong policy of retirement and rotation. At the same time we need to use formal criteria in order to eliminate the potential of gift exchange as an instrument of pressure.

At the same time on the basis of these practices one can distinguish the important function of gift exchange relationships in public bureaucracies. Regardless of a particular culture the gift exchange mechanism fill up cracks in the formal system of rules and hierarchy orders. It proves an implicit superstructure over formal relationships that provides first-best outcomes within formal contracts, overcomes deadlocks of the bureaucratic machine and allows to respond flexibly to changing and unforeseeable external conditions. Similar to the external regulation mechanism in the private sector as the market pressure, gift exchange proves an internal mechanism of regulation in public bureaucracies. Although responsibilities and authority frames are well defined and written for civil servants, informal relations are built up over them for achieving more efficient outcomes.

2.2. Subjects and motivation components of giving in public bureaucracies

2.2.1. Subjects of giving in public bureaucracies

Taking into account the multilevel hierarchical structure for simplicity of the analysis we offer to divide types of interactions of exchange participants into horizontal and vertical ones. Relationships of agents at the same level of the hierarchy are denoted to be horizontal, and of different levels – to be vertical. For example, directors of departments interact to each other horizontally while ministries and their vice-ministries – vertically.

So depending on the different levels of the hierarchy we can examine the following subjects of giving in the state sector (Table 2):

<table>
<thead>
<tr>
<th></th>
<th>High – High</th>
<th>Low – Low</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Horizontal interactions</strong></td>
<td>• reciprocal services (for example, a help in hiring relatives of each other),</td>
<td>• reciprocal services (for example, extra effort in a joint project),</td>
</tr>
<tr>
<td></td>
<td>• non-using authority at a full power,</td>
<td>• logrolling (vote “trading”),</td>
</tr>
<tr>
<td></td>
<td>• logrolling (vote “trading”),</td>
<td>• exchange of ascendencies and reputation effects,</td>
</tr>
<tr>
<td></td>
<td>• overlooking violations of the law of each other (neither accusing nor putting in claims),</td>
<td>• performance improvement and speeding-up activity in the joint areas of responsibilities.</td>
</tr>
<tr>
<td></td>
<td>• exchange of ascendencies, accordance of using collective reputation.</td>
<td></td>
</tr>
<tr>
<td><strong>Vertical interactions</strong></td>
<td>• protection from political risk,</td>
<td>• extra effort,</td>
</tr>
<tr>
<td></td>
<td>• relaxation of direct control and monitoring,</td>
<td>• loyalty,</td>
</tr>
<tr>
<td></td>
<td>• additional services to a subordinate (for example, hiring by a superior the subordinate’s relatives),</td>
<td>• additional services,</td>
</tr>
<tr>
<td></td>
<td>• right to use reputation of a superior,</td>
<td>• initiative,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• conscientiousness.</td>
</tr>
</tbody>
</table>
2.2.2. Motivation components of giving in public bureaucracies

Another interesting question concerns a motivation of giving in public settings, its peculiarities and distinctions from the private gift exchange as well as essential motivation elements in interactions of government agents and agencies.\footnote{Below the matter concerns gift exchange between civil servants. However without loss of essence it can be applied to interactions of government agencies and regulators.}

Jeroen van de Ven’s contribution\footnote{Van de Ven J. (2000), The Economics of the Gift. Discussion Paper 68. Tilburg University. Center for Economic Research. P.4.} allows us to distinguish the most considerable motives inducing officials to give. We mark out the following ones: Egoistical and Social motive, motive of Social Power, Strategical and Survival motives.

