

NORTHERN ILLINOIS UNIVERSITY

Accidental Event Compensation: The Differing Philosophies and

Objectives of the Civilian and Martial Sectors

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Abstract

As a result of the growing scrutiny of the military in recent times, understanding the philosophy and objectives behind the military sector's method of disability compensation relative to the civilian sector stands as a relevant topic. There exist many similar types of disability within the civilian and martial sectors, yet the compensation levels can show great variation. This work attempts to understand the reasoning behind the differing levels of benefits by investigating the underlying philosophies and objectives applied in each sector through an extensive review of work from independent organizations such as the GAO and the RAND Corporation. This work does not wish to offer an opinion on which sector does a better job; instead, it only seeks to convey that comparing the two sectors would be unfair because of the stark differences in philosophy and objectives. Because the civilian sector employs a philosophy of *replacement* of earnings, while the martial sector employs a philosophy of *supplementation* of earnings, the differing amounts of compensation for similar disabilities do not reflect over or under compensation to either sector, but rather only exist because of a fundamental difference in disability compensation philosophy.

Introduction

There exist many examples of how the American military system greatly differs from its civilian counterpart. Given that there are a different set of rules governing military justice, as well as a very different power structure and hierarchy, this should not come as a surprise.

However, the line dividing the military and civilian sectors becomes very blurred when dealing with situations that could be in either sector, and yet the results and methods are not uniform.

Obviously, there are trials in both sectors for acts such as fraud, stealing, etc. which call for various punishments, whether it is fines or, in the case of the military, a discharge. Despite the vast amount of these similar situations, this investigation would like to focus on a very specific type of event, the contrasting methods used and the awards given by the military and civilian system with respect to cases concerning future earnings loss because of disability or other

employment changing statuses. While the military has employed a separate system of compensation for quite some time, many aspects of martial law are coming under scrutiny as of late because of the growing coverage and unpopularity of the War in Iraq.

In order to lay out the analysis of both systems in a clear fashion, this paper has six parts; however, throughout every part, I will define an accidental event as circumstances where an individual incurs some sort of disability. The first section outlines the methods and objectives used by the civilian system. Considering that most people possess some degree of familiarity with the civilian sector, this part will have somewhat shorter length than the following section concerning the military system. More detail is provided in the second section because this work operates under the assumption that the reader may be less familiar with the martial system. After these two sections, a brief overview of benefits offered to both sectors, such as Social Security Disability benefits, follows because the subject is relevant for both sectors. Once a soldier

retires, he/she becomes a civilian once again, and has entitlement to certain social benefits similar to people from the civilian sector. The fourth and fifth sections of the paper focus on the objectives and philosophies of the civilian and military sectors, respectively, and outline how the methods described in sections one and two adhere to these values. Finally, a sixth section is offered comparing the two sectors in an attempt to plainly define which circumstances are consistently compensated more favorably in the military and which situations are consistently compensated more favorably in the civilian sector as a result of the contrasting methods used.

Before one can even attempt to make claims concerning which system does a “better” job compensating victims of accidental events, there must be solid evidence that the two methods are on a basis of fair comparison. Despite there being many similar cases of disability within the military and civilian sectors, the compensation methods and amounts can greatly differ; further, this difference does not represent intentional under or over compensation to either sector, but rather, the significant differences in the philosophies and objectives pursued by the martial and civilian sectors.

Part I – An Overview of the Civilian Sector

While there exist many opinions debating how to most accurately compensate someone for an accidental event within the private sector, a large amount of core aspects and general assumptions stand out as the foundation used for the determination of the award given for disability compensation. The determination of civilian court awards stands as the main focus of this section, though other organizations dealing with civilian disability compensation do receive attention as well. Throughout this section, there are frequent references to Gary Albrecht and Kurt Krueger’s work, A Review of the Economics Foundations of Earnings and Discounting

Theories Used in Forensic Economics. A truly great work, every section begins with the practical economic issue, and then proceeds to explain the theoretical basis behind it.

Earnings Loss Assessment

Using only the victim's current wage as a measure of lost future earnings would portray a grave mistake; indeed, hardly anyone keeps the same job for their entire career. For example, labor market conditions can adjust the wage for the individual even if he/she kept the same job for life, and thus this factor must be recognized (Albrecht and Krueger 7). Another example affecting the future wages of an individual would be their underlying abilities and potential. Not every person becomes a CEO of a major corporation, and few even have the skills necessary, let alone the opportunity, thus while determining the loss of future earnings, one must get an extremely accurate account of the victim's skill set and abilities (Albrecht and Krueger 2). Though obvious, another apparent factor governing the lost future wages would be the chance the individual sees a reduction in wage. Whether the reason is economic conditions, or just simply changing technology, one cannot just simply assume that wages increase over time for any one person (Albrecht and Krueger 13). On a similar note, one must also be careful in discussion and denote whether they speak of nominal earnings or real earnings, considering that multiple years of inflation would have a large effect on the numbers (Albrecht and Krueger 12). Finally, one must also possess a good idea of the individual's preferences for work. To operate under the assumption that individuals receive earnings as a result of work in perpetuity would grossly inflate the total wages lost. Rather, before one can reach any solid dollar amount, one must know when the victim planned to retire as well as the individual's consumption patterns (Albrecht and Krueger 14). Most people do not work for the sole purpose of saving their money, thus one must evaluate the planned consumption of the individual in an attempt to gauge the

likelihood of pursuit for situations such as promotion or early retirement. After the achievement of an accurate amount of earnings loss, the next step is to discount the future cash flows to find their present value today.

Valuation of the Future Earnings Loss

Despite knowing the potential future cash flows of an individual, one cannot simply discount those amounts to present value and hand them to the victim. Another very important issue in the civilian sector is how the injury occurred. Some situations already have rules governing the compensation of future wage loss and an individual would not be entitled to the full present value of their lost wages. For instance, within the Government Accountability Office (GAO) report, Disability Benefits: Benefit Amounts for Military Personnel and Civilian Public Safety Officers Vary by Program Provisions and Individual Circumstances, the restrictive time limits on benefits of programs such as Worker's Compensation receive recognition and highlight how benefits may cease despite the individual not being able to return to work (GAO 20). If a civilian takes injury at work, then programs such as Worker's Compensation govern the results. However, if an individual sues another for an accidental event, and they agree to take the situation to the courts, then the plaintiff may very well receive the full present value of their lost earnings with no restrictive time limits. Regardless of the length of the benefits, the method used to evaluate their present value will be the same.

