

Sustaining Public-Sector Capability as the Workforce Ages: Succession Exposure Across Federal, State, and Local Government in the United States

Ali Akram

aakramm989@gmail.com

Independent Researcher

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Abstract

The United States public-sector workforce is older and more credentialed than the private-sector workforce, and the retirement of its senior cohort raises the question of whether the experience it embodies can be sustained. Using person-level microdata from the 2024 American Community Survey for five large and diverse states, this study compares the age and credential composition of the government and private workforces, projects the retirement wave each faces, and identifies where succession risk is concentrated. The government workforce is substantially older (25.0% aged 55 or older versus 20.8%) and far more credentialed (54.6% holding a bachelor's degree or higher versus 37.6%), and carries a replacement-risk ratio of 0.90 employees near retirement per early-career employee against 0.54 in the private sector, a gap that survives adjustment for occupational composition and holds in every state. A cohort-progression projection indicates that 18.7% of current government employees will reach traditional retirement age within ten years, against 14.9% in the private sector, while the government early-career pipeline is markedly thinner. Succession risk is concentrated rather than uniform, and is most acute in management. The study contributes a set of workforce-level indicators of population aging, including a new succession-exposure index in the tradition of demographic dependency measures, and shows that composition and succession exposure, not headcount, should anchor how the aging public workforce is monitored, using measures available in open data.

Introduction

The aging of the public-sector workforce, and the retirement of the large senior cohort that composes much of it, raises a question that a simple headcount cannot answer: whether the experience and credentials embodied in that workforce can be sustained as its oldest members depart. The capacity of government to deliver services rests on its workforce, and that workforce is large: across the five states examined in this study alone, government employed an estimated 8.3 million people in 2024, and nationally the public sector accounts for roughly one in seven employed workers. The most common way that workforce capacity is summarized, in budget documents, oversight reports, and management dashboards, is a count: the number of employees on the payroll and the change in that number from one year to the next. A count is easy to produce and easy to compare, but it is silent about who the employees are. Two workforces of identical size can face very different prospects depending on the ages, credentials, and occupations of the people who compose them, because the value an employee contributes is heterogeneous and the departure of an experienced, highly credentialed specialist is far more costly to remedy than the departure of an easily replaced one (Becker, 1964; Hancock et al., 2013).

Attention to this distinction is especially urgent now. During 2025 the federal government underwent an abrupt contraction, with a deferred-resignation program and hiring restrictions producing several hundred thousand separations in a single year, a reminder of how quickly public-sector capacity can be drawn down (U.S. Government Accountability Office, 2026). At the same time, the long-anticipated retirement of the large cohort born between 1946 and 1964 is now arriving in force, so that the share of the public workforce at or near retirement age is unusually high. The United States Government

Accountability Office has repeatedly placed strategic human-capital management on its high-risk list, citing mission-critical skills gaps and inadequate workforce data with which to anticipate them (U.S. Government Accountability Office, 2019, 2023). These developments make it timely to ask not how large the public workforce is, but whether the specific capabilities embodied in it can be sustained as its senior cohort departs.

Three strands of scholarship bear on this question. Research on the demography of the public workforce has established that government employees are older and more credentialed than private-sector employees, and that the difference is durable (Lewis & Cho, 2011); research on public workforce planning and strategic human capital has argued that aligning the composition of the workforce with anticipated needs is a strategic function and has examined its practice in government (Selden, 2009; Jacobson, 2010; Goodman et al., 2015); and research on turnover has shown that the departure of experienced and highly skilled employees damages organizational performance more than the departure of newer staff (Hom et al., 2017; Ton & Huckman, 2008). What this literature has not done is bring the three together for an actual contraction-era assessment: prior demographic work rarely benchmarks composition against the private workforce across multiple states with formal sampling precision, rarely separates a genuine aging effect from the public sector's distinctive occupational mix, and, most importantly, stops at the current age structure rather than projecting the retirement wave that structure implies. This study addresses each gap.

Using person-level microdata from the 2024 American Community Survey Public Use Microdata Sample for five large and diverse states, the study poses three questions. First, how do the age and credential composition of the government workforce differ from those of the private workforce, and does any age difference survive adjustment for the public sector's distinctive occupational mix? Second, how is replacement risk, the balance between employees nearing retirement and those early in their careers, distributed across states, levels of government, and occupations? Third, how large is the retirement wave that the current age structure implies over the next five and ten years, and where is the resulting succession exposure most acute? The contribution is threefold: the composition comparison is benchmarked against the private workforce, standardized for occupational mix, and quantified with replicate-weight margins of error; the analysis disaggregates replacement risk by state, level, and occupation; and it introduces a forward-looking succession-exposure projection that converts the static age structure into an actionable estimate of the coming retirement wave and the pipeline available to absorb it. In proposing the replacement-risk ratio and the succession-exposure index as standard monitoring quantities, the study extends to the workforce level the indicator tradition through which demography summarizes population aging, from the old-age dependency ratio to prospective measures of age (Sanderson & Scherbov, 2010).

