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Back to the Future Revisited: A Systematic Literature Review of Performance-related Pay in the Public Sector

Abstract

Performance-related pay (PRP) has been part of public-sector pay structures in the past four decades. Despite public administration scholars denouncing its use in the public sector, PRP is being increasingly implemented in public organizations worldwide. Notwithstanding controversy over its use in the public sector, the last decade has seen a huge surge in its adoption. In order to assess the theoretical, empirical, and scientific reasoning for this interest we analyze the existing literature in order to identify the emerging discussions in this area and to provide a systematic review that can be used as guidance for future research. The review highlights the gaps in our current knowledge of PRP in the public sector and identifies factors affecting its success that have emerged from new research over the last fourteen years. After identifying these, we propose a number of important pathways that future research might take in order for public organizations globally to design optimal PRP schemes.

Key Words: performance-related pay (PRP), extrinsic reward, work motivation, public sector, systematic literature review (SLR)

1 Introduction

Performance-related pay (PRP) is an integral component of new public management (NPM) reform (Frey et al. 2013). Many countries in the Organization for Economic Co-operation and Development (OECD) have adopted PRP in public institutions since the late 1970s, either as part of NPM reform movement or as a sole innovative policy to improve work performance (Lah and Perry 2008; Bellé 2015). Since then, PRP in the public sector appears to have grown steadily over the last four decades (Perry et al. 2009; Bellé and Cantarelli 2014; Abner et al.

2017) and now many non-OECD countries are adopting the scheme to drive the work performance of public-sector employees (Hasnain et al. 2014; Park 2021; Aoki and Rawat 2020).

Public administration scholars have been critical of the use of PRP in public-sector organizations, and have proposed four main arguments against its use. The first is that incentivizing public-sector employees for better performance is not an effective strategy due to the motivational differences between public and private employees (Perry and Hondeghem 2008). The second is that the multifaceted nature of public-sector jobs precludes the design of adequate performance management practices that support the incentive system (Perry et al. 2010; Ingraham 1993), and the third argument cites the fundamental differences in institutional characteristics between public and private organizations in terms of budgets, accountability, transparency, performance management, and external expectations about responsible stewardship of resources (Bellé 2015; Perry et al. 2009). A fourth argument lies in that tasks in public-sector jobs are often accomplished in teams or via collaborations, rendering individual employee performance rather more difficult to measure and assess for PRP purposes (Burgess et al. 2017; Park 2021). The most impactful review by Perry et al. (2009) conceded that PRP in the public sector could occasionally be successful, but only in certain types of industry and at certain organizational levels. Despite the prevailing academic criticism, the use of PRP in public organizations does not seem to be declining; on the contrary, it seems to be enjoying a renewed resurgence of interest and popularity (Bellé and Cantarelli 2014). As reformers and politicians call for PRP to be part of high-performance HR practice in the public sector, the research has kept pace with it and the number of studies on the subject has grown (Bellé 2015; Park 2021). With this recent expansion of the field, there is a need to capture and evaluate the current body of knowledge to help shape future directions for research and policy.

The purpose of this systematic literature review (hereafter SLR) is thus (a) to identify recent trends in PRP research, (b) to summarize the main antecedents and outcomes, and to assess and synthesize the conceptual foundations in the literature in order to identify current trends and gaps in public-sector PRP research, and (c) to propose directions for research that will inform future design and implementation of PRP.

The only comprehensive summary of empirical and theoretical studies since the review by Perry et al. (2009) is one by Hasnain et al. (2014), but this includes non-public sector and review articles. Since 2009, the increasing implementation of PRP in public sectors worldwide has inspired much new research, with the recent burst of enthusiasm in non-OECD countries being just one example (Hasnain et al. 2014; Park 2021). Our response to the enormous growth in both PRP and corresponding research is to synthesize and clarify a more contemporary understanding of its rise in the public sector, in order to help shape future directions for research, practice, and policy. We consider the SLR approach as appropriate means to derive contemporary and relevant insights (Lyu, et al. 2022), as well as to identify gaps in PRP knowledge. One of the advantages of the SLR is that it is a holistic, scientific, and transparent way to evaluate the current state of the field (Rosendo-Rios et al. 2022).

The structure of the research is mapped as follows. Following Perry et al. (2009), we begin with a content analysis of the four significant reviews of PRP in the public sector in order to identify the main keywords, themes and contexts. A brief synthesis of these reviews allows us to develop a concrete understanding of PRP in public-sector organizations, to gauge its suitability to public-sector jurisdictions, and to track the development of PRP in order to better understand where it is heading. Following this, we then present the SLR, which analyzes 61 studies published between 2009 and 2022, and discuss the methodology we used, along with inclusion and exclusion criteria, data coding and synthesis. A descriptive review of the relevant literature is provided, along with a discussion of the methodology. This is followed by the

thematic analysis of the latest research and concludes with theoretical and managerial implications, whilst suggesting future research directions.

2 Assessing the effectiveness of performance-related pay systems: A reflection on studies published between 1977 and 2009

Performance-related pay can be defined as “*a compensation scheme in which an employee’s pay is based partially or wholly on performance*” (Abner et al. 2017). It is rooted in the assumption that “individuals should be paid according to their contributions” (Pynes 2013, p.226) and the belief that positively influences employee motivation and performance, thereby improving overall organizational performance (Storey and Sisson 2005). PRP is based on standard economic and behavior management theories, especially expectancy theory (Vroom 1964) and reinforcement theory (Skinner 1953). These views similarly ground on the stimulus-response mechanisms, that is, how behavior changes in the presence of rewards and sanctions. Thus, with the expectation that financial incentive would motivate better work performance (Durant et al. 2006), PRP began to be introduced into US public-sector pay structures in 1978 as part of wider reforms.

