

Theory to Practice

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

One of the byproducts of the New Public Management (NPM) is the resurgence of interest in performance-related pay. This is consistent with the NPM'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 (DHS) and the Department of Defense (DOD).

The reform of human capital policies was a bone of contention in legislation creating DHS in 2002. President Bush, however, succeeded in winning the legislative contest to "design a modern human resources management system that is mission-centered, fair, effective, and flexible" (DHS 2005). DOD is also introducing a pay-for-performance system in the context of the National Security Personnel System (NSPS) approved by Congress in 2004 (Office of the Secretary of Defense 2007). DOD issued final regulations for NSPS in Novem-

ber 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.

Nor is this an American phenomenon. The diffusion of performance-related pay extends to other developed countries. The Organization for Economic Cooperation and Development (OECD) reports that significant numbers of civil servants are covered by performance-related pay (Lah and Perry 2008; OECD 2005). These schemes apply particularly to senior managers but also extend to non-managerial employees. OECD indicates that two-thirds of member countries have either implemented performance-related 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 Recogni-

tion System (PMRS), which was the pay-for-performance policy from 1984 to 1991. The demise of 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 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 creating an effective pay-for-performance system in the public sector would take? Do public sector institutions affect prospects for success?

To answer these questions, this study begins by reviewing earlier syntheses of evaluations of pay-for-performance systems research conducted in the late 1980s and early 1990s. With this as an evaluative baseline, we offer a comprehensive analysis of 57 studies evaluating performance-related pay in government conducted during the period from 1977 to 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 performance-related pay 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 perfor-

mance-related pay in government in this era of renewed interest in contingent pay.

We begin by looking at previous reviews about 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. We use this 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 about 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, 1977-1993

Support for performance-related pay theoretically is 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 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 in turn 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 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

