

Contractual Factors of Executive Agencies in Korea: The Working Mechanisms*

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Abstract: This article investigates the working mechanisms of contractual factors in public organizations by analyzing what determines the level of contractual factors of executive agencies in Korea. An *executive agency* is an entity tasked with carrying out specific functions within a government department (referred to in this article as an *overseeing department*). The overseeing department functions similarly to a principal in a standard business contract, and the executive agency functions similarly to an agent. Elements of the contract between them can be considered *contractual factors*. This study focused on three contractual factors—operational autonomy, performance evaluations, and pay for performance—and evaluated the level of each based on data from 44 executive agencies in Korea. An ordered logistic regression of each contractual factor was conducted on the variables associated with the characteristics of an overseeing department and an executive agency. The regression found that the characteristics of an overseeing department and its relationship with an executive agency, as well as the characteristics of the executive agency, relate to the level of contractual factors. This result shows that an overseeing agency affects the level of contractual factors and thus has a major impact on performance.

Keywords: Executive Agency, Contractual Perspective, Organizational Performance

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INTRODUCTION

Governments across the globe are searching for ways to improve services (Boyne 2003; Pollitt and Bouckaert 2004). During the last twenty years, there has been a wide array of public-sector reforms, many of which involve introducing businesslike contractual factors, such as privatization and outsourcing, into public organizations. Therefore, it is not an exaggeration to say that the success or failure of a public organization depends on how contractual factors are designed and whether or not they work. Particularly, NPM proponents have prescribed an *executive agency*, an organizational form by which the government separates service delivery from line departments while retaining the provision of services (Vining and Weimer 2006) to improve the quality and performance of government services (Pollitt et al. 1998; Verhoest et al. 2004).¹

An executive agency has a contract-like relationship with the *overseeing department* to which it reports. It is managed by contract, which is different from the hierarchical norms governing a line bureaucracy (Greer 1994; Bilodeau et al. 2006).² An overseeing department assigns operational autonomy to an executive agency, which exerts autonomy to improve performance and is controlled by performance evaluations and pay for performance (MOPAS 2000; Executive Agency Law 2000; Bilodeau et al. 2006; Han 2006). We use the term *contractual factors* to refer to the core components of the contractual relationship between an overseeing department and an executive agency.³

There have been some concerns as to whether contractual factors would operate as expected to improve government performance (Talbot 2004). The United Kingdom's executive agencies were determined to have been largely successful for improvements to service quality and managerial efficiency (Alexander and Agency Policy Review Team 2002). However, some have expressed dissatisfaction and concern (Schick 1996; Hyndman and Eden 2001; Foster and Plowden 1996; Greer 1994; Talbot 2004; Christensen, Tom and Per Laegreid 2003). The most recent review concludes that the

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1. The issues an executive agency addresses are the age-old problems of how to run government: How do we divide policy and operational matters? How do we balance accountability and autonomy? How do we minimize transaction costs? These issues were raised in earlier moves to arm's length government (Greer 1994).
 2. For detailed discussion of management by contract and management of contract, see Greer (1994).
 3. Line departments of government that have been converted to contractual entities have been referred to as executive agencies, special operating agencies, government corporations, contract agencies, and nondepartmental public bodies, among other titles (Bilodeau et al. 2006, 120).

long-term efficiency of executive agencies and its spread to the performance of the entire government require the establishment of an effective relationship between an overseeing department and an executive agency (Weir and Breatham 1999; Talbot 2004).⁴

Most studies of Korean executive agencies have observed that “the characteristics of the overseeing department and the relationship between the overseeing department and the agency” rather than “the characteristics of the executive agency” or contractual factors have the most influence on operation and performance (Park 2007; Lee 2007; MOPAS 2006). Few researchers, however, have focused on contractual factors and analyzed the working mechanism of contractual factors in public organizations. The purpose of this study is to investigate the working mechanisms of contractual factors in public organizations by analyzing what determines the level of contractual factors of executive agencies in Korea

This paper is divided into six sections. In the first part, the literature on the contractual perspective is reviewed and the concept of contractual factors in an executive agency is outlined. Executive agencies in Korea are then introduced. In the third section, we suggest the potential impact of the overseeing department on contractual factors and the hypotheses derived from organizational theory and wide-ranging interviews with related actors. In the fourth section, the data and the measures of contractual factors, antecedent variables, and control variables are presented. In the fifth section, we report the statistical results. Finally, the results of the analysis of the ordered logistic regression are discussed and summarized.

THE CONTRACTUAL PERSPECTIVE AND PUBLIC ORGANIZATIONS

A relationship between agencies could be identified as a contract under which one or more persons (the principal[s]) engage another person (the agent) to perform some service on their behalf which involves delegating some decision-making authority to the agent. If both parties to the relationship are utility maximizers, there is good reason to believe that the agent will not always act in the best interests of the principal. The

4. There is some concern over to the negative consequences of disintegrating a unified civil service apparatus, related to the lack of steering, the undermining of civil service neutrality, or the weakening of parliamentary and public accountability. These issues are not addressed in this study in an effort to concentrate on analyzing the working mechanisms and performance of contractual factors under limited conditions.

principals can limit divergences from their interests by establishing appropriate incentives for the agent and by incurring monitoring costs designed to limit any aberrant activities of the agent (Jensen and Meckling 1976; Dixit 2002).

The focus of analysis in the contractual perspective is to find a contract or transaction that will make the agency uphold the interests of the principal, and this is the problem of incentive design. Actually, the managerial problems of both public administration and business administration are all efforts to solve the agency problem (B. S. Kim 2003, 563). Although there have been many strategies to solve this problem, the incentive scheme has been considered the most significant. The general theory of incentives is now well established in economics, and some researchers have explored incentive schemes for organizational efficiency (Holmstrom 1979; Nalebuff and Stiglitz 1983; Holmstrom 1982; Holmstrom and Milgrom 1987; Holmstrom and Milgrom 1990; Lazear 1995; Milgrom and Roberts 1992; Laffont and Tirole 2002; Gersbach and Keil 2005; Meccheri 2005; Lehto 2005; Chambers and Quiggin 2005; Cavagnac 2005; Jirjahn 2006; Kwon 2006; Bond and Gomes 2009). In practice, various mechanisms may be used to try to align the interests of the agent with those of the principal, such as piece rates, commissions, profit sharing, efficiency wages, performance measurement (including financial statements), the agent posting a bond, or fear of firing.

