

The Economics of US Civil War Conscription

by

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Abstract

The US government had limited power during the Civil War, including an inability to tax income. Similar to conscription plans considered in the War of 1812, Civil War conscription was not intended to compel service, but was a second-best plan to shift the tax burden to state and local governments. The time allowed communities to provide volunteers after a federal call for enlistments, along with substitution and the payment of a fee to avoid service (*commutation*), meant few were actually drafted---about 2% of all who served. Commutation *could* have lowered social cost, but appears to have been a binding ceiling on the price of a substitute.

1. Introduction

Military conscription---the draft---ended in the US more than 30 years ago. However, since then, whenever the US enters a conflict, elected officials and other commentators speculate about whether there should be a return to conscription.¹ Economists tend to be critical of the draft,² and the arguments herein will not tend to detract from such criticisms. Our Civil War (CW) experience has been used as an example of problems with a draft (Lindsay, 1968b, and Rafuse, 1970). In addition to the standard kinds of difficulties associated with the draft (*e.g.*, misallocation of resources because the “wrong” people are enlisted, and increased turnover and draft avoidance costs), CW conscription resulted in widespread violence and opposition. Also, CW conscription supposedly was highly inequitable: the rich could hire substitutes or buy their way out, and the average man had no choice (if not exempt) but to be inducted or evade the draft.

Five times the United States used military conscription during wars: in the CW, World War I, World War II, The Korean War, and in the Vietnam War.³ In the four 20th century wars in which conscription was used, the percentages of those who served during each war who were draftees⁴ were (beginning with World War I) 59, 61, 27, and 21. The same percentage for the CW is 2. It seems reasonable to wonder if: a) a system in which draftees represented such a small percentage of those who served had a different purpose than did 20th century drafts; b) the apparent opposition to the draft (manifested in riots) was not actually opposition to a draft *per se*; and c) CW conscription (CWC) deserves more attention than it has received from economists.

As will be discussed, contemporary elected officials and 20th century historians concur: CWC was not designed to directly attract volunteers.⁵ A weak federal government, with limited ability to tax the citizenry, used conscription to shift the private (payroll) cost of military personnel to state and local

¹ See, for example, Rangel (2002).

² For a recent brief elucidation of the problems with a draft, see Oi (2003).

³ As discussed in Section 2, conscription was also used in Colonial America and in the American Revolutionary War.

⁴ These percentages were derived from *The Report of the President's Commission on an All-Volunteer Armed Force* (1970), and from the web sites of the Department of Defense and the Selective Service System.

⁵ See, for example, McPherson (1988).

governments---in contrast to 20th century conscription which involved shifting the tax burden to individual draftees.⁶ To minimize the number of reluctant volunteers, individuals could hire a substitute, and, in the first two (of four) draft calls, could pay a *commutation* fee of \$300, enabling them to avoid service. Through bounties raised by states and communities, and the availability of draft insurance, even relatively poor individuals were able to avoid service.⁷

Although historians are aware CWC had a different purpose than conscription that followed in the US, no formal analysis of the objectives of the federal government (and local governments) exists. Also, historians have criticized features of CWC---such as substitution, commutation, and bounties⁸---when such criticism may not be warranted. Finally, the role commutation *could* and *did* play in the CW deserves further analysis. Thus, the goal of this paper is to provide evidence and a theoretical model of the objectives of CWC. A better understanding of the first use of conscription by the US---what its objectives were and how it functioned---may be of value in future discussions regarding the merits of a draft.

In the next five sections, the following will be presented: an analysis of antecedents to CWC, how CWC worked, the bounty system, draft opposition, and the purposes of CWC. Sections 7 and 8 contain a formal model of the draft when there is substitution but no commutation. Commutation is considered in Sections 9 and 10, and conclusions are offered in Section 11

2. Antecedents to Civil War Conscription

The CW was by no means the first time a draft was used in America. Except for Pennsylvania, all of the colonies had similar militia laws: substitution was allowed, and some colonies permitted one to pay a fee to avoid service, what was known as commutation in the CW. Conscription was used to encourage volunteers (Levi, 1997). Decentralized militia drafts were used in Indian wars, in the Revolutionary War,

⁶ World War I conscription appears to have had, at least in part, a somewhat different purpose than did the other 20th century drafts. It exempted highly skilled individuals in occupations deemed important for the war effort (Oi, 1996), apparently to prevent such individuals from volunteering.

⁷ Murdock (1964) examined commutation rates in New York and found no discernible difference in commutation rates between rich and poor counties.

⁸ Murdock (1967) suggests problems with these features of CWC resulted in their abandonment in drafts in the US after the CW.

and in the War of 1812 (Hummel, 2001). States used militia drafts in the late 1770s to maintain the Continental Army, and substitution was permitted (Chambers, 1987).

Although there was no national conscription in the War of 1812, several proposals for conscription were produced. These plans were offered separately by James Monroe (Secretary of War) and George Troup (Chairman of the House Committee on Military Affairs), but were very similar and will be discussed together. One version of these plans was close to being enacted when the war ended.

The Troup/Monroe plans essentially involved shifting the burden of financing the military to individual classes of 25 men, each class to consist of individuals of approximately equal wealth. If a member of a class could not be induced to volunteer, the class would have to pay a tax based on the wealth of its members. Lindsay (1968a) argues these plans did not really involve conscription; no one would be forced into the military, and those with less wealth would pay a lower tax if no one in their class was induced to volunteer. Indeed Lindsay (1968a) and Rafuse (1970) claim these plans were similar to the then proposed, and now existing, volunteer military in the U.S. In Section 6, it will be argued the CW draft was designed with the same objective as the proposed drafts in the War of 1812: to shift some of the tax burden to the local level without taxing only draftees or compelling anyone to enter military service.

3. The Draft and Volunteers in the Civil War

Early attempts to raise troops by the Union were left to the states. Recruiting declined in the summer of 1862. With increasing civilian opportunities along with, at some point, a realization the war would be bloody and long, one would expect a decrease in the supply of volunteers. The demand for men rose, and the number of men enlisted in the Army increased significantly (if not monotonically) during the war. In January 1862, there were 575,917 men in the army; one year later there were 918,121; in January 1864, there were 860,737; and in January 1865, there were 959,460.⁹

Initially the militia system was used to provide and finance troops. A variety of states appropriated funds in 1861 to pay for recruiting and equipping the militia. For example, New York raised

⁹ Livermore (1957), p.47.