One may separate between these types of motivation. Egoistical motive developed between civil servants both in vertical and horizontal interactions is associated with direct benefits from the reciprocal exchange. Whereas Social motive – social approval – does not imply any reciprocity. Its another feature is that it has an effect on agents both inside and outside government sector: there is a large role of reputation especially when the retiring age draws near and an official reorients to a job in the private sector. Strategical motive may work similarly when a gift is perceived as a signal that a donor is a good employee possessing certain attainments and specific skills. But if in the case of Strategical motive reputation has a direct impact (an official recognizes his chances to change job sectors and increase deliberately his reputation when employed in the state sector), in the case of Social motive reputation has an indirect effect (good reputation here is simply a consequence of the urge toward a warm glow and social approval). Social Power motive is prevailing in bureaucracies, as a status of the informal leader proves very favorable in relations of state employees. A great number of “debtors” results in that real ascendancy of an official enlarges. Survival motive refers to the public disposition in the group, defining the dominating type of agents. In bureaucratic organizations it signifies establishment of institutional frames, informal norms and rules maintaining by all employees. In that case a gift represents a means of cooperation providing a greater probability of survival of agents of certain type. For example if in given bureaucratic settings there is a norm of making high effort then gift exchange can be a tool of selection that reduces the moral hazard problem and provides higher average performance of civil servants. However if in given bureaucratic settings there is a tendency to corrupt then an entry of a new
member, say, of the honest official, can hardly change the informal corruption norm maintaining by others. The maximum possible effect is some deformation of strategies of incumbents while the newcomer with time has to accept playing rules in order to survive.

As mentioned above, it is important to consider gift exchange practice in horizontal and vertical connections of state employees separately. In particular we can say unambiguously that Egoistical motive inheres in both horizontal and vertical interactions while the others can be more or less weighty for certain type of relationships. We embody the types of interactions and motivation components residing in them in the form of a table (Table 3). We also give some examples.

<table>
<thead>
<tr>
<th>Aim of giving</th>
<th>Horizontal interactions</th>
<th>Vertical interactions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Egoistical motive</td>
<td>Exchange</td>
<td>Reciprocal services between civil servants of the same rank</td>
</tr>
<tr>
<td>Social motive</td>
<td>Social approval</td>
<td>Additional services with the purpose of getting a social approval</td>
</tr>
<tr>
<td>Strategical motive</td>
<td>Signaling</td>
<td>Sign of willingness to be involved in the relationship that can be conflicting with the law</td>
</tr>
<tr>
<td>Social power</td>
<td>Concernment</td>
<td>Additional services to colleagues with the purpose of future inter-requital</td>
</tr>
<tr>
<td>Survival</td>
<td>Selection</td>
<td>Services to colleagues with the purpose of increasing the level of cooperation and establishing certain institutional norm advantageous to all members of the group</td>
</tr>
</tbody>
</table>

Table 3. Types of interactions and motivation of giving

(the most considerable motives for the given type of interactions is marked out with gray)

We can suppose that for vertical interactions Social and Strategical motive prove to be weightier (they aim to a great extent at returns in the short-run outlook), while for horizontal interactions we can call Social Power and Survival motives as the more momentous motivation factors (they are mostly directed for long-run relational contracting). As stated above Egoistical motive is an essential element of motivation both in horizontal and vertical interactions.
We present some evidence corroborating our suppositions. For instance it is interesting to consider some indicative cases when Russian officials deviate from paying state duties as well as from a number of actions stated in legislative enactments. According to the Russian business paper “Vedomosti” officials never enclose their payment receipts with appeals and judges usually connive at this fact. However it is stated in the Tax Code of Russia that all government structures are obliged to pay duties on general grounds except the case when they are plaintiffs. Thus we can indicate the presence of the implicit treaty of non-aggression between officials and judges. In other words they enter into a tacit agreement of reciprocal services consisting on the one hand in covering infringement of the law (judges) and on the other hand - in privileging and rendering services within the bounds of authority (officials). One may say that in this relationship weighty motivation components are Egoistical motive (officials and judges reciprocate to each other), Strategical motive (rendering services to each other, officials and judges thus confirm their willingness to be involved in the relationship conflicting with the law) and Social Power motive (officials and judges guarantee to each other future favors).

Another expressive field of gift exchange refers to all profitable connections. They were widespread in the Soviet Union but it is still a common practice in Russian post-socialist bureaucracies. Motivation components of profitable connections are similar to those in the former case so we do not consider them in detail.

