

Measuring the effects of veteran employment in government service: a public-private  
examination of veteran women and minority representation,  
veteran wage differentials, and explanatory factors

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Veterans' preference policies in government employment, at all levels, have existed for the intention of providing advantages for veterans who consider employment in public service after military service. While the purpose of these policies is well intended for veterans who have served, there exists the potential that this practice can be perceived as an endorsement to hire from a pool of candidates that consists of mostly white males. From a representation standpoint, for women and minority groups, this creates the potential to undo much of the progress that has been made in terms of better representation within the public workforce. However, overall, veterans have experienced a wage premium in the public sector compared to the private, which creates the challenge that veteran employment can have a negative effect on one area of employment equity while maintaining a positive effect in another. Furthermore, external factors, both market-based and employment-based, may influence these effects as well.

This research examines how veteran employment has impacted public-private representation among veteran women and minority groups, overall veteran public-private wage gaps, and the explanatory factors that affect veteran hiring and pay variances. Using public use data from the American Community Survey (ACS) 1-year Public Use Microdata Sample

(PUMS) files this research looks to fill in the gap in the literature related to public-private veteran employment representation and wage variances. The findings of this research first indicate that even though veterans are overrepresented in government service, veteran women and minorities have an even higher likelihood of representation in government service compared to the private sector. The explanatory factors that influence this finding are GSP, per capita income, and the unemployment rate, while union membership illustrates mixed results. Second, this research indicates that veterans are paid a wage premium working in the public sector compared to the private sector. The explanatory factors that influence this finding are per capita income, the unemployment rate, and union membership, while GSP does not. The overall contribution of this research builds upon the literature related both the composition and compensation of veterans and the external factors that influence public-private employment equity.

## DEDICATION

This dissertation is dedicated to my family and all the people I have been fortunate enough to call my friends. Without your love and encouragement throughout the program this accomplishment would not have been worth the endeavor.

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## CHAPTER I

### INTRODUCTION

Over the last several decades, the field of Public Administration (PA) has accumulated a great deal of scholarship examining numerous indicators of employment equity. Typically, these indicators are interrelated with representation and wage variances among different employment sectors, industries, organizations, departments, and occupations. With respect to PA examination, these measures are used to indicate the degree to which the public sector has committed to staffing a diverse group of individuals that is more representative to the society it is charged to serve both in terms of composition and compensation (Llorens, 2007). Individually each indicator demonstrates one specific account of how well historically underrepresented groups, primarily women and minority groups, have been included and compensated in public service employment at all levels of government. When examined together this analysis can provide an overall understanding of how well the public sector has followed its own set of guidelines. However, in addition to the equal employment policies that have been enacted for women and minority groups in the past, another type of employment program intended to increase hiring opportunities in the public sector has also received a small amount of exploration in PA literature. These types of programs are veterans' preference employment policies, which have been applied at all levels of government. The purpose of this investigation is to evaluate the influence of veteran hiring within the broader discussion of employment equity in government service. This assessment evaluates veteran employment equity in both public-private

composition and compensation to determine how well the public sector is hiring and paying veterans compared to the private sector.

Public service jobs are created through the necessity for shared public resources organized by elected officials which are carried about by public administrators (Llorens, 2008; Hays, 1998). Since these jobs are paid through taxation, the public sector has a responsibility to duly serve as the model industry which adheres and enforces the same equal employment policies that have been enacted for all employment sectors (Llorens et al, 2008; Hays, 1998; Goldfarb and Heywood 1982; Krislov 1967; Miller 1996; Mosher 1982; Van Riper 1958). The purpose of veterans' preference in the public sector has been to reward those who have served in the armed forces by authorizing preference in employment opportunity over civilian applicants. The advantage given to veterans' applying to work in Federal service comes in the form of additional points on top of their examination scores for competitive and excepted service positions within the executive branch of the U.S. government (OPM, 2015). Corresponding to the Federal Government, forty-six states use point systems similar to the federal system, while the remaining four states use a system of "absolute preference", which essentially hires qualified veterans ahead of more qualified non-veterans (Lewis & Pathak, 2014).

Given that one quarter of federal employees have been hired through veterans' preference, much of the research investigating the effects of veterans' preference policies on employment equity has focused on the Federal government (Lewis, 2013). In terms of employment equity research approaches, the federal sector usually receives the bulk of the attention between both quantitative and qualitative research. As it pertains to state-level public service research, a respectable amount of employment equity literature has been published using qualitative methods utilizing survey data with respect to perceived discrimination (Jordan &



Battaglio, 2014). These studies typically gather data related to attitudes pertaining to trust in public sector organizations as employers due to the change in the employment relationship with the move to employment-at-will (Battaglio & Condrey, 2009; Kellough & Nigro, 2002). These studies focus on performance assessments in relation to wage analysis, which is typically related to the transition of merit-based pay to performance-based pay (Jordan & Battaglio, 2014).

This field of research typically originates as a result of Civil Service Reforms (CSR) that took place initially at the federal level in 1978 and later executed even further at the state-level beginning in the mid-1990's. The reason these reforms have maintained such an impact within the field can be credited to the phasing out of the traditional merit system, which provided employment protections for public sector employees and replaced them with an employment-at-will (EAW) employment policy. With EAW, these reforms essentially gave management the advantage in the employment relationship. The elimination of these protections has been viewed by historically underrepresented groups as a means for reducing the social-psychological benefits associated with stronger job security in public sector employment (Condrey & Battaglio, 2007; Wilson, 2006). The historic merit system came under fire because many politicians felt these employment protections created a system of unclear rules and regulations, consequently making it difficult for front line managers to make personnel decisions. However, the impression of veterans' preference hiring practices have similarly raised concerns regarding managerial hiring discretion considering public jobs should be available to everyone (Lewis, 2013).

Along with the change in the employment relationship in the public sector, CSR also decentralized the function of personnel decision making to front line management in order to eliminate what many considered to be excessive centralized oversight (Brewer & Kellough, 2016; Battaglio & Condrey, 2009). Rather than the keep the traditional practice for personnel

decisions within a centralized HRM office, these reforms reallocated the staffing, compensation, termination, transfer, and demotion decisions to the front lines (Battaglio & French, 2016; Jordan & Battaglio, 2014). The major concern with the decision to enact such steep reforms stems from the probability that by moving personnel decision authority to the front lines this may affect legislation related to employment equity policies in terms of demographics and veterans' preference. The attitude is that front line managers may not be as concerned with following these hiring initiatives and goals compared to those who work in an HRM office. This is the reason CSR has accumulated a considerable amount of the literature review within public service employment equity examination.

### **Representative Bureaucracy, Public-Private Wage Gaps, and Explanatory Factors**

Representative bureaucracy is the theory that a representative public workforce will produce equal policy outcomes that are more responsive to all groups within a society (Sowa & Selden, 2003). Ideally, to accomplish this, employment figures need to be emblematic of the working population in combination with policy output. The public sector has a twofold responsibility to both enforce equal employment opportunity legislation while simultaneously serving as a model employer demonstrating that equal opportunity of employment is taken seriously (Llorens, 2007; Hays, 1998; Goldfarb & Heywood, 1982; Krislov, 1967; Miller, 1996; Mosher, 1982; Van Riper, 1958). Riccucci and Ryzin (2017) refer to this as symbolic representation, which “suggests that diversity in government workforces helps promote policy outcomes by enhancing the legitimacy of government and thus the cooperation of citizens” (pg. 21). This enhanced legitimacy ensures that bureaucracies are responsive to the citizens they serve (Llorens et al, 2008).

Public-private sector wage gap analysis investigates an additional perspective of employment equity. The study of public-private wage gaps derives from Bergmann's (1971) theory that "discrimination, or wage penalties against a particular group of individuals in one sector will lead them to seek employment in other sectors, assuming they are less discriminatory" (Bergmann, 1971; Llorens et al, 2008). He further established that the less discriminatory sector should, in effect, experience an excess of individuals from underrepresented groups even though the less discriminatory sector is known to consistently pay less. In the case of veterans, preferential hiring has been known to influence salaries, which maintains an effect on discrimination trends for women and minorities (Lewis, 1998). This is likely due to veterans typically being white males (Lewis, 2013).

Four explanatory factors have shown to play a major role in the connection of general employment representation and public-private wage variances. These factors, which have been included as indicators in other employment equity investigations, are Gross State Product (GSP), Per Capita Income, Unemployment, and Union Membership (Llorens, 2008). The first two of these independent variables are used as market-based indicators to determine if a stronger economy leads to better representation and public sector wage premiums (Llorens et al, 2008; Brewer & Selden, 2003). The second two independent variables are used as employment based indicators in order to determine if a stronger job market or assurance of higher wages lead to better representation and public sector wage premiums (Llorens et al, 2008; Brewer & Selden, 2003; Cornwell & Kellough, 1994). Since the variance in both representation and wage differences can differ from state to state the use of these four independent variables have been chosen to demonstrate the outside influences of veteran hiring and its effects by providing an explanatory model to demonstrate these variances.

## Statement of the Problem

Veterans' preference hiring policies have been designed to provide employment advantages for veterans' entering the public sector after service in the United States military. Though the purpose of these employment policies is well intended for veterans who have served, the reproach is based on the theory that these policies are essentially an endorsement for a segment of the population that consists of mostly white male applicants. From an employment equity policy outlook, there is the potential to unravel much of the progress that has been made in terms of better representation within the public workforce (Lewis, 2013; Johnson, 2015; McElhinny, 2000; Clemmitt, 2009; Gates, 2004). However, from a public-private wage gap perception, there is the potential that veterans will continue to experience a wage premium in the public sector compared to the private sector (Lewis & Pathak, 2014). Therefore, the potential remains that this policy can sustain a negative effect on one area of public service employment equity while maintaining a positive effect in another. Additionally, both market-based impacts and employment-based impacts may influence these effects. This research seeks to understand how these policies specific to veteran employment equity have impacted public-private representation among veteran women and minority groups, overall veteran public-private wage gaps, and the explanatory factors that affect veteran hiring and pay variances.

## Research Questions

- 1. How does veterans' preference affect overall public-private representation for veteran women and minority groups?*
- 2. What is the impact of gross state product (GSP), per capita income, unemployment, and union membership on public-private representation for veteran women and minority group representation?*

3. *How does veterans' preference affect public-private wage gaps among all veterans?*
4. *What is the impact of gross state product (GSP), per capita income, unemployment, and union membership on public-private wage gaps for veterans?*

This work begins by first addressing the significance of the above research questions. Following this introductory chapter, a review of the literature and theoretical framework regarding public-private representation and public-private wage gaps for veterans is illustrated. Next, the hypotheses are developed based upon the literature review and the methodology used for investigation of these two indicators of employment equity is demonstrated. Finally, the statistical analysis of the research is presented along with the significance of the research findings within the field of public sector HRM. Additionally, the limitations of the research and ideas for future exploration are addressed.

### **Significance of the Study**

Veterans' preference has been implemented in federal government, all fifty state governments, and even in some large private sector organizations. The policy is essentially a priority for much of the U.S. workforce. Additionally, with the implementation of personnel reforms in the public sector, personnel decisions are now left up to front-line management, which has typically been the case in the private sector. This creates a stronger potential for employment partiality both for and against veterans as management can essentially hire whomever they want and pay them whatever they want regardless of qualifications (Condrey, 2002). The significance of this study builds upon the growing body of public HRM literature regarding both the employment of veterans in the workforce by sector, and the explanatory factors related to composition and compensation of those veterans hired.

Existing research related to veteran representation has certainly expanded on the composition of veterans entering the public workforce with some comparisons to the private workforce (Mani, 1999; Lewis, 2013; Oh & Lewis, 2013; Lewis & Pathak, 2014; Johnson, 2015). Though this research utilizes different datasets based upon the various representation topics being examined, the consensus is that veterans ultimately make up a larger percentage or ratio compared to the private sector. Remarkably, this literature creates a significant opportunity to build upon this topic by exploring several external factors that potentially contribute to the public-private difference in representation for veteran women and minority groups between sectors.

Unlike representation studies, the current body of work examining public-private wage differentials has included external factors both related to market-based indicators and employment-based indicators within the previous literature (Lewis et al, 2018; Llorens et al, 2008; Llorens, 2008). However, much of this work has primarily covered the public-private wage gaps among women and minority groups in state-level government employment. These studies have also not typically broken down their wage variances based on veterans' status specifically. This creates another important opportunity to build upon the previous literature by examining the public-private wage differences of veterans based upon employment in the overall public sector compared to the overall private sector. Utilizing the same external factors, this study intends to add to the public-private wage gap literature by investigating these differentials among the veteran population for the entirety of both public and private sectors.

## CHAPTER II

### LITERATURE REVIEW AND THEORETICAL FRAMEWORK

The literature review and theoretical framework of this work first examines the influence of personnel reforms that have taken place in public sector Human Resources Management (HRM) systems. Historically, personnel movements in public service have come in the form of two opposing philosophies. The first philosophy incorporates a more structured, centralized, merit-based system; the second philosophy embraces a less structured, more decentralized system with added flexibility for personnel decision making (Llorens, 2007). Due to the distinctive nature in employment decision making between these employment philosophies, these two contrasting styles of personnel systems have maintained a significant effect on employment equity regarding both representation and wage variances. The theoretical context of these variances, as examined in previous public sector HRM literature, shaped the foundation for the overall purpose of this analysis. Building upon the foundation of shifting personnel systems and employment equity, this chapter explores the details of veterans' preference categories and scoring systems, practices and perceptions of the program, and provides an overview of Public Administration (PA) studies into the effects of the program in the public sector. In order to explain how veteran hiring impacts employment equity, this chapter examines the theoretical foundations of representative bureaucracy, public-private wage gaps, and each of the explanatory factors that influence employment equity within public personnel systems compared to the private sector.

## Federal Civil Service Evolution

Frederick Mosher's (1982) work, *Democracy and the Public Service*, is often the most cited evolutionary outline that illustrates the development of public service in the United States. Mosher developed and advanced his outline into five eras of public service. These five eras are classified as "Government by Gentlemen", "Government by the Common Man", "Government by the Good", "Government by the Efficient", and "Government by Managers" (Mosher, 1982). Each of these periods have taken into consideration the social trends and values that remain embedded into the later ideals, laws, and practices with each subsequent period (Condrey & Maranto, 2001). The major characteristics that describe each individual time period builds the foundation upon which the next era chooses to improve.

Mosher's standard for the first era, "Government by Gentlemen" (1789-1828), was marked by George Washington's "Fitness of Character", which was based on the British system. This system placed emphasis on a man's wealth, education, and family background. This system was favored toward the high-class members of society. If a man were to abuse his post, the consequences needed to recommend that this person would also lose their noble place in the social order. Next, Mosher (1982) considered the election of Andrew Jackson in 1828 as the "turning point in the direction of American society and its government" (pg. 64). He referred to this second era in public service as the "Government by the Common Man" (1829-1883), which lasted until the assassination of President James Garfield in 1883. The theme that altered government service throughout the Jackson presidency was that almost anyone can fulfill the duties required of a public official or public employee, not just the social elites. Many Public Administration scholars refer to this system of patronage, which sanctions unrestricted personnel



selections, as the “spoils system” (Thompson, 2003; McGrath, 2013; Condrey & Battaglio, 2007; Goodman & Mann, 2010; Condrey & Maranto, 2001; Ruhil & Camoes, 2003).

Over time the issues with this practice grew to the point that the political process became rampant with corruption. After the assassination of President Garfield, the nation began to realize the obvious problems associated with appointing people based on party loyalty and not entirely focus on the merits of their ability. This led to the next era that Mosher considered “Government by the Good” (1883-1906), which began with the passage of the Pendleton Act of 1883. With the enactment of the Pendleton Act, the principles of the merit system officially became incorporated into government service (McGrath, 2013; Llorens, 2008; Ruhil & Camoes, 2003). This law initiated the values that public servants should be appointed based strictly on qualifications and competency for all citizens who were interested in public service. Most importantly, the Pendleton Act created the Civil Service Commission to implement the specific provisions of the Act and promote neutrality in federal service employment (Thompson, 2003). It was this era in which the merit system was created.

Mosher’s next period, “Government by the Efficient” (1906-1937), was guided by the attitude that government must not only be politically neutral but founded in efficiency and effectiveness. This became known as the Scientific Management movement. Scholars such as Frederick Taylor, Leonard White, Luther Gulick, Lyndall Urwick, and many others strived to accomplish a scientific way to master all types of functionality in the public sector, thus making everything as efficient as possible. Lastly, the “Government by Managers” (1937 – 1982) era shifted the model from an efficiency focus to more of an “administrative-managerial” focus. The central theme of this era was that elected officials should be responsible for establishing governmental programs, while administrative employees provide continuity in the administration

of government activities (Thompson, 2003). Unofficially, following this this time period, a sixth era has been theorized by Anne Marie Schuh's titled "Government by Business" (Condrey and Maranto, 2001). Similar to the theme of cooperative support between politics and administration, this unofficial era is described as embracing a more market-based culture. It was this philosophical shift where elected officials began to attack the merit system as a system of entitlement.

### **Radical Civil Service Reform in State-Level Personnel Systems**

Consistent with the Federal Sector, the problems of the merit system that were implemented to fix the problems of the spoils system created a new call for what is referred to as "Radical" Civil Service Reform at the state-level (Condrey & Battaglio, 2007; Jordan & Battaglio, 2014; McGrath, 2013; Kim, 2016). Fundamentally, what was considered a solution to a problem, in reversing the spoils system, became a problem in need of a solution. Georgia and Florida have been renowned as the first two states that started this trend at the "radical" level by overhauling the majority of their state-level public personnel systems (Facer, 1998; Condrey, 2002; Gossett, 2002; West, 2002; Sanders, 2004; Condrey & Battaglio, 2007; Jordan & Battaglio, 2014; Brewer & Kellough, 2016). First, in the mid-1990's Georgia Governor Zell Miller sought to reform what he perceived as "sluggishness" in the public sector. Several years later, in 2001, Jeb Bush began his "Service First" program which moved the majority of public sector employees to an Employment-at-Will system (Bowman et al, 2003). These reforms created long lasting effects on the operations of HRM in state government employment.

Zell Miller, the former Democratic Governor for the State of Georgia, is often credited as the most noteworthy instigator to launch the enactment of some of the most expansive reforms in civil service at the state level (Facer, 1998; Gossett, 2002; West, 2002; Sanders, 2004; Nigro &

Kellough, 2006, 2000; Kellough & Nigro, 2002; Condrey, 2002). Originally, the State of Georgia had been using a more traditional approach to managing public sector personnel that included a more centralized personnel office. Before these reforms were initiated, Georgia's State Merit System was created in 1943. From this time until 1996, this personnel system executed considerable control of the job classification process, the examination process, salary management, and retained a strict appeal process for disciplinary actions (Lasseter, 2002). The "Merit System of Personnel Administration" was the name of the 53-year-old system that Governor Miller had claimed gone from a solution to a problem (Facer, 1998; Sanders, 2004). Many in the political realm felt that public sector employees were becoming entitled, and that the merit system had wound itself into a massive tangle full of rules and procedures. Therefore, many of the reforms implemented were based on eliminating the burdensome procedures and large amount of documentation and delays in the employee discipline process" (Lasseter, 2002; West, 2002).

Georgia's Civil Service Reform law, also known as Act 816, was strategically passed through the Georgia legislature. This "Merit System Reform" legislation created the most significant change to the State's personnel system since its inception many decades earlier and has been considered a dramatic example of the mix between the political and administrative factors that drove many CSR initiatives throughout the United States (Sanders, 2004; Nigro & Kellough, 2000). Due to the amount of lengthy job vacancies, massive amounts of paperwork, and complicated appeals processes, the State of Georgia was taking anywhere between 12 to 18 months to dismiss poor performing employees, and optimistically replace them with better qualified applicants (Sanders, 2004). For the public, this put a bull's eye on the back of the state's personnel system as state-level politicians continued use these reforms as part of their campaign

platform. During this time period, Osborne and Gaebler's (1992) work insisted that the incentives that drive government needed to be adapted, and in effect government needed to eliminate job security as the primary incentive for good performance (Facer, 1998). Consequently, due to this changing attitude toward state-level personnel systems, beginning July 1, 1996, all new hires and employees who have been promoted or transferred to another department would be placed in an "Employment-At-Will" (EAW) status in the State of Georgia, and all new hires would be placed in a probationary period upon hire (Sanders, 2004).

Several years later, Governor Jeb Bush, with the support from the Florida Council of 100 and Florida TaxWatch interest groups, proposed what was called the "Service First" legislation to "modernize the civil service system" and move from "protection to performance" (West, 2002; Florida Council of 100, 2000; Goodman & French, 2011). At the time, Florida's statewide merit system had been in effect since 1967. Bowman et al (2003) posit that the original intent was for Florida's merit system to resolve many of the frequent complaints related to employee turnover and attempt to stabilize public employment. They indicate that after each election, the unemployment rate would spike as a result of massive employee turnover for each newly elected official. As similar to Georgia, the proposal to implement these reforms came from the same understanding that many of the bureaucratic rules, for state-level public employees, seemed to evolve into more of a system full of costly regulations.

Goodman and French (2011) emphasize that the major issues for abolishing their merit system for many of Florida's state-level public service employees was to give less employment protection for poor performing employees, while simultaneously giving managers more flexibility to reward good performing employees (Bowman et al, 2003; Goodman & French, 2011). Crowell and Guy (2010) found that the perception of the Service First Legislation had

some degree of support among employees that operated in departments not under the direct purview of the Governor. In contrast, those who were working in a department directly under the Office of the Governor expressed more negative and fearful reactions to the overall intent of the legislation. However, the authors found that every respondent believed that the privatization of the HR function was a mistake, and that departments now have a more difficult time meeting its HR obligations.

In Florida, the more significant issue at stake was that the property interest of these state-level jobs was removed, thus theoretically eliminating the protection that an employee could potentially be dismissed for just cause only (Brewer & Kellough, 2016; Bowman, West, & Gertz, 2006; Kuykendall & Facer, 2002). This means that an employee can be terminated without a specific reason, whether it is related to on the job performance or not. Since the radical reforms of Georgia and Florida, the rest of the country eventually followed suit by also expanding EAW policies, but not as drastically compared to these two initiators (Brewer & Kellough, 2016; Battaglio & Condrey, 2009; Coggburn, 2006; Coggburn et al., 2010; Goodman & Mann, 2010; Kim & Kellough, 2014; Jordan & Battaglio, 2014; Hays & Sowa, 2006; McGrath, 2013). However, only a few scholars have examined the degree to which each state has implemented these reforms.

Hays and Sowa (2006) provided one of the most recent comprehensive analyses in identifying the degree to which employment conditions have changed within state personnel systems in all fifty individual states as a result of CSR. Their analyses illustrate the “tone and direction” of how Civil Service Reforms are being received by state-level HR executives. They determine that for the rest of the country, making the transfer from merit protections to EAW did not happen with the same “passion and vigor” as exhibited in Florida and Georgia. Hays and

Sowa (2006) primarily attribute the implementation of CSR at the state-level due to the changing nature of the politicians, especially governors, elected during that time period. They cite that many of the new governors were coming from the business sector, which created a more market-based approach to public service employment in addition to accomplishing quick public change in government service (Hays & Sowa, 2006; Goodsell, 1994).

McGrath (2013) builds upon Hays and Sowa's (2006) work by looking beyond the "political-institutional variables" and instead examines how politics individually plays a role in the predictability that a state will initiate these reforms in any capacity. He determined that state-level politicians are willing to implement CSR primarily when their political party held the majority of the seats within their state legislature (McGrath, 2013; Brewer and Kellough, 2016). This gives the political majority a chance to capitalize on EAW as a means for fast and effective responsiveness (Jordan and Battaglio, 2014). McGrath's (2013) interpretation of this trend illustrates that political leaders at the state-level implement CSR strategically, which usually takes place when they feel they have a grip on the state's elected positions for the conceivable future. This interpretation explains why all the states after Georgia and Florida were less drastic in their adoption of EAW policies.