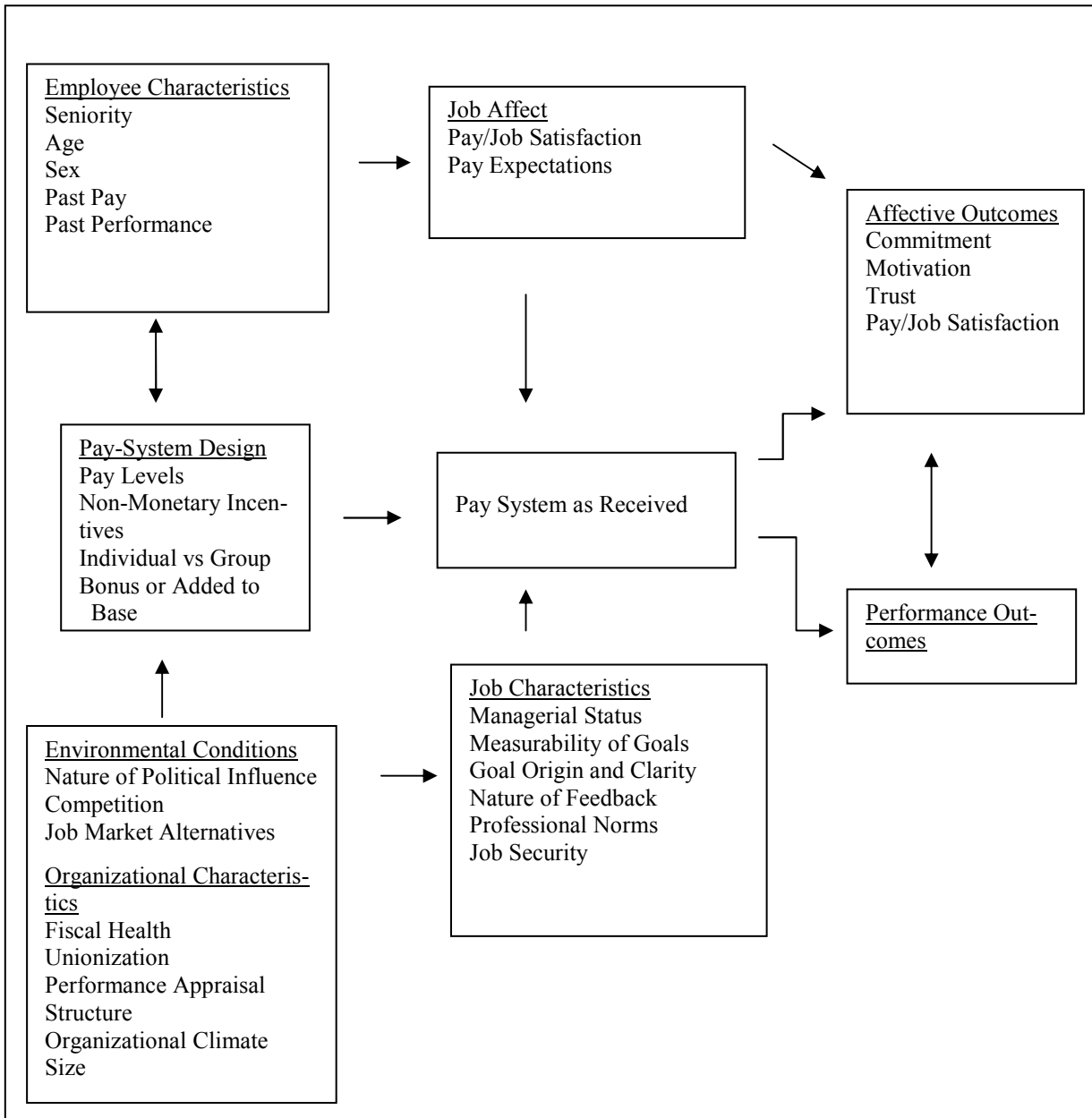


Figure 1 Key Variables in Performance-Related Pay Research

design, affect critical intermediate variables. Among these are job characteristics, job affect, and the 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

upon 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 1993a; Kellough and Lu 1993; Milkovich and Wigdor 1991; Perry 1986, 1988, 1992), which coincides with reforms triggered by the CSRA, summarizing

these earlier reviews tells us what scholars had concluded about performance-related 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, he 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, they wrote:

Of course, in both the public and private sectors, there will always be some dissatisfaction with merit pay because not everybody gains from such a system. Nonetheless, in the federal government, the absence of organizational trust and shared values and objectives may be an obstacle to effective pay for performance. Expectations have been high for previous reforms; in most cases, the reality has not approached the expectations. At the same time, increased efforts at political con-

trol and rhetoric that has devalued the public service have created high levels of dissatisfaction and demoralization among members of the career service. In such a setting, common goals and objectives, consensus, and trust may be difficult to achieve. (Milkovich and Wigdor 1991, 32)

Despite the NRC panel's sobering assessment, their summary of findings concluded that "empirical research indicates that individual incentive plans can motivate employees and improve individual performance" (Milkovich and Wigdor 1991, 153). They qualified this conclusion, however, by observing that individual incentive schemes are most likely to succeed for simple, structured jobs and in contexts where 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 (1993a) 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. She wrote:

Evidence of success in the private sector setting is much more limited than many decision makers involved in early adoption of this policy apparently believed. To the extent that success can be demonstrated to exist, it occurs in the context of organizational characteristics not likely to be found in most public sector organizations under existing civil service laws and procedures. Further, budget reductions

and economic constraints in many organizations render adequate and stable financial resources unlikely. (354)

Ingraham's conclusion about the 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 (1993) 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 and organization performance" (48). They refer to one application, a demonstration program in the 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 Kellough and Lu give 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-related research appeared as a subset of a study on motivation in the public sector (Perry, Mesch, and Paarlberg 2006). As part of a larger review of research 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 over 15 years since the last explicit synthesis of prior research, discerning an empirical answer to this question is timely and important. In our effort to answer the 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 aims of our effort were to: (a) critically analyze the relevant literature on the topic, (b) attempt to resolve conflicts in the literature, and (c) identify central issues for future research (Cooper and Hedges 1994). 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. The studies examined were published over a 31-year period, from 1977-2008.

To ensure we did not bias our review 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 above (Ingraham 1993a; 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 backwards from

recent articles by using the process of "footnote chasing" (White 1994), which produces branches of studies progressing backwards 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). Third, our search process sought sources such as conference papers, unpublished research, and current papers under production by colleagues.¹

Ultimately, 68 studies were identified for the 1977-2008 time 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 includes non-profit service providers and organizations delivering services traditionally delivered or funded by government. The use of these criteria reduced the initial list of 68 studies to 57 for final analysis. The 11 studies excluded from the analysis included three studies of for-profit organizations that were not delivering public services, one pre-implementation study, and seven studies that did not deal with performance-related pay. Twenty-five of the 57 studies were published 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 also were coded: functional area (general government, medical, human services, professional, regulatory, educational, transit, public

safety/military, public services, technical, and financial); type of compensation (bonus or additions to base pay); level of incentive (individual or group); level of government (municipal, state, and national); nature of outcomes studied (affective, performance, implementation, climate); and managerial status (manager, non-manager, or non-management professional).

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. The limited sample size and diversity of variables prevented formal statistical analysis. Information about each of the 57 studies included in the synthesis appears in table 1 (see Appendix A).