2.3. Gift exchange between civil servants: increasing efficiency and creating topology

Along with practical evidence illustrating negative consequences of gift exchange in public bureaucracies other contrary cases are well known. Quite interesting evidence of gift exchange favorable effects gift exchange are examined for instance by Matthews (1959). The author demonstrates with the example of senators’ relations how mutual concessions not only contribute to benevolent and close contacts between senators but also improve outcomes of their activity. Interactions of American senators are characterized by the agreement according to which their private responsibilities implicitly include rendering support to colleagues in exchange for theirs, and as a rule such support does not come only to logrolling. Each senator possesses a strong bargaining power and his vote can affect considerably on future of one or another bill. The mutual nature of relations allows them to avoid conflicts and collisions, as senators do not use their authority at a full power. Reciprocity and mutual aid contribute to more efficient decisions and high coordination that all have a positive effect on the US Senate.

50 “Leaving the forest”// Vedomosti №65, 13 April 2005.
functioning. In this example Survival motive is the most significant one. The point is that interdependence and inter-favourable contacts in the Senate lead to establishing the informal agreement laying in gift exchange. Senators who decline it lose their reputation and can even suffer from certain sanctions such as public censures, exclusion from further relationships, ostracism and so on. Therefore gift exchange in the Senate is supported by the motive to conform to certain rule (survival) and it has the most potent influence.

By this example we can see what large-scale positive effects can inhere in gift exchange on certain conditions but it should be remembered that in some cases such large scale could have a reverse effect. Examples cited above demonstrate that gift exchange can result in corruption and clientelism that hinder in achieving the optimal public welfare. So such an instrument as gift exchange can be powerful in both directions. Thus it is overwhelmingly important to examine especially positive consequences of gift exchange relations, their forms, causal factors as well as conditions providing them. Another crucial question is the development and application of mechanisms stimulating such “correct” gift exchange (it should work for the public good).

This line of analysis represents an extensive area for future study. Nevertheless by this time on the basis of existing results we can propose some possibilities to increase efficiency of interactions between government agents and agencies. For example according to mentioned above studies officials feeling exposed to political risks follow written instructions and formal hierarchical orders. Besides an excessive control a limiting discretion can intensively reduce an intrinsic motivation of state employees. Consequently we can conclude that protection from political risks and flexible enforcement mechanisms could raise intrinsic motivation of officials. Such a gift exchange would improve their performance and so has a positive effect on the whole State machine functioning.

The workgroup influence and such a gift as loyalty can also favour efficient outcomes of state activities. Since financial incentives are not chief in government organizations intangible gifts like additional services proposed by a superior, accordance to use his reputation can prove weightier in maintaining benevolent and close contacts.

However at the same time we should remember a dramatic effect of institutional constraints on the gift exchange development in public bureaucracies. The measures listed above can prove senseless on the assumption of the weak institutional structure (especially when there are no efficient enforcement mechanisms) that resides as a rule in transitional economies. Thus in order to increase the relational efficiency in public bureaucracies by means of gift exchange it

55 About the influence of the workgroup norms see, for example, Akerlof (1984).
is of great importance to maintain state benevolence of civil servants as the essential norm (they benefit from pursuing public ends). One of the appropriate means to provide this norm can be gift exchange guided by the survival motive. In evolution it helps to select only those officials who conform to the norm of benevolence to the society. So we need to elaborate instruments regulating behaviour of bureaucrats through Survival motive of gift exchange.

Another function of gift exchange stems from the anthropological approach according to which a gift can serve a way to clarify “social roles, wealth or status”

3. Gift exchange as a market for externalities

To study more deeply mechanisms at the heart of gift exchange we appeal to the formal analysis. The literature on this topic contains several possibilities to model the gift exchange relationship. The most common way is the evolutionary game theory (Carmichael, MacLeod (1997), Johnson, Levine, Pesendorfer (2001), Jeroen van de Ven (2000)). The other widespread method consists in using Cournot’s oligopoly model when exchange participants take a decision of gifts simultaneously and independently (Hollander (1990), Barham et al. (1997), Jeroen van de Ven (2000)).