Brewer and Kellough (2016) further verified that McGrath (2013) determined that the probability of success in implementing CSR depended principally on the size of the majority of the dominating party. They go on to discuss that this was done to ensure the other party did not have a chance to overturn the reform, or potentially benefit from the reform upon becoming the majority (Brewer & Kellough, 2016; McGrath, 2013). The role political affiliation plays in this process is that it correlates directly to which political party was in office each time a state converted from merit protections to EAW. McGrath's (2013) study included years 1996 until

2005, a time period in which CSR fit in with the Republican platform when their majority in state legislatures were increasing (Brewer & Kellough, 2016). Again, these Republican law makers came from the private sector, which operates on EAW. Many of the newly elected officials during that time period felt that public sector needed to be as streamlined as private sector in order to cut operating costs. These institutional conditions related to divided government and power of the governor played an important role in the spread of CSR over the course of those years (Jordan & Battaglio, 2014; McGrath, 2013).

### **Veterans' Preference in the Federal Sector**

The Office of Public Management (OPM) is the governing body that administers and provides oversight for veterans' preference civil service examination scores for most positions within the Federal Government (OPM, 2015). The purpose of veterans' preference has always been to reward those who have served in the armed forces by endorsing this hiring policy for employment opportunity over civilian applicants. This preference in hiring applies to competitive and excepted service positions within the executive branch of the U.S. government. However, this preference does not apply to positions within the Senior Executive Service (SES), nor to positions that require Senate confirmation. The other branches of the Federal Government are also exempt, with the exception of positions that fall under competitive service within these two branches. The benefit veterans receive are additional points on top of their competitive examination scores when applying for employment with the Federal service.

As directed by the Veterans Guide for HR Professionals, provided by the Office of Personnel Management (OPM), the legislative requirements that pertain to veterans' preference, in the Federal sector, fall under 5 U.S.C. § 1204(a)(3) and 38 U.S. Code § 101. In its current form, veterans' preference was initiated through the Veterans' Preference Act of 1944, which

classified the provisions under title 5. While the Office of Personnel Management (OPM) is the governing body that administers this entitlement under title 5 for veterans' employment, title 38 governs veterans' entitlement benefits, which are administered by the Department of Veterans Affairs (VA). Naturally, the objective and spirit of both of these titles and governing bodies are to recognize those who have served their country by providing a competitive position in the workforce, within government employment, especially to those who have been disabled as a result of their service (OPM, 2015).

### **Categories of Veterans Preference Scoring**

There are several categories of veterans' preference policies, each of which carry a different weight in terms of the benefit sanctioned. According to the Veterans Guide for HR Professionals, in order to receive preference "a veteran must have been discharged or released from active duty in the Armed Forces under honorable conditions (i.e., with an honorable or general discharge)". As defined in 5 U.S.C. 2101(2), "Armed Forces" means the Army, Navy, Air Force, Marine Corps and Coast Guard" (OPM, 2015). However, there are a few exceptions to the rule as it pertains to Federal hiring. The above-mentioned Veterans Guide for HR Professionals states several exceptions. For example: 1. "military retirees at the rank of major, lieutenant commander, or higher are not eligible unless they are disabled veterans", 2. "For non-disabled users, active duty for training by National Guard or Reserve soldiers does not qualify as 'active duty' for preference", and 3. "For disabled veterans, active duty includes training service in the Reserves or National Guard" (OPM, 2015). Lastly, in terms of defining the term "war", as it pertains to injury or death in combat included in 5 U.S.C. 2108, for the purpose of outlining the type of benefit awarded, OPM defines war as "only those armed conflicts declared by Congress



as war and includes World War II”. Each of the designated armed conflicts declared by Congress are listed below in Appendix A.

The first category of veterans’ preference, defined by OPM’s current Veterans Guide, is referred to as “0-point preference (SSP)” which is also referred to as the “Sole Survivorship Preference (SSP)”. This category of veterans’ preference eligibility was established through the Hubbard Act in 2008, which added subparagraph (H) to 5 U.S.C. 2108(3). The purpose of this category was to establish a level of benefits to the sole survivors of veterans’ who have been killed in action or disabled with no chance of gainful employment due to their disability (OPM, 2015). Zero (0) points are added to the score of an applicant who is the only surviving child in a family in which a parent or one or more than one sibling have either 1. served in the armed forces or 2. have been killed or permanently disabled as a result of wounds in combat. Under this form of preference, applicants do not receive preference points on their competitive examination, however they are entitled to be listed ahead of non-preference candidates with the same score on their competitive examination.

The second category of veterans’ preference, defined by OPM’s current Veterans Guide, is referred to as “5-Point Preference (TP)”. The “TP” is a shorthand reference used by OPM when categorizing this level of scoring benefit. Five (5) points are added to the competitive examination score of an applicant that falls in this category. This category is reserved for veterans’ who have served: 1. “during a war”, 2. “during the period April 28, 1952 through July 1, 1955, for more than 180 consecutive days, other than for training, any part of which occurred after January 31, 1955, and before October 15, 1976”, 3. “During the Gulf War from August 2, 1990, through January 2, 1992, for more than 180 consecutive days, other than for training”, 4. “any part of which occurred during the period beginning September 11, 2001, and ending on

August 31, 2010, the last day of Operation Iraqi Freedom”, or 5. “in a campaign or expedition for which a campaign medal has been authorized including El Salvador, Lebanon, Grenada, Panama, Southwest Asia, Somalia, and Haiti, qualifies for preference” (OPM, 2015). As it pertains to preference for Gulf War veterans, the Defense Authorization Act of 1998 contains a provision that allows veterans’ preference to everyone who served on active duty between August 2, 1990 and January 2, 1992. This provision is provided through section 1102 of Title XI, which means that those who served on active duty during the Gulf War are also entitled to veterans’ preference benefits, as long as they were honorably discharged and served in the military a minimum of 24 months (OPM, 2015).

The third category of veterans’ preference includes several designations by OPM’s current Veterans Guide, each of which add ten (10) points to each applicant’s competitive examination. The first designation is labeled “10-Point Compensable Disability Preference (CP)”, which allows the benefit to “a veteran who has served at any time and who has a compensable service-connected disability rating of at least 10 percent but less than 30 percent.” The next designation is labeled “10-Point 30 Percent Compensable Disability Preference (CPS)”, which allows the benefit to “a veteran who served at any time and who has a compensable service-connected disability rating of 30 percent or more. These first two designations are for veterans who have sustained a limited degree of disability as a result of their service. The third designation is labeled “10-Point Disability Preference (XP)”, which allows the benefit to “a veteran who served at any time and has a present service-connected disability or is receiving compensation, disability retirement benefits, or pension from the military or the Department of Veterans Affairs but does not qualify as a CP or CPS; or a veteran who received a Purple Heart.” This is a designation that is reserved for veterans who are receiving payment directly as a result

of a service-related injury that has limited their physical abilities significantly. The last designation is labeled “10-Point Derived Preference (XP)”, which allows the benefit to “spouses, widows, widowers, or mothers of veterans.” This type of preference is usually referred to as "derived preference" because it is based on service of a veteran who is not able to use the preference. Therefore, they allow the benefit to go to spouses and mothers of the disabled or deceased. This is different from the above mentioned “sole survivor preference (SPP)”, as the SPP preference is for the child or children of veterans’ who have been killed in action.

### **Preference in Competitive Examination and Category Ratings**

As per OPM’s Veterans Guide for HR Professionals (OPM, 2015), veterans’ preference scoring is first administered through the numerical ranking method, which is the straightforward process of putting all applicants in order based upon their examination scores. Once all the scores are gathered, each applicant with a passing score is put into a predefined quality category based upon the applicant’s job-related competencies. In the field of HRM, these competencies are known as Knowledge, Skills, and Abilities (KSA’s). This process is referred to as “Category Rating”, which comes from the provisions set forth in the Chief Human Capital Officers Act of 2002, under Title XIII of the Homeland Security Act of 2002, which is codified at 5 U.S.C. § 3319 (OPM, 2015). The applicants are then ranked by being placed in two or more of the “predefined quality categories” instead of simply being ranked in order by their competitive examination score in one lumped group.

Based upon each applicant’s KSA’s, and the categories deemed necessary for each job posting with the Federal Government, the selection process begins with the “rule of three”. The rule of three refers to the requirement that the hiring department must pick from the top three applicant scores within each category. As part of the provisions in the Chief Human Capital

Officers Act of 2002, veterans' preference is considered "absolute" within each category, meaning that preference eligible applicants are listed ahead of non-preference applicants once the minimum qualifications and KSA's are evaluated among the applicant pool.

The person selected for the position must be made from the three highest eligible applicants. As it pertains to the rating process among eligible veterans' preference applicants, the system follows the above-mentioned preference categories in which the added points were obtained on the competitive examination according to 5 U.S.C. 3309, 3313 and 5 CFR 332.401 and 337.101 (OPM, 2015). The names of the applicants who received a 10-point preference based upon service-connected disability are rated at the top, next the 5-point preference eligible applicants follow, and finally the zero-point sole survivor preference applicants are rated last in the pecking order. Federal agencies are not allowed to select a non-preference applicant over a preference eligible applicant with the same or lower score. However, according to the examples given within OPM's Veterans Guide, "If the top person on a certificate is a 10-point disabled veteran (CP or CPS) and the second and third persons are 5-point preference eligible, the appointing authority may choose any of the three" (OPM, 2015). Also, "if the top person on a certificate is a 10-point disabled veteran (CP or CPS), the second person is not a preference eligible, and the third person is a 5-point preference eligible, the appointing authority may choose either of the preference eligible candidates. The appointing authority may not pass over the 10-point disabled veteran to select the non-preference eligible unless an objection has been sustained" (OPM, 2015).

### **Veteran Hiring in the Civil Service: MSPB Practices and Perceptions Investigation**

Based upon the guidelines stated above, especially as it relates to "absolute preference", many Federal Government employees and applicants perceive unfairness in the hiring

procedures. The United States Merit Systems Protection Board (MSPB) recently published a report titled “Veteran Hiring in the Civil Service: Practices and Perceptions” (2014). This report was written to the President and Congress of the United States in order to fulfill the requirements of Title 5 U.S.C. § 1204(a) (3) (MSPB, 2014). This requires the MSPB to outline the laws and regulations of veterans’ preference, as well as explain the results of their qualitative study concerning employee perceptions regarding veterans’ preference hiring practices in the Federal government (MSPB, 2014). As discussed in Chapter 1, much of the current examination regarding employment policy change, even from an independent government agency, comes in the form of qualitative perception data. The MSPB (2014) indicates that the entire purpose of this report is to understand the perceptions of Federal employees, which may present a collective reality as it pertains to inappropriate actions related to hiring based on veterans’ status. The report identifies that these inappropriate actions, such as perceived favoritism and scoring manipulation, create two separate issues. First, these actions identify that tangible hiring improprieties have occurred as a result, and second, regardless of the accuracy of these inappropriate actions these improprieties may reflect a level of unfairness among all other employees’ relationships with their employer (MSPB, 2014).

The MSPB (2014) study sought to understand the level of perceived fairness in hiring for Federal jobs. The researchers on this study surveyed HR staff regarding their experiences in order to understand the perceptions of veterans’ preference policies. Their survey was titled the “Fair and Open Competition Survey (FOCS)”, which asked HR employees several questions related to the importance of hiring priorities within their units. According to their posted results on Figure 4, located in Appendix B, the study identified that supervisors and managers perceive inappropriate favoritism twice as often as they perceive knowing violations of veterans’

preference (MSPB, 2014). The reason they point this out is because supervisors and managers would have more experience with organizational operations compared to lower level employees.

In Figure 5, also in Appendix B, hiring the “best candidate” was the highest priority with 92%, followed by hiring a veteran with 79%. Hiring an internal candidate and external candidate were not as important with an answer rate of 50% and 41%, respectively (MSPB, 2014). Even though hiring the “best” candidate was more important than hiring a veteran, the MSPB chose not to make specific recommendations to Congress and the President regarding the perception of veterans’ preference. Instead they explained the current system in its present form and the issues related to understanding the policy. They demonstrate that since Congress has enacted so many provisions for veterans’ preference hiring practices, the Federal Government now has spread oversight accountability across three different authorities, the Veteran Employment Opportunity Act (VEOA), Veteran Recruitment Appointment (VRA), and the Department of Veterans Affairs (DVA).

Since many of the changes and requirements to the law continue to be designed to achieve a particular purpose within veterans’ preference, the rules and regulations surrounding these policies have now created confusion and misperceptions surrounding their purpose. The MSPB (2014) asserts that “the more complicated the laws, the more opportunities there are for agencies to make mistakes, veterans to misunderstand their rights, and observers to assume that something improper has occurred” (MSPB, 2014). This also creates an issue in which inappropriate conduct can be deemed defensible since the rules are generally perceived to be too complicated for a rational person to understand as more legislation is enacted. Though the MSPB attempted to not make any formal recommendations to Congress or to the President, they did somewhat make a suggestion that, at some point in the future, a simpler system to manage and

explain veterans' preference benefits to those affected by the policy will need to be put into place. What is learned from this report is that, at the Federal level, the issues related to the many mistakes within the hiring system for veterans' status lends itself to capricious and arbitrary hiring decisions. Essentially, at the state level this could theoretically pose an even more widespread issue considering that the state-level is modeling veterans' preference policies after the Federal Government.

### **Public Administration Examination of Veterans' Preference**

Public Administration (PA) literature has also demonstrated that while the practice of veterans' preference in government employment is intended to honor those who have served the United States military, there is still debate regarding the fairness of the policy (Lewis, 2013; Lewis & Pathak, 2014). The dispute against this policy comes two-fold. The first argument comes from those that believe the policy diminishes the quality of the employees within the Federal service. The belief is that the skills gained through service in the military may not translate well to Federal jobs. Lewis (2013) and Johnson (2015) provide the most recent investigations that examine these concerns. In order to quantify "quality" employees, they each compare the GS levels of veterans versus non-veterans over an extended period of time in order to demonstrate their ability to advance up the GS ladder.

Lewis (2013) first demonstrates how veterans' preference diminishes the quality of the Federal workforce by examining the abilities of veterans versus non-veterans in advancing their careers in the Federal sector over a 15-year time period. He determines that over the course of the first 15 years of their careers, veterans do not advance as far as non-veterans hired into the same paygrades when beginning in the four most common entry grades. By controlling for differences in education, age, race/ethnicity, gender, marital status, citizenship status, and

English proficiency he runs multinomial logit models for veterans and non-veterans. Lewis runs these models in order to predict the probabilities of working in each sector, once as a veteran and once as a non-veteran. He refers to the average partial effect as the difference between the mean probabilities, in this case between veterans versus non-veterans (Woolridge, 2009).<sup>1</sup> According to his results, within the first 2 years non-veterans move ahead of veterans and overall remain in higher GS levels over the course of the first 15 years of their careers. His study concludes that this may be lowering the performance of the overall Federal sector because, on average, veterans seem to have less education but are older and have more experience when beginning their employment with the Federal government. Lewis also acknowledges that veterans' preference policies within state-level government are mostly executed similar to the same system as the Federal government.

Johnson's (2015) investigation examining the quality of the Federal workforce differs from Lewis' (2013) work, in that Lewis uses a large sample size that represents all employees within each of the entry level pay grades, whereas Johnson focuses on several key variables. He first compares veterans and nonveterans by controlling for grade, occupation, duty station, agency, and year. The reason he does this is to account for disparities between veterans and non-veterans who actually received a job offer. This offsets the differences in "circumstance" for non-veterans who were offered a job since they likely were not competing against a veteran with the same score, or were able to get an approval to be hired over a veteran with a top examination score. He states, "These non-recipients are an attractive proxy because federal applicants rejected due to veterans' preference would have entered the federal service in the same circumstances—

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<sup>1</sup> Probabilities are nonlinear functions of the independent variables in logit models; a variety of methods can translate logit coefficients into probability differences. (Lewis, 2013)



that is, same occupation, same agency, and so on – as the preference recipients hired in their stead” (pg. 673). When controlling for these variables the results determine that veterans hold grades equal or higher than non-veterans within both the first 15 years and the first 24 years of their careers. Additionally, when adding controls for gender, race, age, and education, veterans on average work into pay grades equal to or higher than non-veterans in the first 24 years.

The second debate regarding veterans’ preference policies, maintains that these programs potentially impact previous legislation related to improving better representation for historically underrepresented groups in the workforce. The concern is that the military is made up of mostly white men, therefore a policy that increases the hiring of more veterans will yield more white males hired in Federal civil service. Lewis (2013) explains how veterans’ preference impacts representation rates for women and minority groups by illustrating how the ratios of underrepresented groups are affected due to the increase in veterans hired within the Federal government. Lewis and Pathak (2014) take this investigation further by explaining how these ratios are affected at the state and local level.

In order to illustrate how veterans’ preference impacts representation rates for historically underrepresented demographics in Federal service, Lewis’s (2013) work also determines that veterans’ preference has a powerful impact on who gets hired. He repeats the multinomial logit models again in order to predict the probabilities of each race, sex, age, educational level, and sexual orientation working in each sector. Again, he does this once as a veteran and once as a non-veteran. Lewis (2013) finds that veterans applying for Federal employment were more than four times likely to get hired than non-veterans. However, at least 16 percent of those employees would be different people if veterans’ preference never existed. He determines that “Weighting military service in hiring decisions is likely to benefit men, whites, heterosexuals, and native-

born citizens over others” (pg. 249). Ultimately, Lewis demonstrates that representation rates would be vastly different in the Federal government if veterans’ preference did not exist. He explains that federal jobs would be split almost equally between men and women, and the representation numbers of Hispanics, Asians, and gay men might also be as much as 20% higher.

Lewis and Pathak (2014) take Lewis’s (2013) work a step further by assessing the degree in which representation rates for State and Local Government (SLG) employment are affected by veterans’ preference policies in all fifty individual state personnel systems. Again, the majority of the research regarding the effect of veterans’ preference policies influence on employment equity has typically been investigated for Federal employment. This research makes up one of the few investigations that examine how veterans’ preference has affected employment equity at the state and local level. The reason for this is primarily because the Federal Government is a single entity, whereas gathering data for all fifty states can potentially require an information request or data inquiry per each state. The authors use data from the Public Use Microdata Sample (PUMS) to investigate a sample size of the labor force in order to provide a more specific look at the percentage of comparable veterans versus non-veterans that hold State and Local Government (SLG) jobs. They investigate to determine the likelihood that a veteran is willing to work for an SLG considering the variation of importance in implementing veterans’ preference programs in each state personnel system. The authors believe that controlling specifically for race, sex, education, and experience will provide a better estimate of the effects of veterans’ preference programs. Quantitatively, Lewis and Pathak (2014) determine that when controlling for these variables this provides a stronger estimate of the probability that a veteran works for an SLG.

Lewis and Pathak (2014) conclude that the representation ratio of veterans in SLG's across the country is significantly greater than 1 for most states, meaning that the number of veterans is overrepresented compared to non-veterans with the variable controls in the same jobs. They determine that veterans are ten percent more likely than non-veterans to hold SLG jobs in the aggregate. Additionally, they determine that veterans are more likely to work for an SLG when all demographic characteristics are broken down. Once age, gender, race, and educational attainment are taken into consideration these demographic differences further illustrate this overrepresentation. Lastly, they discover that representation predictors of veterans are higher in states with stronger veterans' preference policies, such as the "absolute preference" policy in which a qualified veteran receives a job offer over a more qualified non-veteran. Lewis and Pathak's (2014) regression models that compare SLG's to private sector pay confirm that even though SLG's have a strong employment ratio for veteran hiring, if SLG's paid as much as the private sector this ratio would be even higher.

### **Representative Bureaucracy**

Representative bureaucracy analysis in the public sector compares demographic characteristics of public organizations and identifies how they compare to the demographics of the citizens these employees are tasked to serve (Pitts & Wise, 2010). The philosophy is that the more diverse public personnel systems are, the more likely the interests of each demographic will be represented. Dolan (2004) highlights that "A diverse public sector is important not only for symbolic reasons, but because governmental decisions are expected to be more responsive to the public when the workforce 'looks like America'" (pg. 300). Kingsley (1944) is primarily credited for creating the original foundation of representative bureaucracy in which a vast body of literature has continued to advance within the field of Public Administration (Bradbury &

Kellough, 2011; Gooden, 2015). In his 1944 work, Kingsley argued that as Britain moved away from an aristocracy, and more toward a middle class, it was necessary for the bureaucracy to reflect everyone within the social order (Ricucci & Ryzin, 2017). As the middle-class continued to grow, Kingsley understood the need to ensure that citizens from all backgrounds and perspectives have a chance to contribute in policy output. However, what Kingsley considered to be bureaucratic representation differs from today's definition as he focused only on social class (Sowa & Selden, 2003). Today the discussion of representation incorporates all categories of demographics.

Stemming from Kingsley's theory comes much of the foundational literature from additional scholars such as Levitan (1946), Long (1952), Van Riper (1958), Krislov (1967), and Mosher (1968). Levitan (1946) maintained that waiting for external controls to achieve representation was virtually useless. Instead he believed it was more productive to ensure that bureaucrats achieved proper representation by rule or force in order to help the public better accept agency actions (Sowa & Selden, 2003; Pitts, 2007). Theoretically, since the demographic composition of each agency will match society, by proxy the level of trust in bureaucratic decisions should increase since all demographics will essentially be represented through authority. Long (1952) and Van Riper (1958) further outlined the importance of applied representation to better emphasize trust in policy decision making. Long's (1952) work expanded Levitan's (1946) argument maintaining that the bureaucracy has the better capability to promote democratic values compared even to Congress (Pitts, 2005). He alleged that as the bureaucracy becomes more diverse, the better the capacity for ideas to be represented in public service. By default, bureaucratic access could carry as much influence as the lawmakers themselves. Van Riper's (1958) contribution further contended that as the bureaucratic hiring process becomes

more inclusive, those governed will have a more favorable attitude toward government (Bradbury & Kellough, 2011). His theory determined that as representation becomes more comprehensive this may offset the lack of representation among elected officials (Krislov & Rosenbloom, 1981; Selden, Brudney, & Kellough, 1998).

Krislov (1967) expanded upon Kingsley's (1944) theory of a bureaucracy that closely mirrors the demographics of the general population being ruled. He observed the advantages of having a sense of characterization within government service. Krislov and Rosenbloom (1981) further expanded on this concept and focused on individual socialization among race, ethnicity, and gender, which develops the creation of values and beliefs (Sowa & Selden, 2003). Each of these demographic characteristics shape the background that motivates an individual to work in public service. Furthermore, no other scholar has been cited as often as Mosher's (1968) theory of representative bureaucracy. Mosher (1968) conceived the notion that representative bureaucracy can be representative in two ways, through both passive and active representation (Ricucci & Ryzin, 2017). Just as Kingsley (1944) posited, passive representation is defined as having a workforce or a sector of the workforce simply match the demographics of the population being served. Active representation, on the other hand, suggests that equal representation will create a need to push for the interests of each demographic (Ricucci & Ryzin, 2017). The philosophy behind this is that once passive representation is achieved, the bureaucracy will gain the ability to actively work to serve the interests of those who share the same experiences as themselves. It is this common socialization that shapes policy (Bradbury & Kellough, 2011). Sowa and Selden (2003) further describe this theory as the driver that provides a stronger connection with government. They refer to this "sociological representation" as the mechanism in which passive representation converts to active representation.