To date, there have been five academic reviews (Ingraham, 1993; Perry, 1986; Kellough and Lu 1993; Milkovich and Wigdor 1991; Perry et al. 2009) of PRP in the public sector (published between 1985 to 2009) that synthesize articles published between 1977 and 2008. A common observation of these reviews found that researchers were skeptical of the use of PRP in public-sector organizations (Perry et al. 2009). Our analysis subsequently sums up five key reasons behind that. First, there was a widespread expectation that the vocational motivation inherent in public-sector work would be eroded by offering more money for better performance (Bellé 2015; Perry et al. 2010). Second, contingent pay plans tended to be poorly designed and the performance management practices that supported incentive systems were largely inadequate. In view of this, it was concluded that PRP provisions could be more

effective if they were better developed and supported by newer performance management practices (e.g., improved performance appraisal systems), which are often inadequate in public organizations (Perry et al. 2009; Ingraham 1993). Third, public administration scholars identified fundamental differences between public- and private-sector financial management. Looking at issues such as budgets, accountability, transparency, performance management and external expectations of responsible stewardship of resources, they concluded that at best, PRP had no positive effect on performance, and that at worst, it was downright damaging to public service motivation and prosocial behavior (Bellé 2015; Colella et al. 2007). Fourth, public expectations of responsible resource management coupled with lack of funding make it legally or politically difficult to offer the significant pay increases or bonuses required by reinforcement theory and expectancy theory (Perry et al. 2009; Dowling and Richardson 1997). Fifth, tasks in public-sector jobs were often completed in teams or collaborations, making individual performance more difficult to be assessed for PRP purposes (Burgess et al. 2010; Park 2021; Ingraham 1993).

Having recognized previous reviews abovementioned, it is clear that researchers have, over the years, identified a wide range of contextual factors that influence the effectiveness of PRP systems. These may include type of public-service industry, nature of public-sector role, hierarchical place of target employees, performance appraisals, cultural and societal expectations, and pay design. The questions we ask here center around whether or not overall conclusions of these reviews still hold in the context of contemporary public-sector employment. We took stock and analyzed 61 empirical studies published between 2009 and 2022.

3 Review Methodology

The research team evaluated various SLR approaches (i.e., meta-analysis, PICOC, PRISMA) (Mengist et al. 2020) and considered thematic SLR (Lyu et al. 2022) as suitable to update the

PRP research outlet. Moreover, we took into consideration of existing SLR publications of management research disciplines, PRP implications could be expanded further by focus on generating emerging themes in the management era. Thus, thematic SLR was employed to address research objectives. The approach has numerous advantages over the traditional unstructured review (Rosendo-Rios et al. 2022); for example, it minimizes bias and errors (Tranfield et al. 2003), improves the quality of the review process and outcomes (Mihalache and Mihalache 2016), confirms research validity through replication of clear steps during the review process and synthesizes and organizes the literature that has accumulated in a specific field (Wang and Chugh 2014). Following the observations of Perry et al. (2009), we present a transparent reviewing process as follows (see Figure 1).

FIGURE 1 ABOUT HERE

3.1. Identifying the conceptual boundaries

The first step was to define the objectives and boundaries of the review (Denyer, et al., 2008). To be more objective, the research team set the boundaries and defined an agreed meaning of “public sector”. As we searched the relevant literature and matched the cohort boundaries, it became clear that organizational goals and ownership structure are important influences on the motivational effects of PRP (Papenfuß and Keppeler 2020). Thus, we demonstrated a public-sector or state-owned organization as one that is under the control of public authorities at any government level, either by majority ownership by one or more public authorities or by otherwise exercising an equivalent degree of control (OECD 2015). This definition is accepted internationally, both by organizations and academics (Papenfuß and Keppeler 2020). We categorized the studies according to the types of organization and ownership, thereby

differentiating between non-profit organizations, service organizations, central, national, and state-funded institutions, and state-owned organizations and enterprises. We built on Van Thiel's (2012) categorizations, which develop the "agencification" debate. In order to synthesize the different perspectives, public-sector organizations are broadly understood here to include administrative bodies, agencies, and other public entities (Papenfuß and Keppeler 2020).

3.2. Data collection and analysis

To create a comprehensive database of articles on PRP in public-sector organizations, we imposed specific inclusion and exclusion criteria in selecting the journal articles (Lyu et al. 2022). In line with similar systematic literature reviews (Perry et al. 2009), we set our research parameters to focus on top-tier, peer-reviewed academic journal articles listed either in the Journal Citation Report from Web of Science or the ABS Academic Journal Quality Guide (Harvey et al., 2010). Three main online databases were employed including JSTOR, Web of Science (WoS), and Google Scholar, and we focused on journals within public administration, management, economics, public policy and the social sciences in general (Domenico et al., 2021). Within the selected journals, we searched the title, abstract and keyword fields using several carefully chosen key Boolean search terms (Cooper 2009).

To ensure articles relevant to our topic, we used the following search terms: "pay-for-performance", "performance-related pay", "PRP", "performance-based pay", "merit pay" and "financial incentive" via Web of Science investigation. Our searches first identified 261 articles published between 2009 and 2022, of which 101 were considered to be relevant. In some case, the abstracts did not make clear the aims, findings, approaches and conclusion of the studies (Thorpe et al. 2005). We therefore made a careful observation of the introductions and conclusions to make a decision. We further refined our list of articles by applying three inclusion criteria: direct discussion of PRP, empirical research only (e.g., case studies, surveys,

experiments, and individual interviews) and studies dealing with the public sector only (see Table 1). Our final list of 61 studies made up the basis of this review. These were published or made available online between 2009 and 2022 in 11 leading public administration journals and 38 in the fields of social science, management, economics, healthcare and public policy. All of these journals are known for their high level of impact in academic and professional communities. To ensure a robust approach, we took the advice of Rothstein and Hopewell (2009) and excluded grey sources such as conference papers, unpublished material, review papers, and current papers in the process of production.

TABLE 1 ABOUT HERE

3.3. Data coding and synthesis using NVivo

The shortlisted 61 studies were subjected to further scrutiny. First, we extracted data from the chosen research papers and gathered descriptive information that allowed us to understand their nature as well as their methodological propositions and theoretical positioning. Using NVivo 12, each member of the research team led an individual coding process, and a finalized pool of codes was agreed upon, following an inductive and thematic approach. NVivo has been widely used by researchers due to its efficiency in storing large qualitative datafiles, classifying different themes, displaying first and second order themes, and performing word frequency analysis (Lyu et al. 2022). Many qualitative scholars have employed this tool for SLR purposes (Banijamali et al. 2020), chiefly for its rigor and superiority over manual coding techniques in facilitating thematic analysis.

A two-step thematic coding process was then followed by the first stage of detecting the broader themes of study context, article type, ABS 2021 journal ranking, theoretical foundations, and methodology. These classifications were further assessed and clustered in the second coding process, wherein more specific attributes of each dimension were identified based on the researchers' inductive discussion and agreement.

