

ARTICLES

AMERICA'S VIETNAM CASUALTIES: VICTIMS OF A CLASS WAR?

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Analysis of data about the 58,000 Americans killed in Vietnam implies that affluent U.S. communities had only marginally lower casualty rates than the nation as a whole. Poor communities had only marginally higher rates. Data about the residential addresses of war casualties suggest that, within both large heterogeneous cities and wealthy suburbs, there was little relationship between neighborhood incomes and per capita Vietnam death rates. Such outcomes call into question a widespread belief that continues to influence U.S. policy discussions, namely, that American war deaths in Vietnam were overwhelmingly concentrated among the poor and working class.

It has always been widely believed that poor and working class American youths suffered far greater casualties in the Vietnam War than their middle and upper class counterparts. The distinguished defense analyst James Fallows (1975), for example, described the conflict as a "class war." During the 1988 Presidential campaign, it was suggested that the experience of Senator Quayle—whose entry into the Indiana National Guard precluded Vietnam duty—exemplified a process by which the wealthy stayed out of danger. More recently, *The Economist* (1991) asserted that the Vietnam draft system "effectively allowed the rich and the clever to avoid service," *Life* magazine described the Vietnam fighting force as made up largely of "the poor" (Rosenblatt 1990), and William F. Buckley Jr. (1990) acknowledged that "bright and affluent" youths generally avoided "sacrifice" in Vietnam. In the 1992 controversy over Bill Clinton's draft status, a *Boston Globe* columnist stated that "class, race, and economics" determined which American youths saw Vietnam service (Barnicle 1992).

The popular perception plays a continuing role in contemporary policy debates. In the months preceding war with Iraq, it was repeatedly suggested that, as in Vietnam, the most privileged and influential segments of American society were largely insulated from the perils of the conflict. Calls arose for reinstating a system of conscription that, unlike the Vietnam draft,

did not contain "loopholes" for the rich.¹ William Buckley recently proposed a voluntary national program of public service for youths. On the MacNeil-Lehrer television hour, he was asked why he thought affluent youths would take part in such a program given their nonparticipation in the Vietnam War. Moreover, the extent to which the "class war" belief affects American politics goes beyond particular issues. It may well contribute to an impression of pervasive unfairness under which the benefits of being rich go far beyond material possessions.

Oddly, assessments about the Vietnam casualty pattern appear to be based more on anecdotes and personal impressions than on any systematic analysis. Fallows, for example, defends his class war characterization mostly by recounting his experiences as a Harvard student. There have been postwar surveys that compare the socioeconomic profile of Vietnam veterans with that of comparably aged nonveterans (see, Kolb 1991), but such surveys have difficulties: They exclude servicemen killed in the war and ignore the difference in hazardousness between frontline duty and faraway clerical work. Given the clear possibility of correlation between a soldier's socioeconomic status and his military assignment, the class distribution of Vietnam casualties could differ sharply from that for Vietnam veterans.

If the Vietnam casualty pattern is to be cited in policy discussions, it seems desirable that perceptions

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about that pattern have a credible empirical foundation. There is also a broader public interest in the historical accuracy of judgments about the bitterly controversial Vietnam War. Accordingly, this paper presents an analysis of data about the 58,000 Americans killed in Vietnam that, while imperfect, provides considerably more detailed information than has previously been available.

The paper explores how the family incomes of Americans killed in Vietnam compare with those of 58,000 randomly chosen contemporary American youths. It uses information about the deceased that appears in the *Vietnam Veterans Memorial Directory of Names* (1989), supplemented by more precise data about some key subsets of casualties. To deal with such issues as confounding variables and aggregation bias, we examine the data in numerous ways. All the analyses have limits but their weaknesses differ; the hope is that their collective outcome is more defensible than the individual ones.

The results are consistent with assertions that poorer Americans were more heavily represented than wealthier Americans among the war dead. But the degree of disparity in casualty rates by income seems far less than is implied by writings on the subject. Under a disparity index in which 0 represents equal casualty rates at all incomes and 1 reflects an extreme concentration of deaths among the poor, the various data analyses generally yield outcomes below 0.1.