The added scrutiny of veterans' preference in the context of representative bureaucracy has been investigated somewhat throughout the 1980's, 1990's and the 2000's, however this area of investigation has ramped up especially over the last ten years. Gade and Wilkins (2013) examined veteran behavior in the context of how passive representation creates a veteran identity within public organizations. Their examination determined if veterans' perceptions are more positive after being assisted by a fellow veteran. This is important especially for organizations whose charge is to serve veterans after their years of service, such as the Department of Veterans' Affairs. The authors investigate the attitudes of clients of the Department of Veterans' Affairs by using data from the Veterans Employability Research Survey. What they find is that when these veterans have a veteran counselor, they are 5.6% and 7% more likely to report a positive outcome in the sense they believe the counselors serve their best interest directly from their experience. In the case of this publication, the theories behind identity positively correlate passive representation to active representation.

Similarly contributing to the literature regarding veterans' status as a distinct demographic, Vanderschuere and Birdsall (2019) examined the effects of Executive Order 13518, which established the Veterans Employment Initiative in 2009. Since its inception, the purpose of this initiative has been to assist veterans with finding employment with the federal government upon reentry to civilian life. The authors explain that within the first seven years of this initiative the number of veterans that entered the federal workforce grew 5% according to the data examined from the Federal Employee Viewpoint Survey. More importantly, the issue they found alongside this trend was that the survey identified that many of the veterans getting hired expressed a higher turnover intention when compared to non-veterans. As much of the research in Public Administration has examined the employment characteristics of race and

gender, the authors address the need for examination regarding “veterans’ status” as the foundation of identity and how this identity translates into job satisfaction as a distinct demographic.

By investigating veterans’ preference as a standalone demographic combined with the effects of job satisfaction among veterans working in the Federal government, Vanderschuere and Birdsall (2019) conclude that veteran identity is directly linked to social identity theory. In this case they determine that veterans develop a set of beliefs from their personal experience in the military similar to how other forms of demographic characteristics progress. The experience related to the “us and them mentality” when comparing veterans versus non-veterans fuels the distinctiveness of labeling veterans as a specific demographic (Vanderschuere & Birdsall, 2019; Brunetto & Farr-Wharton, 2002; Gade & Wilkins, 2013).

### **Public-Private Wage Gaps**

The study of public-private wage gaps refers to the examination comparing which employment sector experiences less pay discrimination and thus a surplus of underrepresented groups (Bergmann, 1971). Much of the research in the field of public sector employment equity provides insight into either representation or wage discrepancies. This material is typically examined in other academic disciplines such as sociology, business, and labor economics, none of which have necessarily considered the competitiveness of wages of the public service compared to private sector (Llorens, 2008). However, this research in the field of Public Administration addresses compensation as a factor for public sector organizations to ensure that the public sector can compete with the private sector for talented employees (Llorens, 2008; Reilly, 2013).

Llorens (2008) looked to fill this gap in the literature by examining the competitiveness of salaries in the public service within state-level government personnel systems. His research first investigated whether wages in the public sector were competitive in comparison to wages in the private sector. He then went further and investigated the determinants of this competitiveness. What he found was that estimates of public-private wage gaps are shown to run opposite of what is typically estimated. He determined there were several individual states that paid below the private sector, as predicted. However, when controlling for human capital characteristics such as age, full time status, education, occupation, industry, and marital status, he found that many states paid a wage premium instead. Moreover, he illustrated that when estimated separately by gender the wage premium disappears for men working in state-level personnel systems.

Concurrently, Llorens, Wenger, and Kellough's (2008) research also examined the effects of wage discrepancies for women and minorities between both sectors to identify if bureaucratic representation rates illustrate a penalty or premium. They do this by first evaluating representation rates across all fifty state civil service systems by using CPS data over a fifteen-year period, from 1987 to 2002. By controlling for several explanatory variables, they examine the effect of both representation rates as well as race and sex-based wage differentials compared to the private sector. The authors estimated that when wage discrepancies are higher in the private sector compared to the public sector that women, African Americans, and Latinos would be overrepresented in the public sector. Again, similar to Llorens's (2008) study the authors use ordinary least squares (OLS) regression with the same human capital characteristics interrelating through each sector, gender, and race. What Llorens, Wenger, and Kellough (2008) find is that while women are generally overrepresented, African American representation varies wildly from



state to state, and Latinos are typically underrepresented in state-level personnel systems. The amount of representation for women, African Americans, and Latinos, corresponding with Llorens's (2008) study, the authors find that public-private wage differentials positively correlate. This evidence illustrates that public sector serves as the model employer in terms of pay equity compared to the private sector.

Bishu & Alkadry (2017) conducted a meta-analysis of past examinations aggregating the effects of pay inequities of women in the overall workforce among 98 peer reviewed journals. They discover among each of these articles that the gender pay gap is consistent in all sectors, however the inequities in the public sector are more subtle than the private sector. More importantly, the authors realize that while occupational segregation explains part of the pay gap, women who are able to work in male-dominated occupations still experience a wage penalty (Bishu & Alkadry, 2017). The authors found three recurring themes throughout their scrutiny of gender pay gaps. The first theme they identify is the disparity of access to workplace authority, the second is disparity in access to hiring and promotion, and the third is gender representation. Their study comes to the same conclusion as Llorens (2008) and Llorens, Wenger, and Kellough's (2008) studies that the public sector performs better at closing the gender pay gap and setting the example for all sectors for employment equity.

Llorens and Stazyk (2011) examine public-private wage gaps to determine public sector employee turnover. Considering that competitive wages are important in recruiting and retaining talented employees, the authors look to determine if competitive wages correlate to employee turnover (Llorens, 2008; Lee & Whitford, 2008; Selden & Moynihan, 2000). After illustrating voluntary separation rates and wage differentials by state, the authors run an ordinary least squares (OLS) regression analysis on the cross-sectional data set. What they find is that there is

no statistically significant relationship, which means that wage rates and pay satisfaction are not a determinate of turnover intention.

Llorens and Stazyk (2011) demonstrate several competing hypotheses to further explain this result. They first illustrate that prior research has shown that public-private wage equity has shown more statistically significant results on the basis of gender and ethnicity (Bergmann, 1971; Llorens, 2008; Llorens, Wenger, & Kellough, 2008). Again, Bergmann (1971) demonstrated that wage discrimination in the private sector essentially “pushes” women and minorities into the public sector. Therefore, even though the authors verified that public-private wage equity is not an indicator of employee turnover, if these data were disaggregated by gender and race, they would theoretically show different results. Additionally, the authors consider that public employees are willing to work for less income and instead tradeoff for better nonwage benefits such as paid leave, health insurance, and better retirement pensions.

Correspondingly, Reilly (2013) explores public-private wage comparisons by creating a model to measure the cost of lifetime compensation between the two sectors. Reilly’s (2013) analysis compares three types of workers within two occupation classifications. The three types of workers are: 1. a private sector employee with a traditional 401(k) retirement package, 2. a public sector employee who has a defined benefit (DB) plan with social security income, and 3. a public sector worker with no social security income. The two occupation classifications used are: 1. Administrative Assistants since they are considered blue-collar employees, and 2. Engineers since they are considered white-collared employees. The author examines both active employment as well as postretirement years for all three types of workers between both occupation classifications.

Reilly's (2013) model examined which sector provides more wealth at the end of their careers. What he found was that for both occupation scenarios, the public sector employees received higher earnings after postretirement payments and employee contributions are taken into account. This was significantly true when years of service are also considered. In terms of preretirement compensation for both occupation scenarios for both sectors, he determined that the two sectors are fairly equivalent until retirement benefits are added. The reason for the differences in total earned wages over a lifetime are found in the benefit packages offered in the public service. Reilly found that both with and without social security benefits public employees are able to retire an average of five years earlier than their private sector counterparts, along with the more generous retirement payouts (Reilly, 2013; Clowes, 2004).

Vick and Fontanella's (2016) social science examination of recently discharged Iraq and Afghanistan veterans' reintegration into the general workforce contributes to the overall sociological literature regarding veterans' preference. Their work focuses on the distribution of wages among veterans versus non-veterans, while also comparing veterans to other veterans. This study is unique in that it uses utilizes decomposition methods to examine the veteran wage gap. They explain that while most studies focus on average differences, their study looks for descriptive analysis in order to identify wage penalties or premiums at the tails to alleviate any unidentified details by only calculating the average difference. The data used comes from the five-year Public Use Microdata Sample (PUMS) from 2009 to 2013. PUMS data is a subset of the American Community Survey (ACS) conducted by the US Census Bureau. The reasoning for the use of these data over the years selected is to provide an income comparison for veterans that recently returned at the time of this publication.

What the authors find is that when comparing veterans and non-veterans, they earn a similar wage when calculating the mean, however they also discover substantial gaps when factoring several variables. When figuring for race and gender they determined that female and black veterans receive a wage premium when compared to their non-veteran counterparts. This applies at all points in the wage distribution curve. They determined that male veterans experience a wage penalty compared to non-veteran males, especially at the top of the wage distribution curve. The authors determine that these results are the result of female and black veterans getting hired in higher-paying positions in the overall workforce at higher rates than the non-veterans in the same demographic.

### **Explanatory Factors**

Four explanatory variables are used to offer support in determining outside factors that can potentially forecast the effects of veterans' preference in civil service compared to private sector. The independent variables examined for use in the fixed effects models in this investigation are gross state product (GSP), per capita income, unemployment, and union membership. Each of these variables are used as indicators to describe the economic climate and hiring trends over time. Individually, these variables have been included as indicators in other investigations linking them to public sector representation and compensation research (Llorens, 2008). As the economic climate and labor market continues to fluctuate, the flow of employees from sector to sector will follow suit. The use of each of these variables are used to gauge if there is a link between the economic success and overall hiring trends among veteran hiring in the U.S. workforce. Accordingly, as women and minorities have typically been more inclined to work in public sector for lesser discriminatory pay and benefits, especially during economic downturns,

the expectation is that these control variables will illustrate a direct relationship (Llorens & Stazyk, 2011; Llorens et al, 2008).

The two most common measures of economic success among each individual state are gross state product (GSP) and per capita income. Each measure the economic health of the overall population both in terms of industry and individual income. As public service salaries are funded through taxation, a strong GSP and per capita income indicates a better capability to pay more competitive salaries though better fiscal capacity (Llorens, 2008; Kearney, 2003).

Essentially, when economies are strong, public officials are better able to expand budgets and employment opportunities. The Bureau of Economic Analysis (BEA) calculates GSP by measuring a state's output and evaluates the value added from production by labor and capital. This "value added" is the total value of sales, operating income, commodity taxes, and inventory change, minus the consumption of goods and services are how GSP is assessed (BEA, 2017).

The BEA evaluates per capita income by dividing the total income of the residents of a specific state, and divides that by the amount of the population. Again, as an economic indicator, the larger the per capita income for each state the greater the financial capacity each state has. In the case of this examination, the strength of a state's fiscal capacity can potentially explain the degree to which public personnel systems are viable enough to compete for candidates from all different backgrounds.

The unemployment rate is an indicator of both a state's economy as well as tells the story regarding the employment climate. Of course, during periods of high unemployment there is an excess of available candidates for jobs in all sectors. When this happens, wages decrease as the competition among candidates increases across the entire job market. However, as jobs in public service are typically assumed to have more security during tough economic times, the public

sector becomes a more attractive option within the overall labor market when considering the decline in the market value of jobs across the board during tough economic times (Llorens, 2008). This factor creates the inverse relationship between the unemployment rate and employment equity in public service. Unemployment levels, as an indicator of the job market over time, can help determine the influence the job market has on public service employment representation and wages.

The analysis of union membership as an independent variable observes a measure of employment climate over time. The purpose of this measure is to illustrate the influence unions have in terms of personnel decisions. Llorens (2008) found that unionization is found to have the strongest impact on wages considering that the unions themselves look to ensure that wages are equitable. Also, he found that unions advocate heavily for competitive wage rates in terms of the overall market, which essentially influences public-private wage gaps. However, in terms of representation, unionized labor has shown both positive (Llorens, 2008; Belman et al, 1997; Kearney, 2003) and negative impacts (Llorens, 2007; Saltzstein, 1986; Mladenka, 1991), while others have found no impact at all. Essentially elected officials, appointed officials, and public sector unions all play a role in determining compensation, which can yield different results (Llorens, 2008).

## CHAPTER III

### RESEARCH METHODOLOGY

This chapter presents the data and methods of analysis used for this study. The purpose of this chapter is to describe each of the variables incorporated in the research and explain the operationalization of each hypotheses. The theoretical background of this dissertation is based upon a portion of Llorens' (2007) model which examines representation and public-private wage gaps for women and minorities in state-level government. Building upon this research, this study incorporates the theoretical background of veterans' preference hiring analysis through the work of Lewis (2013), Lewis and Pathak (2014), and Johnson (2015). As discussed in Chapter 1, examination of employment equity is typically measured by evaluating the composition and compensation of employees in public service. This work investigates the influence veterans' preference policies have on public-private representation and wage differences.

#### **PUMS Data**

The data used in this study come from the American Community Survey (ACS) 1-year PUMS files from 2005 until 2018. These data are a subset of the ACS conducted by the U.S. Census Bureau. The reason these data are used is because they provide a much larger sample size for greater statistical reliability, especially when examining income comparisons (Lewis, 2018; Vick & Fontanella, 2016). In this investigation the individual variables being examined from the PUMS data include sex, race, veterans' status, wages, and sector of employment, while also keeping other variables constant such as age, educational attainment, marital status, and

occupation. Each of the variables in the PUMS files have been coded in the data dictionary provided by the ACS for each respective year within the study. To look at each variable individually used within this study, these codes have been compiled into a list by category located in Appendix C. Beginning with veterans' status, this variable has been coded based on time periods served during each of the major wars or conflicts. Since this study examines veterans versus non-veterans, each of the veteran categories were compiled to represent all veterans to be compared to those who did not report any veteran status. Next, race (RAC1P) was chosen out of each of the race subclasses due to the limited number of response choices. Accordingly, since this examination is a study between whites compared to all other races, these data were divided into white and all other races combined. Class of worker identifies the sector of each respondent. This work is a comparison between the overall public sector compared to the private sector, therefore local, state, and federal government have been placed into one category while private for-profit, private non-profit, and all self-employed individuals represent the private sector category for comparison.

### **Fixed Effects Variable Data**

As discussed in Chapters 1 and 2, in order to further analyze the impact veterans' preference has on public-private representation and public-private wage gaps, four additional fixed effects variables are investigated. These four additional control variables are gross state product (GSP), per capita income, unemployment, and public sector union membership. The objective of testing these outside variables is to determine if they illustrate the ability to be predictors of external factors that impact employment equity for veterans in the public sector compared to the private sector. Again, the reason these variables are selected is because each of



these predictors are economic and job market indicators that can fundamentally influence the job security and compensation of public service employees.

### **Gross State Product and Per Capita Income**

The U.S. Bureau of Economic Analysis (BEA) provides data for both GSP and per capita income on an annual basis. They define GSP as “the market value of goods and services produced by the labor and property located in a state. GDP by state is the state counterpart of the Nation's GDP, the Bureau's featured and most comprehensive measure of U.S. economic activity” (BEA, 2018). Per capita income is defined as “the total personal income of the residents of a state divided by the population of the state. In computing per capita personal income, the BEA uses mid-quarter population estimates based on unpublished Census Bureau data.” (BEA, 2018). Ideally, the more economically successful a state becomes, the greater the amount of tax revenue could be gained, therefore yielding more funding for state-level public service jobs. Brewer and Selden (2003) find that researchers commonly believe that a strong economy facilitates better employment success for many demographics in the public sector. They found that GSP played a significant role in determining the presence of African Americans and Hispanics in state government, meaning that states that experience better financial stability are more likely to employ these two minority groups (Brewer & Selden, 2003). These variables are estimated to determine if there is a relationship between increases in GSP and per capita income and the increase in the hiring of veterans in civil service.

### **Unemployment Rate**

The unemployment rate within each individual state is certainly another measure of economic success. Above, the GSP and per capita income variables measure the relationship

between economic prosperity and employment opportunity. However, the unemployment rate in this case illustrates a different perspective regarding the strength of the labor market within each state. Instead of measuring economic success in terms of dollars sustained year to year, the unemployment rate serves as a focus of overall employment ratios. Unemployment data comes directly from the U.S. Bureau of Labor Statistics and is defined as “people who are jobless, actively seeking work, and available to take a job. The official unemployment rate for the nation is the number of unemployed as a percentage of the labor force (the sum of the employed and unemployed)” (BLS, 2014). One of the benefits to working in public service has been the job security during periods of high unemployment, especially as it pertains to historically underrepresented groups (Llorens, 2007). This variable is evaluated to determine if there is a connection between the unemployment rate and the increase in the hiring of veterans in civil service. Again, Brewer and Selden (2003) illustrate that a strong economy facilitates better employment success for many demographics in the public sector and plays a significant role in explaining a stronger presence of women in government service.

### **Union Membership**

Prior examination has determined that public employee unions, at all levels of government, maintain a negative effect on women and minority employment opportunities in public service (Cornwell and Kellough, 1994). In order to estimate the percentage of public service employees who are members of a union, PUMS data is used to determine if this assumption is validated. Public sector unions typically support the traditional requirements to hiring and promotion, which generally acts as a barrier for historically underrepresented groups (Piven, 1969; Saltzstein, 1986; Mladenka, 1991; Cornwell & Kellough, 1994). These barriers are most likely a result from a lack of opportunities extended over time for both women and

minorities. Brewer and Selden (2003) found that studies regarding unionization have seen mixed results and can essentially work both ways. However, several these mixed results have been found to be significant, therefore the authors concluded that union strength is necessary to include in their model. This variable is evaluated to determine if there is a connection between the union membership and the increase in the hiring of veterans in civil service.

### **Model and Operationalization of Hypotheses**

Figure 1 below illustrates the relationship between veteran public-private representation, public-private wage gaps, and the fixed effects variables that estimate the outside influences between the composition and compensation of veterans working in government service compared to the private sector. The first assessment calculates the representation rates for veteran women and minority groups working in all levels of government service compared to the private sector. Next, each of the four fixed effects models are tested to better explain potential influences on each of these ratios. The next assessment calculates the public-private wage ratios to compare wages rates and earnings differences for veterans working in the public sector in comparison with the private sector. Again, to test for possible reasons for each of the explanatory factor correlations, each of the four variables are examined to explain the effects on each of the ratios.

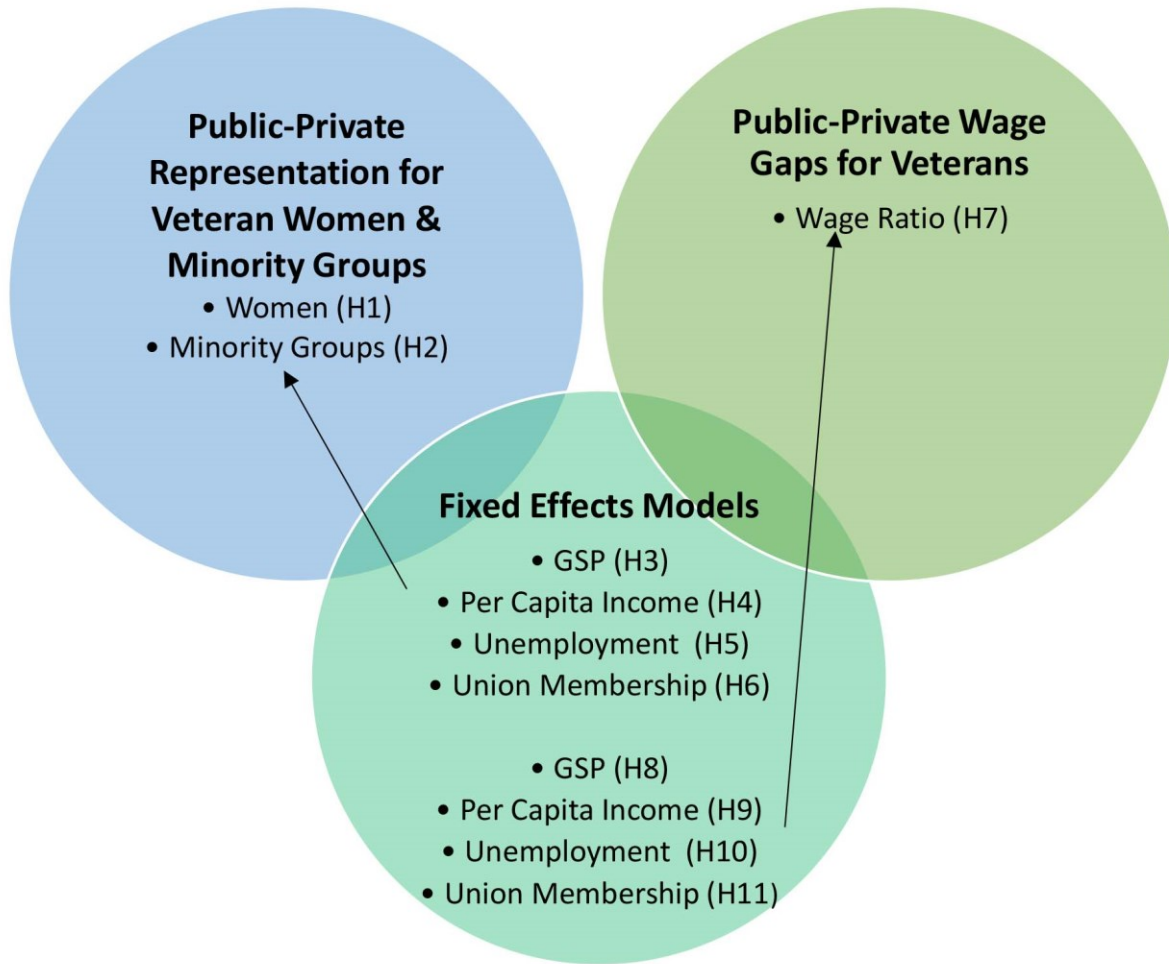


Figure 1 Research Model and Hypotheses

Figure 1 describes the relationship between each indicator of equity and the fixed effects models.

### **Hypotheses 1 and 2: Public-Private Representation for Women and Minority Groups**

*Hypothesis 1:* Veterans' preference will negatively impact the public-private representation ratio of veteran women in public sector employment compared to the private sector by increasing the overall number of veteran men hired.

*Hypothesis 2:* Veterans' preference will negatively impact the public-private representation ratio of veteran minority groups in public sector employment compared to the private sector by increasing the overall number of veteran whites hired.

Hypotheses 1 and 2 seek to answer the first research question "How does veterans' preference affect overall public-private representation for veteran women and minority groups?" The overall purpose of this research question is to understand if the public sector is adhering to the same set of diversity guidelines that are set for the private sector. Representative bureaucracy suggests that a representative public workforce produces equal policy outcomes (Sowa & Selden, 2003). Theoretically, veterans' preference employment policies will likely benefit veteran white men in the public sector considering most members of the military make up this demographic. This model posits that veterans' preference will weaken the representation ratios for veteran women and veteran minority groups in the public sector compared to the private sector. The above hypotheses are important in answering the research question as they account for the difference in the demographics in the veteran workforce compared to the overall workforce. Bureaucratic representation is examined through descriptive statistics by weighting a specific group against a segment of the labor force (Llorens et al, 2008; Grabosky & Rosenbloom, 1975; Cayer & Sigelman, 1980; Dometrius, 1984; Kellough, 1990; Sigelman, 1976). As discussed above, PUMS data is used to identify this ratio for veteran women and minority groups working in government service compared to the private sector. Each of these ratios are calculated by dividing each veteran demographic by the overall working population, state by state, from 2005 through 2018. Below is the representation ratio formula:

$$\begin{aligned} & \text{Representation Ratio} \\ & = \frac{\text{Percentage of Government Positions Held by Veteran Women or Minorities}}{\text{Percentage of Private Sector Positions Held by Veteran Women or Minorities}} \end{aligned} \quad (1)$$

When the ratio is equal to 1, this signals that the demographic has achieved equal representation of government employment compared to the private sector. If this ratio is greater or less than 1, this identifies that the ratio is undergoing an overrepresentation or underrepresentation of that specific demographics' veteran public-private representation.