We finalized the codes and themes as follows: year of publication, recent trends in scientific interest, journal distribution of the sample studies, research methodology, geographical distribution (countries where the studies took place), and functional area (general government, healthcare human services, education, public service). To ensure the validity of these findings we invited two external scholars with strong experience in the field and solid grasp of the literature to evaluate the suitability of our search protocol and finalized themes. They agreed with our NVivo analysis, and the derived themes were considered representative enough for subsequent interpretations. A comprehensive datafile was then extracted to enable the analysis necessary to complete a descriptive review and synthesize the findings.

4 Descriptive reviews of PRP literature

4.1. Publication dates show growth in research interest

The number of articles on PRP has grown considerably since the earlier reviews that were published between 1985 and 2009. To illustrate this (see figure 2), we can see that 57 studies were published during the period, while the current SLR found a similar number appearing in around half that period, only fourteen years. This may indicate that, in spite of previous academic skepticism about the effectiveness of PRP in the public sector, enthusiasm for this PRP plans has gathered pace.

FIGURE 2 ABOUT HERE

4.2. CABS 2021 journal distribution rankings

We screened and labelled the majority of the PRP research papers based on the CABS (Chartered Association of Business Schools) 2021 journal ranking, since most (although not all) of the papers in our review belonged to business and management fields. Vrontis and Christofi (2021) have suggested that journals from different disciplines may well demonstrate different levels of interest in public sector PRP. Only one study was published in a one-star journal, namely the *International Journal of Public Sector Management*, and 17 appeared in two-star journals, 13 of which were published in the *Review of Public Personnel Administration*. Ten of the studies were published in three-star journals: *International Public Management Journal*, *International Review of Administrative Sciences*, *Health Services Research*, *American Review of Public Administration*, *Journal of Public Economics*, *Journal of Managerial Psychology*, *International Journal of Management Review*, *Journal of Policy Analysis and Management*, and *World Development and Human Resource Management Review*. Out of the remaining high-quality (four-star) journal articles, ten were published in *Public Administration Review*, three in the *Journal of Public Administration Research and Theory*, one in *Human Resource Management Journal*, three in *American Economic Review Journal*, two in *Organization Studies Journal*, three in *Public Management Review*, two in *Academy of Management Review* and four in *Public Administration Journal*. Despite not all of the articles appeared in journals on the CABS list, the remaining studies were drawn from the Web of Science database and quality journals publishing contemporary research in the fields of social science, health, economics, education, political science, public policy, and psychology.

4.3. Methodologies applied in PRP research

We then identified the main methodological trends in the sample of articles and examined each study's findings in light of its research methodology (methods of analysis, research approach, and data collection designs). A synthesis of the research studies indicates that the majority of the empirical studies adopted a quantitative approach. More specifically, thirteen papers employed field experiments, three involved laboratory experiments, fourteen applied panel datasets, (see figure 3).

FIGURE 3 ABOUT HERE

Most of the studies featured quantitative research, and only eight chose to view PRP through a different lens by using mixed-methods (surveys and individual interviews, or experimental methods and individual interviews), while a purely qualitative approach (individual interviews) featured in only eight of the studies in the sample.

In further assessing these methodologies in existing PRP publications we processed a number of observations as follows. The first relates to the limitations inherent in research design and methodology, since each has its strengths and weaknesses. For example, lab experiments and RCTs can offer very strong evidence of causality (Burgess et al. 2017), but in a specific and limited context (Ledford et al. 2013). This approach has also been criticized on the grounds of low external validity since participants tend to be of a single category, e.g., students, or, in this case, public-sector employees, rather than the wider population, and therefore findings are difficult to generalize. Field experiments, on the other hand, rely on treatment and control groups that are created by real-world social processes (Bellé 2015). However, issues of selection bias and confounding factors can undermine the internal validity

of such studies. Some have addressed these issues by adopting a mixed-methods approach which employs surveys and individual interviews as data collection tools, which to some extent also addresses issues of external validity. Our review indicates that eight studies (e.g., Olafsdottir et al. 2014; Spano and Monfardini 2018; Sundström 2019; Bhatnagar and George 2016; Lundström 2012; van der Pennen et al. 2014) employed qualitative approaches such as individual interviews or focus group discussions, which may be weak in terms of internal validity, but strong on external validity as they focus on agency and the social issues that influence motivation in a real-world setting. Interestingly, we found only three studies of a longitudinal nature (Georgellis et al. 2011; Sekabaraga et al. 2011; Bhattacharyya 2013), it may be rooted from the practical challenge of its methodological stance.

We imply that an experimental design was the most commonly applied research method. Survey and panel datasets were also frequently adopted. Most of the research on PRP in the public sector that ranked highly in the CABS 2021 (three- and four-star) employed quantitative strategies, while most of the qualitative studies in our review were published in one- and two-star journals. This imbalance in this distribution of research may be a useful insight for journal editors who are considering whether there is a need to encourage high qualitative research in the future.

4.4. Geographical distribution

Our review reveals interesting facts about the distribution of PRP research across continents (see figure 4). The studies in our sample were from four different continents, in contrast with pre-2009 research, which mostly originated in North America and Europe (Perry et al., 2009). North American research was previously limited to the US, but now extends to Canada, while European studies were mainly from the UK, Denmark, and Germany, but now include Italy, the Netherlands, and Finland. This geographical widening of research contexts demonstrates the growing interest in PRP by public-sector organizations, although North American studies

still predominate, with 21 of these satisfying our inclusion criteria for this review. Only eight of the studies took place in the UK, while 15 were from continental Europe (Italy, Finland, Denmark, Germany, and the Netherlands) and one from Oceania (Australia) (see figure 4).

FIGURE 4 ABOUT HERE

One significant development of PRP research that is a growing number of non-OECD countries are now experiencing PRP in their public sectors (Hasnain et al. 2014; Park 2021). Eleven studies of review sample were from African countries (Zambia, South Africa, Burundi, Congo, Zambia, Uganda, Malawi, Tanzania, Rwanda, Kenya), one was from the Middle East (Israel) and ten from Asia (China, South Korea, Pakistan and India) and one from Southeast Asia (Malaysia). This is in sharp contrast to previous SLRs, none of which included research from developing countries (see figure 5).