\$3,000,000 and Rhode Island raised \$500,000.¹⁰ Prior to the militia law of July 1862, calls for troops were voluntary; the states were supreme, and the federal government could merely request troops be provided. The Militia Act of 1862 was the beginning of a transition to federal authority in raising an army. The act provided for a draft of the militia if a state did not fill its quota of three-year volunteers. Exemptions and substitutions were allowed. It was now established the federal government had the power to raise and support an army without state assistance (Geary, 1986). The prospect of a draft met with riots in many states. The draft was rescinded, and the use of bounties, along with the threat of a draft, enabled states to meet their quotas.¹¹

The limitations of the militia system were clear as far back as Colonial America, when the tradition of local defense meant the militia would often not cross state and national borders. Regular British units were required to fight the French and Indians (Rafuse, 1970). Other problems with the militia were the popular election of officers and relatively short terms (Murdock, 1967). Thus a system that may have been of value in local defense for limited conflicts was probably not well suited for a conflict of larger scope and longer duration.¹²

The Enrollment Act of 1863 completed the transition to federal control of recruitment and national conscription. Male citizens and those who had filed for citizenship between the ages of 20-45 were to be enrolled. Enrollment was similar to draft registration in recent history, except it was conducted as a census; individuals were sought out to be enrolled. Initially two classes of enrolled men existed. Class 1 consisted of all men age 20-35 and unmarried men age 35-45, and Class 2 was comprised of married men age 35-45. Those in Class 2 were not to be drafted until all those in Class 1 had been called; this apparently almost never happened.¹³

¹⁰ Shannon (1928), pp.23-24.

¹¹ The quotas were for 300,000 nine-month militia and 300,000 three-year volunteers. See Billings (1968), pp.335-336, and McPherson (1988), p.601.

¹² However, Hummel (2001, p.43) argues problems with the militia actually were the result of those militiamen who were drafted, which is ironic given conscription was part of the system that replaced the use of the militia.

¹³ McPherson (1988), pp.600-601, f.n.20. The two classes were combined in February, 1864 (Murdock, 1971, p.81).

Enlistment quotas were assigned to each Congressional district by its pro rata share of the number called by the president, minus the number of previous enlistees from the district. After 50 days, a lottery would be held to obtain the remainder of a district's quota. Thus some districts might have drafts while others did not. The draft calls were in October 1863, March 1864, July 1864, and December 1864.¹⁴

One could furnish a substitute and avoid service for three years in all four drafts. In the first draft, one could pay a \$300 commutation fee and be excused from service for three years. In the second draft, commutation bought one out of service only for that draft. In July 1864, Lincoln signed a bill eliminating commutation except for conscientious objectors. Effectively commutation ended after the second draft (see Table One). Until February 24, 1864, a substitute could come from those who were enrolled; after this date, a substitute could only come from those exempt from military service. Thus, for the last three drafts, substitutes consisted of those under age 20, honorably discharged veterans with two or more years of service, alien residents, and (later) black citizens.¹⁵

Due to re-enlistments and incomplete records, the number of individuals who served in the Union Army is not clear. Estimates range from 1.5 million to over 2.5 million (Geary, 1991). Chambers (1987) uses 2.1 million; since this figure is roughly the midpoint of the numbers generally claimed, it will be used herein. Approximately 92% of those who served in the Union Army were volunteers.¹⁶ The remaining 8% were comprised of draftees, substitutes, and those who also volunteered---for the regular army. In the CW, the term “volunteer” does not mean what it does today. Soldiers in volunteer units were recruited, trained, and lead by local men. All officers (except generals) were commissioned by governors. Upon approval by a regular army officer, a volunteer unit would be enrolled in federal service.¹⁷

The regular army was authorized to have 42,000 men, but it never approached this number.¹⁸ As will be discussed in Section 6, the strong attachment of an individual to his state, and the antipathy for

¹⁴ A call might mean a series of requests for volunteers within a short period of time, so the precise date of a draft is somewhat ambiguous.

¹⁵ See Murdock (1967), p.14, Geary (1986), p.217, and Levi (1997), p.98.

¹⁶ Chambers (1987), p.42.

¹⁷ Chambers (1987), p.42.

¹⁸ Shannon (1928), p.47.

federal control, both manifested in the relatively small regular army, are important phenomena in understanding the objectives of CWC.

4. Substitution, Commutation, and the Bounty System

Under the Enrollment Act, the four CW drafts allowed districts 50 days to meet their enlistment quotas. Most districts waited until the last week or so to fill their quotas. General meetings occurred--- similar to religious revival meetings---in which individuals---particularly those who were draft eligible--- were exhorted to contribute funds to hire volunteers or substitutes.¹⁹ Not surprisingly, few volunteered prior to districts raising funds, since individuals correctly anticipated the bounties/bonuses they would receive. Substitutes were paid a price by individuals who were called (if a call occurred, which only happened if the quota were not met with volunteers), and received some, but not all, federal bounties. Volunteers received all of the available bounties. Since those not eligible for the draft could go as either volunteers or substitutes, their movement between these categories would tend to equate the full compensation received by volunteers and substitutes. Thus, there was essentially no difference between substitutes and volunteers.²⁰

Government at all levels offered bounties. The total amount paid in federal bounties was approximately \$300 million, with over 1.7 million recipients.²¹ Local bounties were estimated at \$285

¹⁹ Later in the war, real estate taxes were used to raise funds. See Murdock (1971), pp.154-155.

²⁰ Randall and Donald (1969), p.314, suggest conscripts received the same federal bounty as volunteers. However, this was true only for the \$100 federal bounty paid throughout the war. Beginning in June 1863, an additional federal bounty of \$300 was paid to re-enlistees, and this was extended to all volunteers by the fall of 1863. These bounties were to be financed with commutation revenue. In April 1864, just after the end of commutation, the \$300 federal bounty was eliminated. In July 1864, a new federal bounty of up to \$300 was instituted (\$100 for each year of enlistment, up to three years). See Murdock (1963), p.9. From Table One, almost 74,000 men hired substitutes in the CW. Others report 116,000 substitutes were hired (Warner and Asch, 2001, p.173, f.n.7). The difference in these numbers is due to the more than 42,000 substitutes who were hired after a call for volunteers, but *before* a draft call. Murdock (1971), p.190, notes communities could hire substitutes before a draft, but does not explain why they would do so. One explanation is the following. Suppose a quota of 100 men had to be filled, and sufficient funds were obtained from the community to hire 90 volunteers or substitutes. If volunteers were hired, a draft would be held for 10 men. If some of the draft-eligible men had not contributed to the community's funds, as a way to reward those who did, substitutes could be hired for particular men, even though they had not been called. Thus, these individuals would not be exposed to the subsequent draft.

