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PROJECTING PENSION REFORMS IMPACT ON
THE HOMELAND SECURITY ENTERPRISE**

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Monterey, CA; Naval Postgraduate School

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**NAVAL
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MONTEREY, CALIFORNIA

THESIS

**FROM GOLDEN HANDCUFFS TO PIG IRON:
PROJECTING PENSION REFORM'S IMPACT ON THE
HOMELAND SECURITY ENTERPRISE**

by

Jeffrey H. Waldman

December 2019

Co-Advisors:

Thomas D. Young
Lauren S. Fernandez (contractor)

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REFORM'S IMPACT ON THE HOMELAND SECURITY ENTERPRISE**

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Submitted in partial fulfillment of the
requirements for the degree of

**MASTER OF ARTS IN SECURITY STUDIES
(HOMELAND SECURITY AND DEFENSE)**

from the

**NAVAL POSTGRADUATE SCHOOL
December 2019**

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ABSTRACT

The chronic underfunding of numerous public pensions, along with historic capital-market setbacks, has created a public pension debt crisis throughout much of the nation. The depth of this crisis makes pension reform inevitable, and that reform will transform the nature of public-servant compensation in the coming decades. This thesis explores the impact pension reform will have on the effectiveness of public-sector organizations with homeland security missions. To approach this issue, this thesis draws on existing academic literature from a wide range of disciplines, including economics, public administration, organizational behavior, sociology, and social psychology. Emerging from the research is a clear recognition that pension reform will change employee behavior, organizational culture, and the market for human capital through second- and third-order effects. Exactly how such change will play out is not so clear. The thesis turns to scenario-planning techniques to synthesize the diverse literature and provide plausible responses to the question of what pension reform's impact will be within the homeland security domain. The thesis offers three different future outcomes and recommends more robust, collaborative scenario-planning initiatives for which the thesis itself provides a useful launching pad.

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LIST OF ACRONYMS AND ABBREVIATIONS

ARC	annual required contribution
BLS	Bureau of Labor Statistics
CalPERS	California Public Employee Retirement System
CBO	Congressional Budget Office
COLA	cost-of-living adjustment
CRR	Center for Retirement Research at Boston College
CSRDF	Civil Service Retirement and Disability Fund
CSRS	Civil Service Retirement System
DB	defined benefit
DC	defined contribution
ERISA	Employee Retirement Income Security Act of 1974
FEMA	Federal Emergency Management Agency
FERS	Federal Employees' Retirement System
HSE	homeland security enterprise
IAB	Internal Affairs Bureau
IAO	intelligence application officer
NGA	National Governors Association
NASRA	National Association of State Retirement Administrators
NPV	net present value
NCSL	National Conference of State Legislatures
PSM	public service motivation
MCRMC	Military Compensation and Retirement Modernization Commission
NYPD	New York Police Department
ROI	return on investment
SIEPR	Stanford Institute for Economic Policy Research
SJPD	San Jose Police Department
SLG	state and local government
USSS	U.S. Secret Service

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EXECUTIVE SUMMARY

The public sector is in a financial bind. Aggregate pension liabilities exceed assets at all levels of government, and the magnitude of the disparity is staggering. Reforms from the early 1980s put the federal civil servant pension system on a path to financial sustainability, yet despite the early and proactive nature of those reforms, the federal system's unfunded liabilities are not projected to improve significantly for another two decades.¹ At the state and local level, the situation remains daunting. Even under the optimistic investment return assumptions used by pension fund managers, the disparity between liabilities and assets is over a trillion dollars for state and local pensions.² Worse, despite strong investment performance this decade, aggregate state and local pension debt remains at historically high levels, according to Pew Charitable Trusts.³ With or without future shocks to the capital markets, a significant proportion of pension funds appear on a path to insolvency. One way or another—either through proactive pension reform or something more drastic—the pension promises being made to most public servants are going to change.

For many, the story begins and ends there. That is, for many observers anxious about pension debt and reform, the concern lies solely with resolving the financial imbalances. The dilemma for the public sector, however, goes beyond fiscal issues because reform measures alter employee incentives embedded in traditional pension structures. Those incentives drive employee behavior and career choices as well as influence organizational culture. In turn, pension reform will impact organizational effectiveness through second- and third-order effects. If these effects are deleterious for organizations

¹ Office of Personnel Management, *Civil Service Retirement and Disability Fund Annual Report: Fiscal Year Ended September 30, 2016* (Washington, DC: Office of Personnel Management, 2017), 32–33, <https://www.opm.gov/about-us/budget-performance/other-reports/fy-2016-csrdf-annual-report.pdf>.

² “U.S. Pension Tracker,” Stanford Institute for Economic Policy Research, accessed August 13, 2019, <http://us.pensiontracker.org/>.

³ Pew Charitable Trusts, *The State Pension Funding Gap: 2017* (Philadelphia: Pew, 2019), 6, 15, <https://www.pewtrusts.org/-/media/assets/2019/06/statepensionfundinggap.pdf>.

with homeland security missions, then pension reform and the implications thereof warrant the attention of homeland security leaders. Indeed, this dilemma warrants the attention of anyone who depends on public-sector organizations to succeed in critical missions related to public safety, disaster management, and public security.

These concerns raise the question of what impact pension reform will have on the homeland security enterprise. To respond to such a complex question, this thesis employs scenario-planning techniques. Key steps in the development of scenarios involve the identification and categorization of factors that will drive future outcomes. The research effort behind this thesis revealed relevant factors from myriad academic disciplines, including economics, public administration, organizational behavior, sociology, and social psychology. Not surprisingly, robust literature from economics explores the influence of financial incentives on employee behavior. Applicable literature from the other disciplines exists but seems sparse by comparison.

Pension-reform measures wean public servants and the jurisdictions that employ them off the traditional, defined-benefit pension structure. They do this by reducing the value of pension annuities or eliminating such annuities altogether. Viewing this move primarily through an economic prism, existing research suggests pension reform will impact the following:

- Turnover and employee retention
- Labor sorting patterns that drive the quality of workers in homeland security jobs
- Incidence of corruption and on-the-job malfeasance
- Increased wage-based competition among employers for human capital

The implications in these areas represent the second-order effects of pension reform. Third-order effects result from the increased reliance on wage-based competition for human capital. Such competition stands to decompress the wage structure of reforming organizations, which in turn has implications for worker motivation and organizational culture. These second- and third-order effects introduce factors that should be incorporated

into any scenario-planning exercise on the implications of pension reform. Other factors emanate from non-economic perspectives that could short-circuit these second- and third-order effects. Existing academic literature suggests these pertain to the unique motivations of public servants and the work preferences or values of emerging generational cohorts. Such mitigating factors deserve attention, along with broader trends and uncertainties that may be exogenous to the dynamics surrounding employee financial incentives and pension reform.

In line with common scenario-planning techniques, relevant factors can be categorized as predetermined elements—the second- and third-order effects of pension reform—or critical uncertainties. The following tables summarize the factors used in the scenario exercise of this thesis:

Table 1. Predetermined Elements

<i>Predetermined Elements</i>	<i>Order of Effect</i>
<u>Turnover Effects</u> : The degree to which pension reform increases employee turnover.	2nd order
<u>Human Capital Effects</u> : The human capital–related implications from pension reform. These include the quality of entry-level workers, the effectiveness of line employees, and the capabilities of mid- and upper-level management.	2nd order
<u>Wage-Based Competition</u> : The extent to which homeland security organizations need to enhance wages and disperse their pay structures to attract and retain human capital <i>ex post</i> to pension reform.	2nd order
<u>Motivation Crowding</u> : The sensitivity of workers to the crowding out of intrinsic and prosocial motivation in the face of enhanced wages.	3rd order
<u>Intraorganizational Pay Structure Effects</u> : Employee morale and collaboration-related maladies associated with dispersed pay structures and employee perceptions about the fairness underlying their compensation.	3rd order
<u>Corruption Deterrence Effects</u> : The degree to which the removal of pension-related deterrence diminishes the professionalism and ethical standards within homeland security organizations.	2nd order

Table 2. Critical Uncertainties

<i>Critical Uncertainties</i>	<i>Influence on Future Outcomes</i>
Market Performance: Capital market investment performance and volatility over the next two to three decades.	Will drive the type and degree of pension reform necessary to prevent pension fund insolvency.
Pension Politics: Legislative and macro-level policy outcomes that dictate public pension structures.	Will define the options available to jurisdictions seeking to reform their pension systems.
Political Finance of Wage Rivalry: Micro-level political vectors and fiscal limitations related to compensation for public employees.	Will determine how individual jurisdictions engage in wage-based competition for human capital.
Sociological Influences: Social trends influencing the choices, attitudes, and motivational composition of the workforce.	May mitigate the effectiveness of enhanced wages or otherwise short-circuit the predetermined elements.
Technological Evolution: The potential for technological innovations to supplant human capital in the homeland security organizations.	Could influence the degree to which human capital and organizational culture matter in determining organizational effectiveness.

A scenario planner can develop different future outcomes by varying the salience of different factors and imagining how critical uncertainties may change baseline assumptions. For this exercise, the author envisioned three scenarios delineating how things could get better, worse, or weird in the future. The scenarios presented describe the status of the homeland security enterprise a quarter century from now, in 2045. The outcomes can be summarized as follows:

Scenario 1: Centers of Excellence and Centers of Disarray. It depicts a plausible future where all the factors play out in a banal, almost expected manner. As a result, the homeland security enterprise trifurcates by 2045 into first-, second-, and third-tier employers with a commensurate pecking order in terms of mission effectiveness. Things get worse under this scenario because a high proportion of homeland security organizations suffer a loss of effectiveness *ex post* to pension reform.

Scenario 2: A Pension Revolution Unshackles the Labor Market. It depicts a plausible future where developments in the capital market initiate a wholesale abandonment of the public sector’s defined-benefit pension regime. Things get better under this scenario because the benefits of labor mobility throughout the homeland security enterprise are realized by 2045, and non-economic leveling effects prevent the kind of stark divisions found in the first scenario.

Scenario 3: When a Jurisdiction Has to Hire a Rock Star. It depicts a plausible future where technological developments create a new class of worker, and the persistence of traditional pensions in some quarters complicates the pursuit of human capital for employers. Things get weird in this scenario because traditional pensions introduce perverse incentives for this new class of employees, and factors related to organizational behavior provide a comparative advantage to employers with insolvent pension funds.

A central message that emerges from the research and scenario analysis is that pension reform will change the homeland security enterprise, forcing organizations in the enterprise to adapt. Scenario planning can help by enabling leaders to plan for undesirable outcomes and empower them to leverage desired effects. That is not to suggest that the particulars of the scenarios presented here will do that. Rather, it is through a participative process of developing scenarios that leaders can gain foresight and engage in what Kees Van der Heijden calls “strategic conversations.”⁴ Accordingly, the main recommendation here is for further research into the problems presented by pension reform, and the thesis posits that such research will be most valuable for homeland security if it engages collaborative teams of practitioners and emerging leaders in organizations with homeland security missions. This thesis could facilitate such efforts through its exploration of existing academic research and its synthesis of factors that will drive future outcomes.

⁴ Kees Van der Heijden, *Scenarios: The Art of Strategic Conversation* (Chichester, England: John Wiley & Sons, 1996), viii–ix.

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I. INTRODUCTION

In April 2016, the House Committee on Oversight and Government Reform sent a letter to the Director of the U.S. Secret Service (USSS) offering “to assist USSS as it attempts to address the historic attrition problem.”¹ This remarkable letter highlights the negative impact the Secret Service’s “staffing crisis” has had on morale, and it bemoans the idea that this “low morale manifests in further attrition.” The letter’s signatories—Chair Representative Jason Chaffetz (R, Utah) and Representative Elijah Cummings (D, Maryland)—claimed, “The ability of USSS to satisfy its zero-fail mission of protecting the President and other protectees depends on its staffing health.” A year and a half earlier, Pulitzer-winning coverage of the Secret Service by Carol Leonnig identified the abrupt switch in 1983 from a law-enforcement-type retirement plan to a “less generous federal retirement plan” as the seminal factor leading to the service’s current staffing problems and overall decline.²

If Leonnig’s reporting is correct, then the predicament in which the Secret Service finds itself—or, more precisely, the predicament in which the nation finds itself regarding the Secret Service—should concern everyone given the perilous financial condition of many public-sector pension funds. After all, if retirement plan changes could lead to a crisis in a high-profile organization such as the Secret Service, then one must wonder whether similar crises lie in store for the nation elsewhere. Increasingly, jurisdictions at all levels of government are reforming employee pension systems in the interest of financial solvency, so the potential consequences go well beyond this one federal entity. Should pension reform set in motion a dynamic that leads to metastatic staffing problems throughout the public sector, then the effectiveness of entities on which the nation relies to

¹ House Committee on Oversight and Government Reform, “Letter to the Director of the U.S. Secret Service,” April 19, 2016, <https://oversight.house.gov/wp-content/uploads/2016/04/2016-04-19-JEC-EEC-to-Clancy-USSS-Staffing.pdf>.

² Carol Leonnig, “Critical Decisions after 9/11 Led to Slow, Steady Decline in Quality for Secret Service,” *Washington Post*, December 27, 2014, https://www.washingtonpost.com/politics/critical-decisions-after-911-led-to-slow-steady-decline-in-quality-for-secret-service/2014/12/27/48fa3cd6-7f3a-11e4-81fd-8c4814dfa9d7_story.html.

ensure its defense, safety, and resiliency will diminish. This, in turn, stands to diminish or compromise the state of homeland security itself.

Herein lie the problem space and central hypothesis this research effort considers: whether *public pension reform* will ultimately lead to retention and related problems for the governmental organizations engaged in and critical to homeland security. Should this problem manifest, the resulting loss of critical *human capital* will negatively impact the continuity of operations in and the organizational effectiveness of those entities.³ In addition, pension reform will alter an organization's compensation structure, and such change may also impact the norms, values, and behavior of the organization itself.⁴ The thrust of this thesis is to synthesize disparate areas of prior academic research to illuminate the implications of pension reform for homeland security. Such an exploration may enable the nation's leaders to mitigate negative effects or leverage positive ones. In turn, this will serve to further the nation's broad-based, post-9/11 priority on homeland security.

As a starting point, consider the generally tenuous financial condition of public employee pension systems throughout the United States. The remarkable "pension debt" of these systems makes reform or overhaul seem prudent, necessary, and inevitable.⁵ At the federal level, fiscal realities led to fundamental changes in the civil servant retirement system four decades ago. Such change, however, has only just begun to take hold at the state and local government (SLG) level. Given that there are thousands of different SLG pension systems in the United States, the timing, severity, and specific measures taken in the name of pension reform will vary in uncertain ways. In aggregate, however, the type of pension system overhaul underway involves a shift away from defined-benefit plans to less

³ Llorens succinctly defines human capital as "the knowledge, skills or abilities possessed by an individual or workforce." Jared J. Llorens, "Fiscally Driven Compensation Reform and Threats to Human Capital Capacity in the Public Sector," *International Journal of Organization Theory and Behavior* 18, no. 1 (Spring 2015): 23.

⁴ For a discussion on how employee compensation and rewards systems influence organizational norms and values, see Jeffrey Kerr and John W. Slocum Jr., "Managing Corporate Culture through Reward Systems," *Academy of Management Executive* 1, no. 2 (May 1987): 99–108.

⁵ "U.S. Pension Tracker," Stanford Institute for Economic Policy Research, accessed August 13, 2019, <http://us.pensiontracker.org/>. This site contains the most current available data showing the debt of public employee pension systems.

lucrative annuities or defined-contribution retirement accounts. The effect will be to shift financial risk from the employer to the employee.⁶ More significantly, such reform involves a change from retirement instruments that incentivize employee retention to instruments that are “portable” in that they allow employees to move from one employer to the next without financial penalty.

Applying the concepts of *personnel economics* pioneered by economist Edward Lazear, such a change in the incentive structure should drive employee turnover higher.⁷ This inference from Lazear’s economic theories is supported by empirical evidence from civil service turnover rates following a fundamental change in the federal pension system.⁸ This thesis, however, looks beyond turnover rates and predictions drawn from Lazear’s work. It considers whether the potential loss of human capital will be evenly distributed within public-sector entities or whether individuals with higher levels of education are more vulnerable. To be thorough, this thesis also examines the potential implications such turnover will have for the effectiveness of the organizations involved; it explores whether they stand to suffer a “brain drain” or other maladies beyond a mere increase in turnover.

While economics offers compelling insights about the human capital implications of pension reform, other academic disciplines offer counterarguments and caveats vis-à-vis the application of economic theory to the behavior of public servants. Accordingly, this thesis looks to scholarly work from fields such as public administration, sociology, social psychology, and organizational behavior for additional insight into how pension reform may ultimately impact the effectiveness of organizations with homeland security

⁶ Keith Brainard and Alex Brown, *Significant Reforms to State Retirement Systems*, Spotlight On (Lexington, KY: National Association of State Retirement Administrators, 2016), 6, <http://www.nasra.org/files/Spotlight/Significant%20Reforms.pdf>.

⁷ Edward Lazear, “Pensions and Deferred Benefits as Strategic Compensation,” *Industrial Relations: A Journal of Economy and Society* 29, no. 2 (Spring 1990): 263–264, 269–275; Edward P. Lazear and Kathryn L. Shaw, “Personnel Economics: The Economist’s View of Human Resources,” *Journal of Economic Perspectives* 21, no. 4 (Fall 2007): 91–93, 102–105, <https://doi.org/10.1257/jep.21.4.91>.

⁸ Gregory B. Lewis and Rayna L. Stoycheva, “Does Pension Plan Structure Affect Turnover Patterns?” *Journal of Public Administration Research and Theory* 26, no. 4 (October 2016): 787–799, <https://doi.org/10.1093/jopart/muw035>.

missions.⁹ This research effort draws from an array of academic disciplines to highlight consequences of pension reform that may be underappreciated to date. Though tangible solutions are elusive, the research and synthesis presented here should at least guide current and future leaders to confront the pitfalls of pension reform that reportedly have afflicted the Secret Service.

A. RESEARCH QUESTION

What impact will pension reform have on public-sector organizations with homeland security missions?

B. RESEARCH DESIGN

This is a complex question. It embodies what Rittel and Webber would call a “wicked problem” that defies a definitive or testable solution.¹⁰ Responding to it will necessarily involve some conjecture, so the tenor of this thesis is speculative in nature. Even the subject’s starting point—the commonly held predictions about the nature of public sector pension reform—involves some degree of speculation. *Scenario planning*, as pioneered by Herman Kahn for the U.S. Air Force after World War II and Pierre Wack at Royal Dutch/Shell starting in the mid-1960s, offers a disciplined way to work through wicked problems that involve such uncertainty.¹¹ This thesis employs a scenario-planning approach to address the research question.

⁹Organizational effectiveness in the context of this thesis refers to the ability of an organization to achieve outcomes. For an alternative definition and list of other references that provide a more complete discussion of organizational effectiveness in both for-profit and nonprofit settings, see David Jacobs, “Toward a Theory of Mobility and Behavior in Organizations: An Inquiry into the Consequences of Some Relationships between Individual Performance and Organizational Success,” *American Journal of Sociology* 87, no. 3 (November 1981): 686–687, <https://doi.org/10.1086/227500>.

¹⁰Horst W. J. Rittel and Melvin M. Webber, “Dilemmas in a General Theory of Planning,” *Policy Sciences* 4, no. 2 (June 1973): 160–161, <https://doi.org/10.1007/BF01405730>; “What’s a Wicked Problem?” Stony Brook University, accessed July 31, 2019, <https://www.stonybrook.edu/commcms/wicked-problem/about/What-is-a-wicked-problem>.

¹¹Peter Schwartz, *The Art of the Long View* (New York: Doubleday, 1991), 4–9; Kees Van der Heijden, *Scenarios: The Art of Strategic Conversation* (Chichester, England: John Wiley & Sons, 1996), 15–16.

Within the Department of Homeland Security, scenario planning has been used by the Federal Emergency Management Agency (FEMA). Through FEMA's Strategic Foresight Initiative, scenario-based strategic planning has been used to conceive, develop, and delineate a "range of possible alternative futures, known as scenarios."¹² In the context of FEMA's Strategic Foresight Initiative, scenarios are "detailed, systematically developed descriptions of operating environments that an organization may face over the next 20 years or longer."¹³ In the context of this thesis, the timeframe is the same, and the scenarios describe the environment as it pertains to human capital, employee behavior, and organizational culture for organizations with homeland security missions at all levels of government.

It should be emphasized that the goal in using scenarios is not to quantitatively forecast outcomes or to stipulate "accurate pictures of tomorrow" in the words of Peter Schwartz; the intent is to provide policymakers with tools for improved decision making.¹⁴ Kees Van der Heijden frames the intent of this approach as follows: "Scenario planning relies not on probability but on qualitative causal thinking. As such it appeals more to the intuitive needs of the typical decision-makers in their search for enhanced understanding of the changing structures in society."¹⁵ Therefore, the value of answers provided through this thesis lies less in the predictive nature of the individual scenarios and more in the identification, exploration, and synthesis of potential second- and third-order effects stemming from pension reform.¹⁶

¹² Federal Emergency Management Agency, *Foresight Workshop How-to Guide* (Washington, DC: Federal Emergency Management Agency, 2015), 2, <https://www.fema.gov/media-library/assets/documents/103643>.

¹³ Federal Emergency Management Agency, 2.

¹⁴ Schwartz, *The Art of the Long View*, 4–9.

¹⁵ Van der Heijden, *Scenarios: The Art of Strategic Conversation*, 15.

¹⁶ Michael G. Miller, "Thinking about Second & Third Order Effects: A Sample (and Simple) Methodology," *IO Sphere*, summer 2006, 36–39, http://www.au.af.mil/info-ops/iosphere/iosphere_summer06_miller.pdf.

The key to this kind of analysis lies in the identification of driving forces—*factors*—that determine possible future outcomes. In Schwartz’s view, factors may emerge from a broad array of influences, which may be social, technological, economic, political, or environmental.¹⁷ Further, under traditional scenario analysis techniques, such factors, once identified, are categorized as either *predetermined elements* or *critical uncertainties* to facilitate in the construction of scenarios.¹⁸ Pierre Wack defines predetermined elements as “those events that have already occurred (or that almost certainly will occur) but whose consequences have not yet unfolded.”¹⁹ While the existence of so-called predetermined elements seems to suggest that a scenario-planning exercise could produce a predictive result, Van der Heijden cautions that “while the overall direction of movement may be predetermined the specific outcomes may be highly uncertain.”²⁰ The bulk of the research and analysis in this thesis is concerned with the exploration of predetermined elements. The identification of critical uncertainties and the weighting of individual factors are reserved for the conclusive chapters.

In common practice, scenario planning and analysis involve the collaborative effort of a team of people with subject-matter expertise from diverse disciplines.²¹ One reason for this is to incorporate informed intuition or “gut feel” into the development of scenarios.²² This exposes a potential shortcoming for the scenario analysis presented here because, by definition, a thesis is an individual effort. Mitigating this shortcoming, however, is the author’s commitment to draw from a diverse array of perspectives.

¹⁷ Schwartz, *The Art of the Long View*, 106–113.

¹⁸ Schwartz, *The Art of the Long View*, 113–123; Van der Heijden, *Scenarios: The Art of Strategic Conversation*, 86–88; Pierre Wack, “Scenarios: Uncharted Waters Ahead,” *Harvard Business Review* 63, no. 5 (October 1985): 76–77; Pierre Wack, “Scenarios: Shooting the Rapids,” *Harvard Business Review* 63, no. 6 (December 1985): 140.

¹⁹ Wack, “Scenarios: Uncharted Waters Ahead,” 77.

²⁰ Van der Heijden, *Scenarios: The Art of Strategic Conversation*, 87.

²¹ Schwartz, *The Art of the Long View*, 108, 234; Hannah Kosow and Robert Gaßner, *Methods of Future and Scenario Analysis: Overview, Assessment, and Selection Criteria*, Studies 39 (Bonn, Germany: German Development Institute, 2008), 1.

²² Kosow and Gaßner, *Methods of Future and Scenario Analysis*, 63.

Furthermore, because the author of this thesis is not an expert in the fields of inquiry—not an actuary, financier, public administrator, or social scientist—the sources of research and data used in this thesis come predominantly from peer-reviewed academic literature.²³ This seems the most effective way to develop credible scenarios.

Kosow and Gaßner stipulate that identifying the target audience is an essential element for any scenario analysis.²⁴ For this thesis, the primary target audience is current policymakers and practitioners (i.e., future leaders) in public-sector organizations with homeland security mission sets (hereinafter “the homeland security enterprise”). These career public servants will be positioned to adapt this enterprise as pension reform takes shape. In Schwartz’s words, “Scenarios can help people make better decisions—usually difficult decisions—that they would otherwise miss or deny.”²⁵ Thus, to the extent that this thesis resonates with this target audience, the research and analysis presented here may ultimately have positive implications for the security of the homeland. For similar reasons, a second target audience is elected leaders and political appointees, particularly at the state and local levels of government. Not only do these officials hold the ultimate responsibility of overseeing the homeland security enterprise, but they also oversee the pension funds that compensate the enterprise’s workforce; this gives them the unique opportunity to guide the trajectory of pension reform in ways that may minimize its potential pitfalls.

As mentioned, when contemplating scenarios, Schwartz suggests looking for factors with social, technological, economic, political, or environmental origins. For this subject, the most relevant sources seem to originate from (1) financial constraints, (2) labor market dynamics, and (3) organizational behavior. Accordingly, the thesis is organized along these lines with Chapter III exploring factors emanating from finance, accounting,

²³ While the author is not a credentialed expert, his professional and academic background provides some perspective. That background includes masters-level academic work in business administration and professional experience in both the private sector (general management consulting and the airline industry) and the public sector. As an Air Force officer and dual-status military technician (per 10 U.S.C. § 10216), the author has direct personal experience with two federal-level retirement systems—civil service and military—and experience leading employees covered under each of these.

²⁴ Kosow and Gaßner, *Methods of Future and Scenario Analysis*, 2–3.

²⁵ Schwartz, *The Art of the Long View*, 4.

and actuarial science; Chapter IV exploring factors related to labor economics; and Chapter V exploring organizational behavior factors. These three chapters may hold unique value for the target audience because they delineate consequences of pension reform that people outside of academia might not consider. The thesis closes with a scenario exercise presented in its conclusive chapters.

C. HOMELAND SECURITY FOCUS

A profound concern over the future effectiveness of the homeland security enterprise underlies this research effort. Readers should keep the following points in mind in subsequent chapters:

1. The nation relies predominantly on public-sector organizations to provide for the safety, security, and resiliency of its communities. In short, it is public employees who bear the primary responsibility for homeland security.
2. The vast majority of public servants participate in defined-benefit (DB) pension plans, which promise a predefined income stream upon the completion of a career. As of March 2017, the Bureau of Labor Statistics reports that 74 percent of SLG public-sector workers participate in such plans versus just 15 percent in the private sector.²⁶
3. A significant portion of a career public employees' post-retirement and overall lifetime compensation is tied up in such DB arrangements. For example, under typical police and firefighter pension plans, 30-year career employees expect to receive an income equivalent of 60–90 percent of their final salary, and employees at the upper end of this band do not have

²⁶ Bureau of Labor Statistics, *National Compensation Survey: Employee Benefits in the United States, March 2017*, Bulletin 2787 (Washington, DC: Bureau of Labor Statistics, 2017), Table 2, <https://www.bls.gov/ncs/ebs/benefits/2017/ebbl0061.pdf>. Note that aggregate rates of employee access to defined-benefit pensions are slightly higher participation rates—86 percent for SLG and 18 percent for private industry.

access to Social Security benefits.²⁷ Thus, it is reasonable to expect that employee decisions and behavior are heavily influenced by such DB pension compensation.

4. As reported in the *Wall Street Journal* in 2017, at the state and local levels of government, “police pensions are among the worst funded in the nation.”²⁸ Therefore, looking to the future, it seems inevitable that police pension arrangements, in particular, must change.

Taken together, these four points expose the nexus between pension reform and homeland security. They also signal the need for all stakeholders to be wary as the public sector’s retirement system changes. Should reforms substantially and fundamentally shift in the way we attract, compensate, and incentivize the nation’s public safety, disaster management, and public security professionals, then there will be consequences for organizations in the homeland security enterprise.

Notably, pension reform will not exclusively impact public-sector organizations with homeland security–related missions. Indeed, public pension reform will also impact teachers, building inspectors, urban planners, sanitation officials, and a host of other public servants along with the organizations in which they serve. This thesis makes no claim of exclusivity in this regard. Stakeholders interested in other functions of government may also find value in much of the research and analysis presented in these pages. Nevertheless, the focus of this thesis lies in the domain of homeland security, where the imperatives to prevail are especially urgent. These imperatives make viewing the impact of pension reform through a lens trained on the homeland security enterprise particularly compelling because such an endeavor could benefit the state of homeland security itself.

²⁷ Olivia S. Mitchell et al., “Developments in State and Local Pension Plans,” in *Pensions in the Public Sector*, ed. Olivia S. Mitchell and Edwin C. Husted (Philadelphia: University of Pennsylvania Press, 2001), 15–16, 20.

²⁸ Heather Gillers and Zusha Elinson, “Ill-Funded Police Pensions Put Cities in a Bind,” *Wall Street Journal*, July 4, 2017, <https://www.wsj.com/articles/ill-funded-police-pensions-put-cities-in-a-bind1499180342>.

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II. LITERATURE REVIEW

This effort draws extensively from peer-reviewed academic literature from a multitude of academic disciplines. This literature review is intended to show the depth and limits of the sources currently available. It is organized along general lines of inquiry that, once explored through the thesis, provide a firm foundation from which to speculate about outcomes through scenarios. These general lines of inquiry include the following:

- A. Public pension benefit structure, finance, and reform
- B. Economic incentives and labor market dynamics
- C. Non-economic work motivation
- D. The influence of compensation structure on organizational behavior
- E. Futurology and scenario-planning techniques

A. PENSION STRUCTURE, FINANCE, AND REFORM

A number of well-founded articles and other publications explain the features of different retirement systems serving public-sector workers (hereinafter “public pensions”) and provide historical background on public pension reform to date. Among these publications are works by academics Mitchell and Husted, Hyde and Naff, and sections of a remarkably broad and thorough study by Bailey and Kirkegaard.²⁹ Publications from the National Association of State Retirement Administrators (NASRA) and a broad array of think tanks, including the Brookings Institution, Employee Benefit Research Institute, RAND Corporation, Urban Institute, and American Enterprise Institute, also provide

²⁹ Mitchell et al., “Developments in State and Local Pension Plans,” 11–40; Albert C. Hyde and Katherine C. Naff, “Public Sector Pensions and Benefits: Challenges in a New Environment,” in *Public Personnel Management: Current Concerns, Future Challenges*, ed. Norma M. Riccucci, 5th ed. (Boston: Longman, 2012), 157–172; Martin Neil Baily and Jacob Funk Kirkegaard, *U.S. Pension Reform: Lessons from Other Countries* (Washington, DC: Peterson Institute for International Economics, 2009), 175–204, 212–218, 382–386.

perspectives on public pension features and history.³⁰ Governmental sources provide more detailed information and excellent, authoritative analyses on the subject of public pensions; prominent among these are reports from the Congressional Research Service, Congressional Budget Office, Government Accountability Office, Office of Management and Budget, Bureau of Labor Statistics (BLS), and the Office of Personnel Management.³¹

Most of the sources cited in the previous paragraph include data and analysis on public pension funding and finances. For recurring assessments of the financial well-being of SLG-level pension funds across the nation, the NASRA publishes useful statistics in its annual *Public Fund Survey*, and Pew Charitable Trusts offers periodic assessments that

³⁰ Examples include the following: Brainard and Brown, *Significant Reforms to State Retirement Systems*; William G. Gale, Sarah E. Holmes, and David C. John, *Public Pensions in Flux: Can the Federal Government's Experiences Inform State Responses?* (Washington, DC: Brookings Institution, 2016), https://www.brookings.edu/wp-content/uploads/2016/07/galeholmesjohn_CSRSandFERS_03092016_DP_BK-1.pdf; Ruth Helman, Craig Copeland, and Jack VanDerhei, *The 2016 Retirement Confidence Survey: Worker Confidence Stable, Retiree Confidence Continues to Increase*, Issue Brief 422 (Washington, DC: Employee Benefit Research Institute, 2016), https://www.ebri.org/pdf/briefspdf/ebri_ib_422.mar16.rcs.pdf; Beth J. Asch and John T. Warner, *Separation and Retirement Incentives in the Federal Civil Service: A Comparison of the Federal Employees Retirement System and the Civil Service Retirement System* (Santa Monica, CA: RAND Corporation, 1999), https://www.rand.org/pubs/monograph_reports/MR986.html; Richard W. Johnson et al., *How Long Must State and Local Employees Work to Accumulate Pension Benefits?*, Public Pension Project Brief 1 (Washington, DC: Urban Institute, 2014), <https://www.urban.org/sites/default/files/publication/22571/413107-How-Long-Must-State-and-Local-Employees-Work-to-Accumulate-Pension-Benefits-.PDF>; Andrew G. Biggs, *Not So Modest: Pension Benefits for Full-Career State Government Employees*, AEI Economic Perspectives (Washington, DC: American Enterprise Institute for Public Policy Research, 2014), https://www.aei.org/wp-content/uploads/2014/03/-aei-economic-perspective-march-2014_160053300510.pdf.

³¹ Jennifer Staman, *State and Local Pension Plans and Fiscal Distress: A Legal Overview*, CRS Report R41736 (Washington, DC: Congressional Research Service, 2011), <https://fas.org/sgp/crs/misc/R41773.pdf>; Congressional Budget Office, *Comparing the Compensation of Federal and Private-Sector Employees, 2011 to 2015* (Washington, DC: Congressional Budget Office, 2017), <https://www.cbo.gov/publication/52637>; Government Accountability Office, *State and Local Government Pension Plans: Economic Downturn Spurs Efforts to Address Costs and Sustainability*, GAO-12-322 (Washington, DC: Government Accountability Office, 2012), <https://www.gao.gov/assets/590/589043.pdf>; Office of Management and Budget, *Analytical Perspectives: Budget of the U.S. Government, Fiscal Year 2010* (Washington, DC: Government Printing Office, 2009), <https://www.govinfo.gov/content/pkg/BUDGET-2010-PER/pdf/BUDGET-2010-PER.pdf>; Bureau of Labor Statistics, *National Compensation Survey*; Office of Personnel Management, *Civil Service Retirement and Disability Fund Annual Report: Fiscal Year Ended September 30, 2016* (Washington, DC: Office of Personnel Management, 2017), <https://www.opm.gov/about-us/budget-performance/other-reports/fy-2016-csrdf-annual-report.pdf>.

identify which state funds have the best and worst funding ratios.³² A particularly useful tool for analyzing current pension fund finances is an online pension tracker promulgated by the Stanford Institute for Economic Policy Research (SIEPR).³³ Through this tracker, SIEPR digests BLS pension funding data for all 50 states, and for California, it drills down further, enabling a researcher to break out funding data at the city, county, and special district level. These tools and assessments focus on the current state of affairs in pension finances at the SLG level. For a forward-looking assessment of the public sector's pension health, a remarkable article was published in 2013 by Alicia Munnell and her colleagues at the Center for Retirement Research at Boston College (CRR).³⁴ CRR's work touches on a number of topics germane to this thesis. The primary channel for distribution of CRR research is working papers published through the center's website.³⁵ Furthermore, in collaboration with NASRA and the Center for State and Local Government Excellence, CRR maintains a database of public pension plan financial data. This database can be accessed online, similar to the one maintained by SIEPR, and it "includes financial data on 126 large state and local defined-benefit plans covering more than 85 percent of total state and local government pension assets and members," according to the Government Accountability Office.³⁶

³² "Public Fund Survey: Summary of Findings for FY 2017," National Association of State Retirement Administrators, November 2018, <https://www.nasra.org/publicfundsurvey>; Pew Charitable Trusts, *The State Pension Funding Gap: 2017* (Philadelphia: Pew, 2019), <https://www.pewtrusts.org/-/media/assets/2019/06/statepensionfundinggap.pdf>.

³³ Stanford Institute for Economic Policy Research, "U.S. Pension Tracker."

³⁴ Alicia H. Munnell et al., *State and Local Pension Costs: Pre-Crisis, Post-Crisis, and Post-Reform* (Chestnut Hill, MA: Center for Retirement Research at Boston College, 2013), http://crr.bc.edu/wp-content/uploads/2013/03/slp_30.pdf.

³⁵ Gene Hayworth, "Center for Retirement Research," *Journal of Business & Finance Librarianship* 13, no. 4 (August 2008): 491, <https://doi.org/10.1080/08963560802202342>; "Working Papers," Center for Retirement Research at Boston College, accessed September 22, 2018, <http://crr.bc.edu/category/working-papers/>.

³⁶ Government Accountability Office, *State and Local Government Pension Plans*, 2.

On the subject of public pension reform trends, the NASRA, again, provides an excellent synopsis.³⁷ The most current aggregations of state-level pension reform legislation come from the National Conference of State Legislatures (NCSL); through 2012, Ron Snell from the NCSL published annual synopses of pension legislation, and since then, NCSL has provided legislative data via regularly updated online means.³⁸ The NCSL synopses seem particularly well-regarded; multiple sources, including Pew Charitable Trusts, the Government Accountability Office, Bailey and Kirkegaard, and academics such as economist Thom Reilly and accounting scholar Adriana Cordis, look to the NCSL for data on SLG-level pension reform initiatives.³⁹

Overall, for the researcher interested in assessing the nation's current pension predicament, there is a voluminous body of high-quality research and data from research institutes, professional associations, academic institutions, and government agencies. Perhaps because the conditions behind this predicament are fluid and fast-evolving, a number of credible institutions have made their data available to the public in a regularly updated, online format.

B. ECONOMIC INCENTIVES AND LABOR MARKET DYNAMICS

The economic incentives embedded in the public sector's compensation structure will change as a result of pension reform. How workers will make choices and behave in

³⁷ Brainard and Brown, *Significant Reforms to State Retirement Systems*.

³⁸ Ron Snell, *Pensions and Retirement Plan Enactments in 2012 State Legislatures* (Denver: National Conference of State Legislatures, 2013), http://www.ncsl.org/documents/fiscal/2012_pension_summary.pdf; "Pension and Retirement Legislation Information by State," National Conference of State Legislatures, last modified March 11, 2019, <http://www.ncsl.org/research/fiscal-policy/pension-legislation-database.aspx>.

³⁹ Government Accountability Office, *State and Local Government Pension Plans*, 2; Pew Center on the States, "The Widening Gap Update," Issue Brief (Philadelphia: Pew Center on the States, June 2012), http://www.pewtrusts.org/~media/legacy/uploadedfiles/pes_assets/2012/pewpensionsupdatepdf.pdf; Baily and Kirkegaard, *U.S. Pension Reform: Lessons from Other Countries*; Thom Reilly, "Comparing Public-versus-Private Sector Pay and Benefits: Examining Lifetime Compensation," *Public Personnel Management* 42, no. 4 (December 2013): 521–544, <https://doi.org/10.1177/0091026013505504>; Adriana Cordis, "An Analysis of Public Pension Systems Reforms" (paper presented at the Ninth Annual SC Upstate Research Symposium, Spartanburg, SC, 2013), <https://www.uscupstate.edu/globalassets/academics/sponsored-awards-and-research-support/final-draft-2013.pdf>.

the face of such change is central to the research question of this thesis. The academic field of *personnel economics*—a branch of labor economics—explores extensively how compensation affects workers’ behavior and decision making and how “employers find the right workers,” so it offers critical insights for this thesis.⁴⁰ Personnel economics uses microeconomic methods, principal-agent theory, and human capital theory, among other concepts, to analyze human resources mostly from an employer’s perspective.⁴¹ Economist Edward Lazear founded this unique branch of economics, and his work is referenced widely in academic literature that explores labor supply and the influence of financial incentives. Seminal articles from Lazear are particularly useful in the context of this thesis as they offer multiple economic arguments that project the effects of diminished DB pensions.⁴²

The empirical side of Lazear’s writings focuses on the private sector, so the challenge for the researcher is to find empirical tests of personnel economic theory in public-sector contexts. For the public sector, analyses by economist Richard Ippolito and public policy scholars Lewis and Stoycheva prove particularly useful in considering worker attrition rates and tenure patterns; both examine changing federal employee turnover rates following a significant 1980s reform of the federal pension system.⁴³ Lewis and Stoycheva contrast their findings with earlier works that were more limited in scope by Beth Asch and

⁴⁰ Edward P. Lazear and Paul Oyer, “Personnel Economics,” Working Paper 13480 (Cambridge, MA: National Bureau of Economic Research, 2007), 1–2, <http://www.nber.org/papers/w13480>.

⁴¹ Alexander Dilger, “Personnel Economics: Strengths, Weaknesses and Its Place in Human Resource Management,” *Management Revue* 22, no. 4 (August 2011): 332, https://doi.org/10.1688/1861-9908_mrev_2011_04_Dilger.

⁴² Examples include Lazear, “Pensions and Deferred Benefits as Strategic Compensation”; Edward P. Lazear, “Pay Equality and Industrial Politics,” *Journal of Political Economy* 97, no. 3 (1989): 561–580; Edward P. Lazear, “Pensions and Turnover,” in *Pensions in the U.S. Economy*, ed. Zvi Bodie, John B. Shoven, and David A. Wise (Chicago: University of Chicago Press, 1988), 163–90.

⁴³ Richard A. Ippolito, “Stayers as ‘Workers’ and ‘Savers’: Toward Reconciling the Pension-Quit Literature,” *Journal of Human Resources* 37, no. 2 (Spring 2002): 275–308, <https://doi.org/10.2307/3069648>; Lewis and Stoycheva, “Does Pension Plan Structure Affect Turnover Patterns?”

her colleagues.⁴⁴ Asch is a frequent writer on the subject of how compensation affects the retention of public employees, but most of her work focuses exclusively on the Department of Defense’s workforce. The most recent contributions from Asch and her colleagues at RAND involve models predicting employee retention in the face of civil-service compensation changes and the military’s new “blended” retirement system.⁴⁵ While a healthy body of analysis examines the retention effects of pensions within the federal workforce, research targeting the SLG level seems sparse in the literature. This likely has to do with data challenges and the fact that pension reform has been late in coming to the SLG level.

The shifts in economic incentives brought about by pension reform will have myriad implications for the public-sector workforce. As discussed, Lewis and Stoycheva along with Ippolito concentrate on the implications related to turnover. Other effects involve (1) worker quality and (2) human capital. In these two areas, well-founded research in academic literature provides useful insight and analysis:

1. Economists often assess worker quality as a function of “sorting” or “selection” effects.⁴⁶ The role pensions play in sorting high-quality workers into the public sector is explored, separately, in articles by Ippolito, Borjas, and Munnell’s team at CRR. All three of these analyses

⁴⁴ Lewis and Stoycheva, “Does Pension Plan Structure Affect Turnover Patterns?” 790; Asch and Warner, *Separation and Retirement Incentives in the Federal Civil Service*; Beth Asch, Steven J. Haider, and Julie M. Zissimopoulos, “The Retirement Behavior of Federal Civil Service Workers,” Working Paper, WP 2002-026 (Ann Arbor: Michigan Retirement Research Center, 2002), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1088771; Beth Asch, Steven J. Haider, and Julie Zissimopoulos, “Financial Incentives and Retirement: Evidence from Federal Civil Service Workers,” *Journal of Public Economics* 89, no. 2–3 (February 2005): 427–40, <https://doi.org/10.1016/j.jpubeco.2003.12.006>.

⁴⁵ David Knapp et al., *An Enhanced Capability to Model How Compensation Policy Affects DoD Civil Service Retention and Cost* (Santa Monica, CA: RAND Corporation, 2016), http://www.rand.org/content/dam/rand/pubs/research_reports/RR1500/RR1503/RAND_RR1503.pdf; Beth J. Asch, Michael G. Mattock, and James Hosek, *The Blended Retirement System: Retention Effects and Continuation Pay Cost Estimates for the Armed Services* (Santa Monica, CA: RAND Corporation, 2017), https://www.rand.org/pubs/research_reports/RR1887.html.

⁴⁶ Joanne Salop and Steven Salop, “Self-Selection and Turnover in the Labor Market,” *Quarterly Journal of Economics* 90, no. 4 (1976): 619–627, <https://doi.org/10.2307/1885325>; Lazear and Oyer, “Personnel Economics,” 18.

prove useful in addressing the research question posed in this thesis, and all three suggest that existing DB pension regimes help the public sector attract a high-quality workforce.⁴⁷

2. With respect to human capital, foundational work by Nobel Laureate Gary S. Becker provides a theoretical foundation, and abundant literature establishes the significance of human capital as a determiner of organizational effectiveness.⁴⁸ Within this arena, a 2015 article published by public administration scholar Jared Llorens is instrumental to the problem space addressed in this thesis.⁴⁹ Llorens posits that new pension reforms at the SLG level may substantially weaken public-sector human capital capacity. He explores the relative wage-competitiveness of the public sector vis-à-vis the private sector to explain how the former has relied on a DB pension regime to attract and retain human capital. Among Lloren's conclusions is the suggestion that public entities will need to enhance salaries to compete effectively in the labor market.