We also screened for quality of study by using two measures. One was an ordinal indicator of research methodology, ranging from case studies, to quasi-experimental studies, to longitudinal and experimental studies. A second indicator was journal impact scores, computed using counts of citations in Google Scholar and the Social Sciences Citation Index standardized for years since publication. Studies identified varied widely in quality, with impact ratings ranging from 0 to 13.50 and an average impact of 2.33. Variations in quality as judged by methodological sophistication of research designs were also wide, ranging from six randomized experiments on the high end to nine case studies on the low end. Twenty-seven of the studies used post-test-only designs.

Of the articles included in our analysis, 14 studies included for-profit public service providers and four studies assessed nonprofit public service providers. Three studies² from the 1970s and 24 studies³ from the 1980s met our inclusion criteria. Seventeen studies⁴ in the database are from the 1990s and 13⁵ were published since 2000. A variety of public services are represented in the sample. Twenty-six stu-

dies, just under 50 percent of the total, focus on general government. Eleven medical service studies are the next most frequently represented, followed by public safety/military at ten studies and human services and education at six each.

The Past as Prologue: The Pay-for-Performance Problematic Revisited

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 leads 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 often has 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 adequate, and a significant amount of support for merit pay plans existed, performance-related pay resulted in positive out-

comes (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 like these 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) are 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 healthcare settings and assessed piece-rate compensation programs. Consequently, it is difficult to determine if 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 are largely positive (also 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 finds that performance-related pay generally is 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 is less conclusive (Allan and Rosenberg 1986; Schay 1988; Siegel 1987).

Lesson 3: Performance-related pay may have more 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 non-managers. Although a significant majority of the studies in our research involved managers, research on non-managers accounts for a disproportionate share of positive performance results. This is consistent with the earlier NRC study (Milkovich and Wigdor 1991) cited above which found, among other things, that performance-related pay systems are best suited for positions in which job responsibilities are fairly concrete and measurable. Similarly, Lee and Whitford (in press) found that the use of performance-related pay programs has a disproportionate impact in crowding out intrinsic motivation for non-managers.

We need to be cautious, however, not to overstate differences in the effectiveness of performance pay between managers and non-managers. Studies on both populations generally showed no effects, but 20 percent of non-managerial 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 of 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 prior 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 via the vehicle of research synthesis rather than a souped-up DeLorean) provides in some ways a pessimistic view for 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 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 re-

sults. 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 be more fundamental constraints on success. Consider them in shaping any performance-based motivational approach to public organizations.

Multiple studies have found employees supporting the idea of pay for performance in the abstract but finding its implementation in their organization 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 the absence of good performance management practices is 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."

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 constraints⁶ 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 perfor-

mance-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 contingency pay is introduced. Research on pay secrecy is inconclusive (see, e.g., Bartol and Martin 1989; Burroughs 1982; Pfeffer and Langton 1993; Schuster and Colletti 1973), but it does suggest private organizations that successfully use performance-related pay rely on secrecy to sustain their systems (Colella et al. 2007). A study by Pfeffer and Langton (1993) of college and university faculty, 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. 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 rev-

enue 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 annual pay increments that expectancy⁷ or reinforcement theory requires.

The third implementation constraint faced by public institutions involves external expectations about responsible stewardship of resources. Like the non-distribution 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 compensations within the rules, they may face public backlash and outrage. This is precisely what happened when the first round of senior executive bonuses was paid under the CSRA of 1978.⁸

Concerns among politicians that public employees might be overcompensated are responsible for rules that seek to operationalize the stewardship constraint. In Minnesota, for instance, salaries of state agency heads, who must be the highest paid employees in their departments, 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 fiscal restraint serves larger political ends. Miller and Whitford (2007) suggest a name for this phenomenon, "the principal's moral hazard constraint," where bonuses large enough to produce an efficient incentive effect are prohibitively expensive for the principal. Ironies 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 expect-

tancy and reinforcement theory.

While we have focused on the promise 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 theory (Perry and Hondeghem 2008) may be more suitable for public institutional settings. As we imply above, 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 performance pay imposes on employees has 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 to allocate 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.

Lesson 6: Don't adopt conventional pay-for-performance systems simply because everyone else is doing it. Consider the contextual contingencies and adapt accordingly.

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 for the persistence not only of the failure of performance-related pay but 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 organizations typically are 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 in the federal government was clearly the result of mimetic isomorphism. When founding U.S. 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 1993a, 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 non-compliance 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 DHS'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 performance-related pay 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 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—viz., 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 are 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 DOD 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 often is 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 noted, most research is about traditional merit pay programs. Yet our finding that piece-rate programs have experienced success in healthcare 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, suggests that the benefit of performance-related pay is not the level of employee effort but the purposes to which it is directed (Marsden 2004). Research needs to be conducted on a range of outcomes to help sort out tradeoffs 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.

