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### The Impact of Autonomy and Result Control on the Performance of Executive Agencies in Korea

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## AGENCIFICATION AND PERFORMANCE

### The Impact of Autonomy and Result Control on the Performance of Executive Agencies in Korea

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**ABSTRACT:** *Agencification, the practice of creating semi-autonomous public bodies based on a contractual relationship with a parent government, has spread across the industrialized and developing world. The main principles of this NPM-based reform are autonomy and result control. This study uses regression analysis with data from forty-four executive agencies in Korea to examine the effect of these factors on organizational performance. The results show that both human resource management autonomy and financial autonomy have statistically significant negative relationships with performance, whereas systems for performance evaluation and rewards for result control are significantly and positively related to the performance of executive agencies in Korea.*

**KEYWORDS:** *autonomy, executive agency, New Public Management, performance*

In the contemporary public management literature, enthusiasm for the creation of executive agencies inspired by the New Public Management (NPM) philosophy has become a global “fever” (Diefenbach, 2009; Elgie, 2006; Pollitt, Bathgate, Caulfield, Smullen, & Talbot, 2001). The idea of agencification was initially applied in the Anglo-Saxon countries and over the past three decades has spread to many others, based on the promise of improved organizational performance. The key element of this movement is the structural disaggregation of traditional bureaucracies in tandem with increased managerial autonomy, strategies designed to “let managers manage” and strengthen accountability for results (Alexander, 2002; Fedele, Galli, & Ongaro, 2007; Schick, 1996).<sup>1</sup>

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Although this contract-based reform has spread widely, only a handful of empirical studies have attempted to investigate the consequences of agencification. Several scholars have pointed out that research on this topic is difficult because of the absence of conceptual criteria and insufficient empirical data (Boston, 2001; Boyne, Farrell, Law, Powell, & Walker, 2003; Pollitt, 1990). In particular, no consensus has been reached as to whether giving organizations more autonomy has brought improvements in efficiency or quality of service (Talbot, 2004). Furthermore, the contractual factors of performance evaluation and reward can be critical in the relationship between the parent ministry and the autonomous agency. However, since these factors are less discussed in the empirical literature on executive agencies, there is insufficient evidence from which to draw conclusions. Therefore, this study explores the relationship between autonomy and performance and also tests the effect of performance-management systems on result accountability. It focuses on executive agencies in South Korea, where NPM-driven administrative reforms have been imported and extensively implemented.

In April 2000, the Korean government established executive agencies as legally separate bodies from the central ministries, thereby taking the initial step from a traditional toward a quasi-contractual governing arrangement. Under the agencification movement in Korea, general reform strategies for individual organizations have been based on similar principles, but there are significant differences in how much autonomy is given to different agencies and how the parent ministry monitors the results of the agent's activities. These differences provide an interesting context in which to investigate the effects of agencification. The evidence this research provides in the case of Korea has practical implications for developing countries where similar reform measures continue to be adopted from the Western world.

### Autonomy and Control in Agencification

Since the 1970s, the management and control of public organizations involved in service delivery and policy implementation has shown an increasing trend toward agencification. Theorists of agencification posit that executive agencies are more efficient than traditional bureaucracies because of their enhanced autonomy and their result-based accountability (Joshi & Ayee, 2009; Verhoest, 2005). As a result of agencification reforms, managerial autonomy has been increased through the easing of the controls traditionally applied to inputs in the implementation process.<sup>2</sup> More concretely, input control has been replaced by result accountability in the form of performance contracting, financial incentives, and greater competition. Public services are increasingly provided by executive agencies that have substantial managerial autonomy to determine their own inputs instead of being strictly regulated and incrementally financed, as in the case of traditional government bureaucracy. While structural designs vary, result-oriented performance

contracts and performance-enhancing reward systems are the major mechanisms used in the control of executive agencies (Pollitt, Talbot, Caulfield, & Smullen, 2004; Verhoest, Peters, Bouckaert, & Verschuere, 2004).