An agency relationship can arise within a government agency, with upper tiers of management as the principals and lower tiers as agents, or between an agency and its political supervisors at one end and its suppliers or clients at the other end. Such relationship can be classified into three conceptual categories—moral hazard, information asymmetry, and a costly verification scheme (Dixit 2002). Some special features of government agencies lead to various particular models and results (Dixit 2002, 696), making inappropriate the naive application of magic-bullet solutions like competition or performance-based incentives. They are most notably multitasking, multi-principals, the difficulty of defining and measuring output, and the issue of the intrinsic motivation of workers (Moe 1984; Dixit 2002; Burgess and Ratto 2003; S. H. Kim 2005). Contractual perspective captures the essence of organizational relationships and offers a coherent framework for integrating both the bureaucratic and the political dimensions of administrative performance with these special features included in the analysis (Moe 1984; Dixit 2002; Burgess and Ratto 2003; S. H. Kim 2005).

Empirical research on reforms has recently related the probability of success to specific characteristics of the agencies or organizations. Theoretical research on the design of new reforms has also paid attention to these specifics (Dixit 2002). Particularly, some studies show that general incentive theories and schemes need to be modified in the public sector (S. H. Kim 2001, 2005; Gersbach and Keil 2005; Dixit 2002; Miller and Whitford 2007; Amirkhanyan 2009; Lambright 2009).

THE CONCEPT OF CONTRACTUAL FACTORS

The relevance of contractual perspective to the specific issue of executive agency is not obvious, because executive agency does not alter the competitive environment (Bilodeau et al. 2006). But the process of executive agency typically introduces a number of mutually reinforcing organizational changes. For example, a narrower task domain makes meaningful performance measures more feasible. It also facilitates more stringent accounting procedures that facilitate their measurement. In aggregate, these elements are likely to reduce information asymmetry between an overseeing department and an executive agency. Additionally, some elements of the process are likely to give the chief executive greater capacity to achieve improved performance. In larger line bureaucracies, detailed budget supervision typically restricts the discretion of managers on the choice of inputs and technologies (Bilodeau et al. 2006; Vining and Weimer 2006).

Another plausible source of improvement is in reduced agency loss within the organization (Jensen and Meckling 1976). This flows from two mutually reinforcing forces. First, the executive agency process reduces information asymmetry between chief executives and employees. Specifically, chief executives oversee organizations with narrower task domains, where it is more realistic to institute performance measures and targets. Second, executive agency allows chief executives to institute somewhat more high powered incentives (Greer and Carter 1995). The rules of traditional government bureaucracies restrict managers with respect to employee hiring, firing, discipline, and, most notably, performance-based incentives or rewards (Burgess and Ratto 2003). Traditional bureau managers have to design employee "contracts" within these constraints. Consequently, they must emphasize *ex ante* controls rather than *ex post* rewards. Incentives are inevitably low powered (Miller 2000; Taylor and Wright 2004). With more corporate-like organizational forms, in contrast, chief executives usually have greater freedom to reduce agency loss by placing greater emphasis on *ex post* rewards. More high-powered incentives are, of course, also more feasible with superior information.

Contractual perspective, a theory concerning the delegation of authority to an agent, emphasizes strategies such as performance evaluation and pay for performance to cure agency problems. The relationship between an overseeing department and an executive agency can be considered to be a contractual relationship between a principal and an agent. The overseeing department delegates authority and supplies organizational and financial resources to an executive agency so that the agent (an executive agency) can obtain its goals. At the same time, strategies such as performance evaluation and pay for performance are used to minimize agency problems related to conflicts of interest and moral hazards. Therefore, operational autonomy, performance

evaluation, and pay for performance are among the core of contractual factors of an executive agency. So are they also in Korea (MOPAS 2000; Han 2006; Executive Agency Law 2000).

As described earlier, the executive agency is an organizational form that has a contract-like relationship with an overseeing department (Greer 1994; Bilodeau et al. 2006). A contractual perspective assumes that the interests of principals and agents are likely to conflict. The important issue from this perspective is, therefore, how principals are to control agents and to ensure that it is in the agents' self-interest to meet the principals' objectives. Executive agency goes down this contractual path as a means of ensuring that agents act in the interests of their principals. These contracts, including their performance measures and pay for performance, allow the principals to monitor the activities of agents in meeting the required ends (Greer 1994, 14).

Contractual perspective, a theory concerning the delegation of authority to an agent, emphasizes strategies such as performance evaluation and pay for performance to cure agency problems, which arise in any situation involving cooperative efforts by two or more people (Jensen and Meckling 1976). The relationship between an overseeing department and an executive agency can be considered to be a contractual relationship between a principal and an agency. The overseeing department delegates authority and supplies organizational and financial resources to an executive agency so that the agent (an executive agency) can obtain its goals.⁵ At the same time, strategies such as performance evaluation and pay for performance are used to minimize agency problems related to conflicts of interest and moral hazards. Therefore, operational autonomy, performance evaluation and pay for performance are among the core of contractual factors of an executive agency. So are they also in Korea (MOPAS 2000; Han 2006; Executive Agency Law 2000).

This study defines *operational autonomy* as the level of the authority of the personnel and the organizational and financial operation of an executive agency. For example, an agency with the authority to establish and enforce a personnel management system has more operational autonomy than an agency without this authority. NPM proponents, on the premise that more autonomy leads to better performance, prescribe more delegation of operational authority to the chief executive (Pollitt et al. 1998; Verhoest et al. 2004).⁶

5. In this study, the organizational aspect includes the personnel aspect.

6. In this study, the level of contractual factors refers to the degree to which they are autonomous or specific. We could certify it through interviews that it through intera more autonomous and specific contractual factor as expressed in the Framework Document leads to a higher level of contractual factor.

