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Back to the Future? Performance-Related Pay, Empirical Research, and the Perils of Persistence

One of the by-products of the New Public Management has been the resurgence of interest in performance-related pay. This is consistent with the New Public Management's view of "organizations as a chain of low-trust principal/agent relationships (rather than fiduciary or trustee-beneficiary ones), a network of contracts linking incentives to performance" (Dunleavy and Hood 1994, 9). In just the past five years, Congress has approved performance-related pay reforms in two large U.S. federal agencies, the Department of Homeland Security and the Department of Defense.

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The reform of human capital policies was a bone of contention in the legislation that created the Department of Homeland Security in 2002. President George W. Bush, however, succeeded in winning the legislative contest to "design a modern

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human resources management system that is mission-centered, fair, effective, and flexible" (OMB 2005). The Department of Defense is also introducing a pay-for-performance system in the context of the National Security Personnel System, which was approved by Congress in 2004 (Office of the Secretary of Defense 2007). The Defense Department issued final regulations for the new personnel system in November 2005 and implementing regulations for performance management on April 30, 2006. The performance management implementing regulations, which run 34 pages with appendices, cover details ranging from setting performance expectations to monitoring performance to pay pool policies and procedures.

This is not an American phenomenon. The diffusion of performance-related pay extends to other developed countries. The Organisation for Economic Co-operation and Development (OECD) reports that significant numbers of civil servants are covered by performance-related pay (Lah and Perry 2008; OECD 2005). These contingent pay systems apply particularly to senior managers but also extend to nonmanagerial employees. The OECD indicates that two-thirds of its member countries have either implemented performance pay or are in the process of doing so.

Curiously, the resurgence of performance-related pay in the U.S. federal government and abroad comes more than a decade after Congress abandoned the Performance Management and Recognition System (PMRS), which was the pay-for-performance policy from 1984 to 1991. The demise of the PMRS resulted from a variety of flaws, including poor discrimination among performance levels, inadequate funding, and little demonstrable evidence that the system improved performance (Perry, Petrakis, and Miller 1989). Although the PMRS was abandoned, it was considered a significant improvement over its predecessor, the Merit Pay System, which was ushered in with great fanfare by the Civil Service Reform Act (CSRA) of 1978.

The recent about-face on performance-related pay—in little over a decade, we moved from abandoning the practice to embracing it—raises questions about whether anything has changed in the intervening period. What evidence do we have that performance-related pay is now likely to work when it did not before? Do we have new research addressing this question that suggests optimism that this latest effort will succeed? What conclusions can we draw from the cumulative body of evidence about what it would take to create an effective pay-for-performance system in the public sector? Do public sector institutions affect prospects for success?

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To answer these questions, this study begins by reviewing earlier syntheses of public sector pay-for-performance systems research conducted in the late 1980s and early 1990s. With this as an evaluative baseline, we performed a comprehensive analysis of 57 studies evaluating performance-related pay in government conducted during the period 1977–2008. Such a focus seems useful and timely for three reasons: (1) a new administration in Washington is likely to weigh various management reforms, including pay-for-performance systems; (2) it has been 15 years since the last comprehensive review of research on such systems, and nearly two dozen studies have since been completed; and (3) the results of prior reviews of the literature may change given recent management reforms in government. Thus, like Marty McFly, we are revisiting the past so that we can go "back to the future" better informed about what we really know about performance-related pay in government in this era of renewed interest in contingent pay.

We begin by briefly looking at previous reviews of the efficacy of performance-related pay in government to establish a baseline for the synthesis. We then briefly explain our methods for developing a comprehensive database of studies of performance-related pay (an extended discussion of our methodology is available on the *PAR* Web site). We use the comprehensive database of empirical research to take stock of what we know today about the effectiveness of performance-related pay in government, identifying seven important lessons from it. Included is a discussion of what our work suggests for future research in this important area of public management.

Assessing the Effectiveness of Pay-for-Performance Systems: A Review of Prior Research, 1977–93

Support for performance-related pay is theoretically grounded in expectancy theory (Pearce and Perry 1983) and reinforcement theory (Perry, Mesch, and Paarlberg 2006). Expectancy theory is predicated on a belief that individuals will exert effort if they expect it will result in an outcome that they value (Van Eerde and Thierry 1996). In the case of performance-related pay, employees will work harder if they value monetary rewards and believe that those awards

will result from their increased efforts. Reinforcement theory posits a direct relationship between a desired target behavior (e.g., performance) and its consequences (e.g., pay). It suggests that pay can be used to create consequences for desired behaviors such as high performance that will reinforce the behaviors (Perry, Mesch, and Paarlberg 2006).