The underlying assumption of the New Public Management (NPM) doctrine supporting the creation of executive agencies is that the result control and financial incentives they are given will enable them to enhance their performance by using their managerial autonomy in determining financial and human resource matters (Pollitt, 2009).<sup>3</sup> These assumptions about the effects of autonomy and result control are drawn from principal-agent theory (Van Thiel & Pollitt, 2007). It is argued that public managers serve their own interests, which do not necessarily coincide with the interests of the central government (Schick, 1996). The creation of executive agencies is thus an attempt to formally align the interests of the two parties by manipulating the incentive structure (Van Thiel, 2004). The main focus of principal-agent theory is on how the principal can control the agent in a situation of goal conflict and information asymmetry, both of which occur with great frequency in the public sector (Halachmi & Boorsma, 1998). Principal-agent theory is used as a theoretical justification for NPM reforms such as agencification, and the basic control mechanisms in the reforms are designed to overcome the problems inherent in extending greater autonomy to government bodies. Under principal-agent theory, the agent executes tasks on behalf of the principal but necessarily has a degree of discretion in executing those tasks due to the highly specialized nature of the bureaucracy. In other words, the agent has more information about the processes, the achieved results, and other important circumstances in the implementation process, which creates an asymmetry of information between agent and principal. At the same time, the interests of the agent are not always congruent with the interests of the principal, and therefore agents, who are assumed to be utility-maximizing actors, are likely to use their discretion in order to pursue their own goals to the detriment of the principal. In this process, the agent's opportunistic behavior can result in the creation of moral hazard and adverse selection. The principal can use several control devices to force the agent to perform better and thus mitigate the effects of information asymmetry and goal conflict. For instance, the principal may use monitoring systems to measure and evaluate the performance of the agent, or systems of financial incentives that link performance to reward. From the perspective of principal-agent theory, the performance benefits of enhanced autonomy can only be realized if that autonomy is coupled to substantial and appropriate incentives (Verhoest et al., 2004).

The available empirical evidence is surprisingly insufficient to confirm or reject these hypothetical expectations in terms of the effects of the autonomy and control of executive agencies (Caulfield, 2002; Halachmi & Greiling, 2013; Lee & Kim, 2012; Lombard & Morris, 2012), and contemporary studies have

presented ambivalent findings. Oh and Chun (2007) pointed out that the increase in performance hypothesized in the literature on bureaucratic autonomy appears to be a belief without scientific evidence. Verhoest, Van Thiel, Bouckaert, and Lægheid (2012) collected agencification data in thirty countries covering European, African, Eastern, and Anglophone states, and the European Union. Their work is undoubtedly an important research milestone, but still it is far from a complete picture on the relationship between autonomy and performance.

Yamamoto (2006) is one of the few scholars to have explicitly tested the relationship between autonomy and performance. The research used a regression analysis for Japanese public agencies with survey data. The survey respondents—chief executives, directors, and senior managers—were asked to rate the changes in autonomy and performance effected through agencification. Yamamoto found a statistically significant and positive relationship between operational autonomy and organizational effectiveness, efficiency, and quality of services, although the hypothesized linkages between autonomy in resource management, organizational structure, and performance were only partially supported.

Some case studies have criticized the NPM-related reform literature on agencification on the basis that the apparent convergence of practices is illusory. For example, based on the case of agencification introduced in Tanzania in the 1990s, Sulle (2010) argued that the generic management techniques traveling around the world in the name of NPM are often subject to local editing so as to fit a specific country's political system. In Tanzania, for example, the agency idea was introduced in response to the pressure of international donors. However, the reform outcome is not necessarily determined by the rationality of reform ideas, but rather by a variety of local factors in the implementation context (Sulle, 2010). Another example that raises questions about the universality of NPM-based agencification reform is the case of Rajasthan in northern India. Singh (2007) revealed that the agencification reforms adopted in Rajasthan are quite different from the "original" Western conceptualization. In the Western formulations of agencification based on New Public Management, agency heads are assumed to be professional managers and are given autonomy and made accountable for achieving results, with their rewards linked to performance. However, in the case of Rajasthan, agencification has been "imported" only as an organizational structure, mostly at the behest of donors; the resultant agency structures serve as a channel for resource flow, and the implementation of policy programs shows different consequences (Singh, 2007).

In conclusion, despite the compelling theoretical basis for agencification, the crucial question of the effects of increased autonomy and reduced control on organizational performance in the public sector remains unanswered. The study presented in this article tested the relationship with empirical data, explaining the results in the context of agencification reform in Korea.

## Agencification Reform in Korea

As the ideas of New Public Management gained traction with high-ranking officials and politicians in the Korean government, various kinds of administrative reforms were initiated very vigorously. Especially after the Asian financial crisis in the late 1990s, the government of Korea adopted reform guidelines from the International Monetary Fund and strived to reduce the size of government. From that moment, the refrain of “small but efficient government” drove the introduction of businesslike structures and an emphasis on management skills (Kim, 2008; Moon & Lee, 2010).

One item on the reform agenda was agencification, which initially led to the creation of ten executive agencies and was quickly extended to more than thirty agencies with parent ministries in the central government. Agencification reform in Korea benchmarked the British model, which brought a dramatic extension of agencies throughout the government. However, the actual pattern of reform in Korea has shown stronger similarities with the Canadian case, where only some specific types of public organizations are agencified. Through several legislative and regulatory revisions, managerial autonomy and performance contracts were transplanted to the soil of Korea’s strongly hierarchical governance tradition.