In addition to shifting incentives, pension reform will change the public sector's compensation structure in ways that facilitate increased mobility in the public-sector labor

⁴⁷ Ippolito, "Stayers as 'Workers' and 'Savers'; George J. Borjas, "The Wage Structure and the Sorting of Workers into the Public Sector," Working Paper 9313 (Cambridge, MA: National Bureau of Economic Research, 2002), <https://doi.org/10.3386/w9313>; Alicia H. Munnell, Jean-Pierre Aubry, and Geoffrey T. Sanzenbacher, "Recruiting and Retaining High-Quality State and Local Workers: Do Pensions Matter?," Working Paper CRR WP 2015-1 (Chestnut Hill, MA: Center for Retirement Research at Boston College, 2015), http://crr.bc.edu/wp-content/uploads/2015/01/wp_2015-1.pdf.

⁴⁸ Gary S. Becker, *Human Capital: A Theoretical and Empirical Analysis with Special Reference to Education*, 3rd ed. (Chicago: University of Chicago Press, 1993); T. Russell Crook et al., "Does Human Capital Matter? A Meta-Analysis of the Relationship between Human Capital and Firm Performance," *Journal of Applied Psychology* 96, no. 3 (2011): 443–456, <https://doi.org/10.1037/a0022147>; Julie I. Hancock et al., "Meta-Analytic Review of Employee Turnover as a Predictor of Firm Performance," *Journal of Management* 39, no. 3 (March 2013): 573–603, <https://doi.org/10.1177/0149206311424943>; Gregory G. Dess and Jason D. Shaw, "Voluntary Turnover, Social Capital, and Organizational Performance," *Academy of Management Review* 26, no. 3 (2001): 446–456, <https://doi.org/10.5465/AMR.2001.4845830>; Jason D. Shaw et al., "Turnover, Social Capital Losses, and Performance," *Academy of Management Journal* 48, no. 4 (2005): 594–606, <https://doi.org/10.5465/AMJ.2005.17843940>.

⁴⁹ Llorens, "Fiscally Driven Compensation Reform and Threats to Human Capital Capacity," 22–46.

market. Increased mobility raises issues pertaining to economic efficiency and the wage competitiveness of the public sector. In these realms, academic and other sources provide well-founded research germane to this thesis. Baily and Kirkegaard, for example, highlight the market-distorting effects of DB pensions, implying that economic efficiency will be enhanced through pension reform.⁵⁰ Concepts surrounding economic efficiency appear pervasively in textbooks on labor economics, and in that vein, Borjas provides an excellent source.⁵¹ Regarding wage competitiveness, multiple government and academic sources analyze the wage competitiveness of the public versus the private sector.⁵² Relatedly, from reputable media sources, anecdotal but illuminating examples have shown what happens when an increasingly mobile public labor force faces pension reform.⁵³

C. NON-ECONOMIC MOTIVATIONS FOR WORK

A foundational concept in personnel economics and most economic thought involves how workers are motivated by economic self-interest and income (or utility) maximization.⁵⁴ However, economists acknowledge and many non-economists emphasize that pecuniary, economic incentives are not the sole drivers of worker behavior or choices in the job market. It stands to reason that the effects of pension reform inferred from personnel economic theory may be altered or mitigated if seemingly non-economic motives

⁵⁰ Baily and Kirkegaard, *U.S. Pension Reform: Lessons from Other Countries*, 180.

⁵¹ George J. Borjas, *Labor Economics*, 7th ed. (New York: McGraw-Hill Education, 2016).

⁵² Reilly, “Comparing Public-versus-Private Sector Pay and Benefits”; Jeffrey Keefe, “Are Public Employees Overpaid?” *Labor Studies Journal* 37, no. 1 (March 2012): 104–126, <https://doi.org/10.1177/0160449X11429263>; Congressional Budget Office, *Comparing the Compensation of Federal and Private-Sector Employees*.

⁵³ Gillers and Elinson, “Ill-Funded Police Pensions Put Cities in a Bind”; Robert Handa, “New Resignations, Retirements Puts San Jose Police Department Staffing Below 900 Officers,” NBC-Bay Area, Jan 5, 2015, <https://www.nbcbayarea.com/news/local/San-Jose-Police-Department-Staffing-Dips-Below-900-Officers-After-New-Retirements-Resignations-287587621.html>; Sean Doogan, “Shrinking Ranks of Anchorage Police Force Expected to Get Worse,” *Anchorage Daily News*, November 18, 2013, <https://www.adn.com/anchorage/article/ranks-anchorage-finest-thinning-out/2013/11/19/>; Cameron Mackintosh, “Recruitment, Retention Still Major Hurdles for Alaska State Troopers,” KTUU-TV, February 7, 2018, <http://www.ktuu.com/content/news/Recruitment-retention-still-major-hurdles-for-Alaska-State-Troopers-473260533.html>.

⁵⁴ Lazear and Shaw, “Personnel Economics: The Economist’s View of Human Resources,” 91–92, 105.

hold sway over the public-sector workforce. In this vein, scholars from a variety of academic fields—both within and without economics—explore aspects of motivation that are relevant to the task of projecting pension reform’s impact on the homeland security enterprise.

Prominent in academic literature emanating from the field of public administration is the concept of *public service motivation* (PSM), which posits that public servants exhibit unique motives for work that sets them apart from the rest of the labor force.⁵⁵ In a series of seminal articles in the early 1990s, Perry and Wise introduced the PSM construct to define, measure, and explain how unique and largely non-economic motives hold sway over public servants.⁵⁶ Under this construct, PSM is “the primary steering mechanism for bureaucratic behavior”; workers possessing elevated PSM levels are drawn to serve in government institutions over a commitment “to values associated with government service, among them personal sacrifice and duty to the public interest.”⁵⁷ The suggestion here is that PSM involves traits inherent in individuals, and Perry and Wise argue that these traits are essential to performance levels exhibited by individual workers or a given workforce.⁵⁸

Over the last two decades, a consequential body of public administration literature has grown from Perry and Wise’s work.⁵⁹ This body of literature includes empirical studies by Crewson (1997), Naff and Crum (1999), Brewer and Selden (2000), Kim (2005), Steijn

⁵⁵ James L. Perry, Annie Hondeghem, and Lois Recascino Wise, “Revisiting the Motivational Bases of Public Service: Twenty Years of Research and an Agenda for the Future,” *Public Administration Review* 70, no. 5 (October 2010): 681–682, <https://doi.org/10.1111/j.1540-6210.2010.02196.x>.

⁵⁶ James L. Perry and Lois Recascino Wise, “The Motivational Bases of Public Service,” *Public Administration Review* 50, no. 3 (June 1990): 367–73, <https://doi.org/10.2307/976618>; James L. Perry, “Measuring Public Service Motivation: An Assessment of Construct Reliability and Validity,” *Journal of Public Administration Research and Theory* 6, no. 1 (January 1996): 5–19, <https://doi.org/10.1093/oxfordjournals.jpart.a024303>.

⁵⁷ Perry and Wise, “The Motivational Bases of Public Service,” 367.

⁵⁸ Perry and Wise, 367.

⁵⁹ Perry, Hondeghem, and Wise, “Revisiting the Motivational Bases of Public Service,” 681.

(2008), Bright (2008), Vandenabeele (2008), and Ertas (2015).⁶⁰ Collectively, these authors explore the relationships between PSM and issues germane to the thesis, including (1) individual career choice and organizational commitment, (2) public employee retention and turnover, (3) worker quality and performance, (4) organizational effectiveness, and (5) the incidence of PSM among different generational cohorts. While PSM features prominently in public administration literature, it has not received the same level of attention from other academic fields. Indeed, as Francois observes, economists have neglected to formally consider PSM despite its challenge to fundamental assumptions of many economic theories.⁶¹

That is not to say that economists ignore seemingly non-economic motivation. Rather, economists—and others taking a business management perspective—focus on the role of *intrinsic motivation* when contemplating non-economic drivers of worker behavior. Romaniuc argues that the introduction of intrinsic motivation in economics began with Scitovsky's *The Joyless Economy* in 1976, and it came into the fore with articles by Bruno Frey growing out of his 1992 work titled "Tertium Datur: Pricing, Regulating and Intrinsic

⁶⁰ Philip E. Crewson, "Public-Service Motivation: Building Empirical Evidence of Incidence and Effect," *Journal of Public Administration Research and Theory* 7, no. 4 (October 1997): 499–520, <https://doi.org/10.1093/oxfordjournals.jpart.a024363>; Katherine C. Naff and John Crum, "Working for America Does Public Service Motivation Make a Difference?," *Review of Public Personnel Administration* 19, no. 4 (October 1999): 5–16, <https://doi.org/10.1177/0734371X9901900402>; Gene A. Brewer and Sally Coleman Selden, "Why Elephants Gallop: Assessing and Predicting Organizational Performance in Federal Agencies," *Journal of Public Administration Research and Theory* 10, no. 4 (October 2000): 685–711, <https://doi.org/10.1093/oxfordjournals.jpart.a024287>; Sangmook Kim, "Individual-Level Factors and Organizational Performance in Government Organizations," *Journal of Public Administration Research and Theory* 15, no. 2 (April 2005): 245–61, <https://doi.org/10.1093/jopart/mui013>; Bram Steijn, "Person-Environment Fit and Public Service Motivation," *International Public Management Journal* 11, no. 1 (March 2008): 13–27, <https://doi.org/10.1080/10967490801887863>; Leonard Bright, "Does Public Service Motivation Really Make a Difference on the Job Satisfaction and Turnover Intentions of Public Employees?," *American Review of Public Administration* 38, no. 2 (June 2008): 149–66, <https://doi.org/10.1177/0275074008317248>; Wouter Vandenabeele, "The Mediating Effect of Job Satisfaction and Organizational Commitment on Self-Reported Performance: More Robust Evidence of the PSM–Performance Relationship," *International Review of Administrative Sciences* 75, no. 1 (March 2009): 11–34, <https://doi.org/10.1177/0020852308099504>; Nevbahar Ertas, "Turnover Intentions and Work Motivations of Millennial Employees in Federal Service," *Public Personnel Management* 44, no. 3 (September 2015): 401–23, <https://doi.org/10.1177/0091026015588193>.

⁶¹ Patrick Francois, "'Public Service Motivation' as an Argument for Government Provision," *Journal of Public Economics* 78, no. 3 (November 2000): 275, [https://doi.org/10.1016/S0047-2727\(00\)00075-X](https://doi.org/10.1016/S0047-2727(00)00075-X).

Motivation.”⁶² In much of the “psychologically inspired economic analysis” that followed Scitovsky and Frey’s work, economists attribute non-pecuniary rewards to intrinsic motivation and conceptualize such rewards as just another element determining an individual’s utility function.⁶³ Economic thought in this arena, however, has gone well beyond conceptualizing intrinsic motivation as a source of utility for the individual. For example, seeking to explain altruistic behavior, Benabou and Tirole developed a model involving intrinsic, extrinsic, and reputational motives, and dealing specifically with the public sector, Prendergast has assessed the complexity of intrinsic motivation in sorting the types of people attracted to different public bureaucracies.⁶⁴

Overall, a notable body of work from economists accounts for seemingly non-economic motivation. Within this literature, however, the definitions of different forms of motivation—intrinsic, extrinsic, or prosocial—are not always consistent, and with the exception of Prendergast, there seems little focus on the public sector. What is consistent in this literature is the application of crowding theory. Crowding involves the manner in which pecuniary or so-called *extrinsic rewards* can diminish the intrinsic motivation in individuals. It is relevant to the thesis because pension reform will change the extrinsic reward structure of public-sector compensation systems. In this arena, a number of contributions from Frey and his colleagues, as well as economist David Kreps and

⁶² Rustam Romaniuc, “Intrinsic Motivation in Economics: A History,” *Journal of Behavioral and Experimental Economics* 67 (April 2017): 56, <https://doi.org/10.1016/j.socec.2016.10.002>; Tibor Scitovsky, *The Joyless Economy: An Inquiry into Human Satisfaction and Dissatisfaction* (Oxford: Oxford University Press, 1976); Bruno S. Frey, “Tertium Datur: Pricing, Regulating and Intrinsic Motivation,” *Kyklos* 45, no. 2 (June 1992): 161–184, <https://doi.org/10.1111/j.1467-6435.1992.tb02112.x>.

⁶³ Romaniuc, “Intrinsic Motivation in Economics: A History,” 2; Frey, “Tertium Datur”; David M. Kreps, “The Interaction between Norms and Economic Incentives: Intrinsic Motivation and Extrinsic Incentives,” *American Economic Review* 87, no. 2 (May 1997): 359–64; Roland Benabou and Jean Tirole, “Intrinsic and Extrinsic Motivation,” *Review of Economic Studies* 70, no. 3 (July 2003): 489–520, <https://doi.org/10.1111/1467-937X.00253>.

⁶⁴ Roland Benabou and Jean Tirole, “Incentives and Prosocial Behavior,” *American Economic Review* 96, no. 5 (December 2006): 1652–78, <https://doi.org/10.1257/aer.96.5.1652>; Canice Prendergast, “The Motivation and Bias of Bureaucrats,” *American Economic Review* 97, no. 1 (March 2007): 180–196, <https://doi.org/10.1257/aer.97.1.180>.

sociologist James Baron, proves insightful.⁶⁵ Additionally, Francois and Vlassopoulos apply crowding theory to prosocial behavior and, notably, PSM.⁶⁶ These articles are predominantly economic in nature, but all point to research from psychology— intriguingly, all cite the work of psychologist Edward L. Deci—which explains the cognitive mechanisms behind crowding theory and empirically proves its existence.⁶⁷

Little if any of the academic literature relating to non-economic motivations for work deals directly with pensions. Nevertheless, given that pension reform will alter the financial or extrinsic incentive structure for public servants, crowding theory and other determinants influencing the motivational composition of the labor force are pertinent. Along these lines, there is some conjecture in the literature and from media sources that the norms, values, and characteristic traits of emerging generational cohorts will affect the motivational composition of the future labor force.⁶⁸ Salient in early descriptions of the millennial generation is the notion that it exhibits prosocial tendencies that are unique among cohorts.⁶⁹ Another popular conception is that millennials prefer mobility in their

⁶⁵ Bruno S. Frey and Reto Jegen, “Motivation Crowding Theory,” *Journal of Economic Surveys* 15, no. 5 (December 2001): 589–611, <https://doi.org/10.1111/1467-6419.00150>; Bruno S. Frey, “A Constitution for Knaves Crowds Out Civic Virtues,” *Economic Journal* 107, no. 443 (July 1997): 1044–1048, <https://doi.org/10.1111/j.1468-0297.1997.tb00006.x>; Kreps, “Intrinsic Motivation and Extrinsic Incentives”; James N. Baron, “The Employment Relation as a Social Relation,” *Journal of the Japanese and International Economies* 2, no. 4 (December 1988): 495–497, [https://doi.org/10.1016/0889-1583\(88\)90004-4](https://doi.org/10.1016/0889-1583(88)90004-4).

⁶⁶ Patrick Francois and Michael Vlassopoulos, “Pro-Social Motivation and the Delivery of Social Services,” *CESifo Economic Studies* 54, no. 1 (March 2008): 29–32, <https://doi.org/10.1093/cesifo/ifn002>.

⁶⁷ Deci’s work in this arena dates back to the 1970s, but in most oft-cited later works, he collaborated with fellow psychologist Richard Ryan. Richard M. Ryan and Edward L. Deci, “Intrinsic and Extrinsic Motivations: Classic Definitions and New Directions,” *Contemporary Educational Psychology* 25, no. 1 (January 2000): 58–60, <https://doi.org/10.1006/ceps.1999.1020>; Edward L. Deci, Richard Koestner, and Richard M. Ryan, “A Meta-Analytic Review of Experiments Examining the Effects of Extrinsic Rewards on Intrinsic Motivation,” *Psychological Bulletin* 125, no. 6 (November 1999): 627–68.

⁶⁸ Madinah F. Hamidullah, “Generational Differences and the Public Sector Workforce,” in *Public Personnel Management: Current Concerns, Future Challenges*, ed. Norma M. Riccucci, 5th ed. (Boston: Longman, 2012), 28–38; Janet Adamy, “Gen Z Is Coming to Your Office. Get Ready to Adapt,” *Wall Street Journal*, September 6, 2018, <https://www.wsj.com/graphics/genz-is-coming-to-your-office/>.

⁶⁹ Neil Howe and William Strauss, *Millennials Rising: The Next Great Generation* (New York: Vintage Books, 2000), loc. 171–182, 5040–5044, Kindle; Eric H. Greenberg and Karl Weber, *Generation We: How Millennial Youth Are Taking over America and Changing Our World Forever* (Emeryville, CA: Pachatusan, 2008), 30–32.

careers over steady, long-tenured jobs.⁷⁰ Both of these generational traits may influence or overshadow the second-order effects of pension reform discussed in the economics-oriented sections of the thesis, so the thesis gives some attention to the character-defining features of future workers.

In the early 20th century, sociologist Karl Mannheim brought ideas about the distinctive traits of generational cohorts into widespread consideration through a seminal 1928 essay titled “The Problem of Generations.”⁷¹ Today, authors who embrace the idea of generational personality seem keen on helping employers understand and predict the work values and career patterns of their newest and future employees.⁷² Prominent among these authors is psychologist Jean M. Twenge, who focuses on the youngest cohorts in the labor force and is frequently quoted in the media on the subject of generational personalities. Assessing the values and preferences of the millennial cohort, Twenge and her colleagues address this generation’s prosocial orientation, framing it, in part, across the dimensions of intrinsic and extrinsic motivation.⁷³ Public policy scholar Nevbahar Ertas (mentioned earlier) also views the motivational composition of the workforce through the lens of generational traits; Ertas’s assessment addresses PSM as well as intrinsic and extrinsic motivation, which seem customary for public administration scholars.⁷⁴

⁷⁰ Military Compensation and Retirement Modernization Commission, *Report of the Military Compensation and Retirement Modernization Commission: Final Report* (Washington, DC: Military Compensation and Retirement Modernization Commission, January 2015), 20, 23–28, <https://ia800305.us.archive.org/14/items/FinalReportOfTheMilitaryCompensationAndRetirementModernization/MCRMCFinalReport-29JAN15-HIGH.pdf>; Ertas, “Turnover Intentions and Work Motivations of Millennial Employees in Federal Service,” 417–418.

⁷¹ Karl Mannheim, “The Problem of Generations,” in *Essays on the Sociology of Knowledge*, ed. Paul Kecskemeti, vol. 5 (New York: Routledge, 1952), 276–323, <https://doi.org/10.4324/9781315005058>.

⁷² Sean Lyons and Lisa Kuron, “Generational Differences in the Workplace: A Review of the Evidence and Directions for Future Research,” *Journal of Organizational Behavior* 35, no. S1 (February 2014): S139, <https://doi.org/10.1002/job.1913>.

⁷³ Jean M. Twenge, “The Evidence for Generation Me and against Generation We,” *Emerging Adulthood* 1, no. 1 (March 2013): 13, <https://doi.org/10.1177/2167696812466548>; Jean M. Twenge, W. Keith Campbell, and Elise C. Freeman, “Generational Differences in Young Adults’ Life Goals, Concern for Others, and Civic Orientation, 1966–2009,” *Journal of Personality and Social Psychology* 102, no. 5 (2012): 1053–1055, <https://doi.org/10.1037/a0027408>.

⁷⁴ Ertas, “Turnover Intentions and Work Motivations of Millennial Employees in Federal Service.”

The work by Twenge and others in this arena is interesting, but the evidence is emerging, and the conclusions emanating from the research is inconsistent. Indeed, organizational behavior scholars Lyons and Kuron are critical of much of this research; they see it as “descriptive” and out of line with “key tenets of generation theory that have potential to advance our understanding of generations as a workplace phenomenon.”⁷⁵ Despite these shortcomings, the research in this area highlights variables that may impact future scenarios.

D. COMPENSATION’S INFLUENCE ON ORGANIZATIONAL BEHAVIOR

In a recent article, Gupta and Shaw observe that from the perspective of organizational behavior and human resources management, “research on employee compensation is sporadic and sparse.”⁷⁶ These management scholars point out that much literature in their field has been devoted to employee selection, performance, and turnover, but relatively little has addressed the influence of compensation. A decade earlier, Westerman and Sundali expressed similar sentiments about the dearth of organizational behavior research into retirement compensation.⁷⁷ Westerman and Sundali posit that the transformation of pensions from DB to defined-contribution plans in the United States will influence attitudinal and behavioral outcomes, which deserve attention, and they make an appeal for additional research.⁷⁸ From outside the United States, de Thierry et al. focus on DB “pension decline,” pointing to areas for additional research in the realms of employee behavior and human resources practices.⁷⁹

⁷⁵ Lyons and Kuron, “Generational Differences in the Workplace,” S140.

⁷⁶ Nina Gupta and Jason D. Shaw, “Employee Compensation: The Neglected Area of HRM Research,” *Human Resource Management Review* 24, no. 1 (March 2014): 1, <https://doi.org/10.1016/j.hrmr.2013.08.007>.

⁷⁷ James W. Westerman and Jim Sundali, “The Transformation of Employee Pensions in the United States: Through the Looking Glass of Organizational Behavior,” *Journal of Organizational Behavior* 26, no. 1 (February 2005): 99–103, <https://doi.org/10.1002/job.304>.

⁷⁸ Westerman and Sundali, 99–103.

⁷⁹ Ebony de Thierry et al., “Defined Benefit Pension Decline: The Consequences for Organizations and Employees,” *Employee Relations* 36, no. 6 (September 2014): 669, <https://doi.org/10.1108/ER-02-2013-0020>.

Notwithstanding such sentiments about a thin state of research in this arena, the literature is not entirely non-existent—authors of business school textbooks on human resources and organizational behavior highlight areas of inquiry into how compensation structure influences outcomes in the organizational domain.⁸⁰ Common topics highlighted in these texts are the influence of (1) employee perceptions of fairness with respect to pay and (2) pay distribution within an organization’s workforce. As explored in Chapter V of this thesis, public pension reform may change employee compensation in both of these areas, and reputable sources provide pertinent research that suggests fairness in compensation and pay distribution will affect employee attitudes, behavior, and, in turn, organizational culture. With regard to fairness in the workplace, a host of scholars offer evidence and concepts pertaining to the attitudinal and behavioral impact of the related concepts of distributive and procedural justice.⁸¹ On the topic of pay distribution, Lazear takes an economic approach in modeling how a compressed pay structure can lead to economically efficient outcomes in organizations where collaboration is important.⁸² Other scholars, such as Baron, Bloom, and Pfeffer, focus on how pay distributions may drive organizational culture.⁸³ All in all, while there may not be extensive or recent research regarding the relationship between compensation schemes and organizational

⁸⁰ James N. Baron and David M. Kreps, *Strategic Human Resources: Frameworks for General Managers* (Hoboken, NJ: John Wiley & Sons, Inc., 1999); Bruno S. Frey and Margit Osterloh, eds., *Successful Management by Motivation: Balancing Intrinsic and Extrinsic Incentives* (Berlin: Springer, 2002); George T. Milkovich, Jerry M. Newman, and Barry A. Gerhart, *Compensation*, 12th ed. (New York: McGraw Hill Education, 2017).

⁸¹ Robert Folger and Mary A. Konovsky, “Effects of Procedural and Distributive Justice on Reactions to Pay Raise Decisions,” *Academy of Management Journal* 32, no. 1 (March 1989): 115–130, <https://doi.org/10.2307/256422>; Sheldon Alexander and Marian Ruderman, “The Role of Procedural and Distributive Justice in Organizational Behavior,” *Social Justice Research* 1, no. 2 (June 1987): 177–198, <https://doi.org/10.1007/BF01048015>; Dean B. McFarlin and Paul D. Sweeney, “Distributive and Procedural Justice as Predictors of Satisfaction with Personal and Organizational Outcomes,” *Academy of Management Journal* 35, no. 3 (August 1992): 626–37, <https://doi.org/10.2307/256489>; Antoinette Weibel and Sandra Rota, “Fairness as a Motivator,” in *Successful Management by Motivation: Balancing Intrinsic and Extrinsic Incentives*, ed. Bruno S. Frey and Margit Osterloh (Berlin: Springer, 2002), 173–89.

⁸² Lazear, “Pay Equality and Industrial Politics.”

⁸³ Baron, “The Employment Relation as a Social Relation,” 499–506; Matt Bloom, “The Performance Effects of Pay Dispersion on Individuals and Organizations,” *Academy of Management Journal* 42, no. 1 (February 1, 1999): 25–28, <https://doi.org/10.2307/256872>; Jeffrey Pfeffer, *Competitive Advantage through People: Unleashing the Power of the Work Force* (Boston: Harvard Business School Press, 1994), 35–53.

behavior, research from the 1980s and 1990s identifies and explores salient topics in this arena.

An intriguing aspect of compensation's influence on employee and organizational behavior relates to the anti-corruption incentives embedded in DB pension arrangements. The potential link between DB pension incentives and corruption in the provision of public services was most prominently suggested by economists Becker and Stigler in the 1970s.⁸⁴ While Becker and Stigler's theory is often cited in the literature on corrupt behavior, any in-depth exploration of this linkage seems thin in the literature. Rose-Ackerman, for example, initiates her 1999 book on corruption in government as follows: "Economics is a powerful tool for the analysis of corruption. Cultural differences and morality provide nuance and subtlety, but an economic approach is fundamental to understanding where corrupt incentives are the greatest and have the biggest impact."⁸⁵ While Rose-Ackerman explores a host of issues surrounding the economics of corruption, her thoughts on the deterrent effect of DB pensions receive only brief mention in this otherwise thorough work on the causes of and remedies for malfeasance in the public sector.⁸⁶

Perhaps the reason this deterrent effect receives such scant attention is the difficulty scholars encounter when attempting to measure it empirically. In a study that confirms a relationship between compensation rates and corruption levels across different countries, Rijckeghem and Weder acknowledge the deterrent effect that DB pensions may have, but citing difficulties associated with valuing different pension arrangements, they specifically exclude pensions from their analysis.⁸⁷ As explored in this thesis, however, recent fieldwork by political scientist Diego Esparza may provide the best evidence available

⁸⁴ Gary S. Becker and George J. Stigler, "Law Enforcement, Malfeasance, and Compensation of Enforcers," *Journal of Legal Studies* 3, no. 1 (January 1974): 1–18, <https://doi.org/10.1086/467507>.

⁸⁵ Susan Rose-Ackerman, *Corruption and Government: Causes, Consequences, and Reform* (Cambridge: Cambridge University Press, 1999), xi.

⁸⁶ Rose-Ackerman, *Corruption and Government*, 78.

⁸⁷ Caroline Van Rijckeghem and Beatrice Weder, "Bureaucratic Corruption and the Rate of Temptation: Do Wages in the Civil Service Affect Corruption, and by How Much?" *Journal of Development Economics* 65, no. 2 (August 2001): 311, 315, [https://doi.org/10.1016/S0304-3878\(01\)00139-0](https://doi.org/10.1016/S0304-3878(01)00139-0).

validating the theoretical linkage between the DB pension benefits and malfeasance in the provision of public services.⁸⁸ Although pensions may not be a central point in Esparza's dissertation, his work documents that the professionalism of law enforcement organizations goes hand-in-hand with the provision of DB pension compensation.

E. FUTUROLOGY AND SCENARIO-PLANNING TECHNIQUES

Cooke writes that "Herman Kahn is regarded as the father of scenario analysis."⁸⁹ Aligica and Weinstein agree, saying that Kahn is "recognized as one of the intellectual leaders of the emerging field of 'futures studies' or 'futurology.'"⁹⁰ Prominent among Kahn's work is *The Year 2000: A Framework for Speculation on the Next Thirty Years*, which he co-authored with Anthony J. Weiner.⁹¹ In that work, Kahn and Weiner describe scenarios as follows:

Scenarios are hypothetical sequences of events constructed for the purpose of focusing attention on causal processes and decision-points. They answer two kinds of questions: (1) Precisely how might some hypothetical situation come about, step by step? and (2) What alternatives exist, for each actor, at each step, for preventing, diverting, or facilitating the process.⁹²

Kahn uses scenarios as a means to overcome the inadequacies of mathematical decision theories when facing subjective probabilities or inconsistent objectives.⁹³ In effect, as Cooke posits, Kahn's approach urges "the scientist doing systems analysis to think, not as a scientist traditionally thinks, but rather as a politician."⁹⁴

⁸⁸ Diego Esparza, "Policing as a Vocation: Centralization, Professionalism, and Police Malfeasance in Latin America" (PhD diss., University of California, Riverside, 2015).

⁸⁹ Roger M. Cooke, *Experts in Uncertainty: Opinion and Subjective Probability in Science* (New York: Oxford University Press, 1991), 10.

⁹⁰ Herman Kahn, *The Essential Herman Kahn: In Defense of Thinking*, ed. Paul Dragoş Aligica and Kenneth R. Weinstein (Lanham, MD: Lexington Books, 2009), 3.

⁹¹ Herman Kahn and Anthony J. Weiner, *The Year 2000: A Framework for Speculation on the next Thirty-Three Years* (New York: Macmillan, 1967).

⁹² Kahn and Weiner, 6.

⁹³ Cooke, *Experts in Uncertainty: Opinion and Subjective Probability in Science*, 10.

⁹⁴ Cooke, 11.

Aligica and Weinstein argue that despite the breadth of topics and prolific nature of Kahn’s writings, the coherence of his arguments is difficult to capture due to the “prolixity and complexity of some of his writings”; in response, they attempt to capture the essence of his work in their published anthology.⁹⁵ The dense nature of Kahn’s techniques may explain why, as Slaughter observes, through the 1980s and 1990s, scenario analysis became increasingly simplified as it gained in use and popularity.⁹⁶ This is not to suggest that a scenario-based construct cannot be rigorous. Indeed, Godet argues the opposite, offering “morphological analysis” as a means of achieving such rigor when conducting scenario planning.⁹⁷

Beyond the works covering the theoretical and philosophical underpinnings of futurology, a variety of authors have published more practical explorations of scenario analysis. Prominent among these from the 1980s and 1990s are works by Wack (1985), Schwartz (1991), Ringland (1998), and Van der Heijden (1996).⁹⁸ More recently, publications by Kosow and Gaßner (2008), Lindgren and Bandhold (2009), and a guide used in FEMA’s Strategic Foresight Initiative could prove useful in the application of futures methods and scenario planning.⁹⁹

⁹⁵ Kahn, *The Essential Herman Kahn: In Defense of Thinking*, 1–2.

⁹⁶ Richard A. Slaughter, “From Forecasting and Scenarios to Social Construction: Changing Methodological Paradigms in Futures Studies,” *Foresight* 4, no. 3 (June 2002): 27–28, <https://doi.org/10.1108/14636680210697731>.

⁹⁷ Michel Godet, “Forefront: How to Be Rigorous with Scenario Planning,” *Foresight* 2, no. 1 (February 2000), 5–9.

⁹⁸ Wack, “Scenarios: Uncharted Waters Ahead,” 73–89; Wack, “Scenarios: Shooting the Rapids,” 139–150; Schwartz, *The Art of the Long View*; Gill Ringland, *Scenario Planning: Managing for the Future* (New York: Wiley, 1998); Van der Heijden, *Scenarios: The Art of Strategic Conversation*.

⁹⁹ Kosow and Gaßner, *Methods of Future and Scenario Analysis*; Mats Lindgren and Hans Bandhold, *Scenario Planning: The Link between Future and Strategy* (Basingstoke: Palgrave Macmillan, 2009), <https://doi.org/10.1057/9780230233584>; Federal Emergency Management Agency, *Crisis Response and Disaster Resilience 2030: Forging Strategic Action in an Age of Uncertainty* (Washington, DC: Federal Emergency Management Agency, 2012), https://www.fema.gov/media-library-data/20130726-1816-25045-5167/sfi_report_13.jan.2012_final.docx.pdf.

F. CONCLUSION

The literature applicable to the research question posed in this thesis is remarkably broad in its scope. Given that the drivers of future outcomes in this problem space are unclear, the breadth of the literary foundation seems appropriate. As stated at the outset, much of the material explored comes from peer-reviewed academic research. Within this literature, material pertaining to the financial health of public-sector pension funds is the most current; some of it is regularly updated and promulgated through online means. The most thoroughly researched subjects relevant to this thesis seem to be on the role of financial incentives as determiners of market and human behavior. This thesis draws from other subject areas—non-economic motivation and organizational behavior—for which the available literature seems either inconsistent or less developed in terms of applicability to pensions and reform. Scholars from different disciplines discuss non-economic motivations for work using variable terminology, and it is difficult to reconcile their perspectives. Finally, regarding compensation’s impact on organizational behavior, there is simply less research available at the time of this writing.

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III. PENSION PROVISIONS FINANCE AND REFORM

This chapter has three goals. The first is to establish a baseline understanding of terms and concepts relevant to public pension systems and the financial incentives embedded in them. For some readers, this material may seem somewhat intricate while for others, it may seem remedial. Regardless of the reader's level of knowledge, the discussion provides the vocabulary necessary to appreciate both the problem space and the analysis that follows in later chapters.

The second goal is to assess the financial state of public pension plans. The discussion reveals where the greatest challenges lie and frames the urgency of the problem. The analysis explores both federal retirement systems and pension plans serving state and local government employees, and from the analysis, it becomes clear that the most significant financial challenges lie at the SLG level. Accordingly, the weight of this chapter focuses on SLG pensions, but federal pension financing and reform deserve attention insofar as there are valuable lessons to be gleaned from the federal experience. It will become clear that, when one looks at SLG pension plans in aggregate, substantial reforms are necessary. Without such reform, many plans throughout the nation risk insolvency that will leave them unable to honor the pension promises made to current employees and retirees.

The third goal is to explore pension reform measures taken to date. This line of inquiry reveals that much of the reforms made thus far at the SLG level are incremental and may prove inadequate. The implication here is, despite notable and widespread initiatives to reform pension arrangements, the long-term financial health of the aggregate SLG pension system remains in doubt.

A. PUBLIC PENSION PRIMER

1. Defined-Benefit Pension Features

The Congressional Research Service defines a *defined-benefit* plan as “a pension plan under which an employee is promised a specified future benefit, traditionally an

annuity beginning at retirement.”¹⁰⁰ Annuity payouts of such plans are a function of employment longevity (years of service) and salary history, and retirees or annuitants receive these payments until death. According to the *Farlex Financial Dictionary*, under a defined-benefit plan,

the benefits the retiree receives are not dependent on the performance of the portfolio in which the contributions are invested; the company [or government entity] sponsoring the plan assumes the entire liability. . . . The disadvantage to a defined-benefit plan, from the company’s perspective, is the possibility that the investment portfolio will not perform as expected, forcing the company to make payments from its earnings, or, worse, to borrow money.¹⁰¹

It is worth emphasizing the words of the Congressional Research Service: “In a defined benefit plan, the employer bears the investment risk and is responsible for any shortfalls.”¹⁰² The formula used to determine the amount of the pension annuity one receives under a defined-benefit plan is a function of an employee’s preretirement pay, years of service, and a *benefit multiplier*, which varies from one plan to the next.¹⁰³

The following example illustrates the value such a plan will have for an employee and, in parallel, the cost such a plan will represent for an employer. Consider the hypothetical case of a career law enforcement officer from the California Highway Patrol covered under the provisions of the California Public Employee Retirement System (CalPERS). For this hypothetical case, assume this person retires at the end of 2019, at 55 years of age after 27 years of service, having achieved a terminal salary rate of \$130,000

¹⁰⁰ Staman, *State and Local Pension Plans and Fiscal Distress*, 1. See also 29 U.S.C. §1002 (35).

¹⁰¹ “Defined benefit pension plan,” *Farlex Financial Dictionary*, accessed October 27, 2017, <https://financial-dictionary.thefreedictionary.com/Defined+Benefit+Pension+Plan>

¹⁰² Staman, *State and Local Pension Plans and Fiscal Distress*, 1.

¹⁰³ Tyler Bond, “How are Pension Benefits Calculated?” National Public Pension Coalition, June 30, 2016, <https://protectpensions.org/2016/06/30/pension-benefits-calculated/>.

per year.¹⁰⁴ Among the wider populace, 55 may seem a young age to be retiring, but, as Mitchell stipulates, “because police work and firefighting are physically demanding occupations, retirement benefits for public safety workers typically allow retirement at earlier ages, in part to maintain a younger workforce.”¹⁰⁵ Given this profile, the sergeant would qualify for a “2.5 @ 55” (police officer and firefighter) retirement under CalPERS.¹⁰⁶

$$\$130,000 \times 2.5\% \times 27 = \$87,750/\text{year}$$

That is, after retirement, this hypothetical employee qualifies to receive a pension income of \$87,750 per year (67.5 percent of his end-of-career salary) paid by the employer until his death.

This income, however, will not remain a fixed dollar amount because most DB plans for police and firefighters include a *cost-of-living adjustment* (COLA) provision to correct for inflation.¹⁰⁷ Some COLA provisions provide adjustments directly tied to the Consumer Price Index (CPI): the federal civil service pension’s COLA formula is each year’s CPI minus 1 percent, and in the case of the California Highway Patrol, employee pay adjusts upward by 2 percent per annum except in years of extremely low inflation when it is equal to the CPI. Applying this simple 2 percent COLA to the aforementioned example

¹⁰⁴ \$130,000 is representative of an end-of-career salary for a police sergeant from the California Highway Patrol and numerous other California jurisdictions. Coincidentally, due to recent reforms, \$130,000 is the maximum rate used in CalPERS pension formulas. For details on California public servant compensation rates, see “Civil Service Pay Scale - Alpha by Class Title,” California Department of Human Resources, accessed August 17, 2019, https://www.calhr.ca.gov/Pay%20Scales%20Library/PS_Sec_15.pdf; “Salary and Benefits – Officer,” California Highway Patrol, accessed August 17, 2019, <https://www.chp.ca.gov/chp-careers/officer/why-become-a-chp-officer/salary-and-benefits-officer>.

¹⁰⁵ Mitchell et al., “Developments in State and Local Pension Plans,” 15.

¹⁰⁶ CalPERS, *State Safety Benefits*, PUB 7 (Sacramento, CA: CalPERS, 2019), 38, <https://www.calpers.ca.gov/docs/forms-publications/state-safety-benefits.pdf>. The provisions in this example represent rules in place for California public employees hired before January 1, 2013.

¹⁰⁷ Mitchell et al., “Developments in State and Local Pension Plans,” 20, 22. As of the early 2000s, 45 percent of all public-sector pension plans had “automatic indexation” (COLA), and 80 percent of police and firefighter pensions had such COLA provisions.

and assuming the retired police sergeant has an average life expectancy yield the pay schedule provided in Table 1.¹⁰⁸

Table 1. Example Defined-Benefit Pension Payment Schedule

Year	Age	COLA	DB payment	Year	Age	COLA	DB payment
2020	55	N/A	\$ 87,750	2033	68	2.0%	\$ 113,514
2021	56	2.0%	\$ 89,505	2034	69	2.0%	\$ 115,784
2022	57	2.0%	\$ 91,295	2035	70	2.0%	\$ 118,100
2023	58	2.0%	\$ 93,121	2036	71	2.0%	\$ 120,462
2024	59	2.0%	\$ 94,983	2037	72	2.0%	\$ 122,871
2025	60	2.0%	\$ 96,883	2038	73	2.0%	\$ 125,329
2026	61	2.0%	\$ 98,821	2039	74	2.0%	\$ 127,835
2027	62	2.0%	\$ 100,797	2040	75	2.0%	\$ 130,392
2028	63	2.0%	\$ 102,813	2041	76	2.0%	\$ 133,000
2029	64	2.0%	\$ 104,869	2042	77	2.0%	\$ 135,660
2030	65	2.0%	\$ 106,967	2043	78	2.0%	\$ 138,373
2031	66	2.0%	\$ 109,106	2044	79	2.0%	\$ 141,140
2032	67	2.0%	\$ 111,288	2045	80	2.0%	\$ 143,963

Although not particularly relevant from a financial perspective, the cumulative postretirement earnings in this hypothetical case reach nearly \$3 million. A more meaningful figure would be the net present value (NPV) of this cash-flow stream, which assumes a rate of return or *discount rate*.¹⁰⁹ The NPV in this example would be \$1.97 million, assuming a 3 percent discount rate, or \$1.22 million, assuming a 7.25 percent

¹⁰⁸ Regarding average life expectancy, white males who reach the age of 55 can expect to live another 25.7 years. Kenneth D. Kochanek et al., “Deaths: Final Data for 2014,” *National Vital Statistics Reports* 65, no. 4 (2016): 33.

¹⁰⁹ CBO defines present value as follows: “A single number that of future obligations expresses a flow of current and future payments in terms of an equivalent lump sum paid today.” Congressional Budget Office, *Comparing the Compensation of Federal and Private-Sector Employees*, 4.

discount rate.¹¹⁰ Framed another way, this DB annuity would equip an employee for retirement as if he had a 401(k) account with a balance of \$1.97 million—assuming he (wisely) invested it in low-risk instruments throughout his retired years.¹¹¹ From the pension fund’s perspective, this retiree’s pension annuity would likely represent a \$1.22 million liability on the balance sheet in 2019, given average pension-plan investment return assumptions.¹¹² In short, the NPV reveals the value a given pension represents for a retiree and the cost that pension annuity represents for the employer.

Benefit valuations for individual workers in the seven-figure range, such as the one in this hypothetical case, lead to disapproving commentary in the press about public-service “pension millionaires.”¹¹³ However, there may be a critical fallacy in the aforementioned valuations. Because retirement annuities cease (or diminish significantly in the case of ongoing survivor benefits) upon the retiree’s death, life expectancy is a key element, and it may not be accurate to assume that police and firefighters who achieve retirement age will live as long as others. In a study that compared the life expectancy of male police officers from Buffalo, New York, between 1950 and 2005 to that of the general male population, Violanti et al. found that the police in their sample had remarkably lower life expectancies.¹¹⁴ Violanti and his team of biostatisticians, epidemiologists, and public

¹¹⁰ For simplicity, all NPV calculations are made in this thesis as if the cash flows were disbursed on an annual basis. Three percent was chosen because it approximates contemporary yields on U.S. 30-year treasury bonds. 7.25 percent represents the median investment return assumption—FY01 to FY19—for 129 different pension plans tracked by the NASRA. For details on pension fund investment assumptions, see National Association of State Retirement Administrators, *Public Pension Plan Investment Return Assumptions*, Issue Brief (Lexington, KY: NASRA, 2019), <https://www.nasra.org/files/Issue%20Briefs/NASRAInvReturnAssumptBrief.pdf>.

¹¹¹ This further assumes the retiree withdraws from this account steadily such that the account value becomes zero at the end of the hypothetical retiree’s 26-year life expectancy.

¹¹² NASRA, *Public Pension Plan Investment Return Assumptions*, 3. Again, 7.25 percent was the average investment return assumed by SLG-level pension plans from FY01 to FY19.

¹¹³ Andrew G. Biggs, “How to Become a (Public Pension) Millionaire,” *Wall Street Journal*, March 14, 2014, <https://www.wsj.com/articles/andrew-biggs-how-to-become-a-public-pension-millionaire-1394834779?tesla=y>.

¹¹⁴ John M. Violanti et al., “Life Expectancy in Police Officers: A Comparison with the US General Population,” *International Journal of Emergency Mental Health and Human Resilience* 15, no. 4 (2013): 217–28, <https://doi.org/10.1037/e577572014-031>.

health scholars pointed to psychosocial and physical exposures inherent in police work—shift work, stress, higher rates of obesity, environmental exposures, and posttraumatic stress disorder—to explain these shorter life expectancies. In the case of police officers and retirees who had attained the age of 55 to 59 years, the average life expectancy was just 6.24 years.¹¹⁵ Rounding up and applying a seven-year life expectancy to the hypothetical case in Table 1, the pension valuation declines 60–70 percent, effectively negating the 55-year-old police sergeant’s status as a pension millionaire.¹¹⁶ This is not to suggest that the specific life expectancies found in this one study apply to all police cohorts, but this study does illustrate how, when assessing the value or cost of police DB pensions, applying average life expectancies can lead to inflated figures.

The valuation of an individual DB pension or group of pension annuities is sensitive to incremental changes to pension plan rules, terms, or provisions. In the hypothetical case above, cutting the COLA to 1 percent per year yields NPV values that are 11 percent less (3 percent discount rate) and 9 percent less (7.25 percent discount rate). By eliminating the COLA, values diminish by 20 percent and 17 percent, respectively. Thus, small changes can make an impact when facing a quarter century (or less, apparently, for police) of postretirement deferred compensation. Moreover, small changes to multiple plan provisions have a cumulative financial effect, which can be significant for both the annuitant and the employer. Therefore, individual pension plan provisions can serve as levers that reformers may consider adjusting to achieve a desired financial impact.