Conclusion

Our journey back in time has yielded important lessons for the future of public performance-related pay. An especially important lesson is that institutional differences between the public and the private sectors, such as transparency, budget limitations, and stewardship expectations, need to be considered in shaping pay-based motivational strategies. Greater scrutiny of performance-related pay accompanying public sector transparency, insufficient financial resources to satisfy motivational theory, and public expectations about the stewardship of resources all limit the potential of public performance-related pay.

The lessons we drew from the research synthesis have a number of implications for practicing public

managers. Performance-related pay is a reality for many organizations and this review makes clear that managers face a challenge in implementing a policy that is questionably effective in the public sector. Several managerial practices could improve prospects for overall success. First, supporters and critics of performance-related pay generally agree on the importance of a well-developed performance management system. Howard Risher and Charles Fay (2007), in their report to the IBM Center for the Business of Government, repeatedly stress that successful performance-related pay systems are contingent on being placed within comprehensive performance management systems. Their suggestions for implementing such a system include involving employees at all levels of the organization, being clear about results and how they can be achieved, incorporating periodic follow-ups throughout the year, ensuring consistent ratings across the organizations, using appropriate technology to manage the system, and holding off pay for performance until the system is well developed. Only within such an environment can effective performance-related pay plans potentially come to fruition.

Second, several studies included in this review found that employee motivation is not exclusively linked to pay (Brudney and Condrey 1993; Daley 1987; Heery 1998; Kellough and Nigro 2002), thus raising awareness for managers to avoid relying solely on performance-related pay and emphasizing other, powerful motivational techniques. Given that motivation is one of the most studied phenomena in management, a full exploration of other techniques is beyond the scope of this article (see Perry, Mesch, and Paarlberg 2006 for a review of motivation literature). Managers need to supplement pay-based motivation techniques with other motivational models, including public service (Perry and Hondeghem 2008), values (Paarlberg and Perry 2007), and self-determination (Deci and Ryan 2004).

Lastly, support for performance-related pay arises from its perceived fairness relative to automatic

step-in-grade raises (Marsden and Richardson 1994). Repeated studies have found, however, that employees generally perceive performance-related pay to be unfairly implemented (Brudney and Condrey 1993; Gabris and Mitchell 1988; Hatry, Greiner, and Gollub 1981). Thus, managers must not only attend to system goals and outcomes but also the process by which performance-related pay is implemented. In fact, one study found procedural justice to be the single largest factor in determining the success of performance-related pay plans (Brown 2001). Managers need to be transparent about how standards are set, employees are evaluated, and what the relationships are between performance measures and pay.

Given current public management trends from Bismarck to Brussels, performance-related pay seems destined for a sequel. If it is, then managers can make the most of circumstances by fairly implementing a thoughtful and well-rounded performance management system that includes multiple motivational methods.

Notes

1. Municipal government reports were excluded from the analysis because they proved too difficult to locate and were often of low quality.
2. The three studies appear in Greiner et al. (1977).
3. Allan and Rosenberg (1986); Bullock (1983); Daley (1987); Deadrick and Scott (1987); Gabris (1986); Gabris and Mitchell (1986, 1988); Gaertner and Gaertner (1985); Gaertner, Gaertner, and Akinnusi (1984); GAO (1984); Hatry, Greiner, and Gollub (1981); Heneman, Greenberger, and Strasser (1988); Hickson, Altemeier, and Perrin (1987); Lovrich (1987); Murnane and Cohen (1986); Nachmias and Moderacki (1982); Nigro (1981); O'Toole and Churchill (1982); Pearce and Perry (1983); Pearce, Stevenson, and Perry (1985); Perry, Petrakis, and Miller (1989); Schay (1988); Siegel (1987); Wisdom and Patzig (1987).
4. References from the 1990s: Brudney and Condrey (1993); Condrey and Brudney (1992); Davidson et al. (1992); Deckop, Mangel, and Cirka (1999); Dowling and Richardson (1997); Fletcher and Williams (1996); Heckman, Heinrich, and Smith (1997); Heery (1998); Heneman and Young (1991); Hutchison et al. (1996); Ingraham (1993b); Kellough and Selden (1997); Kessler and Purcell (1992); Kouides et al. (1998); Krasnik et al. (1990); Marsden and Richardson (1994); Orvis, Hosek, and Mattock (1993).
5. Studies since 2000: Andersen (2007); Andersen and Pallesen (2008); Bebchuk and Fried (2004); Bertelli (2006); Brown

(2001); Egger-Peitler, Hammerschmid, and Meyer (2007); Gabris and Ihrke (2000); Heinrich (2007); Kellough and Nigro (2002); Langbein (2006); Marsden (2004); Mesch and Rooney (in press); Shaw et al. (2003).