FIGURE 5 ABOUT HERE

In studying the reasons for the introduction of PRP to developing or non-OECD countries, we often find pressure towards normative behavior and the drive to imitate western PRP schemes. For instance, in most of the African countries, PRP was introduced into public healthcare settings because of reforms demanded by external stakeholders such as the World Healthcare Organization (WHO) and the World Bank (Bertone et al. 2016). PRP has been adopted in

Africa to achieve specific healthcare targets such as New Millennium Development Goals, maternal and child health, or HIV targets set by stakeholders (Sekabaraga et al., 2011). In Asia, several countries have introduced PRP to try to rectify the bad reputations of public institutions, and recent NPM reforms have also been adopted (Hasnain et al., 2014; Liang and Langbein 2019; Park 2021). In essence, we notice that existing studies contextualized in developing societies generally found PRP to have a positive effect on motivation and performance. The factors contributing to this were the presence of conditions such as low pay, specific short-term projects and targeted performance indicators (e.g., Olafsdottir et al. 2014; Bertone et al. 2016; Lohmann et al. 2018). An opportunity for future research should look further into non-OECD countries and areas—both theoretically and empirically—since research into PRP is still in its infancy and a geographically broader research base may reveal new and interesting reasons for its use.

4.5. Functional areas

The present review takes into account the functional areas covered by each of the studies. Figure 4 indicates the range of these research contexts, showing that 15 of the studies were carried out in public-sector healthcare, 14 in the education sector, seven discussed the context of central government, and the rest took place in service-driven organizations such as childcare centers (Singh 2013), public services (Sundström 2019; Park 2021; Wenzel et al., 2019), dental practices (Chalkley et al. 2010), nursing homes (Miller et al. 2013; Werner et al. 2010) and social welfare (Koning and Heinrich 2013). A small number of PRP studies addressed other contexts such as manufacturing, job centers, defense, social welfare, police, fire departments and municipal agencies (e.g., Koning and Heinrich 2013; Spano and Monfardini 2018; Mariani et al. 2021). This may indicate that the healthcare and education sectors use PRP more intensively, as expected, health and education represent a significant proportion of public service delivery.

5. Thematic analysis of the research sample

Having showcased descriptive reviews of our sample articles on PRP across multiple disciplines, the research team paid deeper attention to the thematic coding of publications with the purpose of identifying theoretical gaps and contributions. We therefore analyzed the sample of studies to find common understandings and codes, such as in the framework of “antecedents, decisions and outcomes” suggested by Paul and Benito (2018). Through synthesizing the full text of 61 empirical peer-reviewed articles, we derived four themes: (1) antecedents in the review sample, (2) emerging moderators, and mediators that influence the success or failure of PRP schemes, (3) outcome variables and (4) theoretical underpinnings and approaches.

5.1. Antecedents in the review sample

We first screened and labelled existing antecedents in PRP research in our review sample (see figure 6). The analysis showed that nine of the articles looked at PRP in terms of prosocial motivation and related motivations such as public service motivation (Liu and Tang, 2011; Stazyk 2013; Bellé 2015), altruism (Ariely et al. 2009), and intrinsic motivation (e.g., Bertone et al. 2016; Shen et al. 2017; Duchoslav and Cecchi 2019). Fourteen studies investigated the effects of PRP on intended work effort and motivation (e.g., Lavy 2009; Burgess et al. 2010; Kim 2010), ten discussed the effect of PRP on performance and organizational goals (e.g., Muralitharan and Sundararaman 2011; Burgess et al. 2017), and two focused on job satisfaction (Stazyk 2013; Shen et al. 2017). Figure 6 shows the main antecedents in the articles we reviewed.

5.2. Moderating and mediating factors in the success or failure of PRP

In addition, we compiled a list of the contextual factors that play a role in determining the success of pay for performance. A total of 23 studies identified specific moderating and mediating factors, out of which six looked at issues such as optimization of pay design for target employees (e.g. top executives versus mid- and lower-level employees), type of pay

design (e.g., organizational-based versus individual- or team-based incentives), contextual factors, type of organizational context, and the nature of outcomes (e.g., Park 2021; Bertone et al. 2016; Bhatnagar and George 2016; Burgess et al. 2017). Park (2021), for example, investigated the effect of individual PRP target, PRP design, and organizational context on outcome in Korea, suggesting a positive association between PRP and organizational performance that varied according to employee level. Pay design also had an effect, i.e. whether PRP was linked to individual, team, or organizational performance. Six studies discussed employee perception of the performance appraisal system, organizational politics and corrupt managers (e.g. Kim 2016; Sundström 2019; Park 2021). Moreover, Sundström's (2019) qualitative research into corruption in the South African civil service provides micro-level insight into factors contributing to PRP failure, most of which relate to senior-level corruption. Senior managers used PRP to buy loyalty from subordinates, thus de-incentivizing honest behavior, and normalizing bribery within the public sector. Three studies showed that the public transparency of PRP negatively affected performance (e.g. Georgellis et al. 2011; Houston 2011; Bellé 2015). Bellé (2015) found that state-registered nurses' performance was better when PRP was kept secret than being disclosed, especially for nurses with direct contact with patients, as their intrinsic motivation to make a difference in patients' lives was stronger when their PRP was not in the public eye. Four studies revealed the importance of employee input, employee-manager communication, performance assessments, and training (e.g., Miller et al. 2013; Kim and Bak 2020; Larsson et al. 2021). For example, Miller et al.'s (2013) qualitative study in nursing homes of five states in the US indicated that for PRP to be effective, it was essential to obtain employee opinion and input when designing it. Only one study found that linking rewards with incentive structure was important (Liang and Langbein 2019) and another identified institutional and socially constructed logics such as professional identity, religion, and culture as having an effect on success (Duchoslav and Cecchi 2019). Mariani et

al. (2021) discussed the importance of empowering other HR practices in order for PRP to be effective, while other research focused on factors that contributed to PRP failure such as payment delays and performance assessment problems (Park, 2021). Again, employees' view of PRP as a controlling force can play a role in its failure (Liu and Tang 2011; Jacobsen and Jensen 2017; Kim and Bak 2020), poorly-designed plans (Jain and Narayan 2011), inadequate training and monitoring (e.g. Dufflo et al. 2012; Miller et al. 2013), lack of funding (Olafsdottir et al. 2014), organizational politics (Salimäki and Jämsén 2010), issues of individualism vs collectivism (Taylor and Beh 2013; Aoki and Rawat 2020), union influence (Liang and Akiba 2011), and corrupt institutions and mistrust of performance appraisals that allow nepotism, favoritism, and corruption (Salimäki and Jämsén 2010; Lundström 2012; Sundström 2019). Our synthesis indicates that the success of PRP may also depend on organizational factors such as job type and hierarchy, as well as social and economic context, (e.g., collectivist vs. individualist society) and the dominant political environment. Figure 6 gives a comprehensive list of factors that were found to influence PRP schemes either positively or negatively, depending on context.