²¹ Rafuse (1970), p.19. Levi (1997), p.64, reports federal bounties of \$217 million, with 1.4 million recipients, but the higher figures are the ones usually cited.

million.²² These bounties were sometimes paid directly to volunteers and substitutes, but could be paid to men who had been called to hire a volunteer or a substitute.²³ An example (not necessarily typical) of the bounties available: in New York City in the fall of 1863, a volunteer could receive \$300 from the county and \$75 from the state; the \$100 federal bonus available to all who entered service; and the additional federal bonus of \$100-\$300 (for 1-3 years of enlistment), for a total possible bounty of \$775. Thus, one at that time and place who entered the army for three years would be indifferent to entering as a substitute (receiving only the basic \$100 federal bonus) and a volunteer if the price received for being a substitute equaled \$675. Since substitute prices reached as high as \$1,500 in 1864 in some areas,²⁴ presumably bonuses approached \$1400 then. Bounty jumping was a common problem, and was due to the timing of state and local bounty payments.²⁵

One of the criticisms of CWC is only the wealthy could afford to commute or hire a substitute.²⁶ The Commutation fee was approximately the average annual earnings in manufacturing in 1860.²⁷ Murdock (1964) suggests commutation was feasible for most working men. Support for this position are the facts only 2% of those who served in the Union Army were draftees, and, of those who were called in a draft, only 6% were forced to enter service (Table Two). The low percentages of those drafted reflect the lack of difficulty for individuals who were called to pay for a substitute or to commute (when the

²² Rafuse (1970), p.19.

²³ In Brooklyn, when commutation was in effect, an individual who was called was given \$300 to commute, hire a substitute, or keep if he entered military service (Murdock, 1967, p.21).

²⁴ Chambers (1987), p.74.

²⁵ The bounty system was rife with problems, and has been criticized by CW historians. For example, Murdock (1967, p.15) claims the problems with bounties, substitution, and commutation resulted in future drafts without these features. However, given the lack of ability of the federal government to tax in the CW---a problem rectified by the 16th amendment to the US Constitution in 1913---the use of local bounties was an inescapable part of CWC. The problem with state and local bounties was they were paid in advance to maximize enlistments (Murdock, 1967, p.20), resulting in frequent bounty jumping. Apparently bounty men could show up at a rendezvous point, collect a bonus, be counted towards the district's quota, and then desert before reaching a training camp. This problem was not addressed until December 1864 when Provost Marshal General Fry ordered all bounty funds to be taken from volunteers until they reached the front. To my knowledge, why such action was not taken earlier has not been explained.

²⁶ Lindsay (1968b), p.133, claims \$300 was an unattainable amount for a laborer or farmer, and it implied a tax of that amount on those called who could not otherwise avoid service. He ignores the substantial bounties provided by local communities and the availability of draft insurance. See f.n.29 for examples of the latter.

²⁷ Long (1975) uses the census of manufactures to derive average annual earnings in manufacturing of \$297 and \$384 in 1860 and 1870 respectively. During the Civil War, civilian wages rose. Geary (1986), p.214, claims a common laborer could earn about \$300 per year in 1860, rising to over \$400 in 1864.

latter was available).²⁸ Individuals could afford to commute or hire substitutes because of the substantial state and local bounties that defrayed the amounts they had to spend, and because both informal and formal draft insurance existed with a price substantially below \$300.²⁹ Thus, it does not appear most individuals found it difficult to avoid being drafted in the CW.

5. Opposition to the Draft and to Commutation

In anticipation of the forthcoming (first) draft, rioting occurred in many US cities in 1863. A particularly violent riot occurred over several days in July in New York City, resulting in the deaths of as many as twelve hundred individuals.³⁰ Opponents of the draft focused on the \$300 commutation fee, ignoring the possibility of even more expensive substitution absent commutation (see Sections 8 -10 below). Lincoln was perplexed by the opposition to commutation; he believed substitution would be more expensive than \$300 should commutation be abolished.³¹

Why was there opposition to commutation and the draft when the former would tend to lower the price of avoiding service, which as argued in Sections 3 and 4, did not appear to be difficult to do? Lincoln believed substitution was not opposed because, unlike commutation, it was “...an old and well-known practice in the raising of armies...”³² However, commutation was not new; payment of a fee to avoid military service was a feature of colonial militia drafts.

Consider three alternative (and non-mutually exclusive) reasons for opposition to commutation and the draft. First, Chambers (1975) suggests the apparent opposition to commutation was really opposition to the taxes (and coerced contributions) required to pay for substitution and commutation. Opponents wanted the wealthy to pay for bounty funds. Thus, the riots may have partly expressed anti-tax

²⁸ It also reflects the relative ease individuals had to simply not report when called. From Table Two, 20% of those called did not report, which should not be surprising in an era of little in the way of personal identification (*e.g.* no drivers licenses or social security numbers).

²⁹ Enrolled men formed “mutual protective associations” to which each contributed funds. In Cleveland in February 1864, each man paid \$10. In other areas of Ohio the fee was \$10-\$20. After commutation ended, the fee was \$50 in Cleveland’s 2nd ward, and \$25-\$50 near Toledo (Murdock, 1963, pp.12-17). Late in the war, firms in Illinois and Indiana sold explicit draft insurance. Draftees who purchased insurance had substitutes hired for them (Murdock, 1971, p.172).

³⁰ See Lindsay (1968b), pp.133-135.

³¹ *Opinion on the Draft, Never Issued or Published*, August 1863. Reprinted in Nicolay and Hay (1905, Vol.9).