To be sure, a pension plan’s benefit multiplier could be a powerful lever in that it directly determines the level of pension benefit, and state pension plans apply benefit multipliers in the range of 1.6 percent to 3 percent.¹¹⁷ As is discussed in more detail later in this chapter, some public-sector DB pension plans preclude employees from participating in Social Security programs, and such plans tend to have higher benefit

¹¹⁵ Violanti et al., “Life Expectancy in Police Officers,” Table 1.

¹¹⁶ NPV valuations decline to \$580,000 (3 percent discount rate) and \$500,000 (7.25 percent discount rate).

¹¹⁷ Bailly and Kirkegaard, *U.S. Pension Reform: Lessons from Other Countries*, 212–218.

multipliers to offset the lack of Social Security benefits.¹¹⁸ Additionally, and particularly relevant to this thesis, pension systems for police and firefighters traditionally have the highest benefit multipliers of all public-sector occupations at the SLG level.¹¹⁹

The way in which an employee’s salary is factored into a DB benefit formula also has a material effect on pension payouts, and it provides another lever available to would-be reformers looking to reduce pension costs. Pension plans average an employee’s earnings over a specified period to determine the salary basis used to calculate the pension amount; normally, this period is when earnings are highest—at the end of an employee’s career. The Bureau of Labor Statistics refers to this basis as *terminal earnings*, and the length of time used to calculate terminal earnings is either one, three, or five years for most pension plans.¹²⁰ Of particular relevance to the subject of reform, the longer the span of time under consideration, the lower the pension payout. This is because using more years will draw years of lower salary levels into the equation. Thus, when Trump administration officials unveiled a number of measures aimed at reducing federal civil-service pensions in 2017, among the cost-cutting initiatives was a move to increase the salary basis from a “high-three” average—the highest three years of an employee’s earnings—to a “high-five” average.¹²¹

The significant role terminal earnings play in determining the dollar amount an employee receives can make pension costs less predictable for the employer. Provisions pertaining to terminal earnings can also elicit some unusual employee behaviors. Whenever

¹¹⁸ Mitchell et al., “Developments in State and Local Pension Plans,” 15–16, 20.

¹¹⁹ Mitchell et al., 20.

¹²⁰ At the SLG level, 5 percent of plans use a one-year period to calculate terminal earnings, 48 percent use three years, and 30 percent use five years. Bureau of Labor Statistics, *National Compensation Survey: Glossary of Employee Benefit Terms* (Washington, DC: Bureau of Labor Statistics, 2017), 2, <https://www.bls.gov/ncs/ebs/glossary20162017.pdf>; Bureau of Labor Statistics, *National Compensation Survey: Retirement Plan Provisions in State and Local Government in the United States, 2016*, Bulletin 2786 (Washington, DC: BLS, 2017), Table 13, <https://www.bls.gov/ncs/ebs/detailedprovisions/2016/ownership/govt/ebbl0060.pdf>.

¹²¹ Joe Davidson, “Trump’s Budget Calls for Hits on Federal Employee Retirement Programs,” *Washington Post*, May 18, 2017, https://www.washingtonpost.com/news/powerpost/wp/2017/05/18/trumps-budget-calls-for-hits-on-federal-employee-retirement-programs/?utm_term=.4beb8baf893f.

the terminal earnings calculation includes overtime, unused sick leave, or other awards, employees are incentivized to seek excessive overtime, work sick, or engage in other potentially dysfunctional behaviors in the last years of their career. When an employer considers just one year to calculate terminal earnings, the incentive to engage in such behaviors in the last year of a career becomes significant. Such provisions give rise to the practice of *pension spiking*, which is the “boosting [of] a worker’s pay for the final year on the job to fatten future pension checks.”¹²² The practice is a common but controversial practice at the SLG level, and it hinders a jurisdiction’s ability to assess its future pension liabilities accurately.

Pension plan *vesting* provisions and related penalties for early retirement may be the most motivational provisions in public pensions insofar as they create a retention incentive for mid-career employees.¹²³ Vesting requirements normally hinge on a minimum number of years of service with a given employer before the employee qualifies for pension benefits offered by that particular employer. The mean vesting period for SLG pensions is six years, and most plans stipulate minimum age thresholds in addition to minimum vesting periods.¹²⁴ Although a period of six years does not seem too onerous a vesting requirement, it is important to highlight that the accrual of pension benefits is not linear; as a result, public pensions tend not to be worth much until an employee approaches the end of a full career. As Andrew Biggs from the American Enterprise Institute explains in reference to SLG-level pension plans,

Simply vesting does not ensure a public employee a generous retirement benefit. Defined benefit (DB) pension benefit formulas are “backloaded,” meaning benefits are not earned proportionately to the employee’s years of service. Midtenure employees—those who work for a decade or so—

¹²² Associated Press, “‘Legal Pension Spiking’ Will Cost California \$800 Million, Audit Says,” *Mercury News*, September 10, 2014, <http://www.mercurynews.com/2014/09/10/legal-pension-spiking-will-cost-california-800-million-audit-says/>.

¹²³ The retention incentives associated with DB pensions are addressed in some depth in Chapter IV.

¹²⁴ Bureau of Labor Statistics, *National Compensation Survey: Retirement Plan Provisions in State and Local Government*, Table 4.

receive disproportionately low benefits, while full-career employees receive disproportionately high benefits.¹²⁵

By way of illustration, consider the abrupt form of backloading used by the U.S. military such that members do not qualify for any DB retirement benefits until 20 years of military service. Under both the military's legacy retirement system and new "blended retirement system," if a member is discharged a single day shy of 20 years, she receives no DB retirement benefits whatsoever.¹²⁶ Vesting of this sort is called *cliff vesting*, and few pension systems outside the military contain cliff vesting provisions this extreme.¹²⁷

Similar but less extreme penalties exist in the federal government's system for civil servants, and such backloading provisions are common among SLG-administered retirement plans.¹²⁸ As Johnson et al. from the Urban Institute have found,

In half of the traditional plans administered by state governments, employees must work at least 20 years before accumulating any employer-financed pension benefits. . . . Employees in those plans who separate with less than 20 service years are better off collecting a refund on their plan contributions than waiting to collect a pension at their plan's retirement age, so they effectively gain nothing from their retirement plan. In half of plans covering public school teachers, it takes at least 24 years of service to earn any employer-financed pension benefits; in half of plans covering police officers and firefighters, it takes 18 or more service years.¹²⁹

The penalties for leaving before completion of a full career may involve deferral of the pension annuity, loss of COLA, or other reductions, and the cumulative result can be

¹²⁵ Biggs, *Not So Modest: Pension Benefits for Full-Career State Government Employees*, 6.

¹²⁶ Asch, Mattock, and Hosek, *The Blended Retirement System*, 5–7.

¹²⁷ "Cliff Vesting," Investopedia, accessed October 20, 2016, <http://www.investopedia.com/terms/c/cliffvesting.asp?ad=dirN&qo=serpSearchTopBox&qsrc=1&o=40186>.

¹²⁸ For example, after 25 years of service, federal law enforcement officers receive full pension benefits, which involve their pension annuity starting the day after they retire, complete with COLA adjustments tied to inflation and lifetime subsidized health benefits. Should a federal LEO choose to retire with fewer than 25 years of service, her annuity would be deferred until she turned 62, COLA would be lost in the interim years, the annuity would be reduced by 5 percent for every year younger than 62 at retirement, and she would lose access to federal health insurance. For details on these provisions, see Don Mace, ed., *2015 FERS Retirement Planning Guide* (Glen Allen, VA: FEDweek LLC, 2014), 38–43.

¹²⁹ Johnson et al., *How Long Must SLG Employees Work to Accumulate Pension Benefits*, 2.

substantial from the employee’s perspective. Overall, backloading is a prominent if not character-defining feature of most public-sector DB plans.

The vesting provisions inherent in most DB pensions create a significant financial incentive for employees to remain on the job and continue service with one particular employer. After all, in the years prior to reaching a longevity vesting threshold, an employee earning credit in a DB plan incurs a significant financial penalty should she choose to leave that employer for another. The critical characteristic here has to do with the lack of *portability* built into DB pension plans; that is, if one leaves her employer before fully vesting, she cannot transfer credit for years of service from her former employer to the next.¹³⁰ In short, you can’t take it with you, so you have to complete a career to truly cash in.

2. Portable Retirement Instruments

If DB pension plans are non-portable, then *defined-contribution* (DC) plans are their portable opposites. Defined-contribution plans are expounded in the Employee Retirement Income Security Act of 1974 (ERISA) as follows:

The term “individual account plan” or “defined contribution plan” means a pension plan which provides for an individual account for each participant and for benefits based solely upon the amount contributed to the participant's account, and any income, expenses, gains and losses, and any forfeitures of accounts of other participants which may be allocated to such participant’s account.¹³¹

Examples of DC retirement instruments include 401(k) plans and the Thrift Savings Plan available to the federal workforce. Named for the subsection of the Internal Revenue Code that addresses their provisions, 401(k) accounts are commonplace in the private sector.

¹³⁰ Some may consider the case of military members transferring to civil service an exception here. Veterans who leave the military before reaching the 20-year cliff vesting threshold may receive credit for their years of military service in the FERS system. This, however, involves some payments from the veteran; the value of the FERS DB component does not compare favorably to the legacy military retirement system; and the veteran is essentially not changing employers as she is moving from one federal job (the military) to another. Therefore, the validity and degree of portability here is dubious. For details, see Mace, *2015 FERS Retirement Planning Guide*, 55–58.

¹³¹ 29 U.S.C. §1002 (34).

Defined-contribution plans offered by SLG employers are typically 457(b) plans.¹³² All such instruments, including Roth accounts, motivate employees to save for retirement by providing a means to defer taxes on current earnings or future associated investment returns, and most employers offer a nominal degree of contribution *matching*. Because monetary contributions from employees in such plans are not compulsory—and if an employee contributes nothing, there is nothing for the employer to match—some might argue that DC instruments are more “offerings” than employee benefits. Gaining the benefit from participation in such plans is an exercise in personal investing, tax-savings, and managing liquidity than a form of deferred compensation from one’s employer.¹³³

For the employer, DC retirement instruments have both cost- and risk-related advantages. Due to the accounting, regulatory compliance, and other noncore business activities involved in administering a pension plan, the provision of any sort of plan involves non-trivial overhead costs for the employer. However, as Bailey and Kirkegaard have observed, the regulatory environment had evolved in such a way that DB plan administrative costs outpaced that of DC plans by a ratio of three to two from 1981 to 1996.¹³⁴ More significantly, because any contributions by the employer are made up front,

¹³² Government Accountability Office, *State and Local Government Pension Plans*, 25.

¹³³ The term “deferred compensation” in reference to pensions may be politically charged for some readers. Union supporters and others with more labor-leaning political inclinations would likely characterize DB pensions as the payback of a loan. That is, workers loan their time, effort, and productivity in exchange for a future annuity. People with a contrary political inclination might see pensions as unearned benefits or an entitlement with dubious origins—the idea being that public servants earn wages while working, so any future payments made without commensurate time, effort, or productivity are illegitimate. One source that expresses this contrary view is the Reason Foundation’s Adam B. Summers. This thesis does not resolve such politically charged differences. Instead, it takes the position that DB pensions represent a promise of deferred compensation from the employer to the employee. Whether or not that promise is kept is another matter that is fleshed out in the scenario analysis in the conclusive chapters. Relatedly, readers interested in exploring the philosophical nature of the exchange between a government and its public servants and the practical implications of paying public-servant pensions in austere times should consider Lodge and Hood’s thoughts on these subjects. Adam B. Summers, *Pension Reform Case Study: San Jose*, Policy Study 429 (Los Angeles: Reason Foundation, 2014), 2–3, 32, https://reason.org/wp-content/uploads/2014/02/pension_reform_san_jose.pdf; Martin Lodge and Christopher Hood, “Into an Age of Multiple Austerities? Public Management and Public Service Bargains across OECD Countries,” *Governance* 25, no. 1 (January 2012): 82–85, 89–91, <https://doi.org/10.1111/j.1468-0491.2011.01557.x>.

¹³⁴ One caveat here is that the regulatory requirements levied on private-sector employers by ERISA far outweighed any levied on public-sector employers. Baily and Kirkegaard, *U.S. Pension Reform: Lessons from Other Countries*, 382–386.

there is no way a funding gap can develop between benefits and resources; there is no way such a plan can become insolvent because all the investment risk and *longevity risk* are passed on to the employee.¹³⁵

What may be most consequential about DC plans for this thesis, however, is the fact they are portable. Under a DC construct, a worker can amass wealth for retirement irrespective of her longevity or years of service with any one employer; she can move from one jurisdiction to another or between the public and private sectors without suffering the financial setbacks that would befall a DB participant attempting similar mobility during a career. As explored in the next chapter, pension portability has implications for employee turnover and the ability for some entities to retain human capital.

3. Social Security

The portability of Social Security retirement benefits is similar to that of DC instruments. As an employee moves from one employer to the next, her Social Security benefits move with her without incurring financial setbacks. Any discussion of Social Security in the context of government employees and pensions, however, needs to address the consequences of the legal evolution of the Social Security system. When first passed in 1935, the Social Security Act prevented government employees from participating in the Old Age, Survivors, and Disability Insurance (Social Security) program.¹³⁶ At the federal level, civil service employees did not pay into the Social Security system or earn Social Security credit pursuant to the provisions of the Civil Service Retirement System (CSRS). This changed in the 1980s when legislation moved newly hired federal civil servants from CSRS to a new system named the Federal Employees' Retirement System (FERS). As Gale, Holmes, and John explain, "FERS combined a less generous defined benefit plan

¹³⁵ "Longevity risk from the perspective of an insurance company or defined benefit plan sponsor is the exposure that a company has to unexpected decreases in mortality. This is the opposite of mortality risk, which is exposure to increases in mortality." Thomas Crawford, Richard de Haan, and Chad Runchey, *Longevity Risk Quantification and Management: A Review of Relevant Literature* (Schaumburg, IL: Society of Actuaries, 2008), 1, <https://www.soa.org/Files/Research/Projects/research-long-risk-quant-rpt.pdf>.

¹³⁶ Mitchell et al., "Developments in State and Local Pension Plans," 13.

than CSRS, mandatory enrollment in Social Security, and a new DC plan with extensive employer matching.”¹³⁷ The CSRS-to-FERS transition represented significant, structural changes to the system and moved federal civil servants from a purely DB plan to a *blended* or *hybrid* system with multiple components.

At the SLG level, employees were excluded from Social Security until legislative changes in 1950 gave states the ability to participate in the program.¹³⁸ However, before an SLG entity could change its retirement system to include Social Security, it had to hold a referendum for voter approval and enter into a “Section 218 Agreement” with the Social Security Administration. All 50 states have successfully gone through the referendum process, but because different positions—police, firefighters, public administrators, and teachers to name a few—are covered under separate Section 218 Agreements, not all occupational groups in all states have moved to participate in Social Security.¹³⁹ As a result, SLG-level pension systems fall into one of two categories: those that exclude Social Security and those that do not. According to the Bureau of Labor Statistics, 24 percent of SLG workers are not covered under Social Security as of 2016.¹⁴⁰ Significant from a homeland security perspective, Mitchell et al. have observed that a higher proportion of public-safety workers are in plans that fall into this category.¹⁴¹ Further, as Gale, Holmes, and John observed, “Virtually no [SLG workers] are covered by Social Security in Ohio and Massachusetts, and in five other states—Nevada, Louisiana, Colorado, California, and Texas—coverage rates are below 50%.”¹⁴² Thus, the distribution of pension plans that exclude Social Security is not uniform across the country.

¹³⁷ Gale, Holmes, and John, *Public Pensions in Flux*, 2.

¹³⁸ Mitchell et al., “Developments in State and Local Pension Plans,” 13.

¹³⁹ “Section 218 Agreements,” Social Security Administration, accessed October 28, 2017, https://www.ssa.gov/slge/sect_218_agree.htm

¹⁴⁰ Bureau of Labor Statistics, *National Compensation Survey: Retirement Plan Provisions in State and Local Government*, Table 5.

¹⁴¹ Mitchell et al., “Developments in State and Local Pension Plans,” 13.

¹⁴² William G. Gale, Sarah E. Holmes, and David C. John, “Social Security Coverage for State and Local Government Workers: A Reconsideration,” *Journal of Retirement* 3, no. 2 (October 2015): 126, <https://doi.org/10.3905/jor.2015.3.2.123>.

As noted earlier, benefit multipliers among pension plans at the SLG level that exclude Social Security tend to be higher to make up the difference for lost Social Security benefits. This is consistent with Gale, Holmes, and John’s work, which showed a positive correlation between pension valuation for career public servants and the proportion of workers excluded from Social Security in a given state.¹⁴³ In other words, there is a “link between pension generosity and Social Security” on a state-by-state basis: the higher the proportion of SLG workers not covered by Social Security, the more generous the public pension payouts.¹⁴⁴ Despite this higher level of pension generosity, some might consider it an advantage to be a Social Security participant. After all, relying on more than a single source for one’s retirement finances is a means of diversification. Nevertheless, given the public’s lackluster confidence in the Social Security system, such diversification may have little value in the minds of SLG workers, and many may believe it more secure to receive their retirement income solely from a well-managed, well-financed pension fund than to be forced to rely on anything from Social Security.¹⁴⁵

Of course, this line of thinking would depend on the reliability of the individual’s pension fund. Along this line, Gale, Holmes, and John found an intriguing correlation between levels of Social Security participation and pension plan funding: “There is a positive correlation between states that have high unfunded liabilities as a share of annual tax revenue and states where a high share of [SLG workers] are not covered by Social Security.”¹⁴⁶ To appreciate the significance of unfunded liability levels requires an exploration of pension plan finances, which is the subject of the next section.

¹⁴³ Gale, Holmes, and John, 128–129.

¹⁴⁴ Gale, Holmes, and John, 128.

¹⁴⁵ Helman, Copeland, and VanDerhei, *The 2016 Retirement Confidence Survey*, 31.

¹⁴⁶ Gale, Holmes, and John, “Social Security Coverage for State and Local Government Workers,” 127.

B. PENSION FUNDING AND FINANCIAL HEALTH

1. Federal Pension Funds

For some readers, it may be important to stipulate that federal pension trust-fund balances are not what the Congressional Research Service describes as “stores of wealth” like private-sector or SLG-level public pension funds.¹⁴⁷ As such, federal pension trust funds are a bookkeeping abstraction; the assets they hold “function solely as a record of budget authority” rather than anything that can be sold for cash.¹⁴⁸ Despite the virtual nature of the accounting practices governing such pension funds, from an economic standpoint, they very much exist; federal pension trust-fund surpluses reduce the unified federal budget deficit, and shortfalls have the opposite effect.¹⁴⁹

For the federal civil service, DB pension payments are made from the Civil Service Retirement and Disability Fund (CSRDF), and the Office of Personnel Management acts as a fund manager. Contributions to the CSRDF come from federal employees, their agency employers, and investment inflows. Investment returns come exclusively from U.S. Treasury securities because, by law, 100 percent of the fund’s assets must be held in instruments “backed by the full faith and credit of the United States government.”¹⁵⁰ While annuity payments to both CSRS and FERS annuitants come from the same fund, the FERS defined-benefit component is legislatively required to be fully funded using accrual accounting metrics. As the Congressional Budget Office (CBO) explains, “Employers of workers in FERS are required to set aside enough money each year from the combined contributions by employers and employees to pay the retirement benefits accrued by those

¹⁴⁷ Katelin P. Isaacs, *Federal Employees’ Retirement System: Benefits and Financing*, CRS Report 98–810 (Washington, DC: Congressional Research Service, 2015), 15, https://ia801305.us.archive.org/8/items/98-810FederalEmployeesRetirementSystemBenefitsandFinancing-crs/98-810%20Federal%20Employees'%20Retirement%20System_%20Benefits%20and%20Financing.pdf.

¹⁴⁸ Isaacs, 15.

¹⁴⁹ Office of Management and Budget, *Analytical Perspectives: Budget of the U.S. Government, Fiscal Year 2010*, 345.

¹⁵⁰ Tammy Flanagan, “Here’s Some Good News about Your Retirement Benefit,” *Government Executive*, August 14, 2014, <http://www.govexec.com/pay-benefits/retirement-planning/2014/08/heres-some-good-news-about-your-retirement-benefit/91502/>.

workers that year.”¹⁵¹ This requirement speaks volumes about the financial motivation behind the aforementioned federal transition from CSRS to FERS; it essentially required the system to pay for itself and, in doing so, shifted the system from *pay-as-you-go* financing to *advance funding*.¹⁵²

Paradoxically, the pay-as-you-go requirement does not mean that the CSRDF shows zero unfunded liabilities attributable to FERS in its current financial reports, but that has to do with an accounting practice that effectively has FERS employee contributions earmarked to partially fund CSRS payouts.¹⁵³ CSRS and FERS pension payments combined exceed inflows from employee and employer contributions and investment revenue, so the system is still generating liabilities that must be covered by injects from the Treasury’s general fund.¹⁵⁴ According to the Office of Personnel Management, as of the beginning of fiscal year 2016, the CSRDF’s net assets were \$873.3 billion available for benefit payments under both CSRS and FERS.¹⁵⁵ At the same time, the civil service trust fund had an unfunded actuarial liability of \$789.6 billion, consisting of \$739.6 billion attributable to CSRS and \$50 billion to FERS.¹⁵⁶ Projecting forward, the combined unfunded actuarial liabilities of CSRS and FERS are projected to peak in the mid-2020s and fall off precipitously from there.¹⁵⁷ This may be a function of demographics with the number of CSRS recipients decreasing due to mortality. As a result, according to the Congressional Research Service, “the CSRDF will be able to meet its financial obligations

¹⁵¹ Congressional Budget Office, *Options for Changing the Retirement System for Federal Civilian Workers* (Washington, DC: Congressional Budget Office, 2017), 7, <https://www.cbo.gov/system/files/115th-congress-2017-2018/reports/53003-federalretirement.pdf>.

¹⁵² Office of Management and Budget, *Analytical Perspectives: Budget of the U.S. Government, FY 2010*, 345.

¹⁵³ Isaacs, *Federal Employees’ Retirement System: Benefits and Financing*, 14.

¹⁵⁴ Congressional Budget Office, *Options for Changing the Retirement System for Federal Civilian Workers*, 7.

¹⁵⁵ Office of Personnel Management, *CSRDF Annual Report: Fiscal Year Ended September 30, 2016*, 4. Note that the net assets as of the beginning of FY 2017 were \$888.4 billion.

¹⁵⁶ Office of Personnel Management, 26–27.

¹⁵⁷ Office of Personnel Management, 32–33.

in perpetuity”; this result is due, in part, to the structural reform that switched federal civil servants from CSRS to FERS.¹⁵⁸

A separate federal-level pension fund, known as the Department of Defense Military Retirement Fund, is responsible for DB payments for the military retirement system.¹⁵⁹ The Department of Defense reports that the fund “receives income from three sources: (1) normal cost payments from the Services and U.S. Treasury; (2) payment from the U.S. Treasury to amortize the unfunded liability; and (3) investment income.”¹⁶⁰ Like the CSRDF, the investment income for the Military Retirement Fund comes exclusively from instruments “backed by the full faith and credit of the U.S. government.”¹⁶¹ It should be emphasized that, like the CSRDF, the military retirement system receives injects from the Treasury whenever outflows exceed inflows. However, the Military Retirement Fund’s unfunded liabilities are projected to diminish in the future, and these projected reductions can be attributed in part due to the military’s full implementation of the Blended Retirement System starting in 2018.¹⁶²

In summary, the financial condition of both the federal civil service and military pension trust funds is projected to improve over time. These improvements are partially attributable to pension system reforms, and though it will take decades for the systems’ unfunded liabilities to be eliminated, injects from the Treasury enable the federal government to pay pensions today while making progress in amortizing pension debt.

¹⁵⁸ Isaacs, *Federal Employees’ Retirement System: Benefits and Financing*, 14.

¹⁵⁹ “The [Military Retirement System] covers members of the Army, Navy, Marine Corps, and Air Force; however, most of the provisions also apply to retirement systems for uniformed service members of the Coast Guard (administered by the Department of Homeland Security), the Public Health Service (administered by the Department of Health and Human Services), and the National Oceanic and Atmospheric Administration (administered by the Department of Commerce).” Department of Defense, *Military Retirement Fund Audited Financial Report* (Washington, DC: Department of Defense, 2015), 2, https://comptroller.defense.gov/Portals/45/documents/cfs/fy2015/13_Military_Retirement_Fund/2015_MR_F_AFR_Final_20151110.pdf.

¹⁶⁰ Department of Defense, 1.

¹⁶¹ Department of Defense, 14.

¹⁶² Department of the Treasury, *Fiscal Year 2016 Financial Report of the United States Government* (Washington, DC: Government Printing Office, 2017), 105–106.

2. State and Local Pension Funds

Conventional wisdom dictates that state and local governments do not have the same budgetary flexibility as the federal government; their spending is more closely tied to revenue. In the funding of pensions, however, state and local governments have an advantage over the federal government in that they can invest in stocks, real property, and other private investment instruments. On a long-term investment horizon, such instruments have historically provided returns superior to those of government paper. Accordingly, subnational governments have come to rely on those investment returns to fund their pension commitments. Such investment returns are volatile, so in periods of less-than-expected investment performance, pension fund liabilities may exceed assets. When this occurs, the options available to state and local governments include increasing employer or employee contributions (incremental pension reform), cutting costs by cutting staff, or borrowing. Such measures can prove politically challenging for SLG officials; increased contributions get passed on to the public through increased fees or taxes; cutting staff means cutting services, which takes a political toll; and authorization for borrowing at the state level frequently involves challenging processes such as legislative or direct voter approval.

There is another option with less immediate political and financial implications available to state and local jurisdictions when investments underperform: shortchanging pensions by not providing sufficient funds. Presumably, a jurisdiction would only do this in the hopes that future investment returns make up the difference. An observer can tell a pension fund has been shortchanged when a jurisdiction fails to meet its *annual required contribution* (ARC) target in a given year. The ARC is an amalgam of “the employer’s contribution to cover its share of normal cost (the cost of accruing benefits) and the payment required to amortize the unfunded liability.”¹⁶³ Thus, a pension fund’s assets on hand diminish and debt increases when its controlling jurisdiction fails to meet the ARC. Josh Barro, journalist and former senior fellow at the Manhattan Institute for Policy

¹⁶³ Munnell et al., *State and Local Pension Costs: Pre-Crisis, Post-Crisis, and Post-Reform*, 2. Interested readers should see page 5 of this CRR report for a synopsis of the effect a plan’s amortization schedule has on ARC.

Research, refers to such “failure to pay for pension commitments as they accrue” as a “backdoor borrowing vehicle.”¹⁶⁴ This practice may lead to financial challenges in the long run, but it alleviates the political will necessary to enact the aforementioned funding measures. In other words, such ARC shortfalls are financially imprudent but politically expedient.

Some might wonder how such underfunding fits within a legal structure. After all, in the private sector, rules levied by ERISA require DB pension-plan funding levels to be maintained at pre-determined minimums.¹⁶⁵ ERISA, however, does not apply to the public sector. Further, while some states have policies that require pension fund contributions to ARC target levels, legal challenges and other factors give these policies little meaning in practice.¹⁶⁶ Thus, there is nothing compulsory about the annual required contribution.

Nevertheless, most SLG jurisdictions made good-faith efforts to meet ARC targets between 2001 and 2013, according to the National Association of State Retirement Administrators (NASRA).¹⁶⁷ Aggregating ARC funding levels over the same period, the NASRA further found that “the minority of states who fell well short of their ARC requirements disproportionately impact the overall average experience of public pensions receiving their annual required contributions.”¹⁶⁸ The result for the period 2001–2013 involved \$657 billion of funds received against a combined nationwide ARC of \$779

¹⁶⁴ Josh Barro, “How Congress Can Help State Pension Reform,” *National Affairs*, summer 2012, 99, <https://www.nationalaffairs.com/publications/detail/how-congress-can-help-state-pension-reform>.

¹⁶⁵ Richard W. Johnson, Matthew M. Chingos, and Grover J. Whitehurst, *Are Public Pensions Keeping Up with the Times?* (Washington, DC: Brookings Institution, 2013), 15, <https://www.brookings.edu/wp-content/uploads/2016/06/12-public-pensions-johnson-chingos-whitehurst.pdf>; Baily and Kirkegaard, *U.S. Pension Reform: Lessons from Other Countries*, 393.

¹⁶⁶ Keith Brainard and Alex Brown, *The Annual Required Contribution Experience of State Retirement Plans, FY 01 to FY 13*, Spotlight On (Lexington, KY: National Association of State Retirement Administrators, 2015), 8–9, https://www.nasra.org/files/JointPublications/NASRA_ARC_Spotlight.pdf.

¹⁶⁷ Brainard and Brown, 3–4. Connecticut, Montana, Maine, and West Virginia actually exceeded ARC funding levels in 2001–2013. On the other side, New Jersey and Pennsylvania stand out as outliers contributing less than half of ARC over the same period, and Washington, North Dakota, Kansas, and Colorado have chronically fallen short by failing to fund beyond 75 percent of ARC.

¹⁶⁸ Brainard and Brown, 11.

billion; this yielded a “weighted average ARC received” below 85 percent.¹⁶⁹ Similar to the ineffectiveness of state policies requiring pension contributions meeting ARC targets, state balanced-budget requirements also have little positive impact.¹⁷⁰ In fact, as argued by Chaney, Copley, and Stone, the existence of such balanced-budget requirements actually drives states to reduce funding of pensions under conditions of fiscal stress.¹⁷¹ In light of this, Barro’s characterization of pension underfunding as “backdoor borrowing” seems particularly apt.

The chronic underfunding by states like New Jersey, Pennsylvania, Washington, and Colorado raises questions about the financial health and solvency of SLG pension plans. The answer to such questions lies in assessing the levels of pension debt or funded ratios—measures of the degree to which liabilities exceed assets—facing the nation’s SLG pension funds, but aggregates alone do not tell the whole story. After all, if the aforementioned underperformers are driving the nationwide ARC contribution rate, how does one account for states like Connecticut, Montana, Maine, and West Virginia, which exceeded ARC funding levels for the period 2001–2013?¹⁷² Analyzing the SLG retirement system as a whole does not convey the realities each pension plan or jurisdiction faces, and with over 299 distinct state-administered and 5,977 locally administered retirement systems, one can expect great diversity in the financial health of the numerous plans in the United States.¹⁷³ Nevertheless, nationwide aggregates do show the system to be in a

¹⁶⁹ Brainard and Brown, 4.

¹⁷⁰ National Conference of State Legislatures, *NCSL Fiscal Brief: State Balanced Budget Provisions* (Washington, DC: NCSL, October 2010), 4, <http://www.ncsl.org/documents/fiscal/StateBalancedBudgetProvisions2010.pdf>. Between 36 and 45 states legally require a balanced budget depending on how one interprets the language of the various state laws.

¹⁷¹ Barbara A. Chaney, Paul A. Copley, and Mary S. Stone, “The Effect of Fiscal Stress and Balanced Budget Requirements on the Funding and Measurement of State Pension Obligations,” *Journal of Accounting and Public Policy* 21, no. 4 (October 2002): 306–308, [https://doi.org/10.1016/S0278-4254\(02\)00064-9](https://doi.org/10.1016/S0278-4254(02)00064-9).

¹⁷² Brainard and Brown, *Required Contribution Experience of State Retirement Plans*, 3–4.

¹⁷³ The number of SLG level pension systems comes from the U.S. Census Bureau, “2016 Annual Survey of Public Pensions: State & Local Tables,” accessed November, 10, 2017, <https://www.census.gov/data/tables/2016/econ/aspp/aspp-historical-tables.html>.

tenuous financial condition overall, and this suggests that below-average pension funds are truly in dire condition. For the moment, then, this analysis will remain focused on aggregates as an avenue through which to explore government pension funding, discern broad trends, and highlight the impetus for reform. Later, when the thesis sets out to craft plausible future scenarios, the diversity of health of different pension plans (or groups of plans) will be a significant consideration.

Access to the historically superior investment returns of the capital markets is a blessing for SLG pension funds, but the downside of the market cycle can be a curse. Indeed, much of the current pension debt can be attributable to the two financial crises since the early 2000s. As Munnell, Aubry, and Quinby from the Center for Retirement Research at Boston College explain, “State and local plans were making solid progress toward funding until they were thrown severely off course by the bursting of the dot.com bubble and the collapse of asset prices in 2008.”¹⁷⁴ As of 2011, these scholars estimate that the Great Recession had caused aggregate SLG plan value to decline “by about \$1 trillion, substantially undermining the funded status of virtually all state and local plans.”¹⁷⁵ The capital markets have rebounded since those remarks were made, but the national aggregate figures for SLG-level public pension debt remain extraordinary.

Calculating the amount of pension debt for a given pension fund or group of funds involves estimating both investment returns and future benefit payments. The benefit estimates factor in future wage growth and the demographic characteristics of the covered population: the number of working and retired members, when they will retire, and how long they will live. Regarding investment returns, disagreement exists between economists and many actuaries over the correct discount rate to use when making projections. Economists Brown, Clark, and Rauh claim, “Many plan administrators, policy-makers, DB plan actuaries, labor unions, and at least one think tank” use an “inappropriately high discount rate, usually 7–9% instead of a rate closer to 4% that would approximate the real

¹⁷⁴ Alicia H. Munnell, Jean-Pierre Aubry, and Laura Quinby, “Public Pension Funding in Practice,” *Journal of Pension Economics and Finance* 10, no. 2 (April 2011): 248, <https://doi.org/10.1017/S1474747211000126>.

¹⁷⁵ Munnell, Aubry, and Quinby, 248.

rate.”¹⁷⁶ Supporting this claim is the NASRA’s recent report that the median investment return assumption among SLG pension fund administrators was 7.25 percent.¹⁷⁷ Data promulgated by the Stanford Institute for Economic Policy Research (SIEPR) illustrate just how pension debt estimates can vary when using these different discount rate assumptions. According to SIEPR, the aggregate SLG-level pension debt as of 2017 was as follows:

- \$5.176 trillion or \$43,113 per household on a market basis
- \$1.530 trillion or \$12,752 per household on an actuarial basis¹⁷⁸

A conservative, economist-preferred discount rate was used to calculate the “market basis” figures while an aggressive, fund administrator–preferred discount rate was used to calculate the “actuarial basis” figures.

Regardless of the basis used, when expressed in absolute and per household dollar terms, these funding gap estimates seem daunting. It is all the more concerning that the SLG debt levels as a share of the gross domestic product have remained at historically high levels since the depths of the Great Recession, according to Pew Charitable Trusts (see Figure 1).¹⁷⁹ Some may find more revealing the ratios of aggregate pension-fund asset values over liabilities—funding ratios—using both bases: they are just 44.6 percent and

¹⁷⁶ Jeffrey R. Brown, Robert Clark, and Joshua Rauh, “The Economics of State and Local Pensions,” *Journal of Pension Economics and Finance* 10, no. 2 (April 2011): 163, <https://doi.org/10.1017/S1474747211000138>.

¹⁷⁷ National Association of State Retirement Administrators, *Public Pension Plan Investment Return Assumptions*, 3.

¹⁷⁸ Stanford Institute for Economic Policy Research, “U.S. Pension Tracker.” SIEPR defines pension debt as “liabilities minus assets, aka unfunded liability.” Per household figures are based on the total number of U.S. households. The market basis reflects pension debt using a 3 percent discount rate whereas the actuarial basis reflects a 7.4 percent discount rate. Of note, SIEPR chose the 3 percent market rate based on the “CalPERS high termination rate,” and it chose the 7.4 percent actuarial rate based on the discount rates reported by pension systems.

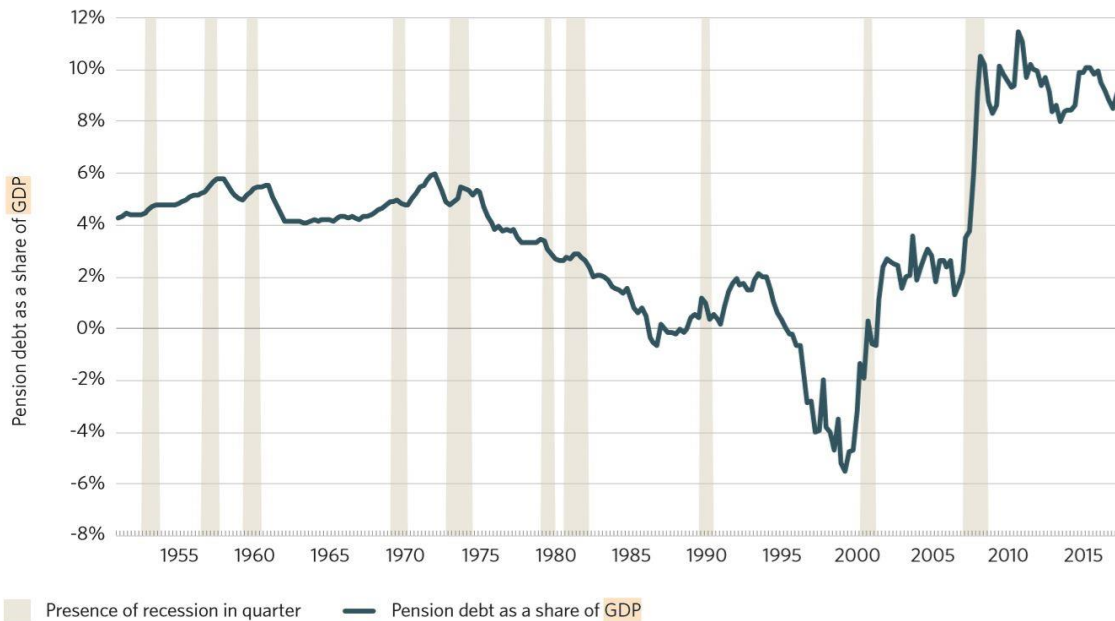
¹⁷⁹ Pew Charitable Trusts, *The State Pension Funding Gap: 2017*, 15.

73.1 percent using SIEPR’s market and actuarial bases for 2017, respectively.¹⁸⁰ Still, others may find the “per household” figures most meaningful. If one believes that pension funds can only achieve conservative investment returns—3 percent (market basis)—then every household would have to write a check for \$43,113 just to make the nation’s SLG public-employee pension system whole.¹⁸¹ That is, checks collected from every household would hypothetically go into the pot of assets such that all the nation’s SLG pension plans would have a funding ratio of 100 percent with assets equal to liabilities. With a 100 percent funding ratio achieved, pension funds would not have to liquidate principal and dig an increasingly bigger hole to pay current annuitants, and the ARC would consist exclusively of the cost of pension benefits accrued each year (normal costs). Alternatively, if one believes these SLG funds will consistently achieve better investment returns—7.5 percent (actuarial basis)—then it will be much cheaper, but every household would need to come up with \$12,752 just to make the aggregate SLG public employee pension system whole.¹⁸²

¹⁸⁰ “U.S. Pension Tracker, Key Metrics for Year 2017 (Market Basis),” Stanford Institute for Economic Policy Research, accessed August 17, 2019, https://us.pensiontracker.org/entireList.php?selYear=2017&varName=field9&agenty_type=&showOnly=1; “U.S. Pension Tracker, Key Metrics for Year 2017 (Actuarial Basis),” Stanford Institute for Economic Policy Research, accessed August 17, 2019, https://us.pensiontracker.org/entireList.php?selYear=2017&varName=field4&agenty_type=&showO.

¹⁸¹ Stanford Institute for Economic Policy Research, “U.S. Pension Tracker.”

¹⁸² Stanford Institute for Economic Policy Research.



Source: The Federal Reserve
 © 2019 The Pew Charitable Trusts

Figure 1. State and Local Pension Debt as a Share of GDP¹⁸³

As of this writing, 2017 was the most recent data available, and there are three key takeaways that emanate from this data point. First, the nation’s SLG pension system is underfunded in aggregate. Second, the magnitude of the funding gap depends on assumptions about pension funds’ expected investment returns (discount rate). Third, regardless of whether one makes conservative or optimistic discount rate assumptions, aggregate SLG pension debt amounts to a consequential five-figure sum on a per-household basis. In addition to these points, the trends appear less than promising. Consider the graphic in Figure 2, which shows the summary findings from the NASRA’s Public Fund Survey.

¹⁸³ Source: Pew Charitable Trusts, *The State Pension Funding Gap: 2017*, 6.

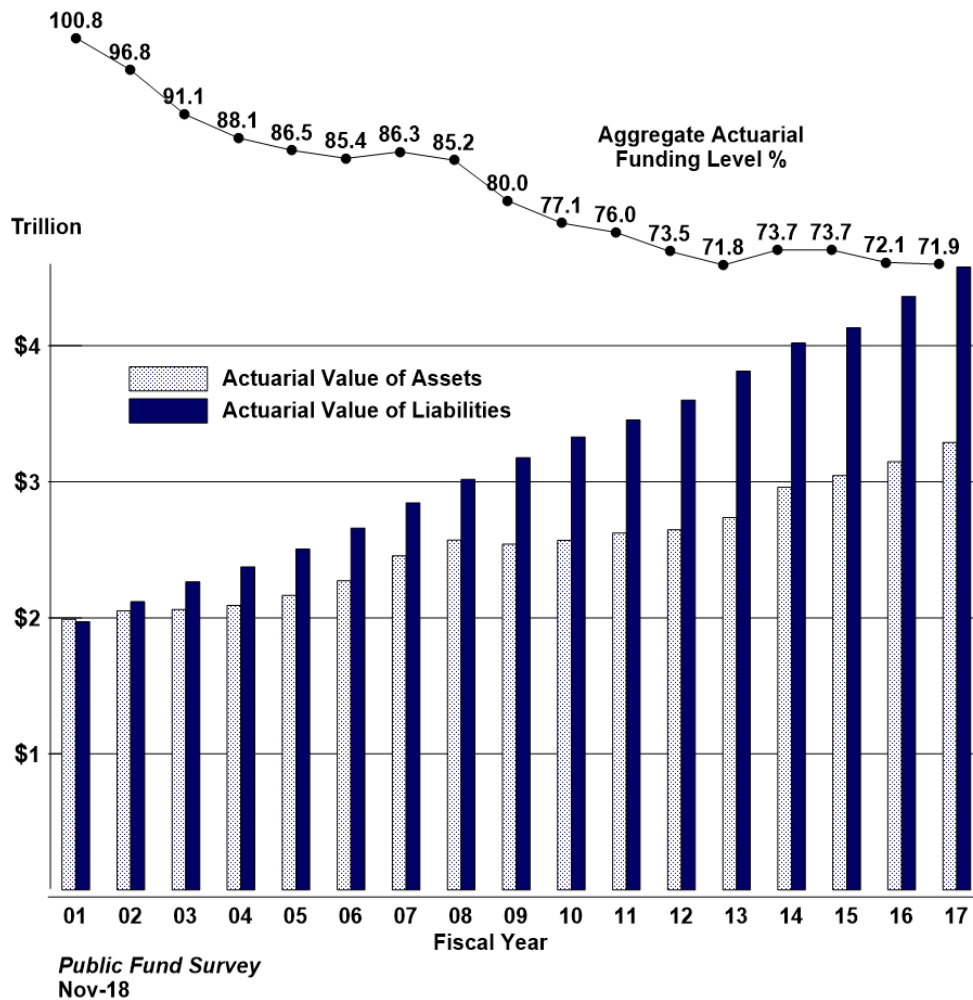


Figure 2. Summary Findings: 2017 NASRA Public Fund Survey¹⁸⁴

At face value, NASRA has illustrated how funding ratios have not improved commensurate with the rebounding capital market performance since the depths of the Great Recession. However, a caveat to this is that “the actuarial value of assets reflects the phasing-in, or smoothing, of investment gains and losses”; most plans had “completed recognition of the sharp investment losses incurred in 2008–09” such that those losses have since been offset

¹⁸⁴ Source: “Public Fund Survey: Summary of Findings for FY 2017,” National Association of State Retirement Administrators, November 2018, <https://www.nasra.org/publicfundsurvey>. It should be noted that this NSRA dataset includes 124 of the nation’s largest plans. It is only slightly less comprehensive than the dataset used by SIEPR in terms of the total values of assets and liabilities, and the 2015 funding ratios for both sources—73.7 percent (NASRA) and 72.3 percent (SIEPR; actuarial basis)—are consistent.

by market gains.¹⁸⁵ Thus, absent this “smoothing” from fund accounting practices, the graphic would have shown a sharper decline and rebound between 2008 and 2016, but the end result would still be actuarial funding ratios in the low 70 percent range. This funding ratio represents a significant downward trend compared with the mid and early 2000s.