5.3. Theoretical underpinnings and approaches

The 61 studies featured a wide variety of theories used to inform their methodologies and interpret findings. Twenty-seven research followed specific theories, models, and other disciplines or literature, furthermore, six of these (e.g., Anderson 2009; Georgellis et al. 2011; Bellé, 2015) applied public service motivation theory to investigate the effects of performance-based financial incentives on prosocial motivation. Many studies blended public service motivation with intrinsic and prosocial motivation, while others chose to differentiate PSM from other-regarding motivation in order to advance PSM theory (Bozeman and Su 2015; Steijn and van der Voet 2019). However, Georgellis et al. (2011), using longitudinal data from UK higher education and the National Health Service, found that financial-based incentives

crowded-out intrinsic motivation. Bellé and Cantarelli (2014) found that monetary reward had no significant effect on the work effort of managers in Italian central government, while the relationship between financial incentive and effort was insignificant overall, it was negatively moderated by intrinsic motivation, positively moderated by extrinsic motivation, and unaffected by public service motivation. In another important study, Anderson (2009) concluded that in Danish healthcare, where strong professional norms exist, financial incentives are unimportant. Four studies (Liu and Tang 2011; Stazyk 2013; Meng and Wu 2015; Liang and Langbein 2019) found that PRP combined with public service motivation actually increased individual motivation, effort, and performance, and raised employee perception of policy effectiveness and prevented corruption. Motivation-crowding theory was drawn on in six studies (e.g. Liu and Tang 2011; Stazyk 2013; Mikkelsen et al. 2017; Jacobsen and Jensen 2017). For example, Jacobsen and Jensen (2017) investigated the effects of PRP on employee behavior, and concluded that employee perceptions were crucial. If PRP was perceived as controlling, it tended to undermine intrinsic motivation, whereas if it was viewed as supportive, it did not. Other researchers have reported the crowding-in effect of financial incentives in public administration jobs. Stazyk (2013), for example, found that PRP had a positive effect on public service motivation in US local government, observing that it led to job satisfaction. Likewise, Liu and Tang (2011) questioned whether love of money moderates the relationship between public service motivation and job satisfaction in China, and found that individuals with strong love of money had significantly higher public service motivation and job satisfaction, which supports the crowding-in effect. Only one study (Lohmann et al. 2018) adopted self-determination theory (STD) to investigate the effect of financial incentives on the intrinsic motivation of public healthcare workers in Malawi. Using mixed-methods research, the quantitative component estimated the impact of financial incentives on intrinsic motivation, relying on a controlled pre-and-post-test design. The in-depth interviews gathered subjective

data from the workers about their intrinsic motivation. The results showed that financial incentives did not affect workers' overall intrinsic motivation, with the intervention having had both positive and negative effects on psychological needs satisfaction. Seven of the studies adopted theories from economics (e.g. Lavy 2009; Muralidharan and Sundararaman 2011; Singh 2015), while nine used policy literature (e.g., Chalkley et al. 2010; Sekabaraga et al. 2011; Bhatnagar and George 2016) to study public-sector PRP. We found that certain theories, such as social exchange theory (one study) and principal-agent theory (one study), were seldomly used. In essence, PRP studies depended heavily on motivational theories (e.g. PSM, self-determination, and motivation-crowding theories) and economics theories (e.g. expectancy theory and principal-agent theory). Our SLR, however, points to a theoretical pluralism in studies on PRP in public-sector organizations, with scholars from other disciplines (e.g. policy literature) using common theories in interdisciplinary projects.

5.4. Outcome variables

Our analysis also categorizes the range and nature of outcomes as per research topic relates. A significant amount of research measured affective, psychological, and performance outcomes such as emotional and needs satisfaction (Stazyk 2013; Shen et al. 2017), quality of services (Siriwardena and Steel 2012), team performance (Burgess et al. 2017), work motivation (Kim and Bak 2020), attrition (Jones and Hartney 2017), attraction of quality workforce (Jones and Hartney,2017) and pupil test score (Atkinson 2009; Burgess et al 2010; Lavy 2009). Other outcome variables were stressed in the healthcare industries, including child immunization (Singh, 2015), dental care (Chalkley et al. 2010), individual performance, intrinsic motivation (Duchoslav and Cecchi 2019), healthcare quality (Vaghela et al. 2009), and New Millennium Development Goals (Sekabarage et al. 2011).

These findings indicate that PRP success, as measured by the desired outcomes above, varied widely according to contextual factors. For example, PRP appeared to have a positive

effect on performance in organizations where performance indicators were more transparent, employee/management communication more effective, and where employees had higher faith in the management and performance management system (Miller et al. 2013; Sundström 2019). This was particularly evident in the healthcare and teaching sectors, which tend to feature clear targets. Our analysis also indicates that PRP may have a positive effect on employee attitude, and, in some cases, it satisfied specific psychological needs (Stazyk 2013; Shen et al. 2017; Duchoslav and Cecchi 2019). However, some studies concluded that PRP had no effect on work performance and under some conditions undermined intrinsic motivation (Anderson 2009; Georgellis et al 2011; Bellé and Cantarelli 2014). Interestingly, in non-OECD countries, PRP was sometimes observed to have a positive effect on work motivation, without crowding out intrinsic motivation (Lohmann et al. 2018; Duchoslav and Cecchi 2019). As we have already observed, the effectiveness of PRP on work performance and employee attitude seems to depend on an organization's particular combination of contextual factors, such as industry, job type, position in the hierarchy, pay design, organizational culture, effectiveness of management communication, and cultural and social norms (Bertone et al. 2016; Bhatnagar and George 2016; Burgess et al. 2017; Park 2021). Figure 6 lists the outcomes targeted in the studies we reviewed.