³² Nicolay and Hay (1905, Vol.9). p.78

sentiments. Since commutation placed a ceiling on the price of a substitute, it would have been natural for anti-tax sentiment to be expressed via anti-commutation rhetoric. Second, since the riots occurred before the first draft call, it is possible citizens were not aware of the bounties that would be raised to help them pay for commutation or substitution.³³ At some point, individuals became well aware of their legal options to avoid the draft.³⁴ By the second draft, riots had subsided, even though commutation remained. Third, as with the proposed draft under the Militia Act (1862), riots simply expressed the anti-federal government sentiments of many citizens which were inflamed by the prospect of a federal draft.

6. Why the Draft?

In July 1862, after a weak response to a federal call for volunteers (Murdock, 1967), Congress authorized the president to use militia drafts. The next year, the Enrollment Act (March 1863) was passed, which contained provisions for drafting outside the militia system. Chambers (1987) argued the draft was imposed in 1863 because, after two years of indecisive fighting, some assertion of federal power was required to prevent disunion. Additionally, although many volunteered without the draft, again in 1863 the quantity of volunteers supplied was less than the quantity demanded.³⁵ A simple answer was for the federal government to raise military pay,³⁶ and the \$300 million offered in federal bounties during the CW suggest some pay increases occurred.

Although Chambers (1987) may be correct in the view the draft was an attempt to assert federal power, it was also a reflection of the weakness of the federal government. Absent an income tax, the federal government had limited taxation power during the CW (Lindsay, 1968a). Essentially the draft was “...a clumsy carrot and stick device to stimulate volunteering. The stick was the threat of being drafted and the carrot was a bounty for volunteering.”³⁷ The threat of the draft induced communities--- whose

³³ Of course, the riots likely communicated to state and local elected officials the depth of opposition to being drafted, thereby providing the impetus to raise bounties.

³⁴ Levine (1981), p.827.

³⁵ Oi (1996), p.39.

³⁶ Rafuse (1970) claims a union private earned \$6.40 per month in 1864. Lonn (1928) says pay was \$13 per month at the beginning of the war, rising to \$16 per month by May 1864.

³⁷ McPherson (1988), p.605.

members were suspicious of centralized authority and opposed to coercion by the federal government---to provide sizable bounties to attract volunteers so the draft would be used as infrequently as possible.

Evidence the goal of conscription was not to forcibly compel individual service is in the facts individuals could hire a substitute or pay a fee to avoid service, and communities were given every chance to fill their quotas with volunteers (Murdock, 1967). Thus, contrary to the case with 20th century US conscription, the CW draft appeared to have roots in the various conscription plans developed (but not adopted) in the War of 1812, which were designed to shift the tax burden of the military from the federal government to state and local governments, and not to drafted individuals. A more formal analysis of the optimal choice of military compensation is found in the next section.

7. A Model of Conscription with Community Bonuses

The Market for Substitutes

Consider a world in which there is a community of N individuals, all of whom are draft eligible. Since volunteers and substitutes are essentially the same, the former are ignored. One who is picked in a draft lottery will be referred to as having been *called*; one who is called and enters the military will be referred to as having been *drafted*. The federal government wishes to enlist m individuals in the military, $m < N$, calls m of the N individuals in a random lottery, and offers compensation of W_M to all who enter the military. After observing W_M , local governments, referred to as *the community*, pay a bonus of B to each of the m individuals called. Commutation is ignored for now; it will be considered in Section 9.

Those who are called may either enter the military, with total compensation equal to $W_M + B$, or may hire a substitute at a market-determined price, P . Those not called may go as substitutes, receiving total compensation equal to $W_M + B + P$. Inverse labor supply to the military is $W = L$ for $L \leq N$, where W is the reservation wage for individuals and L is the quantity of labor supplied. All those with

$W - P > W_M + B$ will prefer to hire a substitute if called; others will enter the military as draftees. Thus, the price of a substitute is determined by setting demand and supply equal. With $\frac{m}{N}$ the probability one is called, and $\frac{N-m}{N}$ the probability one is not called, we have:

$$\frac{m}{N}(N - W_M - B - P) = \frac{(N - m)}{N}(W_M + B + P), \quad (1)$$

$$P = m - W_M - B. \quad (2)$$

Assuming the federal government and the community do not compensate draftees sufficiently so all would be happy to enlist in the military, so $W_M + B < m$, we have $P > 0$. Using eq.(2), those who are drafted---those called who did not hire---have $W \leq m$; those not called who go as substitutes also have $W \leq m$. Thus, only those with the lowest reservation wages enter the military (Warner and Asch, 2001). There is no resource misallocation due to the “wrong people” entering the military, which would occur if substitution were not allowed. However, there are private and social costs of the military that would not exist if a voluntary military were employed. These costs result because reluctant draftees exist; they are reluctant because the total compensation for draftees is less than m . Unlike those who enter as substitutes, reluctant draftees would not have entered the military voluntarily. All those with $W_M + B < W \leq W_M + B + P$ are reluctant if drafted. The number of reluctant draftees, D , is then:

$$D = \frac{m}{N}P = \frac{m}{N}(m - W_M - B). \quad (3)$$

Social costs associated with reluctant draftees include those due to higher turnover and draft evasion (Warner and Negrusa, 2005).³⁸ The focus herein is on the private cost to government from the political opposition to having anyone compelled to enter the military.

Draft insurance

If draft insurance were allowed, the price of fair insurance would equal the probability of being called times the price of a substitute, $\frac{m}{N} P$. However, unless individuals are 1) risk averse, or 2) budget constrained---so they could afford to pay $\frac{m}{N} P$ but not P ---draft insurance would have no impact on the market for substitution. Only the individuals who would hire a substitute without insurance would purchase insurance. Possibility #2 could occur if a large part of one's reservation wage, W , did not reflect alternative earnings, but did represent a high level of disutility from military service. Neither risk aversion nor a budget constraint for individuals is particularly germane to the issues of concern herein, so draft insurance will not be considered further.

The community

In the first sub-section, it was assumed the community paid B to each individual called by the federal government. Now consider how B might be determined. Although it was argued above few individuals were actually drafted in the CW, the model herein does not force this result. It simply considers the tradeoffs to the community and the federal government when both prefer fewer reluctant draftees, other things equal.

