White-collar General Schedule (GS) workers in federal civil service jobs are covered by a commonly structured pay table that varies somewhat to account for differences in federal and nonfederal pay across geographic areas. Although civil service personnel managers can use special pays and other forms of compensation to help attract, retain, and motivate high-quality employees, some critics have argued that the common pay table hampers the managers’ ability to manage flexibly the large and extraordinarily diverse federal GS workforce. Specifically, the critics charge that pay cannot be readily varied in such a way as to motivate higher-quality workers to enter and stay in the civil service.

While they must adhere to the commonly structured pay table, personnel managers do have other tools that enable them to offer higher lifetime pay to higher-quality workers. Most notably, they can promote higher-quality workers faster. However, the degree to which individuals can be promoted quickly depends on whether they are eligible for promotion and on whether vacancies exist in higher grades in specific locations. Furthermore, even if higher-quality personnel are promoted faster and thereby receive higher earnings over their careers, whether these increases are enough to induce them to stay in the civil service is an open question.

Relatively little analysis has been conducted on the career outcomes of higher-quality personnel in the federal civil service or on whether these employees are paid more, are promoted faster, or stay longer than lower-quality personnel do. The research presented in this report begins to fill that gap by examining the pay, promotion, and
retention profiles of civil service workers in the Department of Defense (DoD), the largest employer of GS personnel in the federal government. The analysis uses a longitudinal database constructed from Defense Manpower Data Center (DMDC) personnel files. The database tracks the careers through fiscal year 1996 (FY96) of individuals who entered or reentered the DoD civil service between FY82 and FY96. The analysis focuses on those who entered or reentered in FY88, before the defense drawdown, and those who entered or reentered in FY92, during the drawdown. These groups are called the FY88 and FY92 cohorts, respectively. The analysis of the two groups allows comparisons of the results for GS personnel who entered before the drawdown with results for those who entered during it, to determine whether higher-quality personnel are paid more, are promoted faster, and stay longer in the DoD. Regression models are estimated that control for observable characteristics other than personnel quality that might affect career outcomes but that are not related to personnel quality.

Three measures of personnel quality are used in the analysis: supervisor rating, level of education on entering the DoD, and (for the analysis of retention) promotion speed. Each measure has its advantages and its drawbacks. For example, entry education captures general skill level and possibly general ability level. However, education level is measured with error in the DMDC dataset, which could result in biased estimates of whether better-educated employees are paid more, are promoted faster, and stay longer. However, except in the pay analysis, which uses education in each year of service as a covariate, only entry education level is used, and there is no reason to believe that the measurement error for entry education is not random. Supervisor rating captures how well-suited individuals are for the civil service and how well they perform in their jobs, from their supervisors’ perspectives; however, ratings are often missing, especially for individuals’ first year of employment, and they exhibit relatively little variation across personnel. Promotion speed also captures how well-matched individuals are with their civil service jobs, and it potentially shows more variation across personnel. However, promotion speed is observed only for those who stay and are promoted, and it can be influenced by the vacancy rates in upper pay grades. Because no single measure is perfect in the DMDC data, all
three measures are used, and more weight is placed on the overall direction of the results than on specific magnitudes.

Analysis of data for both the FY88 and FY92 cohorts indicates that higher-quality personnel are generally paid more and are promoted faster than lower-quality personnel, regardless of which measure of quality is used and despite the drawbacks of the measure. Specifically, those who receive better ratings from their supervisors are found to earn more and to be promoted faster. The results also indicate that those with any college education are promoted faster and are paid more than those who have not attended college. However, although those with the highest degrees, i.e., master’s degrees or doctorates, are found to generally be paid more, when other observable characteristics are held constant, the results indicate that they are not always promoted faster than those with only a bachelor’s degree. Thus, having advanced degrees does not seem to always translate into faster promotions, although having any college education seems to do so. Problems with the measurement of the education variable in the pay analysis could cause the effects of education on pay to be underestimated. Nonetheless, the results suggest that the civil service’s compensation and personnel systems are generally successful at promoting higher-quality personnel faster and paying them more.

The analysis of earnings and promotion speed also indicates that these outcomes vary considerably across occupational areas in the DoD, even when other observable job and individual characteristics are held constant. Thus, despite the one-size-fits-all pay table that is shared by personnel in all occupations, pay and promotion outcomes vary significantly.

A key question is whether the faster promotion speed and higher pay that higher-quality personnel receive is sufficient to induce them to stay longer in the DoD civil service. The results of the analysis reported here are not overwhelmingly positive. The answer depends on the quality measure, the cohort, and the other variables included in the analysis.

Those in the FY88 cohort who received better ratings from their supervisors had better retention in the DoD, as did those who were promoted faster. Those in the FY92 cohort who were promoted
faster also had better retention. However, better-educated personnel in the FY88 cohort, particularly those with advanced degrees, had poorer retention. Among the FY92 cohort, only those with a bachelor’s degree were found to stay longer in the DoD, while those with more advanced degrees had poorer retention. Thus, while some of the evidence suggests that better performers in the DoD civil service have better retention, other evidence, especially that based on education, does not. As noted earlier, it appears that personnel with advanced degrees are not always promoted faster than those with bachelor’s degrees. The evidence on the retention of personnel with advanced degrees indicates either that they did not fit well in the civil service or that their slower promotion speed translated into poorer retention.

The analysis also indicates that retention patterns vary significantly by occupational area, even when other observable characteristics are held constant. Surprisingly, scientists and engineers, a large percentage of whom have advanced degrees, are found to be among the groups with the best retention, when other factors such as education are held constant. However, whether this retention is sufficient to meet current and future personnel requirements is another open question.

The evidence presented in this report suggests that higher-quality GS personnel in the DoD civil service are generally paid more, are promoted faster, and sometimes are retained longer. It also indicates areas where retention and promotion problems may exist, specifically among the most educated personnel, i.e., those with advanced degrees. However, because of measurement error, the results pertaining to education are less than rock solid. The analysis indicates large variations in the careers of personnel in different occupations, despite the common pay table that serves them. Given the varying requirements for personnel across occupations and the variety of external market opportunities that exist in different occupations, the differences in the careers of GS personnel are no doubt in part a result of these variations.

Future research should examine whether the retirement system that covers federal civil service personnel induces higher- or lower-quality personnel to retire. As the civil service workforce ages along with the rest of the U.S. population in the next few decades, the issue
of whether higher-quality personnel hasten or defer retirement will gain in importance. Future research should also seek to refine and define new measures of personnel quality. Such measures might include actual measures of worker productivity or test scores on job-relevant skills. Another issue that should be addressed in future research is the role of bonuses. Although few employees get bonuses, the number is growing, and bonuses can be sizable. Therefore they may play an important role in the retention of higher-quality personnel. Finally, future research should examine whether the career outcomes examined in this study are sufficient to attract and retain a workforce that meets current and future civil service personnel requirements. As more is understood about civil service personnel and compensation systems and the effects of these systems on personnel outcomes, more cost-effective policies can be developed to manage the federal civil service workforce in the years ahead.