The scope of the analysis should be stated plainly. It is a descriptive, cross-sectional study of the composition of the employed workforce in a single year; it does not track individuals over time, and the projection it reports is a mechanical cohort-progression accounting of the current age structure, holding behavior constant, rather than a behavioral forecast of retirement, which would depend on pension rules,

economic conditions, and individual choice. Capability is treated throughout as something proxied by age, credential, and occupation, not measured directly, and the study makes no claim about individual productivity or about the quality of public services. That the public workforce is older and more credentialed than the private workforce is already established, and weighted tabulation of public microdata is routine rather than novel; the contribution lies in the benchmarked, standardized, and forward-looking treatment of composition, and in providing novel descriptive evidence that composition, not count, is the proper object of public workforce planning.

Background

This study sits at the intersection of three literatures: public-sector workforce planning and strategic human capital, the demography of the public workforce and the aging of the civil service, and the relationship between turnover, experience, and organizational performance.

Workforce Planning and Strategic Human Capital in the Public Sector

Workforce planning is the process of aligning the size and skills of an organization's workforce with its anticipated needs (Selden, 2009; Pynes, 2013). In the public sector it has long been treated as a strategic rather than a merely administrative function, because government capability is embodied in people whose expertise is slow to accumulate and costly to replace, and because civil-service rules, pension structures, and hiring timelines make rapid adjustment difficult (Jacobson, 2010; Goodman et al., 2015). Succession planning, the deliberate preparation of a pipeline to fill roles vacated by departure or retirement, is a central element of this function, and the management literature treats the absence of such a pipeline in expertise-intensive roles as a serious organizational vulnerability (Rothwell, 2010). Studies of workforce planning in practice, however, find that it is unevenly implemented across governments and frequently reactive, in part because the data routinely available to managers describe how many employees there are rather than who they are (Goodman et al., 2015).

The United States Government Accountability Office has repeatedly designated strategic human-capital management a high-risk area for the federal government, citing mission-critical skills gaps and the need for better workforce data to anticipate and manage them (U.S. Government Accountability Office, 2019, 2023). The recurring theme of that work, that capability depends on the composition of the workforce and that composition must be measured and managed deliberately, motivates the present analysis.

The Aging of the Public Workforce

A substantial body of research documents that the public-sector workforce in the United States is older on average than the private-sector workforce, and that this difference has been durable (Lewis & Cho, 2011). Several features of public employment contribute: public jobs have historically offered greater security and defined-benefit pensions that reward long tenure, public hiring is concentrated in credential-intensive occupations whose entrants enter later, and public-service motivation is associated with longer

attachment (Kim, 2006; Rainey & Steinbauer, 1999; Frank & Lewis, 2004). The demographic concern is not aging in itself but its interaction with replacement. An older workforce threatens capability only to the extent that the experience and credentials embodied in its senior cohort cannot be readily rebuilt from the employees who remain and those who can be hired, which is why the balance between the near-retirement and early-career cohorts, rather than the average age, is the quantity of interest (Lewis, 1991). The concern also connects the public workforce to the broader demography of population aging: just as the old-age dependency ratio and its prospective refinements summarize the age structure of whole populations (Sanderson & Scherbov, 2005, 2010), and macro-level work links population aging to growth and fiscal capacity (Bloom, Canning, & Fink, 2010; Harper, 2014), workforce-level indicators are needed to make the aging of particular workforces legible, and the measures developed here are proposed in that tradition.

Turnover, Experience, and the Cost of Replacement

Research linking turnover to organizational performance consistently finds that the departure of experienced and highly skilled employees is more damaging than the departure of newer staff, because experienced employees embody knowledge, relationships, and judgment that are costly and slow to rebuild (Hom et al., 2017; Hancock et al., 2013; Ton & Huckman, 2008). In the public sector the effect is conditioned by the complexity of the work, so that turnover in knowledge-intensive functions is more consequential than in routine ones (Meier & Hicklin, 2008; Moynihan & Pandey, 2008), and turnover intention among public employees is itself patterned rather than random, concentrated among those with weaker organizational attachment (Pitts et al., 2011). The implication is direct: a workforce in which highly credentialed, experienced employees are concentrated near retirement age carries a replacement risk whose realized cost exceeds what the raw number of departures would suggest, because the asset at risk is expertise rather than headcount.

From Count to Composition

Drawing these literatures together yields the conceptual claim that organizes the study. The capability of a public workforce is determined by its composition, the distribution of its members across age, credential, and occupation and the experience these proxy, and not by its size. Headcount is at best a weak proxy for capability and at worst a misleading one, because it weights an easily replaced employee and an irreplaceable specialist equally. If this claim holds, then the appropriate objects of workforce planning and oversight are composition statistics, the age and credential distribution, the balance between near-retirement and early-career cohorts, and the projected retirement wave, rather than the count and its year-over-year change. The remainder of the paper develops and applies measures of exactly these quantities.