6. We refer to the three public institutional rules as constraints, but they are sufficiently central to the nature of public institutions that they could fairly be termed "constitutional."

7. Edward Lawler (1990, 17) indicates that annual increments ought to be between 10-15 percent to be motivationally meaningful, but this level is seldom achieved in public sector salary budgets.

8. It is ironic that the same politicians who promote performance-related pay also may vote against appropriations to fund it if they perceive fiscal restraint serves larger political ends.

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APPENDIX A

Table 1

Study	Allan & Rosenberg (1986)	Andersen & Pallesen (2008)	Andersen (2007)	Bebchuk & Fried (2004)
Sample	2000 New York City police managers	27 Danish research centers	Danish dentists and doctors	Fannie Mae employees
Study Focus	Effects of managerial traits on performance appraisals and merit pay	Effects of merit pay on publications of Danish researchers	Effects of performance-related pay on Danish dentist and doctor performance	Effects of performance-related pay on executive compensation
Institution Type	Public safety/military	Educational	Medical	Financial
Pay Type	Added to base	Bonus	Not specified	Bonus
Governmental Level	Municipal	Nongovernmental	National	National
Research Design	Time series	One group pre/posttests	One group posttest	Case study
Job Status	Managers	Non-management professionals	Non-management professionals	Managers
Relevant Results	Performance appraisals and pay were correlated, but this correlation decreased over the course of the study.	Perception of the financial incentive is important for motivational-crowding theory. The amount of the incentive is also important.	When strong professional norms existed, then incentives were not important. The inverse was also true.	Performance-related pay resulted in perverse incentives and decreased transparency.

Table 1 continued

Study	Bertelli (2006)	Brown (2001)	Brudney & Condrey (1993)	Bullock (1983)
Sample	1,058 IRS and 782 Comptroller employees	3,335 employees of a large, Australian public sector research organization	910 Performance Management and Recognition System employees in four federal agencies	380 employees of an engineering division of a southeastern public utility
Study Focus	Effects of performance-related pay on intrinsic motivation	Effects of performance appraisals and situational factors on the level of support for merit pay	Effects of managerial characteristics on performance-related pay motivation	Effects of pay plan on pay and job satisfaction
Institution Type	Financial	General government	General government, public safety/military, regulatory	Technical
Pay Type	Added to base	Not specified	Added to base	Added to base
Governmental Level	National	National	National	Regional
Research Design	Non-equivalent groups with posttest only	Randomized experiment	One group posttest	Time series
Job Status	Managers	Not specified	Managers	Managers and non-managers
Relevant Results	IRS reward structures crowd in motivation for those with low levels of intrinsic motivation but crowd out intrinsic motivation for those with high intrinsic motivation.	Perceptions of procedural justice had the strongest relationship with support for merit pay, followed by market comparability, job security, and supervisory appraisal ratings.	The effectiveness of performance-related pay as a motivational tool was moderated by attitude toward merit pay, organizational trust, organizational commitment, salience of monetary rewards, perceived fairness of the plan, and closeness of link between pay and performance.	Merit award status did not significantly predict changes in pay satisfaction but did significantly predict increases in job satisfaction.

Table 1 continued

Study	Condrey & Brudney (1992)	Daley (1987)	Davidson et al. (1992)	Deadrick & Scott (1987)
Sample	4 federal agencies in southeast U.S.	315 mid-level managers and senior executives	80 primary care physicians	222 mass transit directors
Study Focus	Impact of agency characteristic on the effectiveness of performance-related pay	Effects of federal merit pay systems on motivation	Effects of performance-related pay on health-care services provided	Effects of performance-related pay on public sector productivity
Institution Type	General government, technical	General government	Medical	Transit
Pay Type	Added to base	Bonus	Piece rate	Added to base
Governmental Level	National	National	Nongovernmental	National
Research Design	One group posttest	Non-equivalent groups with posttest only	Randomized experiment	One group posttest
Job Status	Managers	Managers	Non-management professionals	Managers
Relevant Results	Performance-related pay was more effective at agencies with high levels of trust, adequate rewards, effective performance appraisals, and close geographic proximity. In general, negative attitudes existed towards performance-related pay.	Intrinsic satisfaction and equity are the same regardless of pay scheme; perceived performance-reward relationship significantly greater for recipients of merit pay.	Patients received better treatment as measured by a number of measures with performance-related pay than with flat-rate payment.	Financial incentive programs are being used within the transit industry and these programs are for the most part evaluated positively.