The diminishing funding ratios beg the question of how long it will take for SLG retirement systems to run out of money, making them unable to meet the commitments made to current and former employees. The aforementioned 2011 article from Munnell, Aubry, and Quinby provides a metric for answering this question:

The simplest place to start is the ratio of plan assets to benefits, which shows for how many years’ plans could—with no further investment returns, no additional contributions, and no growth in benefits—continue to pay benefits. . . . [For example], in 2001, assets were 23 times annual benefit payments, suggesting that with money on hand state and local plans in the aggregate could continue to pay benefits for 23 years. In the wake of the bursting of the dot.com bubble, this ratio dropped for the next 4 years to 19, and was headed back up until the financial crisis of 2008. The ratio now [as of 2011] stands at 13. Moreover, plans are distributed around that average ratio. . . . One plan—Kentucky ERS—has a ratio of 5, and 33 plans—including large plans such as Illinois SERS, New Jersey PERS, and New York City ERS—have ratios between 6 and 10.¹⁸⁶

Applying this “starting point” to the 2015 data would yield much the same answer, as the funding ratios have been fairly consistent since 2011. So, this heuristic provides a quick and simple way to assess how long a given pension fund or group of funds has until its “exhaustion date” or insolvency. The heuristic itself, however, involves some fairly rigid assumptions about return on investments, contributions, and benefits, and as is discussed in the following section, from a financial perspective, the essence of retirement reform involves changing these assumptions to extend the life of the pension fund to perpetuity or to some target end date.

Munnell, Aubry, and Quinby’s analysis, however, did not end with this straightforward heuristic. These scholars applied different approaches—“termination” and

¹⁸⁵ National Association of State Retirement Administrators.

¹⁸⁶ Munnell, Aubry, and Quinby, “Public Pension Funding in Practice,” 248.

“ongoing”—to refine their exhaustion date estimates for SLG pension funds.¹⁸⁷ Further, because each SLG fund is a separate entity with its own unique funding ratio, their analysis projected a distribution of how many plans will fail sooner and later. The explanation here is not intended to delve too deeply into the work of these economists. Rather, the point is to stress that expert analysis projects over half of the nation’s SLG pension plans becoming insolvent before 2030 and most of the rest running out of money by 2040.¹⁸⁸ This occurs before career SLG-level workers who are currently approaching retirement reach their mid-80s. This result should be disconcerting to anyone expecting the government to meet its obligations and concerned about the effects if it fails to do so. It should be especially disconcerting for stakeholders in jurisdictions with pension funds whose financial health is below average. After all, their retirement system’s timeline to insolvency will be shorter than average.

C. REFORM: EVOLUTION, TRENDS, AND ADEQUACY

If the previous section framed pension reform as a financial necessity, then this section addresses questions of how government jurisdictions have responded, thus far, to address pension debt and achieve sustainability for public pensions. To some extent, the concepts introduced early in the chapter provide levers that can be manipulated by states and local jurisdictions to adjust their pension plans incrementally; reducing benefit multipliers, lengthening the periods used to determine terminal earnings, changing COLA provisions, or even introducing rules to curtail pension spiking could move pension plans toward a more solid financial footing. Beyond manipulating these levers, more fundamental, structural change—such as transitioning to hybrid plans or abandoning the DB pension construct altogether for DC instruments—will have a more significant financial impact. Federal reform is discussed in this section because of the instructive

¹⁸⁷ Under the termination approach, benefits already accrued are put in one plan separate from future accruals; future benefit accruals are assumed to be fully covered by future contributions, so it provides a way to calculate how long existing accrued benefits can be paid using existing assets. In the “ongoing” approach, past and future accruals (and hence pension debt) are comingled. Munnell, Aubry and Quinby, “Public Pension Funding in Practice,” 264.

¹⁸⁸ Munnell, Aubry and Quinby, “Public Pension Funding in Practice,” 265.

example it provides, but the emphasis is on the SLG level and whether current reforms are adequate to address SLG pension debt in the long run.

1. Federal Reform

The most significant reform to the federal pension system was mentioned in the previous section: the 1980s' transition from CSRS to FERS. That transition moved federal civil servants from a purely defined-benefit, non-Social Security pension to one offering employees a benefits triad consisting of DB and DC components along with access to Social Security. This structural reform came in reaction to daunting financial realities. When COLA adjustments from the inflation of the late 1970s and early 1980s drove federal pension liabilities markedly higher, Congress passed and President Reagan signed into law the Federal Retirement Reform Act of 1986, which established FERS.¹⁸⁹ Even though the FERS benefit multiplier is half that of its predecessor, this transition did not reverse the system's financial fortunes overnight because it affected only new federal employees hired after January 1, 1987. Nevertheless, this structural reform weaned the federal system off an expensive pay-as-you-go system to one legally required to fund pension benefits as they accrue. Arguably, this has worked given the projected improvements in the CSRDF's unfunded liabilities discussed previously.

What is more significant for this thesis, however, is that this structural reform fundamentally changed the equation for federal employees. The addition of Social Security and matching in the DC component meant that they were earning retirement benefit value that they could take with them if they left federal service. Further, for federal employees who serve a full career, even though the benefit multiplier of the DB component was cut in half under FERS, the overall value of pension benefits under the FERS system was

¹⁸⁹ Gale, Holmes, and John, *Public Pensions in Flux*, 2–3; Federal Employees' Retirement System Act of 1986, Pub. L. No. 99–335, § 101 (1986), <https://www.doi.gov/sites/doi.gov/files/migrated/flert/training/upload/Public-Law-99-335-HR2672-06-06-1986.pdf>.

comparable to CSRS.¹⁹⁰ Therefore, from an employee’s perspective, the most significant change stemming from the CSRS-to-FERS transition was the creation of some degree of portability in their federal retirement benefits.

In the decades since the FERS transition, the federal system has remained relatively unchanged, but recently, the federal government increased employee contributions to the DB component of FERS. Specifically, two changes in close succession increased participant contributions five-fold—from 0.8 percent of salary to 4.4 percent—for employees who started after January 1, 2014.¹⁹¹ This reform will help improve the financial health of the CSRDF, but it will also diminish the value of the DB pension benefit from the federal employee’s perspective. Overall, however, this employee contribution increase hardly equates to the structural changes made in the 1980s, so this recent reform may be characterized as more incremental than systemic.

Likewise, the military’s transition to the so-called Blended Retirement System may also be characterized as incremental. The military’s new system involves a reduction in the benefit multiplier from 2.5 percent to 2 percent and offsets this modest 20 percent reduction by adding employer matching to the existing DC instrument, the Thrift Savings Plan.¹⁹² Interestingly, it preserves the 20-year cliff vesting period but includes retention bonuses for mid-career employees, and it also offers a lump-sum payout option.¹⁹³ This new system was intended as a way to recruit millennials who tend to favor more flexible retirement

¹⁹⁰ According to Hyde and Naff, FERS “paid about the same in benefit levels as the old civil service retirement system (CSRS) after Social Security is factored in.” Hyde and Naff, “Public Sector Pensions and Benefits: Challenges in a New Environment,” 161. It should be noted that other observers provide slightly different assessments. Ippolito, for example, claims that “the *FERS* pension is less than [*sic*] one-third of the old *CSRS* plan,” but his analysis excludes Social Security effects other than the temporary “bridge” payment paid by the Office of Personnel Management to retirees who retire early. Ippolito, “Stayers as ‘Workers’ and ‘Savers,’” 278–280. By contrast, Asch and Werner “find FERS to be more generous than CSRS because expected lifetime wealth is predicted to be greater” under a variety of assumptions. Asch and Warner, *Separation and Retirement Incentives in the Federal Civil Service*, xii, 47.

¹⁹¹ Isaacs, *Federal Employees’ Retirement System: Benefits and Financing*, 10–11.

¹⁹² Asch, Mattock, and Hosek, *The Blended Retirement System*, 5–7.

¹⁹³ Asch, Mattock, and Hosek, 7.

options than other generations.¹⁹⁴ It may help accomplish that goal, but the changes seem less consequential than those involved in the civil service transition from CSRS to FERS.

2. Reform at the State and Local Level

While the financial challenges and low funding ratios facing SLG-level pension systems are unique in the system's history, change and reform are not. Hyde and Naff delineate four phases or eras in the evolution of SLG-level public-sector retirement systems: the 1930–1950 “Social Security Exclusion Era,” the 1950–1980 “Social Security Inclusion Era,” the 1980–2000 “Growth and Investment Era,” and the 2000 to present “Return to Fiscal Realities Era.”¹⁹⁵ The first era no longer affects anyone in the labor force (and a rapidly declining population of annuitants), and it represents the era when public servants were covered exclusively by employer-sponsored DB plans with relatively high benefit multipliers. As previously discussed, legislative changes in the 1950s allowed SLG employees to participate in the Social Security program, but not all plans made the transition, and numerous non–Social Security plans still exist today. Benefit multipliers dropped during the second era as plans enabled their employees to vest in Social Security, and the Growth and Investment Era was characterized by remarkable confidence in financial markets by state and local governments. During this third era, “governments realized that investment returns (i.e., earning on investments) could allow for more generous payments to beneficiaries without raising either employee or employer contributions levels and causing undue fiscal stress on governments.”¹⁹⁶ Unfortunately, such generosity has proven difficult to pare down despite diminished investment returns during the Return to Fiscal Realities Era.

Perhaps the strong market performance of the 1980s set state and local jurisdictions up for failure by providing false expectations about funding available for DB pensions. No

¹⁹⁴ Military Compensation and Retirement Modernization Commission, *Report of the Military Compensation and Retirement Modernization Commission*, 20–21.

¹⁹⁵ Hyde and Naff, “Public Sector Pensions and Benefits: Challenges in a New Environment,” 159–160.

¹⁹⁶ Hyde and Naff, 160.

matter what the root causes, the market shocks of the 2000s ushered in the current era in which “many state and local retirement plans are on an unsustainable course, having failed to set aside enough money to fund the promises they have made.”¹⁹⁷ This begs the question of what the state and local governments have done to adjust to these fiscal realities and whether any reforms pursued thus far have been adequate.

Regarding recent reforms, NASRA researchers Brainard and Brown observed that change for the thousands of state and local government retirement systems in the United States fall in an observable pattern. Specifically, the most common types of reform include the following: (1) increased employee contributions, (2) decreased retirement benefits, (3) reductions in the plans’ COLA methodology, (4) increased vesting or longevity requirements to qualify, and in some cases, (5) the abandonment of defined-benefit retirement plans altogether.¹⁹⁸ Across this spectrum, these changes have affected current and future employees exclusively, and in many cases, the steepest cuts or contribution increases applied only to newly hired employees (hereinafter “new hires”).¹⁹⁹ As a result, there was generally no diminishment of benefits for current retirees. Further, every pension plan is unique. These researchers observed that “one overarching characteristic shared by most of the reforms is a shift from employers to employees of the risk associated with financing retirement benefits.”²⁰⁰ Indeed, any change that reduces the value of an employee’s DB pension shifts the risk from employer to employee.

Other observers, including the Pew Center on the States and accounting scholar Adriana Cordis, have used legislative data compiled by the National Conference of State

¹⁹⁷ “Public Sector Retirement Systems,” Pew Charitable Trusts, accessed October 26, 2016, <http://www.pewtrusts.org/en/projects/public-sector-retirement-systems>.

¹⁹⁸ Brainard and Brown, *Significant Reforms to State Retirement Systems*, 2–5.

¹⁹⁹ Brainard and Brown, 3–4.

²⁰⁰ Brainard and Brown, 6.

Legislatures to analyze reform trends coming out of the great recession, and their assessments closely match those of NASRA.²⁰¹ According to Pew,

The most common actions included asking employees to contribute a larger amount toward their pension benefits; increasing the age and years of service required before retiring; limiting the annual cost-of-living (COLA) increase; and changing the formula used to calculate benefits to provide a smaller pension check. States also have cracked down on abuses, such as the practice of “spiking” final pay to get a larger pension check by including overtime pay and sick leave.²⁰²

In addition to these trends, Cordis remarks that reform will increase the amount of risk borne by employees, concluding that “state pension and retirement legislation enacted in the recent years across the United States shows a clear trend: states are reducing the generosity of public pensions in an effort to control costs and enhance sustainability.”²⁰³ Further, due to political considerations, most reforms apply exclusively to current employees and new hires; in some instances, reformers have attempted to make changes impacting current retirees—through attempts to freeze, trim, or eliminate COLA increases—but such attempts have resulted in legal challenges that leave ultimate outcomes uncertain.²⁰⁴

As with recent reform at the federal level, most of the aforementioned reform activity may be characterized as incremental rather than systemic. Admittedly, a shift away from exclusive reliance on traditional DB pensions toward DC arrangements has taken place in some cases. It bears emphasis, however, that such reform activity among the states has been “modest” since the financial crisis, according to Munnell, Aubry, and Cafarelli.²⁰⁵

²⁰¹ Pew Center on the States, “The Widening Gap Update,” 8; Cordis, “An Analysis of Public Pension Systems Reforms”; Snell, *Pensions and Retirement Plan Enactments in 2012 State Legislatures*.

²⁰² Pew Center on the States, “The Widening Gap Update,” 8.

²⁰³ Cordis, “An Analysis of Public Pension Systems Reforms.”

²⁰⁴ Cordis, “An Analysis of Public Pension Systems Reforms”; Pew Center on the States, “The Widening Gap Update,” 8.

²⁰⁵ Alicia H. Munnell, Jean-Pierre Aubry, and Mark Cafarelli, *Defined Contribution Plans in the Public Sector: An Update* (Chestnut Hill, MA: Center for Retirement Research at Boston College, 2014), 7, http://crr.bc.edu/wp-content/uploads/2014/04/SLP_37_508rev.pdf.

As of 2014, these authors note that only Michigan and Alaska introduced plans requiring newly hired state employees to participate in an exclusively DC plan, and six states switched from a traditional defined-benefit plan to a hybrid plan.²⁰⁶ Further, in a unique development that drew legal challenges, three states introduced legislation to switch to cash balance plans.²⁰⁷ The motivation for such shifts, according to Munnell and her colleagues, lies in “a desire to avoid future unfunded liabilities, to reduce investment and [longevity] risk, and to provide some benefits to short-tenure workers.”²⁰⁸ Furthermore—and most significantly—wherever DC arrangements have been introduced, overall retirement benefit levels have diminished as a result.²⁰⁹ This stands in stark contrast to the federal shift to a hybrid construct under FERS, which, as previously discussed, was a value-neutral transition from the employee perspective.

Considering all these assessments of SLG pension reform, reform trends can be summarized succinctly. “Pension reform” means a transition to a system with diminished retirement benefits for new employees where the employee bears more risk. Further, there has yet to be a rush to engage in a fundamental shift away from traditional DB arrangements, but where such shifts have taken place, the result is (again) diminished retirement benefits. Overall, these trends create a bifurcated system of pension benefits in which new hires are working toward a less lucrative pension than senior employees have.

3. Adequacy and Responsiveness of State- and Local-Level Reforms

Turning attention now to the adequacy of recent SLG-level reforms, a 2013 study by Munnell et al. considered a diverse sample of 32 of the largest plans across 15 states and explored the manner in which they changed subsequent to the 2007–2009 economic

²⁰⁶ Munnell, Aubry, and Cafarelli, 2.

²⁰⁷ Munnell, Aubry, and Cafarelli, 3. Cash balance plans represent a public-pension innovation that has not been widely adopted. See the Appendix for a brief description of cash balance plans and their associated financial incentives.

²⁰⁸ Munnell, Aubry, and Cafarelli, 7.

²⁰⁹ Munnell, Aubry, and Cafarelli, 6–7.

crisis.²¹⁰ Although the sample size seems small, these plans represented a majority of the pension liabilities and membership of nation-wide SLG retirement systems.²¹¹ As Munnell et al. explain, the study assessed the ARC for every plan under “pre-crisis, post-crisis, and post-reform” scenarios and compared the results of each scenario to illustrate the efficacy of the reforms made.²¹² Significantly, the study assumed that the plans studied were funded at 100 percent of ARC (zero shortfalls), so ARC was an effective measure of pension plan financial health because meeting ARC targets equates to amortizing existing levels of pension debt over time. The detail and level of analysis used in this study were remarkable and beyond the scope of this discussion, but the authors provided an overall assessment that was “encouraging” in their view:

The results show that most of the sample plans responded with significant pension reforms, generally increasing employee contributions and lowering benefits for new employees; the changes were largest for plans with serious underfunding and those with generous benefits; in most cases, reforms fully offset or more than offset the impact of the financial crisis on the sponsors’ annual required contribution; and employer contributions to accruing benefits for new employees were cut in half, *sharply lowering compensation for future workers*. In short, states have made more changes than commonly thought. Whether these changes stick or not is an open question.²¹³ [emphasis added]

This view suggests that the situation may not be quite as dire as the unprecedented level of pension debt indicates. Furthermore, Munnell et al. conclude that the jurisdictions responsible for these plans are addressing their unfunded liability issues in a manner proportionate to the magnitude of the challenge faced. That is, when it comes to enacting pension reform, state and local governments seem responsive to their financial realities. Tellingly, however, the authors warn that jurisdictions will need both to stick with the reforms made and to meet ARC targets for their conclusions to hold true, and they admit

²¹⁰ Munnell et al., *State and Local Pension Costs: Pre-Crisis, Post-Crisis, and Post-Reform*.

²¹¹ Munnell et al., 1.

²¹² Munnell et al., 2–3.

²¹³ Munnell et al., Abstract.

that the fiscal discipline required to consistently fund to ARC levels has been found lacking in many jurisdictions.

Other pension experts seem to be less encouraged in their assessments of the adequacy of pension reform at the SLG level. Pew Charitable Trusts concluded that despite benefiting from reforms and strong investment returns since the financial crisis, “state and local policymakers cannot count on investment returns over the long term to close this gap and instead need to put in place funding policies that put them on track to pay down pension debt.”²¹⁴ More negatively, Bloomberg journalist Josh Barro emphasizes that reforms applied exclusively to new hires produce only “negligible short-term savings” in positing that “while reform initiatives have been numerous, they have, for the most part, been ineffective.”²¹⁵ Barro’s statements are somewhat dated, though, and despite his somewhat sweeping conclusion that “states need to abandon the defined-benefit model” altogether, he admits the number of states enacting major reforms had increased in number and aggressiveness.²¹⁶

D. CONCLUSION

This chapter introduced and expanded on a myriad of concepts and terms that could prove particularly valuable to a reader with limited or focused knowledge about retirement systems used in the public sector. It also gave some indication as to the financial incentives embedded in public pensions. Beyond this baseline delineation of concepts and terms, this chapter assessed the financial condition of public pension plans from a national, aggregated perspective, and it explored the current trajectory of reform efforts.

From this discussion, it should be clear that something needs to change to shore up pension system solvency at the SLG level. The sheer magnitude of the aggregate pension debt is staggering, multiple think tanks have engaged in research projecting how long until

²¹⁴ Pew Charitable Trusts, *The State Pensions Funding Gap: Challenges Persist* (Philadelphia: Pew, 2015), <http://www.pewtrusts.org/en/research-and-analysis/issue-briefs/2015/07/the-state-pensions-funding-gap-challenges-persist>.

²¹⁵ Barro, “How Congress Can Help State Pension Reform,” 92–95.

²¹⁶ Barro, 92–95.

systems will run out of money, and the most common reforms pursued by government entities to this point have been incremental and applied exclusively to new hires. No one in the field seems to be suggesting that these concerns are overblown, and despite strong investment performance in the recent past, the level of aggregate SLG pension debt has not rebounded in a meaningful manner.²¹⁷ While this may not be true for every pension plan at the state and local level—there are thousands of pension plans, after all, and some are in excellent shape—the condition of the aggregate system is such that reform would seem to be particularly urgent for plans with below-average financial health.

Thus far, this thesis has focused on the past and present state of affairs with regards to public pensions and pension reform. Subsequent chapters refocus on the drivers of change and potential future outcomes. In light of current conditions, it seems reasonable to suggest that public pensions in many SLG jurisdictions throughout the nation are on the precipice of significant change. Such change will come either through proactive, voluntary reform or through the kind of forced adjustments that result from financial failure and bankruptcy.

²¹⁷ Pew Charitable Trusts, *The State Pension Funding Gap: 2017*, 5–6.

IV. HUMAN CAPITAL AND LABOR MARKET EFFECTS

In the effort to identify factors that may influence future scenarios, the previous chapter focused primarily on pension finances and present reform trends. This chapter shifts the focus away from the current financial realities to explore the potential implications of pension reform on the public-sector workforce and labor market. Insight into these implications can be gleaned from a variety of academic fields, but the principal sources in this chapter come from economics.

A. IMPLICATIONS OF A CHANGING INCENTIVE STRUCTURE

It is a central theme of economics that incentives promote effort and performance.

—Roland Benabou and Jean Tirole²¹⁸

One need not be an ardent free-market idealist to embrace the notion that workers—even public servants—behave as rational actors seeking to maximize utility and wealth.²¹⁹ Most observers would agree that the financial incentives embedded in an employer’s compensation structure not only impact worker productivity but also guide choices made by members of the labor force. Further, the influence of a compensation regime extends beyond the individual worker to the organization. As Jeffrey Pfeffer suggests, “Decisions about pay . . . help establish a company’s culture by rewarding the business activities, behaviors, and values that senior managers hold dear.”²²⁰ Thus, it seems that a compensation structure has the potential to drive profitability—or effectiveness in the case

²¹⁸ Benabou and Tirole, “Intrinsic and Extrinsic Motivation,” 489.

²¹⁹ In an intriguing historical example from outside the capitalist world, Lenin advocated the use of financial bonuses to motivate the Russian peasantry to increase agricultural production and participate in co-operative trade as part of the Soviet’s new economic policy of the early 1920s. Vladimir Il’ich Lenin, “On Co-Operation,” in *Lenin: Collected Works (August 1921–March 1923)*, ed. David Skvirsky and George Hanna, vol. 33 (Moscow: Progress Publishers, 1973), 467–71.

²²⁰ Jeffrey Pfeffer, “Six Dangerous Myths about Pay,” *Harvard Business Review* 76, no. 3 (June 1998): 110.

of a public-sector entity—by aligning incentives for the workers with those of the firm or mission.

Consider, for example, the manner in which many private venture-backed companies structure compensation for both members of the management team and employees with distinct abilities and talents. Before an initial public offering, such companies commonly grant stock options with vesting requirements to key members of their organizations as a means to retain and motivate them beyond going public.²²¹ Likewise, merit pay, profit sharing, and other gain-sharing schemes have a similar effect on employee motivation and performance, notes Kraizberg, Tziner, and Weisberg.²²² In the public sector, however, compensation structures tend to be less diverse and, arguably, less interesting because there are no profits to share or initial public offerings, and merit pay has proven difficult to apply.²²³ Beyond salary, though, the defined-benefit pension construct persists widely in the public sector, but—as discussed in Chapter III—this construct is in the process of undergoing significant change. Because there are incentives embedded in any compensation scheme, assessing what these incentives are and how they will change deserves scrutiny. To the extent that such incentives drive the behavior of public servants, the prospect of pension reform raises questions about how pension reform will change public servant behavior, productivity, and organizational culture and effectiveness.

²²¹ John R. M. Hand, “Give Everyone a Prize? Employee Stock Options in Private Venture-Backed Firms,” *Journal of Business Venturing* 23, no. 4 (July 2008): 386–388, <https://doi.org/10.1016/j.jbusvent.2007.03.002>.

²²² Elli Kraizberg, Aharon Tziner, and Jacob Weisberg, “Employee Stock Options: Are They Indeed Superior to Other Incentive Compensation Schemes?,” *Journal of Business and Psychology* 16, no. 3 (Spring 2002): 383, <https://doi.org/10.1023/A:1012820923455>.

²²³ J. Edward Kellough and Haoran Lu, “The Paradox of Merit Pay in the Public Sector: Persistence of a Problematic Procedure,” *Review of Public Personnel Administration* 13, no. 2 (Spring 1993): 45–46, 55, <https://doi.org/10.1177/0734371X9301300204>; John Stein Monroe, “Pay for Performance Haunted by NSPS Failure,” *Federal Computer Week*, October 29, 2009, <https://fcw.com/articles/2009/11/02/feature-nsps-pay-for-performance.aspx>.

1. Turnover

Concepts emanating from personnel economics suggest that employee *turnover* or quit rates will increase as a function of pension reform.²²⁴ Using an “option value approach,” Lazear theorizes that the financial incentives embedded in DB pensions motivate workers to remain in service and exert effort until a given age or tenure, at which point the incentives motivate them to retire.²²⁵ Up to a critical age or tenure, the NPV of an employee’s pension annuity increases, but after that critical point, the marginal value declines. Intuitively, this is what lies behind the retention incentive for midcareer employees mentioned in Chapter III: DB structural features, particularly vesting requirements and backloading, create a financial incentive for professionals to stay on the job with their employers. The longer an employee remains with a particular employer, the more significant these incentives become, and the lack of portability ties the employee to the employer. Such retention incentives—described by Thom Reilly and others as “golden handcuffs”—serve to keep professionals on the job until they reach a critical point in their tenure.²²⁶

Lazear claims that DB pensions “have a profound effect on turnover rates. Far from being merely variations of a tax-free savings account, most pension formulas influence the entire age-tenure of the firm.”²²⁷ Lazear’s conclusion is distinctly instructive for this thesis. After all, to the extent that it alters the structure or reduces the value of public-servant retirement compensation, pension reform may facilitate the departure of an organization’s

²²⁴ Throughout this discussion, turnover refers to voluntary separations or “quits” as defined by the Bureau of Labor Statistics. March and Simon offer a more detailed definition: “Turnover is defined as leaving the formally defined organization,” and it is distinct from interdepartmental transfers in larger organizations. “Job Openings and Labor Turnover Survey: Data Definitions,” Bureau of Labor Statistics, last modified April 11, 2017, <https://www.bls.gov/jlt/jltdef.htm#4>; James G. March and Herbert A. Simon, *Organizations* (New York: Wiley, 1958), 99.

²²⁵ Lazear, “Pensions and Deferred Benefits as Strategic Compensation,” 264–70. See also Edward P. Lazear and Robert L. Moore, “Pensions and Turnover,” 165–168.

²²⁶ Reilly, “Comparing Public-versus-Private Sector Pay and Benefits,” 539. For an analysis of the costs incurred by public employees who move from one employer to the next mid-career, see Robert M. Costrell and Michael Podgursky, “Golden Handcuffs,” *Education Next* 10, no. 1 (2010): 63–65, <https://doi.org/10355/8372>.

²²⁷ Lazear, “Pensions and Deferred Benefits as Strategic Compensation,” 269.

most experienced employees. Speaking metaphorically, pension reform seems to be turning the golden handcuffs into something embrittled and more apt to crack, like pig iron.

Much of the data supporting Lazear’s work focus on the private sector, but Lewis and Stoycheva establish an empirical correlation between pension reform and turnover rates in the public sector.²²⁸ Specifically, these public policy scholars analyzed three decades of data on mid-career federal employees, comparing turnover rates between employees covered under CSRS and FERS. Their conclusions show a remarkable increase in turnover between the cohort of federal workers covered under the purely DB, non–Social Security CSRS plan and the hybrid FERS plan:

Removing federal employees’ “golden handcuffs” appears to have freed more mid-career employees to leave federal service. Among experienced employees in their late 30s to early 50s, turnover rates for FERS employees are typically one-third higher than those for comparable CSRS employees. This probably benefited the federal employees who chose to leave for better jobs or other options, knowing that they could take more of their pension benefits with them.²²⁹

In light of these findings, it seems significant to restate that the CSRS-to-FERS transition was a value-neutral reform overall.²³⁰ As was pointed out in Chapter III, with the FERS DB component being worth half that of CSRS and the rest of the value being delivered through a DC component and Social Security, the only essential change was to make half an employee’s retirement benefits portable. Therefore, this increase in turnover seems to be associated with changes to pension plan provisions and not necessarily plan valuation or generosity. This seems compelling because it supports Lazear’s emphasis on plan provisions and structure—vesting requirements, a lack of portability, and backloading—as key factors driving worker behavior and decision making.²³¹ Along these lines, Lewis and

²²⁸ Lewis and Stoycheva, “Does Pension Plan Structure Affect Turnover Patterns?,” 787–799.

²²⁹ Lewis and Stoycheva, 797.

²³⁰ Hyde and Naff, “Public Sector Pensions and Benefits: Challenges in a New Environment,” 161; Ippolito, “Stayers as ‘Workers’ and ‘Savers,’” 278–280; Asch and Warner, *Separation and Retirement Incentives in the Federal Civil Service*, xii, 47.

²³¹ Lazear, “Pensions and Deferred Benefits as Strategic Compensation,” 269–270.

Stoycheva comment that their findings may “understate the impact of a switch from a DB to a DC pension plan,” and they surmise that “converting to a full DC plan might double the impact on turnover.”²³² Such remarks stress the significance of pension plan structure and portability as drivers of worker behavior; they suggest that if pension reform involves a full conversion to a DC construct, then implications for turnover will be significant even if the value or generosity of total lifetime compensation remains unchanged.

Further, although Lewis and Stoycheva’s dataset was from the federal level of government, they extrapolate their findings to the state and local level. Lewis and Stoycheva temper their observations about increased turnover by pointing out that federal turnover rates are “relatively small” given the high degree of stability of the mid-career federal workforce. Citing BLS quit-rate figures, the scholars contend that the SLG workforce is inherently less stable such that “a one-third rise in turnover among mid-career employees could have more important implications for [SLG jurisdictions].”²³³ Other sources investigate SLG data directly: a study from the Center for Retirement Research at Boston College, which is discussed in more detail later in this chapter, verifies the quantitative increase in employee turnover resulting from pension reform.²³⁴ These observations make the turnover concerns related to pension reform seem more pressing at the SLG level.

Turnover rates warrant consideration in this thesis because of the negative impact increased rates have on organizational performance. As Hausknecht and Trevor explain, “Collective turnover can lead to undesirable outcomes because it entails the loss of firm-specific human and social capital, disrupts operations and collective function, saddles remaining members with newcomer socialization and training, and increases recruitment

²³² Lewis and Stoycheva, “Does Pension Plan Structure Affect Turnover Patterns?,” 797.

²³³ Lewis and Stoycheva, 797.

²³⁴ Munnell, Aubry, and Sanzenbacher, *Recruiting and Retaining Quality State and Local Workers*.

and selection costs.”²³⁵ However, because the relationship is curvilinear—“concave down”—these management scholars recognize that it is mostly turnover at either very high or very low levels that has negative consequences for organizational performance. In Hausknecht and Trevor’s words, “Some amount of turnover infuses the collective with new ideas, facilitates recruitment of more skilled workers, widens internal promotion opportunities, and reduces entrenched conflict.”²³⁶ Nevertheless, in meta-analysis testing of Hausknecht and Trevor’s model, Hancock et al. counter this point: “The separation and replacement costs, human capital losses, and social capital losses of increasing turnover rates” will likely outweigh the “functional effects” associated with turnover.²³⁷ Thus, turnover would seem to be a mixed bag with mostly negative implications.

Emerging from this predominantly negative relationship between increased turnover and organizational performance is the following cautionary syllogism about the second-order effects of pension reform: If pension reform increases turnover rates, and such turnover diminishes organizational performance, then pension reform diminishes organizational performance. Admittedly, while the logic of this syllogism is straightforward, the impact here depends on the degree to which one thing leads to the next. Moreover, such a sweeping deduction fails to illuminate the types of organizations impacted, and it gives short shrift to the underlying factors—human capital and cost—identified by Hausknecht and Trevor. Accordingly, this discussion turns to explore those underlying factors in more detail.

2. Human Capital as a Driver of Organizational Performance

Scholars in fields ranging from organizational behavior to sociology to psychology describe *human capital* as involving the knowledge, skills, abilities, and experience

²³⁵ John P. Hausknecht and Charlie O. Trevor, “Collective Turnover at the Group, Unit, and Organizational Levels: Evidence, Issues, and Implications,” *Journal of Management* 37, no. 1 (January 2011): 360, <https://doi.org/10.1177/0149206310383910>. The terms *human* and *social capital* are discussed in more detail in the next section.

²³⁶ Hausknecht and Trevor, “Collective Turnover at the Group, Unit, and Organizational Level,” 364.

²³⁷ Hancock et al., “Meta-Analytic Review of Turnover as a Predictor of Firm Performance,” 577.

embodied in an individual or workforce.²³⁸ The term human capital, however, originated from the field of economics and was developed most notably in the work of Gary S. Becker from the University of Chicago. Becker includes physical health, formal education, and values like punctuality and honesty as aspects of human capital. Human capital differs from other types of capital “because you cannot separate a person from his or her knowledge, skills, health, or values the way it is possible to move financial and physical assets while the owner stays put.”²³⁹ Human capital further differs from other types of capital in that it can be separated from an organization without its consent when an employee quits.

It seems intuitive that the level of influence human capital has on organizational performance will be most significant insofar as it applies to an organization’s senior management and key decision-makers. In other words, leadership matters, so an experienced, talented, and capable leadership team would have a more positive impact on an organization’s performance than a team with less-developed human capital. Regarding line employees or “street level” members of organizations, the relationship between human capital and organizational performance seems less clear. Crook et al. explored these relationships in a meta-analysis of 66 different studies that tested the link between human capital and performance outcomes at the organizational level.²⁴⁰ These organizational behavior scholars examined whether “there were different performance implications of human capital depending on the referent level in the hierarchy from which data were drawn.”²⁴¹ Their analysis confirmed that human capital endowed in the “top management team” and among “core employees” has a significant effect on organizational performance.²⁴² Even more interesting, human capital “across multiple levels of hierarchy

²³⁸ Llorens, “Fiscally Driven Compensation Reform and Threats to Human Capital Capacity,” 23; Crook et al., “Does Human Capital Matter? A Meta-Analysis,” 444; Russell W. Coff, “Human Capital, Shared Expertise, and the Likelihood of Impasse in Corporate Acquisitions,” *Journal of Management* 28, no. 1 (2002): 108, <https://doi.org/10.1177/014920630202800107>.

²³⁹ Becker, *Human Capital*, 16.

²⁴⁰ Crook et al., “Does Human Capital Matter? A Meta-Analysis.”

²⁴¹ Crook et al., 449.

²⁴² Crook et al., 449.

(i.e., the collective organization)” had the most significant impact.²⁴³ This led Crook et al. to conclude the following:

With regard to level of hierarchy, we found that when human capital is present across multiple levels of hierarchy, the performance implications are much stronger than when human capital is present at just one level. A key implication for managers is to not just focus on human capital at one just level—such as top managers or lower level employees—but instead to cultivate human capital across all levels within the hierarchy. Firms that invest in only one group are likely to miss important opportunities for enhancing performance.²⁴⁴

This finding about the importance of human capital across the spectrum of a hierarchy highlights a facet of the public sector that could influence future scenarios: pension constructs in public-sector organizations tend to apply uniformly across all levels of the hierarchy, so all levels face similar financial incentives. This contrasts markedly with the private sector, where employers have more discretion to tailor and apply compensation packages selectively—including incentive instruments such as stock options, profit sharing, bonuses, or objectively high salaries—for employees with unique value to the firm.

Crook et al. also differentiated between “valuable but general (e.g., industry experience) human capital” and “firm-specific human capital (e.g., years of experience with a firm)” in their analysis.²⁴⁵ Their findings showed firm-specific experience as having a greater impact on organizational performance, which led them to suggest that organizational leaders “should strive to develop a long-tenured workforce whose skills are tied to the firm’s unique context.”²⁴⁶ This conclusion supports Hausknecht and Trevor’s comments on turnover and organizational performance mentioned earlier. In the larger context of this thesis, the conclusions of Crook et al. about firm-specific experience are edifying; they intimate that incentivizing the long tenure of employees may positively

²⁴³ Crook et al., 449.

²⁴⁴ Crook et al., 452.

²⁴⁵ Crook et al., 444–445.

²⁴⁶ Crook et al., 452.

impact organizational performance. Thus, the retention of long-tenured employees should be a consideration when contemplating future scenarios.

Although the discussion in this section has centered on human capital, a similar relationship exists between *social capital* and organizational performance, as noted by Hausknecht and Trevor as well as Hancock et al.²⁴⁷ Weatherly defines social capital as follows: “Social capital represents the value that can be found among the relationships within the organization to facilitate the transfer of knowledge. Examples of social capital could include mentor/mentee relationships, informal networks of long-term interdepartmental work associates, and peer relationships.”²⁴⁸ At the risk of giving cursory attention to social capital—insofar as some scholars choose to distinguish it from human capital—the same relationships and dynamics at play with human capital hold true for social capital.²⁴⁹ That is, social capital has economic value for an organization, affects organizational performance, tends to be more firm-specific, and is negatively impacted by higher rates of employee turnover.²⁵⁰

3. Self-Selection and Worker Quality

If workers were undifferentiated commodities, then the most significant aspects of human capital would be the knowledge, skills, and abilities that each worker develops on the job. Individuals, however, are not commodities, and à la Becker’s definition, human

²⁴⁷ Hancock et al., “Meta-Analytic Review of Turnover as a Predictor of Firm Performance,” 574–582; Hausknecht and Trevor, “Collective Turnover at the Group, Unit, and Organizational Levels,” 360–362.

²⁴⁸ Leslie A. Weatherly, *Human Capital—The Elusive Asset*, SHRM Research Quarterly (Alexandria, VA: Society for Human Resource Management, 2003), 3–4, <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.490.188&rep=rep1&type=pdf>. Weatherly further explains that human and social capital are intangible assets that are distinct from the financial and physical assets available to an organization. Types of intangible assets not germane to this thesis include *structural capital* (codified knowledge) and *customer capital* (relationships with suppliers and customers).

²⁴⁹ Some scholars do not distinguish between human and social capital. Lazear, for example, includes aspects of social capital in his definition of human capital. Specifically, because work relationships (social capital) get developed on the job, Lazear considers such relationships as “a form of firm-specific human capital.” Lazear and Oyer, “Personnel Economics,” 20.

²⁵⁰ Shaw et al., “Turnover, Social Capital Losses, and Performance,” 603–605.

capital includes traits, habits, values, or personal qualities that are developed outside the work environment.²⁵¹ Such traits are imbued in the employee from her family upbringing, formal education, or outside life experience; along with job-related knowledge, skills, and abilities, such traits will impact the productivity, upward mobility, and overall quality of an individual worker.²⁵² No one set of personal traits and skills leads to success or effectiveness within every firm or organization; success or effectiveness would depend on the degree to which an individual's traits and skills—her full portfolio of human capital—align with or match the firm's culture and mission. According to Lazear and Oyer, “Matching the right firms to the right workers creates economic value of a magnitude that few other economic processes can,” so the process by which such matches are made may be significant to the profitability of the firm or effectiveness of the organization.²⁵³

Economic theory predicts that the structure of compensation schemes affects the matching of workers with employers in the labor market. Early theoretical work by Salop and Salop in 1976 explains how differing compensation structures drive workers to *self-select* or *sort* themselves among different firms.²⁵⁴ The process of self-selection has a positive economic value when the compensation structure attracts productive, high-quality, or well-matched employees. Lazear and Oyer succinctly describe how this mechanism works: “If some portion of compensation or other parts of the employment relationship differ in their value to prospective employees, and if these differences in value are related

²⁵¹ Becker, *Human Capital*, 15–23; Gary S. Becker, “Human Capital,” Library of Economics and Liberty, accessed February 2, 2019, <http://www.econlib.org/library/Enc/HumanCapital.html>.

²⁵² Becker's caveat to the significance of education is as follows: “Human capital analysis assumes that schooling raises earnings and productivity mainly by providing knowledge, skills, and a way of analyzing problems. An alternative view, however, denies that schooling does much to improve productivity, and instead it stresses ‘credentialism’—that degrees and education convey information about the underlying abilities, persistence, and other valuable traits of people.” Becker, *Human Capital*, 19–20. For an example showing the economic underpinnings of credentialism, see Michael Spence, “Job Market Signaling,” *Quarterly Journal of Economics* 87, no. 3 (August 1973): 361–368, <https://doi.org/10.2307/1882010>.

²⁵³ Lazear and Oyer, “Personnel Economics,” 18.

²⁵⁴ Salop and Salop, “Self-Selection and Turnover in the Labor Market.”

to productivity, then more productive employees will self-select into an organization.”²⁵⁵ Thus, the issue relevant to this thesis is whether post-reform public pensions will attract more productive, well-matched workers to the public sector. Unfortunately, it is difficult to see how an employee’s attraction to pension compensation relates to her productivity; unlike the golden handcuffs argument, economic theory offers little to explain this particular relationship. Fortunately, though, some compelling empirical studies examine the impact of selection effects vis-à-vis public pension reform directly. These studies explore and delineate the impact of pension reform in this vein at both the federal and SLG level.

Analyzing federal employee data through the CSRS-to-FERS transition, economist Richard Ippolito concludes that the “deferred wage contracts” imbedded in public-sector pension arrangements attract better workers.²⁵⁶ In his analysis, Ippolito emphasizes that the economic process involved aligns with the theory of self-selection explored by Salop and Salop.²⁵⁷ He summarizes the mechanism as follows:

Any compensation arrangement that emphasizes pensions (or other deferred wages) will attract savers, a quality that is positively correlated with an individual’s propensity to be a “better” worker. By this I mean that the propensity to save is correlated with *some unobserved trait* that makes an individual more likely to turn in a better job performance, holding all other observable qualities constant.²⁵⁸ [emphasis added]

Though the mechanism is unclear because the traits involved are unobserved, there exists a correlation between a worker’s quality and her attraction to pensions, according to Ippolito. Thus, pension reform may hurt the public sector’s ability to attract the right workers to the extent that it diminishes such deferred wages.

²⁵⁵ Lazear and Oyer, “Personnel Economics,” 21.

²⁵⁶ Ippolito, “Stayers as ‘Workers’ and ‘Savers,’” 306.

²⁵⁷ Ippolito, “Stayers as ‘Workers’ and ‘Savers,’” 276; Salop and Salop, “Self-Selection and Turnover in the Labor Market.”

²⁵⁸ Ippolito, “Stayers as ‘Workers’ and ‘Savers,’” 302.

Ippolito’s analysis is based on federal employee datasets involving “quit rates” and 401(k) contribution rates as well as job performance ratings, promotion rates, and disciplinary actions. Again, his findings show that those who value pensions (“savers”) are superior performers (“workers”) who also tend to remain in service longer (“stayers”). Ippolito concludes that this relationship between pensions, worker quality, and worker retention (turnover) holds true whether the pension involved is a DB or DC arrangement.²⁵⁹ This conclusion is intriguing because it seems to contradict the discussion about increased turnover earlier in this chapter. However, Ippolito’s comments about the effects of DC arrangements are based on a comparison between FERS employee quit rates and BLS data on workers who have no employer-sponsored pension plan whatsoever, so there is no contradiction.²⁶⁰ Indeed, Ippolito stipulates that the attraction for high-quality workers is more profound “in firms that put more emphasis on deferred wages,” as is the case under a defined-benefit construct.²⁶¹ Further, similar to Lewis and Stoycheva, Ippolito observes increased federal quit rates (turnover) in the federal employment data, which he attributes to the transition from CSRS to FERS.²⁶²

Exploring whether pensions attract quality public servants at the SLG level, Munnell, Aubry, and Sanzenbacher merged data from the CRR’s Public Plans Database with those from the BLS to examine “the relationship between the generosity of state and local pensions and the quality of workers entering and exiting the state and local sector.”²⁶³ The main motivation for this particular study was to test the ideas about savers being high-quality workers attracted to public service by deferred compensation packages. The goals of the study closely paralleled those of Ippolito. Given the SLG focus, this study did not have access to the kind of direct measures of quality—job performance ratings, promotion rates, and disciplinary actions—available to Ippolito in his assessment of federal worker

²⁵⁹ Ippolito, 306.

²⁶⁰ Ippolito, 297.

²⁶¹ Ippolito, 306.

²⁶² Ippolito, 290; Lewis and Stoycheva, “Does Pension Plan Structure Affect Turnover Patterns?”

²⁶³ Munnell, Aubry, and Sanzenbacher, *Recruiting and Retaining Quality State and Local Workers*, 1.

quality. Instead, Munnell and her colleagues adopted an analytical technique created by Harvard economist George Borjas to assess worker quality on the basis of sorting effects and the level of wages workers commanded in the private sector.²⁶⁴ In essence, these scholars assumed that the salary level a worker commands in the private sector bears a direct relationship to her quality as a worker.²⁶⁵ Insofar as the labor market is economically efficient between the public and private sectors, this holds as a valid assumption.

Ultimately, Munnell, Aubry, and Sanzenbacher's conclusions are consistent with Ippolito's—that pensions do matter in the labor market as firms try to attract high-quality workers.²⁶⁶ Moreover, they express concern over the potential consequences of pension reform for state and local governments. As these authors conclude, through the process of pension reform, “states and localities have reduced the generosity of their pensions for new hires. What will the impact of this be on state and local governments' ability to recruit and retain high quality workers? . . . It may be detrimental.”²⁶⁷ Their conclusion about these damaging effects on the quality of workers in the public sector is a relevant factor in the conclusive chapters' scenario analysis.

Other aspects of this study are noteworthy in the context of this thesis. Similar to Ippolito's comments, Munnell, Aubry, and Sanzenbacher acknowledge that the relationship between pensions, worker quality, and retention/turnover emerges with defined-contribution as well as defined-benefit pension plans.²⁶⁸ In doing so, these authors

²⁶⁴ Borjas, “The Wage Structure and the Sorting of Workers into the Public Sector,” 3–4.