Performance evaluation extent refers to the level of an executive agency of the rules and methods for evaluating the performance of an agency or an employee. For example, the performance evaluation extent of an agency with some rules on the Performance Appraisal System of Civil Servants is higher than an agency without it. Performance evaluation is a strategy to solve agency problems by limiting an agency's divergences from the overseeing department's interests and reducing asymmetric information. In addition, it has an impact on performance, as a criterion of pay for performance. In this context, the possibility of the development of measurement standards and measurements of performance are among the selection criteria of executive agency in Korea. Performance evaluation relationships may be altered at two levels: between the central government and the agency managers (primarily chief executives) and between the chief executive and the agency employees (Bilodeau et al. 2006).⁷ In this study, performance evaluation refers to the latter. With the former, it is difficult to find a significant difference among the observations, as this relationship is created by law and the formal systems for executive agencies, such as the civil service system and the Executive Agency Act. The evaluation of employees is also constrained by existing law and institutional procedures. However, it is less constrained and has more room for differences; therefore, a significant difference exists among the observations.

Pay for performance refers to the level of the executive agency of the rules and the methods of pay for performance. For example, an agency that does not require approval by the overseeing department for the practice of paying workers for performance has a higher level of pay for performance than an agency that requires this approval.

EXECUTIVE AGENCIES IN KOREA

The Korean government has reformed the public sector, pursuing a "small but efficient government" as other OECD countries have done since the 1980s. Citizen satisfaction and efficiency began to be emphasized, and businesslike logic and skills were introduced into the public sector. The economic crisis in 1997 accelerated this process (J. H. Kim 1999; B. S. Kim 1996). Korean's strong will to learn from developed countries' government reforms also played a role (B. S. Kim 1999; Choi 1995). Yet there have been some concerns as to whether these reform methods, which were created and developed mostly in the United Kingdom and United States, would be effective in

7. For detailed discussion of the two levels of relationships in an executive agency, see Bilodeau et al. (2006).

Korea.

The Korean government introduced the executive agency concept in 1999 to improve operational efficiency and public-service quality (Annual Report for Executive Agency Evaluation 2000) and has increased the number of such agencies since then. In 2008, 47 executive agencies were in operation. Korean executive agencies are classified into five groups: corporative medical service, corporative business service, administrative business service, administrative research service, and administrative statistical service (Kim 2008a, 24).

Korean executive agencies have in common with those in other countries that they are delegated more operational autonomy and are controlled by performance evaluation and pay for performance. Yet executive agency governance is different from one country to the next. We can classify it in two forms, *hiving-off* and *hiving-in* (Kim 1998, 146). In the first form, the agency is characterized by organizational superstation from the direct accountability of the parent department, and its employees are not civil servants. The Crown Entities of New Zealand are an example of hiving-off. In the second form, the agency is an independent operating agency that is basically subject to a department; its employees are civil servants. The United Kingdom's executive agencies, Canada's special operating agencies, and Korea's executive agencies are hiving-in examples.

An executive agency of a hiving-off organization has more operational autonomy from the parent department than one of a hiving-in organization. Korean executive agencies' organizational type is hiving-in, and so an executive agency is subject to the hierarchical norms of an overseeing department and its employees are civil servants.

Second, the contractual path, including the increased delegation of operational authority and pay for performance, is mostly focused on the chief executive. Third, the central management department, the Ministry of Public Administration and Security (MOPAS), has significant authority over the institutionalization and management of Korean executive agencies. For example, agencification is established compulsorily by MOPAS rather than voluntarily by an overseeing department and an executive agency (Kim 1999a; B. S. Kim et al. 2000; Seo 2003; Gwen 2003; KEA Evaluation Annual Report 2005; Kim 2008a).

There were some concerns as to whether this program would operate as expected and improve government performance. Would the executive agency concept, which was created and developed in a country characterized by an individualist culture, work as expected in Korean public organizations, characterized by a hierarchical culture? Legal precedents and institutional constraints are too heavy and the Korean executive agency is hiving-in. Therefore, there would be many obstacles to delegating operational autonomy. Additionally, in considering contract failure resulting from uncertain

circumstances, asymmetric information, conflicting interests, and the problem of measurement, the existing hierarchical system seemed more efficient than new contractual factors.

Korean executive agencies have resulted in slightly increased efficiency and almost no changes in autonomy (Kim et al. 2001; Seo 2002; Gwen 2003; Jeong, 2003; Park 2003; Lee 2004; Kim and Lee 2006; Lim and Ryu 2006; MOPAS 2005, 2006). Particularly, many observations have shown that PD rather than the executive agency or contractual factors have a greater influence on the operation and performance of the executive agency (Park 2007; Lee 2007; MOPAS 2006). Additionally, Kim (2008b) focused on the contractual factors of executive agencies showed that only performance evaluation, among the contractual factors, affected the performance. Two other factors, operational autonomy and pay for performance, did not affect the performance.

CONCEPTUAL FRAMEWORK AND HYPOTHESES

Antecedent variables were derived from wide-ranging interviews with actors associated with executive agencies (civil servants in overseeing departments, executive agencies, and a central management department) as well as from the literature regarding public management. The interviews were useful to find the determining variables representing the Korean situation. Numerous hypotheses were tested, but this study concentrated on those considered most important. In this study the focus was placed on the relationship between the variables associated with overseeing departments and the level of contractual factors. The ultimate aim of this study was to investigate the working mechanism of contractual factors in public organizations.⁸

The antecedents are the variables associated with overseeing departments, including the characteristics of the overseeing department (organizational and financial resources and organizational culture) and the relationship between the overseeing department and the executive agency (degree of professionalism, hierarchical control, cooperation, the number of executive agencies under an overseeing department's control, the agencified year, and the chief executive's career).