This paper suggests a new approach to modeling a gift exchange relationship that is based on the proposition that gifts under some conditions can be represented as positive production externalities, that is performance of one agent is positive affected by the others’ actions. In that case gift exchange is nothing else but a market for externalities and the role of the equilibrium externality price plays here a rate of adequacy of a gift. The market for externalities framework allows us to demonstrate how gift exchange can provide a Pareto-optimum outcome when two

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(or more) government agents or agencies interact horizontally on condition that their production sets are inter-affected or/and complementary.

In particular this logic can be applied to the activity of two (or more) state structures within the bounds of the one joint legislative or administrative project. Being involved in the gift exchange relationship both government agencies will aspire to coordination, conscientious work, performance improvement, speeding-up activity, responsibility expansion and so on. Otherwise, their interdependence can end up by shifting off and elongating the project terms. Such an effect is far from uncommon. Thus the reciprocity relationship is not only profitable to each exchange party but also favorable to the public welfare growth. Therefore it is overwhelmingly important to provide such public settings and create such institutions that would stimulate the gift exchange relationship between government agents and agencies. However this is a field for further inquires. At present it is necessary to show whether gift exchange in public bureaucracies leads to efficient outcomes. This problem is just considered in this section.

For the formal analysis we avail ourselves of the particular result of the general equilibrium model with positive production externalities\(^{63}\) that displays how we can achieve a Pareto-optimum outcome by means of the market for externalities.

We take note that the presence of externalities in itself leads to the inefficient market equilibrium: there is either overproduction or underproduction as compared with a Pareto-optimum outcome. Introducing the market for externalities helps to solve this problem and achieve efficient allocations. We find out that similar inferences will be in the case when two (or more) state structures (ministries, departments) are involved in the joint legislative activity on condition that the one’s performance is affected to the other’s and vice versa. On the one side the ministries’ perception of their interdependence can impede high productivity: there can arise the free-rider problem that in the end leads to shifting off and underproduction. Gift exchange in that case proves the instrument that allows to achieve an efficient market equilibrium. It is important to note that we use a classic formulation of the gift exchange that is a gift possesses all listed above attributes (reciprocity, trust, adequacy, apparent voluntarism).

To demonstrate how gift exchange provides a Pareto-optimum outcome we consider Malenvo’s example of the externality economics in terms of two horizontally interacting government agencies. Suppose that State holds an interest in a legislative project responsibility of which are shared between two state structures (ministries). So we consider an economy in which there are only 3 goods (two of them are outputs of two ministries and the third one is financial recourses intended for alternative using and are valuable for State as themselves), 1

customer (State) and 2 state structures (ministries). For simplicity we assume that in the economy there is only one production factor – financial assets (money). State structure $j = 1, 2$ produces an output of amount $y_j$ by using production factor $m_j$ (financial assets the customer pays for ministry $j$’s services). In addition we suppose also that for the production process ministries don’t need any other resources except financial assets.

Each state structure has a production function so that production technologies are given by $y_j \leq f_j(m_j, y_{-j})$, $j = 1, 2$. Thus we assume that there are externalities in our economy as the production possibilities of one ministry are directly affected by the actions of the other ministry.

The customer is supposed to have preferences that are presented by a convex utility function $u(x_i)$ where $x_i \geq 0$ ($i = 1, 2$) are outputs of two ministries and $x_3 \geq 0$ is financial resources left after investment to the project and that are valuable for the customer due to their opportunity using. State possesses an initial endowment of the only production factor at the rate of $w$.