Before attempting to use an interest rate to discount the cash flows, one must give attention to the risk of the future cash flows. Simply put, if the individual may have had a .5% chance of becoming a corporate officer, handing over the present value of a multi-million dollar contract would be foolish and overcompensating (Albrecht and Krueger 24). Instead, one should take the present value of the contract and multiply it by .5% to get a precise understanding of the

wage loss. A similar practical issue arises when attempting to determine the correct rate to use for discounting; it must reflect both inflation as well as investment potential. Without accounting for inflation, the compensation received by the individual would not reflect the present value of their total earnings. A more elusive problem posed is the determination of the investment potential of the present value of the given earnings loss. If given a lump sum, the individual has the potential to invest the whole amount into some sort of asset and gain growth beyond inflation, thus in an effort to not overcompensate the victim, the final award must account for this prospect (Albrecht and Krueger 17). However, the other side of the coin must also be reviewed; since we know the individual will not just store all of this new wealth in Treasury Bonds, we must also account for the default risk of the potential investment vehicles (as well as their liquidities) used to actually achieve our chosen discount rate we used for valuation (Albrecht and Krueger 27). Once one realizes the appropriate discount rate for use, and all of the future cash flows have received adjustments reflecting their respective risks, one can know the proper present value of the future earnings loss due to forgone cash flows.

Part II – An Overview of the Martial Sector

While a full discussion of the differing aspects of the compensation philosophy utilized by both sectors is saved for latter sections, this section is written with the following assumption in mind: One cannot stay in the military all of their life providing that they are not a casualty, and, because of the vast amount of disability incurred as a result of military activity, the system does not distinguish between accidental events occurring on or off the job; thus, for compensation purposes, a soldier always remains on duty. Like the civilian sector, the intention of the compensation is to offset the earnings loss from the disability. However, unlike the civilian sector, where occasionally people compensate disability on a case-by-case basis in the

case of personal lawsuits, the military sector always follows set rules and guidelines. This sector takes all of the earnings information and opinions from many cases and compiles them into a giant rating table. From this table, compensation awards are easily and quickly determined after a physician's diagnosis of the problem. The military uses this system for every accidental event resulting in disability, regardless of time or location, including combat situations (though accidental event may not seem related to combat, I will apply the term with the understanding that no rational soldier takes damage in combat on purpose). Because of the nature of martial work, typically many disabilities result in forced retirement from the military. Because many cases result in a discharge, many disability victims also fall under the category of retiree. The military system keeps this fact in mind while structuring the compensation methods. In the interest of familiarizing the military sector to the reader, this paper first fully explains many aspects of the rating tables, and then proceeds to describe typical outcomes that result from the application of these aspects.

Throughout this section, three works will get consistent references. The RAND Corporation, a non-profit research organization, specializes in objectively analyzing situations and providing their recommendations; thus, their work, An Analysis of Military Disability Compensation, provides a great resource for understanding the military system. A similar work, provided by the National Academy of Sciences and authored by the Committee on Medical Evaluation of Veterans for Disability Compensation, is A 21st Century System for Evaluating Veterans for Disability Benefits. Finally, the GAO report proves to be a great resource here as well, especially for its extensive coverage on which circumstances result in what levels of comparable benefits between sectors, which will be more useful in part six.

The Rating Schedule

Instead of having payment guidelines corresponding to each type of injury, the military assigns a rating of 0-100 percent to every disability a soldier has in increments of 10 percent (National Academy of Sciences 41). Once all disabilities have received an evaluation, the victim receives an assigned combined rating, which not only reflects the overall disability but is also the basis for their compensation from the Department of Veteran Affairs. While this aspect may be counterintuitive, the combined rating does not simply sum up the individual ratings; for instance, a twenty percent rating and forty percent rating combine into a fifty percent rating, not sixty percent (National Academy of Sciences 42). Essentially, since one cannot be more than 100 percent disabled, the military cannot simply add up a 60 percent disability with a separate 80 percent disability. To help illustrate this issue, the following charts from the National Academy of Sciences depict the proportions of each rating.

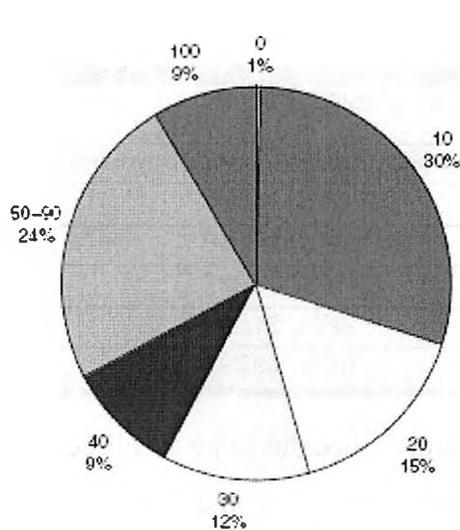


FIGURE 2-5 Veterans by combined rating level, FY 2005 (percentages).
SOURCE: VA (2006b).

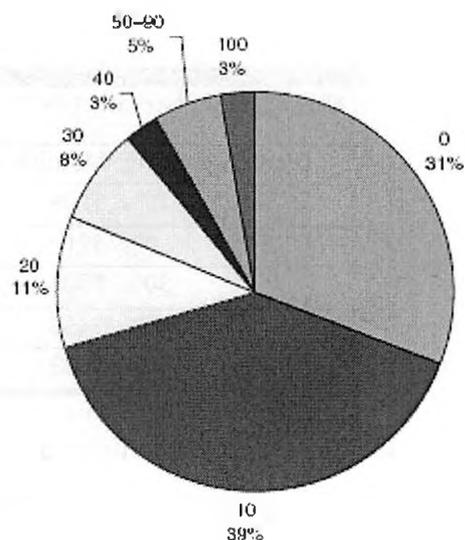


FIGURE 2-6 Disabling conditions by rating level, FY 2005 (percentages).