The straightforwardness of this causal theory, however, is belied by the number of important variables and the complexity of the posited relationships identified in prior research. For the reader's convenience, figure 1 provides a schematic of these variables and relationships. As depicted, a variety of antecedent employee and organizational characteristics and environmental conditions, together with pay system design, affect critical intermediate variables, among them job characteristics, job affect, and perceived pay system. These variables, in turn, influence affective and performance outcomes.

As noted, our goal is to identify what we know about public sector performance-related pay based on cumulative empirical research and to cull lessons for practice and theory building from the analysis. Because most prior reviews were published in the late 1980s and early 1990s (Ingraham 1993; Kellough and Lu 1993; Milkovich and Wigdor 1991; Perry 1986, 1988, 1992), which coincides with the reforms triggered by the CSRA, summarizing these earlier reviews tells us what scholars had concluded about performance pay prior to its recent resurgence. In the process, it serves as a baseline against which to measure our results to see the consistency or inconsistency of findings from studies conducted in the post-1993 era.

The first review of the effects of merit pay reforms emanating from the CSRA was Perry's (1986) assessment of contingent pay for public managers. The scope of his review was limited to research on individual contingent pay systems that added performance increments to base pay. Using research conducted prior to 1985, Perry could not identify any study that found positive effects. Although the evidence was limited, he concluded that merit pay in the public sector was plagued by invalid contracts, information asymmetries where the supervisor lacked accurate information about subordinate performance, and diminished capacity to coordinate interdependence.

A National Research Council (NRC) panel, convened under contract to the U.S. Office of Personnel Management, subsequently reviewed both public and private sector research on pay for performance (Milkovich and Wigdor 1991). Composed of members from academia, business, and government, the NRC panel offered a sobering assessment of the possibilities for successful performance-related pay based on federal experience and research prior to 1990. Directly acknowledging the gap between the promise and reality of pay for performance in the federal government, the NRC panel found that political attacks devaluing public service might have created a climate

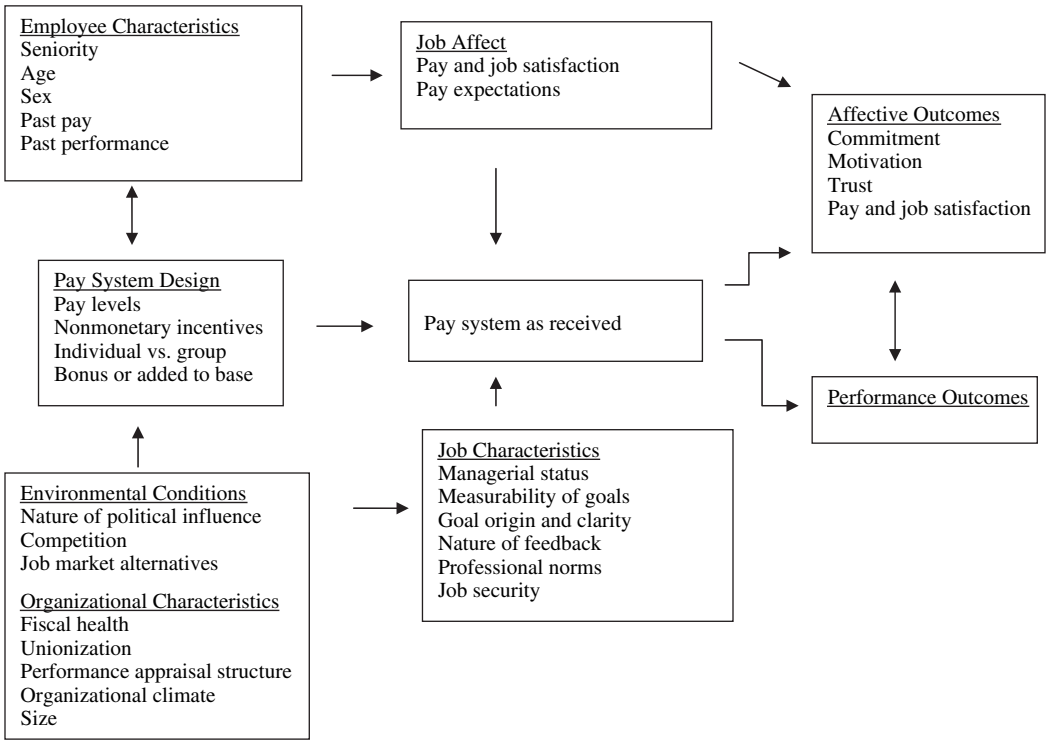

Figure 1 Key Variables in Performance-Related Pay Research

in which it was difficult to achieve the consensus and trust important for successful pay for performance.