We also assume that both the customer’s utility function and the ministries’ production functions are traditionally differentiated so that $f'_m > 0$, $u'_x > 0$\(^64\). The market clearing constraints in such an economy can be written as

\begin{align*}
y_1 &= x_1 \\
y_2 &= x_2 \\
m_1 + m_2 + x_3 &= w
\end{align*}

\begin{equation}
\text{(1.1) } y_1 = x_1 \\
\text{(1.2) } y_2 = x_2 \\
\text{(1.3) } m_1 + m_2 + x_3 = w
\end{equation}

**Proposition 1.** In the case of two (or more) horizontally interacting state structures under the assumption of their inter-influence on activities of each other a market outcome is not Pareto optimal and vice versa any Pareto-optimum outcome cannot be achieved as a market equilibrium.

**Proof.** In order to prove let’s derive the differential characteristics of the Pareto-optimum and the market equilibrium.

1). The Pareto-optimum allocation $(\bar{x}, \bar{y}, \bar{m})$ can be found from the following problem

\begin{equation}
\begin{aligned}
&u \left( y, w - \sum_{j=1}^{2} m_j \right) \rightarrow \max_{y,j,m_j} \\
y_j &\leq f_j(m_j, y_{-j}), \\
y_j &\geq 0, \quad j = 1, 2, \\
\sum_{j=1}^{2} m_j &\leq w.
\end{aligned}
\end{equation}

\(64\) For short we omit indexes $j = 1, 2$ and $i = 1, 2, 3$.\(\)
Suppose that this problem has an interior solution. Then after differentiation of the Lagrange function we can obtain

\[
\frac{\partial u}{\partial x_1} - \frac{\partial u}{\partial x_3} + \frac{\partial u}{\partial x_3} \frac{\partial f_2}{\partial y_1} = 0
\]  
(3.1)

\[
\frac{\partial u}{\partial x_2} - \frac{\partial u}{\partial x_3} \frac{\partial f_1}{\partial y_2} + \frac{\partial u}{\partial x_3} \frac{\partial f_2}{\partial y_1} = 0
\]  
(3.2)

We divide these expressions by the positive marginal utility of financial resources \(\frac{\partial u}{\partial x_3}\) to get

\[
\frac{\partial u}{\partial x_1} = \frac{1}{\partial f_1/\partial m_1} - \frac{\partial f_2/\partial y_1}{\partial f_2/\partial m_2}
\]  
(4.1)

\[
\frac{\partial u}{\partial x_2} = \frac{1}{\partial f_2/\partial m_2} - \frac{\partial f_1/\partial y_2}{\partial f_1/\partial m_1}
\]  
(4.2)

2) Now we consider a market outcome in this economy (an interior solution). A set \((p_i, \bar{y}_i, m_j)\) constitutes an equilibrium in the considered economy with production externalities if at given prices \(p_i\) \((i=1,2,3)\) outputs \(\bar{y}_j\) and financial resources \(m_j\) \((j=1,2)\) are a solution of the profit maximization problem of ministry \(j\) and \(x_i\) \((i=1,2,3)\) is a solution of the utility maximization problem of State subject to the market clearing constraints (1).

a) State’s problem can be written as following:\(^\text{65}\):

\[ u(x_i) \to \max_{x_i} \]  
(5)

\[ \sum_{i=1}^{3} p_i x_i \leq I \]

The solution represents the standard characteristic of the consumer choice \((\bar{x}_i)\)– the marginal rate of substitution equals to the ratio of prices:

\[
\frac{\partial u}{\partial x_i} \bigg|_{x_i} = \frac{p_i}{p_3}, \quad i=1,2
\]  
(6)

b) Ministry \(j\)’s profit maximization problem has the following form

\[ \pi_j = p_j f_j(m_j, \bar{y}_j) - p_3 m_j \to \max_{m_j} \]  
(7)

From the solution of this problem we can get that the technical rate of substitution equals to the ratio of prices:

\[
\frac{1}{\partial f_j/\partial m_j} = \frac{p_j}{p_3}, \quad j=1,2
\]  
(8)

Thus in the market equilibrium

\[
\frac{\partial u}{\partial x_1} \bigg|_{x_1} = \frac{1}{\partial f_1/\partial m_1}
\]  
(9.1)

\(^{65}\) In that case \(p_3\) defines the value of opportunity using of financial resources.
\[
\frac{\partial u/\partial x_j}{\partial u/\partial x_3} = \frac{1}{\partial f_j/\partial m_j}
\]  
(9.2)

After the comparison of (4) and (9) we can see that as derivatives \(\frac{\partial f_j}{\partial y_{-j}}\) indicating the marginal effect of externalities do not come to zero, that is in the considered economy the production activities of state structures are inter-affected, a market outcome is not Pareto efficient and a Pareto-optimum can not be achieved as a market equilibrium.