Once a victim knows his or her combined rating, they receive a disability compensation payment according to the following table adjusted with a COLA, according to the GAO report (GAO 14). A very important issue to keep in mind when reading this table is that veterans who

gave over 20 years of service also receive generous retirement payments if they can no longer work in the military (RAND 12). Those who serve less than 20 years get less generous retirement payments; however, the largest group of disabled retirees falls into this 20-years-of-service group (RAND 12). Unfortunately, for the veterans, typically the retirement benefits and the disability benefits offset each other, except in certain situations, which will have a fuller explanation later. In addition, during the entire time the victim attempts to recover from the condition and obtain a physician's evaluation, the victim receives their full base pay while on leave, a notably more generous outcome than what the civilian sector employs (RAND 21). However, like in consulting work, much of a soldier's pay comes from items such as bonuses, thus the base pay is not an extremely sizable amount (the tables are immense and can easily be found on many websites). Even if a soldier does not have 20 years of service, they could still obtain a job in the private sector and supplement this disability income.

Table 2: Basic Monthly Compensation Rates for VA Disability in 2005

Disability rating	Monthly payment	Disability rating	Monthly payment
10%	\$108	60%	\$839
20%	\$210	70%	\$1,056
30%	\$324	80%	\$1,227
40%	\$466	90%	\$1,380
50%	\$663	100%	\$2,299

Source: Department of Veterans Affairs.

Of course, not even the military considers their rating schedules to be infallible, and thus, the method consistently receives criticism. The starkest problem with the tables continues to be their lack of updates; the most current disability-rating schedule dates back to 1945 (the last major overhaul, though minor updates have been made) (National Academy of Sciences 102). Because of this time period, the disability ratings reflect the difficulty in doing manual labor, rather than the difficulty in performing service-sector type jobs that are more typical of today's

economy (RAND 10). As a result, many veterans will obtain a combined rating that does not necessarily reflect their ability to perform in today's labor force. Indeed, multiple accounts of individuals with 100 percent disability working in the civilian labor force support the claim that these tables desperately need a considerable overhaul. For example, while the loss of both feet counts as 100 percent disability according to the rating schedule, one can easily imagine a person with no feet using a wheelchair and working a desk job (National Academy of Sciences 47). The use of physician's estimates of earnings loss due to disabilities represents another large shortcoming of the table, for obvious reasons. Typically, a doctor does not have the necessary knowledge to provide an accurate prediction how much earnings the typical worker will lose in the vast majority of fields, except perhaps the field of medicine. According to one study, the disability ratings only explained one percent of future earnings loss, thus helping to validate the criticism (RAND 36). To further the case for the necessity of updates, many forms of diagnosis do not even appear within the rating system; if the diagnosis from the physician does not have a place on the table, the most closely resembling ailment becomes a proxy and determines the compensation and disability rating (National Academy of Sciences 103). While this may seem shocking, one must consider the medical field and the vast and consistent amount of new discoveries and terminology. Though the military does make some attempts to change the rating tables over time, the following table, without a doubt, shows the lack of effectiveness of the current system regarding updates (National Academy of Sciences 108). As one would expect, these sorts of tables would result in certain trends within the total compensation system, trends that one must be aware of in order to have a full overview of the system.

Body System	Proposed	Final	Effective Date
Genitourinary	12/02/91	01/18/94	02/17/94
Dental and oral conditions	01/19/93	01/18/94	02/17/94
Gynecological conditions and disorders of the breast	03/26/92	04/21/95	05/22/95
Hemic and lymphatic	04/30/93	09/22/95	10/23/95
Endocrine	01/22/93	05/07/96	06/06/96
Infectious diseases, immune disorders, and nutritional deficiencies	04/30/93	07/31/96	08/30/96
Respiratory	01/19/93	09/05/96	10/07/96
Mental disorders	10/26/95	10/08/96	11/07/96
Musculoskeletal: <i>Muscles</i>	06/16/93	06/03/97	07/03/97
Cardiovascular	01/19/93	12/11/97	01/12/98
Organs of special sense: <i>Hearing</i>	04/12/94	05/11/99	06/10/99
Skin	01/19/93	07/31/02	08/30/02
Digestive: <i>Gastrointestinal</i>	08/07/00	(withdrawn in 2004)	
Musculoskeletal: <i>Orthopedic</i>	02/11/03	(withdrawn in 2004)	
Organs of special sense: <i>Vision</i>	05/11/99		
Neurological conditions and convulsive disorders	(under review)		
Digestive	(under review)		

Trends in Compensation

In the martial system, there exist four different types of disability victims as defined by the system. The GAO report and the RAND report do a great job of fully explaining each type, but for the purposes of this work, a brief definition of each type of victim follows. The first and most common type, typically referred to as a non-medical retiree, has served for over 20 years,

making them eligible for retirement benefits, and has a disability that entitles them to compensation. The second type, typically referred to as a medical retiree, has less than twenty years of service but more than eight, which entitles them to a lesser form of military retirement benefits, and has suffered a service-ending disability of rating 30 percent or more. The third type of victim has a similar situation to the second type, except that it generally applies for those with eight years of service or less as well, and their disability rating is below 30 percent, though still combat ending. The main difference between these two groups to focus on within this work concerns the compensation method: the first gets a payment plan with monthly benefits, while the latter receives a lump sum as severance pay. The fourth group represents those who have a disability rating, but were able to continue their service; thus, once they quit, they will fall into one of the previous three categories. No matter which classification a person ends up in, they all have the benefit of being able to work in the civilian sector without seeing a reduction in their payments from the military. However, for the cases where an individual is entitled to military retirement benefits as well as disability benefits, the two payments usually offset each other dollar for dollar. The exception, which is part of a plan Congress passed in 2004, is for non-medical retirees; over the ten year phase in period from 2004, these individuals, if their combined rating is over 50 percent, can receive both their retirement benefit and disability benefit in full (RAND 61). While the other groups do not have this privilege, the tax exemption status of the disability benefits still results in a higher benefit than if they only received their retirement income (RAND 61).