Table 1 continued

Study	Deckop, Mangel, & Cirka (1999)	Dowling & Richardson (1997)	Egger-Peitler, Hammerschmid, & Meyer (2007)	Fletcher & Williams (1996)
Sample	Eight utility companies in the United States	114 managers at the National Health Service	1,417 Austrian municipal employees in 14 departments	Eight organizations with 800 private and 300 public employees
Study Focus	Effects of performance-related pay on organizational citizenship behavior	Effects of performance-related pay and levels of challenge and motivation	Effects of attitudes towards work motivation on incentives	Relative impact of performance-related pay in public and private organizations
Institution Type	Public services	Medical	General government	General government
Pay Type	Not specified	Added to base	Not specified	Not specified
Governmental Level	Nongovernmental	National	Municipal	Municipal
Research Design	One group posttest	One group posttest	One group posttest	One group posttest
Job Status	Non-managers	Managers	Managers and non-managers	Managers and non-managers
Relevant Results	Performance-related pay had a negative impact on extra role behaviors for employees low in value alignment but not for employees high in value alignment.	Performance-related pay was challenging for employees but not motivating. In general, money was not a primary source of motivation.	Employees had a high degree of dissatisfaction with performance-related pay execution, handling, and transparency, yet 81 percent say it should be retained.	Performance-related pay led to clear goals, a short-term work orientation, and peer conflict. Effort appears to have no relationship to performance-related pay.

Table 1 continued

Study	Gabris & Mitchell (1986)	Gabris & Mitchell (1988)	Gabris (1986)	Gabris & Ihrke (2000)
Sample	City employees in Biloxi, MS	160 city employees in Biloxi, MS	280 city employees in Biloxi, MS	125 professional employees of Midwestern county government
Study Focus	The effect of participation in policy adoption on perception of performance-related pay	Effects of performance scores on opinions of performance-related pay	Effects of employees' attitudes towards supervision based on the introduction of performance-related pay	Changes in professional attitudes' impact on merit pay implementation
Institution Type	General government	General government	General government	General government
Pay Type	Bonus	Bonus	Bonus	NA
Governmental Level	Municipal	Municipal	Municipal	Municipal
Research Design	One group posttest	One group posttest	One group posttest	One group pre/posttests
Job Status	Managers and non-managers	Managers and non-managers	Managers and non-managers	Managers and non-managers
Relevant Results	Merit council participants were more satisfied with performance-related pay and perceived supervisors more fairly than non-participants.	Employees with low performance scores perceive performance-related pay as unfair and have negative views of management.	Supervisors have more favorable perceptions of performance-related pay than nonsupervisors and consider it more accurate. A minority of supervisors and nonsupervisors find it effective.	Leadership credibility and leader motivation to change significantly increase employee acceptance of performance appraisal and merit pay.

Table 1 continued

Study	Gaertner & Gaertner (1985)	Gaertner, Gaertner, & Akinnusi (1984)	GAO (1984)	Greiner et al. (1977)
Sample	Five units in two federal agencies	213 management employees	Three federal agencies	Orange County police
Study Focus	The relationship between performance standards and performance-related pay	The implementation of personnel reforms in the federal government	Evaluation of federal performance-related pay plans	Effects of performance-related pay on performance
Institution Type	Regulatory	Regulatory	General government, profession, public safety/military	Public safety/military
Pay Type	Added to base	Added to base	Added to base	Added to base
Governmental Level	National	National	National	Municipal
Research Design	One group pre/posttests	One group posttest	One group posttest	Case study
Job Status	Managers	Managers	Managers	Non-managers
Relevant Results	Most employees were invested in their performance standards and that contributed to more positive perceptions of performance-related pay. Seventy-five percent say it is not an improvement over previous non-performance-related pay systems.	Managers in more responsive organizations were significantly less positive than managers in the mechanistic organizations.	Problems with consistency, distribution, and agency formulas. Five to ten years needed for implementation.	Adoption of performance-related pay decreased crime and improved job satisfaction and union relations.

Table 1 continued

Study	Greiner et al. (1977)	Greiner et al. (1977)	Hatry, Greiner, & Gollub (1981)	Heckman, Heinrich, & Smith (1997)
Sample	Waste collectors in Flint, Michigan	Philadelphia water repair workers	Municipal departments in four cities	16 job training centers
Study Focus	Effects of performance-related pay on performance	Effects of performance-related pay on performance	Effects of performance-related pay on performance and satisfaction	Effects of organizational merit incentives on outputs
Institution Type	Public service	Public safety/military	Public service, general government, human services	Human services
Pay Type	Bonus	Bonus	Bonus and added to base	Bonus
Governmental Level	Municipal	Municipal	Municipal	National
Research Design	Case study	Case study	Case study	Time series
Job Status	Non-managers	Non-managers	Managers	Non-managers
Relevant Results	Adoption of performance-related pay increased productivity and lowered cost but had an unclear impact on customer service and mildly negative impacts on safety.	Adoption of performance-related pay increased performance, job satisfaction, and quality of union relations.	Performance measures were used prior to performance-related pay without negative consequence, but the addition of pay yielded problems regarding sufficient compensation, objective measures, and perceived fairness. No impact on performance.	Introduction of performance-related pay resulted in a more short-term orientation, "gaming," and cream skimming for job coaches.