In 1999, the National Assembly of Korea enacted the Executive Agency Law, and a year later ten organizations, including the National Medical Center, the Driver’s License Agency, and the National Theater, became executive agencies. In 2006, the new political leadership of the Roh administration tried to initiate public sector reform based on NPM and twenty-six more organizations were transformed into executive agencies. Currently there are thirty-eight executive agencies operating under fifteen parental ministries in the central government of Korea. Agencification reform has been less active at the local government level and there are only three executive agencies under the Seoul Metropolitan Government, including the Seoul Museum of History.

Throughout the last thirteen years of reform, the Executive Agency Law has been revised often with the major objective of increasing the managerial autonomy of executive agencies (Kim, 2008). For instance, in 2003, the law was revised so that agency heads could have exclusive legal autonomy to reorganize their agencies and larger discretion in their budgetary expenses. In 2004, the length of the head’s tenure was extended from three years to five years, which increased the stability, as well as the autonomy, of agency leadership. The revision of the law in 2004 also gave agencies the discretion to manage their total number of employees within the total budget. Financial autonomy was expanded in 2005 by expediting the authorization process of net revenue use and by increasing the level of possible utilization of net revenue from 10 percent to 20 percent. In addition, the revised law gave greater discretion to managers to allocate funds between personnel wage expense items and material expense items.



In 2007, the number of executive agencies grew to forty-five, but it was reduced to thirty-eight in 2012. The total number of staff working at executive agencies is currently 10,039, equal to roughly 1.7 percent of the public employees in the central government. Compared to the situation in the United Kingdom, where around 70 percent of central government employees are affiliated with executive agencies, the extent of agencification in Korea is relatively small. Previously, executive agencies in Korea were classified into five categories: corporative medical agencies, corporative business agencies, administrative business agencies, administrative research agencies, and administrative statistics agencies (Kim, 2009). In 2012, agencies were reclassified into six types: statistics agencies, medical agencies, research agencies, education and training agencies, culture agencies, and facility maintenance agencies.

The Executive Agency Law in Korea consists of several basic elements. Above all, the law emphasizes open competition in the appointment of agency heads. The law also establishes an operational framework such that an executive agency is a legally separate entity from its parent ministry. Last, a performance reward is given to the agency head based on an annual performance review by the parent ministry and the Ministry of Public Administration and Security, meaning that agencified organizations in Korea have multiple principals.

Under the agencification reform in Korea, the parent ministry controls the objectives of the executive agency, mainly through an employment contract with the agency head, but also through a review of the agency's operational framework and business plan. Implementation procedure, personnel management, and financial operation have to be included in the operational framework, which must be approved by the parent ministry. The parent ministry mitigates information asymmetries by controlling the operational framework, and limits the executive agency's discretion based on the interests of the parent ministry.

Around the world, the generic management techniques related to agencification are often subject to local revisions so as to fit a specific country's policy systems, and the case of Korea is not an exception. Although the government of Korea benchmarked the UK case, and adopted reforms that also show strong similarities with the Canadian model in actual implementation, the Korean reforms have a number of distinctive elements.

First, the contractual path is mainly focused on the agency head, and agency heads are usually tightly controlled by their ministers. Agency heads are selected through open competition and the specifics of their employment are described in a contract of limited length as defined by the Executive Agency Law. Performance-based pay is given to an agency head based on an annual review by the parent ministry and the Ministry of Public Administration and Security, and contracts can be renewed based on the agency head's performance. Performance evaluation and performance pay systems for employees in executive agencies



vary across agencies. In the terminology of the principal-agent model, the head of an executive agency can be seen as both a principal and an agent: the head is an agent in the executive agency's relationship with the parent ministry and a principal in its relationship with the agency's employees. The result-control system is under these two tiers of controls, and performance evaluation and reward systems should be well aligned in these layers. In Korea, result controls on agency heads are somewhat consistent because of the hierarchical surveillance by the central ministry, but between-agency variation is high in terms of performance evaluation and the rewards given at the employee level. Thus, it is meaningful to analyze how these variations in performance evaluation and reward systems for employees contribute to differences in the performance of executive agencies in Korea.

Second, agencification reform in Korea can be characterized as "hiving-in" rather than "hiving-off." Hiving-in, in this context, means that executive agencies in Korea are basically subject to the hierarchical norms and rules of their parent ministries, and the employees of executive agencies remain legal public officials. This is in contrast to the case of New Zealand, where employees in agencified organizations, designated crown entities, are not public servants. Hived-in agencies usually have less autonomy from their parent ministries than hived-off agencies. For example, operations framework documents are closely reviewed by the parent ministries, and executive agencies have to obtain approval for medium-term managerial plans designed to achieve the goals set by parent ministries. Only under this condition do executive agencies in Korea have discretion as to resource inputs. The total number of employees is regulated by presidential rule, which is another constraint on management. While legal reforms have expanded the discretion of management in executive agencies, there continue to be some conventional practices that circumscribe the decision-making power of the agency head (Moon & Lee, 2010). Given these constraints on the autonomy of agency heads, some scholars have questioned the success of the reforms, arguing that the individualist assumptions of the underlying theory of agencification do not hold in Korea's hierarchical and collectivist government culture.