²⁶⁵ Munnell and her colleagues explain this metric as follows: “The study uses the longitudinal feature of this dataset and an analysis adopted from Borjas (2002) to examine how a pension's normal cost affects the private sector wages of two groups of transitioning workers: 1) workers observed leaving the state and local sector for the private sector; and 2) workers observed entering the state and local sector from the private sector. If the group entering the state and local sector has lower private wages then [*sic*] the group leaving it, then workers who command higher private sector wages are sorting themselves out of the public sector, creating a ‘quality gap.’ If relatively generous pensions reduce this quality gap in wages, then pensions may be seen as helping states and localities recruit and retain high-quality workers.” Munnell, Aubry, and Sanzenbacher, *Recruiting and Retaining Quality State and Local Workers*, 2.

²⁶⁶ Munnell, Aubry, and Sanzenbacher.

²⁶⁷ Munnell, Aubry, and Sanzenbacher, 16.

²⁶⁸ Munnell, Aubry, and Sanzenbacher, 2–3.

emphasize pension generosity (valuation) and sorting effects over the effects of the retention incentives (golden handcuffs) embedded in DB pension constructs. Intriguing as this is, Munnell and her colleagues stop short of quantifying which construct has more weight. Nevertheless, if future public pension reform involves significant moves toward DC retirement instruments, projected scenarios should account for the influence of DC arrangements on worker quality and turnover.

B. THE IMPLICATIONS OF INCREASED LABOR MOBILITY

Pensions account for only one part of the compensation for public employees, and this fact raises the question of how salaries or wage rates may enter the picture. If, coincidentally, with pension reductions, employers were to hold the value of total lifetime compensation constant by increasing wages, then how might such increases address the maladies delineated in the prior section? Intuitively, wage increases should mitigate the negative implications of pension reform with respect to turnover, employee quality, and human capital. However, there is more to a job's compensation scheme than its valuation; a scheme's structure matters because of selection effects and the incentives embedded in different schemes. Regardless, as public employers undertake pension reform measures, they may have little choice but to rely on wage rates to compete effectively in the labor market.²⁶⁹ As public administration scholar Jared Llorens explains,

Efforts to substantially reduce public sector retirement benefit levels will inevitably place a greater emphasis on wage rates within overall compensation packages. In other words, if the ability of public employers to provide relatively generous, secure retirement benefits is substantially reduced, then public employers will most likely be pushed to rely more heavily on the competitiveness of their wage rates in the broader recruitment and retention arena.²⁷⁰

Furthermore—and ironically—the very fiscal imperatives that drive public employers to reduce their pension benefits negatively impact their ability to raise salaries or wage rates. Reforming jurisdictions will likely find themselves in a fiscal catch-22 where the

²⁶⁹ Llorens, “Fiscally Driven Compensation Reform and Threats to Human Capital Capacity,” 28–33.

²⁷⁰ Llorens, 33.

alternative of competing via wage rates requires them to increase tax revenue or reduce public services.

Some think DB pensions distort the labor market, so—using a free-market argument—the switch to more wage-based competition will contribute to what economists would call “optimal social outcomes.”²⁷¹ In other words, the more competitive and fluid the labor market, the more efficient the allocation of human capital throughout.²⁷² Bailey and Kirkegaard apply this argument when they highlight the market-distorting effects of public pensions in the United States. These authors acknowledge that “pensions usually and rationally make up an important share of the total lifetime compensation package used to lure human capital to the public sector”; however, “a detrimental issue arises when public-sector pension promises hinder job mobility between the public and private sectors.”²⁷³ Indeed, a post-reform compensation structure in which current salary dominates deferred compensation is one that enhances *worker mobility* within the labor market. Such mobility is crucial for market mechanisms to function.²⁷⁴ Gone (or sufficiently diminished) are the golden handcuffs associated with DB pension schemes, and if reform shifts the pension from DB to DC arrangements, the portability of DC pension schemes still leaves workers capable of moving from one employer to the next without penalty. With the distorting effects of DB public pensions reduced through pension reform,

²⁷¹ For a succinct explanation of how the free market works to “achieve optimal social outcomes,” see Andrew Schotter, *Free Market Economics: A Critical Appraisal* (New York: St. Martin’s Press, 1985), 1–5.

²⁷² Borjas explains the ideal, economically efficient outcomes delivered by a perfectly competitive labor market as follows: “If markets are competitive and if firms and workers are free to enter and leave these markets, the equilibrium allocation of workers to firms is efficient; the sorting of workers to firms maximizes the total gains that workers and firms accumulate by trading with each other. This result is an example of Adam Smith’s justly famous invisible hand theorem, wherein labor market participants in search of their own selfish goals attain an outcome that no one in the market consciously sought to achieve.” George J. Borjas, *Labor Economics*, 144.

²⁷³ Bailey and Kirkegaard, U.S. Pension Reform: Lessons from Other Countries, 180.

²⁷⁴ Borjas, *Labor Economics*, 188. It should be stipulated, though, that mobility costs other than pension-related penalties exist. Moving expenses, learning curve effects, job searches, and other mobility costs also cause inertia in the labor market.

wages throughout the market should reach equilibrium with workers sorting themselves à la Adam Smith's invisible hand theorem, resulting in an optimal allocation of resources.²⁷⁵

While pension reform nudges the public sector's competition for labor closer to a free-market ideal, Adam Smith's invisible-hand process is not one that spares every participant hardship or dislocation. On the contrary, achieving free-market efficiency depends on the failure of entities to respond as conditions change. This is the conclusion Schumpeter reaches when he argues that the benefits of capitalism come through an evolutionary process of "creative destruction" in which players must adapt or perish in the face of "competition from the new commodity, the new technology, the new source of supply, the new type of organization."²⁷⁶ In the provision of essential public services, however, a purely *laissez-faire* approach hardly seems apropos; consider the risk involved in sitting back and tolerating short-run lapses and disruptions in favor of long-run optimality in the homeland security domain. Further, the expectation that pension reform will not be enacted uniformly or simultaneously across the public sector introduces some questions about the impact on the leaders and laggards. This section explores some of the potential ramifications of the public sector's switching to a more wage-based system, the implications as some individual organizations shift ahead of others, and potential advantages for public employers competing in a more fluid labor market.

1. Competition between Public-Sector Entities

The financial health of public pension funds is diverse across the nation and at all levels of government. Some states and local jurisdictions have well-funded, financially healthy DB pension funds, so they face little pressure to reform their pension systems. For simplicity, this discussion refers to such employers as "healthy" jurisdictions. By contrast, "unhealthy" jurisdictions are those with high amounts of pension debt; these are most in need of pension reform. Included in this group are states that warrant "serious concern,"

²⁷⁵ Borjas, 144, 188.

²⁷⁶ Joseph A. Schumpeter, *Capitalism, Socialism, and Democracy*, 5th ed. (London: Routledge, 1976), 84.

according to the Pew Center on the States in 2012.²⁷⁷ As employers, the healthy will be in a better position than the unhealthy to compete for human capital in the public sector on the basis of their legacy DB pension arrangements or presumed wherewithal to compete via wage enhancements.

Over time, fiscal imperatives will drive unhealthy jurisdictions to diminish or abandon the DB component of their compensation structure before the healthy ones. That is, unhealthy employers will likely be the *early reformers*, forced to rely, as Llorens posts, on wage rates to compete in the broader labor market.²⁷⁸ In addition, given that the value of pension promises made by an employer is ultimately a function of the financial backing behind such promises, it seems reasonable to expect upward pressure on the wages in unhealthy states and jurisdictions even before material reforms are made. Some evidence suggests that such wage pressure and wage-based competition is already taking shape at the state level. In 2015, Llorens found that wage rates for SLG employees in unhealthy states—specifically those on Pew’s 2012 list—were measurably higher than SLG wage rates elsewhere.²⁷⁹ In Llorens words,

In six out of the ten years observed, wage gap estimates at the state and local levels are found to be slightly lower for ‘at risk’ states which implies that state and local government employees in these states enjoy higher relative wage rates than their counterparts in states with more robust pension reserves.²⁸⁰

To be fair, Llorens stipulates that there may be “overlapping determinants” in explaining this divergence in wage rates between the healthy and unhealthy, and his assessment includes a call for further research in this area. Nevertheless, the relationship between pension fund financial health and wage rates is measurable today, and basic economic

²⁷⁷ Pew Center on the States, “The Widening Gap Update,” 3–10. Pew assigns ratings of “solid performer,” “needs improvement,” or “serious concern” to states based on their pension debt and ARC contribution levels over five years.

²⁷⁸ Llorens, “Compensation Reform and Threats to Human Capital Capacity in the Public Sector,” 33.

²⁷⁹ Llorens, 37.

²⁸⁰ Llorens, 37.

concepts dictate that as an employer reduces the value of pension compensation, it has to make up the difference in other ways to remain competitive in the labor market.

At the local level, government employers with unhealthy, locally managed pension funds face some distinct challenges given the impact of pension reform on worker mobility. After all, the poor funding levels of their existing pension plans will fiscally inhibit their ability to compete for new employees on the basis of wages. Therefore, if they enact abrupt or sweeping pension reforms, they may lose their current experienced employees to neighboring jurisdictions that happen to be healthy. Healthy neighbors will be well positioned to cherry-pick experienced mid-career employees from early reformers, and this advantage will last as long as the healthy can continue to offer DB plans.

To illustrate, consider the case of San Jose, California. Unwise financial management practices by San Jose's pension board beginning with the tech bubble of the late 1990s left the city's pension funds woefully underfunded. In the aftermath of the 2008–2009 financial crisis, the city faced the possibility of municipal bankruptcy.²⁸¹ Thus, San Jose clearly would have fit the unhealthy category just described. In 2012, city officials took the unprecedented step of cutting pensions for current employees (not just new hires), which was approved through a ballot initiative, Measure B.²⁸² This bold reform move stood to measurably improve the city's finances. From a short-term political perspective, it seemed effective given that the ballot measure was “overwhelmingly approved” with 69 percent of the vote.²⁸³ In the implementation of Measure B, however, there were complications, which the *Wall Street Journal* described as follows:

What happened next proved sobering for other cities in the same pickle. Hundreds of police officers quit. Response times for serious calls rose. Faced with labor-union litigation, San Jose this year [2017] restored

²⁸¹ Summers, *Pension Reform Case Study: San Jose*, 1–4, 16–17.

²⁸² Summers, 2–3.

²⁸³ “San Jose Pension Reform, Measure B (June 2012),” Ballotpedia, accessed March 10, 2018, [https://ballotpedia.org/San_Jose_Pension_Reform,_Measure_B_\(June_2012\)](https://ballotpedia.org/San_Jose_Pension_Reform,_Measure_B_(June_2012)).

previous retirement ages and cost-of-living increases for existing police officers, and last month it gave them a raise.²⁸⁴

The attrition of officers in the San Jose Police Department (SJPD) was noteworthy. Media sources reported that SJPD staffing declined by one-third between 2012 and 2015, and the lion's share of officers transferred to law enforcement agencies of nearby communities, as documented by the San Jose Police Officers' Association.²⁸⁵ The city also struggled to staff its police academy with experienced training officers and attract new recruits.²⁸⁶ Facing this predicament, in 2015 Mayor Sam Liccardo commented, "We've got work to do on both ensuring that we can get enough officers in the academy that are going to be able to help us staff up, and to ensure we create compensation structures that will attract those officers to the academy."²⁸⁷ Ultimately, in 2016, San Jose voters returned to the issue of pensions, passing a new ballot measure to replace Measure B. This new measure—Measure F, which passed with 61 percent voter approval—aims to settle ongoing legal battles by reinstating pension benefits for current employees and shifting most reform impacts to new hires.²⁸⁸

The San Jose example may be instructive in a variety of ways in the context of this thesis, but this city's experience seems particularly illustrative of how pension reform may

²⁸⁴ Gillers and Elinson, "Ill-Funded Police Pensions Put Cities in a Bind."

²⁸⁵ Robert Handa, "New Resignations, Retirements Puts San Jose Police Department Staffing Below 900 Officers," NBC-Bay Area, Jan 5, 2015, <https://www.nbcbayarea.com/news/local/San-Jose-Police-Department-Staffing-Dips-Below-900-Officers-After-New-Retirements-Resignations-287587621.html>; John Robb, "Nearly 100 SJPD Resignations—A Model for Other Cities to Follow?!", Project San Jose, San Jose Police Officers' Association, June 14, 2012, <http://www.protectsanjose.com/content/nearly-100-sjpd-resignations-model-other-cities-follow>.

²⁸⁶ Handa, "New Resignations, Retirements Puts SJPD Staffing Below 900 Officers."

²⁸⁷ Handa.

²⁸⁸ Ramona Giwargis, "San Jose: Measure F Promises to End Pension Battle—But Will It?," *Mercury News*, October 2, 2016, <https://www.mercurynews.com/2016/10/02/san-jose-measure-f-promises-to-end-pension-battle-but-will-it/>; "Election Results: November 8, 2016 Presidential General Election," Santa Clara County Registrar of Voters, accessed March 14, 2008, http://results.enr.clarityelections.com/CA/Santa_Clara/64404/184659/Web01/en/summary.html. It will be interesting to see whether over time the reinstatement of pension benefits effectively solves SJPD's staffing problems or sets the city up for another financial crisis; ultimately, as is the case with many unhealthy states and jurisdictions, the outcome may ride on what happens in the capital markets over the next decade or two.

affect a local jurisdiction's competitiveness in the intra-public-sector labor market. In the initial days of this case, SJPD Sergeant John Robb, the San Jose Police Officers' Association vice president, explained the dynamics underway: "The laws of supply and demand are always in effect and other police agencies have already taken notice that the passage of Measure B in San Jose is providing them with an excellent opportunity to recruit top talent while saving millions of dollars in training costs."²⁸⁹ Sergeant Robb's explanation has, thus far, proven prophetic; steps taken with broad public support to remedy San Jose's financial condition ultimately led to a hemorrhage of experienced police officers. As a consequence, the loss of seasoned human capital had deleterious implications for the department's effectiveness and the overall security of the community.

This delineation of San Jose's recent experiences may be oversimplified in that it omits caveats stemming from the San Jose Police Officers' Association's efforts to persuade new recruits to quit.²⁹⁰ Such efforts distorted the market, exacerbating the SJPD's ability to attract new employees.²⁹¹ Union activity notwithstanding, the resignations of current employees and their impact on public safety metrics are remarkable. Among unhealthy jurisdictions, San Jose is not alone. Dallas and Memphis experienced similar effects both in terms of police staffing and public safety metrics after implementing pension reforms, according to the *Wall Street Journal*.²⁹² Also, while geography puts Alaska in a different category, police staffing levels have suffered since Alaska's Public Employee

²⁸⁹ John Robb, "Nearly 100 SJPD Resignations—A Model for Other Cities to Follow?!"

²⁹⁰ Robert Salonga, "San Jose Police Academy Has Another Small Class," *Mercury News*, September 4, 2014, <https://www.mercurynews.com/2014/09/04/san-jose-police-academy-has-another-small-class/>; Elyse Rivas, "San Jose Police Recruit: Union Told Class to Quit Right Away for Good of the Department," *Mercury News*, October 17, 2014, <https://www.mercurynews.com/2014/10/17/san-jose-police-recruit-union-told-class-to-quit-right-away-for-good-of-the-department/>.

²⁹¹ Borjas would describe such union activity as a "distortion" of the labor market causing an inefficient allocation of resources. Borjas, *Labor Economics*, 451.

²⁹² Gillers and Elinson, "Ill-Funded Police Pensions Put Cities in a Bind."

Retirement System switched to a purely defined-contribution plan for new hires in 2006.²⁹³ If the maladies faced by these early reformers play out with other unhealthy jurisdictions as they compete with their healthy neighbors, the result may be a concentration of human capital in healthy jurisdictions. Over time, successive cohorts of workers may start out in unhealthy jurisdictions; get the requisite training, certifications, and experience to become marketable; and then jump to a healthy employer where they can earn credit toward a DB plan. Ironically, the unhealthy could mitigate this flight of human capital with more competitive wages or high levels of employer matching under a defined-contribution construct, but these hardly seem workable solutions given the fiscal pressure under which unhealthy jurisdictions presumably find themselves.

2. Competition with the Private Sector: The Educational Divide

Of course, public entities are not just wrestling with each other for human capital; they also have to compete with the private sector, but in this market, the post-reform dynamics will be different for a variety of reasons. First, for many public-sector functions, employers get some relief here because the kind of human capital their current workers have developed on the job does not translate readily for many prospective employers in the private sector.²⁹⁴ Second, because few employers in the private sector offer DB pension plans, the competition in terms of pay is predominantly wage-based. Third, and most significantly for this thesis, post-reform public employers may have to offer high-skill workers with more education markedly higher wages than at present.

The first two of these reasons stand on their own, but the third requires some explanation. The underlying issue has to do with a clear pattern that public administration

²⁹³ Sean Doogan, “Shrinking Ranks of Anchorage Police Force Expected to Get Worse,” *Anchorage Daily News*, November 18, 2013, <https://www.adn.com/anchorage/article/ranks-anchorage-finest-thinning-out/2013/11/19/>; Cameron Mackintosh, “Recruitment, Retention Still Major Hurdles for Alaska State Troopers,” KTUU-TV, February 7, 2018, <http://www.ktuu.com/content/news/Recruitment-retention-still-major-hurdles-for-Alaska-State-Troopers-473260533.html>.

²⁹⁴ Regarding different types of human capital, Crook and his colleagues make the point that industry experience constitutes “general human capital” that helps workers move among bidding competitors. It is distinct from “firm-specific human capital (e.g., years of experience with a firm),” which can enhance an individual firm’s performance but may not translate or transfer to other firms. Crook et al., “Does Human Capital Matter? A Meta-Analysis,” 444–445.

scholar Thom Reilly refers to as an *educational divide* when comparing the public and private sectors in terms of pay. Reilly describes this divide as follows: “Without college degrees, workers do better working for the public sector while public sector workers with degrees do worse.”²⁹⁵ Further, citing others’ data and analysis, Reilly highlights that the educational divide is the “clearest pattern to emerge” when assessing public-sector wages and salaries.²⁹⁶ In a recent comparison of federal and private-sector compensation, the Congressional Budget Office illustrates this divide graphically—perhaps unintentionally—as shown in Figure 3.

²⁹⁵ Reilly, “Comparing Public-versus-Private Sector Pay and Benefits,” 525.

²⁹⁶ Reilly, “Comparing Public-versus-Private Sector Pay and Benefits”; Michael Lou and Michael Cooper, “Who’s Paid More? Experts Can Disagree,” *New York Times*, February 26, 2011, ProQuest. The data Reilly cites were “compiled by the *New York Times* (Luo & Cooper, 2011) from an analysis of recent census data by demographers at Queens College of the City University of New York.”

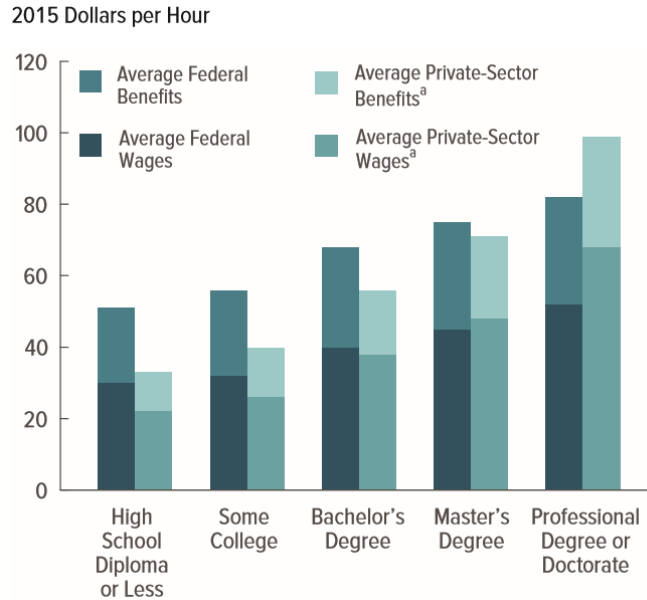


Figure 3. Average Compensation of Federal and Private-Sector Workers by Educational Attainment²⁹⁷

When interpreting this graph and the federal–private divide overall, according to the CBO, “the most important factor contributing to differences between the two sectors in the costs of benefits is the defined benefit pension plan that is available to most federal employees.”²⁹⁸ Additionally, the wage disparity between federal and private sectors does not invert—that is, flip to the private sector offering more—until educational attainment reaches a master’s degree. At the master’s level, it is the CBO’s valuation of (pension) benefits that places federal compensation higher in this side-by-side comparison.²⁹⁹ Thus,

²⁹⁷ Source: Congressional Budget Office, *Comparing the Compensation of Federal and Private-Sector Employees*, 2. Private-sector figures include “average wages and benefits for private-sector workers who resemble federal workers in occupation, years of work experience, and certain other observable characteristics that are likely to affect compensation.”

²⁹⁸ Congressional Budget Office, 3.

²⁹⁹ Regarding the CBO’s valuation methodology, it may be significant to some readers that “CBO measured the cost of benefits provided to retirees as the present value of future obligations.” Congressional Budget Office, *Comparing the Compensation of Federal and Private-Sector Employees*, 9. CBO, however, does not provide the discount rate used to determine such present values, but it is reasonable to assume that it aligns with the federal government’s cost of capital, that is, 2.50–4.25 percent commensurate with 20-year Treasury note yields.

the public-versus-private educational divide is quite apparent from the CBO graphic: over the spectrum of federal workers, the more educated the worker, the less competitive her total compensation, and the critical component of that compensation is a benefits package consisting predominantly of DB pension benefits.

This same educational divide exists at the SLG level. In a similar public–private compensation comparison that excluded federal employees, labor economist Jeffrey Keefe found that

state and local governments pay college-educated labor on average 25 percent less than private employers. . . . The earnings differential is greatest for professional employees, lawyers, and doctors. On the other hand, the public sector appears to set a floor on compensation. The compensation of workers with a high-school education is higher for state or local government employees when compared to similarly educated workers in the private sector.³⁰⁰

Further, Keefe’s analysis shows that across all levels of education, the private sector pays higher wages, but SLG benefit levels make the total compensation slightly higher for employees with education levels below a bachelor’s degree.³⁰¹

In the context of this thesis, the current educational divide matters due to pension reform’s effect on the relative competitiveness of public compensation at different levels of educational attainment. In all likelihood, pension reform will reduce benefit levels—and, hence, total compensation—in a proportional manner across a given employer’s workforce. This will have little impact on the competitiveness of that employer in the market for workers with less than a college degree. However, in the market for workers with college or, especially, advanced degrees, the competitiveness of public pay vis-à-vis the private sector will suffer disproportionately. Thus, the educational divide puts public-

³⁰⁰ Keefe, “Are Public Employees Overpaid?” 110.

³⁰¹ It may be meaningful to some readers that Keefe assigns values to benefits (including pensions) on the basis of employer cost—specifically Employer Costs for Employee Compensation survey statistics from the BLS. Given that many employers underfund ARC for DB pensions (see Chapter III of this thesis), this may understate the value of DB pensions. Keefe, “Are Public Employees Overpaid?” 108–110.

sector employers that undertake pension reform measures in a bind, and the quandary they face is over how to recruit and retain more highly educated workers in a post-reform setting.

For employers facing this post-reform bind, their response will likely fall somewhere between two extremes: (1) do nothing special vis-à-vis wage rates for more educated workers, or (2) adjust wage rates across the educational spectrum to match the private sector. Under the former, employers accept a reduced level of pay-competitiveness, particularly for workers with higher levels of educational attainment. Under the latter, employers must increase wages commensurate with pension reductions for more educated workers to hold total compensation constant. Each of these responses may have interesting second-order effects, which could be factors in determining future scenarios, so the subsequent discussion explores each of these responses in turn.

a. Do Nothing

If public entities reform pension plans but neglect to address the loss of pay-based competitiveness for educated workers—that is, “do nothing”—prospective workers with higher levels of education will, in greater numbers, rationally choose the private sector over public service. Further, current workers who subsequently enhance their human capital by attaining advanced degrees will have elevated their marketability to outside employers; such workers should choose to exit at increased rates for similar reasons. In the case of past federal reform—where wage rates remained identical for CSRS and (post-reform) FERS employees—one would have expected to see evidence of this dynamic at play. Indeed, Lewis and Stoycheva observed this pattern in their analysis of post-reform federal employee data:

We expected turnover to be higher for better-educated employees at the same grade level. This appears to be true under FERS: graduate degree holders have been more likely to exit than high school graduates, with the difference largest for those with professional degrees (3.7 percentage points). Under CSRS, however, federal employees with bachelor’s, master’s, and doctoral degrees have been 0.5–1.4 percentage points less

likely to leave federal service than comparable employees with high school diplomas.³⁰²

Overall, Lewis and Stoycheva’s conclusion that “graduate degree holders are markedly more likely to leave under FERS than CSRS” seems telling.³⁰³ Furthermore, in their conclusions, Lewis and Stoycheva warn that the increased turnover of the more educated “could contribute to a federal brain drain,” effectively leaving “the pipeline of future federal leaders” empty.³⁰⁴ To the extent that high levels of educational attainment are associated with leadership abilities, the potential for such a brain drain seems disconcerting for the future of the public sector in general and the homeland security enterprise in particular.

b. Adjust Wage Rates

In order to be competitive, public entities that reform their pension plans and choose to commit resources to compete for educated workers on the basis of wages must increase the wages of high-skilled, educated workers—or, rather, the wage offered the market for positions requiring higher levels of educational attainment—relative to less-educated workers.³⁰⁵ This will widen or *decompress* the pay distribution such that it will more closely resemble the relatively *dispersed* distribution of the private sector.³⁰⁶ As a result, the educational divide, as described by Reilly, will become less relevant, which should mitigate the potential brain drain concerns just described.

³⁰² Lewis and Stoycheva, “Does Pension Plan Structure Affect Turnover Patterns?,” 795.

³⁰³ Lewis and Stoycheva, 797.

³⁰⁴ Lewis and Stoycheva, 797–798.

³⁰⁵ To some readers, it may seem fanciful to suggest that employers in the public sector could simply change their pay regime by edict given the strong influence of public employee unions. The discretion employers in the public sector have over individual employee salaries is a factor used in the scenarios in the conclusive chapters, and it is explored in some detail in Chapter VI.

³⁰⁶ Bloom, “The Performance Effects of Pay Dispersion,” 25–26. When there is little variance in pay across jobs, individuals, or levels in an organizational structure, economists and other scholars refer to this as a “compressed” or “egalitarian” pay distribution. The opposite would be a “dispersed” or “hierarchical” pay distribution.

While this may seem an opaque series of interactions, there is research from Borjas to support the notion that the relative compression of wages between the public and private sectors has an impact on the public sector's ability to attract and retain high-skilled workers.³⁰⁷ In a historical exploration of shifting public and private wage structures from 1960 to 2000, Borjas framed the dynamics at play as follows:

Differential changes in the wage structure between the public and private sectors can be reasonably expected to alter the behavior of many economic agents. Suppose (as is actually the case) that wage dispersion has been rising at a faster rate in private sector jobs than in public sector jobs. The relative change in the wage structure would then suggest that private sector workers who belong to highly skilled groups (such as college graduates), or private sector workers who have relatively high earnings within a particular skill group, will have reduced incentives to enter the public sector. Conversely, public sector workers who belong to highly skilled groups, or public sector workers who have relatively high incomes within a particular skill group, will have increased incentives to leave the public sector and enter private sector jobs. In short, the relative changes in the wage structure should influence labor supply decisions, and alter the sorting of workers between the two sectors.³⁰⁸

Using U.S. Census Bureau data, Borjas verified that this sorting response between the public and private sectors had, in fact, occurred.³⁰⁹ His analysis revealed that as the shape of pay distributions evolved between the sectors—with the public sector becoming less dispersed or more compressed vis-à-vis the private sector over time—the public sector came to experience particular difficulty in competing for high-skill groups of workers.³¹⁰ In light of this analysis, it should be noted that response (1) stands to exacerbate a problem that the public sector is already experiencing. What may be most instructive, though, for the purpose of this thesis is Borjas's conclusion that “the difference in the shape of the

³⁰⁷ Borjas, “The Wage Structure and the Sorting of Workers into the Public Sector,” 3–4.

³⁰⁸ Borjas, 3.

³⁰⁹ Of note, the analytical technique created by Borjas for this analysis was later used by Munnell, Aubry, and Sanzenbacher to assess worker quality, as cited in the previous section. Munnell, Aubry, and Sanzenbacher, *Recruiting and Retaining Quality State and Local Workers*, 2. See also Section A, Subsection 3, of this chapter.

³¹⁰ Borjas, “The Wage Structure and the Sorting of Workers into the Public Sector,” 20–22.

wage distributions between the two sectors plays a significant role in determining the public sector's ability to attract and retain a high-quality workforce.”³¹¹ To the extent that pension reform or wage adjustments made after reform alter this shape, this conclusion reveals potential second-order effects that may drive future outcomes.

C. CONCLUSION

Drawing primarily from economic concepts and the work of economists, this chapter offered some insight into a number of secondary effects that may come about as a result of pension reform. Along with sorting effects, much of the discussion in this chapter involved employee career choice—that is, whether an individual chooses to work in the public sector, remain in the public sector, or remain with a particular employer for a full career or extended period. Within the academic literature on the subject of choice, economists tend to focus on the role of wage rates for employees and the nature of financial incentives embedded in different compensation schemes. As pension reform changes these incentives, the choices made by workers in the labor market will also change, altering the composition of the public-sector workforce in interesting ways. What makes these effects particularly compelling for this thesis is the influence pension reform may have on the quality of public-sector workers as well as the ability of individual organizations to retain developed human capital. Taken together, all these effects seem to lay out a syllogistic chain that infers pension reform will ultimately have a deleterious impact on the performance and effectiveness of reforming organizations. This chain and the individual effects revealed in this chapter are considered as factors in the scenario analysis presented in the conclusive chapters of this thesis.

This chapter also presented a picture of what the labor market will look like for organizations *ex post* to reform. After enacting pension reform measures, SLG employers will compete for labor more through immediate salary and portable DC instruments than through the deferred compensation of DB pension plans. Their workforce, including their most effective and experienced mid-career employees, will become more mobile within

³¹¹ Borjas, 26–27.

the labor market. Employers may have to decompress their salary structures, offering higher pay rates to attract, recruit, and retain their leaders and more educated employees. In these ways, the public sector will more closely resemble the private sector. In the words of Westerman and Sundali, this shift in emphasis toward current wages will alter the employer–employee relationship, making it more “transactional” than “relational,” so this shift deserves attention beyond finance, accounting, and economic disciplines.³¹² It is with this sentiment that the next chapter turns to theories and observations from other academic disciplines including sociology, social psychology, public administration, and organizational behavior.

³¹² Westerman and Sundali, “The Transformation of Employee Pensions in the United States,” 103.

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V. MOTIVATION AND ORGANIZATIONAL BEHAVIOR EFFECTS

The concepts explored and factors identified in the prior chapter relied predominantly on rational choice theory—that is, how workers may behave in the face of pension reform, presuming they are informed, rational actors seeking to maximize their own personal utility and wealth.³¹³ Rational choice theory represents a baseline perspective in economics generally, and it stands as a fundamental assumption underlying personnel economics specifically.³¹⁴ However, when it comes to worker motivation and individual career decisions, academic disciplines outside economics present alternative views that suggest humans are anything but *homo economicus*.³¹⁵ As economists Frey and Osterloh explain, economic theory seems at odds with fields such as traditional sociology and psychology, which “assume that human conduct is shaped by standards and preferences that are by no means stable and often reap no financial reward.”³¹⁶ Of particular relevance to the public sector in this arena is work emanating from the field of public administration, which questions the applicability of rational choice to public servants. Prominent scholars in this arena offer a construct stipulating that workers in the public sector tend to be driven by motives other than self-interest.³¹⁷ Notably, one of the founders of this construct underscores its superiority to rational choice theory in explaining

³¹³ Jonathan Levin and Paul Milgrom, “Introduction to Choice Theory” (instructional notes, Stanford University, September 2004), <https://web.stanford.edu/~jdlevin/Econ%20202/Choice%20Theory.pdf>.

³¹⁴ Lazear and Shaw, “Personnel Economics: The Economist’s View of Human Resources,” 91–92, 105.

³¹⁵ “The term *homo economicus*, or ‘economic man’, denotes a view of humans in the social sciences, particularly economics, as self-interested agents who seek optimal, utility-maximizing outcomes.” “Homo economicus,” Behavioral Economics, accessed April 16, 2018, <https://www.behavioraleconomics.com/homo-economicus/>.

³¹⁶ Bruno S. Frey and Margit Osterloh, “Motivation—A Dual-Edged Factor of Production,” in *Successful Management by Motivation: Balancing Intrinsic and Extrinsic Incentives*, ed. Bruno S. Frey and Margit Osterloh (Berlin: Springer, 2002), 7.

³¹⁷ Perry, Hondeghem, and Wise, “Revisiting the Motivational Bases of Public Service,” 687.

the behavior of public servants.³¹⁸ To the degree that non-economic motivation holds sway over future cohorts of public servants, many of the concepts and factors explored thus far in this thesis may diminish or even be rendered moot. Accordingly, this chapter considers salient non-economic forms of motivation as potential mitigating factors.

The prior chapter highlighted the role of human capital as a determiner of organizational effectiveness; it explored how pension reform may impact the public sector's ability to attract and retain human capital, and it laid out a somewhat intuitive syllogism delineating how pension reform may diminish organizational effectiveness as a second-order effect. However, the effects of pension reform may extend beyond an organization's ability to accumulate human capital. Stemming from its alteration of the reforming entities' compensation structure, pension reform may also impact the norms and values of the organization itself.³¹⁹ In light of these effects, this chapter probes some of the ways changes in compensation structure, likely in the face of pension reform, may influence an organization's culture.³²⁰ Of particular emphasis are the effects on social cohesion, behavioral norms, and ethical standards within an organization.

³¹⁸ James L. Perry, "Bringing Society In: Toward a Theory of Public-Service Motivation," *Journal of Public Administration Research and Theory* 10, no. 2 (April 2000): 485–486, <https://doi.org/10.1093/oxfordjournals.jpart.a024277>.

³¹⁹ Kerr and Slocum, "Managing Corporate Culture through Reward Systems," 99. Kerr and Slocum do not single out pensions specifically, but their article explores how employee compensation and rewards influence organizational norms along with the values and beliefs of an organization's members.

³²⁰ "The organization's culture refers to norms of conduct, work attitudes, and the values and assumptions about relationships that govern behavior at the organization." Baron and Kreps, *Strategic Human Resources*, 19.

A. THE MITIGATING EFFECT OF NON-EXTRINSIC MOTIVATION

Scholars analyzing work-related motives of individuals tend to juxtapose two types of motivation: *intrinsic* and *extrinsic*.³²¹ Psychologists Ryan and Deci define intrinsic motivation as “the doing of an activity for its inherent satisfactions rather than for some separable consequence. When intrinsically motivated a person is moved to act for the fun or challenge entailed rather than because of external prods, pressures, or rewards.”³²² In a career context, Frey and Osterloh contrast this with extrinsic motivation, which “stems from a desire to satisfy directly one’s non-work-related needs, [and therefore,] a job is simply a tool with which to satisfy one’s actual needs by means of the salary it pays.”³²³ Extrinsically motivating rewards (hereinafter “extrinsic rewards”) encompass all forms of financial remuneration including wages, DC retirement accounts, and traditional DB pensions. Thus, public pension reform alters the extrinsic incentive structure for organizations undergoing reform.

Individuals can be driven by both types of motivation, but different individuals may be more responsive or sensitive to one type over the other.³²⁴ The possibility that, for some individuals, intrinsic motivation outweighs extrinsic motivation challenges the conclusions of the prior chapter. After all, if large segments of the public-sector workforce are more intrinsically motivated, the changes to the extrinsic reward structure from pension reform should have less of an impact. More fundamentally, the potential primacy of intrinsic motivation undermines many of the principals in personnel economics. Lazear and Oyer

³²¹ Adam M. Grant, “Does Intrinsic Motivation Fuel the Prosocial Fire? Motivational Synergy in Predicting Persistence, Performance, and Productivity,” *Journal of Applied Psychology* 93, no. 1 (2008): 49, <https://doi.org/10.1037/0021-9010.93.1.48>; Frey and Osterloh, “Motivation—A Dual-Edged Factor of Production,” 8–9; Baron and Kreps, *Strategic Human Resources*, 98–101; Antoinette Weibel, Katja Rost, and Margit Osterloh, “Pay for Performance in the Public Sector—Benefits and (Hidden) Costs,” *Journal of Public Administration Research and Theory* 20, no. 2 (April 2010): 391, <https://doi.org/10.1093/jopart/mup009>.

³²² Ryan and Deci, “Intrinsic and Extrinsic Motivations,” 56.

³²³ Frey and Osterloh, “Motivation—A Dual-Edged Factor of Production,” 8.

³²⁴ Bruno S. Frey, “How Does Pay Influence Motivation,” in *Successful Management by Motivation: Balancing Intrinsic and Extrinsic Incentives*, ed. Bruno S. Frey and Margit Osterloh (Berlin: Springer, 2002), 73; Weibel, Rost, and Osterloh, “Pay for Performance in the Public Sector,” 399.

acknowledge this, but they stress that intrinsic motivation has its limits: “Economic principles about motivation and incentives apply even when workers ‘like’ their jobs.”³²⁵ This statement, however, allows for the converse proposition to also be true—that psychological principles about intrinsic motivation apply even when workers face substantive extrinsic rewards. Thus, in the yin–yang duality of intrinsic–extrinsic motivation, the existence of one mitigates the effects of the other.

The juxtaposition of intrinsic and extrinsic motivation seems particularly relevant in a public-sector context because, as Nicola Bellé explains, “abundant literature has shown that public sector employees tend to be more intrinsically motivated compared with private sector workers.”³²⁶ In a word, public servants are *different*. They display a motivational composition different from the rest of the workforce. Does this mean that the public sector can ignore the concerns raised in Chapter IV? Put differently, in the face of pension reform, can public employers rely on the intrinsic motivation of prospective and current employees to attract and retain human capital? That would hardly seem the case given Lazear and Oyer’s point about the limits of intrinsic motivation—not to mention the empirical studies of the public sector referenced in Chapter IV.³²⁷ Nevertheless, the potential for high levels of intrinsic motivation in the labor force could diminish the influence of financial, extrinsic rewards, so issues surrounding the motivations of current and future public-sector workers are worth exploring.

1. Unique Forms of Motivation Attributed to Public Servants

Why public servants do what they do and why they perform well or poorly are areas of keen interest to scholars in the academic field of public administration. Within this field, experts agree that public servants are endowed with an ethic that sets them apart from

³²⁵ Lazear and Oyer, “Personnel Economics,” 12.

³²⁶ Nicola Bellé, “Performance-Related Pay and the Crowding out of Motivation in the Public Sector: A Randomized Field Experiment,” *Public Administration Review* 75, no. 2 (March 2015): 231, <https://doi.org/10.1111/puar.12313>.

³²⁷ Lazear and Oyer, “Personnel Economics,” 12–13. See Chapter IV, Section A.

workers in the private sector.³²⁸ In a seminal 1990 article, Perry and Wise classify these unique motives in a construct they coin *public service motivation* (PSM).³²⁹ Perry and Wise define PSM as “an individual’s predisposition to respond to motives grounded primarily or uniquely in public institutions and organizations.”³³⁰ Given PSM, management principles for public organizations need to be different from those in private industry because public employees derive energy and direction from motives other than self-interest and monetary rewards.³³¹

In 1996, Perry developed a method of quantifying levels of PSM based on measures of an individual’s psychological needs or predispositions.³³² As Perry explains, individuals with a high PSM possess strong predispositions across the following four dimensions: “attraction to public policy making, commitment to the public interest and civic duty, compassion, and self-sacrifice.”³³³ Over the past 20-plus years, research on the unique motivations of public servants has yielded a number of nuanced definitions of PSM; despite their distinctions, PSM-related constructs have converged into what Perry, Hondeghem, and Wise call the “*other* orientation—represented by notions of self-sacrifice, altruism, and prosocial—across the motivation definitions.” (original emphasis).³³⁴ In short, what truly separates public servants from workers in private industry is a desire to help other people over their own self-interest.

Notably, while PSM includes intrinsically rewarding elements, its altruistic emphasis makes it conceptually distinct from intrinsic motivation in some academic

³²⁸ Perry, Hondeghem, and Wise, “Revisiting the Motivational Bases of Public Service,” 681.

³²⁹ Perry and Wise, “The Motivational Bases of Public Service,” 367–373.

³³⁰ Perry and Wise, 368.

³³¹ Perry and Wise, 367.

³³² Perry, “Measuring Public Service Motivation,” 6.

³³³ James L. Perry, “Antecedents of Public Service Motivation,” *Journal of Public Administration Research and Theory* 7, no. 2 (April 1997): 181–97.

³³⁴ Perry, Hondeghem, and Wise, “Revisiting the Motivational Bases of Public Service,” 682.

circles.³³⁵ This is because the drivers of effort under intrinsic motivation are hedonic by nature. On the other hand, *prosocial motivation*, “the desire to expend effort to benefit other people,” according to psychologist Adam Grant, involves eudaimonic drivers associated with meaning and purpose rather than personal enjoyment.³³⁶ For other scholars, there is no distinction; prosocial motivation is merely a specific form of intrinsic motivation.³³⁷ For their part, economists have neglected to formally consider the PSM construct that has been deemed so important in the public administration field, according to Francois.³³⁸ This is not to suggest that economists have neglected prosocial behavior or intrinsic motivation, but they seem somewhat at odds with other scholars—and each other—in accounting for such concepts.³³⁹ Whatever disagreement exists among academics, it will not be resolved here. On the subject of pension reform, the parsing of prosocial from intrinsic motivation is tantamount to making a distinction without a difference. After all, individuals who are predominantly driven by non-extrinsic motivators—be it intrinsic, prosocial, or an amalgam of the two such as PSM—will be less responsive to pecuniary reward changes made by their employers. Such individuals’ workplace behavior and career decision-making should diverge from the self-serving, wealth-maximizing *homo economicus* assumed in conventional economic theories. On that point, economists, psychologists, and public administration academics should all agree.

As mentioned at the outset, Perry argues that the PSM construct “better accounts for behaviors observed in many government and voluntary organizations than does rational choice theory.”³⁴⁰ Speaking more directly to issues raised thus far in this thesis, Perry and Wise posit, “The level and type of an individual’s public service motivation and the

³³⁵ Perry, Hondeghem, and Wise, 682.

³³⁶ Grant, “Does Intrinsic Motivation Fuel the Prosocial Fire?,” 49.

³³⁷ Grant, 49.

³³⁸ Francois, “‘Public Service Motivation’ as an Argument for Government Provision,” 275.

³³⁹ Romaniuc, “Intrinsic Motivation in Economics,” 63; Frey and Jegen, “Motivation Crowding Theory,” 591.

³⁴⁰ Perry, “Bringing Society In: Toward a Theory of Public-Service Motivation,” 472.

motivational composition of a public organization's workforce . . . influence individual job choice, job performance, and organizational effectiveness."³⁴¹ Given that the arguments in Chapter IV dealt with these very elements—job choice (turnover and retention), employee performance, and organizational effectiveness—Perry and Wise's PSM construct presents a direct challenge to the ideas presented therein. Of significance, empirical research supporting this challenge emanates from other sources in the public administration field. Regarding job choice, Crewson observes higher levels of PSM among public servants, empirically linking PSM to high levels of organizational commitment; this link, he argues, should lead to reduced levels of turnover in public service.³⁴² Similarly, Naff and Crum observe a negative relationship between levels of PSM and turnover intention; that is, the higher an individual worker's PSM, the less likely she would intend to leave the public sector.³⁴³ In an analysis of Dutch workers, Steijn confirms the positive retention effects of PSM in addition to showing an inclination among workers with high levels of PSM to seek work in the public sector.³⁴⁴ Looking beyond job choice to worker quality, Naff and Crum tie PSM to performance measures among federal employees.³⁴⁵ Similar analyses using different datasets—by Vandenabeele as well as Bright—reach the same conclusions about the PSM-to-performance relationship but share the common weakness of employee performance being self-reported.³⁴⁶ Research on organizational effectiveness is more sparse. Brewer and Selden find PSM to be among a list of “moderately important predictors of organizational performance” within the federal

³⁴¹ Perry and Wise, “The Motivational Bases of Public Service,” 370.

³⁴² Crewson, “Public-Service Motivation,” 507–508.

³⁴³ Naff and Crum, “Working for America Does Public Service Motivation Make a Difference?,” 12.

³⁴⁴ Steijn, “Person-Environment Fit and Public Service Motivation,” 24–25.

³⁴⁵ Naff and Crum, “Working for America Does Public Service Motivation Make a Difference?” 11–14.