Despite the NRC panel's sobering assessment, its summary of findings concluded that "empirical research indicates that individual incentive plans can motivate employees and improve individual performance" (Milkovich and Wigdor 1991, 153). The panel qualified this conclusion, however, by observing that individual incentive schemes are most likely to succeed for simple, structured jobs and in contexts in which trust is high and fair performance goals can be set. The implicit connection between the panel's general conclusions and the federal setting is that conditions for success may be difficult to realize in the federal government.

Two additional reviews of pay-for-performance research were published in 1993. Ingraham assessed pay for performance using secondary sources on federal programs, a 1991 survey of states that had adopted pay for performance, and interviews conducted in Europe and the United States in 1991 and 1992. Her primary attention was given to the diffusion of performance-related pay as a policy innovation and the reasons behind it. However, Ingraham also examined prospects for the success of pay for performance in government and concluded that institutional conditions, such as civil service laws and economic constraints, were not conducive to success in the public sector. Ingraham's conclusion about likely success of performance-related pay is pessimistic, but her inference is qualified by circumstances (e.g., laws, procedures, funding) and not grounded in fundamental flaws in the approach.

In that same year, Kellough and Lu afforded the last major synthetic review dedicated entirely to this topic, reviewing 14 empirical studies of merit pay. The studies covered federal, state, and local managers; public school administrators; and nonsupervisory local government employees. Much like their predecessors, Kellough and Lu concluded, "Generally, merit pay systems have had little positive impact on employee motivation and organization performance" (1993, 48). They refer to one application, a demonstration program in the U.S. Navy, as producing positive effects but note that the impact of performance-related pay was confounded by other changes implemented simultaneously (e.g., broadbanding, simplified classifications) and higher pay overall. Among the specific reasons that Kellough and Lu gave for merit pay not being more successful are difficulties with performance evaluation such as rater leniency and lack of resources to fund the systems at appropriate levels. They also raised similar questions as their predecessors about the environment precluding managerial discretion to link pay to performance and the validity of the motivational assumptions underlying the systems.

The most recent review of pay-for-performance research appeared as a subset of a study on motivation in the public sector (Perry, Mesch, and Paarlberg 2006). As part of a larger meta-analysis on motivation in the public sector, the authors analyzed 17 review articles, including three meta-analyses and nine research syntheses on financial incentives. Although this study did not focus on individual studies and reached beyond public sector research, it developed several generalizations about financial incentives that are relevant to the present study. The study concluded that individual financial incentives are ineffective in traditional public sector settings and joined prior reviews of pay-for-performance systems in concluding that the effectiveness of financial incentives is dependent on organizational conditions.

Pay for Performance Revisited: Getting Our Research Bearings for the Post-1993 Era

Do these findings still hold up? With significant management reforms occurring in government over the past decade, with the revival of this approach in recent years, and with more than 15 years since the last explicit synthesis of prior research, discerning an empirical answer to that question is timely and important. In our effort to answer this question, we defined performance-related pay as compensation contingent on performance that is awarded to individuals and/or groups either as permanent increments to base salary or as bonuses (Milkovich and Wigdor 1991). The methodology used for this synthesis is drawn from Cooper and Hedges (1994), who apply a five-stage process: (1) formulating the problem, (2) searching the literature, (3) coding the literature, (4) analyzing and interpreting the literature, and (5) presenting to the public. (See the extended version of this paper on the *Theory to Practice* Web site for a more in-depth discussion of the logic of this methodology.) The studies examined were published over a 31-year period, from 1977 to 2008.

To ensure that we did not bias our study by excluding new or unpublished studies, we used three primary search processes. The initial search began with the four literature reviews on performance-related pay discussed earlier (Ingraham 1993; Kellough and Lu 1993; Milkovich and Wigdor 1991; Perry 1986). The studies listed in these reviews were included and the references were examined for other relevant studies. Citations were followed backward from recent articles by using the process of "footnote chasing," which produces branches of studies progressing backward

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from current research. Second, we conducted natural language searches in three online search engines and databases—Google Scholar, Academic Search Elite, and JSTOR—using the following terms: *performance-related pay, performance-based pay, merit pay, incentive pay,* and *pay for performance.* Each of these terms was searched independently and in combination with the word *group* (e.g., *group* performance-related pay).