Third, agencification reform in Korea has been implemented by the Ministry of Public Administration and Security through a coercive isomorphic mechanism (Kim, 2008, 2009), and the ministry continues to actively monitor the performance of agencified organizations. In other words, executive agencies in Korea have a two-tier control system with both the Ministry of Public Administration and Security and individual parent ministries exerting influence. This is another contrast to Western models. For instance, agencified organizations in Canada and New Zealand are monitored by the Ministry of Finance or some other financial ministry, but those in Korea are controlled by the ministry that deals with personnel management.

## Hypothesis

Building on the literature summarized above, this study proposes two sets of hypotheses. The first set holds that human resource management autonomy and financial autonomy, two major pillars of autonomy (Verhoest et al., 2004; Verschuere, 2007), will increase the likelihood that executive agencies have higher levels of performance. These hypotheses are based on the assumption that agencies use their managerial discretion in financial and human resource matters to improve organizational performance. Although there are other dimensions of autonomy, the focus here is on human resource management and financial aspects because, under the agencification reforms in Korea, the same rules and governance structures were coercively applied to all executive agencies, and therefore dimensions other than financial and managerial autonomy have little variation across agencies. On the other hand, financial and managerial autonomy are vital aspects of the reform in Korea because the Ministry of Public Administration and Security has focused on increasing autonomy along these dimensions (Oh, 2010). Therefore, in this study we examine the effect of autonomy in finance and human resource management.

*H1.1 Executive agencies with higher levels of human resource management autonomy will have higher levels of organizational performance.*

*H1.2 Executive agencies with higher levels of financial autonomy will have higher levels of organizational performance.*

The second set of hypotheses expects to find an association between an executive agency's performance and the maturity of its performance-evaluation and performance-reward systems. The principal-agent model predicts that control devices that align the interests of principal and agent can mitigate the problems of information asymmetry and goal conflict, and this in turn will increase the overall productivity of the organization. Performance evaluation and performance rewards are the two instruments most commonly used in the NPM-driven public management culture of the current Korean administration, with the aim of aligning the interests of agency heads and parent ministries. Therefore, we test the effect of these two tools, performance evaluation and performance payment, on the overall performance of executive agencies.

*H2.1 Executive agencies with more developed performance-evaluation systems will have higher levels of organizational performance.*

*H2.2 Executive agencies with more developed performance-reward systems will have higher levels of organizational performance.*

## Methods

This study examines the effect of autonomy and result control on the performance of executive agencies in Korea by testing a statistical model with empirical data.<sup>4</sup> In order to model relevant relationships, we conducted a series of in-depth interviews with civil servants in parent ministries, executive agencies, and the Ministry of Public Administration and Security before statistical modeling. The total number of interviewees was forty-eight, each of them affiliated with a different organization related to the management of executive agencies: thirty-eight interviewees were employees in executive agencies, and ten were employees in parent ministries or in the Ministry of Public Administration and Security. At the time of the interviews, all of the interviewees were working in divisions related to human resource management, finance, or planning, and were knowledgeable about the overall administrative processes of the executive agency and parent department they are affiliated with. The knowledge attained via interviews, and in addition from the literature, was used to detect possible omitted variables to control for and was also considered in the conceptualization and operationalization of variables. We also utilized knowledge obtained from the interviews in the interpreting the results of statistical testing. The work of several Belgian scholars, including Koen Verhoest, Geert Bouckaert, and Bran Verschuere, who pioneered the empirical research on this topic by suggesting measures and hypotheses to test, was also consulted in the construction of the measurements used in our research.

Based on the literature and interviews, we measured and quantified the variables and then conducted multiple regression analysis. Variables were measured with data from 2000 to 2006.<sup>5</sup> The independent variables of this study are autonomy and result control, as stated in the aforementioned hypotheses. Human resource management (HRM) autonomy was measured by quantifying the different levels of HRM discretion described in organizational rules. Verhoest et al. (2004) measured “managerial autonomy concerning HRM” with survey questions asking whether the organization can make decisions without interference from (higher-level) government about the procedures for appointing personnel and the conditions for promoting personnel, among other factors. Verschuere (2007) also used a measure of operational HRM autonomy by summing binary scores of questionnaires asking, for example, whether the organization can make decisions about the way personnel are appointed, or about the conditions for promotion. We adopted and modified this criterion in order to construct the measurement of HRM autonomy used in the present study. However, instead of using a survey to measure the perceptual degree of autonomy, we focused on measuring legally prescribed autonomy and the degree to which autonomous practices were described in written organization rules. The study focuses on objective measurements because extralegal practice is much less likely in the Korean administrative context, which is characterized by a