Table 1 continued

Study	Heery (1998)	Heinrich (2007)	Heneman, Greenberger, & Strasser (1988)	Heneman & Young (1991)
Sample	Local officials around London	State Department of Human Resources	104 nursing, technical, professional, and managerial employees of Midwest hospital	100 Midwest administrators
Study Focus	Effects of performance-related pay on performance and motivation	Effects of state-level reforms on social worker performance	Relationship of performance-related pay perceptions and pay satisfaction	Implementation of a merit pay plan
Institution Type	General government	Human services	Medical, technical, professional	Educational
Pay Type	Not specified	Bonus	Not specified	Bonus
Governmental Level	Municipal	State	Regional	Municipal
Research Design	One group posttest	Time series	One group posttest	One group pre/posttests
Job Status	Non-managers	Managers and non-managers	Managers	Managers
Relevant Results	Little effect on performance or motivation.	Financial incentives must be sufficient to impact performance. Employee bonuses were too low to impact performance.	Positive relationship between pay-for-performance perceptions and pay satisfaction.	Implementation of performance-related pay resulted in unfavorable perceptions of merit pay by managers.

Table 1 continued

Study	Hickson, Altemeier, & Perrin (1987)	Hutchison et al. (1996)	Ingraham (1993b)	Kellough & Nigro (2002)
Sample	18 medical residents	116 physicians	20 state personnel directors	350 personnel managers in 30 states
Study Focus	Effects of performance-related pay on services provided	Effects of performance-related pay on medical service provided	Performance-related pay use by the states	Performance-related pay use by the states
Institution Type	Medical	Medical	General government	General government
Pay Type	Piece rate	Piece rate	Not applicable	Not specified
Governmental Level	Nongovernmental	Nongovernmental	State	State
Research Design	Randomized experiment	Randomized experiment	One group posttest	One group posttest
Job Status	Non-management professionals	Non-management professionals	Managers	Managers
Relevant Results	Introduction of performance-related pay resulted in improved performance as measured by more contacts, less emergency treatment, and more visits with physicians.	Performance-related pay has no impact on hospitalization.	Many states have decreased use of performance-related pay. State HR directors approve of performance-related pay. Adoption is most commonly initiated by the governor.	Performance-related pay had a mild effect on motivation and performance, decreased confidence, and was perceived as administered ineffectively. It did help clarify goals and communication. Political appointees are most supportive.

Table 1 continued

Study	Kellough & Selden (1997)	Kessler & Purcell (1992)	Kouides et al. (1998)	Krasnik et al. (1990)
Sample	2,500 nonsupervisors and 450 supervisors in Georgia state government	Seven public and two private organizations	54 solo or group medical practitioners	265 primary care physicians
Study Focus	Effects of performance-related pay on job satisfaction, trust, and confidence in human resources	Challenges to implementing performance-related pay	Effects of performance-related pay on medical services provided	Effects of performance-related pay on medical service provided
Institution Type	General government	Not specified	Medical	Medical
Pay Type	Added to base	Not specified	Piece rate	Piece rate
Governmental Level	State	Not specified	Nongovernmental	Nongovernmental
Research Design	One group pre/posttests	Case study	Randomized experiment	Randomized experiment
Job Status	Managers and non-managers	Not specified	Non-managers	Non-managers
Relevant Results	Employees and managers lack trust in performance ratings and perceive politics as being involved. Many believe ratings are changed and that they do not reflect performance. Seventy percent disagree that performance-related pay is motivating.	Fifty-four percent considered performance-related pay fairer but listed many challenges in implementation, including specifying objectives, evaluating performance, managing paperwork and constraints, and confidence in the relationship between management and pay.	Better immunization rates were achieved with performance-related pay than traditional compensation methods.	Patients received better treatment with performance-related pay than traditional compensation methods.