### **Hypotheses 3-6: Public-Private Fixed Effects Variables**

*Hypothesis 3:* Gross State Product (GSP) will be positively correlated with the increase in employment ratios for veteran women and minority group representation in the public sector compared to the private sector.

*Hypothesis 4:* Per Capita Income will be positively correlated with the increase in employment ratios for veteran woman and minority group representation in the public sector compared to the private sector.

*Hypothesis 5:* Unemployment rate will be positively correlated with the increase in employment ratios for veteran woman and minority group representation in the public sector compared to the private sector.

*Hypothesis 6:* Union Membership will be negatively correlated with the increase in employment ratios for veteran woman and minority group representation in the public sector compared to the private sector.

Hypotheses 3 through 6 answer the second research question “What is the impact of gross state product (GSP), per capita income, unemployment, and union membership on public-private

representation for veteran women and minority group representation?” The primary reason this research question is important is that it calls for a review of each of the explanatory factors that calculate the external influences that affect each of the public-private representation ratios. The hypotheses used to answer this research question account for both market-based factors and employment-based factors. These factors have shown to play a major role in the association of overall representation and wage variances between sectors. The model illustrates that a stronger economy leads to better representation due to the increase in opportunity. Additionally, a better job market or assurance of higher wages in one sector over another will also lead to better representation. With the purpose of operationalizing each hypothesis above, the individual data for each explanatory variable will be put into fixed effect models in order to examine how deviations for representation show a relationship to each of the additional control variables. These fixed effects estimations show relationship among each dependent variable. The chief advantage of fixed effects estimation is that the influence of time invariant unobserved measures is eliminated from the models. Year dummy variables are also included to control for time-specific effects that impact all states equally. To correct for heteroscedasticity, all results reported are based on robust estimation of standard errors using the Huber/White sandwich estimator, clustered by state (Llorens, 2007).

### **Hypothesis 7: Public-Private Wage Gaps:**

*Hypothesis 7:* Veterans’ preference will positively influence the public-private wage premiums for veterans working in the public sector compared to the private sector.

Hypothesis 7 answers the third research question “How does veterans’ preference affect public-private wage gaps among all veterans?” The importance of this research question is that it

investigates whether veteran hiring illustrates higher wage premiums for veterans working in the public sector compared to the private sector. As the public sector has been known to hire a higher percentage of veterans upon entering the civilian workforce, the hypothesis used to answer this question investigates if veterans are compensated at a higher rate as well. Again, PUMS data allows for a comparison of wage rates between veterans working in the public sector compared to the private sector. Holding standard human capital and employment characteristics such as age and education constant, the use of ordinary least squares (OLS) log wage regressions illustrates the effects of public-private wage gaps (Heywood, 1989; Llorens et al, 2008). In this study the use of OLS regressions by veterans' status, sector, by state, for each of the years being investigated illustrates the pay differential between veterans working in government compared to the private sector.

Using the model below, log wage equations first begin by constructing models for each state, for each year. Again, the dummy variables, "D", identifies each of the groups being examined with each categorization of veterans' status and sector of employment. Each of the human capital controls, "H", indicates each of the variables held constant with each formula. Both "i" and "t" denotes each state and year being investigated, respectively (Llorens, Wenger, and Kellough, 2008).

$$\ln(wage_{i,t}) = \alpha_{i,t} + \beta D_{i,t} + \gamma H_{i,t} + \varepsilon_{i,t} \quad (2)$$

*D = dummy variables for veteran status*

*H = vector of human capital controls (age, age squared, full-time status, education, occupation, industry, marital status)*



$i = state$

$t = year$

### **Hypotheses 8-11: Public-Private Wage Gaps Fixed Effects Variables**

*Hypothesis 8:* Gross State Product (GSP) will be positively correlated with the increase in wage premiums for veterans employed in the public sector compared to the private sector.

*Hypothesis 9:* Per Capita Income will be positively correlated with the increase in wage premiums for veterans employed in the public sector compared to the private sector.

*Hypothesis 10:* Unemployment rate will be positively correlated with the increase in wage premiums for veterans employed in the public sector compared to the private sector.

*Hypothesis 11:* Union Membership will be positively correlated with the increase in wage premiums for veterans employed in the public sector compared to the private sector.

Hypotheses 8 through 11 answer the fourth research question “What is the impact of gross state product (GSP), per capita income, unemployment, and union membership on public-private wage gaps for veterans working in public sector compared to the private sector?” This research question is important because it also reviews of each of the explanatory factors that analyze the outside effects related to public-private representation wage differentials. Once more, both market-based factors and employment-based factors are used for hypotheses to answer the research question as they have been shown to be associated with wage variances between

employment sectors. The model illustrates that a stronger economy leads to better wage premiums due to the increase in opportunity in the public sector. Additionally, a better job market or assurance of higher wages also lead to better wage premiums. Again, demonstrating the operational variables of each hypothesis above, gross state product (GSP), per capita income, unemployment rate, and union membership will be put into fixed effect models in order to examine how deviations for public-private wage gaps show a relationship to each of the additional control variables. Same as above, these fixed effects estimations show relationship among each dependent variable. Year dummy variables are also included to control for time-specific effects that impact all states equally. To correct for heteroscedasticity, all results reported are based on robust estimation of standard errors using the Huber/White sandwich estimator, clustered by state (Llorens, 2007).

## CHAPTER IV

### RESULTS AND ANALYSIS

The previous chapters of this work have provided the theory and methodology for each working model of this study. This chapter will first illustrate the descriptive statistics related to the overall workforce both in terms of representation percentage and median wages. Next, this chapter demonstrates the results and statistical analysis of the hypotheses and ultimately the research questions. Again, this examination demonstrates how veteran employment has shaped public-private representation among veteran women and minority groups, overall veteran public-private wage gaps, and examines the explanatory factors that affect veteran representation and pay variances. As discussed above in Chapter 3, the primary data used in this study comes from the American Community Survey (ACS) 1-year PUMS files from 2005 through 2018. Since each of the explanatory factors are state based statistics, each of the summary statistics are broken down by state averages, standard deviations, and percentiles.

The data provided for the summary statistics, for each of the explanatory factors, can be found using the Bureau of Economic Analysis (BEA) for market-based analysis and the Bureau of Labor Statistics (BLS) for employment-based analysis. For the descriptive and summary statistics related to representation ratios and wage gaps PUMS data is used to identify each of these results. To better determine the statistical relationship between each of the variables, Pearson correlations identify the degree in which each factor correlates with another. Lastly,

each of the fixed effects models are shown to identify the statistical significance in which external factors influence veteran public-private representation and public-private wage gaps.

## Workforce Tables

### Overall Workforce Representation Percentages by Sector, Veteran Status, Sex, and Race

The purpose of Tables 1 through 6 are to provide an overview using descriptive statistics demonstrating representation within overall U.S. workforce. The information provided in the tables below illustrate the percentages and proportions among the full-time workforce broken down by sector, veteran status, sex, and race over the 14-year period being examined.

Table 1 Descriptive Statistics: Percentage of the Overall Workforce by Sector

Year	Private For Profit	Private Non-Profit	Gov. Local	Gov. State	Gov. Federal	Self-Emp. Unincorp.	Self-Emp. Incorp.	Without Pay
2005	66.1%	6.7%	7.2%	4.4%	4.3%	6.4%	4.6%	0.2%
2006	66.4%	6.7%	7.0%	4.5%	4.4%	6.3%	4.5%	0.2%
2007	66.3%	6.8%	7.1%	4.6%	4.4%	6.1%	4.6%	0.2%
2008	65.8%	7.3%	7.8%	4.8%	4.4%	5.5%	4.3%	0.1%
2009	64.7%	7.6%	8.1%	5.2%	4.6%	5.4%	4.3%	0.1%
2010	64.1%	7.8%	8.3%	5.3%	4.8%	5.3%	4.3%	0.1%
2011	64.0%	7.9%	8.1%	5.3%	4.9%	5.4%	4.2%	0.1%
2012	64.7%	7.9%	7.5%	5.5%	4.9%	5.2%	4.2%	0.1%
2013	65.5%	7.9%	7.4%	5.4%	4.7%	4.9%	4.0%	0.1%
2014	65.8%	7.9%	7.3%	5.3%	4.5%	5.0%	4.1%	0.1%
2015	66.2%	7.9%	7.1%	5.2%	4.4%	5.0%	4.1%	0.1%
2016	66.1%	7.9%	7.3%	5.1%	4.3%	4.9%	4.2%	0.1%
2017	66.4%	8.0%	7.1%	5.1%	4.3%	4.8%	4.2%	0.1%
2018	66.7%	7.9%	7.1%	5.0%	4.2%	4.8%	4.2%	0.2%

Table 1 shows the overall percentage of workers for all job sectors in the overall U.S. labor market. The purpose of this table is to describe the broad background of the labor market when discussing each employment sector throughout the results presented in this chapter. In the most recent year, 2018, the private, for-profit sector is comprised of 66.7% of all U.S. workers.

Though it is the largest sector in the workforce, the private, for profit sector has only increased by .6% since 2005. All government service sectors encompass a total of 16.3% with local government making up 7.1%, state government making up 5% and federal with 4.2% of the overall workforce. Similar to the private, for profit, sector, the public sector has only increased incrementally by only .4% over the same 14-year time period. The remaining 17.1% of the workforce, in 2018, is comprised of the private, non-profit sector, self-employed incorporated, self-employed unincorporated, and those who are employed but without pay working at a family business. The private, nonprofit sector has seen an increase of 1.2% over the time period, while the remaining sectors have experienced a loss over time. However, this sector seems to be trending negatively as well, as it included a slightly greater percentage in previous years.

Table 2 Descriptive Statistics: Percentage of Veterans by Sector

Year	Private For Profit	Private Non-Profit	Gov. Local	Gov. State	Gov. Federal	Self-Emp. Unincorp	Self-Emp. Incorp	Without Pay	Overall
2005	10.2%	7.2%	11.3%	11.9%	44.0%	12.8%	12.5%	9.2%	11.9%
2006	9.7%	7.3%	10.7%	11.3%	45.8%	11.9%	12.0%	9.6%	11.5%
2007	9.3%	6.6%	10.4%	10.4%	45.6%	11.4%	11.4%	9.7%	11.1%
2008	9.0%	6.4%	9.6%	9.7%	44.8%	10.7%	10.8%	7.2%	10.6%
2009	8.5%	6.0%	9.2%	9.3%	45.5%	10.2%	9.9%	6.5%	10.3%
2010	8.0%	5.8%	8.6%	8.9%	44.6%	9.5%	9.4%	6.9%	9.8%
2011	7.5%	5.5%	8.3%	8.4%	45.9%	8.9%	8.8%	6.3%	9.5%
2012	7.3%	5.3%	8.2%	8.1%	45.9%	8.5%	8.3%	6.3%	9.2%
2013	6.5%	4.9%	7.4%	7.0%	43.7%	7.3%	7.7%	7.3%	8.3%
2014	6.3%	4.4%	7.3%	6.9%	43.7%	7.1%	7.4%	8.0%	8.0%
2015	6.0%	4.3%	6.9%	6.7%	43.2%	6.5%	6.8%	6.2%	7.7%
2016	5.8%	4.1%	6.6%	6.4%	42.9%	6.3%	6.5%	4.3%	7.4%
2017	5.6%	3.9%	6.4%	6.0%	42.7%	5.9%	6.2%	5.1%	7.2%
2018	5.5%	3.8%	6.4%	5.9%	42.8%	5.8%	6.1%	5.5%	7.0%

Table 2 illustrates the percentages of veterans working within each employment sector for each year. The reason this table is presented is to give perception to where veterans are

typically employed within the civilian workforce. First, overall from 2005 until 2018 the veteran working population has shrunk by 4.9% and currently makes up 7% of the overall workforce down from 11.9% in 2005. This means over time as the size of the military has decreased, veteran hiring in the overall workforce has decreased as well. Additionally, this can also mean that more veterans are also opting to stay in the military longer or are unemployed after being discharged from service.

Upon exploring each of the sectors, the immediate figure that stands out is that the federal government consists of 42.8% of all veteran employment in the most recent year. This figure was as high as 45.9% over the time period being examined. When combined with the 6.4% of veterans that work in local government and 5.9% that work in state government, this totals to 55.1% of all veteran employment in 2018. Essentially, over half of all veterans work in government service at all levels, however the majority of those working in public service are employed in the federal sector. This is understandable considering many of the jobs within the federal sector are likely a closer match with many of the duties and responsibilities presented in the military. Moreover, since much of the direction and funding for the military is appropriated from the federal government this is also logical association. Also, since the percentage of veterans in the overall workforce has decreased, this has mostly affected percentages in both the private and self-employed sectors, as they have each decreased virtually in half. Similarly, in the public sector, state and local governments have also shrunk almost as significantly except for the federal sector. Again, this exemplifies that jobs with the Federal Government specifically are more tailored to much of the knowledge, skills, abilities, and experience learned in the military.

Table 3 Descriptive Statistics: Percentage of Men by Sector

Year	Private For Profit	Private Non-Profit	Gov. Local	Gov. State	Gov. Federal	Self-Emp. Unincorp	Self-Emp. Incorp	Without Pay	Overall
2005	62.3%	40.2%	50.9%	49.2%	64.0%	71.9%	78.9%	47.4%	60.8%
2006	62.2%	40.7%	50.9%	48.9%	65.5%	72.0%	78.3%	46.5%	60.8%
2007	62.0%	40.0%	50.8%	47.4%	65.3%	71.5%	78.1%	48.6%	60.5%
2008	61.6%	38.9%	47.5%	46.1%	64.2%	71.4%	77.7%	50.2%	59.4%
2009	61.0%	39.1%	47.5%	45.3%	64.5%	70.4%	77.3%	51.0%	58.8%
2010	60.8%	38.8%	47.3%	45.6%	64.2%	70.2%	77.0%	52.8%	58.5%
2011	61.1%	39.7%	47.5%	45.8%	65.1%	70.2%	77.0%	54.3%	58.8%
2012	61.3%	39.3%	48.9%	44.1%	65.3%	70.0%	76.7%	51.9%	59.0%
2013	61.4%	40.0%	48.6%	44.4%	65.1%	70.0%	76.8%	53.2%	59.1%
2014	61.5%	39.5%	49.0%	44.5%	64.7%	69.8%	76.2%	54.8%	59.1%
2015	61.5%	39.4%	48.3%	44.1%	64.2%	70.3%	75.8%	56.8%	59.0%
2016	61.3%	38.9%	48.2%	44.1%	64.6%	69.4%	75.7%	55.1%	58.8%
2017	61.1%	38.8%	48.2%	44.1%	65.0%	69.6%	75.4%	54.5%	58.7%
2018	61.0%	38.9%	48.8%	44.1%	64.4%	69.6%	74.6%	59.8%	58.7%

Table 4 Descriptive Statistics: Percentage of Women by Sector

Year	Private For Profit	Private Non-Profit	Gov. Local	Gov. State	Gov. Federal	Self-Emp. Unincorp	Self-Emp. Incorp	Without Pay	Overall
2005	37.7%	59.8%	49.1%	50.8%	36.0%	28.1%	21.1%	52.6%	39.2%
2006	37.8%	59.3%	49.1%	51.1%	34.5%	28.0%	21.7%	53.5%	39.2%
2007	38.0%	60.0%	49.2%	52.6%	34.7%	28.5%	21.9%	51.4%	39.5%
2008	38.4%	61.1%	52.5%	53.9%	35.8%	28.6%	22.3%	49.8%	40.6%
2009	39.0%	60.9%	52.5%	54.7%	35.5%	29.6%	22.7%	49.0%	41.2%
2010	39.2%	61.2%	52.7%	54.4%	35.8%	29.8%	23.0%	47.2%	41.5%
2011	38.9%	60.3%	52.5%	54.2%	34.9%	29.8%	23.0%	45.7%	41.2%
2012	38.7%	60.7%	51.1%	55.9%	34.7%	30.0%	23.3%	48.1%	41.0%
2013	38.6%	60.0%	51.4%	55.6%	34.9%	30.0%	23.2%	46.8%	40.9%
2014	38.5%	60.5%	51.0%	55.5%	35.3%	30.2%	23.8%	45.2%	40.9%
2015	38.5%	60.6%	51.7%	55.9%	35.8%	29.7%	24.2%	43.2%	41.0%
2016	38.7%	61.1%	51.8%	55.9%	35.4%	30.6%	24.3%	44.9%	41.2%
2017	38.9%	61.2%	51.8%	55.9%	35.0%	30.4%	24.6%	45.5%	41.3%
2018	39.0%	61.1%	51.2%	55.9%	35.6%	30.4%	25.4%	40.2%	41.3%

Tables 3 and 4 show the percentage breakdown for the overall full-time workforce by sector, by sex. From 2005 until 2018 the percentage of men and women working full time in the overall workforce has shifted in favor of women by 2.1%. Nevertheless, men still proportionately make up 58.7% of the overall workforce compared to women at 41.3% in 2018. The sectors women sustain the highest employment percentages are the non-profit sector, state government, and local government. Men maintain a higher percentage in the for-profit sector, the federal government, and both self-employed sectors. The biggest increase by sector for women over this time period takes place in state level government. During this period women gain 5.1% in state level government. Alternatively, the only sector that women have experienced a decrease is the federal sector, which again is comprised of a significant number of overall veterans.

Table 5 Descriptive Statistics: Percentage of Whites by Sector

Year	Private For Profit	Private Non-Profit	Gov. Local	Gov. State	Gov. Federal	Self-Emp. Unincorp	Self-Emp. Incorp	Without Pay	Overall
2005	80.9%	81.5%	79.7%	77.9%	74.8%	87.3%	89.1%	85.9%	81.2%
2006	79.9%	81.0%	78.6%	77.4%	73.6%	86.5%	88.7%	86.1%	80.3%
2007	79.7%	81.2%	78.8%	77.5%	74.0%	85.9%	88.4%	85.9%	80.2%
2008	80.2%	81.1%	79.6%	77.9%	73.0%	85.7%	88.3%	84.2%	80.4%
2009	80.0%	80.9%	79.7%	78.2%	73.2%	85.5%	87.7%	81.9%	80.3%
2010	79.7%	80.7%	79.7%	78.4%	73.0%	85.5%	87.2%	82.4%	80.0%
2011	79.6%	80.7%	79.3%	77.9%	73.0%	85.4%	87.5%	84.2%	79.9%
2012	79.4%	80.8%	79.1%	77.9%	72.5%	85.1%	87.0%	81.5%	79.7%
2013	79.3%	80.9%	79.3%	78.1%	72.4%	85.0%	87.2%	81.4%	79.6%
2014	78.8%	80.4%	79.0%	78.2%	72.2%	84.9%	86.7%	79.3%	79.2%
2015	78.6%	80.4%	78.5%	78.2%	71.9%	84.4%	86.8%	82.9%	79.0%
2016	78.1%	80.2%	78.3%	78.0%	71.7%	83.9%	86.1%	81.1%	78.6%
2017	77.8%	80.1%	78.3%	78.0%	71.8%	83.3%	85.8%	80.9%	78.4%
2018	78.0%	80.1%	78.6%	78.2%	71.8%	83.2%	85.7%	81.6%	78.5%



Table 6 Descriptive Statistics: Percentage of Minorities by Sector

Year	Private For Profit	Private Non-Profit	Gov. Local	Gov. State	Gov. Federal	Self-Emp. Unincorp	Self-Emp. Incorp	Without Pay	Overall
2005	19.1%	18.5%	20.3%	22.1%	25.2%	12.7%	10.9%	14.1%	18.8%
2006	20.1%	19.0%	21.4%	22.6%	26.4%	13.5%	11.3%	13.9%	19.7%
2007	20.3%	18.8%	21.2%	22.5%	26.0%	14.1%	11.6%	14.1%	19.8%
2008	19.8%	18.9%	20.4%	22.1%	27.0%	14.3%	11.7%	15.8%	19.6%
2009	20.0%	19.1%	20.3%	21.8%	26.8%	14.5%	12.3%	18.1%	19.7%
2010	20.3%	19.3%	20.3%	21.6%	27.0%	14.5%	12.8%	17.6%	20.0%
2011	20.4%	19.3%	20.7%	22.1%	27.0%	14.6%	12.5%	15.8%	20.1%
2012	20.6%	19.2%	20.9%	22.1%	27.5%	14.9%	13.0%	18.5%	20.3%
2013	20.7%	19.1%	20.7%	21.9%	27.6%	15.0%	12.8%	18.6%	20.4%
2014	21.2%	19.6%	21.0%	21.8%	27.8%	15.1%	13.3%	20.7%	20.8%
2015	21.4%	19.6%	21.5%	21.8%	28.1%	15.6%	13.2%	17.1%	21.0%
2016	21.9%	19.8%	21.7%	22.0%	28.3%	16.1%	13.9%	18.9%	21.4%
2017	22.2%	19.9%	21.7%	22.0%	28.2%	16.7%	14.2%	19.1%	21.6%
2018	22.0%	19.9%	21.4%	21.8%	28.2%	16.8%	14.3%	18.4%	21.5%

Tables 5 and 6 show the percentage breakdown for the overall full-time workforce by whites and minorities, by sector. From 2005 until 2018 the percentage of whites and minorities working full time in the overall workforce has shifted in favor of minorities by 2.7%. Still whites make up 78.5% of the overall workforce compared to minorities at 21.5% in the most recent year. In the federal sector, which has a significant veteran and male presence, minorities sustain the highest employment percentage compared to the other sectors. Though minorities have experienced small gains over time in both private sectors, both self-employed sectors, and local government, minorities have remained stagnant over time in state level government.

### **Veteran Workforce Representation Percentages by Sector, Sex, and Race**

The purpose of Tables 7 through 10 are to provide a brief overview using descriptive statistics regarding the representation percentages of the veteran U.S. workforce.