In order to raise funds, the community incurs a fixed cost, F . It thus spends $Bm + F = T$, with T the amount the community collects in taxes. Assume the community faces opposition, ϕ , based on D , the number of reluctant individuals who are drafted, and T , the amount collected in taxes. Thus $\phi = \phi(D, T)$,

³⁸ Some have argued the draft could be cheaper than a volunteer military due to the deadweight cost of taxation. See Johnson (1990), Lee and McKenzie (1992), and Ross (1994). For a contrary view, see Warner and Asch (1996).

and it is assumed $\frac{\partial \phi}{\partial D}$ and $\frac{\partial \phi}{\partial T}$ are both positive. The community chooses B to minimize ϕ , given eq.(3).

The first and second order conditions for a minimum are:

$$\frac{\partial \phi}{\partial B} = m \left(\frac{\partial \phi}{\partial T} - \frac{1}{N} \frac{\partial \phi}{\partial D} \right) = 0, \quad (4)$$

$$\frac{\partial^2 \phi}{\partial B^2} = m^2 \left(\frac{\partial^2 \phi}{\partial T^2} + \frac{1}{N^2} \frac{\partial^2 \phi}{\partial D^2} \right) > 0. \quad (5)$$

From the first order condition, a community trades off the increased opposition from higher taxes with the reduced opposition from fewer reluctant draftees when it raises B. A one unit increase in B causes taxes to rise by m, and thus increased opposition equal to $m \frac{\partial \phi}{\partial T}$. The same change in B, reduces D by $\frac{m}{N}$, causing opposition to decline by $\frac{m}{N} \frac{\partial \phi}{\partial D}$. Given the intensity of the opposition to a draft in the Civil War, it is reasonable to believe $\frac{\partial^2 \phi}{\partial D^2}$ is positive. One might also expect $\frac{\partial^2 \phi}{\partial T^2}$ is positive, and, although that is not necessary for a minimum of ϕ (provided $\frac{\partial^2 \phi}{\partial D^2}$ is positive and sufficiently large), it will be necessary for a minimum of the federal government's cost.

Totally differentiating the community's first order condition with respect to B, W_M , and F, we have:

$$\frac{dB}{dW_M} = \frac{-\frac{\partial^2 \phi}{\partial D^2}}{\frac{\partial^2 \phi}{\partial D^2} + N^2 \frac{\partial^2 \phi}{\partial T^2}} < 0, \quad (6)$$

$$\frac{dB}{dF} = \frac{-\frac{\partial^2 \phi}{\partial T^2}}{\frac{m}{N^2} \frac{\partial^2 \phi}{\partial D^2} + m \frac{\partial^2 \phi}{\partial T^2}} < 0, \quad (7)$$

using the second order condition for the community and the assumption both $\frac{\partial^2 \phi}{\partial D^2}$ and $\frac{\partial^2 \phi}{\partial T^2}$ are positive.

With $\frac{\partial^2 \phi}{\partial T^2} > 0$, $\frac{dB}{dF} < 0$ and $\left| \frac{dB}{dW_M} \right| < 1$. A higher fixed cost means higher taxes and a higher $\frac{\partial \phi}{\partial T}$, so B is reduced as F increases. Also, a one dollar decrease in W_M will induce the community to increase B by less than one dollar.

In the next sub-section, it will be of interest to consider an exogenous increase in the marginal opposition to an increase in D. Thus, suppose $\phi = \frac{k_D}{2} D^2 + \frac{k_T}{2} T^2$, and $k_D, k_T > 0$. Consider the effect of k_D (k_T will have the opposite effect). Total differentiation of the community's first order condition yields $\frac{dB}{dk_D} > 0$. Unsurprisingly, an increase in the marginal opposition to a larger number of reluctant draftees will induce the community to increase the bonus paid. Later we will see how the federal government would respond to a change in k_D .

The federal government

The federal government is assumed to trade off its payroll cost, mW_M , with opposition it receives from the community. The community, which, again means local governments, has a cost in opposition from its constituents of ϕ . Suppose the opposition by the community to the federal government is proportional to ϕ . In particular, assume the federal government's cost, C, is $C = \lambda\phi + (1-\lambda)mW_M$, with $0 < \lambda < 1$. Note it is not necessary to have C increase at an increasing rate in either of its arguments, ϕ and mW_M , as long as $\frac{\partial^2 \phi}{\partial D^2}$ and $\frac{\partial^2 \phi}{\partial T^2}$ are positive. The federal government chooses W_M to trade off ϕ and mW_M .

The first order condition yields:

$$\frac{\partial C}{\partial W_M} = \lambda \frac{d\phi}{dW_M} + m(1-\lambda) = 0. \quad (8)$$

We have:

$$\frac{d\phi}{dW_M} = \frac{\partial\phi}{\partial B} \frac{dB}{dW_M} + \frac{\partial\phi}{\partial W_M} = \frac{\partial\phi}{\partial W_M}, \quad (9)$$

using the Envelope Theorem ($\frac{\partial\phi}{\partial B} = 0$). Since $\frac{\partial\phi}{\partial W_M} = -\frac{m}{N} \frac{\partial\phi}{\partial D}$, we can rewrite the first order condition:

$$\frac{\partial C}{\partial W_M} = m(1-\lambda) - \frac{m\lambda}{N} \frac{\partial\phi}{\partial D} = 0. \quad (8')$$

The federal government balances the additional payroll cost from raising W_M with the reduction in opposition from the community as D is decreased, with these effects weighted by $1-\lambda$ and λ respectively. The second order condition for the federal government is:

$$\frac{\partial^2 C}{\partial W_M^2} = \frac{m^2\lambda}{N^2} \frac{\partial^2\phi}{\partial D^2} \left(1 + \frac{dB}{dW_M}\right) > 0, \quad (10)$$

which requires³⁹ $\left|\frac{dB}{dW_M}\right| < 1$.