³⁴⁶ Vandenabeele, “The Mediating Effect of Job Satisfaction and Organizational Commitment on Performance,” 27–28; Bright, “Does Person-Organization Fit Mediate the Relationship between Public Service Motivation and the Job Performance of Public Employees?,” 367.

bureaucracy.³⁴⁷ Confirming Brewer and Seldon’s results, Kim finds that PSM correlates with strong public organizational performance, using data from South Korea’s public sector.³⁴⁸

All these empirical findings contrast with the effects explored in Chapter IV, which are rooted in rational choice theory. Thus, as stated at the outset, non-extrinsic motivation in the workforce stands to mitigate the impact of pension reform as the public sector looks to attract and retain human capital. As pension reforms are implemented in the future, the question of which matters more—PSM or self-interest in the face of extrinsic incentives—depends on the motivational composition of the prospective labor force. Thus, a central question to contemplate is what that composition will be. To what degree will future workers respond to extrinsic rewards over non-extrinsic—and seemingly non-economic—drivers embodied in PSM?

In seeking possible answers to these questions, public administration scholar Madinah Hamidullah suggests “the idea of generational cohorts” may provide some interesting insight.³⁴⁹ Running with Hamidullah’s suggestion, the discussion turns to emerging evidence about the employment preferences of the nation’s youngest workers; at issue is whether their preferences and motivations draw them toward service in and loyalty to the public sector.

2. Generational Employment Preferences

Following sociologist Karl Mannheim’s *theory of generations*, the distinct historical experiences shared by members of different cohorts endow each with distinct values and impulses.³⁵⁰ In the workplace, as Smola and Sutton explain, such shared experiences cause generational cohorts to develop work values and “a personality that influences a person’s

³⁴⁷ Brewer and Selden, “Why Elephants Gallop: Assessing and Predicting Organizational Performance in Federal Agencies,” 705.

³⁴⁸ Kim, “Individual-Level Factors and Organizational Performance in Government,” 252–254.

³⁴⁹ Hamidullah, “Generational Differences and the Public Sector Workforce,” 33–34.

³⁵⁰ Mannheim, “The Problem of Generations,” 306–307.

feelings toward authority and organizations, what they desire from work, and how they plan to satisfy those desires.”³⁵¹ Regarding the work-related personality traits of Generation X (hereinafter Gen X), Hamidullah posits their experiences “would not align cohort members with traditional values included in PSM.”³⁵² If members of this cohort possess relatively lower levels of PSM, the ideas of Perry, Wise, and the other public administration scholars should carry less weight; Gen X workers should behave more like *homo economicus*, making them more sensitive to the economic implications of pension reform.

For the timeframe under consideration in this thesis, however, the more relevant cohorts are those following Gen X—millennials and post-millennials.³⁵³ These newest cohorts will be in the middle of their working years between 20 and 40 years from the date of this writing, so they will dominate the labor force in the timeframe of the forthcoming scenario analysis. Early observations of millennials in the workforce have offered that this cohort possesses more prosocial interests and tendencies than its Gen X predecessors.³⁵⁴ As millennials have aged, however, these early observations have not held. In 2013, psychologists Jean Twenge concluded that the generational shift with this cohort “is toward more extrinsic values (money, image, and fame) and away from intrinsic values (community feeling, affiliation, and self-acceptance).”³⁵⁵ In a separate study from the same period, Twenge, Campbell, and Freeman further observed that millennials actually exhibit

³⁵¹ Karen Wey Smola and Charlotte D. Sutton, “Generational Differences: Revisiting Generational Work Values for the New Millennium,” *Journal of Organizational Behavior* 23, no. 4 (June 2002): 364, <https://doi.org/10.1002/job.147>.

³⁵² Hamidullah, “Generational Differences and the Public Sector Workforce,” 34.

³⁵³ Different authorities embrace slightly different date ranges to define generational cohorts. This thesis adopts the definitions used by Dimock from Pew, who holds that *Generation X* includes people born in 1965–1980, the *millennial* generation includes those born in 1981–1996, and anyone born after 1996 is a *post-millennial*. Michael Dimock, “Defining Generations: Where Millennials End and Post-Millennials Begin,” Pew Research Center, March 1, 2018, <http://www.pewresearch.org/fact-tank/2018/03/01/defining-generations-where-millennials-end-and-post-millennials-begin/>.

³⁵⁴ Howe and Strauss, *Millennials Rising*, loc. 171–182, 4023; Greenberg and Weber, *Generation We*, 30–32.

³⁵⁵ Twenge, “The Evidence for Generation Me and against Generation We,” 13.

less concern for others—prosocial orientation—and are less likely to seek work “worthwhile to society” or helpful to others.³⁵⁶

The conclusions of Twenge and her colleagues seem compelling, but others differ. In a review of research on generational differences in the workplace, management and organizational behavior scholars Lyons and Kuron highlight that various sources find “no significant differences . . . in intrinsic or altruistic work values” between generations.³⁵⁷ They posit that the relative importance of intrinsic over extrinsic rewards may have more to do with the workers’ age and stage of life than any generational personality.³⁵⁸ Lyons and Kuron further assess that the body of research on work-related generational differences is theoretically deficient; in their view, much of the evidence available tends to be inconsistent and, in some cases, contradictory.³⁵⁹ Overall, with respect to work preferences and motivational composition, the evidence on millennial traits seems muddled and has shifted over time. Thus, any projections made on the basis of such traits about labor market reactions to pension reform offer little value.

Regarding evidence on the work-related traits of post-millennials—also known as “homelanders” or “Gen Z,” in the words of Twenge, Campbell, and Freeman—there are no longitudinal data because the first members of this cohort are just entering the labor market.³⁶⁰ Notwithstanding, scholars focused on generational differences hypothesize that the Great Recession will profoundly impact Gen Z’s work/life values and preferences.³⁶¹ Some social observers speculate that because the difficulties associated with this recession

³⁵⁶ Twenge, Campbell, and Freeman, “Generational Differences in Young Adults,” 1053–1055.

³⁵⁷ Lyons and Kuron, “Generational Differences in the Workplace,” S144.

³⁵⁸ Lyons and Kuron, S144–145.

³⁵⁹ Lyons and Kuron, S139.

³⁶⁰ Twenge, Campbell, and Freeman, “Generational Differences in Young Adults,” 1060.

³⁶¹ Laura Wray-Lake et al., “Exploring the Changing Meaning of Work for American High School Seniors From 1976 to 2005,” *Youth & Society* 43, no. 3 (September 2011): 1129–1130, <https://doi.org/10.1177/0044118X10381367>; Jean M. Twenge and Tim Kasser, “Generational Changes in Materialism and Work Centrality, 1976–2007: Associations with Temporal Changes in Societal Insecurity and Materialistic Role Modeling,” *Personality and Social Psychology Bulletin* 39, no. 7 (2013): 894, <https://doi.org/10.1177/0146167213484586>.

hit Gen Z during their formative years, this young cohort will come to be more frugal and more concerned for others than their predecessors.³⁶² Sentiments about the sociological impact of the Great Recession are common in the press, too. A recent *Wall Street Journal* article described Gen Z as a “scarred generation, cautious and hardened by economic and social turbulence,” and as a result, “Gen Z’s attitudes about work reflect a craving for financial security.”³⁶³ Again, such speculation comes without longitudinal data, so it seems unpersuasive.³⁶⁴ Nevertheless, Gen Z’s emerging work preferences should not be ignored just because they are enigmatic. The potential for high levels of PSM or sensitivity to intrinsic motivation could influence the cohort’s sensitivity to the economic implications of pension reform, so considering such potential seems apropos when contemplating future scenarios.

Beyond traits pertaining to motivation, other work-related generational traits could affect the labor market’s reaction to public pension reform. Prevalent among them is the popular notion that millennials eschew lifetime employment, instead preferring to “job hop” as a means of career development and on-the-job fulfillment.³⁶⁵ In other words, worker mobility itself holds innate value for this generational cohort. If the preference for mobility persists for future cohorts, it could profoundly impact the labor market’s reaction to pension reform. Employers with well-funded DB pensions would have less of an advantage in the market for labor; young workers would avoid employers offering non-portable, deferred compensation, even in cases where they may be choosing less lifetime

³⁶² Twenge, “The Evidence for Generation Me and against Generation We,” 15.

³⁶³ Janet Adamy, “Gen Z Is Coming to Your Office. Get Ready to Adapt,” *Wall Street Journal*, September 6, 2018, <https://www.wsj.com/graphics/genz-is-coming-to-your-office/>.

³⁶⁴ Adamy, “Gen Z Is Coming to Your Office. Get Ready to Adapt.” Though there are no longitudinal data, survey data are available. *Wall Street Journal*’s reporting, for example, was based on attitudinal surveys of freshmen at the University of California, Los Angeles.

³⁶⁵ Joan Snyder Kuhl, “Investing in Millennials for the Future of Your Organization,” *Leader to Leader* 2014, no. 71 (December 2014): 29–30, <https://doi.org/10.1002/ltl.20110>; Hamidullah, “Generational Differences and the Public Sector Workforce,” 32; Nicole Fallon, “Solving the Mystery of Gen Y Job Hoppers,” *Business News Daily*, August 22, 2014, <https://www.businessnewsdaily.com/7012-millennial-job-hopping.html>.

compensation. Metaphorically speaking, the golden handcuffs of DB pensions would not fit job-hopping millennials.

The belief that millennials value mobility in their careers has some support in academic circles. Despite their criticism of existing research on generational differences, Lyons and Kuron found sufficient support for this generational preference.³⁶⁶ Additionally, public administration scholar Nevbahar Ertas found that millennial civil servants express higher rates of turnover intention (a desire to quit and change jobs) than members of previous cohorts at the same age.³⁶⁷ Ertas indicates that this finding may be a function of different career expectations among younger workers who “may no longer plan on staying with the same organization for extended periods of time,” and who, instead, seek to develop skills and networks from different employers to move on to the next better opportunity.³⁶⁸ Emerging longitudinal data, however, suggest that this perception about job-hopping preferences may be off the mark. Analyzing U.S. Census Bureau data from 2016, the Pew Research Center’s Richard Fry found, “Millennial workers . . . are just as likely to stick with their employers as their older counterparts in Generation X were when they were young adults.”³⁶⁹ In fact, according to Fry, college-educated millennials are accruing longer tenures with employers than their counterparts from Gen X.³⁷⁰ Again, the evidence about work-related generational preferences and traits seems muddled, yet the belief that younger generations prefer career mobility persists. Intriguingly, it seems to have affected the trajectory of pension reform itself; the perceived job-hopping preference of millennials was among the reasons that the Military Compensation and Retirement

³⁶⁶ Lyons and Kuron, “Generational Differences in the Workplace,” S150.

³⁶⁷ Ertas, “Turnover Intentions and Work Motivations of Millennial Employees in Federal Service,” 417–418.

³⁶⁸ Ertas, 418.

³⁶⁹ Richard Fry, “Millennials Aren’t Job-Hopping Any Faster Than Generation X Did,” Pew Research Center, April 19, 2017, <http://www.pewresearch.org/fact-tank/2017/04/19/millennials-arent-job-hopping-any-faster-than-generation-x-did/>.

³⁷⁰ Fry.

Modernization Commission (MCRMC) advocated for portable features in the military's new Blended Retirement System.³⁷¹

Overall, Hamidullah seems correct in her suggestion that the theory of generations may provide insight into the work preferences of successive cohorts.³⁷² However, with regard to the two identifiable generations relevant to the upcoming scenario analysis—millennials and Gen Z—emerging information on their traits offers little predictive insight. Regardless, the potential of a sociological zeitgeist moving labor to seek (or avoid) long-term careers in public service is worth considering because it could mitigate or overwhelm the dynamics predicted by personnel economics *ex post* to pension reform. Thus, the influence of sociological trends is considered as a factor in the forthcoming scenario analysis.

3. Crowding Theory

As described at the outset of this section, public pension reform alters the extrinsic rewards and the related incentive structure for organizations. Intriguingly, through processes explained by *motivation crowding theory*, extrinsic rewards have been shown to undermine the intrinsic motivation of individuals, and this has further implications for labor supply.³⁷³ Crowding theory raises questions over whether the extrinsic reward structure that pension reform creates could trigger such crowding effects. If so, pension reform itself could influence the motivational composition of the public workforce as a third- or fourth-order effect, which should be accounted for in the forthcoming scenario analysis.

At the individual or micro level of analysis, the relationship between extrinsic rewards and intrinsic motivation stems from a process dubbed the “crowding-out effect”

³⁷¹ Military Compensation and Retirement Modernization Commission, *Report of the Military Compensation and Retirement Modernization Commission*, 20, 23–28.

³⁷² Hamidullah, “Generational Differences and the Public Sector Workforce,” 33–34.

³⁷³ Frey and Jegen, “Motivation Crowding Theory,” 589–611.

by Bruno Frey in the early 1990s.³⁷⁴ Economist David Kreps explains the mechanism behind this effect as follows:

The idea is that when a person performs some act, he looks for rationales that justify his actions. Specifically, if an employee undertakes some effort without the spur of some extrinsic incentive, he will rationalize his efforts as reflecting his enjoyment of the task. And since he enjoys it, he works harder at it. But if extrinsic incentives are put in place, he will attribute his efforts to those incentives, developing a distaste for the required effort.³⁷⁵

Regardless of whether Kreps's foray into cognitive and social psychology adequately describes the mental or emotional processes involved, the undermining effect extrinsic rewards have on intrinsic motivation has been well researched in psychology circles with numerous experiments confirming the relationship.³⁷⁶

Among behavioral economists, the interaction between extrinsic rewards and non-extrinsic motivation seems a salient issue. Frey and Jegen find that crowding theory works in reverse—that is, reduced extrinsic rewards can elicit or “crowd in” intrinsic motivation.³⁷⁷ Additionally, Frey finds that the theory applies to prosocial behavior in the provision of voluntary labor and to “civic virtues.”³⁷⁸ Benabou and Tirole expand economic theory to explain prosocial behavior in economic terms and, like Frey and Jegen before them, highlight that extrinsic rewards crowd out such behavior.³⁷⁹ Similarly, economists Francois and Vlassopoulos apply crowding theory to prosocial activity, but they also draw PSM into their analysis, focusing on the unique motivations of workers in the non-profit sector.³⁸⁰ These applications of economic concepts to the inner workings of

³⁷⁴ Frey, “Tertium Datur: Pricing, Regulating and Intrinsic Motivation,” 178–179.

³⁷⁵ Kreps, “Intrinsic Motivation and Extrinsic Incentives,” 362.

³⁷⁶ Deci, Koestner, and Ryan, “A Meta-Analytic Review of Experiments Examining the Effects of Extrinsic Rewards on Intrinsic Motivation,” 627–68.

³⁷⁷ Frey and Jegen, “Motivation Crowding Theory,” 601–602, 604–606.

³⁷⁸ Frey, “A Constitution for Knaves Crowds Out Civic Virtues,” 1042.

³⁷⁹ Benabou and Tirole, “Incentives and Prosocial Behavior,” 1660–1663.

³⁸⁰ Francois and Vlassopoulos, “Pro-Social Motivation and the Delivery of Social Services,” 29–32, 46–49.

the human mind are intriguing, and they reveal the extent to which economics has evolved to overlap with psychology.³⁸¹ These articles also reveal the broad appeal crowding theory has for behavioral economists.

At a market or macro level of analysis, the widespread occurrence of crowding-out within a subject workforce has a cumulative effect on the motivational composition of that workforce. At this higher level, though, more traditional economic mechanisms involving sorting/selection come in to play; that is, high wages attract more extrinsically motivated people who compete with and supplant some of the more intrinsically or prosaically motivated.³⁸² This can have negative consequences, particularly in a public service context. Indeed, such crowding and sorting/selection effects receive heightened attention within public administration circles due to concerns over the application of pay-for-performance and other business-like compensation schemes in the public sector.³⁸³ Francois and Vlassopoulos encapsulate these concerns as follows:

The insights offered by the literature on crowding out of pro-social motivation have important implications for the on-going debate regarding public service reform, as they indicate that the uncritical introduction of high-powered incentives, which have been proven to be effective in the private sector, may backfire when altruistic workers are selecting into the public sector.³⁸⁴

³⁸¹ Tellingly, Benabou and Tirole highlight that their model falls in line with the psychological “overjustification hypothesis” explored by Lepper et al. in the 1970s. Benabou and Tirole, “Incentives and Prosocial Behavior,” 1654; Mark R. Lepper, David Greene, and Richard E. Nisbett, “Undermining Children’s Intrinsic Interest with Extrinsic Reward: A Test of the ‘Overjustification’ Hypothesis,” *Journal of Personality and Social Psychology* 28, no. 1 (1973): 129–37, <https://doi.org/10.1037/h0035519>.

³⁸² Delineating such sorting/selection effects, economist Preston models the self-selection of individuals between the non- and for-profit sectors. Preston’s model emphasizes the “varying tastes for social welfare” among workers and the degree of utility derived from such tastes. She assesses the tradeoff between wages and social benefits as “corresponding to a ‘labor donation’ that is positively related to social benefit” for the more pro-socially motivated. While the datasets used in her analysis exclude public-sector workers, the same sorting effects should apply in a public-sector context. Anne E. Preston, “The Nonprofit Worker in a For-Profit World,” *Journal of Labor Economics* 7, no. 4 (October 1989): 442–445, <https://doi.org/10.1086/298216>.

³⁸³ Weibel, Rost, and Osterloh, “Pay for Performance in the Public Sector,” 404.

³⁸⁴ Francois and Vlassopoulos, “Pro-Social Motivation and the Delivery of Social Services,” 32.

Benabou and Tirole illustrate these same concerns with the following memorable exemplar: “One argument for relatively low pay for the military is to select true patriots rather than mercenaries whose main loyalty is to whoever pays more.”³⁸⁵ Thus, these economists imply that enhancing extrinsic rewards in the public sector may lead to a lower-quality, less-effective workforce as a result of adverse selection.³⁸⁶ The converse seems to apply as well; that is, lower pay ensures that only the most prosocial or intrinsically motivated join the public sector.³⁸⁷ Of course, whether sufficient numbers of such workers exist in the future depends on factors such as the generational work preferences, as discussed in the previous section.

How pension reform may trigger crowding effects depends on the manner in which it alters the extrinsic reward structure. If, as Llorens suggests, pension reform will cause public jurisdictions to rely on competitive wage rates (and conceivably other pecuniary instruments) to compete for human capital, then crowding effects could come into play.³⁸⁸ Consider the cascading series of potential events stemming from pension reform in the following hypothetical vignette:

A given local jurisdiction facing pension fund insolvency switches completely from a DB to a DC plan for new hires in 2018. Ten years later, suppose that jurisdiction finds itself unable to retain its most valuable

³⁸⁵ Benabou and Tirole, “Incentives and Prosocial Behavior,” 1671.

³⁸⁶ The presumption here seems to be that worker quality is a function of intrinsic/prosocial motivation, which aligns the interests of the individual worker with the mission of the organization. This contrasts markedly with Borjas’s market-based methodology for measuring the quality of workers sorting in into the public sector. Recall from Chapter IV that Borjas’s methodology judges the quality of workers sorting in (and out) of the public sector based on the salary they command in the private sector; this methodology is used by Munnell, Aubry, and Sanzenbacher in their exploration of the relationship of SLG pension generosity and worker quality. Borjas, “The Wage Structure and the Sorting of Workers into the Public Sector,” 3–4; Munnell, Aubry, and Sanzenbacher, *Recruiting and Retaining Quality State and Local Workers*, 2.

³⁸⁷ While the focus of this thesis is on changes to the financial, extrinsic reward structure in the public sector, it may be of interest to some readers that scholars have used economic theory to explore sorting effects that involve intrinsic motivation exclusively. Prendergast analyzes the complex manner in which different forms of intrinsic motivation work to sort the types of people attracted to different public bureaucracies. In part, Prendergast concludes that while these sorting effects align employee preferences and personality with organizational culture appropriately, such sorting may not lead to efficient outcomes in the provision of public goods. Prendergast, “The Motivation and Bias of Bureaucrats,” 182–191, 195.

³⁸⁸ Llorens, “Compensation Reform and Threats to Human Capital Capacity in the Public Sector,” 33.

human capital—experienced mid-career workers. Organizational effectiveness in critical public services—specifically law enforcement and fire services—declines as a result with measurable negative implications for public safety and security.

Given this set of circumstances, a consensus eventually emerges within the local government and among the polity that the staffing problems in these critical services deserve budgetary priority. The jurisdiction secures additional tax revenue and cuts non-essential services to offer retention bonuses and enhanced salaries to forestall further turnover of experienced police and fire personnel. To help with 24/7 service coverage requirements, the jurisdiction enhances overtime compensation. Additionally, to attract a greater quantity and higher quality of applicants for entry-level positions, the jurisdiction increases starting salaries and offers signing bonuses.

Through the lens of crowding theory, this vignette raises a number of interesting possibilities. First, even though the subject jurisdiction faces staffing challenges, crowding and sorting/selection effects suggest that whatever staff remains will be highly committed and of high quality; that is, the workers who choose to join and remain under these circumstances would be those with high intrinsic or prosocial motivations for the job. Second, while basic supply-and-demand dynamics suggest that a jurisdiction offering higher wages will be able to fill vacancies, crowding theory presents the possibility that the jurisdiction will, over time, wind up with an increasingly mercenary workforce—in other words, a workforce whose motivations do not align with the mission or interests of the public institutions it serves. Overall, crowding and sorting/selection effects suggest that higher wages could attract a workforce of lower quality for public-service mission sets.

To be sure, the vignette lacks details, and its embedded assumptions could be more clearly identified.³⁸⁹ Nevertheless, it illustrates how pension reform could ultimately trigger crowding and sorting/selection effects through a cascading series of third- or fourth-

³⁸⁹ The vignette is little more than an application of Llorens's point that public jurisdictions will need to emphasize wage rates to compete in the broader labor market after enacting pension reforms. It is further supported by the San Jose case (discussed in Chapter IV), where pension reforms led to staffing challenges followed later by cuts in non-essential services, forced police overtime, and ultimately increased wages to address staffing problems. Llorens, "Compensation Reform and Threats to Human Capital Capacity in the Public Sector," 33; Gillers and Elinson, "Ill-Funded Police Pensions Put Cities in a Bind."

order effects. Such effects are considered in the scenario analysis presented in the conclusive chapters.

B. IMPLICATIONS FOR ORGANIZATIONAL BEHAVIOR

Westerman and Sundali posit that the transformation of public pensions underway will have broad implications in terms of organizational behavior.³⁹⁰ In a brief paper they label an “incubator article,” these management scholars call for additional research.³⁹¹ This thesis may help answer their call (to a small extent) from its synthesis of prior work from multiple academic disciplines. The thin organizational behavior literature directly targeting the effects of pension reform on public-sector entities, however, makes anything more than a limited answer difficult. Nevertheless, existing research suggests that some aspects of the post-reform compensation structure will have predictable effects on an organization’s behavioral norms, social cohesion, and standards of ethical probity.

1. Social Comparison, Fairness, and Organizational Cohesion

Chapter III highlighted a trend among SLG jurisdictions to apply pension reform measures exclusively to newly hired employees.³⁹² Consequently, successive generations of employees have been covered under different retirement plans across the public sector: the most senior officials may be covered under generous legacy DB plans, mid-career officers under more complicated hybrid plans, and the most junior cohort of employees under yet another. Public administration scholars Hyde and Naff lament the application of pension reforms exclusively to new hires for the following reason:

[It] inserts in the public service work contract equation a potential disturbing trend toward the *bimodal workforce*. That is that new employees are offered a less valuable pension and benefit than current employees. It is a trend that may be perceived by new employees as establishing a compensation dichotomy between the privileged, better paid and the less privileged and underpaid. One can only guess how fundamental values and core constructs

³⁹⁰ Westerman and Sundali, “The Transformation of Employee Pensions in the United States,” 102–103.

³⁹¹ Westerman and Sundali, 99–103.

³⁹² See Chapter III, Section C, Subsection 2.

like public sector motivation, commitment, and engagement would be affected.³⁹³ [emphasis added]

In essence, Hyde and Naff are expressing concern over what Lazear calls “equitable pay treatment”—the creation of winners and losers—within public service organizations.³⁹⁴ These public administration scholars do not further develop what the implications of this inequitable bimodality may be, but there seems little doubt that they anticipate deleterious effects for an organization under this kind of two-tiered pay structure.

The impact of pay inequality, however, is something that other scholars have explored with some rigor.³⁹⁵ For Lazear, as is discussed later, the behavior of winners and losers in an organization can be modeled to show the impact such behavior has on economically efficient outcomes.³⁹⁶ For other scholars interested in organizational outcomes, a central concern around equitable pay treatment relates to the influence of fairness on employee performance.³⁹⁷ Over decades, research in this arena has been influenced significantly by *equity theory*, which was first articulated by psychologist John Stacy Adams in 1965.³⁹⁸ Applied to the workplace, the essential notion behind equity theory is that employees can be expected to engage in pay/input comparisons with their coworkers; if employees perceive an imbalance between their pay/input ratio to that of

³⁹³ Hyde and Naff, “Public Sector Pensions and Benefits: Challenges in a New Environment,” 169.

³⁹⁴ Lazear, “Pay Equality and Industrial Politics,” 561–562.

³⁹⁵ James N. Baron and Jeffrey Pfeffer, “The Social Psychology of Organizations and Inequality,” *Social Psychology Quarterly* 57, no. 3 (September 1994): 190–191, <https://doi.org/10.2307/2786876>.

³⁹⁶ Lazear, “Pay Equality and Industrial Politics,” 561–580.

³⁹⁷ Weibel and Rota, “Fairness as a Motivator,” 173–187.

³⁹⁸ Weibel and Rota, “Fairness as a Motivator,” 176; J. Stacy Adams, “Inequity in Social Exchange,” in *Advances in Experimental Social Psychology*, ed. Leonard Berkowitz, vol. 2 (New York: Academic Press, 1965), 267–300.

their peers, they perceive inequity (unfairness), which influences their performance and behavior.³⁹⁹

Textbooks intended for aspiring business leaders draw from the tenets of equity theory to emphasize the importance of social comparisons in the workplace, and they emphasize the profound effect perceptions of fairness have on employee morale, attitudes, and cooperation.⁴⁰⁰ These texts point to a body of organizational research on *procedural justice* and *distributive justice*—which grows out of equity theory—to provide insight into how employee perceptions of fairness affect organizational outcomes.⁴⁰¹ The concepts of procedural and distributive justice are distinct but interrelated. As Folger and Konovsky explain, “Distributive justice refers to the perceived fairness of the amounts of compensation employees receive; procedural justice refers to the perceived fairness of the means used to determine those amounts.”⁴⁰² Stated in analogies, procedural justice is to distributive justice as means are to ends, as process is to outcome, or as fair is to equitable. The operative feature in both of these concepts is social comparison among colleagues. Thus, when it comes to perceptions of equitable or fair pay treatment, there is no objective measure; what matters is how they are being paid compared to their co-workers and whether any existing pay differences are fair considering differences in effort, impact, ability, or experience.⁴⁰³

³⁹⁹ “Inequity exists for Person whenever he perceives that the ratio of his outcomes to inputs and the ratio of Other’s outcomes to Other’s inputs are unequal. This may happen either (a) when Person and Other are in a direct exchange relationship or (b) when both are in an exchange relationship with a third party and Person compares himself to Other. The values of outcomes and inputs are, of course, as perceived by Person.” Adams, “Inequity in Social Exchange,” 280–281. Notably, Adams found that inequity results when a person perceives himself to be relatively overpaid as well as relatively underpaid.

⁴⁰⁰ Milkovich, Newman, and Gerhart, *Compensation*, 84–90; Baron and Kreps, *Strategic Human Resources*, 106–108; Weibel and Rota, “Fairness as a Motivator,” 173–189.

⁴⁰¹ Milkovich, Newman, and Gerhart, *Compensation*, 84–90; Baron and Kreps, *Strategic Human Resources*, 106–108; Weibel and Rota, “Fairness as a Motivator,” 173–189.

⁴⁰² Folger and Konovsky, “Effects of Justice on Reactions to Pay Raise Decisions,” 115.

⁴⁰³ Baron and Kreps, *Strategic Human Resources*, 256–261; Weibel and Rota, “Fairness as a Motivator,” 175–177.

The empirical research on distributive and procedural justice in organizational settings confirms a relationship that may seem intuitive: compensation regimes and reward structures that are perceived to be fair by employees foster positive, functional employee attitudes and harmonious, collaborative work environments while employee perceptions of injustice elicit opposite, negative effects.⁴⁰⁴ Thematically, the variables identified in this research revolve around a cohesive organizational culture; salient variables include trust in supervision, conflict/harmony, employee job satisfaction, turnover intention, and organizational commitment (loyalty).⁴⁰⁵ Thus, to the extent that a cohesive culture drives a particular organization's effectiveness, high levels of distributive and procedural justice should enhance the organization's ability to fulfill its mission. The magnitude of the effects across these variables depends on the levels of justice or injustice perceived; it also depends on whether workers perceive the organization's pay regime as just or unjust in accordance with the tenets of distributive justice alone, procedural justice alone, or both. On its own, procedural justice has a more significant impact than distributive justice across most of the variables and effects identified.⁴⁰⁶ Further, on its own, procedural justice has been shown to correlate positively with two unique variables significant for organizational effectiveness: "organizational citizenship behaviors" and the transfer of knowledge.⁴⁰⁷

Given the results of this research, if future pension reforms bring about pay changes that employees perceive as unjust in a distributive or procedural manner, organizations that rely on cohesion will experience negative effects. Moreover, if the perceptions of injustice

⁴⁰⁴ Folger and Konovsky, "Effects of Justice on Reactions to Pay Raise Decisions," 122–128; Alexander and Ruderman, "The Role of Justice in Organizational Behavior," 192–194; McFarlin and Sweeney, "Distributive and Procedural Justice as Predictors of Organizational Outcomes," 633–634.

⁴⁰⁵ Folger and Konovsky, "Effects of Justice on Reactions to Pay Raise Decisions," 122–128; Alexander and Ruderman, "The Role of Justice in Organizational Behavior," 192–194; McFarlin and Sweeney, "Distributive and Procedural Justice as Predictors of Organizational Outcomes," 633–634. This is a partial list of the variables identified in these articles.

⁴⁰⁶ Alexander and Ruderman, "The Role of Justice in Organizational Behavior," 177.

⁴⁰⁷ "Organizational citizenship behavior describes the behavior of employees who go beyond the duties stipulated in their employment contract or job description. They provide voluntary inputs, so-called extra-role behavior, which are not demanded by line managers, and the lack of which cannot be punished." Weibel and Rota, "Fairness as a Motivator," 184.

cut across both distributive and procedural dimensions, then more severe effects should result. In the case of the bimodal or two-tiered workforce trend described by Hyde and Naff, the issue seems exclusively distributive in nature.⁴⁰⁸ Established employees (the winners) are not being dispossessed as a result of pension reform, and new hires (the losers) know what they are getting into in terms of their idiosyncratic pay structure and could opt out by not accepting employment. Because the date of hire represents an objective, non-negotiable criterion in determining the compensation tier of an employee, the bimodal pay regime should be viewed as legitimate by workers—i.e., procedurally fair or just—even if the ends are inequitable.⁴⁰⁹ Thus, the organizational implications of the bimodal workforce remain worrisome, but the potential for dysfunction within the organization would be greater if the process creating the winners and losers was arbitrary or capricious or if the losers did not understand their plight from the beginning.

Exclusively distributive injustices may have less severe effects, but they can still prove problematic for an organization. Baron and Kreps point to examples from the private sector where two-tier structures led to poor organizational outcomes even though the different tiers were legitimated by an objective criterion (date of hire).⁴¹⁰ One of the additional issues these scholars identified was that a tiered pay structure creates distinct subgroups within an organization. Again, this effect hits on the theme of organizational cohesion. As Baron and Kreps state, “Differentiating among employee subgroups is also particularly divisive when a strong, cohesive organization culture is sought. It is difficult to persuade people to identify with a single overarching goal or identity while simultaneously promoting rampant distinctions among segments of the workforce.”⁴¹¹

⁴⁰⁸ Hyde and Naff, “Public Sector Pensions and Benefits: Challenges in a New Environment,” 169.

⁴⁰⁹ Organizational psychology scholars McFarlin and Sweeny explain the kinds of dynamics at play here as a function of *referent cognition theory*, and they verify it empirically. A detailed explanation is beyond the scope of this writing, but in McFarlin and Sweeny’s words, “referent cognitions theory predicts that when people perceive procedures to be fair, resentment will be minimal, even when distributive justice is low.” McFarlin and Sweeny, “Distributive and Procedural Justice as Predictors of Organizational Outcomes,” 628.

⁴¹⁰ Baron and Kreps, *Strategic Human Resources*, 51–54.

⁴¹¹ Baron and Kreps, 53.

Directing this point to the homeland security focus of this thesis, if one accepts the proposition that a collaborative culture and strong organizational cohesion matter significantly for organizations with homeland security mission sets, then the array of effects stemming from organizational injustice seems particularly disconcerting.⁴¹²

In this vein, the array of potential maladies identified in this section may have contributed to the staffing crisis and reported low morale at the USSS, introduced in Chapter I. After all, as Leonnig and others suggest, the change to the USSS's retirement plan was the seminal cause of the service's ostensible decline, and one of the key ramifications of that change was the creation of a bimodal workforce, which the service endured for three decades.⁴¹³ Unfortunately, documentation about the USSS case is not sufficiently available to allow a more rigorous exploration, so the links between pension changes and the USSS's reported problems will have to remain a matter of some conjecture.⁴¹⁴

Looking to the future, there seems more reason for concern because there is no guarantee that future reforms will conform to either (1) the policy of being applied exclusively to new hires, or (2) the pattern of being inequitable but procedurally just. Recall

⁴¹² This proposition is explored in the next section.

⁴¹³ Leonnig, "Critical Decisions after 9/11 Led to Slow, Steady Decline in Quality for Secret Service"; Ken Kurson, "Four Secret Service Executives Fired, Stunning an Already Shaken Agency," *New York Observer*, January 14, 2016, <http://observer.com/2015/01/four-secret-service-executives-fired-stunning-an-already-shaken-agency/>. Recall that in the early 1980s, new-hire USSS agents were enrolled in FERS while established employees remained under a considerably more generous plan. This created a clearly bimodal workforce of the type described in Chapter V. Separately, some might contend that the CSRS-to-FERS transition also made the rest of the federal workforce similarly bimodal. However, given the value neutrality between CSRS and FERS (discussed in both Chapters III and IV), the compensation disparity between CSRS and FERS employees did not create a significant disparity between the haves and have-nots; as was stressed in Chapter IV, the difference between CSRS and FERS had more to do with structure than valuation.

⁴¹⁴ Insightful and experienced Secret Service agents of this writer's acquaintance (peers in an academic setting) object to inferences that the USSS is an organization in general decline. This author respects their judgement on that subject implicitly. The use of the reporting on the USSS in these pages is for illustrative purposes. Continuing in this illustrative vein, the USSS case reveals a temporal dimension to the challenges stemming from the creation of a bimodal workforce; if the pension reform at issue is a one-time change, then eventually (after decades) it will be rendered moot. At the USSS, for example, the last of the entry cohort covered under the old pension plan is about to retire. Thus, to whatever extent a bimodal workforce may have caused challenges at the USSS, the service is about to get relief as a function of time.

from Chapter III how some observers assess current reforms and reform trends as insufficient to solve the long-term financial issues facing many pension funds.⁴¹⁵ Thus, for those states and jurisdictions with the most severe solvency challenges, more drastic pension reform measures, which cut pension benefits for current established employees, seem likely if not inevitable. The likelihood of more drastic measures raises the possibility—some might consider it an inevitability—of creating more groups of perceived winners and losers among employees working closely together. If this occurs, subject organizations should expect to develop cohesion-related problems.

2. The Effects of Pay Dispersion

The creation of different tiers within the public-sector pay structure is not the only way that pension reform may lead to pay inequality—wide distributions of pay rates within the same organizations may have similar effects. Recall from Chapter IV that pension reform could ultimately lead public entities to alter the pay distribution within their organizations. Due to second- or third-order effects attributable to pension reform, public-sector pay distributions may come to resemble the more relatively dispersed distribution of the private sector.⁴¹⁶ Assessing the correlation between different forms of wage distribution within organizations—compressed (or egalitarian) versus dispersed (or hierarchal)—and organizational and individual performance, industrial and labor relations scholar Matt Bloom finds that “more compressed pay dispersions are positively related to multiple measures of individual and organizational performance.”⁴¹⁷ Significantly, though, this depends on the organizational outcomes sought. As Bloom explains,

⁴¹⁵ See Chapter III, Section C, Subsection 3.

⁴¹⁶ “Two types of pay distributions are common. When a pay distribution is hierarchical, a greater proportion of pay is concentrated in relatively few levels, jobs, or individuals that are near the top of the distribution. Pay is more widely dispersed and less equal across pay levels. A hierarchical distribution may also have many pay levels and many tiers. A compressed pay distribution is one in which pay is less dispersed and is spread more equally across jobs or individuals, and it may have fewer pay levels than a hierarchical distribution.” Bloom, “The Performance Effects of Pay Dispersion,” 25.

⁴¹⁷ Bloom, 25.

Hierarchical [or dispersed] pay distributions may be more appropriate when individual characteristics are closely tied to organizational outcomes (as in law, accounting, and consulting firms, research and development units, surgical teams) or when the contributions of individuals are more easily separated from organizational performance (as is the sales performance of stock brokers or research performance in academia). . . . In other types of organizations—*fire fighting and rescue squads*, theatrical casts, manufacturing teams, and hotel customer service staffs, for example—the situation is quite different because the poor performance of a particular worker can be compensated for by the better performance of the other workers, and the outstanding performance of one person is unlikely to influence organizational outcomes over the long term if the performance of others is lacking.⁴¹⁸ [emphasis added]

Thus, a key variable here relates to the mission of the organization and whether successful mission accomplishment relies more on the contribution of individuals or on collaborative team efforts. Directing the spotlight again on the homeland security focus of this thesis, it would seem that a compressed pay structure is more appropriate given that success in homeland security missions requires (one can reasonably surmise) more collaboration and teamwork than in law, accounting, consulting, research, or stock sales.⁴¹⁹

Bloom points to a myriad of factors to explain why this positive relationship exists between pay distributions and organizational performance. Among these are perceptions of justice within the organization, as was discussed in the previous section. Bloom further draws from Jeffrey Pfeffer, who supports the notion that pay compression can be beneficial for the performance of certain organizations. As Pfeffer writes, “In a strong-culture organization, one will tend to find and will indeed want to have, more compressed pay because pay dispersion lessens the sense of community and common fate that strong-

⁴¹⁸ Bloom, 36.

⁴¹⁹ For-profit firms in the listed professions undoubtedly improve overall revenue by incentivizing individual contributors with profit-sharing or sales commissions. Thus, a dispersed pay distribution may be beneficial for an organization if the process by which winners and losers are chosen furthers the organization’s goals or mission. See Milkovich, Newman, and Gerhart, *Compensation*, 86–88, 92–93 for an exploration of what constitutes appropriate pay distributions for different types of firms. See Baron and Kreps, *Strategic Human Resources*, 26–29 for appropriate pay distribution for different types of jobs: “stars” versus “guardians” versus “foot-soldiers.”

culture organizations seek to build as a source of competitive success.”⁴²⁰ Thus, it would seem that the benefits of pay compression extend beyond mere cooperation among employees to the realm of organizational culture. Moreover, it matters most wherever a strong culture is integral to mission effectiveness.

Another factor Bloom points to stems from Lazear’s economic efficiency argument (introduced previously), which considers the positive and negative effects of competition between employees under a dispersed pay structure. Pursuant to this argument, pay dispersion and competition among workers have a positive effect on employee effort, which positively affects the firm’s output; however, such competition also creates an incentive for uncooperative behavior and may even lead to sabotage.⁴²¹ According to Lazear, “The larger is the spread between the compensation that the winner and loser receive, the more important is each of these effects.”⁴²² Hence, there is a balancing act for the organization with respect to economic efficiency, which leads Lazear to conclude the following:

Perhaps the most important result is that some pay compression is efficient. The argument by union leaders and personnel managers that pay dispersion leads to disharmony is correct. If harmony is important, pay compression is optimal on strict efficiency grounds. Thus, the ability to sabotage one’s rival provides an efficiency argument for equitable treatment within a firm.⁴²³

A key stipulation for Lazear here involves defining the relevant group within the organization; what matters is pay dispersion among peers (or near-peer competitors) at the same level and not dispersion between the top and bottom of the organizational ladder.⁴²⁴ In essence, this model highlights the economic friction that can arise when peer-versus-peer competition leads to dysfunctional behaviors that work to the firm’s detriment. It deserves emphasis here that a key assumption for Lazear is that pay compression has

⁴²⁰ Pfeffer, *Competitive Advantage through People*, 52–53.

⁴²¹ Lazear, “Pay Equality and Industrial Politics,” 561–563.

⁴²² Lazear, 562.

⁴²³ Lazear, 579.

⁴²⁴ Lazear, 562.

benefits where “harmony is important.”⁴²⁵ That is, mission accomplishment relies on effective teamwork and collaboration over individual contributions and star performers.

The overall implication here is that if an organization in the homeland security enterprise decompresses its wage structure, then it may come to see a less collaborative working environment, weaker culture, and poorer organizational outcomes. Chapter IV discussed how such wage decompression might be necessary for organizations to compete for human capital in a fluid, post-reform labor market. That discussion focused on the so-called educational divide and how the public sector might have to increase the wages of more high-skilled, educated workers relative to less-educated workers to prevent a potential “brain drain” to the private sector.⁴²⁶ Trevor, Reilly, and Gerhart refer to this sort of decompression, where there is a spread in pay between different organizational levels, as *vertical pay dispersion*.⁴²⁷ It is conceptually distinct from *horizontal dispersion*, which Pfeffer describes as pay variation among jobs at the same level.⁴²⁸ Significantly, vertical dispersion does not fit Lazear’s model well because the dysfunctional industrial politics Lazear describes involves peer or near-peer competitors. Likewise, as Baron explains, vertical dispersion does not have the same social psychological implications as horizontal dispersion in an organization.⁴²⁹

Notwithstanding, it seems reasonable to speculate that wage decompression of the horizontal variety might well be required subsequent to public pension reform at the higher levels of organizational hierarchy. That is, to attract or retain supervisory talent in a post-reform labor market, public-sector organizations might have to compete for individual proven leaders with individually tailored (and higher) compensation packages. After all,

⁴²⁵ Lazear, 579.

⁴²⁶ See Chapter IV, Section B, Subsection 2.

⁴²⁷ Charlie O. Trevor, Greg Reilly, and Barry Gerhart, “Reconsidering Pay Dispersion’s Effect on the Performance of Interdependent Work: Reconciling Sorting and Pay Inequality,” *Academy of Management Journal* 55, no. 3 (June 2012): 586, <https://doi.org/10.5465/amj.2006.0127>.

⁴²⁸ Pfeffer, *Competitive Advantage through People*, 51–52.

⁴²⁹ Baron, “The Employment Relation as a Social Relation,” 503.

with disappearing golden handcuffs, talented, ascendant leaders will be free to pursue opportunities beyond their current employer, so organizations in need of proven, experienced managers or star leaders may find themselves in bidding wars. Additionally, the higher the level of responsibility, the more opportunity to differentiate a professional's performance—and this ease of differentiation enhances the likelihood of greater pay dispersion.⁴³⁰ Should these dynamics come to fruition, then the concerns surrounding pay decompression raised by scholars such as Lazear and Baron apply well.

Ultimately, whether pay dispersion comes about and whether it comes in a vertical or horizontal form will serve as variables in the forthcoming scenarios; the impact such dispersion has on future outcomes will revolve around the negative effects pay dispersion may have on organizations that rely on teamwork and a collaborative culture to achieve their mission. The potential severity of these effects is unclear, but a key determiner of their magnitude would have to be the nature of the organization's compensation structure in the first place. In this sense, SLG law enforcement stands out because of the remarkably compressed structure of wages for police management positions. In a 2008 study using National Compensation Survey data for both the private sector and the public sector at the SLG level, the BLS found that wage structure for police management positions ranks among the most compressed in the nation.⁴³¹ In fact, SLG-level "supervisors of police and detectives" comprised the sole public-sector career on the BLS's list of 12 occupations with the lowest median wage spreads.⁴³² Should salaries for police management positions decompress as a second- or third-order effect of pension reform, then the resulting negative impacts delineated in this section may be particularly striking for law enforcement.

⁴³⁰ Krista Sunday and Jordan Pfuntner, "How Widely Do Wages Vary within Jobs in the Same Establishment?" *Monthly Labor Review* 131, no. 2 (February 2008): 19, <https://www.bls.gov/opub/mlr/2008/02/art2full.pdf>.

⁴³¹ Sunday and Pfuntner, "How Widely Do Wages Vary within Jobs in the Same Establishment?," 35–37.

⁴³² Sunday and Pfuntner, 39.