Table 7 Descriptive Statistics: Percentage of Veteran Men by Sector

Year	Private For Profit	Private Non-Profit	Gov. Local	Gov. State	Gov. Federal	Self-Emp. Unincorp	Self-Emp. Incorp	Without Pay	Overall
2005	94.6%	88.1%	92.4%	90.9%	87.0%	96.9%	97.7%	92.9%	93.1%
2006	94.4%	88.2%	92.1%	91.0%	87.4%	97.1%	97.4%	95.2%	92.9%
2007	94.3%	87.6%	92.1%	91.0%	87.3%	97.1%	97.6%	94.4%	92.8%
2008	94.0%	87.6%	91.5%	89.8%	86.6%	97.3%	97.6%	95.4%	92.4%
2009	94.0%	86.7%	91.2%	89.2%	86.0%	97.0%	97.1%	94.2%	91.9%
2010	93.6%	86.4%	91.5%	88.3%	85.4%	96.9%	97.2%	95.0%	91.4%
2011	93.8%	86.2%	91.0%	87.9%	86.1%	97.2%	97.5%	94.6%	91.5%
2012	93.5%	85.4%	91.3%	87.5%	85.9%	96.6%	97.1%	92.1%	91.2%
2013	93.0%	85.2%	90.8%	88.2%	85.4%	96.1%	97.1%	94.6%	90.7%
2014	92.5%	84.0%	90.5%	86.1%	85.1%	96.6%	96.5%	95.2%	90.2%
2015	92.5%	83.4%	88.6%	87.3%	84.6%	96.2%	96.0%	95.2%	90.0%
2016	92.0%	82.5%	89.8%	86.2%	85.1%	94.9%	96.2%	87.9%	89.7%
2017	91.5%	82.5%	88.2%	85.7%	84.7%	94.6%	96.3%	91.2%	89.2%
2018	91.7%	81.7%	89.3%	85.0%	84.3%	93.4%	94.8%	91.6%	89.2%

Table 8 Descriptive Statistics: Percentage of Veteran Women by Sector

Year	Private For Profit	Private Non-Profit	Gov. Local	Gov. State	Gov. Federal	Self-Emp. Unincorp	Self-Emp. Incorp	Without Pay	Overall
2005	5.4%	11.9%	7.6%	9.1%	13.0%	3.1%	2.3%	7.1%	6.9%
2006	5.6%	11.8%	7.9%	9.0%	12.6%	2.9%	2.6%	4.8%	7.1%
2007	5.7%	12.4%	7.9%	9.0%	12.7%	2.9%	2.4%	5.6%	7.2%
2008	6.0%	12.4%	8.5%	10.2%	13.4%	2.7%	2.4%	4.6%	7.6%
2009	6.0%	13.3%	8.8%	10.8%	14.0%	3.0%	2.9%	5.8%	8.1%
2010	6.4%	13.6%	8.5%	11.7%	14.6%	3.1%	2.8%	5.0%	8.6%
2011	6.2%	13.8%	9.0%	12.1%	13.9%	2.8%	2.5%	5.4%	8.5%
2012	6.5%	14.6%	8.7%	12.5%	14.1%	3.4%	2.9%	7.9%	8.8%
2013	7.0%	14.8%	9.2%	11.8%	14.6%	3.9%	2.9%	5.4%	9.3%
2014	7.5%	16.0%	9.5%	13.9%	14.9%	3.4%	3.5%	4.8%	9.8%
2015	7.5%	16.6%	11.4%	12.7%	15.4%	3.8%	4.0%	4.8%	10.0%
2016	8.0%	17.5%	10.2%	13.8%	14.9%	5.1%	3.8%	12.1%	10.3%
2017	8.5%	17.5%	11.8%	14.3%	15.3%	5.4%	3.7%	8.8%	10.8%
2018	8.3%	18.3%	10.7%	15.0%	15.7%	6.6%	5.2%	8.4%	10.8%

Tables 7 and 8 show the proportions of each sector by percentage for the full-time veteran workforce by sector, by sex. Similar to the overall workforce figures above which show that women have increased their presence in the overall workforce, over this time period the percentage of veteran men and women working full time in the overall workforce has also shown an increase of 3.9% in favor of women. Given this shift, men still make up 89.2% of the veteran full-time workforce compared to women at 10.8% in the most recent year. The sector that veteran women sustain the highest employment percentage, is the non-profit sector with 18.3%. This sector has grown by 6.4%, which is the most of any sector. The next highest two sectors for veteran women are federal and state government, which are 15.7% and 15%, respectively. In terms of growth, state government has shown the second highest with a gain of 5.9%. The remaining sectors all show a small gain between 1.3% up to 3.5%.

Table 9 Descriptive Statistics: Percentage of Veteran Whites by Sector

Year	Private For Profit	Private Non-Profit	Gov. Local	Gov. State	Gov. Federal	Self-Emp. Unincorp	Self-Emp. Incorp	Without Pay	Overall
2005	87.4%	84.2%	80.6%	80.7%	77.1%	92.8%	93.6%	92.1%	85.5%
2006	87.0%	84.5%	79.9%	80.6%	75.6%	92.5%	94.3%	93.9%	84.8%
2007	86.8%	83.8%	81.0%	80.8%	76.3%	92.0%	93.3%	91.7%	84.8%
2008	86.5%	85.0%	79.9%	80.6%	75.4%	91.7%	93.2%	89.7%	84.2%
2009	86.3%	83.4%	79.7%	79.7%	75.9%	92.0%	92.7%	82.6%	83.8%
2010	85.6%	83.0%	79.6%	80.2%	75.4%	91.6%	92.7%	91.7%	83.1%
2011	85.4%	83.4%	79.7%	80.2%	75.8%	92.0%	93.3%	95.9%	83.0%
2012	85.3%	82.6%	79.0%	79.4%	74.7%	90.8%	92.7%	88.2%	82.5%
2013	85.0%	82.2%	78.0%	78.7%	74.6%	90.1%	92.7%	89.1%	82.1%
2014	85.0%	83.0%	79.1%	79.0%	75.2%	91.4%	91.1%	90.5%	82.3%
2015	84.3%	81.8%	79.1%	79.7%	74.1%	89.6%	90.6%	86.9%	81.6%
2016	84.4%	82.4%	78.5%	79.7%	74.0%	89.5%	90.5%	84.5%	81.6%
2017	84.1%	81.2%	79.1%	80.4%	74.4%	88.2%	90.0%	88.2%	81.4%
2018	84.0%	80.6%	78.6%	79.6%	74.6%	87.5%	90.4%	86.3%	81.3%

Table 10 Descriptive Statistics: Percentage of Veteran Minorities by Sector

Year	Private For Profit	Private Non-Profit	Gov. Local	Gov. State	Gov. Federal	Self-Emp. Unincorp	Self-Emp. Incorp	Without Pay	Overall
2005	12.6%	15.8%	19.4%	19.3%	22.9%	7.2%	6.4%	7.9%	14.5%
2006	13.0%	15.5%	20.1%	19.4%	24.4%	7.5%	5.7%	6.1%	15.2%
2007	13.2%	16.2%	19.0%	19.2%	23.7%	8.0%	6.7%	8.3%	15.2%
2008	13.5%	15.0%	20.1%	19.4%	24.6%	8.3%	6.8%	10.3%	15.8%
2009	13.7%	16.6%	20.3%	20.3%	24.1%	8.0%	7.3%	17.4%	16.2%
2010	14.4%	17.0%	20.4%	19.8%	24.6%	8.4%	7.3%	8.3%	16.9%
2011	14.6%	16.6%	20.3%	19.8%	24.2%	8.0%	6.7%	4.1%	17.0%
2012	14.7%	17.4%	21.0%	20.6%	25.3%	9.2%	7.3%	11.8%	17.5%
2013	15.0%	17.8%	22.0%	21.3%	25.4%	9.9%	7.3%	10.9%	17.9%
2014	15.0%	17.0%	20.9%	21.0%	24.8%	8.6%	8.9%	9.5%	17.7%
2015	15.7%	18.2%	20.9%	20.3%	25.9%	10.4%	9.4%	13.1%	18.4%
2016	15.6%	17.6%	21.5%	20.3%	26.0%	10.5%	9.5%	15.5%	18.4%
2017	15.9%	18.8%	20.9%	19.6%	25.6%	11.8%	10.0%	11.8%	18.6%
2018	16.0%	19.4%	21.4%	20.4%	25.4%	12.5%	9.6%	13.7%	18.7%

Tables 9 and 10 show the percentage breakdown for the veteran full-time workforce by sector, by race. Parallel to the overall workforce figures by race above, which show that minorities have increased their presence in the overall workforce, from 2005 until 2018 the percentage of veteran minorities working full time in the overall workforce has also shown an increase of 4.2%, in the most recent year. Considering this shift, whites still make up 81.3% of the veteran full-time workforce compared to minorities at 18.7% in the most recent year. Again, like the overall race workforce figures above, the federal sector sustains the highest share of minority veterans which encompass 25.4% of veteran workers in that sector. The next two highest sectors comprising of veteran minorities are local government and state government with 21.4% and 20.4%, respectively. Essentially veteran minorities have seen the highest levels of composition in government service within all three levels.

However, in terms of an increase in representation, minority veterans have only grown by 2.5% in the federal sector, 1.1% in the state sector, and 1% in the local sector. In the private sector, both for profit and non-profit, as well as both self-employed sectors, minority representation has increased in larger percentages. Minority groups have increased representation by 3.4% in the for-profit sector, and 3.6% in the non-profit sector, while they have increased in the self-employed unincorporated sector by 5.3% and in the self-employed incorporated sector by 3.2%.

### Non-Veteran Workforce Representation Percentages by Sector, Sex, and Race

The purpose of Tables 11 through 14 are to provide a brief overview using descriptive statistics regarding the representation percentages of the non-veteran U.S. workforce.

Table 11 Descriptive Statistics: Percentage of Non-Veteran Men by Sector

Year	Private For Profit	Private Non-Profit	Gov. Local	Gov. State	Gov. Federal	Self-Emp. Unincorp	Self-Emp. Incorp	Without Pay	Overall
2005	58.7%	36.5%	45.6%	43.6%	45.9%	68.2%	76.2%	42.8%	56.5%
2006	58.7%	37.0%	46.0%	43.5%	47.1%	68.6%	75.7%	41.4%	56.6%
2007	58.7%	36.6%	46.0%	42.4%	47.0%	68.2%	75.6%	43.7%	56.5%
2008	58.3%	35.6%	42.9%	41.4%	46.1%	68.3%	75.3%	46.7%	55.5%
2009	57.9%	36.0%	43.2%	40.8%	46.6%	67.4%	75.1%	48.0%	55.0%
2010	58.0%	35.8%	43.1%	41.5%	47.2%	67.4%	74.9%	49.7%	55.0%
2011	58.4%	37.0%	43.6%	41.9%	47.3%	67.5%	75.0%	51.5%	55.4%
2012	58.8%	36.7%	45.1%	40.3%	47.9%	67.5%	74.9%	49.2%	55.7%
2013	59.2%	37.6%	45.2%	41.1%	49.4%	68.0%	75.1%	50.0%	56.2%
2014	59.4%	37.5%	45.7%	41.4%	48.9%	67.8%	74.6%	51.3%	56.4%
2015	59.5%	37.4%	45.3%	41.0%	48.7%	68.5%	74.3%	54.2%	56.5%
2016	59.4%	37.0%	45.2%	41.3%	49.2%	67.7%	74.2%	53.6%	56.3%
2017	59.3%	37.0%	45.5%	41.4%	50.4%	68.0%	74.0%	52.5%	56.3%
2018	59.2%	37.3%	46.0%	41.6%	49.5%	68.2%	73.3%	57.9%	56.4%

Table 12 Descriptive Statistics: Percentage of Non-Veteran Women by Sector

Year	Private For Profit	Private Non-Profit	Gov. Local	Gov. State	Gov. Federal	Self-Emp. Unincorp	Self-Emp. Incorp	Without Pay	Overall
2005	41.3%	63.5%	54.4%	56.4%	54.1%	31.8%	23.8%	57.2%	43.5%
2006	41.3%	63.0%	54.0%	56.5%	52.9%	31.4%	24.3%	58.6%	43.4%
2007	41.3%	63.4%	54.0%	57.6%	53.0%	31.8%	24.4%	56.3%	43.5%
2008	41.7%	64.4%	57.1%	58.6%	53.9%	31.7%	24.7%	53.3%	44.5%
2009	42.1%	64.0%	56.8%	59.2%	53.4%	32.6%	24.9%	52.0%	45.0%
2010	42.0%	64.2%	56.9%	58.5%	52.8%	32.6%	25.1%	50.3%	45.0%
2011	41.6%	63.0%	56.4%	58.1%	52.7%	32.5%	25.0%	48.5%	44.6%
2012	41.2%	63.3%	54.9%	59.7%	52.1%	32.5%	25.1%	50.8%	44.3%
2013	40.8%	62.4%	54.8%	58.9%	50.6%	32.0%	24.9%	50.0%	43.8%
2014	40.6%	62.5%	54.3%	58.6%	51.1%	32.2%	25.4%	48.7%	43.6%
2015	40.5%	62.6%	54.7%	59.0%	51.3%	31.5%	25.7%	45.8%	43.5%
2016	40.6%	63.0%	54.8%	58.7%	50.8%	32.3%	25.8%	46.4%	43.7%
2017	40.7%	63.0%	54.5%	58.6%	49.6%	32.0%	26.0%	47.5%	43.7%
2018	40.8%	62.7%	54.0%	58.4%	50.5%	31.8%	26.7%	42.1%	43.6%

Tables 11 and 12 show the percentage breakdown for the full-time non-veteran workforce by sector, by sex. Unsimilar to both the overall workforce figures, and the veteran workforce figures above, non-veterans remain stagnant overall in terms of their proportions of men and women within the workforce. Over the course of 2005 through 2018 women make up between 43.5% and 45% of non-veteran workers, while men encompass between 55% and 56.6% of all non-veteran workers. The sector that has experienced the most significant shift in proportion in non-veteran workers is the federal sector with a change of 3.6% in favor of men. This is likely because veteran women in the table above has shown an increase in proportion in this sector. The without pay (family business) sector also experienced a significant shift, however, remember that this sector makes up approximately .2% of the full-time working population.

Table 13 Descriptive Statistics: Percentage of White Non-Veterans by Sector

Year	Private For Profit	Private Non-Profit	Gov. Local	Gov. State	Gov. Federal	Self-Emp. Unincorp	Self-Emp. Incorp	Without Pay	Overall
2005	80.2%	81.3%	79.5%	77.5%	72.9%	86.5%	88.5%	85.3%	80.7%
2006	79.1%	80.7%	78.5%	77.0%	71.8%	85.6%	88.0%	85.3%	79.7%
2007	79.0%	81.0%	78.6%	77.1%	72.1%	85.2%	87.7%	85.3%	79.6%
2008	79.6%	80.9%	79.6%	77.6%	71.0%	85.0%	87.7%	83.8%	80.0%
2009	79.4%	80.8%	79.7%	78.1%	71.0%	84.7%	87.2%	81.9%	79.9%
2010	79.2%	80.6%	79.7%	78.2%	71.0%	84.9%	86.6%	81.7%	79.7%
2011	79.1%	80.6%	79.2%	77.7%	70.6%	84.7%	87.0%	83.4%	79.6%
2012	79.0%	80.7%	79.1%	77.8%	70.6%	84.5%	86.5%	81.0%	79.4%
2013	78.9%	80.8%	79.4%	78.1%	70.6%	84.6%	86.7%	80.8%	79.4%
2014	78.4%	80.3%	79.0%	78.2%	69.9%	84.5%	86.3%	78.4%	79.0%
2015	78.2%	80.3%	78.5%	78.1%	70.2%	84.1%	86.5%	82.6%	78.8%
2016	77.7%	80.1%	78.3%	77.9%	69.9%	83.6%	85.8%	81.0%	78.4%
2017	77.4%	80.0%	78.3%	77.8%	69.9%	83.0%	85.5%	80.5%	78.2%
2018	77.6%	80.1%	78.6%	78.1%	69.7%	83.0%	85.4%	81.3%	78.3%

Table 14 Descriptive Statistics: Percentage of Minority Non-Veterans by Sector

Year	Private For Profit	Private Non-Profit	Gov. Local	Gov. State	Gov. Federal	Self-Emp. Unincorp	Self-Emp. Incorp	Without Pay	Overall
2005	19.8%	18.7%	20.5%	22.5%	27.1%	13.5%	11.5%	14.7%	19.3%
2006	20.9%	19.3%	21.5%	23.0%	28.2%	14.4%	12.0%	14.7%	20.3%
2007	21.0%	19.0%	21.4%	22.9%	27.9%	14.8%	12.3%	14.7%	20.4%
2008	20.4%	19.1%	20.4%	22.4%	29.0%	15.0%	12.3%	16.2%	20.0%
2009	20.6%	19.2%	20.3%	21.9%	29.0%	15.3%	12.8%	18.1%	20.1%
2010	20.8%	19.4%	20.3%	21.8%	29.0%	15.1%	13.4%	18.3%	20.3%
2011	20.9%	19.4%	20.8%	22.3%	29.4%	15.3%	13.0%	16.6%	20.4%
2012	21.0%	19.3%	20.9%	22.2%	29.4%	15.5%	13.5%	19.0%	20.6%
2013	21.1%	19.2%	20.6%	21.9%	29.4%	15.4%	13.3%	19.2%	20.6%
2014	21.6%	19.7%	21.0%	21.8%	30.1%	15.5%	13.7%	21.6%	21.0%
2015	21.8%	19.7%	21.5%	21.9%	29.8%	15.9%	13.5%	17.4%	21.2%
2016	22.3%	19.9%	21.7%	22.1%	30.1%	16.4%	14.2%	19.0%	21.6%
2017	22.6%	20.0%	21.7%	22.2%	30.1%	17.0%	14.5%	19.5%	21.8%
2018	22.4%	19.9%	21.4%	21.9%	30.3%	17.0%	14.6%	18.7%	21.7%

Tables 13 and 14 show the percentage breakdown for the overall full-time non-veteran workforce by sector, by race. Comparable to the tables above, which show that overall minorities have increased their presence in the overall workforce, from 2005 until 2018 the percentage of non-veteran minorities working full time in the overall workforce has also shown a small increase of 2.36%, in the most recent year. Once more, considering this shift, whites still make up 78.3% of the non-veteran full-time workforce compared to minorities at 21.7% in the most recent year. Also comparable to the overall and veteran tables by race above, non-veteran minorities sustain the highest proportion in the federal sector compared to the other sectors by comprising of 30.3% within that sector. Non-veteran minorities have increased in the federal sector by 3.2% over this time period. Both the private for profit and non-profit sectors, and the local and state government sectors each illustrate a representation percentage proportionate to overall non-veteran minorities, which is between 19.9% and 22.4%. Lastly, both self-employed sectors, also have experienced small gains within the composition of each sector for minority veterans.

### **Overall Workforce Median Annual Wages by Sector, Sex, and Race**

The purpose of Tables 15 through 20 are to provide a brief overview using descriptive statistics related to median wages of the overall U.S. workforce. The information provided in the tables below illustrate the median annual wages among the full-time workforce broken down by sector, veteran status, sex, and race over the 14-year period being examined. The advantage of comparing wages based on median annual wages instead of mean annual wages is that the median calculations will eliminate the influence of the outliers. This gives a more practical sense of salaries in each sector.



Table 15 Descriptive Statistics: Median Annual Wages of the Overall Workforce by Sector

Year	Private For Profit	Private Non-Profit	Gov. Local	Gov. State	Gov. Federal	Self-Emp. Incorp.	Without Pay	Overall
2005	\$38,000	\$38,200	\$40,000	\$40,000	\$50,000	\$50,000	\$16,600	\$37,000
2006	\$39,000	\$40,000	\$40,000	\$40,000	\$50,000	\$50,000	\$17,300	\$38,000
2007	\$40,000	\$40,400	\$42,100	\$42,000	\$51,000	\$52,000	\$18,000	\$40,000
2008	\$40,000	\$42,000	\$45,000	\$44,000	\$52,000	\$50,000	\$20,000	\$40,000
2009	\$42,000	\$43,600	\$45,500	\$45,000	\$55,000	\$50,000	\$18,400	\$41,900
2010	\$41,900	\$44,800	\$47,000	\$45,200	\$55,000	\$50,000	\$15,000	\$42,000
2011	\$41,000	\$44,000	\$46,200	\$45,000	\$55,000	\$50,000	\$19,900	\$41,000
2012	\$42,200	\$45,000	\$48,000	\$46,000	\$56,000	\$50,000	\$16,600	\$42,000
2013	\$44,400	\$47,000	\$48,000	\$47,000	\$58,000	\$52,000	\$15,300	\$44,500
2014	\$45,000	\$48,000	\$49,000	\$48,000	\$59,000	\$53,000	\$16,000	\$45,000
2015	\$45,000	\$49,900	\$50,000	\$49,750	\$60,000	\$54,000	\$20,200	\$45,000
2016	\$47,000	\$50,000	\$50,000	\$50,000	\$60,000	\$56,000	\$20,000	\$47,000
2017	\$48,000	\$50,000	\$50,000	\$50,000	\$62,000	\$60,000	\$18,000	\$48,000
2018	\$50,000	\$52,000	\$52,000	\$52,000	\$64,000	\$60,000	\$28,500	\$50,000

Table 15 shows the median annual wages of the overall full-time workforce by employment sector in the overall U.S. labor market. The purpose of this table is to show a comparison of the general wages of the labor market by sector. Beginning with the highest median annual wage for full-time workers in the U.S. workforce, the federal government. Again, this sector only makes up about 4% to 5% of the overall workforce, however, remember approximately 43% of the federal sector is comprised of veterans. The second highest is the self-employed incorporated sector. This employment sector is approximately the same size as the federal sector, however, has far less the proportions of veterans with only about 6%. In terms of the self-employed, unincorporated, since many of these workers reported an annual salary of \$0, the median for this sector has been removed in all wage tables in this section. The largest sector by size, the for-profit sector, has the lowest median salary apart from the without pay, family business, sector. Again, the without pay sector makes up less than 1% of the overall labor force.

The non-profit, local government, and state government all have the same median pay. Overall, each sector saw an increase of a median annual salary of approximately \$13,000 over the period in the study.

Table 16 Descriptive Statistics: Median Annual Wages of the Veteran Workforce by Sector

Year	Private For Profit	Private Non-Profit	Gov. Local	Gov. State	Gov. Federal	Self-Emp. Incorp.	Without Pay	Overall
2005	\$45,000	\$42,000	\$44,000	\$43,000	\$48,000	\$50,000	\$11,850	\$43,000
2006	\$45,000	\$45,000	\$45,000	\$44,000	\$46,550	\$54,000	\$12,000	\$44,000
2007	\$48,000	\$45,000	\$46,200	\$47,000	\$48,900	\$58,000	\$10,200	\$45,000
2008	\$49,700	\$46,000	\$49,000	\$47,000	\$50,000	\$58,000	\$17,700	\$47,500
2009	\$50,000	\$49,500	\$50,000	\$49,000	\$50,000	\$55,000	\$20,000	\$49,300
2010	\$50,000	\$50,000	\$50,000	\$50,000	\$52,000	\$53,000	\$11,350	\$50,000
2011	\$50,000	\$49,000	\$50,000	\$48,000	\$50,000	\$52,000	\$15,400	\$48,000
2012	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$52,000	\$14,700	\$50,000
2013	\$51,000	\$50,000	\$50,000	\$49,800	\$50,000	\$60,000	\$14,350	\$50,000
2014	\$52,000	\$52,000	\$52,000	\$52,000	\$50,000	\$60,000	\$8,000	\$50,000
2015	\$53,000	\$52,000	\$53,000	\$52,000	\$51,000	\$60,000	\$25,000	\$50,000
2016	\$55,000	\$55,000	\$55,000	\$52,000	\$54,000	\$60,000	\$15,000	\$52,000
2017	\$55,000	\$56,000	\$55,000	\$55,000	\$55,000	\$60,000	\$19,200	\$54,000
2018	\$58,000	\$56,000	\$57,000	\$55,000	\$56,000	\$60,000	\$20,000	\$55,000

Table 16 shows the median annual wages of the full-time veteran workforce by employment sector in the overall U.S. labor market. The purpose of these tables is to compare the general wages of veterans in the labor market by sector. Though the difference between the highest paid sector and the sixth highest paid sector is only \$5,000, the highest median wage for veterans is the self-employed sector. It is worth mentioning that the federal government is not the highest median annual wage once the sample size reduced to just the veteran population. Overall, each sector saw an increase of a median annual salary of approximately \$12,000 over the period in the study, while the federal sector only saw an increase of \$8,000 in median pay, which is the smallest increase.