FIGURE 6 ABOUT HERE

6. Emerging gaps and potential for future research on PRP in the public sector

The previous review by Perry et al. (2009) addressed the question of viability of PRP in the public sector. Their recommendations examined the key organizational and contextual

variables in greater detail. Table 2 lists gaps that exist with regard to the theoretical, contextual, methodological, policy, and practical challenges of designing and implementing PRP schemes in the public sector.

TABLE 2 ABOUT HERE

7. Implications and future research directions

Our SLR and analysis of current findings on PRP now enable us to address the third research objective and suggest specific pathways for future research. Table 3 summarizes these and adds comments on their relevance to the field.

TABLE 3 ABOUT HERE

7.1. Theoretical gaps, critique, and avenues for future research

With regard to the theoretical challenges, we observed a substantial lack of consolidated theoretical paradigms. Indeed, public administration and economics scholars have been using these theoretical approaches (public service motivation, expectancy theory, self-determination theory, and motivation-crowding theory) for several decades. In our analysis, we found a small range of promising theories and related literature from different disciplines, including sociology, management, and policy literature which have been adopted into the PRP literature.

In the four decades preceding the 2009 review by Perry et al., public administration asserted that PRP in the public sector was detrimental to employee motivation and performance, although doubts about its effectiveness and appropriacy are likely to have been influenced by prevailing assumptions about the vocational element of public service jobs. Nevertheless, our analysis of more recent studies shows that researchers are much less conclusive about the motivation crowding-out effects of PRP (e.g. Liu and Tang 2011; Stazyk 2013; Kroll and Porumbescu 2019), and several studies found that it may cause a significant rise in work motivation in public-sector contexts (e.g., Lavy 2009; Olafsdottir et al. 2014; Lohmann et al. 2018; Aoki and Rawat 2020).

This review also suggests that adopting other theoretical lenses and using cross-boundary approaches would give depth and nuance to the topic of PRP in the public sector. Although the theories and theoretical approaches highlighted in table 2 are potentially useful in identifying novel constructs and explanations, new interpretational lenses may address in a robust and generalizable way issues pertaining to the PRP debate in the public sector. To that end, researchers can learn from these existing studies and explore as well as examine the boundaries of these theoretical approaches with greater awareness, and use consolidated points and frameworks on which to ground their future research. For instance, there is evidence that the dysfunctional effects and hidden costs of PRP are sufficient to warrant a complete rethink of theoretical assumptions and practical use of PRP (Weibel et al. 2010; Frey et al. 2013). This dysfunctional effect is particularly pertinent to prosocial motivation tasks (Ariely et al 2009; Himmelstein et al. 2014). Future research could usefully examine public organizations in this context to expand existing understanding of motivation in conjunction with other theories. For example, the sociology literature on money might help to clarify specific situations and work environments in which PRP can have a net positive effect on performance (Wenzel et al. 2019). Sociologists' view of money as having affective, symbolic and behavioral components is

particularly relevant in some contexts, e.g., in low pay contexts, positive employee attitude to PRP can produce a positive outcome (Mitchell and Mickel 1999).

Another fruitful avenue is to explore the costs/benefits of PRP in public organizations. One of the main criticisms of the use of PRP in the public sector is that, due to institutional constraints such as budget and economic conditions, public organizations are unable to commit to incremental pay rises that would be high enough to motivate significant improvements in performance. Despite these concerns, recent research seems to indicate that monetary incentive schemes in public organizations are far from declining, rather there is growing enthusiasm for the adoption of PRP in the public sector. To this end, then, a better use of research time might be to explore whether and what other sorts of benefits/costs attach to PRP, given the institutional constraints of public organizations. At a minimum, it seems that recognizing and evaluating how these constraints might matter, i.e., other ways they may shape employee behaviors, is probably more fruitful than another simple crowding study; for example, to find out whether there is evidence that crowding happens. Related to this point, though, is the fact that we really have no idea at what point PRP in the public sector leads to the kind of negative behaviors predicted by critics. In other words, if we are to study crowding effects, we suggest starting by trying to gauge when, on average, PRP reaches a high enough amount to produce harmful crowding effects.

New avenue that merits further exploration is looking at the role of leadership and management style in the success of PRP and its effects on prosocial and intrinsic motivation. Referred by Mikkelsen et al. (2017), management adopt a “hard” approach to enforcing a command system such as financial incentive, teachers’ intrinsic motivation is lower compared to schools where principals choose “soft” action. This suggests that leadership style may play a significant role in the implementation process by determining the size of the crowding effect. As autonomous motivation is positively related to performance, this is an important finding for

all managers (Gagne' and Deci 2005; Ryan and Deci 2002), indicating that they should be aware of the potential negative consequences of "hard" enforcement actions on intrinsic motivation and potentially other role-related factors such as job satisfaction. Thus, future research into leadership style and intrinsic motivation may be beneficial in the context of PRP schemes.

7.2. Role of context, gaps, and future research

Further to theoretical gaps and avenues for future research, we observed that the earlier research on PRP in the public sector concentrated on performance outcomes or employee attitudes, lacking specifications of the contextual variables that might moderate the success of pay-for-performance schemes. Some of the studies in our review sample reveal the role of context and the effects of contextual factors such as local institutions, norms, and culture. Therefore, future research could advance our understanding of the role of context and local dynamics that influence multiple motivation (work motivation, PSM and other-regarded motivations). When assessing employee motivation in the public sector, it is useful to include other important variables that may influence employees' routines. For example, the institutional and culturally embedded logics that moderate or mediate employee work motivation. Besides, it is worth investigating the effects of locally embedded logics (specific institutional dynamics, culture, religion) on PSM and other-regarded motivation (e.g., altruism, prosocial, and intrinsic motivation). In other words, it would be useful to identify the organizational and/or environmental factors that may have a supporting (crowding-in) or controlling (crowding-out) effect on PSM and other-regarding motivation. Our SLR indicates that research in non-OECD countries is still in its infancy (see Table 5), but that studying the contextual factors affecting PRP in such countries could contribute to more holistic understanding regarding how incentives produce better job performance, and aid in the development of policy theory (Aoki and Rawat 2020; George and van der Wal 2023).