Organizations, including RAND and the GAO, have done a great deal of work in an attempt to understand the effectiveness of the compensation for these groups, as well as the effects of the compensation relative to the civilian sector. The GAO, in particular, did extensive

comparisons between the federal benefits of public safety officers and the benefits offered to similar people within the military. While they found no overall difference between military benefits and PSO (public safety officer) benefits, they did find many circumstances where a soldier would receive much more compensation and vice-versa (GAO Overview). The RAND Corporation did a similar comparison, only they compared the military benefits to the private sector and in an attempt to see where the levels of compensation greatly differed. One of the most notable reasons why PSO and military benefits differed was because of the calculation method; while PSO benefits base themselves on salary, military benefits base themselves on degree of disability as well as retirement benefit, depending on the classification, and have a 75 percent cap (GAO 46).

The RAND Corporation found an interesting, though slightly unfortunate result concerning veterans within the civilian market. Most likely a result of the retirement benefits offsetting the disability benefits, medical retirees with ratings between 10-40 percent seem to lose about 1 percent of income per year relative to their non-disabled veteran peers, while medical retirees with more extreme ratings (above 50 percent) tend to experience earnings enhancement of up to 49 percent (RAND 65). Concurrent with the RAND Corporation's finding that more severely disabled veterans earn more than their non-disabled peers, both the GAO and RAND Corporation found that the differences between expected future earnings and actual earnings increases dramatically for non-medical retirees as well when the disability rating increases, especially because of the Congressional Plan to allow concurrent receipt (RAND 72). However, like the situation for the medical retirees, non-medical retirees experience a slight loss in earnings when they have a lower disability rating (40 percent or less) (RAND 72). To

illustrate the situation, a table from the RAND Corporation's report follows below, depicting the results for non-medical retirees with respect to disability rating and earnings (RAND 73).

Comparison of Nonmedical Retiree Earnings and Disability Compensation for Full- and Part-Time Workers, by Disability Rating

Disability Rating (%)	VA Disability Compensation (\$)	Marginal Tax Rate (%)	Adjusted Payment (\$)	Expected Earnings (\$)	Earnings + Adjusted Payment Compared with Nondisabled Retiree (\$)
None	0	26.58	0	47,746	NA
10	1,254	26.75	335	47,105	-306 (-0.6)
20	2,405	25.75	619	46,528	-599 (-1.3)
30	4,225	26.05	1,100	45,675	-971 (-2.0)
40	6,133	24.96	1,531	44,219	-1,996 (-4.2)
50	8,550	24.80	10,670	42,885	5,809 (12.2)
60	12,325	24.75	15,375	42,082	9,711 (20.3)
70	17,340	24.07	21,513	40,772	14,539 (30.5)
80	21,431	24.42	26,665	39,861	18,780 (39.3)
90	23,833	23.53	29,440	38,683	20,377 (42.7)
100	32,627	23.67	40,349	36,682	29,285 (61.3)

While the table above may reflect the situation of many retirees, not everyone in the 50 percent plus category possesses such luck. One must always keep in mind that two very different kinds of ailments, such as limb loss and blindness, of two very different kinds of people could result in the same disability rating, and thus perhaps grossly overcompensate one veteran while grossly under-compensating the other. Indeed, the RAND Corporation found that disability, while attempting to control for education, has a very strong effect on labor force participation, but a somewhat weak effect on the amount of time spent working for those who participate in the labor force (RAND 50).

Variable	All Retirees	Labor Force Participants	
	Labor Force Participation	Weeks Worked	Usual Hours
Completed two years of college	0.0489** (0.0084)	0.1614 (0.2639)	0.1334 (0.2848)
Associate's degree	0.0420** (0.0106)	0.6172 (0.3360)	0.0933 (0.3627)
Completed four years of college	0.0619** (0.0085)	0.2349 (0.2822)	-0.0489 (0.3046)
Bachelor's degree	0.0730** (0.0086)	0.3191 (0.2994)	-0.0658 (0.3231)
Completed six years of college	0.0795** (0.0102)	-0.8636* (0.3727)	0.0286 (0.4022)
Professional degree	0.1060** (0.0076)	-0.0007 (0.2778)	0.4869 (0.2998)
Constant		47.7162** (0.2834)	42.7041** (0.3058)
Observations	19,251	13,992	13,992
R-squared		0.03	0.03

SOURCE: Computations from data in the 2003 SRM (DMDC, 2004).

* Statistically significant at the 5% level; ** statistically significant at the 1% level.

This unaccounted for effect on labor force participation represents an unfortunate side effect of the current rating schedule for some disabled retirees while greatly benefiting the majority of them, considering that military benefits remain independent of civilian earnings, unlike Worker's Compensation benefits, for instance. In the long run, many disabled veterans, now turned civilian, may miss out on future benefit opportunities offered to all citizens because of induced unemployment, such as Social Security.

Part III – A Brief Mention of Programs Available to Both Disabled Civilians and Veterans

Regardless of which type of military service an individual provides, there exist only two possible outcomes for anyone employed by the military: die during service, or leave the force and return to being a civilian. Of course, if a soldier dies in combat, then disabilities incurred during the injury would not matter, only the death benefits provided by their insurance would. Perhaps an exception to this situation would occur if the individual died, after becoming a

civilian again, from non-natural causes that would require a lawsuit, and thus the disability benefits could count towards lost future family income. In all other cases, most veterans would have a life insurance policy, just like their civilian counterparts. While veterans may indeed get better deals on life insurance according to some programs, controlling for their disability, the basic premise of the coverage will be the same in either sector; one chooses an amount for coverage and pays a premium for it.

After the veteran rejoins the civilian workforce, assuming the veteran does so, in many ways they will exhibit no differences from other non-veteran civilians. For example, if the veteran sustains injury on the job, they can receive Worker's Compensation benefits just like any other worker. Thus, when evaluating post-soldier compensation for disabilities or work-related injury, one can leave programs such as Worker's Compensation out of the mix. Unemployment insurance poses as another fine example; if a veteran loses a job say five years down the line, they will not receive different unemployment benefits than another civilian because of their veteran status. The same rule applies for Social Security Disability benefits as well. While the rules and process for obtaining compensation for disabilities through this program present a rigorous challenge considering that Social Security does not consider someone working to earn over 900 dollars a month as eligible, veteran status does not count as an advantage or disadvantage because these programs only care about *earned* income from work, not benefits independent of employment (Ultimate Social Security Disability Guide website).