Table 17 Descriptive Statistics: Median Annual Wages of Men by Sector

Year	Private For Profit	Private Non-Profit	Gov. Local	Gov. State	Gov. Federal	Self-Emp. Incorp.	Without Pay	Overall
2005	\$42,000	\$43,000	\$45,000	\$45,000	\$51,000	\$52,000	\$19,400	\$40,000
2006	\$43,000	\$45,000	\$45,000	\$45,000	\$50,000	\$55,000	\$20,000	\$42,000
2007	\$45,000	\$47,000	\$47,000	\$48,000	\$53,000	\$60,000	\$20,000	\$44,000
2008	\$46,000	\$48,000	\$50,000	\$50,000	\$55,000	\$59,000	\$22,000	\$45,000
2009	\$48,000	\$50,000	\$50,000	\$50,000	\$56,000	\$56,000	\$20,000	\$46,700
2010	\$48,000	\$50,000	\$50,000	\$50,000	\$57,000	\$55,000	\$15,000	\$46,500
2011	\$47,000	\$50,000	\$50,000	\$50,000	\$55,000	\$55,000	\$20,000	\$45,000
2012	\$48,500	\$50,000	\$50,000	\$50,000	\$57,000	\$57,000	\$20,800	\$48,000
2013	\$50,000	\$52,000	\$51,000	\$50,000	\$60,000	\$60,000	\$18,000	\$49,000
2014	\$50,000	\$52,000	\$52,000	\$52,000	\$60,000	\$60,000	\$20,000	\$50,000
2015	\$50,000	\$53,000	\$54,000	\$54,000	\$60,000	\$60,000	\$23,100	\$50,000
2016	\$50,000	\$55,000	\$55,000	\$55,000	\$60,000	\$60,000	\$21,500	\$50,000
2017	\$52,000	\$57,000	\$55,000	\$55,000	\$63,000	\$60,000	\$20,000	\$50,000
2018	\$54,000	\$60,000	\$57,000	\$57,000	\$65,000	\$61,000	\$35,000	\$52,000

Table 18 Descriptive Statistics: Median Annual Wages of Women by Sector

Year	Private For Profit	Private Non-Profit	Gov. Local	Gov. State	Gov. Federal	Self-Emp. Incorp.	Without Pay	Overall
2005	\$31,000	\$35,000	\$37,000	\$35,000	\$46,000	\$36,000	\$14,350	\$32,000
2006	\$32,000	\$36,000	\$37,600	\$37,000	\$48,000	\$38,000	\$15,300	\$33,000
2007	\$33,000	\$38,000	\$40,000	\$38,500	\$50,000	\$40,000	\$15,000	\$35,000
2008	\$34,000	\$40,000	\$41,000	\$40,000	\$50,000	\$38,000	\$18,000	\$35,000
2009	\$35,000	\$40,000	\$42,000	\$41,000	\$52,000	\$40,000	\$16,000	\$37,000
2010	\$35,000	\$41,000	\$44,000	\$42,000	\$53,000	\$38,000	\$15,000	\$37,700
2011	\$35,000	\$40,500	\$43,000	\$42,000	\$54,000	\$39,000	\$15,600	\$37,400
2012	\$36,000	\$42,000	\$44,000	\$43,000	\$55,000	\$40,000	\$13,000	\$38,000
2013	\$37,500	\$43,700	\$45,000	\$44,000	\$56,000	\$40,000	\$14,200	\$40,000
2014	\$38,000	\$45,000	\$45,000	\$45,000	\$57,000	\$40,300	\$14,000	\$40,000
2015	\$39,400	\$45,000	\$46,000	\$45,000	\$60,000	\$43,000	\$20,000	\$40,000
2016	\$40,000	\$47,000	\$47,000	\$46,000	\$60,000	\$45,000	\$15,800	\$41,000
2017	\$40,000	\$50,000	\$48,000	\$48,000	\$60,000	\$48,000	\$15,000	\$42,100
2018	\$41,600	\$50,000	\$50,000	\$49,000	\$62,000	\$49,000	\$21,000	\$44,000

Tables 17 and 18 show the median annual wages of the full-time workforce for each employment sector, by sex. The purpose of these tables is to get a practical sense of wages of men and women in the labor market by sector. Beginning with overall differences in median wages by sector, men earn higher median wages in all sectors between \$7,000 up to \$14,000, except for with the federal government. The difference in median wages for men and women in the federal government is only \$3,000. Of course, as the sector with the highest overall median wages, for both men and women this is also the highest sector amongst each gender. This sector also experienced the largest gains over the 14-year period for women with a gain of \$16,000, while the largest gain for men came from the non-profit sector with a gain of \$17,000 over time.

Table 19 Descriptive Statistics: Median Annual Wages of Whites by Sector

Year	Private For Profit	Private Non-Profit	Gov. Local	Gov. State	Gov. Federal	Self-Emp. Incorp.	Without Pay	Overall
2005	\$40,000	\$40,000	\$40,300	\$40,000	\$51,000	\$50,000	\$16,000	\$39,000
2006	\$40,000	\$40,000	\$42,000	\$42,000	\$51,000	\$50,000	\$16,800	\$40,000
2007	\$41,600	\$42,000	\$43,600	\$44,000	\$54,000	\$53,000	\$17,000	\$40,000
2008	\$42,000	\$43,000	\$45,000	\$45,000	\$55,000	\$52,000	\$20,000	\$42,000
2009	\$44,000	\$45,000	\$46,800	\$46,000	\$56,000	\$52,000	\$19,000	\$43,000
2010	\$44,000	\$45,000	\$48,000	\$47,600	\$57,000	\$50,000	\$15,000	\$43,900
2011	\$44,000	\$45,000	\$48,000	\$47,000	\$56,000	\$50,000	\$18,650	\$43,000
2012	\$45,000	\$46,000	\$49,000	\$47,600	\$58,000	\$52,000	\$15,500	\$45,000
2013	\$45,500	\$48,000	\$49,600	\$48,000	\$60,000	\$55,000	\$15,300	\$45,000
2014	\$47,000	\$50,000	\$50,000	\$49,500	\$60,000	\$55,000	\$16,000	\$46,000
2015	\$48,000	\$50,000	\$50,000	\$50,000	\$61,000	\$56,000	\$20,800	\$48,000
2016	\$50,000	\$50,000	\$50,000	\$50,000	\$64,000	\$60,000	\$19,600	\$49,200
2017	\$50,000	\$52,000	\$51,000	\$52,000	\$65,000	\$60,000	\$18,000	\$50,000
2018	\$50,000	\$54,000	\$53,000	\$53,000	\$65,000	\$60,000	\$29,700	\$50,000

Table 20 Descriptive Statistics: Median Annual Wages of Minorities by Sector

Year	Private For Profit	Private Non-Profit	Gov. Local	Gov. State	Gov. Federal	Self-Emp. Incorp.	Without Pay	Overall
2005	\$30,000	\$32,000	\$37,000	\$35,000	\$45,000	\$40,000	\$18,000	\$31,200
2006	\$30,600	\$35,000	\$38,000	\$36,000	\$45,000	\$41,000	\$20,000	\$32,000
2007	\$32,000	\$36,000	\$40,000	\$38,000	\$48,000	\$45,000	\$20,000	\$34,000
2008	\$34,000	\$37,000	\$40,000	\$39,000	\$49,000	\$44,000	\$20,000	\$35,000
2009	\$35,000	\$38,900	\$42,000	\$40,000	\$50,000	\$42,000	\$17,950	\$36,000
2010	\$35,000	\$40,000	\$43,000	\$40,000	\$52,000	\$40,000	\$20,000	\$36,000
2011	\$35,000	\$39,000	\$42,000	\$40,000	\$50,000	\$40,000	\$20,000	\$35,400
2012	\$35,000	\$40,000	\$43,000	\$40,500	\$52,000	\$41,600	\$20,800	\$36,900
2013	\$36,000	\$40,000	\$44,000	\$41,900	\$53,000	\$43,500	\$15,650	\$38,000
2014	\$37,000	\$42,000	\$45,000	\$43,000	\$54,000	\$45,000	\$16,500	\$38,400
2015	\$38,000	\$43,000	\$45,000	\$44,000	\$55,000	\$45,000	\$20,000	\$40,000
2016	\$40,000	\$45,000	\$47,000	\$45,000	\$56,000	\$47,000	\$20,000	\$40,000
2017	\$40,000	\$47,000	\$48,000	\$47,500	\$58,000	\$50,000	\$18,850	\$40,000
2018	\$40,000	\$48,000	\$50,000	\$48,000	\$59,000	\$50,000	\$25,000	\$42,000

Tables 19 and 20 show the median annual wages of the full-time workforce for each employment sector, by race. Beginning with overall differences in mean wages by sector, whites earn higher median wages in all sectors as low as a modest \$3,000 in sectors such as local government, all the way as high as \$10,000, in sectors such as the private, for profit and self-employed. Of course, again, the sector with the highest overall median wages, for all races is the federal sector. This sector also tied for the largest gains with the non-profit sector over the 14-year period for whites with a gain of \$14,000 over time. The largest median gains for minority workers over the same timeframe are in the non-profit sector with a gain of \$16,000.

### **Veteran Workforce Median Annual Wages by Sector, Sex, and Race**

The information provided in the tables below illustrate the median annual wages among the veteran full-time workforce broken down by sector, veteran status, sex, and race over the 14-year period being examined, from 2005 through 2018.

Table 21 Descriptive Statistics: Median Annual Wages of Veteran Men by Sector

Year	Private For Profit	Private Non-Profit	Gov. Local	Gov. State	Gov. Federal	Self-Emp. Incorp.	Without Pay	Overall
2005	\$45,000	\$44,000	\$45,000	\$44,000	\$48,700	\$50,000	\$11,550	\$44,000
2006	\$46,000	\$45,000	\$45,000	\$45,000	\$48,000	\$54,000	\$10,950	\$45,000
2007	\$48,000	\$46,000	\$47,500	\$48,000	\$50,000	\$58,000	\$9,800	\$46,000
2008	\$50,000	\$47,000	\$50,000	\$48,300	\$50,000	\$60,000	\$17,000	\$48,000
2009	\$50,000	\$50,000	\$50,000	\$50,000	\$52,000	\$55,000	\$20,000	\$50,000
2010	\$50,000	\$50,000	\$50,000	\$50,000	\$52,000	\$53,000	\$10,700	\$50,000
2011	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$52,000	\$15,000	\$49,000
2012	\$51,000	\$50,000	\$51,000	\$50,000	\$50,000	\$53,000	\$15,000	\$50,000
2013	\$52,000	\$50,000	\$52,000	\$50,000	\$51,000	\$60,000	\$17,000	\$50,000
2014	\$52,000	\$53,000	\$53,000	\$54,000	\$50,000	\$60,000	\$8,000	\$50,000
2015	\$54,000	\$52,000	\$55,000	\$53,000	\$52,000	\$60,000	\$25,000	\$52,000
2016	\$55,000	\$55,000	\$55,000	\$54,000	\$54,000	\$60,000	\$15,000	\$53,000
2017	\$57,000	\$57,000	\$56,000	\$55,000	\$56,000	\$60,000	\$20,000	\$55,000
2018	\$60,000	\$59,000	\$60,000	\$57,000	\$57,000	\$60,000	\$19,300	\$56,000

Table 22 Descriptive Statistics: Median Annual Wages of Veteran Women by Sector

Year	Private For Profit	Private Non-Profit	Gov. Local	Gov. State	Gov. Federal	Self-Emp. Incorp.	Without Pay	Overall
2005	\$35,000	\$36,000	\$38,000	\$35,000	\$40,600	\$35,000	\$12,550	\$36,000
2006	\$36,000	\$40,000	\$39,000	\$36,000	\$40,000	\$50,000	\$14,800	\$37,400
2007	\$38,000	\$41,000	\$40,000	\$38,000	\$42,000	\$50,000	\$40,400	\$40,000
2008	\$38,000	\$40,000	\$41,500	\$39,000	\$43,000	\$40,000	\$38,500	\$40,000
2009	\$39,000	\$45,000	\$42,000	\$40,000	\$45,000	\$40,000	\$47,800	\$41,000
2010	\$40,000	\$45,500	\$43,000	\$40,000	\$48,000	\$46,500	\$22,000	\$42,000
2011	\$40,000	\$42,000	\$43,000	\$40,000	\$44,700	\$40,000	\$30,800	\$42,000
2012	\$40,000	\$48,000	\$45,800	\$40,200	\$45,000	\$37,350	\$7,700	\$42,950
2013	\$40,300	\$46,000	\$43,000	\$43,000	\$48,000	\$50,000	\$2,900	\$44,000
2014	\$43,000	\$48,000	\$44,000	\$44,000	\$48,000	\$54,000	\$210	\$45,000
2015	\$41,600	\$46,000	\$45,000	\$44,000	\$48,000	\$40,000	\$13,450	\$44,700
2016	\$42,900	\$50,000	\$47,000	\$45,800	\$50,000	\$45,000	\$21,600	\$45,800
2017	\$46,000	\$55,000	\$49,000	\$46,000	\$50,000	\$45,000	\$10,900	\$48,000
2018	\$45,000	\$50,000	\$50,000	\$48,500	\$50,000	\$55,000	\$37,000	\$48,000

Tables 21 and 22 show the median annual wages of the full-time veteran workforce for each employment sector, by sex. The purpose of these tables is to get an idea of what are typical wages of veteran men and women in the labor market by sector. Starting with overall differences in median wages by sector, veteran men earn higher median wages in all sectors by as much as \$5,000 on the low end in the self-employed, incorporated sector, and up to \$15,000 in the private, for profit sector. In the public sectors the difference in median wages for veteran men and veteran women in local government is \$10,000, the state government differential is \$8,500, and federal is the smallest with a differential of \$7,000. For veteran men, the sectors that experienced the largest gains over the 14-year period are both private sectors for profit and non-profit and local government with \$15,000, while the largest gain for veteran women is in the self-employed sector with an increase of \$20,000.

Table 23 Descriptive Statistics: Median Annual Wages of White Veterans by Sector

Year	Private For Profit	Private Non-Profit	Gov. Local	Gov. State	Gov. Federal	Self-Emp. Incorp.	Without Pay	Overall
2005	\$45,000	\$44,050	\$45,000	\$44,650	\$50,000	\$50,000	\$11,000	\$44,000
2006	\$47,800	\$45,800	\$45,000	\$45,000	\$48,000	\$55,000	\$10,450	\$45,000
2007	\$49,000	\$48,000	\$47,000	\$48,000	\$50,000	\$59,000	\$10,000	\$47,000
2008	\$50,000	\$48,000	\$50,000	\$49,800	\$50,000	\$60,000	\$18,500	\$48,900
2009	\$50,000	\$50,000	\$50,000	\$50,000	\$52,000	\$56,000	\$20,000	\$50,000
2010	\$50,000	\$50,000	\$50,000	\$50,000	\$53,000	\$55,000	\$10,700	\$50,000
2011	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$52,000	\$15,800	\$50,000
2012	\$52,000	\$52,000	\$52,000	\$50,000	\$50,000	\$53,000	\$15,000	\$50,000
2013	\$53,000	\$51,000	\$52,000	\$50,000	\$52,000	\$60,000	\$14,450	\$50,000
2014	\$53,000	\$55,000	\$52,000	\$53,000	\$52,000	\$60,000	\$8,000	\$50,000
2015	\$55,000	\$54,000	\$54,000	\$52,000	\$54,000	\$60,000	\$25,000	\$52,000
2016	\$56,000	\$56,000	\$55,000	\$54,000	\$55,000	\$60,000	\$10,400	\$54,000
2017	\$58,000	\$60,000	\$55,000	\$55,000	\$58,000	\$60,000	\$17,950	\$55,000
2018	\$60,000	\$60,000	\$59,000	\$58,000	\$60,000	\$60,000	\$15,650	\$57,000

Table 24 Descriptive Statistics: Median Annual Wages of Minority Veterans by Sector

Year	Private For Profit	Private Non-Profit	Gov. Local	Gov. State	Gov. Federal	Self-Emp. Incorp.	Without Pay	Overall
2005	\$38,000	\$36,000	\$42,000	\$39,000	\$42,000	\$42,500	\$17,200	\$40,000
2006	\$39,000	\$36,000	\$41,650	\$38,000	\$40,000	\$48,550	\$32,000	\$39,700
2007	\$40,000	\$38,100	\$44,900	\$40,000	\$44,500	\$50,000	\$26,200	\$40,000
2008	\$40,000	\$38,000	\$45,600	\$40,000	\$45,000	\$50,000	\$17,700	\$40,500
2009	\$42,000	\$42,000	\$48,000	\$43,000	\$47,850	\$50,000	\$27,500	\$44,000
2010	\$41,700	\$41,000	\$45,600	\$42,000	\$50,000	\$47,000	\$15,000	\$44,000
2011	\$41,000	\$37,000	\$45,850	\$41,000	\$45,000	\$50,000	\$10,400	\$42,000
2012	\$43,000	\$44,000	\$48,000	\$45,000	\$46,000	\$49,000	\$10,000	\$44,500
2013	\$44,000	\$44,300	\$48,000	\$42,000	\$47,950	\$52,000	\$11,350	\$45,000
2014	\$45,000	\$43,700	\$48,500	\$47,000	\$46,450	\$50,000	\$7,950	\$45,000
2015	\$45,000	\$45,000	\$50,000	\$48,000	\$47,150	\$55,000	\$14,900	\$45,000
2016	\$45,000	\$48,000	\$52,000	\$47,350	\$48,000	\$48,000	\$21,600	\$46,000
2017	\$48,000	\$48,000	\$53,000	\$50,000	\$50,000	\$52,000	\$23,350	\$48,000
2018	\$48,500	\$50,000	\$53,000	\$50,000	\$48,300	\$57,000	\$33,800	\$48,000

Tables 23 and 24 show the median annual wages of the full-time veteran workforce for each employment sector, by race. Starting with the differences in median wages by sector, white veterans earn higher median wages in all sectors. The sector that has lowest median wage differential is the self-employed, incorporated sector with a difference of only \$3,000. The sector with the highest median wage differential is the federal government with a difference of \$11,700. For white veterans, the sector with the largest gain over the 14-year period is the private, non-profit sector with a gain of \$15,950. The largest median gains for veteran minority workers over the same timeframe are in the self-employed, incorporated sector with a gain of \$14,500.

### Non-Veteran Workforce Median Annual Wages by Sector, Sex, and Race

The information provided in the tables below illustrate the median annual wages among the non-veteran full-time workforce broken down by sector, veteran status, sex, and race over the 14-year period being examined, from 2005 through 2018.



Table 25 Descriptive Statistics: Median Annual Wages of Non-Veteran Men by Sector

Year	Private For Profit	Private Non-Profit	Gov. Local	Gov. State	Gov. Federal	Self-Emp. Incorp.	Without Pay	Overall
2005	\$41,000	\$43,000	\$45,000	\$45,000	\$60,000	\$52,000	\$20,000	\$40,000
2006	\$42,000	\$45,000	\$45,000	\$46,000	\$59,000	\$55,000	\$20,800	\$40,400
2007	\$45,000	\$47,150	\$47,000	\$48,000	\$60,000	\$60,000	\$20,000	\$43,000
2008	\$45,000	\$48,000	\$49,700	\$50,000	\$60,000	\$59,000	\$23,050	\$45,000
2009	\$47,000	\$50,000	\$50,000	\$50,000	\$62,000	\$56,000	\$20,000	\$45,500
2010	\$47,000	\$50,000	\$50,000	\$50,000	\$64,000	\$55,000	\$16,000	\$45,000
2011	\$46,000	\$50,000	\$50,000	\$50,000	\$65,000	\$55,000	\$20,000	\$45,000
2012	\$48,000	\$50,000	\$50,000	\$50,000	\$67,000	\$58,000	\$22,000	\$47,000
2013	\$50,000	\$52,000	\$51,000	\$51,000	\$68,000	\$60,000	\$18,150	\$48,000
2014	\$50,000	\$52,000	\$52,000	\$52,000	\$70,000	\$60,000	\$20,000	\$49,000
2015	\$50,000	\$54,000	\$54,000	\$54,000	\$70,000	\$60,000	\$22,300	\$50,000
2016	\$50,000	\$55,000	\$55,000	\$55,000	\$72,000	\$60,000	\$22,000	\$50,000
2017	\$52,000	\$57,000	\$55,000	\$56,000	\$73,000	\$60,000	\$20,000	\$50,000
2018	\$53,000	\$60,000	\$57,000	\$57,500	\$75,000	\$62,000	\$37,000	\$52,000

Table 26 Descriptive Statistics: Median Annual Wages of Non-Veteran Women by Sector

Year	Private For Profit	Private Non-Profit	Gov. Local	Gov. State	Gov. Federal	Self-Emp. Incorp.	Without Pay	Overall
2005	\$30,700	\$35,000	\$37,000	\$35,100	\$47,000	\$36,000	\$14,400	\$32,000
2006	\$32,000	\$36,000	\$37,500	\$37,000	\$49,000	\$37,950	\$15,300	\$32,600
2007	\$33,000	\$38,000	\$40,000	\$38,500	\$50,000	\$39,700	\$15,000	\$35,000
2008	\$34,000	\$39,900	\$41,000	\$40,000	\$51,000	\$38,000	\$18,000	\$35,000
2009	\$35,000	\$40,000	\$42,000	\$41,000	\$54,000	\$40,000	\$16,000	\$36,700
2010	\$35,000	\$41,000	\$44,000	\$42,000	\$54,000	\$38,000	\$15,000	\$37,300
2011	\$35,000	\$40,500	\$43,000	\$42,000	\$55,000	\$39,000	\$15,600	\$37,000
2012	\$36,000	\$42,000	\$44,000	\$43,000	\$56,000	\$40,000	\$13,000	\$38,000
2013	\$37,400	\$43,500	\$45,000	\$44,000	\$58,000	\$40,000	\$14,400	\$40,000
2014	\$38,000	\$45,000	\$45,000	\$45,000	\$60,000	\$40,000	\$14,100	\$40,000
2015	\$39,000	\$45,000	\$46,000	\$45,000	\$60,000	\$43,000	\$20,000	\$40,000
2016	\$40,000	\$47,000	\$47,000	\$46,000	\$62,000	\$45,000	\$15,600	\$41,000
2017	\$40,000	\$50,000	\$48,000	\$48,000	\$63,000	\$48,000	\$15,000	\$42,000
2018	\$41,500	\$50,000	\$50,000	\$49,000	\$65,000	\$49,000	\$21,000	\$44,000

Tables 25 and 26 show the median annual wages of the full-time non-veteran workforce for each employment sector, by sex. The purpose of these tables is to understand the wage patterns of non-veteran men and women in the labor market by sector as a reference in comparison with veterans. Starting with overall differences in median wages by sector, non-veteran men earn higher median wages in all sectors by as much as \$7,000 on the low end in the local government sector, and up to \$13,000 in the self-employed sector. In the public sectors the difference in median wages for non-veteran men and non-veteran women in state government is \$8,500, and federal with a differential of \$10,000. For non-veteran men, the sector that experienced the largest gain over the 14-year period is the non-profit sector with a gain of \$17,000, while the largest gain for non-veteran women is federal government sector with an increase of \$18,000.