Characteristics of the equilibrium and Pareto-optimum outcome differ by \(\frac{\partial f_j}{\partial y_{-j}}\) indicating how many financial resources one ministry may save when the other ministry increases its production by one unit. The main reason of the equilibrium inefficiency consists in that ministries defining the optimal financial expenses do not take into consideration this effect.

However if on condition of this interdependence ministries will be engaged in a gift exchange relationship and so they will allow for the mutual impact to activities of each other then a market equilibrium proves Pareto optimal and vice versa.

**Proposition 2.** A gift exchange between state structures (ministries) under condition of their inter-influence on activities of each other allows to get an efficient equilibrium and to achieve any Pareto-optimum as a market equilibrium.

**Proof.** Suppose that except the market for services (in that case the legislative project) there is a complete system of gift exchange relationships like a market for externalities. Then in the relationship of ministries each part will face with a demand and supply of gifts. The parameter equalizing the demand and supply is the extent of adequacy of gifts. This rate of adequacy plays the role similar to the externality price in the market for externalities framework. We denote it by \(\delta_j, \ j=1,2\). Then we can describe the market equilibrium. The utility maximization problem remains the same, so the market characteristic of the customer’s allocation does not change. But the profit maximization problem of ministry \(j\) is altered. Now it can be stated as

\[
\pi_j = (p_j - \delta_j)f_j(m_j, y_{-j}) - p_my_j + \delta_jy_{-j} \rightarrow \max_{m_j, y_{-j}}
\]  
(10)

We can differentiate it with respect to \(m_j\) and \(y_{-j}\), to get

\[
\frac{1}{\partial f_j/\partial m_j} = \frac{p_j - \delta_j}{p_3},
\]  
(11.1)

\[
\frac{\partial f_j}{\partial y_{-j}} = \frac{\delta_j}{p_3}, \ j=1,2
\]  
(11.2)
Expressing the prices from (6) to substitute into (11) by simple calculations one may obtain the equilibrium differential characteristic that proves coinciding with the differential characteristic of the Pareto optimum.

\[
\frac{\partial u}{\partial x_1} = \frac{1}{\partial f_1/\partial m_1} - \frac{\partial f_2/\partial y_1}{\partial f_2/\partial m_2} \\
\frac{\partial u}{\partial x_2} = \frac{1}{\partial f_2/\partial m_2} - \frac{\partial f_1/\partial y_2}{\partial f_1/\partial m_1}
\]

(12.1) (12.2)

Thus we can see that the equilibrium in the economy with gift exchange is Pareto-optimal.

So it was demonstrated that a gift exchange relationship between state structures helps to achieve an efficient equilibrium. The idea is very simple: if in addition to the ordinary market of services we consider a complete system of gift exchange relationships (similar to the market for externalities) then the first welfare theorem holds true and a market equilibrium in such an economy is Pareto-optimal\textsuperscript{66}.

In this model as gifts can stand out speeding-up, higher diligence and efforts, reciprocal services and even some responsibility expansion (exchange of subtasks) within the limits of the project. Gift exchange not only improves a professional contact between performers and so increases the quality of information flows between them but also raises their productivity and shortens the project terms. Each ministry starts to take into consideration the impact of the project partner’s activity so that the total costs needed for the joint project can be reduced. The project can be accomplished with less spending that provides Pareto improvement.

By analogy with that the inefficient equilibrium in the economy with externalities is a result of the absence of a market for externalities in our case it is found out that the inefficient market outcome in the economy with the inter-affected activities of the state structures to each other is a result of the absence of gift exchange between them.