For all of these situations, one implication becomes a very clear benefit for all veterans in the civilian sector: military benefits and retirement payments **do not** count against a veteran when applying for the use of these civilian programs during his subsequent participation in the civilian workforce. However, one fundamental difference between veterans and civilians will

always exist regardless of what program's criteria is used: their work history. This fundamental difference in work history leads to a very different lifetime cash flow pattern for those who have served in the military sector relative to the civilian sector, and thus represents a reason, along with many others, that the military would apply a different set of objectives and philosophy than the civilian sector in their approach to accidental event compensation.

Part IV – The Philosophy and Objectives Used in the Civilian Sector

The civilian sector pursues a policy of *replacement of earnings* in its approach to accidental event compensation. According to the RAND Corporation, civilian disability only has a temporary effect on a person's life: "Civilian programs focus on replacing a portion of workers' earnings because they cannot work while recovering from an injury" (RAND xx). While an injury can most definitely cause permanent disability, the loss in compensation would only be a temporary ailment considering that no person can work forever, a key insight of the civilian philosophy. Thus, in the sector's approach, cash flow loss and timing represent major issues, which follow directly from this policy of earnings replacement. Indeed, a good way to describe the civilian sector lies in the half-full/half-empty glass viewpoint. This sector consistently views the glass as half-empty during every step of the way throughout the compensation process, and this work will highlight this sector's mentality while reviewing all the aspects of compensation mentioned in part one. While reviewing this approach to civilian disability compensation, there stands great importance in remembering that this work focuses on earnings loss because of disability, and not the compensation for loss in "quality of life", which, in the case of civilian courts, may make up a sizable portion of a legal award.

Philosophy Applied to Earnings Loss

The first aspect, underlying ability of the victim, definitely changes when a person becomes disabled. During the compensation process, this sector seeks to determine what potential opportunities the victim lost because of the injury. In theory, if an injury, such as perhaps a lost toe, did not change the potential career path of the victim then no amount of compensation would be necessary because of this aspect of earnings loss; the glass would still be full. The second aspect, wage fluctuation, does not deviate from this mentality either. Basically, whether the cause is inflation or just economic issues such as recession, the individual will not receive compensation for potential reductions in wage because there is no wage to be replaced as a result of disability. The third aspect, the individual's preferences for work, stands as the first blurry zone for the earnings replacement mentality. For example, if, because of the disability, the person has a modification of life philosophy, or an epiphany of some sort, and decides to become less materialistic, the individual may very well be able to achieve the same quality of life as they had before the injury with a great deal less money. For such reasons, quality of life, namely utility, cannot be a solid basis for earnings replacement because of its abstract nature. Instead, the individual's pre-injury preferences, such as early retirement or the pursuit of promotion, form the foundation of compensation determination, and compensation replacement becomes based on this set of ideologies. Essentially, because of this replacement mentality, individuals may see a dramatic increase or decrease in their overall utility, depending on their attitude and outlook on life. Because this issue of individual preferences poses such a challenge to the civilian mentality, a further review is necessary.

When determining the timing of the future cash flows of an individual because of his or her preferences, two variables become very important: the number of years in employment and consumption patterns. Currently, forensic economists use increment-decrement work-life tables

to try to estimate how certain demographics participate in the workforce. Like in the military, tables often lack updates and can often lead to incorrect estimates of wage loss. In fact, in their work, Estimating Work-life Expectancy: An Econometric Approach, university faculty Daniel Millimet, Michael Nieswiadomy, Hang Ryu, and Daniel Slottje provide their own set of tables in an attempt provide more reliable estimates of work-lives. These tables use nine years of data, as opposed to the conventional Bureau of Labor Statistics tables that only used one, and these new tables use Markov chains to try to model an individual's entry to and exit from the workforce related to many demographic variables such as education and sex (Millimet, Nieswiadomy, Ryu, and Slottje 111-112). In a similar attempt to obtain an accurate prediction of future cash flows, Gary Albrecht, Kurt Krueger, and John Ward provide an extensive discussion on the factors determining consumption within their work, Economic Loss of Financial Support to Survivors as a Result of Wrongful Death. Unlike tables, which offer estimates based on a whole group of people, this work stresses the importance of trying to model a single person's consumption in order to adjust compensation payments, which, in this work's case, were because of wrongful death (Albrecht, Krueger, and Ward 11-12). While there exist many other works similar to the ones discussed, they all show the importance of individual preferences when trying to determine the appropriate amount to use in order to replace a victim's earnings loss.

Philosophy Applied to Valuation

Because of the strict focus on replacing a person's earnings, the application of the philosophy is just as strict in valuation as it is in estimation of future cash flow loss. Even the slightest alteration of the discount rate will have noticeable effects on the present value of a victim's future earnings. In the case of a lawsuit, the civilian sector does not want to under-compensate the victim, and yet, at the same time, it does not want to over-compensate the victim

either, considering that overpayment would be unfair to the defendant. Since the legal system cannot handle every individual case, certain types of disability and injury, such as those that happen on the job, usually follow the rules of a program already in place. For instance, Worker's Compensation typically provides 66.66% of salary to a person who cannot work while recovering from an injury. These payments will continue for a set amount of time until the person regains the ability to work in the labor force again. Unlike the military sector, where the degree of injury represents the primary determining factor of the payment received, the civilian sector typically adjusts the length of time a person can receive benefits under programs such as Worker's Compensation according to the degree of injury (RAND 22).

If the case does not fall within a pre-existing program's jurisdiction, then the courts must determine the appropriate cash flow amounts and discount rate used in compensation.

However, even within this aspect lies another challenge of applying the replacement philosophy. As Albrecht and Krueger pointed out, one has to make sure that the victim can actually attain the discount rate the court uses for valuation. Thus, the importance of consumption patterns matters all the more, considering that an individual's experience in saving and investing will have a great influence on the discount rate used to mimic the recipient's future cash flows (Albrecht, Krueger, and Ward 12-13). Another popular method in the courts consists of simply handing over the present value of the victim's lost earnings in a lump sum. However, Richard Lewis, Robert McNabb, Helen Robinson, and Victoria Wass, in their work, Court Awards of Damages for Loss of Future Earnings: An Empirical Study and an Alternative Method of Calculation, warn against the use of lump sums for compensation. The argument, a very valid one, states that if the victim receives a lump sum, they have much more ability to invest the money and much more time for

interest rates to alter the amount, be it in their favor or not (Lewis, McNabb, Robinson, and Wass 431).