Media resources included books, scholarly journal articles, think tank reports, and federal reports. Municipal reports were excluded from the analysis because they proved too difficult to locate and were often of low quality. As with the review articles, footnote chasing was conducted to expand the comprehensiveness of the sample. Finally, the study included additional findings from sources such as conference papers, unpublished research, and current papers under production by colleagues.

Ultimately, 68 studies were identified for the 1977–2008 period, and they were assessed for appropriateness of their inclusion in the synthesis. The collection of studies was screened according to four inclusion criteria. Studies had to (1) directly address performance-related pay; (2) be empirical, including case studies, surveys, cross-sectional longitudinal studies, and panel studies; (3) report on immediate, intermediate, or long-term results; and (4) be set in the public sector, which we defined as nonprofit organizations and organizations delivering services traditionally delivered or funded by government.

This process reduced the final analysis to 57 studies, with 25 of those studies occurring since the last review of the literature in 1993 (Kellough and Lu). We then identified and coded the following variables in each of the studies: report identification (e.g., author), setting (public, private, nonprofit), subjects, and methodology (see Stock 1994). A series of variables affording insights about performance-related pay was also coded: functional area (general government, medical, human services, professional, regulatory, educational, transit, public safety/military, public services, technical, and financial), type of compensation (bonuses or additions to base pay), level of incentive (individual or group), level of government (municipal, state, national), nature of outcomes studied (affective, performance, implementation, climate), and managerial status (manager or nonmanager). Although we developed a set of codes a priori, we modified them as the analysis progressed. Each study was coded independently by one of the researchers. Studies that proved difficult to code were discussed among the researchers to identify the appropriate code. If no information could be identified for a variable, it was coded as missing.

Of the articles included in our analysis, 14 studies consider for-profit public service providers, while four studies assess nonprofit public service providers. Three studies from the 1970s and 24 studies from the 1980s met our inclusion criteria. Seventeen studies in the database are from the 1990s, and 13 were published since 2000. A variety of public services are represented in the sample. Twenty-six studies, about 50 percent of the total, focus on general government. Medical service studies are the next most frequently represented (11), followed by public safety/military at 10 studies, and human services and education at 6 studies each.

The Past Is Prologue: The Pay-for-Performance Problematic Revisited, 1993–2008

Our analysis confirms past inferences about the limited efficacy of contingent pay in the public sector. Summative results do not appear to differ for the periods prior to 1993 and from 1993 to the present, and isolating post-1993 studies led to conclusions identical to the pre-1993 studies. Thus, at the aggregate level, our analysis finds that performance-related pay in the public sector consistently fails to deliver on its promise. Aside from this bottom line, disaggregating our analysis offers a more contingency-based response and several additional lessons for practitioners to ponder and researchers to explore further.

Lesson 1: Performance-related pay has often failed to trigger expected intermediate changes in employee perceptions necessary to change motivation. In addition to assessing whether performance-related pay affects individual and organizational performance, scholars also have been attentive to its effects on several intermediate outcomes portrayed in figure 1, in particular employee perceptions (Egger-Peitler, Hammerschmid, and Meyer 2007; GAO 1984; Heneman and Young 1991; Nigro 1981). Researchers have looked at perceptions integral to the success of pay programs from a motivational perspective and at attitudes toward program implementation. In regard to employee perceptions about variables such as expectancy, instrumentality, and valence (drawn from expectancy theory), researchers have found mixed results. In studies in which goals were clear, compensation was adequate, and a significant amount of support for merit pay plans existed, performance-related pay resulted in positive outcomes (Greiner et al. 1977). In many cases, however, the underlying foundation of expectancy theory failed to materialize. Some researchers found that respondents perceived little relationship between performance and compensation (Daley 1987), that few believed higher pay would materialize (Pearce, Stevenson, and Perry 1985), and that financial incentives were too small to be valued (Heinrich 2007). Other researchers found that a lack of financial motivation existed in pay-for-performance systems (Dowling and Richardson 1997) and that

distaste existed among employees for the divisive side effects among employees that merit pay could produce (Marsden 2004).