3. Ethical Probity in a Post-Reform Organization

In addition to its impact on social cohesion and norms, pension reform may also have implications for the ethical behavior within an organization. Given incentives created by the vesting requirements and backloading of pensions, as described in Chapter III, DB pensions act as an instrument of discipline that deters corruption or malfeasance. Essentially, if a significant portion of employees' lifetime earnings is tied up in a DB pension, then it is in their calculated economic interest not to commit any act that might lead to their dismissal. With the advent of public pension reform, that calculus is going to change.

Becker and Stigler modeled this deterrent effect using variables including (1) the NPV of the employee's pension (and with it an assumed interest rate) at different points in time, (2) the potential "gain from malfeasance," and (3) the "probability of detection" of an offence that could lead to dismissal.⁴³³ These variables are used by Becker and Stigler to calculate a "temptation of malfeasance"; they conclude that from the perspective of the state, the most appropriate pay structure is one in which an employee's salary and pension value—analogueous to a bond—are equal to this temptation.⁴³⁴ The focus for Becker and Stigler was on pensions for law enforcement officers:

Malfeasance can be eliminated, therefore, even when the probability of detection is quite low, without lifetime payments to enforcers that exceed what they could get elsewhere. The appropriate pay structure has three components: an "entrance fee" equal to the temptation of malfeasance, a salary premium in each year of employment approximately equal to the income yielded by the "entrance fee," and a pension with a capital value approximately equal also to the temptation of malfeasance. As it were, enforcers post a bond equal to the temptation of malfeasance, receive the income on the bond as long as they are employed, and have the bond returned if they behave themselves until retirement. Put differently, they forfeit their bond if they are fired for malfeasance.⁴³⁵

⁴³³ Becker and Stigler, "Law Enforcement, Malfeasance, and Compensation of Enforcers," 8.

⁴³⁴ Becker and Stigler, 9–11.

⁴³⁵ Becker and Stigler, 9–10.

Under this model, the deterrent effect increases the closer one gets to retirement.⁴³⁶ Thus, while new employees may be relatively more tempted to engage in malfeasant behavior, their supervisors and mentors will face increasing incentives to avoid unethical or corrupt conduct on the job.

Crucial to Becker and Stigler’s model are the structural features of backloading and vesting typical of DB pension schemes; those features along with an assumed interest rate determines the value of the bond. In all its conceivable variations, public pension reform reduces this bond’s value and, commensurately, the deterrence effect pensions have on malfeasance and corruption. Indeed, in cases where pension reform involves a complete shift to a DC benefit construct, the residual value of Becker and Stigler’s bond would be zero. This is because DC benefits are fully portable and paid to the employee with every paycheck; in effect, they can be thought of as vesting immediately.⁴³⁷

The manner in which DB pensions deter malfeasance need not be thought of in such complicated terms, though. In a memoir reflecting on his career and 18-years as chief of the New York Police Department (NYPD)’s Internal Affairs Bureau (IAB), Charles Campisi delineates the straightforward way he would convey this deterrence to new NYPD trainees:

As chief of IAB, I would regularly go to the Academy and talk to the recruits about what I called “the Million Dollar Mistake.” If you get caught up in corruption, I tell them, not only have you given up your honor, and your job, and your salary, and your freedom, but we’re also going to take away your pension—a pension that over the course of twenty years can amount to well over a million dollars. I tell them, even if you can’t think of another reason not to be a corrupt cop—and there are many—do yourself a favor and do the math.⁴³⁸

⁴³⁶ Becker and Stigler, 8.

⁴³⁷ For this discussion, tax penalties for early withdrawal from a DC account can be ignored. The significant point here is the employee’s immediate ownership and control of retirement benefits/assets provided by the employer.

⁴³⁸ Charles Campisi and Gordon Dillow, *Blue on Blue: An Insider’s Story of Good Cops Catching Bad Cops* (New York: Scribner, 2017), 95, Kindle.

Reflecting on the DB pension valuations discussed in Chapter III, Campisi's seven-figure estimate for a law enforcement DB pension does not seem an exaggeration.

Throughout his memoir, Campisi expresses his incredulity over a number of cases where sworn officers have committed acts costing them their pensions. One instance he found particularly galling was a case in which an officer was dismissed over a sexual offense just one month shy of hitting 20 years of service—one month short of achieving the tenure required to secure a cliff-vesting, backloaded DB pension.⁴³⁹ Notwithstanding the myriad of police corruption cases chronicled in this memoir, Campisi emphasizes that over “99 percent of cops do their jobs honestly and correctly” in the NYPD.⁴⁴⁰ He submits that the same holds true with the professionals of the New York City firefighters as well.⁴⁴¹ From his expressed incredulity over the million-dollar mistakes that have occurred, it is clear Campisi believes in the corruption deterrence embedded in DB pension arrangements. It is an open question, however, whether the prevailing NYPD and firefighter pension regimes are significantly responsible for the low levels of corrupt behavior (in Campisi's opinion) in these large organizations.

Do economists provide any empirical evidence to address this open question? Stated differently, do data from economic research support the notion that pensions deter malfeasance or, conversely, that corruption exists at higher levels where DB pension arrangements are less generous? The answer here seems a qualified “no.” Rijckeghem and Weder come close with what they call an “empirical estimate of the effect of pay in the civil service on corruption.”⁴⁴² However, while these economists acknowledge the “incentive to honest behavior” provided by pensions, they exclude pensions from their analysis due to data limitations and the difficulty associated with factoring the value of deferred compensation into their “fair-wage” model.⁴⁴³ This is not unusual, though. As

⁴³⁹ Campisi and Dillow, 188.

⁴⁴⁰ Campisi and Dillow, 27.

⁴⁴¹ Campisi and Dillow, 254.

⁴⁴² Van Rijckeghem and Weder, “Bureaucratic Corruption and the Rate of Temptation,” 307.

⁴⁴³ Van Rijckeghem and Weder, 308–309, 311, 315.

Gustman, Mitchell, and Steinmeier note, similar data challenges face economists attempting to test theories about how pensions positively impact worker effort and productivity.⁴⁴⁴

There may, however, be empirical support from the field of comparative politics. In his doctoral dissertation explaining the variations in levels of police malfeasance across Latin America, political scientist Diego Esparza compared different police organizations empirically across geography and time. Esparza's general conclusion is "that police malfeasance is a function of centralization and professionalization."⁴⁴⁵ In this context, "professionalism" is rooted in the Weberian concept of a *rational bureaucracy*; it is a means "to effectively structure public administration to compel organizational behavior toward efficient, expedient, effective outcomes that are free of malfeasance."⁴⁴⁶ Significant for this thesis, a critical element in the development of a professional police force, according to Esparza—or a modern bureaucratic state in the writings of Max Weber—is the provision of a DB pension to officials.⁴⁴⁷ Esparza's field research shows the most professional and least corrupt police forces offer "a pension of 75–100% of salary after 25–30 years of service."⁴⁴⁸ By contrast, levels of police malfeasance are higher in weaker systems where pensions amount to 50 percent of salary or less.⁴⁴⁹ Of course, pensions are but one element in Esparza's assessment of what creates a professional police force less prone to corruption or malfeasant behavior. Nevertheless, the correlation between pensions and corruption is clear throughout his comparative analysis of numerous police organizations in Chile, Columbia, and Mexico.

⁴⁴⁴ Alan L. Gustman, Olivia S. Mitchell, and Thomas L. Steinmeier, "The Role of Pensions in the Labor Market: A Survey of the Literature," *Industrial and Labor Relations Review* 47, no. 3 (April 1994): 428–429, <https://doi.org/10.1177/001979399404700304>.

⁴⁴⁵ Esparza, "Policing as a Vocation," 2.

⁴⁴⁶ Esparza, "Policing as a Vocation," 21; Max Weber, *Economy and Society: An Outline of Interpretive Sociology*, ed. Guenther Roth and Claus Wittich (Berkeley: University of California Press, 1978), 226.

⁴⁴⁷ Esparza, "Policing as a Vocation," 21; Weber, *Economy and Society*, 1393–1395, 1399–1403.

⁴⁴⁸ Esparza, "Policing as a Vocation," 38.

⁴⁴⁹ Esparza, 39.

Overall, considering Becker and Stigler’s economic theory, Campisi’s seasoned intuition, and Esparza’s academic fieldwork in Latin America, it is possible that pension reform in the United States may serve to diminish the professionalism and standards of ethical probity in police forces and other organizations with homeland security missions. Thus, such effects should be considered in any scenario-planning exercise assessing the impact of pension reform on the homeland security enterprise.

C. CONCLUSION

This chapter served two purposes that will prove useful in the forthcoming scenario analysis: (1) it expanded the list of potential secondary effects that may result from pension reform, and (2) it identified caveats or mitigators in the effects identified in Chapter IV. While many of the potential effects and factors explored in this chapter emerge from academic disciplines outside of economics, the work of economic thinkers—among them Becker, Francois, Frey, Kreps, Lazear, Benabou, and Tirole—still provide significant insight in many of the subjects explored here. It should be noted that not all of the factors and avenues of inquiry explored in this chapter deserve equal weight. The discussion over how the theory of generations applies when contemplating the effects of pension reform, for example, may show a negative result; existing research provides only muddled conclusions about the work-related traits of millennials and younger generations, so it remains unclear whether these or future cohorts will react any differently than others in the face of pension reform. Still, conceptions of generational preferences have reportedly had an influence on pension reform itself, so this subject deserves exploration and consideration despite the negative result.

Where the previous chapter focused on career choice and human capital effects, this chapter spotlighted the impact pension reform may have on worker motivation and organizational behavior. If an organization’s success or failure depends on its ability to attract, retain, and motivate its workforce while fostering a cohesive workplace environment, then Chapters IV and V have covered the angles relating to organizational effectiveness. With these angles thus explored, the thesis is now on a firm foundation from

which to engage in a scenario exercise synthesizing the myriad factors identified in the preceding chapters.

VI. SYNTHESIS

Scenario-planning exercises involve narratives or storytelling about possible futures looking forward 20 years or longer.⁴⁵⁰ The intent of such a narrative art is not to make meticulous or even accurate predictions. Rather, scenarios are a tool to enhance the foresight of decision-makers, enabling them, in Schwartz's words, to "make better decisions about the future."⁴⁵¹ Kees Van der Heijden similarly describes scenarios as providing a language through which managers can engage their organizations in "strategic conversations"; such conversations help overcome "group think" and pave the way for what he calls a "skillful strategy process."⁴⁵² This chapter provides an organizational structure for the factors explored in the preceding chapters, which can be used by a team wishing to enter such a strategic conversation about the future of the homeland security enterprise (HSE) in the face of pension reform. Chapters VII, VIII, and IX use this structure to present a scenario exercise that addresses the research question of this thesis: What impact will pension reform have on public-sector organizations with homeland security missions?

Schwartz and other practitioners of scenario planning stipulate that one should look for factors emanating from five dimensions: economic, social, political, technological, and environmental.⁴⁵³ The preceding chapters focused on factors from the economic, social, and organizational dimensions, but a scenario-planning exercise should allow for a full spectrum of potential drivers shaping the future world. Thus, this exercise recognizes a few factors that may seem exogenous to the research and analysis presented thus far.

As laid out in the research design section of Chapter I, a useful technique in scenario planning involves the separation of different factors into the loose categories of

⁴⁵⁰ Federal Emergency Management Agency, *Foresight Workshop How-to Guide*, 2.

⁴⁵¹ Schwartz, *The Art of the Long View*, 9

⁴⁵² Van der Heijden, *Scenarios: The Art of Strategic Conversation*, viii–ix.

⁴⁵³ Schwartz, *The Art of the Long View*, 110; Federal Emergency Management Agency, *Crisis Response and Disaster Resilience 2030*, 6.

predetermined elements and *critical uncertainties*.⁴⁵⁴ For this exercise, the consequences of a changing public-sector compensation structure shape the predetermined elements; these are the second- and third-order effects of public pension reform. Factors that could alter those consequences and factors that influence the course of pension reform itself constitute critical uncertainties.

A. PREDETERMINED ELEMENTS: WHAT WE KNOW WE KNOW

The factors revealed in Chapter IV fit the predetermined element category well because they are, for the most part, second-order effects stemming from pension reform: As the public sector moves away from a structure in which a significant portion of the employee's lifetime earnings come in the form of post-retirement annuities, the incentives associated with such deferred compensation diminish. In turn, employee turnover increases, human and social capital challenges ensue, and the quality of workers who choose to pursue public service diminishes.⁴⁵⁵ Further, as public entities are faced with an increasingly mobile labor pool, they will be forced to compete with themselves and the private sector for seasoned human capital through enhanced wages (i.e., non-deferred compensation).⁴⁵⁶ The term "predetermined" applies vis-à-vis these factors because there is robust academic literature to support the cause-and-effect dynamics at play. What is not so clear, however, is the magnitude of these effects. Thus, when contemplating possible future outcomes, a scenario planner should vary the salience and severity of these effects while accepting as "predetermined" the direction indicated in the literature.⁴⁵⁷

A number of the patterns and dynamics explored in Chapter V also fall into the predetermined element category: specifically, the intraorganizational collaboration effects stemming from social comparison, motivation crowding, and the potential for increased

⁴⁵⁴ See Chapter I, Section C.

⁴⁵⁵ See Chapter IV, Section A.

⁴⁵⁶ See Chapter IV, Section B.

⁴⁵⁷ This is consistent with Van der Heijden's explanation of predetermined elements. In his words, "while the overall direction of movement may be predetermined the specific outcomes may be highly uncertain." Van der Heijden, *Scenarios: The Art of Strategic Conversation*, 87.

malfiance stemming from the elimination of anti-corruption incentives. These three factors, however, seem less cogent than the factors from Chapter IV because either they are third-order effects or the links are not as well established in current academic literature.⁴⁵⁸ Although these factors may seem founded on less solid ground, the thrust of scenario planning is not about projecting the most likely or precise predictions.⁴⁵⁹ Again, for the scenario planner, a logical task in constructing future outcomes is to vary the magnitude of such effects while accepting the essence of these effects revealed or inferred by the existing research and literature.

Schwartz delineates predetermined elements as “what we know we know.”⁴⁶⁰ Table 2 summarizes the predetermined elements used in this exercise.

Table 2. Predetermined Elements

<i>Factor</i>	<i>Chapter</i>	<i>Order of Effect</i>
<u>Turnover Effects:</u> The degree to which pension reform increases employee turnover.	IV	2nd order effect of pension reform
<u>Human Capital Effects:</u> The human capital–related implications of pension reform. These involve the quality of entry-level workers, the effectiveness of line employees, and capabilities of mid- and upper-level management.	IV	2nd order effect of pension reform
<u>Wage-Based Competition:</u> The extent to which homeland security organizations need to enhance wages and disperse their pay structures to attract and retain human capital <i>ex post</i> to reform.	IV	2nd order effect of pension reform
<u>Motivation Crowding:</u> The sensitivity of workers to the crowding out of intrinsic motivation, prosocial motivation, and/or PSM in the face of enhanced wages.	V	3rd order effect of pension reform; 2nd order of wage-based competition

⁴⁵⁸ The effects stemming from pay-dispersion or crowding from enhanced extrinsic rewards would represent a third-order effect of pension reform; the dispersion itself would be a second-order effect.

⁴⁵⁹ Schwartz, *The Art of the Long View*, 4–9; Van der Heijden, *Scenarios: The Art of Strategic Conversation*, 15.

⁴⁶⁰ Schwartz, *The Art of the Long View*, 114.

<i>Factor</i>	<i>Chapter</i>	<i>Order of Effect</i>
<u>Intraorganizational Pay Structure Effects:</u> Morale and collaboration-related maladies associated with dispersed pay structures and employee perceptions about the fairness underlying their compensation.	V	3rd order effect of pension reform; 2nd order of wage-based competition
<u>Corruption Deterrence Effects:</u> The degree to which the removal of pension-related deterrence diminishes the professionalism and ethical standards within homeland security organizations.	V	2nd order effect of pension reform

In the context of this thesis, these factors matter because they will influence the effectiveness of public-sector organizations after reforming their pension structure. At least they will if one makes three core assumptions about pension reform: (1) that the future vector of pension reform follows its current trajectory, (2) that individual jurisdictions take purposeful steps to enhance wages and disperse their pay structures *ex post* to reform, and (3) that human capital and organizational cultures will remain key determiners of organizational effectiveness in the future HSE. Recognizing these assumptions helps develop the next type of factor used in this exercise: critical uncertainties.

B. CRITICAL UNCERTAINTIES: QUESTIONING CORE ASSUMPTIONS

Schwartz warns that there is ambiguity in categorizing factors in scenario planning.⁴⁶¹ Writing in 1991 and providing examples from scenario work at Shell and elsewhere, Schwartz describes the “critical uncertainty” category as follows:⁴⁶²

Critical uncertainties are intimately related to predetermined elements. You find them by questioning your assumptions about predetermined elements: what might cause the price of oil to rise again? What might AT&T do to lose its domination over the long-distance business, and resulting cash cow? Shell’s scenarios, for example, still include the U.S. deficit as a predetermined element. But Shell also asks: what might happen to change the deficit? It would have to involve drastic cuts in defense spending and

⁴⁶¹ Schwartz, *The Art of the Long View*, 113.

⁴⁶² Schwartz points to Pierre Wack’s work at Shell, which enabled the company to anticipate the 1970s’ energy crisis. Wack’s work made Shell the only oil company prepared to respond when the first oil price shocks occurred in 1973. Schwartz, *The Art of the Long View*, 7–9.

Social Security. Thus, the American debate over military cutbacks and the “peace dividend” is a critical uncertainty when considering scenarios for the late 1990s. Another critical uncertainty is real income growth in America. If it returned to the levels of the 1960s, people might feel more generous about taxes.⁴⁶³ [original emphasis]

Despite the ambiguity underlying the factor categories, pondering critical uncertainties forces the scenario planner to recognize underlying assumptions and imagine what might alter them. Such a task involves speculation, but for this exercise, one need not be purely creative because the earlier chapters provide some insight into all three of the assumptions numbered above.

The first core assumption posits that pension reform will continue at its current pace and on its current trajectory. As delineated in Chapter III, current reform trends involve the diminishment or abandonment of deferred compensation for public servants. Further, such reforms are being pursued in an incremental manner in that they apply only to new hires.⁴⁶⁴ When contemplating future outcomes, a scenario planner could assume that pension reform will continue to unfold as it has thus far. Following Schwartz’s lead, however, one should question this assumption: What might change the vector? That is, what might lead public pension reform across the nation to accelerate or decelerate? What might cause the public sector to pursue reform in a more or less uniform manner, or cause reform efforts to be suspended across the board? What conditions might require jurisdictions to engage in drastic measures that dispossess current annuitants and vested employees?

The answers to these questions lie predominantly in the realm of finance. As discussed in Chapter III, the unprecedented levels of SLG-level pension debt—the impetus for pension reform—came about as a result of disappointing capital market performance over the last 20 years. Whether actual rates of return meet or exceed the 7–8 percent discount rates used in actuarial valuations of pension debt will determine much of what happens at the SLG level over the next few decades.⁴⁶⁵ If the return on investment (ROI)

⁴⁶³ Schwartz, *The Art of the Long View*, 114.

⁴⁶⁴ See Chapter III, Section C, Subsections 1–2.

⁴⁶⁵ Munnell, Aubry, and Quinby, “Public Pension Funding in Practice,” 248.

in the capital markets exceeds actuarial expectations, then many of the concerns raised in this thesis will be moot. On the other hand, if rates of return fall in line with the 3–4 percent assumed by many financial economists, then the timeline to insolvency for many SLG pension funds will fall in the multi-decade timeframe under consideration.⁴⁶⁶ Therefore, market performance over the next 20–30 years should be considered as a factor—specifically, a critical uncertainty—when constructing future scenarios.

Market performance, however, involves more than just the ROI: market volatility or the possibility of significant booms or busts as the market makes its random walk into the future is also a consideration. Capital market volatility matters most when contemplating the pace of reform in jurisdictions with “unhealthy” pension funds, as described in Chapter III. Such funds would be less resilient in the face of investment losses; for them, accelerated or even drastic pension reform measures may be required to forestall insolvency after a market correction. Thus, volatility may make the vector of pension reform less uniform insofar as it may drive some jurisdictions to reform differently than others.

While moderate market corrections could push unhealthy funds over the brink, economic shocks that lead to longer-term market declines would have more extensive implications. Given the poor aggregate state of pension fund finances today, a significant recession in the coming decade could trigger widespread pension fund failures. The resulting municipal, county, and (potentially) state bankruptcies could leave swaths of public servants and retirees dispossessed of their DB pensions.⁴⁶⁷ In turn, this could erode overall worker confidence in DB pension promises. Even employees in jurisdictions with funds resilient enough to absorb significant investment losses might sour on the whole DB construct.

⁴⁶⁶ Munnell, Aubry, and Quinby, 248.

⁴⁶⁷ Under current law and the contracts clause of the U.S. Constitution, a state cannot declare bankruptcy. Facing mounting pension debt and other fiscal woes, however, some in state government are contemplating how legislative changes could enable states to access the bankruptcy system. Jennifer Burnett, “3 Questions on State Bankruptcy,” E-Newsletter, Council of State Governments, July–August 2017, https://www.csg.org/pubs/capitolideas/enews/issue65_3.aspx.

Financial realities, however, only provide the rationale, impetus, and need for reform. Tangible change to public pension arrangements depends on political outcomes. Indeed, the reform trends tracked painstakingly by the National Conference of State Legislatures came about through actions taken by state legislatures; they are the result of win–lose power plays and political compromises.⁴⁶⁸ Although political considerations had not been a central focus of the preceding chapters, the reform trends and financial assessments explored in Chapter III reveal that state and local governments have little appetite for proactive, far-sighted action with respect to pensions. Reform efforts to date have been tepid, leaving pension funding inadequate; in many jurisdictions, the failure to meet ARC funding targets has only increased pension debt, and the brunt of reform has targeted new hires while preserving the status quo for annuitants and tenured workers.⁴⁶⁹

Why has the political process failed to produce more prudent responses to the public pension debt crisis? The answer to this question may lie in the (relatively) short-term nature of election cycles and strong political influence of constituencies interested in preserving the current system. At the SLG level, these constituencies include public employees themselves and the unions that represent many of them.⁴⁷⁰ Because the personal finances of annuitants, tenured workers, and union members are inexorably tied to the existing DB system, there is a strong incentive for public employees to fight cuts, seek enhanced benefits, or at least maintain the status quo.⁴⁷¹ Elected officials at the SLG level thus adopt

⁴⁶⁸ See Chapter III, Section C, Subsection 2. Snell, *Pensions and Retirement Plan Enactments in 2012 State Legislatures*; “Pension and Retirement Legislation Information by State,” National Conference of State Legislatures, last modified March 11, 2019, <http://www.ncsl.org/research/fiscal-policy/pension-legislation-database.aspx>.

⁴⁶⁹ See Chapter III, Section C, Subsections 2–3.

⁴⁷⁰ Patrick McGuinn, *Pension Politics: Public Employee Retirement System Reform in Four States* (Washington, DC: Brookings Institution, 2014), 4–6, https://www.brookings.edu/wp-content/uploads/2016/06/Pension-Politics_FINAL_225.pdf; Brown, Clark, and Rauh, “The Economics of State and Local Pensions,” 168; Josh Barro, “Dodging the Pension Disaster,” *National Affairs*, Spring 2011, <https://www.nationalaffairs.com/publications/detail/dodging-the-pension-disaster>.

⁴⁷¹ McGuinn, *Pension Politics*, 5–6. McGuinn explains that because union leadership positions are elected, short-sighted political dynamics apply in unions as well as in state and local government. Elected officials need to satisfy the short-term interests of those who will re-elect them, so they oppose cuts and support generous pension policies irrespective of underlying financial realities.

pension-benefit-friendly positions to curry favor with this key constituency every election cycle.

However, in light of mounting fiscal challenges, should one expect these well-established political dynamics to continue in perpetuity? As revealed in Chapter III, aggregate pension debt levels are profound and daunting. Even under optimistic financial assumptions, it is hard to envision how the system can recover, and keeping today's unhealthy pension funds afloat will demand extraordinary resources over decades.⁴⁷² In the face of such overwhelming pension bills, state and local governments will be forced to redirect resources away from other services. Indeed, as documented by SIEPR's Joe Nation, such redirection has already taken hold in California; the result is diminished resources "needed for public assistance, welfare, recreation and libraries, health, public works, other social services, and in some cases, public safety."⁴⁷³ Voters will take notice should stark service cuts become necessary to keep pensions afloat, and as voter awareness increases, it follows that the political landscape will become susceptible to change. Legislative reform efforts may progress in unexpected or extreme ways, making pension-friendly legal constructs fungible.⁴⁷⁴ Thus, political dynamics and outcomes vis-à-vis pension policies represent a critical uncertainty that the scenario planner should consider when contemplating future scenarios.

The second core assumption posits that pension reform will lead to dispersed pay structures within HSE organizations. Recall from Chapter IV that public-sector workers will be increasingly mobile *ex post* to pension reform. Facing a mobile labor pool, it seems a given that public-sector employers will be forced to compete with themselves and the private sector for seasoned human capital through enhanced wages (i.e., non-deferred

⁴⁷² See Chapter III, Section C, Subsection 3.

⁴⁷³ Joe Nation, "Pension Math: Public Pension Spending and Service Crowd Out in California, 2003-2030," Working Paper No. 17-023 (Stanford: Stanford Institute for Economic Policy Research, 2017), iii, <https://siepr.stanford.edu/sites/default/files/publications/17-023.pdf>.

⁴⁷⁴ It will be especially interesting to see how political dynamics and legal decisions play out in the seven states that (to date) have pension protections written into their constitutions. Liz Farmer, "How Are Pensions Protected State-by-State?" *Governing Magazine*, January 28, 2014, <http://www.governing.com/finance101/gov-pension-protections-state-by-state.html>.

compensation).⁴⁷⁵ In the process of bidding for more educated, experienced, or proven workers through wages, disperse pay structures should result.⁴⁷⁶ Is it reasonable to assume that all employers can and will use wage enhancements to compete for human capital in a similar manner? That is, will all players compete with the same level of aggressiveness using comparable wage rates and pursuing similar priorities?

As with the questions surrounding the first core assumption, financial and political considerations underlie the answers to such questions about the second. A given jurisdiction's ability to compete by means of enhanced wages depends on its fiscal resources, so wealthy jurisdictions with robust tax bases have an advantage in wage-based competition for labor.⁴⁷⁷ Political will, however, may be more significant than fiscal wherewithal in determining the aggressiveness with which a given jurisdiction engages in wage-based competition. After all, as pension reform moves a jurisdiction away from DB compensation for its employees, it will be deprived of the "back door borrowing vehicle" Josh Barro describes, so bidding for labor through wages will necessarily involve the kind of hard, political tradeoffs required in raising and expending cash from public coffers.⁴⁷⁸ Such tradeoffs are the purview of elected officials, and it is hardly a given that all jurisdictions will pursue human capital for their homeland security organizations with the same priority. Political considerations here, however, go beyond setting priorities in government spending; another wrinkle to consider involves the amount of authority granted future HSE hiring managers in targeting individual workers. While the flexibility to negotiate salary or offer bonuses may be commonplace in the private sector, allowing public-sector hiring managers to tailor compensation packages in this manner would only come through legislation or policy changes. Simply put, only through political action can

⁴⁷⁵ See Chapter IV, Section B. Llorens, "Compensation Reform and Threats to Human Capital Capacity in the Public Sector," 33.

⁴⁷⁶ See Chapter IV, Section B.

⁴⁷⁷ See Chapter IV, Section B. Recall that reforming jurisdictions face a fiscal catch-22 here; the very same fiscal imperatives that may drive them to reduce pension benefits also impact their ability to compete with higher wages.

⁴⁷⁸ Barro, "How Congress Can Help State Pension Reform," 99.

hiring managers have the discretion to negotiate. Overall, therefore, the form wage-based competition takes and the outcomes it produces will depend on different players' political will and budgetary wherewithal. Because such will and wherewithal involve both political and fiscal dimensions, it will hereinafter be referred to as the *political finance of wage rivalry*, and scenario planners should consider it as a critical uncertainty when contemplating future worlds *ex post* to pension reform.

A more elemental set of questions surrounding the second core assumption and, indeed, about post-reform wage-based competition generally may be found in the sociological realm. Chapter V explored the idea that the motivational composition of people entering public service sets them apart and that future generational cohorts may be more or less swayed by financial incentives or extrinsic rewards.⁴⁷⁹ If, as the result of sociological trends, the labor pool is more inclined to enter public service due to high levels of intrinsic motivation, PSM, or generational preferences, then wage-based competition for public servants may be less effective.⁴⁸⁰ This would mitigate the need to enhance wages, and the degree of pay dispersion would diminish *ex post* to pension reform. However, as Chapter V pointed out, concepts such as Manheim's theory of generations do not provide compelling insights into the future workforce's motivational composition, job-related attitudes, or other traits.⁴⁸¹ That does not mean that sociological influences should be disregarded. Unanticipated societal traits and attitudes may emerge that undermine or bolster the degree to which financial incentives drive the actions of public servants.⁴⁸² If future workers are markedly more or less sensitive to wages—i.e., extrinsic incentives—or develop new and different job-related preferences, then such influences may heavily influence outcomes in a future world after the implementation of pension reform. Thus, sociological influences are a critical uncertainty for scenario planners to consider.

⁴⁷⁹ See Chapter V, Section A, Subsections 1–2.

⁴⁸⁰ See Chapter V, Section A, Subsections 1–2.

⁴⁸¹ See Chapter V, Section A, Subsection 2.

⁴⁸² See Chapter V, Section C.

Finally, regarding the third core assumption—that human capital and organizational cultures remain key determiners of organizational effectiveness in the future HSE—critical uncertainties from the technological domain may influence future outcomes. Chapters IV provided support to the link between human capital and organizational effectiveness, and Chapter V explored the link between collaborative culture and organizational outcomes in the homeland security domain.⁴⁸³ However, these linkages may change if technological advances render the HSE less reliant on collaboration or the existence of standing, geographically dispersed police, fire, and emergency management resources. Already, police departments facing staffing challenges point to the power of “predictive policing” as a force multiplier for thinning staff.⁴⁸⁴ Artificial intelligence, sensing capabilities, and other yet-unimagined technologies may evolve to the point where accurate forecasting becomes possible in the homeland security domain. Such advances could enable the proactive application of police, fire, and emergency service capabilities, which will effectively reduce the need for overall HSE staffing. Future technology could also enable officials to maneuver reduced HSE capabilities to where they are needed on a just-in-time basis.

There are a number of caveats here, however. Technologies that diminish the number of workers needed may require the workers who remain to be of a higher caliber or to undergo extensive training. In other words, the headcount may diminish, but the requisite human capital imbued in each contributor/employee may increase. Further, the types of information sharing (social capital) and organizational culture required to be effective in an organization with a public safety, disaster management, or public security mission may change in unexpected ways with technological advancements. Should jobs in these organizations become more about leveraging technology than about line-worker judgment, commander intuition, and teamwork, then a different kind of organizational culture may become desirable. Regardless, if jurisdictions need fewer employees, then the

⁴⁸³ See Chapter IV, Section A, Subsection 2; Chapter V, Section B, Subsection 2.

⁴⁸⁴ Martin Kaste and Lori Mack, “Shortage of Officers Fuels Police Recruiting Crisis,” NPR, December 11, 2018, <https://www.npr.org/2018/12/11/675505052/shortage-of-officers-fuels-police-recruiting-crisis>.

burden of funding pension annuities or competing through enhanced salaries will diminish. The impact of technology could be significant enough to render the problem considered in this thesis moot. Thus, even though it may seem exogenous to the topic of public pensions, the technological domain presents a critical uncertainty for scenario planners to consider when projecting pension reform’s impact on the homeland security enterprise.

Schwartz delineates critical uncertainties (somewhat opaquely) as “the dwelling places of our hopes and fears.”⁴⁸⁵ Table 3 summarizes the critical uncertainties used in this exercise.

Table 3. Critical Uncertainties

<i>Factor</i>	<i>Chapter</i>	<i>Influence on Future Outcomes</i>
<u>Market Performance</u> : Capital market investment performance and volatility over the next two to three decades.	III	Will drive the type and degree of pension reform necessary to prevent pension fund insolvency.
<u>Pension Politics</u> : Legislative and macro-level policy outcomes that dictate public pension structures.	III	Will define the options available to jurisdictions seeking to reform their pension systems.
<u>Political Finance of Wage Rivalry</u> : Micro-level political vectors and fiscal limitations related to compensation for public employees.	IV ⁴⁸⁶	Will determine how individual jurisdictions engage in wage-based competition for human capital.
<u>Sociological Influences</u> : Social trends influencing the choices, attitudes, and motivational composition of the workforce.	V	May mitigate the effectiveness of enhanced wages or otherwise short-circuit the predetermined elements.
<u>Technological Evolution</u> : The potential for technological innovations to supplant human capital in homeland security organizations.	IV and V ⁴⁸⁷	Could influence the degree to which human capital and organizational culture matter in determining organizational effectiveness.

⁴⁸⁵ Schwartz, *The Art of the Long View*, 120.

⁴⁸⁶ Political considerations are mostly exogenous to this thesis, but Chapter IV provides background on the dynamics of wage rivalry and fiscal constraints.

⁴⁸⁷ Technological evolution is mostly exogenous to this thesis, but Chapters IV and V provide background on how human capital and organizational culture influence HSE effectiveness.

C. FACTOR WEIGHTING AND A REFRAIN FOR THREE SCENARIOS

The process for developing scenarios begins with varying the impact, salience, or characteristics of the identified factors. In a sense, the factors are akin to the dials of an equalizer in a recording studio; change the levels of treble and bass or change the synthesized filters, and the music sounds remarkably different. The filtering and weighting of different factors—i.e., turning the dials—in the following exercise is based on the author’s judgment, which has been informed by his professional experience and his developed familiarity with the literature supporting the preceding chapters. Others who may use this thesis as a launching point might highlight factors explored in the preceding chapters but not emphasized in the scenarios presented. The reliance on one individual’s experience and judgment (informed or not) reveals a methodological shortcoming in this scenario exercise. That shortcoming, however, does not detract from the provocative purpose of this exercise, and it provides a course for the ultimate recommendations of this thesis.

Author Steven Johnson claims that “a common refrain in scenario planning” involves the building of three different models.⁴⁸⁸ Scenario planners following Johnson’s structure force themselves to tell three stories: “one in which things get better, one in which things get worse and one in which they get weird.”⁴⁸⁹ This three-part refrain guides the scenario-planning exercise presented in Chapters VII, VIII, and IX. Each chapter offers a possible vision related to the central research question: What impact will pension reform have on public-sector organizations with homeland security missions? Through the lens of this question, the “things getting better” scenario relates to the effectiveness of the homeland security enterprise; better outcomes equate with a more potent HSE than might be envisioned in alternate scenarios *ex post* to pension reform. In light of Chapter III’s conclusion that the challenge of pension reform lies primarily at the state and local level,

⁴⁸⁸ Steven Johnson, *Farsighted: How We Make the Decisions That Matter the Most* (New York: Riverhead Books, 2018), 113.

⁴⁸⁹ “Steven Johnson Farsighted,” Steven Johnson, *Book TV*, aired September 15, 2018 on CSPAN, https://archive.org/details/CSPAN2_20180916_005000_Steven_Johnson_Farsighted.

the factors considered and narratives presented are biased toward projecting the impact pension reform may have on state and local homeland security organizations.

VII. SCENARIO 1: CENTERS OF EXCELLENCE AND CENTERS OF DISARRAY

In constructing this scenario, the author envisioned what would happen if the identified factors play out in a banal manner. That is, there are no significant disruptions in the capital markets, investment returns meet the conservative expectations of financial economists, and there are no unexpected twists in the predetermined elements or other factors.⁴⁹⁰ As a consequence of these eventualities—summarized in Table 4—how might the homeland security enterprise look in 20–30 years?

Table 4. Factor Summary: Centers of Excellence and Centers of Disarray

<i>Factor</i>	<i>Salience</i>	<i>Notes</i>
<i>Predetermined Elements</i>		
Turnover Effects	Significant	Negative implications for organizations that move away from DB pension constructs.
Human Capital Effects	Significant	Negative implications for organizations that move away from DB pension constructs.
Wage-Based Competition	Moderate	DB pensions remain in place for some jurisdictions, so not all players need to key on wages to compete for human capital.
Motivation Crowding	Moderate	Negative implications for organizations offering high salaries or bonuses to attract or retain key employees.
Intraorganizational Pay Structure Effects	Moderate	Negative implications for organizations offering high salaries or bonuses to attract or retain key employees.
Corruption Deterrence Effects	Moderate	Though not widespread, incidence of malfeasance for law enforcement increases, which has a significant impact on those organizations affected.

⁴⁹⁰ Scenario practitioners Shearer et al., would call this the “‘surprise free’ alternative future” where “there are no significant changes in the social, political, economic, technical, or environmental aspects of the world.” Allen W. Shearer et al., *Land Use Scenarios: Environmental Consequences of Development* (Boca Raton, FL: CRC Press, 2009), 4.

<i>Factor</i>	<i>Salience</i>	<i>Notes</i>
<i>Critical Uncertainties</i>		
Market Performance	Significant	ROI aligns with financial economists' expectations, and capital markets remain stable with no significant economic disruptions. This leads to unsurprising rates of insolvency among public pension funds.
Pension Politics	Moderate	Legislation and policy moves execute pension reform along its current, incremental trajectory. Pension generosity diminishes, but most reforms apply exclusively to new employees.
Political Finance of Wage Rivalry	Moderate	For players that find the political will to compete aggressively through wages, policies and rules change to give hiring managers more discretion over compensation packages.
Sociological Influences	Low	There are no sociological trends that impact the overall outcome. Though public servants still have relatively high PSM/intrinsic motivation, they are not insensitive to financial incentives.
Technological Evolution	Not Applicable	No technological changes impact the role of human capital in the homeland security enterprise.

A. THINGS GET WORSE

The year is 2045. At the SLG level across the nation, there is a marked disparity in the effectiveness of organizations in the homeland security domain. While some communities enjoy the benefits of stable, professional, and effective organizations with public safety, disaster management, and public security missions, the story in other communities is quite different. The key variable correlating with whether an organization seems effective or challenged is the organization's compensation structure. Generally speaking, organizations are solid wherever a healthy DB pension structure exists; employee morale and the professional ethos within these organizations are robust, the internal sharing of information is functional, institutional memory seems strong, and these organizations prove resilient when challenges arise. By contrast, in jurisdictions where pension reform led to the abandonment of the DB pension construct—"non-DB" jurisdictions—homeland security organizations are less functional and less effective; they suffer from low morale,

poor leadership, and low levels of experience in aggregate.⁴⁹¹ If such problems were isolated cases, then the state affairs might not seem so bad. However, by 2045, about half the nation's SLG jurisdictions have witnessed a decline in the potency of their public safety and security systems.⁴⁹²

For a number of public employees who retired over the preceding decades, the financial road has been a rocky one; they watched as pension funds backing their promised annuities became insolvent. In the worst cases, retirees and long-tenured employees were left high and dry as bankruptcy judgments dispossessed them of the pension annuities they had earned over the course of their careers. The experience of this group of public servants left a lasting impression. Nowhere has this impression been more influential than among the children of workers in the HSE. Public service remains something that runs in families in 2045, and transgenerational firefighters and law enforcement officers continue to rank among the most dedicated and capable. However, the mentorship these young professionals receive comes with strong advice to choose their employer wisely. One can imagine family conversations playing out this way:

So, you want to be a cop like me? That's great! Just don't be like your uncle and give your heart and soul to the wrong department because someday you'll want to retire with a pension like mine. Cut your teeth with whomever hires you in the beginning, but after you have some experience, you need to understand that you're in the driver's seat. At that point, choose the place you want to spend the rest of your career—a place with a pension—but pay close attention to the resources behind whatever they are promising you. If there's not real money in their retirement fund, it's an empty promise, and you'll see the pension you think you've earned pulled out from under you, like what happened to your uncle.

Such mentorship gives the progeny of HSE professionals an advantage, but other high-quality first responders manage their careers in a similar manner.⁴⁹³ Thus, among young professionals in the HSE, there is a sorting effect underway in 2045; the highest quality

⁴⁹¹ The factors are turnover and human capital effects.

⁴⁹² The factors are market performance and pension politics.

⁴⁹³ The factor is human capital effects.

employees are migrating to those jurisdictions with DB pension plans on firm financial footing. Meanwhile, less-fortunate jurisdictions offering little or financially dubious DB retirements have become mere training grounds for the talented and repositories for the second-rate.

The least-fortunate non-DB jurisdictions never competed well in the labor market. Due to a lack of financial wherewithal or political will, their wage rates remained constant after abandoning their DB pensions, and their organizations continue to suffer in 2045 as a result; the labor force they attract is mobile, so they continually hemorrhage capable and promising employees for more lucrative opportunities.⁴⁹⁴ The salary disparities between jurisdictions are stark, but the decision-making of public servants in these jurisdictions is not driven purely by financial considerations. High vacancy rates lead managers to make up the difference through forced overtime. As a result, the workload and operations tempo for employees in these jurisdictions are higher than elsewhere. Additionally, in dire need of experienced, mid-career officials, these jurisdictions attempt lateral recruitment, but that does not go well. Because their wage rates are not particularly attractive, they can only succeed by accepting candidates with shoddy records.⁴⁹⁵ Even worse, rates of fraud, abuse, and outright corruption within police departments in these jurisdictions have increased; investigating such malfeasance distracts leaders, drains precious resources, and hurts the credibility of law enforcement in immeasurable ways.⁴⁹⁶ Generally, these jurisdictions face extraordinary human capital challenges. Their HSE organizations have become less professional and less effective compared to peer organizations or their own past pre-reform performance.

Other jurisdictions that abandoned the DB compensation construct but have more robust financial reservoirs are faring better in 2045. These non-DB jurisdictions compete aggressively in the market for public safety, security, and emergency management

⁴⁹⁴ The factors are wage-based competition and political finance of wage rivalry.

⁴⁹⁵ The factor is wage-based competition.

⁴⁹⁶ The factor is corruption deterrence effects.

professionals with higher, competitive wage rates.⁴⁹⁷ They do not face the same human capital challenges as their less-endowed cousins because they are successful in hiring employees away from others.⁴⁹⁸ Poaching talent in this way, however, ratchets up competitive wage rates for proven, experienced professionals. This causes the pay structure to become increasingly dispersed—mid- and upper-level employees command salaries that are remarkably higher than junior employees.⁴⁹⁹ As a consequence, organizational cultures within these jurisdictions shift in dysfunctional ways; the shift is insidious, but over time the work environment becomes less harmonious and collaborative, and the labor force becomes less motivated and more mercenary in their orientation.⁵⁰⁰ Given the collaborative nature of work in the realms of public safety, disaster management, and public security, the effectiveness of wage-competitive organizations operating in these domains suffers.⁵⁰¹

Perhaps the most intriguing way in which organizational culture and employee behavior have changed in non-DB jurisdictions is at the middle-management levels and above. Ambitious careerists working in these jurisdictions jump around as a means of climbing the ladder to senior leadership; they work in one organization only long enough to develop a track record and reputation, and then they jump to more senior positions elsewhere. These opportunists have come to be known as “butterflies” for their propensity to flit about from one place to the next. They are often talented and highly educated, and they demand high salaries, but their sense of institutional history, their knowledge about the served community, and the credibility they garner from subordinates are limited.⁵⁰² Nevertheless, genuinely successful butterflies learn key skills with each career move. Not

⁴⁹⁷ The factor is political finance of wage rivalry.

⁴⁹⁸ The factor is wage-based competition.

⁴⁹⁹ The factors are wage-based competition and political finance of wage rivalry.

⁵⁰⁰ The factors are motivation crowding and intraorganizational pay structure effects.

⁵⁰¹ See Chapter V, Section B, Subsection 2.

⁵⁰² See Chapter IV, Section B, Subsection 2. See also the discussion on “social capital” in Chapter VI, Section A, Subsection 2.

all are so capable, though, and many stagnate in their ascent. These butterflies rise until they reach their level of incompetence *à la* the Peter Principle; with such stagnation, they wind up stuck with an employer, and that employer is stuck with having to deal with a marginal but critically placed manager.

Among the most effective leaders across the HSE, however, butterflies are the exception; the best HSE leaders find their way to those jurisdictions still offering stable, secure DB pension plans early in their careers.⁵⁰³ The lure of pension-providing employers goes beyond mere pecuniary interest. HSE organizations that offer DB pensions in 2045 enjoy more unit cohesion than their non-DB peers, and they tend to be led by competent, stable leadership teams with deep-seated community ties.⁵⁰⁴ As a result, these organizations have a way of luring leaders with a long-term orientation who are dedicated to their employers and the communities they serve.⁵⁰⁵ Such organizations continually prove themselves capable and effective, but they represent less than a third of the nation's SLG homeland security enterprise.