Overall, the civilian sector takes many precautions and employs methods with the objective of providing an accurate replacement of an individual's lost future cash flows. While this philosophy, like most philosophies, cannot perfectly exist in this realm because of practicality issues (such as the vast amount of civilian injury on the job), the courts or civilian programs offer their best attempt at trying to adhere to the philosophy's main objective: replace the victim's earnings and don't give them a penny more or a penny less. While the military faces similar accidental events to the civilian sector that result in disability, their philosophy in providing compensation greatly differs in one fundamental way.

Part V – The Philosophy and Objective Used in the Martial Sector

The martial sector pursues a policy of *supplementation of earnings* in its approach to accidental event compensation. The RAND Corporation describes the military's method in the following way: "...military programs supplement earnings on the assumption that those earnings are depressed as a result of the disability" (RAND xx). Unlike a civilian, when military personnel leave the martial sector, they have the opportunity to seek employment as a civilian in the civilian sector. Using a philosophy of replacement would not yield reliable, nor accurate results because the individual would receive payments based on their military sector wages even though they are actually missing out on civilian sector wages because they are now *retired* veterans and civilians. Because of this guaranteed employment path for every soldier who does not die in the military, the martial sector employs a supplemental philosophy with respect to disability compensation because any person who leaves the military is a retiree similar as to how anyone who leaves the civilian workforce is a retiree. One way to view military disability

compensation is to split the process into a short-term component and a long-term component. This view more easily displays the application of the supplemental philosophy and is thus used by this paper.

Supplemental Philosophy Applied in the Short-Term Component

While the civilian sector has many programs that govern the realm of compensation for many specific cases, the military has only one process for its whole entirety. When an individual sustains injury in the military and may have incurred disability, the individual does not participate in military events and awaits the examination of a physician for evaluation of the injury. During this time, in accordance with the supplemental philosophy, the individual receives their full pay because that person's earnings face complete suppression since he or she cannot work during the evaluation period and the recovery period (RAND 22). After the individual receives treatment and a disability rating from a physician, three things can happen. The first would be that the individual returns to work at their previous position, and thus receives no supplemental earnings, despite any disability incurred. The second situation, which does not happen very often compared to the first and the last situation, is that the individual returns to work for the military but as a lower rank. The third situation, and the one this paper would like to focus on, is that the individual can no longer work in the military and thus must retire from the martial sector and return to the civilian sector. If an individual ends up on the third path, only then will long-term component take effect of the supplemental philosophy employed by the military.

Supplemental Philosophy Applied in the Long-Term Component

Once a person leaves the military, they become eligible to receive disability compensation. While both of the sectors apply tables to estimate variables such as expected

work-life and such, the military only uses these variables to estimate the earnings loss in the civilian sector based on the disability incurred, and not the individual's talents. A soldier's work history fundamentally differs from any civilian in that no one can use a soldier's previous pay as a basis for future earnings loss. Since some people have many more years of service in the military than others, it would pose a nearly impossible challenge to find a rate of depreciation for human capital gained prior to military service. In addition, considering that the current disability tables rate ailments according to how much they would inhibit a career in manual labor, the tables would have to go through a complete overhaul if they were try to provide a sufficient estimate of lost earnings for jobs that require a large degree of prior education. As a result of this near impossibility to find a rate of depreciation for so many different types of human capital in the civilian sector, the martial sector aims only to supplement the compensation of disabled veterans in the civilian sector as a form of aid, rather than as a replacement of lost earnings in civilian sector.

The largest issue comes from people who have disabilities that completely prevent them from working. For example, if a person has been in the military as a soldier for 23 years and then receives a disability such that no form of employment is even possible, how can anyone know the lost earnings potential of the soldier in the civilian sector when he or she has not held a job there in over 20 years? Rather than attempt to conquer such an enormous task, the military simply supplements the earnings of veterans in a hope that they will be at an equal compensation level when compared to their civilian peers; the military knows the "glass" is partly full but can't tell if it's only a quarter full, or a half, or etc. so they merely fill it up more based on estimates of other "glasses" in the past. Rather than attempting to find the exact amount that the "glass" lost beforehand, the military fills up the "glass" until it appears full to the best of their knowledge.

Another important aspect of military disability that cannot go unnoticed is that any veteran also stands a retiree from the martial workforce, and thus, like in the civilian workforce, may have some entitlement to retirement compensation. In the civilian sector, many pension plans require a certain amount of years of employment in order to qualify for compensation, and 401k plans typically require at least five years. In the military, the idea of providing disability retirement benefits to those that leave the martial sector is not new; in fact, the first military pension law in the U.S.A., passed in 1776, mandated that military personnel who incurred disability as a result of service will receive half of their pay for life or until they recover from their ailment (National Academy of Sciences 93). The military has a similar set-up to the civilian sector with two key differences: one, one can only receive the retirement pension if they have served for over twenty years, and two, the military has only one “firm”, namely the government, and thus serving in different positions is not like serving in two different private sector companies with separate pensions. A key aspect of the first difference lies within the typical retirement ages of both sectors; there is little reason to assume that someone could not work longer in the civilian sector than they could in the military, and thus an assumption behind the military’s supplementation philosophy is that a person will still work in the civilian sector for additional years after becoming a veteran.

Another key aspect of the supplementation philosophy lies within the payment periods of the disability benefits. In the civilian sector, all programs have a set time limit of benefits where, even if the person still cannot return to work, the person receives no more compensation. However, in the military, the payments intend to supplement all earnings, including those from retirement savings, and thus the disability payments continue in perpetuity for permanent disabilities. In relation to this aspect of military compensation, no form of compensation with

the exception of military retirement benefits (this rule is even being phased out for more severely disabled veterans as noted before) can offset the disability compensation. Unlike civilian programs, which will adjust compensation if the person returns to work, the military will pay the same dollar amount whether the person becomes a CEO, wins the lottery, or becomes an unemployed homeless person. Indeed, when compared to other disabled civilian peers, medical retirees with less severe disabilities only fell behind by about 1 percent of income; however, if one includes non-working retirees in the comparison, then the medical retiree is under compensated by 1 to 11 percent of earnings per year in nine out of ten disability ratings, an unfortunate result of only using a supplementation philosophy on non-working individuals (RAND 84).