Control variables are associated with executive agencies: service type and size of agency. Theoretical discussions of the relationship between performance and overseeing department are often applied to those pertaining to relationships between contractual factors and overseeing department, with the premise that higher contractual fac-

8. The relationship between contractual factors and performance was investigated in a previous study (Kim N.Y.2008b).

tors lead to higher performance. The premise and the application were applied to our study.

ANTECEDENT VARIABLES

Resources of the Overseeing Department

Although both practice and theory have undermined the idea that more resources will lead to better results, the relationship between resources and organizational improvement is perhaps the simplest theory of public service improvement (Boyne 2003, 369). In addition, if the dependency of an executive agency on the resources of the overseeing department is high and if the overseeing department has strong operational authority over the executive agency, it is likely that the resources of the overseeing department will have a considerable positive impact on the level of contractual factors and the performance of the executive agency.

There are two types of resources with which the overseeing department supports the executive agency—organizational resources and financial resources—and the central managerial agencies in Korea, that control these two resources are different. Therefore, the allocation mechanisms of the two resources are different. These factors form the following hypothesis:

Hypothesis 1. The organizational resources of an overseeing department will have a positive impact on the level of contractual factors of an executive agency.

Organizational Culture of the Overseeing Department

Changing organizational culture is necessary to improve performance (Cameron and Quinn 1999; Kim and Lee 2006; H. J. Kim, 2006). The prescription of the United Kingdom's Next Steps program was intended to change organizational culture (Talbot 2004, 105). Schick (1996) considered the organizational culture of the overseeing department to be one of the factors that impacted the performance of an executive agency. Organizational culture is a complex and delicate phenomenon and thus difficult to understand. The contractual factors of an executive agency appear to work better in an individualistic organizational culture than in a hierarchical organizational culture (Hoffstede 1980). In Korea's hiving-in approach, an overseeing department has relatively strong authority over the operation of an executive agency, and considerable

legal and institutional constraints exist. Thus, the following is hypothesized:

Hypothesis 2. The level of contractual factors of an executive agency is lower if the overseeing department is hierarchical than if it is individualistic.

Degree of Professionalism of the Executive Agency

NPM proponents hold that when an agency has a narrower task and professionalism, meaningful performance measures are more feasible and information asymmetry between the chief executive and the workers is reduced. This leads to the following hypothesis:

Hypothesis 3. A higher degree of professionalism in an executive agency will increase the level of contractual factors of executive agency.

Hierarchical Control

NPM proponents have diagnosed that hierarchical control is one of the major causes of decreasing public service quality and have prescribed delegating more authority to agencies. More hierarchical control by the overseeing department on the executive agency appears to have a negative impact on the level of the contractual factors of the executive agency. This informs the following hypothesis:

Hypothesis 4. More hierarchical control will decrease the level of contractual factors of executive agency.

However, the impact of hierarchical control on the level of contractual factors differs depending on organizational technology and the organizational environment (Kim et al. 2008). The amount of impact seems to depend on the communication costs between the policy agency and the operational agency—that is, a type of cost for contract (Lazear 1995). For example, though hierarchical controls are weak, if communication costs are high, the level of contractual factors can be low.

Cooperation with the Overseeing Department

Budget and organizational changes are required for some contractual factors that cannot be accomplished through the efforts of an executive agency alone. Based on the Executive Agency Act and the intention of agencification, an executive agency has

been expected to improve business performance and invest the benefit in the improvement of service quality and managerial reform. However, if the increase in business earnings can scarcely be expected immediately, and if reducing operational costs is very difficult like in Korea, the sole financial source for executive agency is the budget as allocated by the overseeing department. Thus, cooperation with the overseeing department appears to have a significant impact on the level of contractual factors and their performance.

Under the Executive Agency Act, an agency's operational framework must be reviewed before it can change its organizational structure or enlarge the staff. These changes are impossible without the approval by the overseeing department. Cooperation with the overseeing department is also important for the approval of MOPAS of organizational and personnel changes. In sum, cooperation with the overseeing department is necessary to introduce contractual factors and put them into practice. This leads to the following hypothesis:

Hypothesis 5. More cooperation with the overseeing department will increase the level of contractual factors of executive agency.

Age of the Executive Agency

Institutions form the incentive structure of a society and, in consequence, political and economic institutions are the underlying determinant of economic performance. The beliefs that individuals, groups, and societies hold, which determine their choices, are learned through time. The direction of this change is a function of the expected payoffs to acquiring different types of knowledge. The mental models that players develop shape their perceptions about the payoffs (North 1992). If the perception that contractual factors rather than line bureaucracy will have a greater payoff is shaped and learned over time, more contractual factors are introduced through time, and vice versa. We can hypothesize that executive agency age will increase contractual factors.

Hypothesis 6. Agency age will increase the level of contractual factors of executive agency.

Number of Agencies Under an Overseeing Department

The number of executive agencies under an overseeing department affects the level of contractual factors of an executive agency. If economies of scale are expected in the management of organizations, the average management cost to control an executive

agency, including goal control and performance evaluation, will decrease. On the other hand, if the overseeing department has a higher number of executive agencies, there will likely be more imitation and competition among executive agencies. Specifically, as regards contractual factors, we hypothesize as follows:

Hypothesis 7. The more executive agencies an overseeing department has, the higher the level of contractual factors of the executive agency will be.

However, if an overseeing department gives a higher priority to equity among agencies than to the optimal incentive mechanism for each executive agency, the correlation between the number of executive agencies under the overseeing department and the level of the contractual factors of an executive agency appears to be negative.

Chief Executive's Career Experience

Contractual perspective suggests performance evaluation and pay for performance to allow the principals to monitor the activities of agents in meeting the required ends. Particularly, in the Korean executive agency, the contractual path is focused on the chief executive. In Korea, the chief executive is employed by open competition and is given operational autonomy and responsibility for the performance of the agency. The pay of each chief executive is linked to the performance of the agency, that is, to the score on the Annual Executive Agency Evaluation.⁹ This score also has an impact on the extension of the chief executive's employment term.¹⁰ Chief executive leadership is included in the common indexes of the Annual Executive Agency Evaluation. The chief executive plays a very important role in the working mechanisms and performance of contractual factors in the Korean executive agency and thus appears to have a major influence on the level of contractual factors and performance.