rigid bureaucratic structure. We examined the written rules of executive agencies and coded them numerically based on the following criteria: An agency was coded 0 when there are no written rules that authorize it to enact its own rules in personnel management but there are written rules that restrict its discretion in the recruiting and dismissal of personnel. The agency was coded 1 if it does not have rules that authorize it to enact its own rules in personnel management but does not have any rules that restrict its discretion in the recruiting and dismissal of personnel. An agency was coded 2 when it has written rules that authorize it to enact its own rules in personnel management but must seek approval for these new rules from the parent ministry. If the agency has rules that authorize it to enact its own rules in personnel management and newly enacted rules do not have to be approved by the parent ministry but are simply reported to it, the agency was coded 3. Based on this coding, a higher score in this measure means a higher level of HRM autonomy.<sup>6</sup>

Financial autonomy is measured by three different variables: financing by own revenue, discretion to manage user payments, and relative available financial resources. Financing by own revenue refers to the proportion of financial resources earned by the agency in proportion to the total amount of financial resources available to it. Verhoest et al. (2004) suggest the possibility of “self-raised tax” as a criterion of financial autonomy, and Verschuere (2007) measured operational financial autonomy with indicators that included “self-financing.” In the present research, financing by own revenue is aligned with these suggestions and is calculated as the proportion of budget financed by an agency’s own revenue earned by tariffs and fees. Discretion to manage user payments refers to whether the agency is authorized to sell products/services and use the earnings in a discretionary manner. Verschuere (2007) suggested “set tariffs for products or services” as a measure of financial autonomy, and this is represented in our measure of discretion to manage user payments. Some executive agencies in Korea are legally authorized to use net budget surplus from program administration or to manage earnings by setting tariffs for products and services, and the level of budget surplus is different according to service type and the contractual condition of each agency. We capture this distinction by using a dummy variable for agencies with these legal powers. Finally, available financial resources refers to the amount of budget available to the agency relative to the total budget of the parent ministry. This measurement is in line with Verhoest et al.’s (2004) measure of financial autonomy as how much budget the parent ministry allocates to the executive agency. In other words, agencies are understood to have higher levels of financial autonomy when they are given a larger proportion of budget by the parent ministry relative to other agencies. Our measure of available financial resources captures this dimension of financial autonomy.

Next, the level of development of systems of performance evaluation and performance rewards in executive agencies was measured by coding written

organizational rules. An agency was coded 0 when it does not have any written rules for the performance appraisal of employees. Agencies were coded from 1 to 3 based on the level of sophistication and development in their appraisal systems. Higher scores are given when the agency's performance evaluation structure is based on a double-tiered control system from both the agency head and the parent ministry. For example, we gave higher points when the agency has an independent committee for performance appraisal. In measuring the development of the performance-reward system, an agency was coded 0 when it does not have written rules for rewarding the performance of employees. Agencies were coded 1 or 2 based on the level of sophistication and development in their reward systems. More points are given when the reward system is designed with the necessary control to solve principal-agent problems.

For the dependent variable, we used performance data produced by the Ministry of Public Administration and Security. Under the Executive Agency Act, each Korean executive agency's performance has to be evaluated and reported annually. The performance index of executive agencies has diverse dimensions, such as profit ratio, customer satisfaction, quality of service, and level of achievement of program objectives. The committee for the performance appraisal of executive agencies, parent ministries, and the Ministry of Public Administration and Security collectively determine the relative importance of the indicators for each agency considering the characteristics of the services provided by the agency and adjusting the weighting of each index. Since there have been several revisions in the structure of the performance data, we rescaled the measures ranging from 0 to 1 to allow consistent comparison of time-series variations.<sup>7</sup>

To control for other factors connected to the dependent and independent variables, the model includes organization size (i.e., the size of the agency and its parent ministry), service type (research service, medical service, etc.), organizational resources (budget increases, age of agency, and age as the agency), and the career experience of the agency head (i.e., where the head an expert from outside the agency, an expert from within the agency, or a bureaucrat from the parent ministry). Size of agency was measured by calculating the total number of employees. Since the parent ministries of executive agencies are classified according to two different levels that differ significantly in respect to organizational size, we used a dummy variable to represent whether the parent ministry is in the higher level in order to control for ministry size. Service types were categorized in three groups, research, medical, and administrative services, and included dummy variables to control the effects caused by differences in service characteristics. Budget increases can be understood as an organizational resource that can lead to higher performance, so this factor was controlled by measuring the annual budget growth rate of each executive agency. Most executive agencies in Korea were formerly traditional government organizations. Age of the organization refers to the length of time