Totally differentiating the first order condition for the federal government yields $\frac{dW_M}{d\lambda} > 0$: as one would expect, the larger the weight, λ , for opposition from the community, ϕ , in C , the higher the military wage set by the federal government. When higher payroll is more costly to the government---because of the difficulty in raising taxes--- λ is smaller, as is the optimal level of W_M . Again, using

$\phi = \frac{k_D}{2} D^2 + \frac{k_T}{2} T^2$, totally differentiating the federal government's first order condition yields:

³⁹ From eq.(6), if $\frac{\partial^2\phi}{\partial T^2} \leq 0$, $\left|\frac{dB}{dW_M}\right| \geq 1$, and the second order condition for the federal government would not hold.

$$\frac{dW_M}{dk_D} = \frac{m - B - W_M}{k_D \left(1 + \frac{dB}{dW_M} \right)} > 0, \quad (11)$$

since the denominator is positive for a minimum of the federal government's cost, and $m > B + W_M$ or there would be no reluctant draftees. Thus, both the community and the federal government will increase what they pay to enlistees (B and W_M , respectively) if there is an increase in the marginal opposition to the community from reluctant draftees ($dk_D > 0$), so there should be an unambiguous reduction in D in this case. A large enough marginal opposition to the community, k_D , from D could mean there would be few reluctant draftees in equilibrium.

In sum, the model in this section suggests the fixed cost to the community of raising funds negatively affects the optimal choice of community bonuses---by increasing the marginal opposition to taxes; the community raises bonuses as federal pay decreases, but by less than \$1 for each dollar decrease in federal pay; and both federal pay and community bonuses increase as the marginal opposition by the citizens to the number of reluctant draftees increases.

8. Costly Substitution

In the previous section, we found the usual (*e.g.* Warner and Asch, 2001) results when substitution is allowed with conscription: only individuals with the lowest opportunity cost enter the military, and the additional social cost with conscription (versus a volunteer army) is due to reluctant draftees. However, the previous analysis ignored any cost to individuals of finding substitutes. Such costs add directly to social cost, but also may indirectly increase social cost if they cause an increase in the number of reluctant draftees, or result in resource misallocation because the wrong people are enlisted in the military.⁴⁰

⁴⁰ Mulligan and Shleifer (2005) consider fixed costs associated with the draft, and argue civil-law countries---which have a significant regulatory apparatus in place, so incremental *fixed cost* with a draft would be lower than in common-law countries---are more likely to have a draft, as are more populous countries because they have lower fixed cost per person.

The cost of finding a substitute may be direct (out-of-pocket expenditures), indirect (time costs), or both; the analysis is essentially the same whether the cost is direct or indirect.⁴¹ Suppose an individual with reservation wage W has only a time cost of finding a substitute, and this cost equals sW , $0 < s < 1$, with s independent of W . Now one will hire a substitute if called if:

$$W - sW - P > W_M + B,$$

$$W > \frac{W_M + B + P}{1 - s} \equiv W''.$$
(12)

Let $W' \equiv W_M + B + P$. The quantity of substitutes demanded is the number called who have $W > W''$. The quantity of substitutes supplied is the number not called who have $W \leq W'$. Setting supply of and demand for substitutes equal yields:

$$P = \frac{(1 - s)mN}{N - s(N - m)} - W_M - B.$$
(13)

It is easy to show $\frac{\partial P}{\partial s} < 0$, with $P = m - W_M - B$ if $s = 0$. Using P ,

$$W' = \frac{(1 - s)mN}{N - s(N - m)},$$
(14)

$$W'' = \frac{mN}{N - s(N - m)}.$$
(15)

⁴¹ Levi (1997), p.100, suggests commutation may have been of particular value in rural areas were it was more costly to find a substitute. Suppose the community is the entity incurring costs of finding substitutes. Let the marginal cost of a substitute to the community equal c . Now, if one is called, for the community to spend B per individual, B is given to all those who enter service as draftees, and $B-c$ is given as a subsidy to each individual who chooses to hire. The results are similar to what we have when the cost is incurred by individuals.

Note $\frac{\partial W'}{\partial s} < 0$, and $\frac{\partial W''}{\partial s} > 0$. The number of reluctant draftees is m/N times the number who have

$W_M + B < W < W''$. Using eq.(15), we have:

$$D = \frac{m}{N} \left[\frac{mN}{N - s(N - m)} W_M - B \right]. \quad (16)$$

Now $\frac{\partial D}{\partial s} > 0$, and, when $s = 0$, $D = \frac{m}{N} (m - W_M - B)$ as was found in the last section.⁴² Figure One illustrates what now occurs. Suppose $s = 0$. In this case $W' = W'' = m$. As s increases, the demand for substitutes falls, lowering P . Thus, W' falls and W'' rises. The increase in W'' means the number of reluctant draftees has increased, and, along with the decrease in W' , means we now have the potential for resource misallocation because the wrong people are enlisted in the military. Given the likelihood one is called, m/N , the loss from this resource misallocation is positively related to the difference between W'' and W' . For those with, $W' < W < W''$, if called, they will not hire a substitute, and, if not called, they will not go as a volunteer. Consider two individuals, x and y , with respective reservation wages W_x and W_y , when $W' < W_y < W_x < W''$. If x is called and y is not called, x will enter the military and y will not do so; society loses $W_x - W_y$ in foregone output.

Thus, if there are costs of obtaining a substitute, it is no longer the case there is no resource misallocation due to the wrong people going into the military when substitution is allowed. The extent of this resource misallocation and the costs associated with the number of reluctant volunteers both are positively related to the cost of obtaining substitutes.

9. What Could Commutation Do?

⁴² From the first order condition for the community (eq.(4)), a larger D as s increases should cause an increase in B , and, it can be shown, there should also be an increase in W_M by the federal government. Since such changes reflect higher private cost for the community and the federal government, they are ignored herein in order to focus on the effects of s on private and social cost, given B , W_M , and m .

If there are no costs of obtaining a substitute, allowing individuals to pay a fee to avoid service---*commutation*---is no different than allowing substitutes (Warner and Asch, 2001). By setting the commutation fee equal to the price of a substitute if substitution were allowed, the same people who would have hired a substitute commute. If the commutation revenue is paid to volunteers, then volunteers receive the same compensation they would have if they had gone as substitutes.

With the cost of hiring a substitute equal to sW , consider what commutation could do. For simplicity, assume substitution is not allowed. Each individual may commute by paying z , and each volunteer receives $W_M + z$ from the federal government and B from the community. As before, draftees receive $W_M + B$.

Proposition One. If z is set equal to what P would be if there were substitution and no commutation, eq.(13), too many would commute and commutation revenue would not enable the federal government to attract m individuals (draftees plus volunteers), given W_M and B .