9. Under the Executive Agency Act, each Korean executive agency's performance has been evaluated annually and the results have been made public since 2000. The overseeing department does a preliminary evaluation, and MOPAS then evaluates the agency comprehensively. The evaluation index is set by the operations committee of MOPAS and the operation review committee of each overseeing department; the latter evaluates the performance of the executive agencies within that department. The evaluation indexes include organizational efficiency and service quality as well as operational autonomy.

10. In contrast with the chief executive, employees scarcely have additional pecuniary or non-pecuniary incentives, despite their increased efforts associated with exertion of autonomy, the improvement of efficiency, and performance evaluations after agencification.

Among the various characteristics of the chief executive, career experience appears to be significant. When operational and policy functions are separated, cooperation between the two becomes more important (Greer 1994; Schick 1996). A chief executive with work experience in the overseeing department appears to communicate better with the overseeing department than a chief executive without such experience; this results in additional contractual factors. If staff in an overseeing department and an executive agency have the same experiences and training, it will make communication and cooperation less costly (Larzear, 1994), which will lessen the extent of conflicts of interest and asymmetrical information. Therefore, the following hypothesis arises:

Hypothesis 8. The career experience of the chief executive will have an impact on the level of contractual factors of executive agency.

CONTROL VARIABLES

The literature on executive agency organization suggests that organizational size affects behavior and performance (Moore 1995; Kim 1998; Park et al. 2003). The United Kingdom's Next Steps Review showed that twenty-two agencies of thirty-two agencies that reached their performance targets were below medium-sized, with fewer than 600 employees (Kim 1998). Large organizations had more performance targets and the rate of obtaining their goals was low. Cost-cutting due to Competing for Quality was the highest in medium-sized companies, those with between 210 and 560 employees, as this pertains to services to public and regulatory functions (Kim 1998). On the other hand, the contractual factors of small-sized agencies appear to be comparatively low because the tasks of reporting and evaluating constitute a burden, particularly to very small agencies (Schick 1996). Regardless of how small an agency is, each executive agency has to negotiate and implement annual performance targets, report on operations, and handle the paperwork and informational demands from the overseeing department or central agencies or National Assembly committees. Moreover, each must interact with outside clients and other interested parties, complying with accountability demands.

The idea that the service type and the contractual characteristics derived from it are the determinants of the level of contractual factors is perhaps the simplest theory of public service performance (Moore 1995; Kim 1998; Coats 2002).¹¹ In this context,

11. The Korean executive agency was initially classified into two service types, administrative and business. After April 2007 it was divided into five types: business medical, business

service type is used in Korea as one of the selection criteria of executive agency together with organization size and financial independence level.

However, the plausibility of this view has been undermined by empirical analyses (Kim 1998; Park et al. 2003). Service type is not statistically significant in terms of the performance of executive agency. Instead, it is correlated with the level of performance evaluation, one of the contractual factors (Kim 2008a). This implies that service type has an indirect impact on performance by affecting the extent of contractual factors. Another issue is that the difference within service types is larger than the difference among service types.

METHODOLOGY

Measurement of Contractual Factors

For measures of contractual factors, the operational framework documents of 44 executive agencies from 2000 through 2006 were analyzed. These documents spell out the contractual relationship between the overseeing department and the executive agency.

In Korean executive agencies, relationships overlap between the agency and the overseeing department and between the chief executive and the employees. The overseeing department controls the objectives of the executive agency through an employment contract with the chief executive, the approval of the agency's operational framework and business plan, and other elements. All factors concerning the operation of the executive agency, including the operational procedure, organization, personnel management, and finance, have to be included in its operational framework, which must be approved by the overseeing department. Through the approval of the operational framework, the overseeing department mitigates information asymmetries and limits the executive agency's diversions from the overseeing department's interest.

For this study, the level of each contractual factor was compared among agencies, the level of autonomy or specification was classified by three or four levels, and a score was given to each group. Operational autonomy and performance evaluation

service, administrative statistics, administrative research, and administrative service (MOPAS 2006). Kim (2008a) classified Korean executive agencies into four service types: medical, statistics, research, and business, with business service and administrative service included in service type, as the criteria for the classification of two types are ambiguous and do not appear to affect performance. These four categories are dummy-coded.

used a four-point scale; pay for performance used a three-point scale.¹² The variables of overall contractual factors were measured according to the sum of level of each contractual factor. This index indicates the level of each executive agency on the whole. The entire set of contractual factors used a five-point scale. The higher the score, the higher the level of contractual factors.¹³ Appendix 1 describes the measure index and level criteria of the contractual factors in an executive agency.

Measurement of Antecedent Variables

The present study's measures are based on theoretical analyses, previous research and extensive interviews with related actors, despite the consideration of the availability of data. To measure the variables associated with overseeing department and executive agency, reports such as the Annual Executive Agency Evaluation Report, Annual Government Budget Report, and the Government Organization Report were used. Appendix 2 describes the measure index and the level criteria of the variables associated with overseeing departments and executive agencies.

The resources of overseeing departments, both organizational and financial, were analyzed and measured. The amount of organizational and personnel resources of the overseeing department was measured according to whether the overseeing department was a larger department or a smaller department. A "0" was recorded for an office and "1" was recorded for a ministry. It is hypothesized that the level of the contractual factors of an executive agency whose overseeing department is a ministry will be higher than that of an executive agency whose overseeing department is an office. The financial resources of the overseeing department were measured by its budget increase ratio. We hypothesize that the higher the budget increase ratio of the overseeing department, the higher its level of contractual factors will be.

In this study, the organizational culture of the overseeing department refers to whether or not the overseeing department is an organization associated with the military or police. A "0" was recorded for agencies whose overseeing department is the Department of Defense, the Office of the Police and the Office of the Marine Police. A "1" was recorded for other agencies.