B. EPILOGUE

In this “things get worse” scenario, it is the lack of uniformity in the vector of SLG pension reform that drives the ultimate end state. In this future world, haves and have-nots develop within the HSE. Through the mechanics of a brain drain, human capital concentrates in those jurisdictions fortunate enough to still be offering employees DB pensions in 2045. The HSE trifurcates into first-, second-, and third-tier employers with a commensurate pecking order in terms of mission effectiveness. The advantages of the first tier go beyond the knowledge, skills, and abilities of the employees; first-tier organizations also enjoy more functional organizational cultures than their second- and third-tier counterparts.

⁵⁰³ The factor is human capital effects.

⁵⁰⁴ The factor is intraorganizational pay structure effects.

⁵⁰⁵ The factor is turnover effects.

Under this scenario, a significant proportion of HSE organizations winds up in the second or third tier. This division is concerning because it comes about under reasonable assumptions about capital market performance and a presumption that pension reform continues along its current trajectory. If scenario planning were about making predictions, then this scenario could be assessed as the most likely outcome. The fact that such a high proportion of the HSE suffers a loss of effectiveness under such reasonable or banal assumptions does not bode well for the state of homeland security in 2045.

The key to preventing this kind of outcome lies in altering the vector of pension funding in those jurisdictions that are financially unhealthy. Prudent funding-focused reforms that prevent these jurisdictions from shirking their pension payments could break the chain of events that lead to this scenario's end state. At least such reforms could if they were initiated today. Unfortunately, given the short-term bias at the SLG level and within labor unions, it seems naïve to suggest that key leaders just need to be proactive.⁵⁰⁶ That is why federal intervention here makes sense. Along these lines, Josh Barro makes a compelling appeal for federal legislation that would do for the public sector what the Employee Retirement Income Security Act of 1974 and, later, modifying laws did for the private sector.⁵⁰⁷ As Barro explains,

These federal laws are much stricter than the standards the GASB now recommends for state and local governments. The discount rates that must be used to adjust future liabilities are lower, meaning that the estimates of present value of liabilities are higher. And unfunded liabilities must be amortized over seven years, not 30. Unlike the GASB's recommendations, moreover, the federal requirements for private companies are binding. As a result, while private and public pensions currently report about the same funding ratios, the private plans are actually significantly better funded (because the estimates of liabilities they use to arrive at the ratios are higher), and they will close their funding gaps more quickly.⁵⁰⁸

⁵⁰⁶ See Chapter VI, Section B.

⁵⁰⁷ Josh Barro, "How Congress Can Help State Pension Reform," 101.

⁵⁰⁸ Josh Barro, "How Congress Can Help State Pension Reform," 101.

In short, such legislation applied to the public sector would make it difficult for many jurisdictions to remain in their pension-debt hole without taking appropriate action.⁵⁰⁹ It will force their hand to enact real reforms that could rescue their DB constructs from impending insolvency.

⁵⁰⁹ The private sector may also provide an historical example of what could happen to public-sector DB pensions subsequent to an ERISA-style federal action. For a discussion of this historical example, see Baily and Kirkegaard, *U.S. Pension Reform: Lessons from Other Countries*, 381–404.

VIII. SCENARIO 2: A PENSION REVOLUTION UNSHACKLES THE LABOR MARKET

For this scenario, there are no surprises among the factors within the predetermined element category and no significant technological developments. The most significant factor lies in the financial realm, and financial developments lead to significant political and some sociological realignments. As a consequence of these eventualities—summarized in Table 5—how might the homeland security enterprise look in 20–30 years?

Table 5. Factor Summary: A Pension Revolution Unshackles the Labor Market

<i>Factor</i>	<i>Salience</i>	<i>Notes</i>
<i>Predetermined Elements</i>		
Turnover Effects	Significant	The negative effects of increased turnover at the organizational-level are present, but they are outweighed by the positive market-level effects of worker mobility across the entire HSE.
Human Capital Effects	Negligible	Present but transitory as the scenario develops. At the scenario’s end state—the year 2045—there are no DB pensions, so no player has the sorting advantages associated with them.
Motivation Crowding	Moderate	Negative implications for those organizations offering the highest salaries to attract or retain employees.
Wage-Based Competition	Significant	Wages become the dominant method through which all public entities compete for labor.
Intraorganizational Pay Structure Effects	Moderate	Negative implications for those organizations that have dispersed their pay structures markedly to attract and retain key employees and managers.
Corruption Deterrence Effects	Low	Present but not central to the overall outcome.

<i>Factor</i>	<i>Salience</i>	<i>Notes</i>
<i>Critical Uncertainties</i>		
Market Performance	Extremely Significant	A market crash/recession abruptly drives a third of the nation’s SLG pension funds to insolvency.
Pension Politics	Significant	Political currents and action play out in a uniform way across the nation. Formerly powerful constituencies that favor the preservation of DB constructs lose their political clout.
Political Finance of Wage Rivalry	Moderate	Jurisdictions with the political will and financial resources win in the market for human capital. Paradoxically, the positive effects of winning are mitigated by other factors.
Sociological Influences	Significant	Historic events shape the attitudes of a generation of workers. Specifically, they become biased against DB pensions, and this shift in work-related preferences helps bring about the wholesale demise of DB pensions.
Technological Evolution	Not Applicable	No technological changes impact the role of human capital in the HSE.

A. THINGS GET BETTER

The year is 2045. Following a period of extraordinary tumult and bitter political battles over the funding of public pensions, an era of calm and stability has come about. Through most of the 2020s, the business cycle did not produce any particularly harmful recessions or booms worthy of mention. Capital market returns kept pace with inflation, and the overall level of public pension debt did not change much from that in 2017.⁵¹⁰ Then, in 2029, a series of unfortunate events led to a market crash. Major capital market indices experienced declines of 20 percent or more.⁵¹¹ A bitter three-year recession followed during which market values stayed in the doldrums, GDP remained flat, and

⁵¹⁰ Aggregate U.S. rates for 2017 were just 44.6 percent funded on a market basis or 73.1 percent funded on an actuarial basis. Stanford Institute for Economic Policy Research, “U.S. Pension Tracker.”

⁵¹¹ The factor is market performance.

unemployment rates hovered in the 7–9 percent range. In short order, the market crash of 2029 led to the insolvency of prominent state-level DB pension funds.

The ramifications of such insolvencies were succinctly delineated by Certified Financial Analyst and political consultant Girard Miller 20 years earlier. In the midst of the Great Recession, Miller warned a California government commission about the perils of failing to enact bold pension reforms:

Without significant structural reforms to the defined benefit system, . . . it will inevitably collapse under its own weight, and the disparity between public pensioners and the taxpayers who support them will worsen to the point that a severe backlash could ensue. California must provide a legal framework to enable dysfunctional and unsustainable benefits plans to be modified, frozen or converted to a viable structural form that enables the employer to resolve a financial crisis without resorting to bankruptcy or defaults on other obligations. Otherwise bond ratings throughout the state will suffer, and financing costs for vital facilities will rise even higher, if California’s legislature allows one or more public employers to drag down the entire state because of mismanaged retirement plans.⁵¹² [emphasis added]

Miller’s warning proved prophetic for California and other states following the market crash of 2029. The first states to experience these political reverberations were the 11 with extraordinarily high levels of debt per household: California, Connecticut, Illinois, Hawaii, Ohio, New Jersey, Nevada, New Mexico, Washington, Massachusetts, and Kentucky.⁵¹³ These states had to cut government services back significantly to honor DB pension annuity payments, and the public took notice.⁵¹⁴ Public employee unions enjoyed significant

⁵¹² “Executive Summary: Little Hoover Commission Testimony of Girard Miller,” Little Hoover Commission, accessed October 6, 2019, <https://lhc.ca.gov/sites/lhc.ca.gov/files/Reports/204/WrittenTestimony/MillerApr2010.pdf>.

⁵¹³ Stanford Institute for Economic Policy Research, “U.S. Pension Tracker.” These states were selected from SIEPR’s list of states with the highest pension debt per household from 2017 data. The states selected were those with >\$50,000 pension debt per household (on a market basis). Note that for 2017, the U.S. average pension debt per household was \$32,574. Alaska was excluded given that it has already abandoned DB pensions.

⁵¹⁴ The cutbacks in this scenario are stark and rapid. In present-day California, however, such cutbacks are already manifest, albeit in a more insidious way. For a discussion, see Joe Nation’s assessment of the degree to which California pensions are, in his words, “crowding out” government services. Nation, “Pension Math: Public Pension Spending and Service Crowd Out in California,” iii.

influence in state politics up to that point, but their predominance was overwhelmed by a recession-stressed body politic that quickly energized against pension-friendly agendas. Facing an intractable financial predicament and strong pressure from voters, legislatures in these states moved in short order to dismantle their DB pension regimes to restore other services.⁵¹⁵ Pension funds were liquidated with the proceeds (meager or not) distributed among vested employees and annuitants. Within just a few months of the recession's onset, other states with high levels of pension debt per household, including Idaho, Mississippi, Michigan, Maryland, Wyoming, Pennsylvania, Minnesota, and Colorado, followed suit.⁵¹⁶ In rapid succession, a third of the nation's state-level DB pension systems evaporated in the wake of 2029's market crash.⁵¹⁷

At the local level, rapid change came through the court system, as numerous municipalities filed for bankruptcy in 2029. These filings effectively ended the DB regimes in affected jurisdictions as retirees and vested employees became claimants in federal bankruptcy court. Given the harsh financial conditions, public employees and the unions that represented them proved unable to preserve traditional pension arrangements. As municipalities emerged from bankruptcy protection, they resolutely left their DB pensions behind in light of the growing political consensus hostile to traditional public pension arrangements.⁵¹⁸

The specter of so many public employees dispossessed of their pension wealth had chilling effects after 2029. The failure of SLG pension was so abrupt and widespread that it affected the attitudes and beliefs of all public servants, even those from jurisdictions with

⁵¹⁵ The factor is pension politics.

⁵¹⁶ Stanford Institute for Economic Policy Research, "U.S. Pension Tracker." Again, states were selected based on SIEPR's data from 2017 on pension debt per household. The states selected were those not listed earlier with >\$39,000 pension debt per household (on a market basis).

⁵¹⁷ Note that the constitutions for Hawaii and Illinois protect pensions, so any change in this arena will require amending those state constitutions. The conditions in this scenario are stark enough that such constitutional flexibility seems possible. Liz Farmer, "How Are Pensions Protected State-by-State?"

⁵¹⁸ The factor is pension politics.

pension funds resilient enough to weather the recession.⁵¹⁹ In effect, an entire generation of SLG workers came to doubt any promise of DB pensions. Yearning to control their own retirement finances, SLG workers across the nation pressed for ways to cash out their vested benefits. New recruits insisted on the ability to opt out of whatever DB compensation arrangements remained. Employers who succeeded in preserving traditional DB pension structures lost out in the competition for labor; the advantage in recruiting went to organizations where salaries were unencumbered by the compulsory tithing that comes with traditional DB schemes.⁵²⁰ Ultimately, the market crash of 2029 led to a paradigm shift in the minds of the public and those considering work in the public safety, disaster management, or public security domains. From 2029 onward, the zeitgeist for these workers involved a compelling distrust of DB pension promises.⁵²¹

Facing myriad financial, political, and sociological pressures, DB pension constructs did not last for long anywhere after 2029. Many plans liquidated under sudden acute financial pressure while others terminated in a more orderly fashion. Public administration scholars tracking the trajectory of pension reform came to refer to this abandonment of DB compensation schemes throughout the nation as a *pension revolution*.⁵²² The revolution subjected many public servants and retirees to significant financial losses. This unfortunate reality hurt the morale of employees, which had negative implications for the organizations employing them, but these problems proved transitory. During the recession, the HSE lost some high-quality employees to outside opportunities, but such opportunities were scarce as the broader economy struggled. Then, as general economic conditions improved, organizations throughout the HSE found themselves competing for employees through wages more than ever before.⁵²³

⁵¹⁹ The factor is sociological influences.

⁵²⁰ The factor is wage-based competition.

⁵²¹ The factor is sociological influences.

⁵²² See Chapter III, Section C, Subsection 2. For a historical perspective, see Chapter III's discussion of past eras in the evolution of SLG-level public-sector retirement systems.

⁵²³ The factor is wage-based competition.

After the pension revolution, employers found themselves on an equal footing in that no state or municipality enjoyed the sorting and retention advantages that flowed from DB pensions.⁵²⁴ On the other side of the equation, HSE workers found themselves unshackled; gone were the golden handcuffs that had hindered their movement from one employer to the next, and they could move between the public and private sector without the penalty of losing future DB compensation. This common ruleset for employers and increased worker mobility moved the labor market closer to a perfectly competitive ideal.⁵²⁵ From this, the HSE benefited over time.

One benefit of this post-revolutionary order came from increased efficiency in the allocation of human capital across the HSE. Organizations in need of a technical specialty or a particular skill set could more readily draw from other employers that might have a glut of people with those capabilities. Potential leaders stymied by the presence of an able management team above them could move without penalties to organizations in need of their talents. Another benefit of this post-revolutionary order emerged from the positive implications of turnover. Lateral hiring increased, which helped disseminate best practices across the HSE. The number of workers jumping between the HSE and private-sector opportunities also increased; employees with these bi-sector career paths brought unique perspectives and skills, enabling organizations to innovate and address previously intractable problems.⁵²⁶ Overall, the HSE evolved to become more meritocratic with leaders and workers sorted by ability over longevity. By 2045, the HSE has become more efficient, effective, and nimble than before the pension revolution.

Of course, not all the developments stemming from the pension revolution were positive for the HSE. In the early 2030s, there was a spike in police corruption cases as some pension-dispossessed officers abused their positions to recoup lost wealth.⁵²⁷ This spike subsided by the end of the 2030s, but academic studies revealed an increase in

⁵²⁴ The factors are turnover and human capital effects.

⁵²⁵ See Chapter IV, Section B, Introduction.

⁵²⁶ See Chapter IV, Section A, Subsection 1.

⁵²⁷ The factor is corruption deterrence effects.

malfeasance vis-à-vis the beginning of the 21st century. Another seemingly negative trend involved a shift in the ethos of what it meant to be a first responder. Although difficult to quantify, a common observation was that the police and firefighters of 2045 were less personally invested in their organizations and the communities they served.⁵²⁸ Upon seeing this shift, older retirees who maintained close ties with their former employers became vocal critics. From their perspective, HSE work was becoming like any other job—more of a gig or career to manage than a profession or higher calling—and these retirees lamented the decline in unit cohesion that this change brought about.⁵²⁹

Interestingly, this ethos shift seemed most pronounced in wealthy jurisdictions with robust tax bases and a willingness to pay handsome salaries for talent and experience. As noted, the demise of DB pensions has given jurisdictions in 2045 a common ruleset in the competition for labor, but the playing field is hardly level—wealthy jurisdictions have the means to outbid others.⁵³⁰ Wherever they do, though, their workforce seems less dedicated and more risk-averse. The higher the salaries, the worse this dynamic, and this has a particularly chilling effect on the effectiveness of front-line first responders.⁵³¹ The experience of poor jurisdictions offering relatively low pay is quite different. Though they faced thinning staffing levels and recruiting challenges coming out of the pension revolution, their employees seem the most dedicated, and their organizations seem to enjoy intense esprit de corps.⁵³² By 2045, a paradox has emerged whereby lower-paying organizations get more for their salary expenditures. This dynamic has a positive leveling effect on the functionality and effectiveness of different organizations across the HSE in this post-revolutionary world.

⁵²⁸ The factor is motivation crowding.

⁵²⁹ The factor is intraorganizational pay structure effects.

⁵³⁰ The factor is political finance of wage rivalry.

⁵³¹ The factor is motivation crowding.

⁵³² The factors are motivation crowding and intraorganizational pay structure effects.

B. EPILOGUE

Things get better in this scenario because labor market distortions imposed by DB pensions are removed. This, in turn, leads to more efficient or optimal outcomes for the HSE. The predominant driver in this future world is free-market economics, and the scenario draws attention to the positive aspects of labor mobility.⁵³³ Further, two non-economic domains provide leveling effects that prevent the kind of stark HSE divisions found in the first scenario. First, from psychology, motivation crowding tempers the financial advantages enjoyed by wealthy jurisdictions.⁵³⁴ Second, drawing on concepts from sociology, the scenario offers a twist on Mannheim's theory of generations by suggesting that a historic event could bias a generational cohort of workers against pensions generally.⁵³⁵ This bias is key to creating the scenario's pension revolution, which allows the free market to drive the HSE to a more effective end state.

The pension revolution here involves the termination of all DB pension plans. For many plans, the scenario stipulates that this is done in "an orderly fashion." Just how might this work, though? An orderly termination could take the form of Milton Friedman's solution for terminating Social Security, whereby individuals would receive a bond equal to the present value of the benefits to which they are entitled.⁵³⁶ This is the approach suggested by the Independent Institute's Lawrence J. McQuillan for terminating SLG public pensions:

Applying Friedman's solution, state and local governments across the country would close their defined-benefit pension plans and issue bonds to beneficiaries equal to the current expected value of the stream of benefits owed. The bonds would be due today or at retirement depending on the beneficiary's stage of life. As with Social Security, this approach would

⁵³³ See Chapter IV, Section B, Introduction.

⁵³⁴ See Chapter V, Section A, Subsection 3. Economists such as Francois and Vlassopoulos, Benabou and Tirole, or Anne Preston might argue that economics explains as much a psychology here.

⁵³⁵ See Chapter V, Section A, Subsection 2.

⁵³⁶ BasicEconomics, "Milton Friedman vs Bill Clinton," February 10, 1999, in *Uncommon Knowledge with Peter Robinson*, produced by the Hoover Institution, YouTube video, 26:35, <https://www.youtube.com/watch?v=UINxIc9gUMc#action=share>. Friedman discusses his solution for Social Security between timestamp 11:40 and 12:40 in this video.

ensure that people receive what they have been promised. It would force governments to acknowledge the true extent of the unfunded pension liabilities and establish a specific financing plan (something they refuse to do today). And it would permanently close these politically mismanaged defined-benefit plans.⁵³⁷

Thus, a jurisdiction with a financially healthy plan could make its employees whole with the issue of such bonds followed by the complete shutdown of its DB system.⁵³⁸

The end result of this scenario may be unexpected for some readers because things get better despite (or rather because of) poor market performance. One might alternatively argue that positive market performance would also make things better. After all, exceptionally strong investment returns that are sustained for decades could enable the SLG pension system in total to rebound; this would enable the public sector's DB compensation structure to survive without reform. Arguably, such a scenario would yield positive results in terms of HSE effectiveness. Tangentially, it would also yield positive or at least neutral results for HSE workers spared the financial loss associated with pension fund insolvency. The wishful financial thinking required, however, would make such an alternate scenario less than instructive.

⁵³⁷ Lawrence J. McQuillan, "Milton Friedman's Solution for Social Security Would Work for Government Pensions, Too," *Beacon* (blog), October 20, 2015, https://blog.independent.org/2015/10/20/milton-friedmans-solution-for-social-security-would-work-for-government-pensions-too/#disqus_thread.

⁵³⁸ Further insight on how pension plans terminate can be gleaned from private-sector examples subsequent to passage of ERISA in 1974. For a discussion of such historical examples, see Baily and Kirkegaard, *U.S. Pension Reform: Lessons from Other Countries*, 381–404.

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IX. SCENARIO 3: WHEN A JURISDICTION HAS TO HIRE A ROCK STAR

For this scenario, there are few surprises among the predetermined elements. Regarding critical uncertainties, market performance is mundane—similar to the first scenario, there are no disruptive sociological influences, and developments in the political and statutory domains allow employers in the HSE a good deal of discretion over individual employee salaries. There is a curveball in this scenario, though, from the technological domain. The immediate effects of pension reform create incentives for technological innovations that supplant or augment HSE workers, and an unprecedented kind of “star” worker emerges.⁵³⁹ As a consequence of these eventualities (summarized in Table 6), how might the homeland security enterprise look in 20–30 years?

Table 6. Factor Summary: When a Jurisdiction Has to Hire a Rock Star

<i>Factor</i>	<i>Salience</i>	<i>Notes</i>
<i>Predetermined Elements</i>		
Turnover Effects	Significant	Negative implications for organizations that move away from DB pension constructs.
Human Capital Effects	Significant	Negative implications for organizations that move away from DB pension constructs.
Motivation Crowding	Significant	Negative implications for organizations that attempt to retain stars with extraordinary bonuses.
Wage-Based Competition	Moderate	DB pensions remain in place for some jurisdictions, so not all players need to key on wages to compete for human capital.
Intraorganizational Pay Structure Effects	Significant	Perceptions of fairness determine whether the high salaries offered to star workers have positive or negative implications for organizations.
Corruption Deterrence Effects	Low	Present but not central to the overall outcome.

⁵³⁹ The defining feature of a star worker in this scenario is that her individual capabilities and contributions drive organizational outcomes. Baron and Kreps, *Strategic Human Resources*, 26–29.

<i>Factor</i>	<i>Salience</i>	<i>Notes</i>
<i>Critical Uncertainties</i>		
Market Performance	Significant	ROI aligns with financial economists' expectations, and capital markets remain stable with no significant economic disruptions. This leads to unsurprising rates of insolvency among public pension funds.
Pension Politics	Moderate	Legislation and policy moves execute pension reform along its current, incremental trajectory. Pension generosity diminishes, but most reforms apply exclusively to new employees.
Political Finance of Wage Rivalry	Significant	Non-DB jurisdictions compete aggressively to recruit star workers. Policies and rules change for all players giving hiring managers wide discretion over compensation packages.
Sociological Influences	Low	No sociological trends impact the overall outcome. Though public servants continue to have relatively high PSM/intrinsic motivation, they are not insensitive to financial incentives.
Technological Evolution	Significant	Technologies evolve that make it possible to execute SLG-level homeland security missions with fewer workers. Fervent demand develops for star employees who possess the unique abilities required to leverage these technologies effectively.

A. THINGS GET WEIRD

The year is 2045. Over the preceding decades, an inability or unwillingness at the SLG level to enact sufficient pension reforms, combined with temperate, 4 percent per annum market performance, led to many pension fund failures.⁵⁴⁰ By the early 2030s, the SLG pension system had suffered a partial collapse, with nearly a quarter of the nation's public pension funds becoming insolvent.⁵⁴¹ This created winners and losers among the different organizations in the HSE. Those jurisdictions with failed funds—the losers—had to abandon their DB compensation construct completely, and they lost out in the competition for labor to other jurisdictions able to continue offering DB pensions. The

⁵⁴⁰ The factors are market performance.

⁵⁴¹ See Chapter III, Section B, Subsection 2.

losers' labor problems came in both quantitative and qualitative terms: they found themselves lacking in raw manpower as well as talent and experience.⁵⁴² In short, the losers faced a vacuum of human capital, and the seminal cause of their woes was the collapse of their DB pension system.

It is often said that the free market abhors a vacuum and will inevitably move to fill it. The human capital vacuum in this future world came to be filled by innovation as less fortunate jurisdictions became eager consumers of any product or service that enabled them to fulfill their missions with fewer people. By the late 2030s, this demand drove remarkable technological advancements in the realm of homeland security.⁵⁴³ For a creatively minded fan of science fiction, it would be entertaining to imagine how technology could supplant human labor working in fire protection, disaster management, and law enforcement.⁵⁴⁴ Entertainment notwithstanding, what is significant in the context of this thesis is the human capital—advanced knowledge, skills, abilities, and experience—needed in organizations seeking to use this new technology.

If the history of technological evolution is one of quantum leaps, then with each leap comes the need for people with unique skills to effectively leverage the technologies that emerge. Of course, technocrats who can debug and maintain complex systems along with data analysts and algorithm developers come to be invaluable, but in the HSE of this future world, other uniquely capable workers are more important. These people are the visionary few who possess the uncanny ability to apply new, constantly evolving tools in the execution of homeland security missions. They can adroitly manipulate the capabilities or information that these tools provide to direct thinly staffed HSE teams in the field to great effect. They are neither middle managers nor strategic decision-makers. Rather, they

⁵⁴² The factors are turnover and human capital effects.

⁵⁴³ The factor is technological evolution.

⁵⁴⁴ Given emerging advancements in artificial intelligence and sensing technologies, the crime predictive work of “The Machine” from the television series *Person of Interest* seems plausible to this author while the dystopian vision of police from the 1987 movie *RoboCop* seems farfetched. “Person of Interest,” IMBd, accessed 19 May 2019, <https://www.imdb.com/title/tt1839578/>; “RoboCop,” IMBd, accessed 19 May 2019, <https://www.imdb.com/title/tt0093870/>.

are people with a combination of tactical-level experience and intellectual curiosity who serve as ring leaders or quarterbacks orchestrating operational resources day-to-day. In the homeland security setting of this scenario, the skilled few who fill this role are called *intelligence application officers* (IAOs). IAOs are not created overnight; they sprout after about 10–15 years of experience working on the line, and they often have advanced degrees. Their individual impact in the field is profound and readily apparent in thinly staffed organizations. In 2045, IAOs are in short supply, so what becomes tricky for employers is how to recruit, retain, and motivate such elite talent from the labor pool.

For the non-DB losers, IAOs are a godsend critical to their emergency and law enforcement organizations. IAOs command a high salary, and offering whatever the market demands represents a value proposition for non-DB jurisdictions.⁵⁴⁵ Line employees in these organizations can clearly see an IAO’s impact; good IAOs coordinate their efforts and apply their thin numbers in such a way that diminishes ops tempo and improves their work lives. As a result, despite the IAOs’ elite status and salaries, the rank and file come to support quality IAOs as football players might rally around the star quarterback of a potent offense.⁵⁴⁶

For the winners of the 2030s that still offer employees DB pensions, finding ways to attract and retain IAOs has proven more complicated, and different jurisdictions choose varied approaches in 2045. Some offer IAOs lavish salaries, which in some cases, exceed that of their most senior leaders.⁵⁴⁷ Others get away from lavish salaries by attempting to develop their IAOs organically. That is, they invest in the education of high-potential employees along the way, expecting those employees to grow into effective IAOs. Each of these approaches, however, has unintended and perplexing consequences.

⁵⁴⁵ The factors are wage-based competition and political finance of wage rivalry.

⁵⁴⁶ The factor is intraorganizational pay structure effects. From the discussion of procedural justice in Chapter V, Section B, Subsection 1, recall that inequitable pay structures do not lead to problems if the pay-rate differences are perceived as legitimate.

⁵⁴⁷ The factors are wage-based competition and political finance of wage rivalry.

The first approach—offering lavish salaries—works to recruit established IAOs. Yet, because these “winning” organizations do not face the same thin staffing as the losers, IAOs do not provide the same value to the organization. The rank and file in these organizations perceive this, and accordingly, line employees and even some leaders resent the wage disparity between themselves and the IAOs.⁵⁴⁸ Given the central, high-profile role IAOs have come to play, this has particularly deleterious effects. By 2045, many of the subject organizations have seen a general loss of employee loyalty and trust in supervision.⁵⁴⁹ Higher turnover rates have resulted, but problems in these organizations are not limited to manpower deficiencies; decreased collaboration and sharing of information have resulted as well.⁵⁵⁰ In extreme cases, organizations are seeing IAOs being sabotaged by young ascendant employees who see them as rivals.⁵⁵¹

The second approach of growing IAOs organically from within is achieving mixed results. Having established histories and relationships in their parent organizations, the IAOs that emerged were trusted by line employees and enhanced the social capital in their parent organizations.⁵⁵² This social capital enables these IAOs to succeed where others struggle, and the organizations in which they work benefit as a result. Unfortunately, by 2045, these benefits are proving short-lived because these IAOs are turning over at high rates after just a few years in their new roles. The reason for this is that, ironically, the payout formulas and vesting provisions of their traditional pension plans provide a perverse incentive, which entices IAOs to move on. This perverse incentive may not seem readily apparent, so consider the following:

From their prior service, these IAOs were already vested in their DB pensions, and after three to five years earning a higher IAO salary rate, they establish a higher terminal earnings basis. Thus, working as an IAO

⁵⁴⁸ The factor is intraorganizational pay structure effects.

⁵⁴⁹ The factor is intraorganizational pay structure effects.

⁵⁵⁰ The factor is intraorganizational pay structure effects.

⁵⁵¹ The factor is intraorganizational pay structure effects.

⁵⁵² See Chapter IV, Section A, Subsection 2.

effectively spikes their pension.⁵⁵³ At that point, the marginal return of staying with their original employer for an additional year—an extra 2–3 percent added to their pension annuity—gets overwhelmed by the value of leaving. After all, by leaving, they can collect their pension annuity while simultaneously earning a full competitive salary working as an IAO for another jurisdiction.⁵⁵⁴

In effect, rather than creating golden handcuffs for these organically grown IAOs, their DB pensions have created a golden repellent.

Faced with losing the very IAOs they had nurtured, some employers double down and throw bonuses at their IAOs to retain them in house. Such measures are successful, but oddly, the productivity, attitudes, and on-the-job motivation of these bonus recipients tend to falter.⁵⁵⁵ By 2045, the organizations that attempted to grow their own IAOs find themselves in the same boat as everyone else trying to hire IAOs laterally in the open market.⁵⁵⁶ Adding insult to injury, the quick exits and pension spiking of their organically grown IAOs are starting to have a negative material effect on their pension fund finances.

As noted at the outset, pension reform under the conditions of this scenario creates winners and losers in the early 2030s. By 2045, though, with the creation of IAOs and the deterministic role they play in organizational effectiveness, it is not abundantly clear who the winners and losers are. Organizations that preserved their DB pension structures—the winners—rightly want the capabilities IAOs provide, but their circumstances and pension structure leave them in a quandary over just how to pay these people. The losers, having left their DB pension constructs behind, do not face this quandary. Further, for these non-DB jurisdictions, employing elite IAOs has such import that many will do whatever it takes

⁵⁵³ See Chapter III, Section A, Subsection 1. From Chapter III, recall that the terminal earnings used in most SLG pension formulas are based on the highest three years of income.

⁵⁵⁴ In some public-sector settings, pension-vested employees face similar choices in that they can retire and arrange to return immediately to the same job as a contract employee. It is difficult to see, though, how such an arrangement would work legally for sworn officers in the homeland security domain.

⁵⁵⁵ The factor is motivation crowding.

⁵⁵⁶ The factor is wage-based competition.

to outbid all competitors when necessary.⁵⁵⁷ All in all, the HSE’s pension structure in 2045 is making things in this world downright weird for employers.

B. EPILOGUE

Technological advancements may be the watershed in this scenario, but the complications associated with compensating highly differentiated, inimitable workers are what drive the HSE to a weird place. Arguably, organizations involved in homeland security today rely on collaborative cultures, teamwork, and no single employee or subset of “stars” to determine organizational outcomes.⁵⁵⁸ This notion is turned on its head in the third scenario; IAOs have the ability in this future world to make or break the organization’s effectiveness. Through the lens of pension reform and compensation, what makes this eventuality perplexing is the question of how employers are supposed to compete for and pay such stars.⁵⁵⁹ The scenario juxtaposes employers with and without DB pension arrangements approaching this question. As pension reform unfolds in this future world, employers who seemingly “won” by keeping their DB pension structures face some convoluted incentives in their efforts to hire and retain these rare workers.

In terms of HSE mission effectiveness, the keys to the outcome here lie in the morale and collaboration-related maladies associated with dispersed pay structures and employee perceptions about pay-related fairness. The crowding out of intrinsic motivation and PSM by extrinsic rewards also influences the scenario’s end state. Labeled “intraorganizational pay structure effects” and “motivation crowding” in this thesis, these two factors represent third-order effects of pension reform. From its emphasis on these particular factors, this scenario highlights how pension reform can yield unintended and usually negative consequences.

⁵⁵⁷ The factor is political finance of wage rivalry.

⁵⁵⁸ See Chapter V, Section B, Subsection 2.

⁵⁵⁹ Baron and Kreps, *Strategic Human Resources*, 26–29. As mentioned in Chapter V, Section B, Subsection 2, Baron and Kreps explore what constitutes appropriate pay distributions for different types of jobs: “stars” versus “guardians” versus “foot-soldiers.”

How might a jurisdiction prevent or mitigate such consequences? There is a straightforward way to negate intraorganizational pay structure effects: keep the salaries paid to employees a secret. Pay secrecy makes sense because, with salaries hidden from view, the social comparisons and distributive or procedural justice questions from employees simply do not exist.⁵⁶⁰ At least, that is how it should work in theory. In practice, things are not so simple. As Pfeffer and, separately, Barron and Kreps observe, an employer's transparency or secrecy about pay communicates company values to employees and signals the degree of trust employers have in their workers.⁵⁶¹ If the employer is secretive, it can negatively impact employee attitudes and morale as well as encourage dysfunctional gossip about pay.⁵⁶² Thus, there are competing arguments for pay secrecy versus transparency.

Pay secrecy can also mitigate the negative effects of motivation crowding. As Nicola Bellé explains, prosaically motivated public employees may dodge altruistic actions if such actions have a self-serving aspect.⁵⁶³ This is because people who are genuinely altruistic may also be concerned about appearing to be altruistic to others. In Bellé's words,

Financial rewards for activities with a prosocial impact are likely to elicit two opposing effects on public employees' extrinsic motivation: individuals are incentivized to work harder to obtain the monetary reward (price effect), but they may refrain from doing so because they are concerned about being considered greedy, which would spoil their social image (crowding-out effect related to external image).⁵⁶⁴

⁵⁶⁰ See Chapter V, Section B, Subsections 1–2.

⁵⁶¹ Pfeffer, "Six Dangerous Myths about Pay," 118; Baron and Kreps, *Strategic Human Resources*, 294–296.

⁵⁶² Pfeffer, "Six Dangerous Myths about Pay," 294–296.

⁵⁶³ Bellé, "Performance-Related Pay and the Crowding Out of Motivation in the Public Sector," 232.

⁵⁶⁴ Bellé, 232.

In a field experiment, Bellé tested the relative crowding effects when monetary rewards were hidden versus publicly known, and her findings verified that crowding effects diminished when rewards were secret.⁵⁶⁵

While the relative merits of pay secrecy are fascinating, there seems little point in offering pay secrecy as a remedy for some of the challenges that arise in this scenario.⁵⁶⁶ After all, while public records laws vary by state, the salaries paid to government employees are available to the public throughout most of the nation, and it is hard to imagine a set of circumstances under which the public would tolerate secrecy in this area.⁵⁶⁷

⁵⁶⁵ Bellé, 237–238.

⁵⁶⁶ For a detailed exploration of the costs and benefits of pay secrecy, see Adrienne Colella et al., “Exposing Pay Secrecy,” *Academy of Management Review* 32, no. 1 (January 2007): 55–71, <https://doi.org/10.5465/amr.2007.23463701>.

⁵⁶⁷ Kelly Hinchcliffe, “Why Employment Contracts Are So Much Fun for a Public Records Geek,” Poynter Institute, July 9, 2015, <https://www.poynter.org/reporting-editing/2015/why-employment-contracts-are-so-much-fun-for-a-public-records-geek/>.

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X. CONCLUSION: A PATH TO STRATEGIC CONVERSATIONS

This research effort set out to explore the impact pension reform may have on public-sector organizations with homeland security missions. Emerging from the research is a clear recognition that pension reform can trigger fundamental changes in employee behavior, organizational culture, and the market for human capital. What is not so clear is exactly how such changes are going to play out within the homeland security domain. This thesis turned to scenario-planning techniques to synthesize the research and provide plausible answers to the question of what pension reform’s impact will be.

A. SCENARIO ANALYSIS OVERVIEW

The scenario analysis in Chapters VII, VIII, and IX depicted three plausible futures, and the epilogues for each highlighted key findings and scenario-specific remedies. Table 7 summarizes the weighting of different factors in the three scenarios presented.

Table 7. Comparative Table of Scenario Drivers

<u>Factors</u>	<u>Scenario 1</u>	<u>Scenario 2</u>	<u>Scenario 3</u>
<i>Projecting Pension Reform’s Impact on the Homeland Security Enterprise</i>	<i>Centers of Excellence and Centers of Disarray</i>	<i>A Pension Revolution Unshackles the Labor Market</i>	<i>When a Jurisdiction Has to Hire a Rock Star</i>
<i>Predetermined Elements</i>		<i>Salience</i>	
Turnover Effects	Significant	Significant	Significant
Human Capital Effects	Significant	Negligible	Significant
Wage-Based Competition	Moderate	Moderate	Moderate
Motivation Crowding	Moderate	Significant	Significant
Intraorganizational Pay Structure Effects	Moderate	Moderate	Significant
Corruption Deterrence Effects	Moderate	Low	Low

Factors	Scenario 1	Scenario 2	Scenario 3
<i>Projecting Pension Reform's Impact on the Homeland Security Enterprise</i>	<i>Centers of Excellence and Centers of Disarray</i>	<i>A Pension Revolution Unshackles the Labor Market</i>	<i>When a Jurisdiction Has to Hire a Rock Star</i>
Critical Uncertainties		Saliency	
Market Performance	Significant	Extremely Significant	Significant
Pension Politics	Moderate	Significant	Moderate
Political Finance of Wage Rivalry	Moderate	Moderate	Significant
Sociological Influences	Low	Significant	Low
Technological Evolution	Not Applicable	Not Applicable	Significant

The three scenarios presented project the end-state effectiveness of the homeland security enterprise at the state and local level. From these projections, the scenarios answer the research question of this thesis at a macro level—that is, whether things get better, worse, or weird hinges on assessing the HSE in aggregate.⁵⁶⁸ Undoubtedly, at the micro level, atypical organizations or groups of organizations fare differently—better, worse, or weirdly—within each scenario. It bears mention that the outcomes at issue here have to do with the effectiveness of the enterprise, not necessarily the wellbeing of homeland security workers; in each of the scenarios presented, employees and annuitants experience significant financial setbacks through the loss of promised pension benefits. Notwithstanding the atypical cases or financially wounded workers, it is this overall effectiveness of the HSE that shapes homeland security conditions for the nation. Thus, aggregate outcomes are what matter.

⁵⁶⁸ The formal research question is as follows: What impact will pension reform have on public-sector organizations with homeland security missions?

The outcomes for each of the three scenarios presented may be summarized as follows:

- (1) Scenario 1 depicted a plausible future where all the factors play out in a banal, almost expected manner. As a result, the HSE trifurcates into first-, second-, and third-tier employers with a commensurate pecking order in terms of mission effectiveness. Things get worse under this scenario because a high proportion of the HSE suffers a loss of effectiveness *ex post* to pension reform.
- (2) Scenario 2 depicts a plausible future where developments in the capital market initiate a wholesale abandonment of the public sector's DB pension regime. Things get better under this scenario because the benefits of labor mobility throughout the HSE are realized, and non-economic leveling effects prevent the kind of stark HSE divisions found in the first scenario.
- (3) Scenario 3: "When Your Jurisdiction has to Hire a Rock Star" depicts a plausible future where technological developments create a new class of worker, and the persistence of DB pension compensation in some quarters complicates the pursuit of human capital for employers. Things get weird in this scenario because DB pensions introduce perverse incentives for employees, and factors related to organizational behavior provide comparative advantages to employers with insolvent pension funds.

B. RECOMMENDATIONS

If there is a central message that emerges from this thesis, it is that the current pension regime is financially unsustainable for many SLG jurisdictions, and there are perils related to homeland security for the nation whether these jurisdictions engage in effective pension reform or ride current practices to insolvency. The inescapable nature of these perils places a burden on future homeland security leaders to adapt. A central intent of scenario planning is to assist in the adaptive ability of key stakeholders. Scenarios can enable leaders to plan for undesirable outcomes and empower them to leverage desired effects. Thus, while the analysis presented does not provide a definitive or most-likely set of predictions, it does provide a useful perspective on what factors are relevant and where pension reform may drive the homeland security enterprise. At least it provides one man's perspective, which has been informed largely by existing academic research. This begs the question, though, as to whether one man's perspective is enough to make a difference?

In his book, *The Art of the Long View*, Peter Schwartz concludes that “scenario making is intensely participatory, or it fails.”⁵⁶⁹ Schwartz’s point lies in the notion that to have real value, scenarios must engage groups of people who are in a position to form a strategy, and the composition of the group must ensure that the scenario process integrates input from disparate perspectives. This does not bode well for the value of the scenarios presented because a thesis is an individual effort. However, if this thesis is taken as a launching point for a more collaborative effort by influential stakeholders, then it will have achieved a larger, provocative purpose.

The ultimate recommendation here is for additional research into how different compensation schemes that may emerge *ex post* to pension reform impact organizational behavior and effectiveness. This recommendation parallels the sentiments of Westerman and Sundali and of Gupta and Shaw.⁵⁷⁰ Accordingly, further doctoral-level academic research from the disciplines of organizational behavior and public administration addressing the concerns raised in these pages would be beneficial. Given the vital need to succeed in the realm of homeland security, however, current and ascending homeland security leaders—the intended audience for this thesis—should not wait for the academic community to produce. This author urges leaders concerned about homeland security to assemble scenario-planning teams to engage on the subject of pension reform’s impact on the homeland security enterprise. This thesis could have notable value in support of such an effort from its exploration of existing academic research and synthesis of factors that will drive future outcomes.

This recommendation raises the question of what may be the best or most appropriate forum for such a scenario-planning effort. The host entity could be an academic institution or think tank, or it could lie at any level of government. Indeed, any forum that could assemble a credible, diverse group of homeland security practitioners and subject-matter experts could develop meaningful scenarios. One organization that could prove

⁵⁶⁹ Schwartz, *The Art of the Long View*, 234.

⁵⁷⁰ Westerman and Sundali, “The Transformation of Employee Pensions in the United States,” 99–103; Gupta and Shaw, “Employee Compensation: The Neglected Area of HRM Research,” 1–4.

particularly influential at the state level is the National Governors Association (NGA). As the “bipartisan organization of the nation’s governors [committed to] speak[ing] with a collective voice on national policy and develop[ing] innovative solutions that improve state government,” the NGA seems uniquely positioned to help the HSE adapt to the challenges of pension reform.⁵⁷¹ The author urges the NGA, through its Homeland Security and Public Safety Committee, to impanel credible practitioners and experts and charge them with the task of replicating the scenario-planning exercise presented in this thesis. The resulting strategic conversations could bring about innovative policy initiatives that balance financial realities with homeland security imperatives.

⁵⁷¹ “Mission Statement,” National Governors Association, Mission Statement, accessed October 15, 2018, <https://www.nga.org/cms/about>.

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APPENDIX. CASH BALANCE PLANS

Cash balance plans represent a public-pension innovation that does not feature prominently in the literature on public pensions. They could be considered somewhat of a platypus because, though referred to as a type of DB plan, their structure imbues them with characteristics more akin to a DC plan. Elliott and Moore explain their features as follows:

A cash balance plan, a type of defined benefit pension plan, promises an employee an employer contribution equal to a percent of each year's earnings and a rate of return on that contribution. The benefit is always expressed as a total account balance. This is in contrast to a traditional defined benefit plan, which typically promises an employee a flat dollar amount based on years of service or an annuity. . . . Cash balance plans build value steadily and often at the same pace for all employees—whether they've worked for the employer for 1 or 30 years. The focus of these plans is on wealth building and "portability."⁵⁷²

Given this structure, cash balance plans do not have the backloading of benefits common in DB plans.⁵⁷³ This lack of backloading along with the portability that cash balance plans give employees means that they do not provide the kinds of retention incentives embedded in traditional DB plans.

Other key differences between cash balance and traditional DB arrangements include payout options for employees and associated funding incentives for employers. Many cash balance plans give the employee the choice of drawing their pension as a single payment (lump sum) upon their retirement.⁵⁷⁴ For the employer, this provision alleviates the longevity risk they face under the traditional DB construct. More significantly, the lump sum provision motivates employers to manage funding levels conservatively. After all, workers electing to take the lump sum place an immediate cash burden on the payer even though the long-term valuation may be less. As Munnell, Aubry, and Cafarelli explain,

⁵⁷² Kenneth R. Elliott and James H. Moore Jr., "Cash Balance Pension Plans: The New Wave," *Compensation and Working Conditions* 5, no. 2 (summer 2000): 3–4, <https://www.bls.gov/opub/mlr/cwc/cash-balance-pension-plans-the-new-wave.pdf>.

⁵⁷³ Munnell, Aubry, and Cafarelli, *Defined Contribution Plans in the Public Sector*, 3.

⁵⁷⁴ Munnell, Aubry, and Cafarelli, 3.

cash balance plans “enhance the likelihood of [employers] making required contributions, thereby preventing the future buildup of large unfunded liabilities.”⁵⁷⁵ Such funding incentives could serve the long-term interest of the pension system’s financial health. Despite (or perhaps because of) these funding incentives, cash balance plans have not been widely adopted. Only 2 percent of SLG pension plan participants were covered under cash balance arrangements as of 2012, according to Munnell Aubry, and Cafarelli.⁵⁷⁶

Overall, the incentives for employers and employees embedded in cash balance plans very little from DC retirement instruments. Therefore, they are considered equivalent to DC instruments and, thus, excluded from a more detailed discussion in this thesis.

⁵⁷⁵ Munnell, Aubry, and Cafarelli, 3.

⁵⁷⁶ Munnell, Aubry, and Cafarelli, 6.

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