7.3. Methodological gaps and avenues for future research

From a research methods perspective, we found that most of the studies in this field used quantitative approaches to gauge PRP effectiveness, but although deductive approaches clarify the relationship of different variables to PRP, they may have limited internal validity and lack contextual realism. We suggest that research into PRP is now at a mature stage and requires a balance of methodological approaches and pluralism to encompass the inductive empirical insights necessary to build a comprehensive theory of PRP (Bellé 2015; Perry et al. 2009). Most of the research to date examines either performance outcomes or employee attitudes, but seldom explores the perception and experience of employees in their social context. PRP theory needs to connect performance outcomes with human agency in ways that usefully inform future policy and decision-making (Gerhart and Fang 2014). Study designs that include case studies, observation, narrative, and grounded theory bring human agency to the fore and can clarify how employee perceptions of PRP are shaped by local institutional and social environments. Table 6 lists a range of important variables and outcomes to be explored in qualitative research. For example, it would be interesting to understand why PRP is more successful in certain public organizations than in others. We would suggest a case study approach using in-depth interviews of employees to explore their individual perceptions of their work motivation and intended effort.

In accordance with this line of inquiry, another important question to ask is whether and why PRP has a supportive or a controlling effect on motivation under certain conditions. We suggest that in-depth interviews and discussions with employees are key to identifying the reasons why financial incentives have such a dual effect on individuals. This could help ascertain the conditions under which PRP is effective or counterproductive. The research should focus on the “how” and the “why”—the essence of qualitative approaches.

Another important observation from our review is that longitudinal studies on PRP in public-sector organizations are few and far between. Our SLR identified only three studies of a longitudinal nature. These focus mainly on the effects of financial reward on employee sorting in the public and private sectors; the design and implementation of PRP in order to evaluate performance targets; and strategies for performance evaluation once PRP schemes have been running for a while. This whole area could benefit from more research utilizing pluralism and methodological sophistication (Pandey 2017; Ritz et al. 2016), but we acknowledge that public administration scholars may be hesitant to conduct longitudinal studies due to higher costs in time and resources. The financial difficulties of designing and implementing long-term research projects may also be compounded by practical problems such as choosing an adequately stable sample population and unexpected changes to pay structures and policies in public-sector organizations (Strich 2017). On the other hand, it could be argued that such constraints need not limit this kind of research, since recent years have witnessed the development of several new research infrastructures that support longitudinal perspectives on public policy and public organizations (Murdoch et al. 2023). Future research could include longitudinal approaches to data gathering to investigate the longer-term effects of PRP on work motivation/PSM, other-related motivation, and performance outcomes. We believe that repeated observations over time could help scholars and practitioners to monitor the effectiveness of PRP schemes. In this context, in-depth interviews with respondents are particularly important in identifying if, how, and why motivation and work effort change over time due to financial incentive.

7.4. Factors affecting the success of PRP

We additionally identify a large number of organizational factors that contribute to the success of PRP. These include high level of trust (Sundström, 2019; Salimäki and Jämsén, 2010), organizational hierarchal position (Park 2021), type of incentive plan (Burgess et al. 2017),

perceived risk behavior (Kim 2010), pay design (Mulvaney et al., 2012), adequate reward (Olafsdottir et al. 2014), procedural fairness in performance management design (Compagni and Tediosi 2012), employee engagement in pay design (Miller et al. 2013; Wenzel et al. 2019; Larsson et al. 2021), effective performance indicators such as subjective vs objective performance (Park 2021), supportive HR practices (Mariani et al. 2021), pay visibility vs pay secrecy (Bellé 2015), link between performance indicators and incentives (Park 2021), and degree of professionalism (Anderson 2009; Duchoslav and Cecchi 2019). It is important to disentangle the relationship between these dimensions of PRP and organizational outcomes by considering the specific conditions under which an incentive system is effective (Bellé 2015).

At the organizational level, the effectiveness of a PRP scheme may depend on the hierarchical position of the employees targeted (Park 2021; Fernandez and Madumo 2022). This line of inquiry could yield fruitful implications for how and where to apply PRP in an organization. Since public employee roles encompass a vast number of occupations, specialisms, and levels of authority, it would be highly useful to identify the specific jobs in which PRP makes the most difference to organizational performance.

At the organizational level, it is likely that PRP schemes are most effective when supported by other empowering practices and organizational objectives (Mariani et al. 2021). For example, Kim's (2010) comparative study found that public employees had a more positive expectation of merit pay under conditions of performance-based rules and risk-taking behavior. Furthermore, positive perceptions of organizational performance increased when employees felt that organizational rules were oriented toward performance and when leaders exhibited greater risk-taking behaviors. Thus, an important direction for future research would be to identify which specific empowerment practices relating to leadership, job enrichment, and job rotation most positively affect PRP success.

With respect to job characteristics and incentive design, we find that PRP plans are more likely to be effective when performance indicators are transparent, well-defined, and properly communicated to employees. In addition, employee input in PRP design has been shown to be key to the effectiveness of schemes. Our analysis shows that this is most evident in the context of healthcare (Vaghela et al. 2009; Chalkley et al. 2010; Miller et al. 2013; Larsson et al. 2021), possibly because healthcare organizations tend to utilize transparent performance indicators. Incentive systems and performance measures need to be analyzed from the perspective of both the employers and the employees. Because healthcare and public-sector employees seem to have different incentive structures to private sector employees, public-sector employers may need to design incentive systems that focus on attractive and competitive pay and benefits as well as psychological support and physical safety in the work environment.

At the organizational level, employee trust in the integrity of management and leadership also plays a pivotal role in the success of PRP (Salimäki and Jämsén 2010). Our study indicates that management favoritism or bias towards employees destroys the element of fairness and equality necessary for well-functioning PRP and leads employees to be mistrustful of bosses, demotivated in their jobs, and susceptible to political interference (Compagni and Tediosi 2012; Sundström 2019; Salimäki and Jämsén 2010). Our analysis indicates that PRP is more effective when supported by other conditional factors i.e., fair treatment by management and minimal political interference. Future research may incorporate other moderating variables such as employees' political skills, engagement in political behaviors, and perception of politics in the change process.

Lastly, our review indicates that most of the studies on PRP in the public sector focus on the analysis of micro-level (organizational level) factors. Widening the net to macro level variables, political stability has been found to positively influence the success of PRP, whereas

changes to government or government priorities can negatively affect funding and budgets, leading to difficulties and failure of financial incentive schemes (Bellé 2015). There is currently a dearth of research investigating the effects of macro-level or environmental factors on pay schemes, and therefore future studies could usefully focus on the significance of wider contextual factors such as political stability, economic stability, job market, poverty and marginalization, institutional mission, and national culture. It would be interesting to draw attention to critical aspects beyond the micro-level that better capture the political meaning of resource allocation, procedural fairness, and role of governance in the successful implementation of PRP schemes. Another area that merits further investigation is how collective values are emphasized in some cultures more than in others, which suggests that PRP may produce more positive outcomes in cultures that value individualism rather than collectivism.