Data and Method

Data

The analysis uses person-level microdata from the 2024 American Community Survey (ACS) Public Use Microdata Sample (PUMS), published by the U.S. Census Bureau (U.S. Census Bureau, 2025). The ACS is the largest ongoing household survey in the United States, and its public-use microdata provide individual records with detailed age, educational attainment, occupation, class of worker, and survey weights. The study examines five large and diverse states, California, Florida, Minnesota, New York, and Texas, chosen to span regions, political contexts, and government structures, together comprising 544,563 employed-civilian person records. The sample is restricted to employed civilians, identified by the ACS employment-status recode. Each employed person is classified by class of worker into the government sector, comprising federal, state, and local government employees, and the private sector, comprising private for-profit and not-for-profit employees; the self-employed and unpaid family workers are excluded. The resulting government sample is 83,809 unweighted records representing approximately 8.3 million employees, and the private sample is 396,196 records representing approximately 43.6 million employees.

To characterize where public employment is concentrated by government function, the analysis also draws on the 2025 Annual Survey of Public Employment and Payroll, published by the U.S. Census Bureau, which reports full-time and part-time employment and payroll for state and local governments by detailed function (U.S. Census Bureau, 2026).

Measurement Framework

Composition is summarized along three dimensions. Age is taken from the ACS age variable and grouped into standard bands, with employees aged 55 and older treated as the near-retirement group and those under 35 as the early-career group. Educational attainment is grouped at the bachelor's-degree and master's-or-higher thresholds. Occupation is grouped into major occupational categories. Three families of measures are reported. The first is the age and credential composition of the government workforce relative to the private workforce. The second is the replacement-risk ratio, defined as the number of employees aged 55 and older per employee under 35, a single summary of how balanced a workforce is between those nearing retirement and those who might eventually succeed them. The third, developed below, is a forward-looking projection of the retirement wave implied by the current age structure.

Because government employment is concentrated in occupations that are older and more credentialed on average, a raw sector comparison could reflect occupational mix rather than any property of public employment as such. This is addressed in two complementary ways. First, the near-retirement share is compared within major occupational groups, holding occupation fixed. Second, the comparison is standardized directly by applying the private sector's occupational distribution to the government sector's within-occupation near-retirement rates, yielding the near-retirement share the government workforce would exhibit if it had the private sector's occupational mix.

The ACS PUMS is a probability sample, and its weighted estimates therefore carry sampling error. This error is quantified using the eighty replicate weights that the Census Bureau provides with the PUMS files for this purpose. For every share and ratio reported, the estimate is recomputed using each replicate weight, and the successive-difference replication formula is applied to obtain a 90% margin of error. Reported margins of error confirm that the sector differences described below are far larger than sampling error.

The Succession-Exposure Projection

To convert the static age structure into a forward-looking quantity, the analysis applies a mechanical cohort-progression projection. Employees currently aged 60 to 64 will reach age 65, the traditional retirement threshold, within five years, and employees currently aged 55 to 64 will reach it within ten years; the shares of the current workforce in these bands therefore measure the size of the retirement wave that the present age structure implies over each horizon, holding behavior constant. This is an accounting projection, not a behavioral forecast: it assumes only that employees age, and deliberately abstracts from the pension rules, economic conditions, and individual choices that determine actual retirement timing, so that the projected wave should be read as the exposure created by the current age structure rather than as a prediction of departures. For each occupational group, the ten-year wave is compared with the early-career pipeline, the share under 35, to form a succession-exposure index, the ratio of the projected wave to the pipeline; a value above one identifies an occupation in which the cohort approaching retirement is larger than the cohort entering, so that, absent accelerated hiring, the occupation cannot replace from within the experience it is poised to lose.

Robustness

Three features of the design guard against the most likely objections, and are reported as a dedicated robustness analysis in the results. First, because the sector comparison could reflect occupational mix, the near-retirement gap is recomputed both within occupations and under direct occupational standardization. Second, because the choice of the age-55 and bachelor's-degree thresholds is to some degree conventional, the sector gaps are recomputed at alternative thresholds. Third, because the estimates derive from a sample, all headline quantities are accompanied by replicate-weight margins of error, and the consistency of the pattern is examined separately in each of the five states rather than only in the pooled sample.

Results

The Government Workforce Is Older Than the Private Workforce

Across the five states, the government workforce is consistently older than the private workforce. Pooling the five states and weighting to population, 25.0% of government employees are aged 55 or older (90% margin of error plus or minus 0.3) against 20.8% of private-sector employees (plus or minus 0.1), a difference of 4.3 percentage points that is two orders of magnitude larger than its margin of error. The difference is visible across the age distribution (Fig. 1): the government workforce is shifted toward the older bands and has a thinner early-career base, with 27.9% of government employees under 35 against 38.2% in the private sector. The pattern is descriptive of the workforce as observed and does not by itself establish a cause. Table 1 reports the state-level composition.

Table 1
Workforce Composition by State: Government Versus Private (2024 American Community Survey, Weighted)

State	Gov. 55+ (%)	Gov. BA+ (%)	Gov. ratio [⊠]	Priv. 55+ (%)	Priv. BA+ (%)	Priv. ratio [⊠]
Pooled	25.0	54.6	0.90	20.8	37.6	0.54
California	24.6	53.3	0.86	19.8	38.5	0.52
Florida	27.6	53.3	1.07	23.6	35.2	0.66
Minnesota	25.4	57.2	0.87	21.2	38.7	0.55
New York	26.6	56.2	1.04	22.8	45.1	0.60
Texas	22.8	55.6	0.77	18.5	33.6	0.46
<i>Note. Cells are population-weighted estimates for employed civilians. The government sector comprises federal, state, and local employees; the private sector comprises private for-profit and not-for-profit employees.</i>						

⊠ Replacement-risk ratio: employees aged 55 and older per employee under 35.