After a review in the next section of our conventions and methods, we use *Memorial Directory* data to estimate how casualty rates varied with median family incomes both across the U.S. and within individual regions; then we analyze data from some of the nation's most affluent communities and counties (Section 2). We thereafter describe several dilemmas in interpreting *Memorial Directory* information from rural, urban, and suburban areas (Section 3). Trying to circumvent some of the difficulties, we scrutinize supplementary data from the National Archives (Section 4). We demonstrate that using such data to refine the analysis acts to lessen the estimated disparities by income in Vietnam casualty rates (Section 5). Finally, we summarize the evidence and try to offer some perspective on it (Sections 6, 7, and 8).

1. FRAMEWORK OF THE STUDY

We concentrate on U.S. servicemen killed in the Vietnam War, reasoning that they and their families were the Americans who sacrificed most in the conflict. We do not partition the deceased into those who

were draftees and those who were volunteers. (In any event, the volunteer/draftee distinction is problematic because some of those who enlisted only did so to avoid induction.) Nor do we consider the policies under which some servicemen received far more hazardous assignments than others. By focusing on casualties, we are attempting a *bottom line* assessment of the cumulative effect of various recruitment and assignment policies on the characteristics of those who died.

In addition, we limit our attention to the relationship between *economic* status and casualty rates. We do not consider issues of social status, and thus reach no conclusions on whether say, the sons of college professors were underrepresented among the casualties. Not dealing with the prefix socio in socioeconomic status is a consequence of data limitations and a shortcoming of this study. However, a strong association appears to exist between economic and social status,² and an exemption from danger based on wealth is arguably the most abrasive manifestation of class discrimination.

To measure the disparity in casualty rates by income, we use as our primary measure an analog of the Gini coefficient in economics. Ranking communities (or neighborhoods) from poorest to richest, we prepare graphs of the proportion of total war deaths versus the proportion of total population (Figure 1). If per capita casualty rates were the same at all income levels, the plot would be the 45° line $y = x$. The area A between the actual curve and the diagonal line is a measure of net divergence between the observed casualty pattern and a uniform distribution of deaths. To get a disparity index D that ranges from -1 to 1, we double the area between the curves ($D = 2A$).

In the *Memorial Directory*, the main information

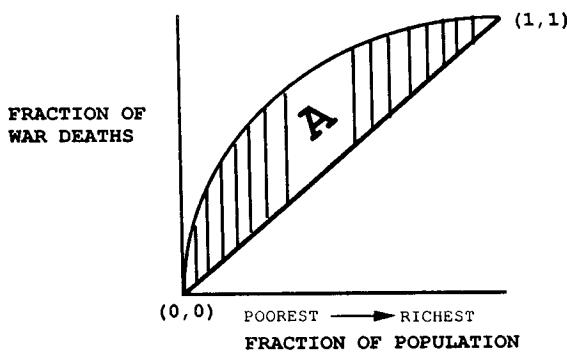


Figure 1. A representation of the spread of war casualties across the income distribution.

about a serviceman's level of affluence is his hometown (as he listed it upon entering the armed forces). Working with indices like median family income, one could use hometown listings to assess whether wealthy communities suffered proportionately fewer casualties than poorer ones. Such an analysis provides a useful starting point, but it runs into difficulties. As we will discuss, not every listed hometown corresponds to the serviceman's actual hometown. More importantly, such aggregate data do not reveal how closely those men from a given community who perished in Vietnam reflect its overall spectrum of incomes. One could not determine, for example, whether a soldier who listed Chicago as his hometown came from the city's Gold Coast or its impoverished South Side.

Because of concern about the shortcomings of the *Memorial Directory*, we gathered more precise information about a stratified sample of casualties. After obtaining the requisite permissions from the Army, Navy, Air Force, and Marines, we traveled to the military records headquarters of the National Archives and recorded exact home addresses for those men in the sample. These addresses could be scrutinized in conjunction with economic data by census tracts and thousands of small urban "block groups."

2. THE MEMORIAL DIRECTORY DATA

The *Vietnam Memorial Directory Book of Names* is a 763-page alphabetical listing of Americans killed in the war. Next to each name is the serviceman's date of birth, date of death, military branch and rank, and stated hometown (hereafter home-of-record). To get an easily replicable sample of casualties for analysis, we recorded two names from each page: the one at the top and the one just below the middle. (To obtain the latter, we covered each page with a blank sheet half its length and listed the top name among those not concealed.) The sample thus consisted of 1,525 servicemen.