Although the results for intermediate outcomes such as those of contingent pay systems were generally negative for the articles analyzed in our study as a whole, the results for high-quality studies (i.e., randomized experiments and time-series analyses) were mixed. When focusing on just 14 high-quality studies (time-series and randomized experiments), four were found to exhibit negative effects (Bullock 1983; Heinrich 2007; Pearce and Perry 1983; Pearce, Stevenson, and Perry 1985), five were inconclusive (Allan and Rosenberg 1986; Heckman, Heinrich, and Smith 1997; Hutchison et al. 1996; Perry, Petrakis, and Miller 1989; Schay 1988), and five were favorable (Davidson et al. 1992; Hickson, Altemeier, and Perrin 1987; Kouides et al. 1998; Krasnik et al. 1990; Orvis, Hosek, and Mattock 1993). The five favorable studies were conducted in health care settings and assessed piece-rate compensation programs, so it is difficult to determine whether the high-quality studies show greater general support for performance-related pay or merely situational support based on the service context or the design of the pay systems that were the focus of the research. No other studies included used piece-rate compensation methods. Despite the results of the studies involving piece-rate plans, analysis of the 57 studies as a whole found no clear differences in performance outcomes between plans using bonuses or that added to base pay.

Lesson 2: A variety of contextual factors appear to moderate the effectiveness of performance-related pay systems, especially the type of public service industry involved. Several contextual factors appear to be associated with the success of performance-related pay. These include high levels of trust, adequate rewards, effective performance appraisals, close geographic proximity (Brudney and Condrey 1993; Condrey and Brudney 1992), and degree of professionalism (Andersen 2007). Although the results are open to interpretation, a particularly significant contextual factor appears to be the type of public service industry involved. As noted, studies within the medical context were largely positive (see Andersen 2007; Davidson et al. 1992; Dowling and Richardson 1997; Heneman, Greenberger, and Strasser 1988; Hickson, Altemeier, and Perrin 1987; Hutchison et al. 1996; Kouides et al. 1998; Krasnik et al. 1990; Shaw et al. 2003). In contrast, research in the regulatory and financial sectors found that performance-related pay is generally perceived as divisive (Bertelli 2006; Gaertner and Gaertner 1985; Gaertner, Gaertner, and Akinnusi 1984; Marsden 2004; Marsden and Richardson 1994; Nachmias and Moderacki 1982; O'Toole and Churchill 1982). Results for education and public safety lay somewhere between those for the medical and regulatory and financial sectors. Studies on performance-related pay within the education sector found that, except in the most unique situations, the impact on employee attitudes and intrinsic motivation was negative (Andersen and Pallesen 2008; Heneman and Young 1991; Murnane and Cohen 1986). Early studies of police officers using clear goals based on specific crime reduction found a positive impact on crime reduction (Greiner et al. 1977), but subsequent research was less conclusive (Allan and Rosenberg 1986; Schay 1988; Siegel 1987).

Lesson 3: Performance-related pay may have a greater effect at lower organizational levels, where job responsibilities are less ambiguous, contradicting assumptions that contingent pay plans will be more effective at higher levels of organizations. A factor that appears to affect the efficacy of public performance-related pay is whether it is applied to managers or nonmanagers. Although a significant majority of the studies in our research involved managers, research on nonmanagers accounts for a disproportionate share of positive performance results. This is consistent with the earlier NRC study (Milkovich and Wigdor 1991), which found, among other things, that performance-related pay systems are best suited for positions in which job responsibilities are fairly concrete and measurable. Differences in effectiveness, however, should not be overstated. Studies on both populations generally showed no effects, but 20 percent of nonmanagerial studies appeared to produce positive performance-related outcomes, compared to 14 percent for managerially focused studies. This contradicts existing sentiment that performance-related pay plans will be more effective at higher organizational levels (Risher and Fay 2007).

Importantly, results involving attitudinal changes after introducing performance-related pay were less conclusive. Nachmias and Moderacki (1982) found lower-ranking employees to be more supportive of performance-related pay after contingent pay systems were introduced. However, Gabris (1986) and Kellough and Nigro (2002) found that supervisors and political appointees were most supportive. This may be attributed to involvement in the policy development process. Those most involved in the process of policy development were most supportive of performance-related pay plans (Gabris and Mitchell 1986). Nevertheless, employees generally perceive the implementation of performance-related pay as unfair (Gabris and Mitchell 1988; Kellough and Selden 1997). The reasons behind the perceptions are varied and sometimes difficult to identify, but include low levels of organizational trust (Condrey and Brudney 1992), lack of transparency in the systems for employees (Egger-Peitler, Hammerschmid, and Meyer 2007), lack of trust in performance-rating systems (Kellough and Selden 1997), and lack of leadership credibility (Gabris and Ihrke 2000).