Source. Author's analysis of U.S. Census Bureau (2025), 2024 American Community Survey Public Use Microdata Sample.

The Government Workforce Is More Credentialed

Age alone understates the replacement problem, because the older government workforce is also a far more credentialed one. Pooled across the five states, 54.6% of government employees hold a bachelor's degree or higher (plus or minus 0.4) against 37.6% of private employees (plus or minus 0.2), a gap of 16.9 percentage points, and 25.8% of government employees hold a master's or professional degree against 13.3% in the private sector. Because the management literature identifies the departure of credentialed, experienced staff as the most costly form of turnover (Hancock et al., 2013), the combination of an older and a more credentialed workforce indicates that government departures are, on average, harder to replace than the count of departures would imply.

The Age Gap Survives Adjustment for Occupational Composition

A natural objection is that government employment is concentrated in occupations that are older and more credentialed on average, education above all, while the private sector includes large young workforces in retail and food service. Two adjustments address this. Within major occupational groups, government workers are older than private workers in nearly every group, so the gap is not solely a matter of which occupations government contains. Standardizing directly, by applying the private sector's occupational distribution to the government sector's within-occupation near-retirement rates, the government share aged 55 or older would be 27.2%, still well above the private sector's 20.8%. Adjusting for occupational mix therefore does not remove the age gap; it slightly widens it, indicating that the public workforce is older than the private workforce within occupations, not merely because of the occupations it comprises.

Replacement Risk Is Higher in Government in Every State

Combining the age structure into a single summary, the replacement-risk ratio, the number of employees aged 55 and older per employee under 35, captures how balanced a workforce is between those nearing retirement and those who might succeed them. Pooled across the five states, the government ratio is 0.90 (plus or minus 0.02) against 0.54 in the private sector (plus or minus 0.004). The government ratio exceeds the private ratio in every state and exceeds one in Florida (1.07) and New York (1.04), meaning that in those states government employs more people within a decade of traditional retirement than it employs early-career workers (Fig. 2). The ordering is identical across all five states despite their differences in region and government structure.

Replacement Risk Differs Across Levels of Government

Disaggregating government into federal, state, and local levels reveals further texture. The three levels are similar in their near-retirement shares, all close to 25%, but differ in credential intensity and in replacement risk. State government is the most credentialed (58.4% bachelor's or higher) and has the most favorable replacement-risk ratio (0.82); the federal workforce carries the highest ratio (0.95) and a lower credential share (45.0%); local government, the largest by employment, falls between (0.93 ratio, 55.2% credentialed). The levels thus face the retirement wave from different starting positions, a distinction that aggregate public-sector figures obscure.

Risk Is Concentrated in Particular Occupations, Not Spread Evenly

The aggregate government near-retirement share of 25.0% is an average that conceals wide variation across occupations, and it is this variation, rather than the average, that should guide workforce planning. The most acute replacement risk arises where a high near-retirement share coincides with high credential intensity, since these are the occupations in which the employees nearing retirement are both

numerous relative to younger staff and hold the credentials that are slow to replace. Management occupations in government illustrate the combination, pairing a high near-retirement concentration with a credential share above 70%. Table 2 reports the near-retirement share, credential share, and replacement-risk ratio for each major government occupational group.

Table 2

Aging, Credentials, Replacement Risk, and Succession Exposure by Government Occupational Group (2024 American Community Survey, Weighted)

Occupational group	Employment	55+ (%)	BA+ (%)	Ratio[¶]	10-yr wave (%)[¶]	Exposure[¶]
Management	676,975	29.1	71.1	1.98	22.6	1.54
Building & grounds	253,584	37.0	8.5	1.69	28.4	1.29
Construction & extraction	150,730	31.6	10.1	1.51	25.5	1.22
Installation, maintenance & repair	127,527	31.0	9.2	1.29	24.3	1.02
Legal	122,662	29.6	86.0	1.49	20.0	1.00
Healthcare support	346,011	34.5	16.8	1.41	23.0	0.94
Transportation & material moving	258,715	33.4	15.3	1.26	24.3	0.91
Business & financial	424,690	26.5	68.0	1.17	20.5	0.90
Office & administrative support	1,050,307	28.0	29.7	1.03	21.2	0.78
Food preparation & serving	153,110	29.6	9.9	0.96	22.7	0.73
Computer & mathematical	283,794	23.7	65.6	0.91	18.8	0.72
Production	100,742	27.2	18.9	0.87	21.0	0.67
Architecture & engineering	147,112	27.5	73.9	0.90	19.4	0.64
Healthcare practitioners	447,999	23.3	70.2	0.84	17.2	0.62
Education, training & library	2,184,470	22.8	81.1	0.77	16.6	0.56
Community & social service	314,108	19.1	77.5	0.69	15.2	0.55
Arts, design, media	82,656	22.2	67.7	0.60	15.0	0.41
Protective service	807,945	15.2	35.4	0.45	11.9	0.35
Life, physical & social science	186,935	16.5	86.8	0.41	12.0	0.30
<i>Note. Groups with at least 80,000 weighted government employees, ordered by succession-exposure index. Employment is population-weighted.</i>						