Degree of professionalism was measured by the ratio of the number of professional positions to the total number of employees. Researchers, medical personnel, and tech-

12. For a detailed discussion of the measures, see Kim (2008).

13. The index of operational autonomy is measured by personnel and operational autonomy excluding financial operational autonomy, because the latter does not differ significantly among agencies.

nologically specialized workers, for example, are among the professional positions.

Hierarchical control was measured by comparing the executive agency budget to the general budget of the overseeing department. Considering that the greater the financial dependency of the executive agency on the overseeing department is, the stronger the power of the overseeing department over executive agency will be (Choi 1998), the higher the executive agency's budget is compared to the general budget of the overseeing department, the more power and stronger hierarchical control the overseeing department is likely to have over the executive agency.

Organizational cooperation was measured by the review number of executive agencies of the operational framework per year. Financial cooperation was measured by the increase in the budget of the executive agency, which showed the degree of cooperation between the executive agency and the overseeing department. Executive agency age was measured by the number of years the agency has been in existence. Number of executive agencies was measured by the total number of executive agencies in an overseeing department.

The chief executive's career experience was given one of five categories: "0" was recorded for a specialist from outside the agency, "1" for a specialist within the agency, "1.5" for a bureaucrat within the agency; "2" for a bureaucrat in the overseeing department; and "3" for a chief executive of the overseeing department. The higher the score, the higher the homogeneity level of the experience and training of the overseeing department and executive agency. A chief executive with work experience in the overseeing department appears to communicate better with the overseeing department than a chief executive without this experience. This situation also introduces additional contractual factors.

In this study, executive agencies were classified into four service types: medical, statistical, research, and business. These four categories were dummy-coded. Organizational size was measured by the total number of employees.

RESULTS

To investigate the determinants of the levels of contractual factors, an ordered logistic regression was conducted for each contractual factor on the variables associated with overseeing departments and executive agencies. Two models were estimated. Model 2 includes the aspects of financial resources and financial cooperation. Model 1 does not include these aspects and has more observations. The statistical package used was SAS 9.1. Two goodness-of-fit measures were reported: the likelihood ratio and the negative of twice the log likelihood (-2Log L).

Table 1. Descriptive Statistics of Dependent Variables

	N	Mean	Standard deviation	Minimum	Maximum
Operational autonomy	142	0.90	0.73	0.00	3.00
Performance evaluation	142	1.67	0.66	0.00	3.00
Pay for performance	142	1.41	0.60	0.00	2.00
Overall contractual factors	142	3.94	1.02	3.00	8.00

Contractual factor variables include operational autonomy, performance evaluation, and pay for performance. Table 1 shows the descriptive statistics of contractual factors (dependent variables), which are clearly discrete responses. Table 2 shows the descriptive statistics of the variables associated with overseeing departments and executive agencies.

Table 2. Descriptive Statistics of Antecedent and Control Variables

	N	Mean	Standard deviation	Minimum	Maximum
Organizational resources	142	0.48	0.50	0.00	01.00
Financial resources	116	4.69	16.63	-27.55	116.39
Organizational culture	142	0.84	0.36	0.00	1.00
Degree of professionalism	142	0.38	0.24	0.00	0.80
Hierarchical control	134	3.48	5.40	0.05	30.52
Organizational cooperation	142	1.05	0.96	0.00	4.00
Financial cooperation	113	9.39	16.98	-43.04	88.92
Executive agency age	142	3.24	2.00	1.00	7.00
Number of agencies	142	2.89	3.42	1.00	12.00
Chief executive's career experience	142	1.21	0.74	0.00	3.00
Executive agency size	142	222	258	41	1637
Research service	142	0.16	0.37	0.00	1.00
Medical service	142	0.18	0.39	0.00	1.00

Table 3 shows the ordered logistic regression results for operational autonomy. In Model 2, which includes financial agencies and financial cooperation in the explanatory variables, none of the financial factors were statistically significant. Organizational resources were statistically highly significant in both models. The probability of a higher level of operational autonomy increased as the organizational resources of the overseeing department became higher ($r = 3.478$ $p < 0.001$). The same applied to the degree of professionalism: the higher this index was, the higher the probability of a high level of operational autonomy ($r = 12.135$ $p < 0.001$). Organizational cooperation was statistically significant and had an expected sign ($p = 0.650$ $r < 0.05$). The coefficient associated with the number of executive agencies had an unexpected sign: the

greater the number of executive agencies of a overseeing department, the lower the probability of a high level of operational autonomy ($r = -0.396$ $p < 0.05$). The career experience of the chief executive was statistically significant in both models: the probability of a high level of operational autonomy increased if the chief executive's career experience was associated with the overseeing department as well as the executive agency ($r = 4.425$ $p < 0.001$).

Table 3. Ordered Logistic Regression of Operational Autonomy

Variables	Model 1†		Model 2‡	
	Estimate	Standard error	Estimate	Standard error
Organizational resources	3.478***	0.735	2.892***	0.801
Financial resources	–	–	0.033	0.024
Organizational culture	1.355	1.042	2.060	1.199
Degree of professionalism	12.135***	2.662	14.631***	3.339
Organizational cooperation	0.650*	0.288	0.468	0.325
Financial cooperation	–	–	-0.008	0.014
Executive agency age	-0.141	0.134	-0.240	0.176
Number of executive agencies	-0.396*	0.169	-0.364	0.207
Chief executive's career experience	4.425***	0.781	4.430***	0.876
Executive agency size	0.000	0.001	0.000	0.000
Research service	0.227	1.252	0.356	1.396
Business service	4.394**	1.420	5.660***	1.712

* significant at 0.05 level

** significant at 0.01 level

*** significant at 0.001 level

† $n = 144$; $-2\text{Log } L = 129.514$; likelihood ratio = 140.2529

‡ $n = 112$; $-2\text{Log } L = 99.231$; likelihood ratio = 117.1615

Table 4 shows the ordered logistic regression results for performance evaluation. In Model 2, not all financial factors were statistically significant; this is similar to the results for operational autonomy. Organizational resources were statistically significant and had the expected sign in both models ($r = 2.612$ $p < 0.001$). The probability of a higher level of performance evaluation increased with an increase in organizational resources of the overseeing department. The same applied to the degree of professionalism: the higher this index was, the higher the probability of a high level of operational autonomy ($r = 5.772$ $p < 0.001$). Hierarchical control was statistically significant and positive; it had an unexpected sign despite a small coefficient magnitude ($r = 0.135$ $p < 0.05$).