Corollary. Setting z equal to the price of a substitute with no cost of finding a substitute, eq.(2), would lower social and private cost, and result in m individuals being enlisted, given W_M and B .

Proof. Suppose z is set equal to what P would be if s were zero: $z = m - W_M - B \equiv z^*$. As shown with costless substitution in Section 7, those with $w > m$ would commute if called; those with $w \leq m$ would be drafted if called, and would go as volunteers (as opposed to substitutes) if not called. Intuitively, given $W_M + B$, setting $z < z^*$ would increase the number who commute, decrease the number who are drafted, and produce too few volunteers just as---with substitution and no commutation---an effective price ceiling on substitutes would result in fewer than m individuals being enlisted into the military.⁴³ ■

Using eq.(16), $z^* - P \equiv \Delta$ is:

$$\Delta = \frac{sm^2}{N - s(N - m)}, \quad (17)$$

⁴³ See the Appendix for a formal proof $z < z^*$ will cause fewer than m individuals to be enlisted,.

with $\Delta > 0$ for $s > 0$, and $\frac{\partial \Delta}{\partial s} > 0$. For one who, with substitution and no commutation, would just be indifferent to hiring or being drafted, $W = W''$ (eq.(15)). For such an individual, the cost of finding a substitute is $sW'' = \frac{smN}{N-s(N-m)} > \Delta$; for all others who would hire a substitute, $sW > sW''$. If $z = z^*$, the amount by which the commutation fee exceeds what P would equal with substitution is less than the cost of hiring a substitute, which is why more will commute--- $\frac{m}{N} (N-m)$ ---than would hire--- $\frac{m}{N} (N-W'')$ ---with $W'' > m$.

Thus, using commutation and not substitution, and setting z equal to what P would be if s were zero, means *social cost* will be reduced for three reasons:

- 1) costs of obtaining substitutes are avoided;
- 2) there are fewer disgruntled draftees (eq.(3) versus eq.(16)), so the costs associated with draft avoidance and turnover (neither modeled herein) are reduced; and
- 3) there is no misallocation of resources due to the wrong people entering the military.

Of course, the *private costs* to the community and the federal government, ϕ and C respectively, are also reduced with commutation.

10. What Did Commutation Do?

With costs of finding a substitute, it has been demonstrated commutation could lower private and social costs when conscription is used, provided the commutation fee is set correctly, which requires the commutation fee exceed what the price of a substitute (absent commutation) would equal. There is no indication the \$300 commutation fee was chosen to reduce the private or social cost of the military. Lincoln clearly stated commutation was intended to be a binding ceiling price on substitutes,⁴⁴ and it appears to have been just that. Even before the elimination of commutation (except for conscientious objectors) had gone into effect, the price of substitutes had risen to \$600 in New York City (Murdock,

⁴⁴ “Without the money provision, competition among the more wealthy might, and probably would, raise the price of substitutes above three hundred dollars...” (Lincoln in Nicolay and Hay, 1905, vol.9, p.79).

1967). In 1862, with the militia system of attracting men for the military, the price of substitutes had reached \$1000.

It appears federal officials knew they had imposed a binding price ceiling, but were ignorant of some of the implications of this ceiling.⁴⁵ The problem, as considered in the previous section, was not the fact commutation brought only funds, but was due to the commutation fee being too low so too few dollars were earned via commutation to induce a sufficient number to volunteer. Although federal officials understood commutation brought insufficient revenue, the elimination of the \$300 federal bounty to volunteers (funded with commutation revenue) on April 4, 1864 (just after the end of commutation) suggests a failure to understand bounties and substitution prices were too low. The insufficiency of military compensation may have become apparent soon thereafter because, on July 19, 1864, a new federal bounty of up to \$300 was instituted (Murdock, 1963).⁴⁶

The wage and price controls of 1971-'74, when both President Nixon and his Council of Economic Advisers (CEA) opposed such controls in principle, were instituted because Nixon succumbed to perceived political realities.⁴⁷ It does not appear the Lincoln administration was aware of the effects produced by a price ceiling on substitutes. Further, unlike the case with the Nixon wage and price controls, where there were potential political gains from controls, the Lincoln administration understood the critical importance of attracting sufficient forces as quickly as possible, and either might not have introduced commutation, or might have set the fee higher had it been aware of basic supply and demand. In this period, Mill's *Principles of Political Economy* (first published in 1848) "...was the undisputed bible of economists."⁴⁸ Mill discussed how a price ceiling would result in a shortage.⁴⁹ One can only wonder whether a CEA in 1863 might have convinced Lincoln to either a) set the commutation fee high enough to enable individuals to avoid costs of finding substitutes and to produce the requisite funds to

⁴⁵ After the first two drafts, Senator John Sherman expressed the general view of why commutation would end, which is commutation was too widespread, bringing funds and not troops (Geary, 1986).

⁴⁶ This bounty was for \$100 per each year for which one enlisted, up to three years.

⁴⁷ Nixon argued he was compelled by congressional pressure to act, and, had he not acted, he "...might exacerbate the general lack of confidence that was itself beginning to harm the economy..." (Nixon, 1978, p.516). For the CEA's view on controls in this period, see Stein (1984).

⁴⁸ Blaug, 1985, p.179.

⁴⁹ See Mill, 2004, pp.843-848.

attract a sufficient number of volunteers; or b) not allow commutation. Choice “b” would involve higher social and private cost than choice “a”, but would be superior to using commutation as a binding price ceiling on the price of a substitute.

11. Summary

Unlike the US in the 20th century, the federal government had limited power during the Civil War, including an inability to tax income. With roots in the conscription plans considered in the War of 1812, Civil War conscription was not intended to compel individual service. Instead, Civil War conscription appears to have been a second-best plan to shift some of the tax burden of the military from the federal government to state and local governments. Draft riots did not reflect difficulties in avoiding being conscripted. The time allowed communities to provide volunteers (and avoid the draft) after a federal call for enlistments, along with substitution and commutation, meant few individuals were actually drafted---about 2% of all who served.

Had the commutation fee been set appropriately---higher than the price of a substitute absent commutation---social and private costs associated with the military *could* have lowered, but the commutation fee was set too low---so it could function as a binding ceiling on the price of substitutes. With too many commuting, and insufficient funds received from commutation to pay volunteers, commutation was abandoned after two (of four) federal drafts.