Occupational group	Employment	55+ (%)	BA+ (%)	Ratio	10-yr wave (%)	Exposure
Personal care	126,988	19.8	19.3	0.35	12.5	0.22
<i>Note. Groups with at least 80,000 weighted government employees, ordered by succession-exposure index. Employment is population-weighted.</i>						

- ☒ *Replacement-risk ratio: employees aged 55 and older per employee under 35.*
- ☒ *Projected 10-year retirement wave: share of current employees aged 55 to 64, who reach age 65 within ten years under cohort progression.*
- ☒ *Succession-exposure index: ratio of the projected 10-year wave to the early-career (under-35) share; values above 1.0 indicate the near-retirement cohort exceeds the entering cohort.*

Source. Author's analysis of U.S. Census Bureau (2025), 2024 American Community Survey Public Use Microdata Sample.

The Projected Retirement Wave and Succession Exposure

Translating the current age structure forward through a mechanical cohort-progression projection quantifies the retirement wave that government faces. Holding behavior constant, 8.4% of current government employees will reach age 65 within five years and 18.7% within ten years (plus or minus 0.3), against 6.9% and 14.9% (plus or minus 0.1) in the private sector. The government not only faces the larger wave but has less capacity to absorb it: the government early-career pipeline holds 1.49 employees under 35 for every employee aged 55 to 64, against 2.57 in the private sector. The exposure is uneven across occupations (Fig. 3). Management occupies the position of greatest concern, with a projected ten-year wave of 22.6% against an early-career pipeline of only 14.7% and a credential share of 71.1%, yielding a succession-exposure index of 1.54; the cohort approaching retirement in government management is larger than the cohort entering it, and it is highly credentialed. Other credential-intensive functions, including the legal, business and financial, and computer and mathematical groups, combine above-average waves with thin pipelines, whereas occupations such as protective service and personal care, with younger workforces, face far lower exposure. These projections describe the exposure implied by the present age structure; they are not forecasts of how many employees will in fact retire.

Robustness

The central findings are insensitive to the principal analytical choices. The sector age gap does not depend on the age-55 threshold: at age 50 the government share exceeds the private share by 6.7 percentage points (36.5% against 29.8%) and at age 60 by 1.9 points (14.7% against 12.8%), so the gap is present across the upper age range rather than at a single cut point. The credential gap is likewise robust to its threshold, holding at the bachelor's level (16.9 points) and widening in relative terms at the master's level (25.8% against 13.3%). As shown above, the age gap survives and slightly widens under

occupational standardization, so it is not an artifact of the public sector's occupational mix. Every headline estimate carries a replicate-weight margin of error far smaller than the sector difference it accompanies, so none of the differences is attributable to sampling error, and the ordering of government above private holds separately in each of the five states rather than only in the pooled sample. Table 3 summarizes the sector gap under these alternative specifications.

Table 3 Sector Difference in Composition Under Alternative Specifications (2024 American Community Survey, Weighted)			
Specification	Government (%)	Private (%)	Difference (pp)
Aged 50 or older	36.5	29.8	+ 6.7
Aged 55 or older	25.0	20.8	+ 4.3
Aged 60 or older	14.7	12.8	+ 1.9
Aged 55 or older, occupation-standardized	27.2	20.8	+ 6.4
Bachelor's degree or higher	54.6	37.6	+ 16.9
Master's degree or higher	25.8	13.3	+ 12.5
<i>Note. Each row reports a population-weighted sector comparison under an alternative threshold or adjustment. The occupation-standardized row applies the private sector's occupational distribution to the government sector's within-occupation near-retirement rates. All differences exceed their replicate-weight margins of error.</i>			

Source. Author's analysis of U.S. Census Bureau (2025), 2024 American Community Survey Public Use Microdata Sample.

Discussion

The results support a simple but consequential argument. The public-sector workforce, across five large and diverse states, is older and far more credentialed than the private-sector workforce; it carries a replacement-risk ratio substantially higher and in some states above one; this age difference survives adjustment for occupational mix; and the risk is concentrated in particular occupations and levels rather than spread evenly. Projected forward, the current age structure implies a retirement wave that is both larger in government than in the private sector and less well covered by an early-career pipeline. Read through the headcount that dominates public workforce reporting, none of this is visible; read through composition, it is unmistakable. The capability a public workforce can sustain is a property of who its members are, and the count is silent about exactly the characteristics that matter.

Anticipating Objections

Four objections deserve direct treatment. The first is that the study measures composition, not capability or performance, and so cannot show that government output will decline. This is accepted: the analysis characterizes the age, credential, and occupational structure of the workforce and the retirement wave it implies, and treats capability as something these proxy rather than measure. The inference from a credential-intensive, near-retirement workforce with a thin pipeline to elevated replacement cost rests on the established turnover literature (Hancock et al., 2013; Ton & Huckman, 2008), but it remains an inference, and the study claims no direct measurement of service quality.