The 1970 *Census of Population* (U.S. Bureau of the Census 1973) provides detailed information about the distribution of family incomes for communities of size 2,500 or more (but not for smaller ones). We therefore initially restricted attention to 1,213 casualties (among the 1,525) who listed hometowns with at least 2,500 residents.³ (In final calculations, however, we eliminated this restriction.)

2.1. A National Disparity Statistic

We first used home-of-record listings to explore whether a given community's casualty rate was systematically related to its affluence. To compute a "first

pass" disparity coefficient D , we approximated distributions of incomes for the 1,213 war victims and for the nation; these distributions arose from treating the community's 1969 median family income as a proxy for the level of affluence of any of its citizens. Thus, all war victims from Elkhart, Indiana in our sample were assigned its 1969 median family income of \$11,169, as were all 43,152 of its residents. Then we compared the community-income distributions for casualties and for the nation to compute a disparity coefficient.⁴

The D -value that came up was **0.12**, which suggests a modest overrepresentation of Americans from less-affluent communities among the war dead. The median community income for casualties was estimated at \$9,582, only 1% below the estimated median of \$9,696 for all Americans from communities with at least 2,500 residents. To suggest the divergences of death rates that underlie the result, Table I partitions the victims among the deciles of the (approximate) national income distribution. The table depicts death rates about 20% above the national average in the lowest three deciles, near-average in the middle four, and about 20% below average in the top three. Given that $1,213/10 = 121$ casualties would be expected in each decile if income and death rates were independent, the statistical significance of the disparities is not in question ($\chi^2 = 56.34$, 9 d.f.).

Table I implies that per capita casualty rates were about 1.5 times as high in communities from the lowest three deciles of income as in the highest. Whether this factor of 1.5 indicates moderate rather than large disparity is a matter of personal judgment.

Table I
Initial Estimate of Distribution of Incomes of Casualties Among Deciles of U.S. Distribution, Based on 1969 Median Community Family Incomes and *Memorial Directory* Data^a

Decile	Percentage of Deaths
Lowest	13.7
2nd	12.2
3rd	11.4
4th	10.4
5th	9.2
6th	12.1
7th	7.1
8th	8.2
9th	7.8
Highest	7.9

^a These data pertain to communities with at least 2,500 residents in 1970, and to the 1,213 servicemen in our random sample who listed hometowns in such communities.

But the poor-to-rich casualty ratio clearly could have been far larger, and the searing phrase "class war" seems to encourage us to believe that it was. (As we will see, the factor of 1.5 will diminish in subsequent calculations.)

2.2. Age Adjustments

One limitation of this preliminary analysis is that it ignores cross-community variation in the fraction of citizens of military age. Addressing that deficiency is not straightforward: Men and women of, say, age 20 who are away in college or the military often are not included in census counts for the towns in which they grew up. A reasonable though imperfect surrogate for a town's number of military-age males during the Vietnam War is its number of 15-year olds as recorded in the 1970 Census. Youths at that age are still generally living at home, and a town's number of mid-teenage residents might more reliably track its number of males in their early twenties than does its overall population.

We recalculated the D -statistic after replacing percentage of total population by percentage of total 15-year olds as the x -axis in the disparity graph. The new disparity coefficient was 0.13, scarcely different from the original value of 0.12.⁵ The analog of Table I was likewise almost unchanged. Hence, variations in age distributions across communities seem only minimally relevant to the disparity analysis.

2.3. Regional Adjustments

One apparent contributor to the D -value of 0.12 is that the South—the least affluent U.S. region according to the 1970 Census—had disproportionately many casualties in the data sample. While that pattern may reflect the relatively greater attractiveness of military salaries in the South, regional differences that are not intrinsically economic—in culture, attitudes, and the status of military careers—may also contribute to variations in participation in military service. To reduce the danger of confounding economic with non-economic influences on casualty rates, we performed within-region calculations of disparity coefficients.