Table 1 continued

Study	Langbein (2006)	Lovrich (1987)	Marsden & Richardson (1994)	Marsden (2004)
Sample	Over 7,000 courses at American University	400 Washington state employees	2,423 employees in the Inland Revenue Service	Employees and managers at six British public agencies (income, health, job placement, and education)
Study Focus	Effects of performance-related pay on faculty behavior	Effects of performance-related pay on motivation	Effects of performance-related pay on motivation	Effects of performance-related pay on job renegotiation
Institution Type	Education	General government	Financial, human services, education, medical	Financial
Pay Type	Added to base	Not specified	Added to base	Added to base
Governmental Level	Nongovernmental	State	National	National
Research Design	One group posttest	One group pre/posttests	One group posttest	One group posttest
Job Status	Non-managers	Not specified	Managers and non-managers	Non-managers
Relevant Results	Tying faculty pay to student evaluations resulted in grade inflation.	Workplace participation is the only significant motivator of performance. Performance-related pay has no influence on motivation.	Most employees support the idea of performance-related pay but considered implementation ineffective.	Job setting and performance appraisals helped renegotiate jobs and influenced motivation. Yet many considered performance-related pay divisive.

Table 1 continued

Study	Mesch & Rooney (In Press)	Murnane & Cohen (1986)	Nachmias & Moderacki (1982)	Nigro (1981)
Sample	2,439 fundraising professionals	Six school districts with large merit-related bonuses for more than five years	463 managers and non-managers in the IRS in Wisconsin	14,500 participants in the Office of Personnel Management and 2,068 in the Navy
Study Focus	Effects of performance-related pay on performance differences	Performance-related pay effectiveness for teachers	Effects of performance-related pay on satisfaction	Public employee opinions about merit pay
Institution Type	Nonprofits	Educational	Financial	General government, technical, public safety/military
Pay Type	Bonus	Added to base	Added to base	Added to base
Governmental Level	Nongovernmental	Municipal	National	National
Research Design	One group posttest	Case study	One group posttest	One group posttest
Job Status	Non-managers	Non-managers	Managers and non-managers	Non-managers
Relevant Results	Correlation between compensation method and performance.	Schools where merit pay is successful are different than most schools and use merit pay in nontraditional ways.	Perceptions of performance-related pay were generally negative but women and lowest grade levels were most supportive.	Managers expressed dissatisfaction with pre-CSRA appraisal system but are uncertain about the new system. They do not believe it improves performance.

Table 1 continued

Study	Orvis, Hosek, & Mattock (1993)	O'Toole & Churchill (1982)	Pearce & Perry (1983)	Pearce, Stevenson, & Perry (1985)
Sample	Department of Defense test site	EPA managers	Five divisions of the SSA	Five federal units in the Social Security Administration
Study Focus	Effects of gain sharing on productivity	Implementation issues with the adoption of performance-related pay	Effects of performance-related pay on performance	Federal attitudes towards performance-related pay plans
Institution Type	Military/public + safety	Regulatory	General government	General government
Pay Type	Bonus	Added to base	Added to base	Added to base
Governmental Level	National	National	National	National
Research Design	Time series	Case study	Non-equivalent groups with posttest only	Time series
Job Status	Managers and non-managers	Managers	Managers	Managers
Relevant Results	Gain sharing resulting in improved work-life quality, sustained production quality, and increased productivity.	Performance-related pay inhibits risk taking and increases red tape, conflict, and competition. Managers cite implementation problems (timing, who is involved, clarity of goals).	Performance-related pay had no impact on performance and was perceived as poorly implemented. Managers were concerned about long-term consequences of financial rewards.	Performance-related pay had no effect on organizational performance.

Table 1 continued

Study	Perry, Petrakis, & Miller (1989)	Schay (1988)	Shaw et al. (2003)	Siegel (1987)	Wisdom & Patzig (1987)
Sample	Randomly selected managers from the General Services Administration	2,072 employees in scientific, technical, administrative, and clerical positions in the Navy	157 employees of Midwestern university hospital	Employees at the Naval Weapons Center	26 public sector managers, 1,130 private sector managers
Study Focus	Performance Management and Recognition System	A comparison of two models of performance-related pay systems	Effects of performance-related pay on employee attitudes	Effects of performance-related pay on administrative performance	Merit systems and employee expectations about pay and performance
Institution Type	General government	Public safety/military	Medical	Public safety/military	General government, medical
Pay Type	Added to base	Added to base	Added to base	Added to base	Not specified
Governmental Level	National	National	Nongovernmental	National	National
Research Design	Time series	Time series	One group pre/posttests	Non-equivalent groups with post-test only	Simple descriptives
Job Status	Managers	Managers and non-managers	Not specified	Managers and non-managers	Managers
Relevant Results	Rankings were inconsistent across departments. Most employees ranked high so there was no discrimination. Performance-related pay was significant for the first round but not the second.	Performance-related pay perceptions increased for the experimental groups and did not change for the control groups. Pay satisfaction did not change for the experimental groups and decreased for the control groups.	Merit increases were significantly related to pay level satisfaction, pay raise affect, and pay raise behavioral intentions.	Most performance-related pay has implementation problems, but if properly implemented, then it is effective.	Perceptions of employee performance were higher for private than public sector managers.