The second objection is that a cross-sectional snapshot cannot speak to change, and that the projection is not a forecast. Both points are granted and are reflected in how the quantities are framed. The composition estimates describe a single year, and the succession-exposure projection is an accounting of the current age structure that assumes only that employees age; it deliberately abstracts from retirement behavior and should be read as the exposure the present structure creates, not as a prediction of departures. Framed this way, the projection is robust precisely because it does not depend on contested behavioral assumptions.

The third objection is that alternative explanations could account for the sector gap. The most important, that government simply contains older, more credentialed occupations, is addressed directly by the within-occupation and standardized comparisons, which show the age gap persists and slightly widens when occupational mix is held constant. Selection, whereby workers who value security and pensions sort into public employment, is consistent with the pattern but reinforces rather than undercuts the planning concern, since it implies the senior public workforce is durably attached and its departures genuinely hard to replace. The five-state design, finally, is not nationally representative, but the identical ordering of government above private in every one of five politically and regionally diverse states makes an idiosyncratic explanation unlikely.

The fourth objection is that the policy implications overreach. The study advances none of a prescriptive kind. It does not recommend particular staffing levels, retirement incentives, or hiring targets, all of which depend on budget, mission, and political choices outside the data. Its contribution is a set of composition measures and a succession-exposure diagnostic that make an existing but hard-to-see risk legible to those responsible for managing it; what to do about that risk is a matter for the managers and overseers who hold the relevant authority and context.

Implications for Public Human Resource Practice

Several concrete priorities follow for the practitioners who manage and oversee the public workforce. Because replacement risk is concentrated rather than uniform, agency human-resource directors and chief human-capital officers should target succession planning and early-career recruitment at the specific occupations and levels where the projected retirement wave is largest and the pipeline thinnest, beginning with management and the credential-intensive professional functions, rather than distributing effort in proportion to headcount. Central personnel agencies, including the Office of Personnel Management at the federal level and state departments of administration or human resources, could

compute and publish the composition statistics used here, the age and credential distribution, the replacement-risk ratio, and the succession-exposure projection, as a routine complement to headcount reporting, since all are derivable from data these agencies already hold. For legislatures and oversight bodies such as the Government Accountability Office, the implication is that workforce reporting expanded beyond headcount and net change to a small set of composition statistics would give a far more accurate picture of whether public capability is being sustained, at negligible additional cost. The measures are deliberately simple so that they can be adopted within existing reporting rather than requiring new data collection.

Limitations

Several limitations should be noted, in order of consequence. The most important is that the analysis measures composition rather than capability or performance: age, credential, and occupation are proxies for the experience and expertise whose loss is costly, and the study does not observe productivity or service quality directly, so its conclusions concern the structure of replacement risk rather than its realized effects. This limitation is unlikely to overstate the concern, however, and probably understates it, because the credential measure captures only formal education and omits the firm-specific and tacit knowledge that accumulates with tenure and is the least substitutable component of capability; the true replacement difficulty of the senior public workforce is therefore likely greater than its credential profile alone conveys. Second, the analysis is cross-sectional, characterizing a single year and not tracking cohorts or modeling actual retirement, which depends on pension rules, economic conditions, and individual choice; the projection is correspondingly an accounting of the current age structure rather than a behavioral forecast. Third, the five states, though large and diverse, are not a national probability sample, so the specific magnitudes may not generalize, although the consistency of the pattern across all five limits this concern. Fourth, the sector and occupational classifications available in the ACS are coarser than the job-level detail an individual agency would use for its own planning. Because the data are a probability sample, all estimates carry sampling error, which is reported throughout and is small relative to the differences described.

Future Research

Three extensions follow naturally. First, applying the same measures to the full national ACS microdata, at a finer occupational resolution than the major groups used here, would produce nationally representative estimates and map the geographic variation in succession exposure, identifying the states and occupations of greatest concern. Second, linking the composition and projection measures to administrative retirement records, where available, would allow the accounting projection to be calibrated against actual retirement behavior and converted into a behavioral forecast. Third, connecting succession exposure to service-delivery or performance outcomes at the agency level, where these can be observed, would permit a direct test of the capability inference that the present study can only advance on the strength of the prior turnover literature.

Conclusion

The aging of the public-sector workforce is usually tracked, if at all, through the headcount, but the count is silent about the composition that determines whether a workforce can sustain its capability as its senior cohort retires. Using person-level microdata from five large and diverse states, this study has shown that the United States government workforce is older (25.0% aged 55 or older against 20.8%) and far more credentialed (54.6% holding a bachelor's degree or higher against 37.6%) than the private workforce, that its replacement-risk ratio is substantially higher and in some states exceeds one, that this age difference survives adjustment for occupational mix, and that the risk is concentrated in particular occupations and levels. Projected forward, the current age structure implies that 18.7% of government employees will reach retirement age within a decade, against 14.9% in the private sector, with a markedly thinner pipeline to absorb the loss, and the exposure is most acute in management and the credential-intensive professions. The practical conclusion is that composition and succession exposure, not headcount, are the proper objects of public workforce planning and oversight, and that the measures required to monitor them are simple, inexpensive, and already derivable from public data.