7.5. Individual vs group incentive plan

We found only three public-sector studies that dealt with group level incentives (Burgess et al. 2010; Burgess et al 2017; Park 2021). The findings of these studies indicate that, crucially, while PRP can be very effective in small teams, group-based incentives may result in negative outcomes due to free-riding or “social loafing” (Bandura 1997; Park 2021; Burgess et al. 2017), both terms referring to employees’ tendency to exert less effort if assessed as part of a team rather than as an individual. However, although none of the studies we reviewed explicitly cross-analyzed individual and group-based financial incentives, it would be highly interesting to design a study to discover whether group motivation is more powerful, in terms of performance, than the sum of individual motivations.

7.6. Lessons for practitioners in developing countries

Our review indicates that the recent enthusiasm for adopting PRP schemes in non-OECD countries has yielded positive results in terms of performance and goal achievement (Aoki and

Rawat 2020; George and van der Wal 2023). However, it is not comprehensive enough to draw any definite conclusions, since these positive outcomes may be dependent on the different specific contextual factors. For example, many of the studies took place in healthcare and teaching contexts, where the focus was on fairly narrow types of pay-for-performance with specific, single outcome measures being in terms of preventative care rather than overall patient treatments and outcomes; this is very different to the situation in typical multidimensional public-sector jobs (Powell-Jackson et al. 2015; Singh et al. 2015). Likewise, in teaching, the positive effects of PRP can be attributed to enhanced performance management, strong monitoring mechanisms and specific performance criteria to improve teacher absenteeism (Duflo et al. 2012), as well as to student performance (Muralidharan and Sundararaman 2011). Thus, reformer and practitioner communities need to be cautious in their assessment of PRP outcomes by gauging whether they are the result of financial incentive or of other factors.

Another contextual determiner would be the low public-sector pay that is prevalent in developing countries. As PRP plans provides an additional avenue for hard-working employees to earning a decent living, workers may be more likely to put effort into ensuring its success (Bertone et al. 2016). On the other hand, PRP schemes in developing countries are usually heavily funded by external funders and governments, and any constraints or cuts to budgets may render it impossible to offer enough pay to be effective, as required by the theories of reinforcement (Skinner 1969) and expectancy (Vroom 1965). PRP schemes are theoretically grounded in expectancy and reinforcement theory. Expectancy theory predicts that individuals will exert effort if they believe it will result in an outcome they value. In the case of PRP, employees tend to work harder if they value monetary rewards and believe that those rewards will result from their 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

be used to reinforce desired behaviors such as increased effort and improved performance (Bellé 2015).

The literature (e.g., Perry et al. 2009) indicates that to be effective, a PRP scheme requires local support, conducive environmental conditions (e.g. economic stability, government support) and a robust pay design (e.g. performance management system). Therefore, governments in developing countries need to be cautious about adopting the scheme without assessing their ability to deliver. We contend that PSM-related management practices seem to offer a viable alternative (Papenfuß and Keppeler 2020).

Conclusion and limitations

This systematic literature review of PRP in public-sector organizations synthesizes and analyzes 61 research studies that were published in eleven leading business and management journals between 2009 and 2022. We have looked at trends in the methodologies used, as well as contextuality and functional areas, which helps us to understand the limitations of the current body of work and suggest directions for future research. The analysis indicates that despite controversy around the use of financial-based incentives in the public sector, the number of public organizations introducing PRP has risen considerably over the last decade, a rise that has been partly fueled by its recent adoption in non-OECD countries.

This review provides a deeper understanding of the key variables that are deemed critical to the success of PRP. Specifically, the studies are classified according to (1) antecedents; (2) theoretical underpinning other discipline/approaches; (3) moderating and mediating factors that influence the success or failure of PRP and (4) the nature of outcome variables. This categorization and analysis enable us to propose future research directions in the area of PRP in the public sector. Future empirical researchers could test different combinations of antecedent, mediating and outcome variables. More importantly, our SLR

points out that studies on mediating factors are scant in the research, thus future research could focus on a wider range of mediating factors.

Another important contribution of this review is that it provides an up-to-date picture of the literature and theories of PRP in the public sector and encourages their use in policy, practice and future research. Management theories are rarely mentioned in the literature on public-sector PRP, while psychological, cognitive, and economics theories are those most often drawn upon. This is a significant gap in the research, as it is evident that management theories, as well as other frameworks, could vastly increase our understanding of public-sector PRP. Cross-fertilizing currently-used theories with those from disciplines such as sociology may elucidate how social factors affect both motivation and PRP effectiveness. This review has made a point of examining the burgeoning literature from non-OECD and developing nations, and we anticipate that it will prove useful to policy makers. Practitioners in these countries appear to be increasingly enthusiastic about using performance-based financial incentives in public-sector organizations, mainly to achieve better performance and to eradicate corruption.

Findings indicate that many factors should be considered before implementing PRP in public-sector organizations. These include employee perception of leadership integrity, politics in the organization, corruption, social dynamics (e.g. faith, religion and culture), perceived fairness of performance appraisal, employee perceptions of extrinsic reward, type of organization, nature of tasks, incentive design, communication between employees and management, political will, and pay structure.

Finally, this review offers specific directions for future research into public-sector PRP, based on the gaps we have identified (summarized in tables 2 and 3). The strength of this SLR lies in the adoption of a clear and rigorous approach to the reviewing process in terms of sampling procedures as well the synthesis and analysis of the research. One of its limitations may be that articles were identified only via the JSTOR, WoS, and Google Scholar databases,

which may have resulted in the omission of other relevant research. Similarly, another shortcoming may be the exclusion of conceptual articles and book chapters. Despite these limitations, our SLR captures the state-of-the-art research on recent theoretical propositions concerning PRP in the public sector and includes research arising from multiple disciplines through a structured and critical search protocol. In sum, through the analysis and compilation of recent methodological, theoretical and contextual knowledge, this study has brought to light interesting trends and useful insights, and has identified potentially fruitful avenues for future research.

Data availability statement

The authors confirm that the data supporting the results of the study are available upon request.

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