Table 27 Descriptive Statistics: Median Annual Wages of Non-Veteran Whites by Sector

Year	Private For Profit	Private Non-Profit	Gov. Local	Gov. State	Gov. Federal	Self-Emp. Incorp.	Without Pay	Overall
2005	\$39,000	\$40,000	\$40,000	\$40,000	\$53,000	\$50,000	\$16,800	\$38,000
2006	\$40,000	\$40,000	\$41,000	\$41,500	\$55,000	\$50,000	\$17,450	\$39,200
2007	\$40,000	\$42,000	\$43,000	\$43,000	\$57,000	\$52,000	\$18,000	\$40,000
2008	\$42,000	\$42,050	\$45,000	\$45,000	\$59,000	\$52,000	\$20,000	\$41,000
2009	\$43,000	\$45,000	\$46,000	\$46,000	\$60,000	\$51,000	\$18,550	\$42,000
2010	\$43,000	\$45,000	\$48,000	\$47,000	\$60,000	\$50,000	\$15,000	\$42,500
2011	\$42,800	\$45,000	\$48,000	\$46,000	\$61,000	\$50,000	\$19,000	\$42,000
2012	\$45,000	\$46,000	\$48,000	\$47,000	\$64,000	\$52,000	\$16,000	\$44,000
2013	\$45,000	\$48,000	\$49,000	\$48,000	\$65,000	\$55,000	\$15,300	\$45,000
2014	\$46,000	\$49,000	\$50,000	\$49,000	\$68,000	\$55,000	\$17,500	\$45,000
2015	\$48,000	\$50,000	\$50,000	\$50,000	\$69,000	\$56,000	\$20,100	\$47,000
2016	\$49,600	\$50,000	\$50,000	\$50,000	\$70,000	\$60,000	\$19,800	\$48,000
2017	\$50,000	\$52,000	\$51,000	\$51,000	\$70,000	\$60,000	\$18,000	\$50,000
2018	\$50,000	\$54,000	\$52,000	\$52,000	\$72,000	\$60,000	\$30,000	\$50,000

Table 28 Descriptive Statistics: Median Annual Wages of Non-Veteran Minorities by Sector

Year	Private For Profit	Private Non-Profit	Gov. Local	Gov. State	Gov. Federal	Self-Emp. Incorp.	Without Pay	Overall
2005	\$30,000	\$32,000	\$36,000	\$35,000	\$45,000	\$40,000	\$18,000	\$30,000
2006	\$30,000	\$35,000	\$37,100	\$36,000	\$47,200	\$40,000	\$20,000	\$31,000
2007	\$32,000	\$36,000	\$40,000	\$37,400	\$50,000	\$45,000	\$20,000	\$33,000
2008	\$33,500	\$37,000	\$40,000	\$38,900	\$50,000	\$43,000	\$20,000	\$35,000
2009	\$35,000	\$38,000	\$42,000	\$40,000	\$52,000	\$42,000	\$17,950	\$35,000
2010	\$35,000	\$39,500	\$42,200	\$40,000	\$54,000	\$40,000	\$20,000	\$35,400
2011	\$34,200	\$39,000	\$42,000	\$40,000	\$54,000	\$40,000	\$20,000	\$35,000
2012	\$35,000	\$40,000	\$42,000	\$40,000	\$55,000	\$41,000	\$20,800	\$36,000
2013	\$36,000	\$40,000	\$43,000	\$41,600	\$56,000	\$42,100	\$15,650	\$37,500
2014	\$36,000	\$42,000	\$45,000	\$42,500	\$57,000	\$45,000	\$17,000	\$38,000
2015	\$38,000	\$43,000	\$45,000	\$44,000	\$60,000	\$43,650	\$20,000	\$39,000
2016	\$39,000	\$45,000	\$46,000	\$45,000	\$60,000	\$46,900	\$20,000	\$40,000
2017	\$40,000	\$46,800	\$48,000	\$47,000	\$60,000	\$50,000	\$18,200	\$40,000
2018	\$40,000	\$48,000	\$50,000	\$48,000	\$62,000	\$50,000	\$25,000	\$41,600

Tables 27 and 28 show the median annual wages of the full-time non-veteran workforce for each employment sector, by race. Starting with overall differences in mean wages by sector, whites earn higher median wages in all sectors as low as \$2,000 in sectors such as local government, all the way as high as \$10,000, in sectors such as the for profit, self-employed, or federal government. Same as above for veterans, the sector with the highest overall median wages for all races is the federal sector. Also, same as above, this sector also has experienced the largest gains over the 14-year period for both whites and minorities with gains of \$19,000 and \$17,000, respectively.

## Veteran Representation Tables

### Public-Private Veteran Women and Minority Group Representation Ratios Summary Statistics

The purpose of Tables 29 through 31 are to illustrate the statistics that provide the answers to Hypotheses 1 through 6, which answer the first two research question of this examination.

Table 29 Summary Statistics: Public-Private Veteran Representation Ratios (PPVRR)

Statistic	N	Mean State	Standard Deviation	Min	25 <sup>th</sup> Percentile	75 <sup>th</sup> Percentile	Max
Gross State Product (trillions)	714	0.318	0.401	0.024	0.078	0.391	2.998
Per capita income (ten thousand)	714	4.351	0.907	2.670	3.664	4.843	8.200
Unemployment rate	714	0.058	0.022	0.008	0.042	0.071	0.149
Percent union membership	714	0.135	0.077	0.017	0.070	0.184	0.418
PPVRR – Overall	714	1.566	0.369	0.850	1.301	1.756	3.715
PPVRR – Female	714	2.289	1.016	0.426	1.708	2.628	12.256
PPVRR – Non-White	710	2.438	1.249	0.203	1.710	2.837	16.267

Table 29 begins by illustrating the summary statistics for each of the four explanatory variables and the Public-Private Veteran Representation Ratio (PPVRR) categories. Beginning with gross state product (GSP), the mean GSP by state over this time period is \$318 billion. The range of GSP spanned from \$24 billion up to \$2.998 trillion. The average per capita income for all states is \$43,510 with a range of \$26,700 up to \$82,000. The mean unemployment rate for all states is 5.8% with a range of 4.2% up to 14.9%. Lastly, the mean union membership percentage by state is 13.5% with a range of 7% up to 41.8%. The mean Public Private Veteran

Representation Ratio (PPVRR) for overall veterans is 1.566 meaning veterans are 56.6% more likely to work in the public sector compared to the private sector. The PPVRR for veteran females is 2.289 or are 128.9% more likely to work in the public sector. The PPVRR veteran minority groups is 2.438 or are 143.8% more likely to work in the public sector.

### Pearson Correlations: Public-Private Veteran Women and Minority Group Representation Ratios

Table 30 Pearson Correlations: Public-Private Veteran Representation Ratios (PPVRR)

	Gross State Product (trillions)	Per capita income (ten thousands)	Unemployment rate	Percent union	PPVRR - Overall	PPVRR - Female	PPVRR - Non-White
Gross State Product (trillions)	**	0.221	0.112	0.190	0.261	0.037	0.121
Per capita income (ten thousands)	0.221	**	-0.206	0.267	0.501	0.245	0.244
Unemployment rate	0.112	-0.206	**	0.140	0.042	0.045	-0.016
Percent union	0.190	0.267	0.140	**	0.156	0.135	0.170
PPVRR - Overall	0.261	0.501	0.042	0.156	**	0.559	0.389
PPVRR - Female	0.037	0.245	0.045	0.135	0.559	**	0.236
PPVRR - Non-white	0.121	0.244	-0.016	0.170	0.389	0.236	**

Table 30 demonstrates the Pearson correlations for Public-Private Veteran Representation Ratios (PPVRR). The purpose of evaluating Pearson correlations in this study is to measure the parallel regression between each of the external factors with each of the ratios and determine the likelihood of each outcome (Battaglio and Condrey, 2009). Beginning with gross state product

(GSP), overall veterans demonstrate a moderate degree of positive correlation at .261, however individually female and non-white veterans display a low degree of positive correlation at .037 and .121, respectively. Next, per capita income, overall veterans exemplify a high degree of positive correlation at .501. Individually female and non-white veterans show a medium degree of positive correlation at .245 and .244, respectively. Looking at unemployment rate, both overall veterans and female veterans reveal a small degree of positive correlation, however non-white veterans appear to expose a small degree of negative correlation. Lastly, union membership appears to illustrate a low degree of positive correlation of .156, .135, and .170 for overall, female, and non-white veterans, respectively.

### Veteran Women and Minority Group Public-Private Representation Fixed Effects Models

Table 31 Veteran Public-Private Representation Fixed Effects Models

	Overall	Non-White	Female
Gross State Product (trillions)	0.213***	0.507***	0.215***
	(0.024)	(0.061)	(0.050)
Per capita income (ten thousand)	0.154***	0.246***	0.263***
	(0.021)	(0.030)	(0.042)
Unemployment rate	1.413**	2.339**	5.000***
	(0.634)	(1.182)	(1.141)
Percent union membership	-0.217	1.091***	-0.805**
	(0.182)	(0.295)	(0.352)
Constant	0.730***	0.684***	0.732***
	(0.099)	(0.153)	(0.186)
Observations	714	710	714
R <sup>2</sup>	0.309	0.264	0.154
Adjusted R <sup>2</sup>	0.305	0.260	0.150
Residual Std. Error	0.243 (df = 709)	0.595 (df = 705)	0.574 (df = 709)
Note:	* p < .10 ** p < .05 *** p < .01		

Table 31 shows the results of the fixed effects models from the explanatory variables in this investigation. First, looking at gross state product (GSP), there is a positive and statistically significant effect on overall veterans, non-white veterans, and female veterans. These effects illustrate that for every one-trillion dollar increase for each state, there is an increase in the ratio for public-private representation of .213, .507, and .215, respectively. The statistically significant result was expected as GSP is a gauge of economic activity within a state. The public sector characteristically increases employment opportunities as GSP increases, which correlates with increased hiring for women and minority groups (Llorens et al, 2008; Brewer & Selden, 2003). With the increase in opportunities the above result correlates with the expectation that the veteran population, especially veteran women and minority groups, also increase in representation as economic prosperity rises.

Next, looking at per capita income, there is a positive and statistically significant effect on overall veterans, non-white veterans, and female veterans. The variable demonstrates that for every ten thousand-dollar increase in per capita income for each state, there is an increase in public-private representation ratio of .154, .246, and .263, respectively. The statistical significance was also expected for the same reason as GSP. As another measure of economic activity within a state, an increase in per capita income creates an increase in employment opportunities for the public sector as the fiscal capacity for government officials increases. The above result correlates with the expected result for per capita income given that the veteran population, especially veteran women and minority groups, are shown to increase as the economy thrives.

Following the market-based factors and moving on to the employment-based factors, the unemployment rate shows a positive and statistically significant effect for overall veterans, non-

white veterans, and female veterans. These effects validate that for every one percent increase in the unemployment rate, there is an increase in public-private representation ratio of 1.413, 2.339, and 5.0, respectively. The statistical significance is another expected result as unemployment is an indicator of the employment climate. During periods of high unemployment veterans find better job security in the public sector, therefore as unemployment climbs the stronger the public-private ratio is for veterans working in the public sector.

Lastly, looking at union membership, the results resemble the same mixed outcomes as previous studies discussed at the end of Chapter 2. Again, these mixed outcomes find that unions show positive and negative impacts for both women and minorities, and in some cases no impact at all. In the case of this examination, first, there is no statistical significance for overall veterans. However, there is a positive correlation that is statistically significant for non-white veterans. The effects seem to determine that for every 1% increase in union membership there will be an increase in the public-private representation ratio by 1.091. This has the opposite effect for female veterans which experience a decrease in the public-private representation by .805 for every 1% increase in union membership. This result is a bit interesting in that union membership has no effect on veteran hiring, however it appears that while non-white veterans experience a positive effect, veteran women experience a negative effect. This illustrates that while being a veteran has no correlation in being a member of a union, being a female, whether white or non-white, does have a penalty.

### **Veteran Public-Private Wage Gaps**

#### **Veteran Public-Private Wage Gap Summary Statistics**

The purpose of Tables 32 through 34 are to illustrate the statistics that provide the answers to Hypotheses 7 through 11, which answer the second two research questions.



Table 32 Summary Statistics: Veteran Public-Private Wage Gap

Statistic	N	State Mean	Standard Deviation	Min	25 <sup>th</sup> Percentile	75 <sup>th</sup> Percentile	Max
Gross State Product (trillions)	714	0.318	0.401	0.024	0.078	0.391	2.998
Per capita income (ten thousand)	714	4.351	0.907	2.670	3.664	4.843	8.200
Unemployment rate	714	0.058	0.022	0.008	0.042	0.071	0.149
Percent union membership	714	0.135	0.077	0.017	0.070	0.184	0.418
Public / private veteran earnings ratio	714	1.051	0.068	0.779	1.004	1.097	1.253

The summary statistics related to GSP, per capita income, unemployment, and union membership remain the same as in Table 30. However, Table 32 illustrates the summary statistics related to public-private veteran earnings ratios. The average veteran in the U.S. is paid a wage premium of 1.051 times higher than the veterans working in the private sector. Of course, this is with a minimum of .779 wage penalty and a high of 1.253 wage premium.

### Pearson Correlations: Veteran Public-Private Wage Gap

Table 33 Pearson Correlations: Veteran Public-Private Wage Gap

	Gross State Product (trillions)	Per capita Income (ten thousands)	Unemployment rate	Percent union	Veteran overall earnings ratio
Gross State Product (trillions)	**	0.221	0.112	0.190	0.151
Per capita income (ten thousands)	0.221	**	-0.206	0.267	0.416
Unemployment rate	0.112	-0.206	**	0.140	0.073
Percent union	0.190	0.267	0.140	**	0.469
Veteran overall earnings ratio	0.151	0.416	0.073	0.469	**

Table 33 demonstrates the Pearson correlations for Public-Private Veteran Wage Gaps. Again, the purpose of evaluating Pearson correlations is to measure the parallel regression between each of the external factors and the veteran earnings ratio to determine the likelihood of each outcome (Battaglio and Condrey, 2009). The Pearson correlation between gross state product (GSP) demonstrates a low degree of positive correlation at .151. However, per capita income shows a medium degree of positive correlation at .416. Unemployment rate has a very small degree of positive correlation at .073. Lastly, union membership shows a medium degree of positive correlation at .469.

### Veteran Public-Private Wage Gap Fixed Effects Models

Table 34 Veteran Public-Private Wage Gap (Earnings Ratio)

	<i>Dependent variable:</i>
	Veteran Public-Private Wage Gap (Earnings Ratio)
Gross State Product (trillions)	-0.005
	(0.004)
Per capita income (ten thousand)	0.026***
	(0.002)
Unemployment rate	0.317***
	(0.087)
Percent union membership	0.327***
	(0.028)
Constant	0.877***
	(0.011)
Observations	714
R <sup>2</sup>	0.369
Adjusted R <sup>2</sup>	0.366
Residual Std. Error	0.049 (df = 709)
<i>Note:</i>	* ** *** p p p<0.01

Table 34 shows the results of the fixed effects models for public-private wage gaps to account for the explanatory variables in this study. Beginning with GSP, this variable is not a statistically significant variable within the fixed effects model. This result is unexpected considering that GSP, as a gauge of statewide economic activity, illustrates a correlation with representation. However, while GSP correlates to the increase in job opportunities for representation, this result illustrates that GSP does not correlate to wage differentials for veterans working in public sector compared to the private sector. One reason for this is that while GSP is a measure of economic output, the reasoning for spending in a specific state during a specific time period may be symptomatic of an external crisis instead of simply having a strong economy. This means that spending in times of crisis may also be captured as output within the data. Therefore, when measuring public-private wage differences compared to GSP, the result does not illustrate a correlation.

In contrast to GSP, per capita income shows a positive and statistically significant effect on veteran public-private wage differentials. The effects appear to illustrate that for every ten thousand-dollar increase in per capita income, for each state, there is an increase in the .026 wage premium on the public-private wage ratio for veterans. This result was expected for the same reasons as above. When state economies are strong, budgets expand, and the public sector can afford to pay more competitive salaries. Per capita income is obviously a more direct measure of income compared to GSP. As the economy continues to go through natural cycles the public-private wage gap among the population is going to correlate along with it. In the case of veterans specifically, as veterans have a higher likelihood of working in the public sector after their military service. This is likely due to the better earnings ratio over time.

The unemployment rate also shows a positive and statistically significant effect for veteran public-private wage differentials. It appears that for every one percent unemployment increase, there is an increase of .317 to the public-private wage premium for veterans. This result was expected as periods of high unemployment create a higher representation for veterans in the public sector as representation decreases in the private sector.

Lastly, looking at union membership, this variable shows a positive and statistically significant effect on veteran public-private wage differentials. For every one percent increase in union membership there is a .327 increase in the public-private wage ratio for veterans.

As discussed in Chapter 2, Llorens (2008) found that unionization has a strong impact on wages since unions look to ensure that wages are equitable. Since unions advocate heavily for competitive wage rates in all industries within both the public and private sector, they can heavily influence public-private wage gaps.

### **Hypotheses Testing Results**

Considering the data presented in the previous section of this chapter this section provides the explanation linking how the above testing results and analyses, from tables 29 through 34, examine each hypothesis presented in Chapter 3. Further implications of each of the hypothesis explanations are illustrated below and are further discussed in Chapter 5.

#### **Testing Hypotheses 1 and 2: Public-Private Representation for Women and Minority Groups**

*Hypothesis 1:* Veterans' preference will negatively impact the representation ratio of veteran

women in public sector employment compared to the private sector by increasing the overall number of veteran men hired.

*Hypothesis 2:* Veterans' preference will negatively impact the representation ratio of veteran minority groups in public sector employment compared to the private sector by increasing the overall number of veteran whites hired.

To best answer the first two hypotheses, this assessment first calculates the representation ratios for overall veterans, veteran women, and veteran minority groups working in all levels of government service compared to the private sector. As determined above in Table 29, the mean Public Private Veteran Representation Ratio (PPVRR) establishes that overall veterans are 56.6% more likely to work in the public sector compared to the private sector. This essentially has been proven in prior investigations and has primarily been attributed to more veteran white males employed in the public sector compared to the private. Nevertheless, female veterans are 128% more likely to work in the public sector compared to the public sector, and veteran minority groups have an even higher likelihood to work in the public sector compared to the private sector with a probability of 143.8%. As a result, hypotheses 1 and 2 are both rejected as veterans' preference has positively influenced both veteran females and minority groups in public sector employment compared to the private sector. What this means for the hypothesis is that while veterans are strongly represented in the public sector compared to the private sector, veteran women and minority veterans are even further represented.

### **Testing Hypotheses 3-6: Public-Private Representative Bureaucracy Fixed Effects Variables**

*Hypothesis 3:* Gross State Product (GSP) will be positively correlated with the increase in employment ratios for veteran women and minority group representation in the public sector compared to the private sector.

*Hypothesis 4:* Per Capita Income will be positively correlated with the increase in employment ratios for veteran woman and minority group representation in the public sector compared to the private sector.

*Hypothesis 5:* Unemployment rate will be positively correlated with the increase in employment ratios for veteran woman and minority group representation in the public sector compared to the private sector.

*Hypothesis 6:* Union Membership will be negatively correlated with the increase in employment ratios for veteran woman and minority group representation in the public sector compared to the private sector.

To best examine hypotheses 3 through 6 this assessment next calculates the four fixed effects models presented to better explain potential associations for each of the ratios. As determined above in Table 31, gross state product (GSP) proved to be positive and statistically significant for overall veterans, non-white veterans, and female veterans. As a result, hypothesis 3 is accepted as GSP is positively correlated with the increase in employment ratios for veteran women and minority group representation in the public sector. What this means for the hypothesis is that as GSP increases or decreases, representation for each will increase or decrease accordingly. Next, per capita income also verified to be positive and statistically significant for overall veterans, non-white veterans, and female veterans. Accordingly, hypothesis 4 is also accepted as per capita income is positively correlated with the increase in employment ratios for veteran women and minority group representation in the public sector. Again, what this means for the hypothesis is that as per capita income increases or decreases, representation will increase or decrease accordingly. Essentially, both market-based explanatory variables validate the theory that a stronger economy can yield to better representation.

Next, examining the employment-based explanatory variables, the unemployment rate also confirmed to be positive and statistically significant for overall veterans, non-white veterans, and female veterans, therefore hypothesis 5 is also accepted as the unemployment rate is positively correlated with the increase in employment ratios for veteran women and minority group representation. What this means for the hypothesis is that as unemployment increases the veteran representation ratios for all demographics increase in the public sector compared to the private sector. Union membership indicates a different story in that there is no statistical significance for overall veterans. While there is a statistically significant positive correlation for non-white veterans, there is a negative correlation that is statistically significant for female veterans. Consequently, hypothesis 6 is rejected since union membership is only negatively correlated with the increase in employment ratios for veteran women, but not veteran minority groups. What this suggests for the hypothesis is that while union membership has no effect on overall veteran employment, non-white veterans and female veterans reveal a positive and negative effect, respectively, to union membership. This is likely more related to race and sex than veteran status.

### **Hypothesis 7: Public-Private Wage Gaps:**

*Hypothesis 7: Veterans' preference will positively influence the public-private wage premiums for veterans working in the public sector compared to the private sector.*

In order to confirm hypothesis 7, Table 32 verifies that veterans working in government service experience an average wage premium of 1.051 times compared to veterans working in the private sector. As a result, hypothesis 7 is accepted as veterans' preference has positively influenced the public-private wage premiums for veterans working in the public sector. Since veterans experience a wage premium, this may be the preferred sector to work in upon leaving

military service. Further, this suggests that even though veterans likely work in the public sector due to the close nature of the experience earned through time served in the military, it is also more applicable for securing higher paying jobs compared to the private sector.

### **Hypotheses 8-11: Public-Private Wage Gaps Fixed Effects Variables**

*Hypothesis 8:* Gross State Product (GSP) will be positively correlated with the increase in wage premiums for veterans employed in the public sector compared to the private sector.

*Hypothesis 9:* Per Capita Income will be positively correlated with the increase in wage premiums for veterans employed in the public sector compared to the private sector.

*Hypothesis 10:* Unemployment rate will be positively correlated with the increase in wage premiums for veterans employed in the public sector compared to the private sector.

*Hypothesis 11:* Union Membership will be positively correlated with the increase in wage premiums for veterans employed in the public sector compared to the private sector.

In order to investigate hypotheses 8 through 11, the same four fixed effects models are measured to explain the affiliation for the wage premiums veterans earn by working in the public sector compared to the private. As shown above in Table 34, gross state product (GSP) proved to not be statistically significant as an explanatory factor. As a result, hypothesis 8 is rejected as GSP is not correlated with the increase in wage premiums for veterans working in the public sector. While GSP correlates with representation for veteran women and minority groups, it does not correlate with wage premiums or penalties for overall veterans. What this means for the



hypothesis is that since GSP is a measure of value added from economic input versus output, this does not necessarily reflect that an increase or decrease in this value directly causes an effect in public-private wage premiums based on veteran status.

Contrary to GSP, per capita income is verified to be a positive and statistically significant explanatory factor within the model. Accordingly, hypothesis 9 is accepted as per capita income is positively correlated with the increase in wage premiums for veterans employed in the public sector. What this means for the hypothesis is that an increase in the average income per resident correlates to an increase in wage premiums for veterans in the public sector compared to the private sector. Again, as the economy appears to be growing with stronger incomes per capita, this yields not only stronger representation for veteran women and minorities, but stronger wage premiums for overall veterans.

In terms of the employment-based variables, the unemployment rate also confirmed to be positive and statistically significant. Thus, hypothesis 10 is also accepted as the unemployment rate is positively correlated with the increase in wage premiums for veterans employed in the public sector. This finding suggests that periods of high unemployment create a higher representation for veterans in the public sector as representation decreases in the private sector, therefore leading to more competitive wages for veterans working in the public sector. Theoretically, this illustrates that as unemployment increases the public-private wage premiums increase for veterans working in public sector compared to the private sector.

Finally, union membership also shows a positive and statistically significant effect on veteran public-private wage differentials. As a result, hypothesis 11 is accepted as union membership is positively correlated with the increase in wage premiums for veterans employed in the public sector. Unions primarily exist to promote more competitive wages and more

appropriate working conditions. Appropriately, this study illustrates that unionization in the public sector has been more competitive for veteran wages in the public sector compared to the private sector.

## CHAPTER V

### CONCLUSION

This final dissertation chapter begins by providing a summary of the research findings. Each research question is addressed followed by the theoretical implications of these results. Next, a figure of the model conclusions is presented in order to demonstrate the outcomes for each of the hypotheses. The chapter concludes with limitations to the current research and provides suggestions for advancing the findings through future research initiatives.