**Table 1. Summary Statistics**

<i>Variable</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>
Dependent variable					
Performance	134	0.96	0.03	0.86	0.99
Independent variable					
HRM autonomy	142	0.81	0.57	0	3
Financing by own revenue	142	21.57	29.32	0	100.00
Discretion to manage user payment	142	0.53	0.50	0	1
Available financial resources	134	3.48	5.40	0.05	30.52
Performance evaluation system	142	1.67	0.66	0	3
Performance reward system	142	1.42	0.60	0	2
Expert from outside agency	142	0.20	0.40	0	1
Expert from within agency	142	0.30	0.46	0	1
Bureaucrat from ministry	142	0.33	0.47	0	1
Size of agency	142	221.93	258.31	41	1637
Size of ministry	142	0.49	0.50	0	1
Budget increase of agency	113	9.39	16.99	-43.04	88.92
Age of organization	142	25.60	14.16	3	58
Age as agency	142	3.23	2.00	1	7
Research service	142	0.16	0.37	0	1
Medical service	142	0.18	0.39	0	1

since the organization was established. Age as agency refers to the length of time that the organization has been run as an executive agency. These are both treated as organizational resources because institutionalized systems and behaviors from years of experience are valuable resources in implementing programs or policies and they also create their own structure of motivation for higher performance. Leadership is an important element of an organization (cf. Esteve, Boyne, Sierra, & Ysa, 2012), and this is even more true in executive agencies in Korea, where an agency's relationship with its parent ministry flows largely through the head of the agency. The interviews revealed that management style is highly related to the career experience of the head, which we classified as either expert from outside of the agency, expert from within the agency, bureaucrat in the parent ministry, and bureaucrat in the executive agency. This category was included in the model as a set of dummies. Table 1 shows basic summary statistics for the independent and dependent variables.

## Results and Discussion

Table 2 reports the results of the regression analyses. The results show that HRM autonomy is significantly and negatively related to the performance of the executive agency ( $p < 0.05$ ) in model 3. The coefficients for the variable are also negative in model 1 and model 2, but not significant. This finding implies that the

**Table 2. Regression Results (Dependent Variable = Performance)**

	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>
Constant	9.36E-01*** (1.69E-02)	9.43E-01*** (1.76E-02)	9.58E-01*** (1.67E-02)
HRM autonomy	-1.38E-03 (5.95E-03)	-3.63E-03 (6.18E-03)	-1.32E-02** (6.53E-03)
Financial autonomy			
Financing by own revenue	-4.22E-04** (1.33E-04)		
Discretion to manage user payments		-1.52E-02* (8.05E-03)	
Available financial resources			-1.24E-03* (6.79E-04)
Result control			
Performance evaluation system	1.29E-02** (4.96E-03)	1.30E-02** (5.13E-03)	1.56E-02** (5.39E-03)
Performance reward system	1.59E-02** (5.30E-03)	1.45E-02** (5.51E-03)	1.54E-02** (5.69E-03)
Career experience of agency head			
Expert from outside agency	5.23E-04 (6.73E-03)	5.02E-03 (7.74E-03)	4.32E-03** (7.63E-03)
Expert from within agency	1.29E-02 (1.42E-02)	5.35E-03 (1.44E-02)	-8.39E-04 (1.43E-02)
Bureaucrat from ministry	-7.86E-03 (9.37E-03)	-1.39E-02 (9.40E-03)	-2.89E-02 (1.01E-02)
Organizational size			
Size of agency	-3.57E-06 (1.38E-05)	-2.35E-05** (1.18E-05)	-3.68E-05** (1.15E-05)
Size of ministry	-6.38E-03 (7.12E-03)	-2.13E-03 (8.05E-03)	-1.99E-02** (9.66E-03)
Organizational resources			
Budget increase of agency	-4.09E-05 (1.30E-04)	-7.91E-05 (1.33E-04)	-9.69E-05 (1.33E-04)
Budget increase of ministry	1.55E-04 (1.36E-04)	1.25E-04 (1.40E-04)	8.31E-05 (1.39E-04)
Age of organization	2.68E-06 (1.71E-04)	1.04E-04 (1.83E-04)	7.22E-06 (1.77E-04)
Age as agency	3.92E-04 (1.31E-03)	-2.48E-04 (1.32E-03)	-8.62E-05 (1.34E-03)
Service type			
Research service	-1.16E-02 (1.49E-02)	-4.33E-03 (1.51E-02)	-2.56E-03 (1.50E-02)
Medical service	-9.19E-03 (1.40E-02)	-7.55E-03 (1.45E-02)	-4.06E-03 (1.46E-02)
R <sup>2</sup>	0.3146	0.3571	0.3129
n	111	111	111

Notes: Figures in parenthesis are standard errors. \*significant at 0.1 level; \*\*0.05 level; \*\*\*0.001 level.



more autonomous the executive agency is in terms of HRM, the less likely it is to perform well, which is the opposite of Hypothesis 1.1.