Overall, the military possesses no practical method of projecting every disabled veteran retiree's future cash flows, thus, the military attempts to supplement the future civilian earnings of the veterans by a flat rate that will not adjust based on their actual compensation in the civilian sector. Ideally, any disabled veteran will still be able to work in the civilian sector until civilian retirement, and thus pad their earnings with this disability compensation. While the plan of earning a paycheck as well as receiving benefits from the government works out very well for many people, this supplementation notion can represent a curse for some individuals. In the civilian sector, most programs have caps on the dollar amount of the benefits given as well as the amount of time that one can receive them, but in the military sector, the only cap is on the concurrent receipt of disability and retirement benefits for over 20 years of service. The curse arises for those that cannot work in either sector; these people fall outside the assumptions of the supplementation philosophy and thus will not receive enough compensation to cover their lost

wages. However, even if these people stay unemployed the rest of their lives, these unemployed, disabled veterans will still receive disability benefits until the day they die.

Part VI – Comparisons in Compensation between the Martial and Civilian Sector for Similar Disability

Because the martial and civilian sectors follow different philosophies and seek different objectives, there exist certain types of situations where the military will pay more for a disability and there exist certain types of situations where the civilian sector will pay more for a disability. In order to compare both sectors, this work splits up the compensation determination into a short-term component and a long-term component, similar to section five, and supplements these two sections with a brief mention of shared trends. Throughout this section and its offered comparisons, one will see that neither sector's compensation exceeds the other in any overall way, only in specific cases. In order to try to provide a middle ground between the civilian sector and the martial sector, this work also uses comparisons between civilian public safety officer disability compensation and martial disability compensation done by the GAO. Public safety officers typically have government style benefits but work in the civilian sector, thus they provide a nice example of a makeshift hybrid of the two sectors.

Comparison of the Short-Term Component

Without a doubt, the martial sector offers a much more generous compensation plan in the short term than the civilian sector does. In the civilian sector, if the injury is work-related, then Worker's Compensation typically pays about 66.66% of the worker's salary. If the injury results in an evaluation from the courts due to a lawsuit, then during the time period of the legal proceedings, the individual cannot possibly receive a legal award since the plaintiff still has no sentence. Thus, the victim only receives compensation in the short-term component if the injury

falls in the jurisdiction of a pre-existing civilian program. The following table lays the martial sector's handling of the short-term component side-by-side with the very well known civilian program, Worker's Compensation; as depicted by the table, the military offers more generous compensation in every way (RAND 22). Though the benefit limit represents more of a long-term component, the main insight from this variable is that there is no waiting period for benefit eligibility, and, even if it takes a great deal of time to get a soldier into a physician's office for evaluation, they will still receive full pay during the short-term component.

Criterion	Military Disability	Workers' Compensation
Benefit calculation	Member receives full military pay and benefits while recovering from an injury. If member retires from the military with an injury, the benefit is based on disability rating assigned using the VA's schedule	Benefit based on wage loss (usually 2/3 of actual wages lost (earnings are capped))
Eligibility	Not contingent on where injury occurred or ability to work	Contingent on work-related injury and inability to work
Rehabilitation	Vocational rehabilitation available, but not mandatory for eligibility	Eligibility often contingent on participation in rehabilitation
Benefit limit	No limit on total dollar amount or time period of benefit eligibility	Limits on maximum weekly benefits and length of eligibility
Program goal	Active-duty members receive full pay while recovering from injury	Workers' compensation is reimbursement for lost earnings during rehabilitation

One aspect that is common to both sectors is the desire for the victim to return to work.

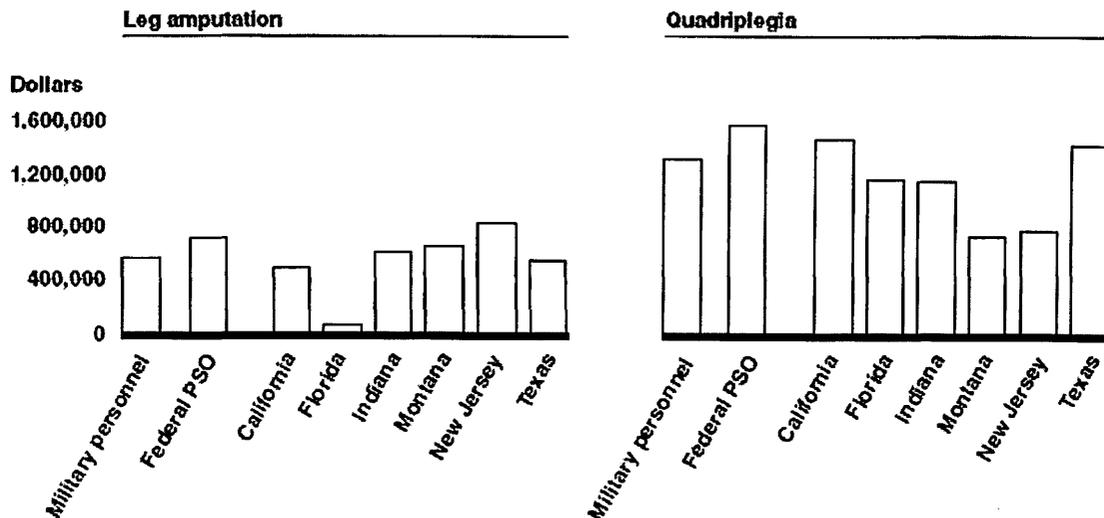
As discussed, the long-term component only initiates in the military if the victim must retire from the martial sector, otherwise, the soldier simply receives full pay while on leave and returns

to work when able. However, in the civilian sector, the long-term component kicks in for any disability that still exists after an evaluation of the disability. In the case of a personal lawsuit, the long term is the only time where an individual can receive benefits because of a court award. In the case of programs such as Worker's Compensation, the long term begins almost immediately. As shown by the table above, there is no drawn line between the short-term and the long-term like there is in military disability compensation because of the martial sector's belief in earnings supplementation.