Finally, regardless of organizational level, improvements in performance measurement and management that are independent of pay incentives may account for performance increases by improving goal setting. The beneficial aspect of performance-related pay that emerges from the research appears not to be the product of the pay scheme but rather the development of performance standards. The use of performance standards has repeatedly been shown to be the most beneficial aspect of performance pay plans (Fletcher and Williams 1996; Gaertner and Gaertner 1985). In one instance, the introduction of pay into the performance measurement process resulted in a negative impact on performance (Hatry, Greiner, and Gollub 1981).

Avoiding Buyer Remorse: Theoretical Traps, Institutional Constraints, and an Agenda for Future Research

Our journey back in time (albeit through the vehicle of research synthesis rather than a souped-up DeLorean) provides in some ways a pessimistic view of the future of performance-related pay in the public sector. Although research has identified occasional performance pay successes, the programs typically have fallen short of intermediate and long-term expectations. We argue, however, that our findings are less cause for despair than for caution and more strategic thinking. The reasons for the persistent failure of performance-related pay are more likely its incompatibility with public institutional rules, proponents' inability or unwillingness to adapt it to these values, and its incompatibility with more powerful motivations that lead many people to pursue public service in the first place. As such, our analysis offers three additional lessons for reformers and practitioners looking for more than symbolism and political points with voters than for performance results. They also suggest a robust future research agenda for scholars.

Lesson 4: Implementation breakdowns account for some failures of performance-related pay but are not the only reasons for failure. Institutional differences between the public and private sectors may be the source of these problems and may be more fundamental constraints on success. Consider them in shaping any performance-based motivational approach in public organizations. Multiple studies have found that employees support the idea of pay for performance in the abstract but believe that its implementation in their organization is plagued by problems (Egger-Peitler, Hammerschmid, and Meyer 2007; Kessler and Purcell 1992; Marsden and Richardson 1994). In addition, one of the most consistent findings about public sector performance-related pay initiatives in our research is that they are poorly implemented, with the absence of good performance management practices a critical flaw. Not surprisingly, then, the difficulties of implementing performance-related pay in the public sector often generate optimistic "if only" attributions, such as, "if only more money were available for payouts" or "if only managers gave more time to appraising employees."

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We believe, however, that "poor implementation" explanations for the failure of performance-related pay mask more fundamental deficiencies that are rooted in basic institutional differences between market and nonmarket implementation settings. These differences include transparency, budget, and stewardship constraints embedded in public institutions that impede the success of performance-related pay. These institutional differences are seldom acknowledged by advocates of performance-related pay, even though they most assuredly diminish its efficacy where they are applicable and cannot be attenuated through other reforms.

A fundamental and distinctive characteristic of public institutions is transparency, which safeguards public trust in a democracy. Transparency also brings with it, however, greater scrutiny of performance-related pay decisions by employees and external constituencies. Within the Senior Executive Service, for instance, the subjective nature of performance-related pay is magnified when inconsistencies are easily identifiable by employees or the media (Bonosaro 2008). Performance-related pay depends, to some extent, on maintaining perceptions that the system is valid, fair, and nonpolitical. These perceptions are harder to maintain when a performance-based pay system operates in transparent settings. The Federal Deposit Insurance Corporation, for instance, abandoned its system, which used forced ranking, because it was not perceived to be "credible and fair" (Kelley 2008).

The transparency constraint that public institutions face contrasts with secrecy (Colella et al. 2007) in many private organizations where contingent pay is introduced. Research on pay secrecy is inconclusive (see, e.g., Bartol and Martin 1989; Burroughs 1982; Pfeffer and Langton 1993), but it does suggest that private organizations that successfully use performance-related pay rely on secrecy to sustain their systems (Colella et al. 2007). A study of college and university faculty (Pfeffer and Langton 1993), for instance, found that greater wage dispersion (i.e., differences in wages) resulted in decreased productivity, decreased collaboration, and reduced satisfaction. Yet it had fewer adverse effects in private colleges and universities where pay is less

likely to be known (Pfeffer and Langton 1993). Some states have tried to limit public records laws in order to expand compensation flexibility and reduce transparency constraints. The courts, however, have tended to support public disclosure lawsuits filed by citizens and media organizations (Poston and Marley 2008). Pay transparency, therefore, significantly threatens the efficacy of public performance-related pay.