To conclude we need to drop additional remarks concerning the model. It is necessary to note that we do not aspire to invent something new we just find the right framework (a market for externalities) with the help of which we can obviously show that gift exchange can be a means of Pareto improvement. Moreover the model explains in what way such a phenomenon takes place in interactions between government agents and agencies.

The interesting fact refers to that externalities are unconscious while gifts can be strategic, but at the output they look analogous and both lead to Pareto improvement. The

difference between them consists in inducements to act: to strategically give or simply consume the external effects of the joint activity.

In addition one can see that the considered model is more general - we can apply such a model to all joint activities regardless of the sector. The main contribution of the model is the employment of the new unusual framework to gift exchange theory to formalize why people exchange with each other and to express by a formula improvements provided by gift exchange. Thus the proposed approach also refers to the solution of the greater problem of team-based incentives. Gift exchange in public bureaucracies is a good example of demonstrating that\(^{67}\).

### 4. The externality price as the rate of adequacy of a gift

It is necessary to draw special attention to the role of adequacy of a gift in the exchange relationship. As it was discovered the gift adequacy has an important function – it equalizes the demand and supply for gifts. The intuition consists in that we decide to take part in the exchange relationship only if our utility increases or at least do not decrease from it. This logic is clear and directly follows from the definition of adequacy.

The rate of adequacy signifies matching of gifts to each other by form and value. In the exchange relationship this coefficient plays the role similar to the externality price. It is important to note that like in the externality economics adequacy of gifts is a subjective estimate of their matching by form and value\(^{68}\).

Due to that adequacy assumes subjectivity perceptions of exchange participants about their interplay prove to be very significant. In order to find points of contact so that an exchange takes place participants can be guided by the past experience of interactions or by certain elements of culture. One can say about the existence of focal points in relations of this kind. The repeated nature of relationships and reputation effects also matter. Thus a gift exchange allows one to describe some elements of informal relations that come first in public bureaucracies where there is its own peculiar culture of interactions among civil servants.

### 5. Feasibility of the application and specificity of gift exchange in public settings

One of the crucial questions is the relevance of the gift exchange approach to public sector relationships. To see its plausibility one need to turn to some practical experience mentioned above. For example, it is quite enough to remember such a practice as profitable

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\(^{67}\) The state sector is an obvious field of the application because of dominating informal relations, top-priority implicit and intrinsic motivation and widespread team-based activities.

\(^{68}\) The concept of the subjective estimate of the gift adequacy in the gift exchange equilibrium is similar to the concept of personalized prices in the Lindahl equilibrium. So we can achieve an efficient market outcome in the gift exchange economy with the subjective estimates of adequacy.
connections. It is similar to gift exchange and when modern economists condemn profitable connections “they should think first that they are probably condemning a practice that is the norm in most economies... and that norm is prior to the advent of money and the market economy.” We suppose to analyse the gift exchange phenomenon in light of both economic and anthropologic perspectives. So we exclude bribery from our analysis as it is assumed to be a more market exchange where money and monetary gifts can take place. Besides we distinguish the cultural concept as one of the main necessary components in such reciprocity relationship. Thus we only offer to pay attention to cultural subtleties and local practices in attempt to explain the public sector reality in the alternative context that is not so limited as agency theory in particular for stimulating government agents and improving their performance. Instead of standard stimulating schemes a reciprocal exchange can be the instrument to induce civil servants to be conscientious, make efforts and render services.

In practice one can find a lot of examples of gift exchange in the state sector. These are both relations of clientelism and cases of displaying any kind of favouritism as well as informal agreements of mutual aid in relationships of legislative authorities’ representatives. Thus the idea remains true that in the environment where the market is suppressed other mechanisms come into force.