Comparison of the Long-Term Component

The basis for long-term comparison lies within disabled veterans and disabled civilians. However, even though the permanent partial or permanent total disability can be the exact same ailment, the amount of compensation offered can vary considerably based on the type of injury. For instance, the GAO offers a graph in the beginning of their study depicting the amount of variation between the martial sector and civilian PSO programs for two well-known disabilities: quadriplegia and leg amputation. Despite the civilian sector's dedication to earnings replacement and the military sector's dedication to earnings supplementation, the following graphs show that because of the different methods used for determining compensation, there can be a great deal of variation between the benefits offered by each sector and even by each state (GAO Overview).

Comparison of Lifetime Benefits for One Hypothetical Individual in Two Different Scenarios

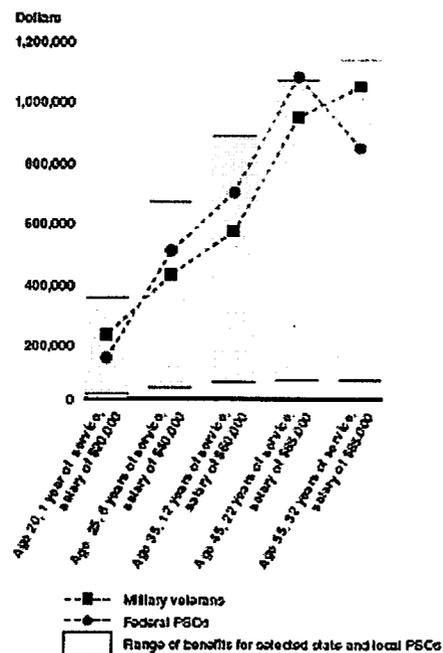


Source: GAO analysis of benefits received over a lifetime for a hypothetical individual age 35, with 12 years of service and an annual salary of \$60,000.

The largest issue complicating long-term compensation comparison is the existence of both medical retirees and non-medical retirees with the same disabilities. Considering that non-medical retirees receive much more compensation because of retirement coverage, one must first decide which type of military disability victim one desires to compare to the civilian sector. While medical retirees typically have less earnings than their civilian counterparts, the military provides noticeable generosity in the case of non-medical retirees and offers benefits that exceed the earnings loss by over 1000 dollars for ratings of 30 percent or greater (RAND 77). Another large problem that arises when comparing the sectors lies in the “special compensation” provided by the military for certain types of disability that is independent of the combined rating; these situations usually result in a more favorable outcome for the veterans (GAO 47). The GAO, in its report, offers an example of where this special compensation comes into play when it compares the disability compensation given by the military sector and that given by civilian PSO programs for a leg amputation three inches below the knee. For this sort of disability, the

military would assign a rating of 40 percent and offer special compensation of 84 dollars a month, while in the civilian sector the rating would only be 32 percent (GAO 32). Considering that civilian payments vary based on salary and military payments vary based on disability and years of service in the case of applicable retirement benefits, the age of the victim and his or her amount of time spent working will be two major variables that determine which sector offers higher compensation. The following graph depicts how the a victim of leg amputation could be either compensated more or compensated less in the military sector depending on the age of the victim and his or her years of service (GAO 34). While leg amputation is only one example, many instances of disability follow this sort of pattern of earnings advantage switching based on demographic variables, thus making it impossible to offer blanket statements regarding which sector offers higher compensation in the aggregate case.

Figure 5: Comparison of Present Value of Combined Disability Benefits over a Lifetime for a Leg Amputation



In every case the GAO examined, it was unable to offer any blanket statements saying which sector pays more overall, yet it always mentioned that certain groups, such as non-medical retirees, exhibited advantages for certain types of disabilities while lacking in others. This result provides more evidence to support the claim that comparing the civilian system with the military system in an attempt to see which does a better job does not stand as a logical task. These two sectors adhere to different philosophies while striving to achieve a similar, though complicated, goal. Thus, the supplemental philosophy and the replacement philosophy may result in discrepancies for a vast amount of cases, but neither philosophy inherently desires to under or over compensate the earnings “glass” in the long run. When attempting to answer the question of which sector offers more for disability compensation, the answer, as it often is in economics, is it depends.

A Brief Overview of Shared Trends in the Military and Civilian Sectors

Since the medical discipline affects both the martial and civilian sectors, many trends exist within both realms. A notable trend, primarily because of developments of treatment and such, is the declining proportion of injuries that result in death. However, a more notable trend is the increase in the proportion of veterans and civilians receiving disability payments. The National Academy of Sciences outlines the steady increase of the amount of disability cases within the military ranging from World War II veterans to the modern day war veterans from Iraq and Afghanistan (National Academy of Sciences 40). According to the RAND Corporation, this increase in disabilities most likely stems from the increasing generosity of physicians in the rating of disabilities and the assignment of ratings for cases that received no disability rating in previous days (RAND 17-18). As evidenced by the well-documented rising health care costs, the civilian sector also suffers from strong increases in costs and thus suffers from more

expensive disability cases as well. Unfortunately, neither sector predicts any decrease in the amount of disability or health care costs in the near future, so both of these trends will continue to haunt the process of disability compensation.

Conclusion

Overall, neither sector provides a statistically significant higher amount of disability compensation than the other does. The variability in the disability payments results primarily from the military applying a philosophy of earnings supplementation while the civilian sector applies a philosophy of earnings replacement. Despite these different philosophies, both sectors possess programs that attempt to streamline the process through the use of aids such as tables derived from vast quantities of data. Though the civilian sector does not use pre-existing programs to determine disability compensation for every case like the military does, programs such as Worker's Compensation attempt to ensure that the civilian court system does not face an overload of lawsuits and thus prevent the accurate determination of benefits. The two most noticeable differences in compensation method between the sectors is that the military combines their retirement and disability benefits for those that have enough years of service, and that military disability benefits are not offset by civilian earnings, a direct result of the supplementation philosophy.

In the end, the two philosophies are two slopes of the same mountain, two sides of the same coin, similar but different. Regardless of the method used, the goal for both sectors is to return the earnings "glass" to its previous level, sometimes the civilian sector under or over fills the glass, other times, the military sector under or over fills the glass. Despite the deep relation, the two philosophies are not the same; thus, the differing levels of compensation do not represent systematic or intentional under or over compensation to either sector. To apply one sector's

standards to the other sector would be similar to judging Muslim and Jewish practices according to Christian standards simply because all three religions desire to attain salvation with the same God, a very unfair comparison for each sector in question.

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