The coefficient associated with the number of executive agencies also had an expected sign: the more executive agencies an overseeing department had, the higher

the probability of a high level of performance evaluation ($r = 0.293$ $p < 0.01$). The career experience of the chief executive was statistically significant ($r = 1.097$ $p < 0.01$). Both of the characteristics of executive agency, organizational size and service type, were also found to be statistically significant.

Table 4. Ordered Logistic Regression of Performance Evaluation

Variables	Model 1†		Model 2‡	
	Estimate	Standard error	Estimate	Standard error
Organizational resources	2.612***	0.804	2.718**	0.898
Financial resources	–	–	0.014	0.016
Organizational culture	0.476	0.760	0.382	0.854
Degree of professionalism	5.772***	1.775	5.976***	1.989
Hierarchical control	0.135*	0.064	0.149*	4.107
Organizational cooperation	0.123	0.233	-0.091	0.241
Financial cooperation	–	–	0.011	0.014
Executive agency age	-0.167	0.113	-0.180	0.137
Number of executive agencies	0.170	0.087	0.293**	0.097
Chief executive's career experience	1.097**	0.421	1.083*	0.373
Executive agency size	0.003*	0.001	0.003*	0.001
Research service	2.524*	1.164	2.267	1.276
Medical service	-6.208***	1.004	-6.368***	1.163

* significant at 0.05 level

** significant at 0.01 level

*** significant at 0.001 level

† $n = 134$; $-2\text{Log } L = 170.814$; likelihood ratio = 97.845

‡ $n = 112$; $-2\text{Log } L = 142.350$; likelihood ratio = 77.0586

Table 5 shows the ordered logistic regression results for pay for performance. In Model 2, none of the financial factors were statistically significant; this finding was identical to those for operational autonomy and performance evaluation. Organizational resources were not statistically significant, which was different from the results for operational performance and performance evaluation. The dummy variable for organizational culture was highly statistically significant ($r = 6.652$, $p < 0.001$). The significant and positive coefficient value suggests that, when all other factors are equal, the probability of a high level of pay for performance is higher if the organizational culture is less collective.

The same applies to the degree of professionalism: the higher this index was, the higher the probability of a high level of operational autonomy ($r = 4.899$, $p < 0.001$). The coefficient associated with the number of executive agencies had an unexpected sign ($r = -0.220$, $p < 0.001$); the more executive agencies an overseeing department

had, the lower the probability of a high level of pay for performance. The career experience of the chief executive was statistically significant in both models; the probability of a high level of pay for performance increased if the chief executive's career experience was associated with both overseeing department and executive agency ($r = 1.484, p < 0.001$).

Table 5. Ordered Logistic Regression of Pay for Performance

Variables	Model 1†		Model 2‡	
	Estimate	Standard error	Estimate	Standard error
Organizational resources	-0.281	0.494	-1.734	0.943
Financial resources	–	–	0.010	0.016
Organizational culture	6.652***	1.338	10.014**	3.047
Degree of professionalism	4.899***	1.433	6.930***	1.997
Hierarchical control	–	–	-0.107	0.069
Organizational cooperation	0.279	0.227	0.368	0.278
Financial cooperation	–	–	0.006	0.013
Executive agency age	-0.029	0.105	-0.091	0.146
Number of executive agencies	-0.220**	0.077	-0.380**	0.127
Chief executive's career experience	1.484***	0.375	1.376**	0.465
Executive agency size	0.003*	0.001	0.005	0.002
Research service	-1.635*	0.782	-2.681*	1.200

* significant at .05 level

** significant at .01 level

*** significant at .001 level

† $n = 144$; $-2\text{Log } L = 166.569$; likelihood ratio = 80.7568

‡ $n = 112$; $-2\text{Log } L = 115.242$; likelihood ratio = 73.9457

Table 6 shows ordered logistic regression results for the entire set of contractual factors. In Model 2, none of the financial factors were statistically significant; this was the same for both models' other three variables. Organizational resources were found to be highly statistically significant in both models ($r = 3.956, p < 0.001$). The probability of a high level for the entire set of contractual factors increased if the organizational resources of an overseeing department were greater. Organizational culture was also statistically highly significant and positive ($r = 5.029, p < 0.001$). A significant and positive coefficient value suggests that, when all other aspects are equal, the probability of a high level of pay for performance is higher if the organizational culture is less hierarchical. The same applies to the degree of professionalism: the higher this index was, the higher the probability of a high level of operational autonomy ($r = 8.365, p < 0.001$). Organizational cooperation was statistically significant and had the expected sign ($r = 0.798, p < 0.01$). This indicates that the probability of a high level

of the entire set of contractual factors increased if the overseeing department and the executive agency were cooperative. The coefficient associated with the number of executive agencies had the expected sign ($r = -0.404$, $p < 0.001$); the more executive agencies an overseeing department had, the lower the probability of a high level for the entire set of contractual factors. The chief executive's career experience was statistically significant in both models ($r = 2.979$, $p < 0.001$); the probability of a higher level for the entire set of contractual factors increased if the chief executive's career was associated with both the overseeing department and the executive agency.