Declarations

Author Contribution

A.A. conceived and designed the study, performed the data analysis, prepared all figures and tables, and wrote the manuscript.

Data Availability

All data analyzed are publicly available. The person-level microdata are from the 2024 American Community Survey Public Use Microdata Sample, available from the U.S. Census Bureau at <https://www.census.gov/programs-surveys/acs/microdata.html>. The government employment-by-function data are from the 2025 Annual Survey of Public Employment and Payroll, available at <https://www.census.gov/programs-surveys/apes.html>. Analysis code is available from the author on request.

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Figures

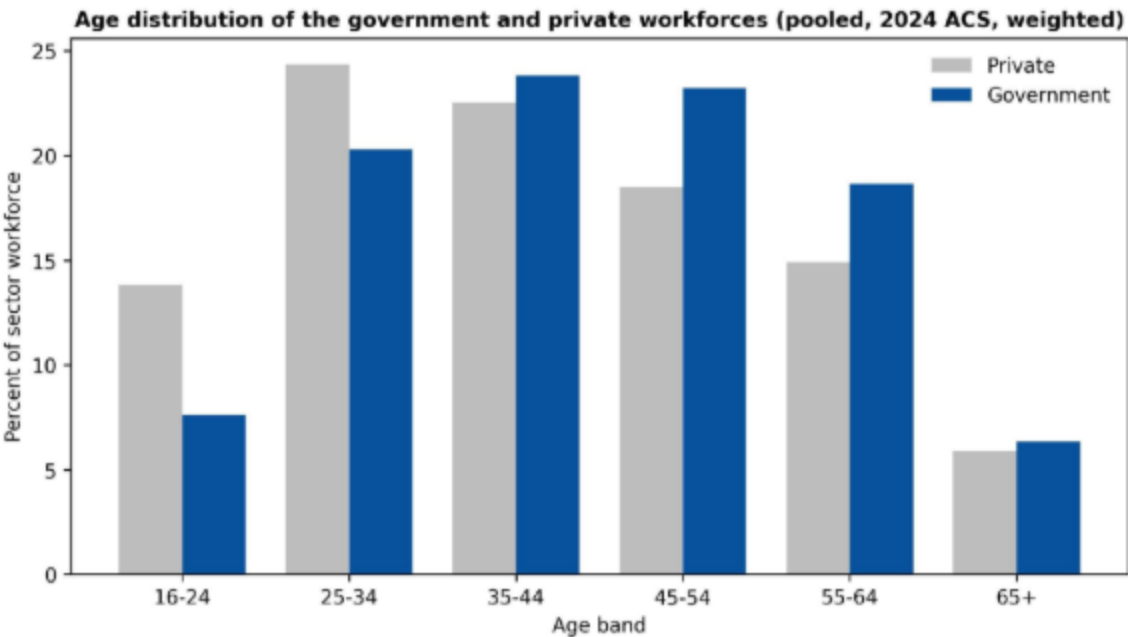


Figure 1

Age distribution of the government and private workforces, pooled across five states (2024 American Community Survey, weighted). The government workforce is shifted toward older age bands and has a thinner early-career base.