Those who today advocate a draft to spread the burden of military service among various social and economic classes should understand the first use of the draft by the US had no such goal. Only in the 20th century has the US implemented a draft to directly produce enlistments. The unique conditions---strong attachment to states and a weak central government---of the 1860s no longer exist, nor does even a second-best argument to justify a draft.

Appendix

Proof $z < z^$ will induce fewer than m to enlist, given W_M and B .*

With $z^* = m - W_M - B$, suppose $z = z^* - \varepsilon$, $\varepsilon > 0$. All those called with $W > W_M + B + z$ will commute, so:

$$\# \text{ who commute} = \frac{m}{N} (N - m + \varepsilon), \quad (\text{A1})$$

$$\text{commutation revenue} = \frac{m}{N} (m - W_M - B - \varepsilon)(N - m + \varepsilon). \quad (\text{A2})$$

Let the total compensation of each volunteer equal \hat{W} . Thus, $\frac{(N-m)}{N} \hat{W}$ volunteers will be attracted. Since the number of draftees is $\frac{m}{N} (m - \varepsilon)$, in order to have m enlistees:

$$\begin{aligned} \frac{(N-m)}{N} \hat{W} &= m - \frac{m}{N} (m - \varepsilon), \\ \hat{W} &= \frac{m(N-m+\varepsilon)}{N-m} = m \left(1 + \frac{\varepsilon}{N-m} \right), \end{aligned} \quad (\text{A3})$$

$$\# \text{ of volunteers} = \frac{m}{N} (N - m + \varepsilon), \quad (\text{A4})$$

which simply means the number of volunteers equals the number who commute. Since $\hat{W} = W_M + B + b$, where b is the federal bonus to volunteers required to induce m enlistees,

$$b = m - W_M - B + \frac{m\varepsilon}{N-m}. \quad (\text{A5})$$

Using eqs.(A2), (A4), and (A5), the amount that must be paid in federal bonuses to induce m enlistees exceeds commutation revenue if:

$$m - W_M - B + \frac{m\varepsilon}{N-m} > m - W_M - B - \varepsilon, \quad (\text{A6})$$

which holds for $\varepsilon > 0$. ■

Table One. Draft Statistics from the US Civil War.*

Draft #	# called (**)	# reporting	# discharged (***)	# examined	# exempted	# held to service	# commuted	# hiring subs.	# drafted
1	292,441	253,026	460	252,566	164,395	88,171	52,288	26,002	9,881
2	113,446	86,253	1,296	84,957	39,952	45,005	32,678	8,911	3,416
3	231,918	165,759	27,223	138,536	82,531	56,005	1,298	28,502	26,205
4	139,024	110,547	64,419	46,128	28,631	17,497	460	10,192	6,845
All	776,829	615,585	93,398	522,187	315,509	206,678	86,724	73,607	46,347

* Source: Murdock (1971), p.13.

** These are the numbers called in a draft after volunteers were obtained. The government calls for men were, as best as can be determined, 500,000, 200,000, 500,000, and 300,000, respectively (Geary, 1991, p.81).

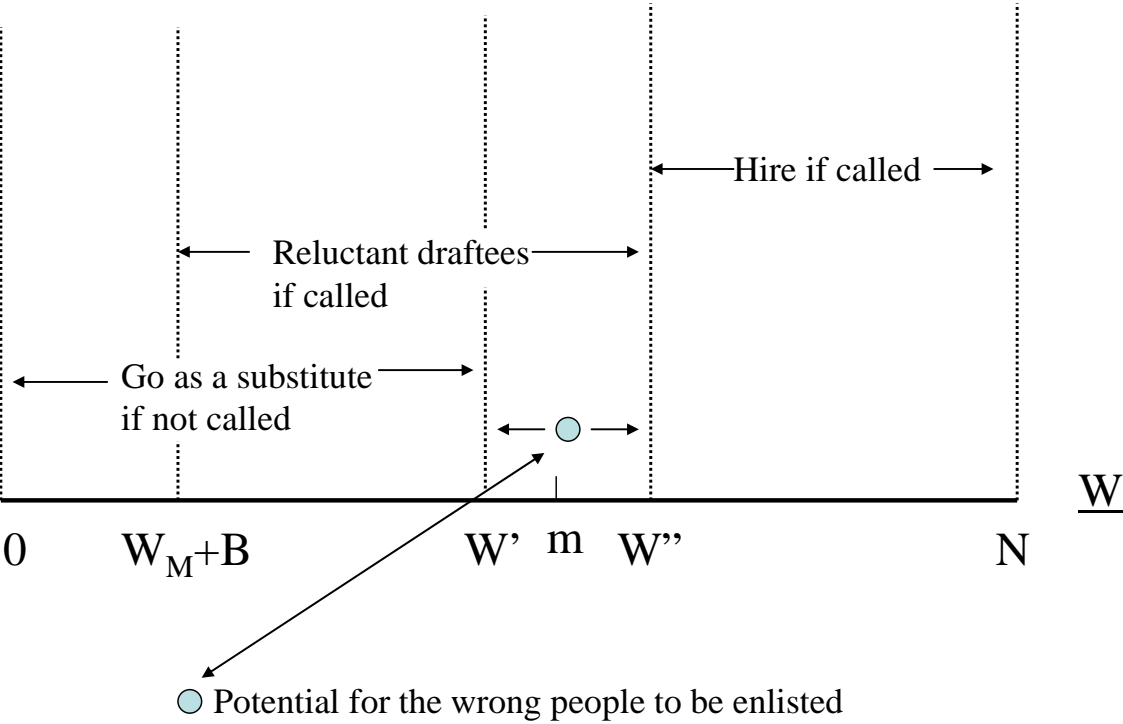
*** These individuals apparently were discharged because their districts had met their quotas.

Table Two. Various Draft Percentages.*

Draft #	% called who reported	% reported <u>not</u> discharged	% examined held to svc.	% held to svc. who were drafted	% called who were drafted
1	87%	100%	35%	19%	3%
2	76%	98%	53%	8%	3%
3	71%	84%	40%	47%	11%
4	80%	42%	38%	39%	5%
All	80%	85%	40%	22%	6%

* Source: Table One.

Figure One. Costly substitution.



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