Budget constraints are a second feature of public institutions that challenge the viability of public performance-related pay. Given the unique nature of public organization revenue streams (i.e., taxes), institutional rules have been established that constrain public performance-related pay. Market-based revenue streams do not have the same limits as budgets; private salary budgets can expand with expanding revenue. Moreover, when the operative rule is "payroll cost-containment," as it is in government, then it is unlikely that performance-related pay will be designed in a way or at the levels of pay increments of 10 percent to 15 percent annually that expectancy or reinforcement theory requires.

The third implementation constraint faced by public institutions involves external expectations about responsible stewardship of resources. Like the nondistribution constraint that defines nonprofit institutions, public institutions operate in nonmarket conditions subject to rules and expectations regarding how financial resources may be used. Because of these stewardship expectations, even when public employees earn large compensation packages within the rules, they may face public backlash and outrage. This is precisely what happened when the first round of senior executive bonuses were paid under the CSRA of 1978. Concerns among politicians that public employees might be overcompensated are responsible for rules that seek to operationalize the stewardship constraint. In Minnesota, for instance, the salaries of state agency heads, who must be the highest paid employee in their department, are capped at 95 percent of the governor's salary (Poston and Marley 2008). It is ironic that the same politicians who promote performance-related pay also may vote against appropriations to fund it if they perceive that fiscal restraint serves larger political ends. Miller and Whitford (2007) suggest a name for this phenomenon, "the principal's moral hazard constraint," whereby bonuses large enough to produce an efficient incentive effect are prohibitively expensive for the principal. Irony aside, these kinds of institutional rules limit the prospects for performance-related pay's effectiveness.

Lesson 5: Don't despair. Public service motivation theory and self-determination theory may be more applicable levers for improving performance in public agencies than approaches applying expectancy and reinforcement theory. While we have focused on the promises and pitfalls of the application of expectancy and reinforcement theory and their relationship to pay-for-performance systems, the fault may lie within these theories themselves. Other empirical research suggests that self-determination theory (Deci and Ryan 2004) and public service motivation research (Perry and Hondeghem 2008) may be more suitable for public institutional settings. As we implied earlier, performance pay has roots in the widespread belief that pay-for-performance compensation systems are fair and an appropriate foundation for managerial control. Other motivation theories contend, to the contrary, that the external controls that performance pay imposes on employees have the potential to diminish overall motivation, especially when intrinsic motivations direct and sustain employee behaviors. Negative employee reactions to the implementation of performance pay could reflect their disapproval of external control rather than self-serving or irrational resistance to change (Brehm and Gates 1997). Motivation-crowding research in economics also reinforces the growing credibility of this explanation for persistent findings of implementation failure (Frey 1997; Frey and Jegen 2001; Frey and Osterloh 2005).

Our findings also indicate that most public jurisdictions continue to rely on program designs grounded almost exclusively in supervisory judgments allocating individual salary adjustments. Yet, again, this high reliance on traditional merit pay schemes may account for low success rates. The research on piece-rate schemes suggests that pay system designs with direct connections between performance and pay may have greater prospects for success than designs relying on supervisory judgments. Group and organizational incentive schemes are rare but may be another path for future experimentation.

Lessons 6: Don't adopt conventional pay-for-performance systems simply because everyone else is doing it. Consider the contextual contingencies and adapt accordingly. Start here. The results of our research synthesis confront us with a puzzle: Performance-related pay continues to be adopted but persistently fails to deliver on its promise. What accounts not only for the persistence of the failure of performance-related pay but also for repeatedly pursuing a failed course of action? An institutional explanation for the persistence of public jurisdictions to adopt performance-related pay begins with an argument originating in sociology. Sociologists argue that organizations that confront uncertainty about performance criteria—and public

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organizations are typically offered up as exemplars for such uncertainties—seek alternative ways to justify or legitimate themselves to external stakeholders.

In lieu of definitive evidence of high performance, public organizations will either acquiesce to external demands about what is "good management" or seek proxies to signal to stakeholders that they conform to how effective organizations behave (DiMaggio and Powell 1983). The result of such processes is that organizations tend to become more alike, or isomorphic. Thus, public organizations adopt performance-related pay because they are coerced (i.e., "coercive" isomorphism), because they seek to mimic private practices (i.e., "mimetic" isomorphism) that have achieved high degrees of legitimacy across society (Meyer and Rowan 1977), or because they seek to conform to professional standards or social norms (i.e., "normative" isomorphism). The 1978 adoption of merit pay was clearly the result of mimetic isomorphism. When founding Office of Personnel Management director Scotty Campbell was asked why he had not provided for experimentation prior to government-wide implementation, his reply was simple: "I saw no need. It was my perception that it worked fine in the private sector" (Ingraham 1993, 349).