Table 6. Ordered Logistic Regression of Overall Contractual Factors

Variables	Model 1†		Model 2‡	
	Estimate	Standard error	Estimate	Standard error
Organizational resources	3.956***	0.675	3.087***	0.892
Financial resources	—	—	0.017	0.016
Organizational culture	5.029***	1.054	5.217***	1.246
Degree of professionalism	8.365***	1.927	9.807***	2.020
Hierarchical control	—	—	-0.053	0.074
Organizational cooperation	0.798**	0.251	0.657*	0.270
Financial cooperation	—	—	.012	.013
Executive agency age	-0.182	0.113	-0.224	0.144
Number of executive agencies	-0.404***	0.098	-0.456***	0.126
Chief executive's career experience	2.979***	0.514	2.656***	0.561
Executive agency size	0.004***	0.001	0.004**	0.001
Research service	-0.177	0.918	-0.732	1.117
Medical service	-3.146***	0.912	-3.499**	1.066

* significant at 0.05 level

** significant at 0.01 level

*** significant at 0.001 level

† $n = 144$; $-2\text{Log } L = 187.629$; likelihood ratio = 141.623

‡ $n = 112$; $-2\text{Log } L = 143.796$; likelihood ratio = 121.5968

DISCUSSION AND CONCLUSIONS

An ordered logistic regression was conducted to investigate the determinants of the level of contractual factors. The results showed that the characteristics of an overseeing department, its relationship with an executive agency, and the characteristics of the executive agency all relate to the level of contractual factors. In most regressions, the organizational resources and culture of the overseeing department, degree of professionalism, cooperation between the overseeing department and executive agency, and

the chief executive's career experience were statistically significant. More organizational resources and a less hierarchical organizational culture in the parent department, a higher degree of professionalism in the executive agency, more cooperation between overseeing department and executive agency, and the chief executive's career experience in the overseeing department all were likely to increase the level of contractual factors and improve the performance of the executive agency.

The result of the regression of performance evaluation is of particular interest because in our previous research, this was the only significant contractual factor. The factors of organizational resources, degree of professionalism in the executive agency, hierarchical control, and chief executive's career experience were significant.

These results are related to the way executive agencies are organized in Korea. Most Korean executive agencies depend on their overseeing departments for resources, and overseeing departments have significant operational authority over executive agencies. Therefore, the overseeing department plays an important role in the behavior and performance of the executive agency. It appears that these factors cause information asymmetry between overseeing departments and executive agencies, leading to the level of contractual factors.

We can conclude that an overseeing agency affects the level of contractual factors and thus has a major impact on the performance of its executive agency. Therefore, more efficient and specific incentive schemes need to be developed to reduce information asymmetry between overseeing departments and executive agencies or between chief executives and workers within an agency or department. Institutional design and creation of conditions for more delegation of authority and more provision of resources to executive agencies are also required.

Among the variables associated with executive agencies, while organizational size is statistically significant with the expected positive sign in most regressions, the amount of the estimate was very small. This implies that organizational size does not have an impact on the behavior and performance of an executive agency, as long as it is not too small to carry out the activities required in its contractual relationship with the overseeing department. On the other hand, service type was highly statistically significant in all regressions: business service was positively related to a higher level of operational autonomy; medical service was negatively related to performance evaluation; research service was positively related to performance evaluation but negatively related to pay for performance. This implies the level of performance evaluation and the performance of research service are higher than those of other service types. We can conclude that if the present system is not changed, agencification is more efficient for research services than for other service types.

This study did not analyze the multiple principals focused on the contractual rela-

tionship between overseeing department and executive agency, taking notice that this relationship is core in the operation and performance of the Korean executive agency. Another shortcoming of the study is that managerial issues in public organizations were mainly analyzed in terms of information asymmetry, while the moral hazard aspect of managerial issues was scarcely addressed.

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Appendix 1. Measure Index and Level Criteria of Contractual Factors

Contractual factor	Measure index	Level	Level criteria
Operational autonomy	Level of operational autonomy	0	Does not have some articles for "the authority to establish and enforce agency itself and personnel management" and has some articles for "personnel agreement or the authority scope of employment."
		1	Does not have some articles for "the authority to establish and enforce agency itself and personnel management" and does not have some articles for "personnel agreement or the authority scope of employment."
		2	Has some articles for "the authority to establish and enforce agency itself and personnel management" requiring the approval of the ministers.
		3	Has some articles for "the authority to establish and enforce agency itself and personnel management" not requiring the approval of the ministers.
Performance evaluation	Level of performance evaluation	0	Does not have some articles for employee work record evaluation.
		1	Has some articles for employee work record evaluation and has some articles for requiring the approval of the ministers.
		2	Has some articles for employee work record evaluation not requiring the approval of the minister.
		3	Has some articles for employee work record evaluation and has the articles for the agency itself operational directive or a performance evaluation committee.
Pay for performance	Level of pay for performance	0	Has no articles for pay for performance.
		1	Has some articles for pay for performance requiring the approval of the ministers.
		2	Has some articles for pay for performance not requiring the approval of the ministers.
Overall contractual factors	Level of the overall contractual factors	3-8	Operational autonomy, performance evaluation, and pay for performance

Appendix 2. Measure Index of Antecedent Variables

Variable	Measure
Organizational resources	0 = office 1 = ministry
Financial resources	Budget increase rate of the overseeing department: $(B - A)/A$ B = this year; A = previous year
Organizational culture	0 = Department of Defense, Office of the Police, Office of the Marine Police 1 = other agencies
Degree of professionalism	Ratio of the number of professional employees to the total number of employees
Hierarchical control	Ratio of the executive agency budget to the budget of the overseeing department
Organizational cooperation	The number of reviewing the executive agency operational framework per year
Financial cooperation	Budget increase rate of the executive agency: $(D - C)/C$ D = this year; C = previous year
Executive agency age	Number of years agency has been established
Number of agencies	Number of executive agencies under an overseeing department
Chief executive's career experience	0 = specialist from outside the agency 1 = specialist from within the agency 1.5 = bureaucrat in the agency 2 = bureaucrat in the overseeing department 3 = chief executive in the overseeing department
Executive agency size	Total number of employees
Medical service type	1 = medical agency 0 = other
Research service type	1 = research agency 0 = other
Business service type	1 = business agency 0 = other