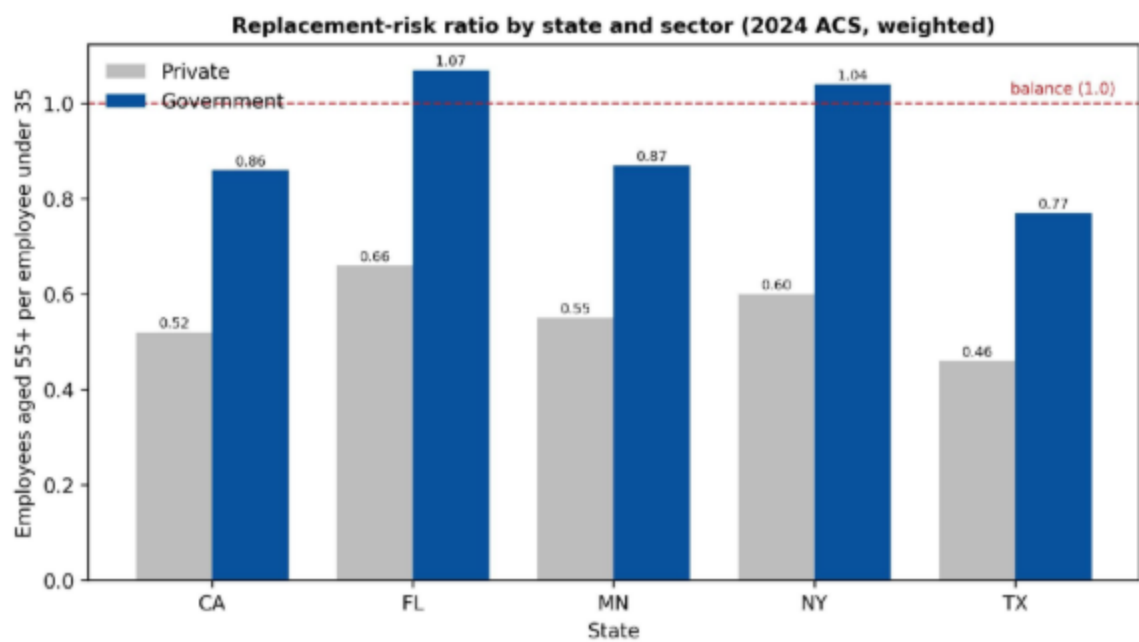


Figure 2

Replacement-risk ratio (employees aged 55 and older per employee under 35) by state and sector (2024 American Community Survey, weighted). The government ratio exceeds the private ratio in every state and exceeds one in Florida and New York.

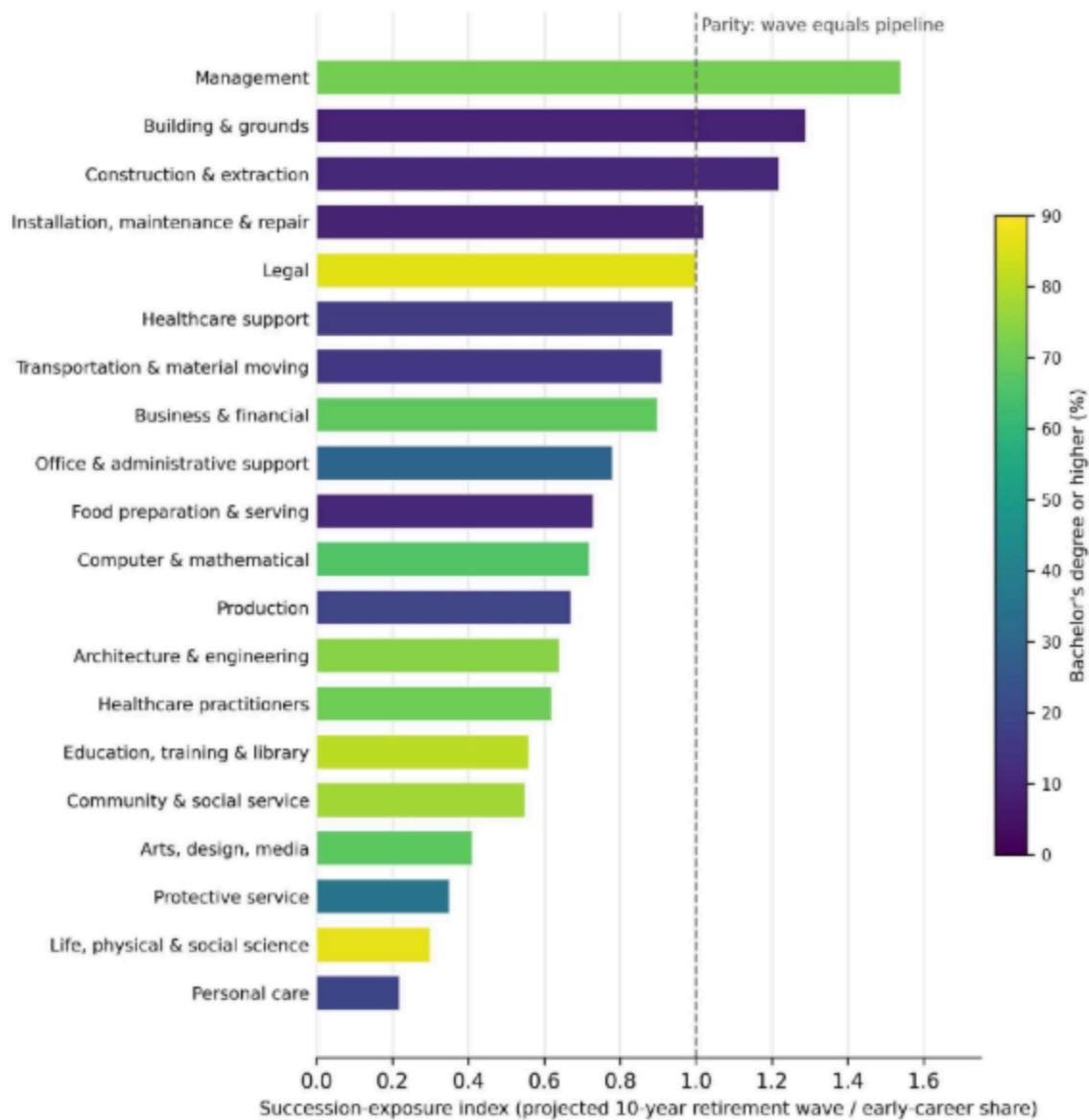


Figure 3

Succession-exposure index across government occupational groups (2024 American Community Survey, weighted). Bars show the ratio of the projected 10-year retirement wave to the early-career (under-35) share, ordered from highest to lowest; bar shading indicates the share holding a bachelor's degree or higher, and the dashed line marks parity, where the cohort approaching retirement equals the cohort entering. Occupations above parity cannot replace the projected wave from the current entering cohort.