#### **Summary of Findings**

##### **Research Question 1: Veteran Women and Minority Group Public-Private Representation**

The first research question asks, “How does veterans’ preference affect overall public-private representation for veteran women and minority groups?” Hypotheses 1 and 2 both presumed that veteran women and minority group representation would be lower due to the majority of veterans being white males. However, these hypotheses have been rejected as both veteran females and veteran minority groups in public sector employment have significantly higher ratios compared to the private sector. This reveals that while it has been proven that veterans are over-represented in government service, being a veteran woman or veteran belonging to a minority group creates an even higher likelihood of working in government service. While there is a significantly higher amount of white male veterans that serve in the U.S. military, the smaller ratio of women and minority veterans are being hired into public service at all levels of government in higher proportions.

## **Research Question 2: Veteran Women and Minority Group Representation External Factors**

The second research question asks, “What is the impact of gross state product (GSP), per capita income, unemployment, and union membership on public-private representation for veteran women and minority group representation?” Essentially, the question seeks to answer how each of these external factors can possibly influence representation. This question is answered through the four individual assessments conducted in hypotheses 3 through 6.

Beginning with hypothesis 3, Gross State Product (GSP) proved to be positively correlated with the increase in employment ratios for veteran women and minority group representation in the public sector. Thus, the influence of GSP on public-private representation for veteran women and minority group representation affords more opportunity as GSP gets stronger. Next, hypothesis 4, per capita income also proved to be positively correlated with the increase in employment ratios for veteran women and minority group representation in the public sector. Accordingly, having a higher per capita income allows for higher tax revenues, which yield to more opportunity for jobs within public service organizations. Fundamentally, both market-based hypotheses fall in line with the theory that a strong economy facilitates better representation success for underrepresented groups in the public sector.

Looking at hypothesis 5, the unemployment rate is confirmed to be positively correlated with the increase in employment ratios for overall veterans, non-white veterans, and female veterans. This illustrates that when the unemployment increases, the public-private representation ratio for veterans increases as representation decreases in the private sector, therefore leading to stronger representation ratios for veterans working in the public sector. Lastly, hypothesis 6, union membership is confirmed to not be statistically significance for overall veterans. While there is a positive correlation for non-white veterans, female veterans

demonstrate a negative correlation to union membership. What this ultimately shows is that male veterans, both white and non-white benefit more from union membership compared to female veterans.

### **Research Question 3: Veteran Public-Private Wage Differentials**

The third research question asks, “How does veterans’ preference affect public-private wage gaps among all veterans working in public sector compared to the private sector?”

Hypothesis 7 projected that public-private wage premiums for veterans working in the public sector will be higher compared to the private sector. Overall, in the U.S., veterans earn a wage premium working in the public sector compared to the private sector, thus, the hypothesis is accepted. This finding may perhaps indicate the reason why veteran women and minority groups experience a surplus in representation in government service.

### **Research Question 4: Veteran Public-Private Wage Differentials External Factors**

The fourth and final research question asks, “What is the impact of gross state product (GSP), per capita income, unemployment, and union membership on public-private wage gaps for veterans working in public sector compared to the private sector?” Beginning with gross state product (GSP), hypothesis 8, this variable proved to not be statistically significant and therefore does not maintain any influence on public-private wage gaps for veterans working in public service. Per capita income, hypothesis 9, showed to be positively correlated to veteran public-private wage premiums. In theory, a state’s “value added” after input and output does not correlate to public-private wage differentials among the veteran population, however, increases in average total incomes of each resident does illustrate a correlation for more competitive salaries in the public sector for veterans.

The unemployment rate, hypothesis 10, is also confirmed to be positively correlated to veteran public-private wage premiums. As a result, this illustrates that a weak job market will afford better paying opportunities for veterans working in public service compared to private as opposed to when the job market is strong. Finally, hypothesis 11, union membership illustrates that it is positively correlated to veteran public-private wage premiums. Since the purpose of unionization is to advocate for higher wages, and unions in the public sector typically advocate for competitive wage rates to that of all job sectors (Llorens, 2008), this result demonstrates that veterans benefit more from an increase in union membership in the public sector.

### Model Results

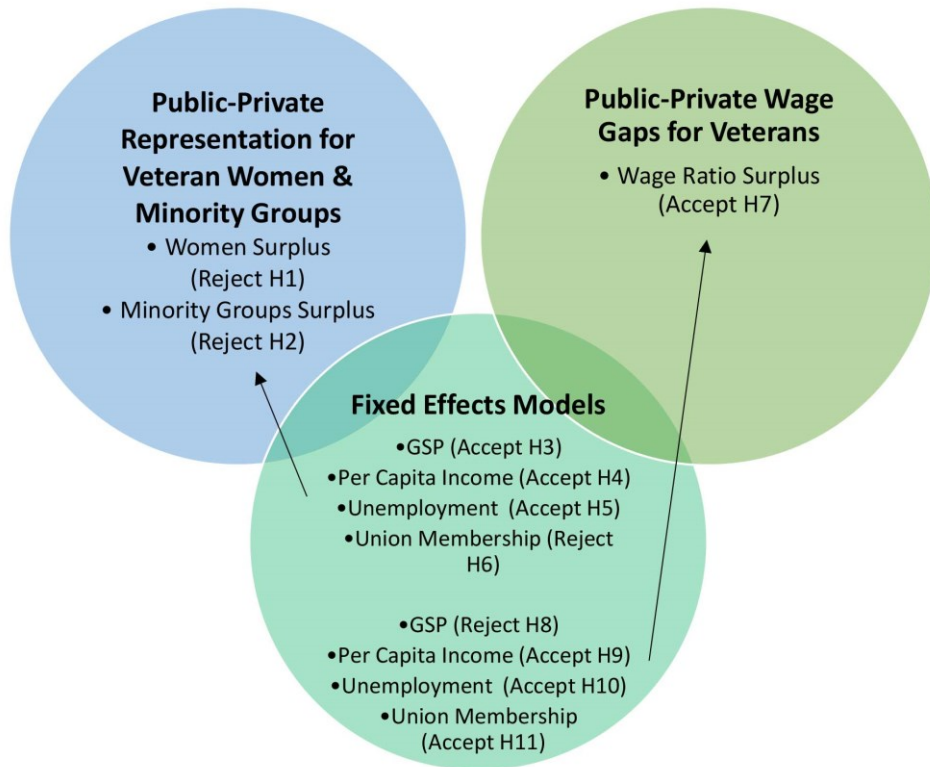


Figure 2 Research Model and Hypotheses Results

Figure 2 illustrates the updated relationship between public-private veteran representation, public-private wage gaps, and the effects variables

## **Theoretical Implications of the Research**

### **Veteran Women and Minority Group Public-Private Representation**

The theoretical implications for veteran women and minority group public-private representation is that veteran women and minority groups are being hired in government service at a much higher proportion. This is likely an extension of the result of better pay ratios in the public sector compared to the private sector for overall veterans. As far as external factors that contribute to the increase in representation, the strength of a state's economy can facilitate better representation. Both GSP and per capita income are strong indicators of each individual states' economic outlook, and both show a correlation that increases in income lead to higher tax revenue, which leads to more opportunities for better representation for veteran women and minority groups. In keeping up with the job market, as unemployment increases this creates a higher likelihood that veteran women and minority groups will work in public sector over the private sector. Finally, union membership explains that while it does not correlate to the representation of overall veterans, it does positively correlate to non-white veterans, while negatively correlating with female veterans. This finding seems to be an extension that union membership in the public sector can benefit men over women.

### **Veteran Public-Private Wage Differences**

The theoretical implications for veteran public-private wage differences are that veterans are paid a wage premium in the public sector. While gross state product (GSP) did not seem to play a role in these increases, per capita income evidenced that as overall incomes per resident increased that the wage premiums for veterans increased along with it. The unemployment rate is also a factor as well. The higher the unemployment rate, the more competitive salaries will be in the public sector compared to the private sector for veterans. Again, a weak job market will

create better paying opportunities for veterans working in public service. To finish, union membership demonstrates is that veterans benefit more from an increase in union membership in the public sector more than the private sector as many veterans are men.

### **Contribution to the Field of Public Sector Human Resources Management (HRM)**

The contribution of this study builds upon the growing body of public sector HRM literature regarding veteran hiring and the explanatory variables related to the composition and compensation for each employment sector. This study first builds upon the literature related to the representation of the veteran population in the workforce. While existing research has determined veterans are overrepresented in the public sector, this study has expanded on this literature by investigating the several external factors that contribute to the variance in public-private representation for veteran women and minority groups. Second, this study builds upon the literature related to the compensation of the veteran population in the workforce. This work investigates the same external factors that contribute to the variance in overall public-private wage gaps for sex and race, but this study adds the variable of veterans' status to the analysis. The existing research regarding public-private wage gaps is primarily covers sex and race in one specific sector, while still including fixed effects models. However, this study has expanded on the literature by investigating veterans' public-private wage differentials, with fixed effects, within all public sector compared to all of the private sector.

### **Limitations of the Study and Future Research**

#### **Veterans Hiring Data Limitations**

As discussed above, this study investigates the external factors that contribute to public-private wage differentials among overall veterans. A further assessment would typically call for



evaluating the veteran wage differentials by sex and race, as done with public-private representation ratios. However, the PUMS data become limited once evaluated solely by veteran sex and veteran race, by state, by year. Other works have calculated wage differentials for overall women and minority groups by sector, state, and year using this same methodology (Llorens, 2008; Llorens et al 2008). Instead, since the military is made up of primarily white males, the female and minority veteran population accounts for a much smaller segment of all veterans.

### **Future Research**

Despite the limitations presented above, other wage differential techniques may be applied in order to further tie the research model together between public-private representation for veteran women and minorities and overall veteran public-private wage gap analysis. Vick and Fontanella (2016) have evaluated two techniques that estimate wage differentials between veteran and non-veteran demographics. They first discuss using the Blinder-Oaxaca (BO) decomposition technique, which essentially estimates the linear regression equations of earnings for two comparison groups. However, the authors explain the potential for methodological complications of reliability if one group has substantially different characteristic combinations from the other. This would show a lack of commonalities between veteran and non-veteran demographics. Instead they prefer to use a nonparametric matching methodology introduced by Nopo (2008). This methodology utilizes a direct matching of veteran and non-veteran demographic and workforce characteristics in order to describe wage variances. Using public-private wage differentials for veteran women and minority groups, this future research could essentially expand on the above model, in Figure 2, in order to determine if public-private wage gaps affect public-private representation for the same demographics.

Moreover, the current methodology utilizing OLS regression with fixed effects models creates some additional building blocks to further the research. This methodology works best when larger portions of the workforce are being compared, which is conducive to utilizing large public use data sets such as PUMS. This can promote further intersectionality for public-private comparisons, industry comparisons, job categories, and other workforce variables. Additionally, other explanatory factors can also be introduced to further the examination within this field. As further broad issues continue to arise in the workforce, the field of public sector HRM will have to adapt as external elements continually change.

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## APPENDIX A

### CAMPAIGNS AND EXPEDITIONS WHICH QUALIFY FOR VETERANS PREFERENCE

## Campaigns and Expeditions Which Qualify for Veterans Preference

From the “Veteran Services: VET GUIDE.” Office of Personnel Management” (OPM, 2015)

Campaigns and Expeditions Which Qualify for Veterans Preference	
Campaign or Expedition	Inclusive dates
<p><b>Armed Forces Expeditionary Medal (AFEM)</b> A veteran's DD Form 214 showing the award of any Armed Forces Expeditionary Medal is acceptable proof. The DD form 214 does not have to show the name of the theater or country of service for which that medal was awarded.</p>	
<p>Afghanistan (Operations Enduring Freedom (OEF) and Iraqi Freedom (OIF))</p>	<p>OEF September 11, 2001, to present; OIF March 19, 2003, to present</p>
<p>Berlin</p>	<p>August 14, 1961, to June 1, 1963</p>
<p>Bosnia (Operations Joint Endeavor, Joint Guard, and Joint Forge)</p>	<p>November 20, 1995 to December 20, 1996; December 20, 1996 to June 20, 1998; June 21, 1998 to present</p>

## Campaigns and Expeditions Which Qualify for Veterans Preference

Campaign or Expedition	Inclusive dates
Cambodia	March 29, 1973, to August 15, 1973
Cambodia Evacuation (Operation Eagle Pull)	April 11 - 13, 1975
Congo	July 14, 1960, to September 1, 1962, and November 23, to 27, 1964
Cuba	October 24, 1962, to June 1, 1963
Dominican Republic	April 28, 1965, to September 21, 1966
El Salvador	January 1, 1981, to February 1, 1992
Global War on Terrorism	September 11, 2001 to present
Grenada (Operation Urgent Fury)	October 23, 1983, to November 21, 1983

## Campaigns and Expeditions Which Qualify for Veterans Preference

Campaign or Expedition	Inclusive dates
Haiti Operation Uphold Democracy)	September 16, 1994, to March 31, 1995
Iraq (Operations Northern Watch, Desert Spring, Enduring Freedom (OEF), and Iraqi Freedom (OIF))	January 1, 1997 to present; December 31, 1998 to December 31, 2002 (projected); OEF September 11, 2001, to present; OIF March 19, 2003, to present
Korea	October 1, 1966, to June 30, 1974
Kosovo	March 24, 1999 to present
Laos	April 19, 1961, to October 7, 1962
Lebanon	July 1, 1958, to November 1, 1958, and June 1, 1983, to December 1, 1987

## Campaigns and Expeditions Which Qualify for Veterans Preference

Campaign or Expedition	Inclusive dates
Mayaguez Operation	May 15, 1975 to May 15, 1975
Operations in the Libyan Area (Operation Eldorado Canyon)	April 12, 1986 to April 17, 1986
Panama (Operation Just Cause)	December 20, 1989, to January 31, 1990
Persian Gulf Operation (Operation Earnest Will)	July 24, 1987, to August 1, 1990
Persian Gulf Operation (Operation Southern Watch)	December 1, 1995, to present
Persian Gulf Operation (Operation Vigilant Sentinel)	December 1, 1995 to February 1, 1997
Persian Gulf Operation (Operation Desert Thunder)	November 11, 1998 to December 22, 1998
Persian Gulf Operation (Operation Desert Fox)	December 16, 1998 to December 22, 1998



## Campaigns and Expeditions Which Qualify for Veterans Preference

Campaign or Expedition	Inclusive dates
Persian Gulf Intercept Operation	December 1, 1995, to present
Quemoy and Matsu Islands	August 23, 1958, to June 1, 1963
Somalia (Operations Restore Hope and United Shield)	December 5, 1992, to March 31, 1995
Taiwan Straits	August 23, 1958, to January 1, 1959
Thailand	May 16, 1962, to August 10, 1962
Vietnam Evacuation (Operation Frequent Wind)	April 29, 1975, to April 30, 1975
Vietnam (including Thailand)	July 1, 1958, to July 3, 1965

<https://www.opm.gov/policy-data-oversight/veterans-services/vet-guide-for-hr-professionals/#2>

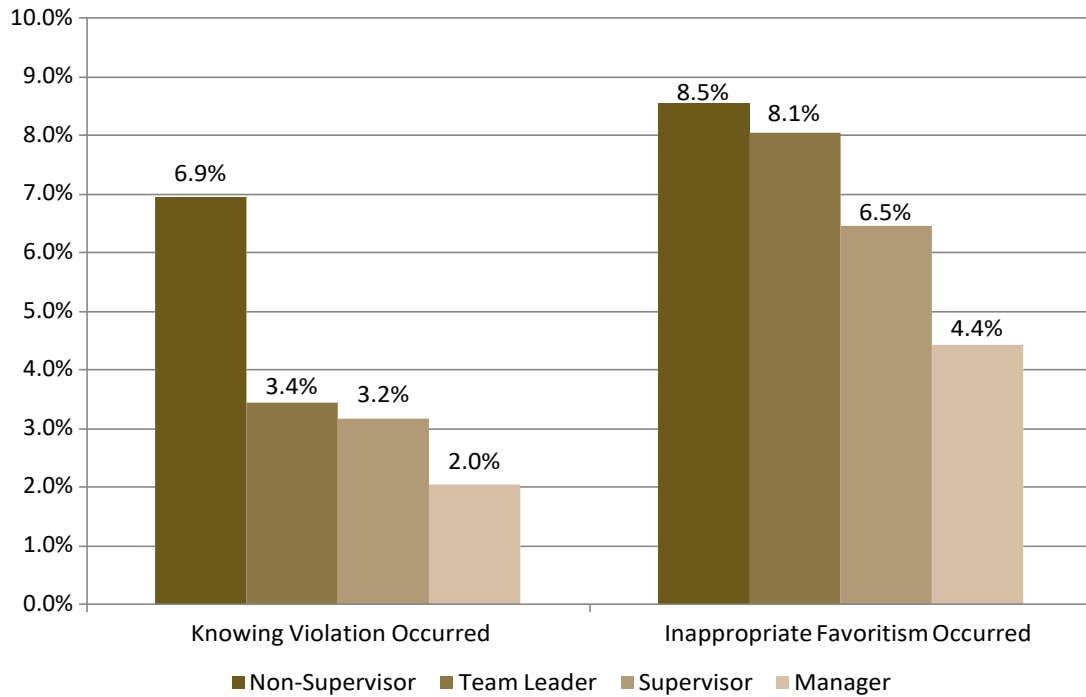
APPENDIX B

MERIT SYSTEMS PROTECTION BOARD CHAPTER 4 PERCEPTIONS REGARDING  
VETERAN HIRING: FIGURES 4 AND 5

## Chapter 4: Figures 4 and 5

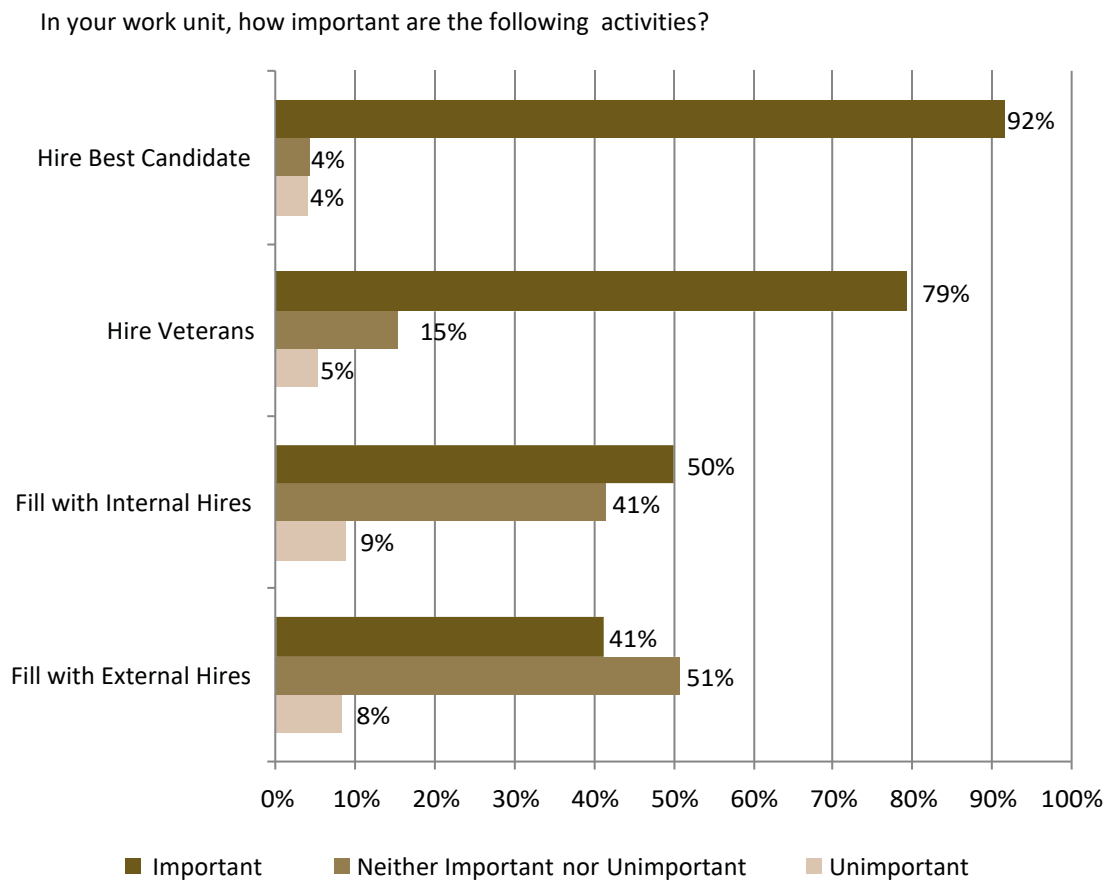
**Figure 4: Perceptions of DoD Respondents by Supervisory Status**

**Figure 4: Perceptions of DoD Respondents by Supervisory Status<sup>148</sup>**



## Figure 5: Hiring Priorities Reported by HR Offices

Figure 5: Hiring Priorities Reported by HR Offices<sup>151</sup>



APPENDIX C  
PUMS DATA VARIABLE CODING

## PUMS Data Variable Coding

### **Veteran: VPS**

bb. N/A (less than 17 years old, no active duty)

01. Gulf War: 9/2001 or later

02. Gulf War: 9/2001 or later and Gulf War: 8/1990 - 8/2001

03. Gulf War: 9/2001 or later and Gulf War: 8/1990 - 8/2001 and Vietnam Era

04. Gulf War: 8/1990 - 8/2001

05. Gulf War: 8/1990 - 8/2001 and Vietnam Era

06. Vietnam Era

07. Vietnam Era and Korean War

08. Vietnam Era, Korean War, and WWII

09. Korean War

10. Korean War and WWII

11. WWII

12. Between Gulf War and Vietnam Era only

13. Between Vietnam Era and Korean War only

14. Between Korean War and World War II only

15. Pre-WWII only

### **Sex: SEX**

1. Men

2. Women

**Race: RAC1P**

Recoded detailed race code

1. White alone
2. Black or African American alone
3. American Indian alone
4. Alaska Native alone
5. American Indian and Alaska Native tribes specified; or American Indian or Alaska Native, not specified and no other races
6. Asian alone
7. Native Hawaiian and Other Pacific Islander alone
8. Some Other Race alone
9. Two or More Races

**Earnings: PERNP**

Total person's earnings

bbbbbbb. N/A (less than 15 years old)

0000000. No earnings

-009999. Loss of \$9999 or more

-000001..-009998 .Loss \$1 to \$9998

0000001 .\$1 or breakeven

0000002..9999999 .\$2 to \$9999999

(Rounded & top-coded components)

**Class of Worker: COW**

- b. N/A (less than 16 years old/NILF who last worked more than 5 years ago or never worked)
1. Employee of a private for-profit company or business or of an individual, for wages, salary, or commissions
  2. Employee of a private not-for-profit, tax exempt, or charitable organization
  3. Local government employee (city, county, etc.)
  4. State government employee
  5. Federal government employee
  6. Self-employed in own not incorporated
  7. Self-employed in own incorporated business, professional practice or farm
  8. Working without pay in family business or farm
  9. Unemployed

**Marital Status: MAR**

1. Married
2. Widowed
3. Divorced
4. Separated
5. Never been married or under 15 years old

**Educational Attainment: SCHL**

- bb. N/A (less than 3 years old)
1. No school completed
  2. Nursery school to grade 4



3. Grade 5 or grade 6
4. Grade 7 or grade 8
5. Grade 9
6. Grade 10
7. Grade 11
8. Grade 12 no diploma
9. High school graduate
10. Some college, but less than 1 year
11. One or more years of college, no degree
12. Associate's degree
13. Bachelor's degree
14. Master's degree
15. Professional school degree
16. Doctorate degree

**Age: AGEP**

- 0 .Under 1 year
- 1..99 .1 to 99 years (Top-coded)