Each of the regression models presented in Table 2 differs from the measure of financial autonomy variable: financing by own revenue, discretion to manage user payment, available financial resources. All three measures of financial autonomy show statistically significant, negative relationships with performance: financing by own revenue (model 1) at  $p < 0.05$  significance level, discretion to manage user payments (model 2) at  $p < 0.01$  significance level, and available financial resources (model 3) at  $p < 0.01$  significance level, respectively. This finding implies that the more autonomous the executive agency is in terms of finances, the less likely it is to perform well, which is to the opposite of Hypothesis 1.2.

Regarding the variables of result control, both the performance-evaluation system and the performance-reward system development are significantly and positively related to the performance of the executive agency at  $p < 0.05$  significance level in all three models. This means that executive agencies with more developed result control systems are likely to perform better, which supports Hypothesis 2.1 and Hypothesis 2.2.

Among the control variables, career experience as an expert outside the agency has a positive and significant association with the performance of agencies at  $p < 0.05$  in model 3. Size of agency is significantly and negatively related to performance at  $p < 0.05$  significance level in model 2 and model 3. Size of ministry is also found to have a significant and negative relationship with performance at  $p < 0.05$  significance level in model 3.

The finding that shows a negative relationship between HRM autonomy and performance is contradictory to the theoretical expectations of the NPM literature.

Greer (1994) suggested that it is necessary to consider the transaction cost of agencification reform, which means that greater autonomy may be accompanied by a more complex managerial mechanism. Thus, even if the agencified organization becomes more efficient because of its increased autonomy, this benefit can be offset by the transaction costs of designing a new and untested system. The costs of interorganizational communication can be also included in the transaction cost of agencification; contract-based relationships can have higher communication costs than traditional hierarchical relationships (Kim, 2008). The negative effect of HRM autonomy can be interpreted in light of the assertion by Christensen and Lægreid (2003) that agencification makes the role of the manager more vague and complicated, and that the merits of traditional political control may be damaged by the reform. Research by Im, Cho, and Jung (2012) provides some clues for interpreting the negative effect of autonomy. Their study of the bureaucratic behavior of public employees in Korea found that employees become more rigid and bureaucratic when the management style of the organization is more participatory and autonomous. In the absence of traditional managerial authority,

the decentralization of decision-making into smaller units of work led, contrary to expectations, to an increase in informal and formal rules as well as red tape, because employees relied on rules when confronting complex situations at the edges of policy implementation.

The finding reveals a negative relationship between financial autonomy and performance, which is also contradictory to the position of NPM-driven theories. The explanation supplied above for the negative relationship between HRM autonomy and performance can also be applied to the result related to financial autonomy: Agencification may be associated with higher transaction costs, vague and complicated managerial roles, and the weakening of traditional political controls. In addition, when agencies are given autonomy, opportunities to distort financial matters and budget use based on self-interest result from the information asymmetries between managers and their political principals. As such, extending greater financial autonomy to government agencies may foster moral hazards leading to opportunistic and even corrupt behavior in organizations. This logic also applied to HRM autonomy in relation to adverse decisions on labor conditions and salaries.

Verhoest et al. (2004) pointed out that formal autonomy does not always equal real autonomy in practice, and thus it may be that executives with formal decision-making autonomy in financial matters cannot actually exercise this autonomy because of constraints from the parent ministry by other means. These constraints can result from the agency head's being appointed or from higher-level government having a majority vote on a supervisory board, factors which both often apply in the Korean case. Christensen (1999) proposed that there is an aspect of autonomy that refers to the extent to which an agency can shield itself from influence by higher-level governments. In this respect, executive agencies in Korea have only a very weak mechanism to shield themselves against the influence of parent ministries (Kim, 2010; Oh, 2010). Oh (2010, p. 79) asserted that the legally authorized decision-making autonomy of executive agencies in Korea has not resulted in higher performance because their actual autonomy is limited in practice due to intervention by parent ministries, particularly with regard to financial management. The interviewees in this study witnessed the same phenomenon in relation to the managerial structure between executive agencies and parent ministries. Paradoxically, the pursuit of greater autonomy seems to foster the need for greater control over procedural discretion (Hood & Peters, 2004; Norton & Smith, 2008).

On the other hand, the importance of result control in agencification is confirmed. Both variables measuring result control were found to have a positive effect on performance. The components of result control in this study are performance evaluation and performance reward, both of which appear to be effective in linking the interests of the agent to those of the principal. The implication of this finding is that the system must be designed in a way that aligns the interests of executive agency and parent ministry to produce higher performance.