Another main issue is why application of gift exchange theory to public settings is so feasible. This question is closely connected with the specificity of gift exchange in the state sector. Its main distinction from the private one lies in the function gift exchange serves in public settings. The point is that if the private sector is characterized by the external governance mechanism, namely the market pressure, then in the public sector market mechanisms are suppressed and the internal structure of organizations and its social environment are prior. Thus gift exchange in the state sector proves the mechanism that plays the role similar to the market regulation in the private sector. Furthermore gift exchange theory can be well employed to study existing informal connections between officials and such an analysis is of vital importance because the implicit nature of relations is prevalent in the state sector but at the same time it defies formalization in the standard terms of agency theory.

Other considerations are closely connected with the distinguishing features of the state sector. In particular the multiprincipal and multitasking nature of government causes the team-based incentives problems in bureaucracies such as free riding and peer evaluation

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69 In Russian “blat”
http://www.cix.co.uk/~archaeology/civilisation/trobiants/trobiants.htm
71 Such as profitable connections, clientelism, nepotism, cronyism, patrimonialism.
72 For the more detailed explanation of limits of the agency theory application to the stimulation problem in the public sector, see Tirole (1994), Dixit (2002), Burgess and Ratto (2003) and others.
performance\textsuperscript{73}. Gift exchange can help to eliminate the collective action problem and reduce output measurement difficulties because it is grounded on intrinsic motivation and mutual concernment of agents. Under the widespread administrative and legislative project activities in which several work groups or government departments are involved gift exchange proves a good incentive mechanism. Furthermore we also acquire a possible instrument to study such phenomena as loyalty and forming of teams by higher-level bureaucrats, maintaining close contacts within the bureaucratic elites and others.

There is one more important issue referring to the distinction of the gift exchange employment in the state sector. Indeed the mission of government agencies includes social goals and their actions are normatively directed to the public welfare maximisation so according to a number of studies\textsuperscript{74} low-powered incentives can be excused because civil servants are assumed to be conscious as they realize oneness of their position and impossibility to be replaced. Intrinsic motivation is brought to the forefront. So gift exchange resting upon it proves very promising.

Moreover gift exchange allows to overcome the problem of the lack of comparison in the state sector owing to the self-enforcement nature of reciprocity relations. If exchange participants are satisfied with each other we do not need to measure performance as well as we do not need any more to control and monitor. So the output measurement problems in the public sector are mitigated.

Thus the main benefits of gift exchange implications in public settings include the following. First, it is grounded on intrinsic motivation and concernment of government employers so it can be used to provide more efficient incentives for civil servants. Second, gift exchange implies trust and reputation so it will contribute to coordination of employees and consequently under specific conditions to improving their performance. Third, and probably the most important point, gift exchange represents the social mechanism that defines an internal structure of government agencies and replaces the market power regulation.

**Conclusions**

Normally relationships between a superior and subordinate are analyzed within the contract theory framework where a principal stimulates the agent not to fake off by pay-for performance instruments as premiums and bonuses.

This paper considers an alternative approach that implies that benevolence is settled between a principal and an agent as well as between agents among themselves and these trust relations are expressed in specific actions and services (gifts). Gift exchange allows to reveal mutual interest and willingness to long-term connections and so helps to achieve an efficient outcome.

The paper describes in detail the nature of the gift exchange relationship underlining attributes, functions and motivation components of gifts. Various systems of gift exchange reside in different types of organizations. This paper illustrates the wide application of the gift exchange theory to the analysis of relationships in public bureaucracies since in particular informal relations of officials feature most economies and even in certain cases they create a specific mentality.

The paper focuses on the consideration of gift exchange relations between government agents. We analyze subjects and motivation components in horizontal and vertical connections of officials. The theory and hypothesis are illustrated by several examples from the practice of Russia and other countries.

We use the externality economics framework to demonstrate with the example of horizontally interacting state structures that gift exchange can provide Pareto improvement. The most important function in the gift exchange relationship belongs to the rate of adequacy of gifts that refers to matching gifts to each other by form and value. It plays the role similar to the externality price on markets for externalities.


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37. Gregoire P. et al. (2005), Gift Exchange With Belief-Dependent Payoffs: An Experimental Investigation, mimeo.