Press accounts leave little doubt that the latest round of performance-related pay adoptions is the result of coercive isomorphism. Politicians who press for performance-related pay see it as a mechanism to call bureaucrats to account, to punish them for noncompliance with politicians' preferences, and to make them conform to public and political expectations (Kellough and Lu 1993; March and Olsen 1983; Perry 1988). President Bush and Congress's support for the Department of Homeland Security's ill-fated MaxHR is an excellent illustration of both institutional isomorphism and the detachment of these processes from effectiveness.

Lesson 7: A robust research agenda awaits scholars interested in developing a more empirically grounded and contingency-based theory of public service motivation and performance. This agenda includes a focus on the relationship between performance and base pay, group incentives, and well-designed successful programs. Although our analysis joins earlier studies in concluding that public sector performance-related pay fails to produce performance improvements, our synthesis also suggests a range of research related to pay for performance. In particular, and in light of the preferences of democratically elected representatives for some form of performance pay, we believe that continued attention should be given to finding effective contingent pay designs for public contexts. Our findings also indicate that the full range of contingent pay system designs have not been tested in public contexts. Thus, several lines of research should be pursued in the future.

A fundamental question that has received little attention in debates about public performance-related pay is how the two main components of pay—base pay and contingent pay—jointly contribute to signaling the importance of and create incentives for high performance. Although we did not pursue the conceptual and theoretical underpinnings of how base pay is performance related in this study, base pay is an integral part of performance pay and merits future research attention. Both the market competitiveness of an organization's salaries and the ways in which it rewards promotions send important signals about how performance is rewarded. In his research on tournaments, for example, Whitford (2006) argues that promotion tournaments in public organization hierarchies might be more efficient than pay-for-performance systems. We believe these and other facets of performance-related pay have been largely ignored in most discussions of performance-related pay, but they need to be brought front and center in future research that more holistically addresses pay–performance linkages.

Second, while our study analyzed research on both group and individual incentive plans, we found a dearth of public sector studies on group incentives. Only three studies were found that dealt with group incentive plans (Heckman, Heinrich, and Smith 1997; Heinrich 2007; Orvis, Hosek, and Mattock 1993). The earliest of the three studies, focusing on the Department of Defense's Pacer Share Program (Orvis, Hosek, and Mattock 1993), was optimistic about group incentives as a motivational technique, while the two other studies (Heckman, Heinrich, and Smith 1997; Heinrich 2007) produced mixed results. Researchers need to investigate whether group designs have higher probabilities for success. One reason for potentially higher success rates for group designs is that they are more compatible than individual incentive plans with fundamental public institutional rules such as transparency and budget constraints.

Third, because the failure of performance pay plans is often attributed to poor implementation, research should be designed to study performance pay plans that are not poorly implemented. For instance, most public performance-related pay plans are ill funded and thus cannot satisfy the premises of expectancy theory, but this is not always the case. Consequently, a focus on those that are sufficiently funded might afford more authoritative tests of the effects of performance-related pay. Research that manipulated funding levels to ascertain the motivational effects of funding variations could be generalized to a larger set of field experiments. Small-scale field experiments using a variety of program designs and context variations also could significantly increase our stock of knowledge. Moreover, as we have noted, most research is about traditional merit pay programs. Yet our finding that piece-rate programs have experienced success in health care settings suggests

that alternative designs for performance pay could produce more consistently positive results. Well-designed field experiments using different program designs could shed light on the effects of both program design and context on program outcomes.

Finally, and importantly, another promising line of future research involves specifying more carefully the results expected from performance pay and then assessing different systems holistically. Most research to date has looked at either performance outcomes or employee attitudes, but studies have seldom looked across a range of outcomes that define costs and benefits more completely. At least one study, for example, has suggested that the benefit of performance-related pay is not the level of employee effort but the purposes to which that effort is directed (Marsden 2004). Research needs to be conducted on a range of outcomes to help sort out the trade-offs associated with performance-related pay. Regardless of the agenda pursued, however, prior research suggests that an elaboration and extension of studies assessing the efficacy and dynamics of pay-for-performance systems is timely, important, and long overdue.

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