## Conclusions

Giving more autonomy in exchange for stronger accountability for results is a crucial principle in the management of executive agencies. Although agencification reforms have spread across the world, we have little knowledge about how this shift in control mechanisms should be designed so as to best improve organizational performance. This article examines the effect of autonomy and result control on organizational performance using regression analysis with data from forty-four executive agencies in Korea. In addition to statistical analysis, forty-eight employees with experience related to the management of executive agencies were interviewed to find out the relationship among variables and extract valid measurements for each variable.

The findings show that there is a significant relationship between human resources management autonomy and performance, but the direction of the influence reveals an unexpected negative association. Financial autonomy was found to have a significant and negative impact on the performance of agencies in common with HRM autonomy. On the other hand, result control, as measured by the level of development of the performance-evaluation system and the performance-reward system, was found to have a positive effect on performance.

The empirical findings of this study suggest that imported agencification reforms do not always bring the higher performance promised by New Public Management doctrine. The study highlights the necessity of caution in the design of executive agencies. Especially in contexts with a strong bureaucratic structure and culture, significant local editing may be necessary in the implementation of reforms if greater efficiency and effectiveness are to be the result. This has several important managerial implications.

First, as some research in the literature has shown, the greater autonomy suggested by NPM is neither a panacea nor even an effective strategy for improving public organizational performance. There is a paradox at the heart of NPM—namely, that giving the deliverers of services greater autonomy raises an even more urgent need to make them accountable for their exercise of procedural discretion (Norton & Smith, 2008). This paradox is most evident in contexts with a strong bureaucratic structure and culture.

Second, in contrast with autonomy, result control could be an effective strategy for organizational performance even in a context with a strong bureaucratic structure and culture. Therefore, executive agencies should be designed with stronger result control.

Third, autonomy, result control, agency head, size of agency, and size of ministry, rather than service type and organizational resources, are key managerial factors for executive agency performance. This should be reflected in the design of executive agencies.

From the methodological perspective, this study measures and tests the effect of autonomy on agency performance, using objective data drawn from written rules and financial data. Until now, studies attempting to measure the relationship between autonomy and performance have relied on survey data that capture individual perceptions that may produce a level of common source bias. On the other hand, our strategy may count among the limitations of this study, as it does not measure and test a number of other dimensions of autonomy that have been outlined by scholars. Moreover, the written organizational rules and financial data used in this study are just a proxy measure for actual management practice in executive agencies. Further, our coding of variables based on the organizational rule may imply that there is a room for subjective judgment by researchers, although we set the coding criteria based on literature and interview results. It is necessary to consider these limitations in future studies.

## Notes

1. On the other hand, how an executive agency is defined and what it does vary considerably across different political systems, and thus a universally accepted definition of the concept remains elusive (Pollitt, 2009; Verhoest, Roness, Verschuere, Rubecksen, & MacCarthaigh, 2010). In general, however, the concept is understood to mean a public organization that operates at arm's length from its parent ministry (also called the competent ministry) and has a certain level of managerial autonomy over its organizational resources (Talbot, 2004).

2. With the agencification movement, the concept of autonomy and autonomization has gained prominence in contemporary studies of public organizations. Several scholars have tried to conceptualize and map the concept. Verhoest et al. (2004), citing Dutch studies, proposed that the extension of autonomy to public organizations can be understood as a threefold process (cf. Kuiper, 1992; Kunneke, 1991): First, the creation of a legally separate entity and the restriction of ministerial responsibility comprise the legal dimension of autonomization. Second, in the organizational dimension, responsibilities or functions are transferred to the autonomous organization. Third, in the managerial dimension of autonomy, decision-making competency concerning the management of inputs devolves to the organization.

3. New Public Management has been conceptualized and defined in various ways and with stress on different aspects (Dunleavy, Margetts, Bastow, & Tinkler, 2006, p. 469). The term is used to denote both an academic movement and a loosely defined set of reform principles that have been deployed by governments worldwide. In consequence, advocacy and criticism of the concept are often based on different elements spanning its theoretical and its practical dimensions (cf. Moynihan, 2005). The present study is less concerned with the rhetorical aspects of NPM and focuses on theoretical perspectives from organizational economics in drawing hypothetical expectations.

4. The performance index produced by the Ministry of Public Administration and Security does not use nonparametric methods such as data envelopment analysis (DEA). And since we do not consider the dataset as being systematically censored or truncated, this study does not use Tobit analysis or a Heckman model.

5. The dataset has both cross-sectional and time-series observations, but we do not use panel analysis, such as a fixed-effect model, because of the number of cross-sections and the sample size of the dataset. Due to these characteristics of the data, this type of analysis would use up too many degrees of freedom.

6. The coding of the organizational rule variable inevitably involves qualitative evaluation of each organization's rules and policies, but we have done our best to achieve a level of rigor

both by relying on interview data during the coding process and by treating the documents consistently.

7. To monitor for possible outliers and check whether the OLS assumptions were met, we screened observation points by analyzing residual plots and scatter plots of our models. We did not find outliers that would bias the results.

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