We partitioned the 50 states into nine regions based on geographic contiguity and economic and cultural similarity (e.g., New England). Then, based on its servicemen in the sample of 1,213 war dead, we computed individual D -scores for each region. On weighting the nine D -scores thus obtained by the proportions of casualties from their regions, we reached a national average of 0.09. This is an intermediate outcome: It is too far above zero to buttress suggestions that income is but a spurious correlate of

casualty rates. But it also means that regional adjustment cuts the D -value by 25% (from 0.12 to 0.09), and thus hints that the role of economics per se may initially have been overstated.

2.4. Affluent Communities

Beyond broad national and regional analyses, it is natural to examine casualty patterns in prosperous communities, which have been depicted as largely invulnerable to the dangers of the Vietnam War. James Fallows stated (p. 10) that, with gold stars going to families in rural and working class areas, "the mothers of Beverly Hills and Chevy Chase and Great Neck and Belmont were not on the telephones to their Congressmen screaming 'you killed my boy'." He suggested that, had such influential communities felt the direct effects of the war, it might have taken quite a different course.

Table II presents casualty data for the four communities cited above by Fallows as exemplifying safety from Vietnam hazards. The numbers do not indicate such remoteness. Three of the four communities had more than their proportionate share of U.S. war victims and, taken together, the four had a per capita death rate *higher* than that of the U.S. as a whole.

A more systematic appraisal of casualties in affluent areas arises from "case studies" of Westchester County, New York, and the part of Cook County, Illinois that surrounds Chicago. These areas are the wealthiest well defined regions close to Chicago and New York, the nation's two largest cities in 1970. Despite their overall affluence, the two areas are quite heterogeneous; median incomes in their communities range from slightly higher than those in the nearby core city to near the national maximum.

The overall Vietnam death rate for these areas averaged about 15% lower than that in the adjacent large

Table II
Vietnam War Deaths in Four Suburban
Communities Cited by James Fallows

City	Number of Deaths ^a	
	Expected (Based on National Rate)	Actual
Belmont, Massachusetts	8.0	11
Beverly Hills, California	9.4	6
Chevy Chase, Maryland	4.7	7
Great Neck, New York	4.8	5
Totals	26.9	29

^a Expected numbers are based on 1970 populations and national Vietnam death rate of 1 per 3,600 citizens.

city. Within the county, however, there was virtually no net relationship between a town's median income and its casualty rate. For communities with at least 2,500 residents, the disparity coefficient D was **0.08** for suburban Cook County and **-0.08** for Westchester County.

Another perspective on whether affluent communities "opted out" of war sacrifices arises from the *Memorial Directory's* listings of the dates of war deaths. Polls and other indicators suggest that public discontent with the Vietnam War was limited at first but grew steadily over time. If Vietnam deaths among wealthy citizens were concentrated toward the start of the war that pattern might imply that such citizens rapidly withdrew their participation from the conflict once they ceased supporting it.

Table III shows, however, that among the 344 casualties from the Westchester/Cook county communities in the nation's top decile of income, the distribution over time of war deaths closely resembled the national pattern. While there was a modest shortfall in the proportion of affluent casualties in 1970-1973,⁶ there was a slight excess in the period 1967-1969 when both antiwar protests and war deaths were at their peaks.

In summary, all our analyses of *Memorial Directory* data converged on a common outcome: limited discrepancy by income in Vietnam casualty rates. But, as we discuss below, it would be premature to view such results as definitive.

3. THREE DILEMMAS

A number of problems exist in interpreting the *Memorial Directory's* home-of-record data from rural, urban, and suburban areas. Such difficulties could substantially distort inferences about the economic status of war victims.

Table III
Distribution Over Time of Deaths for Servicemen
From Affluent Communities in Cook and
Westchester Counties

Period	Number of Deaths ^a	
	Expected (From U.S. Time-Trend)	Actual
1962-1966	50.6	56
1967-1969	237.7	243
1970-1973	55.7	45

^a The observed differences between expected and actual outcomes are nowhere close to statistically significant ($\chi^2 = 2.78$, 2 d.f.).

The rural problem was described to us by a Pentagon analyst, who speculated that many residents of small rural communities (or unincorporated areas), on being asked to list their hometowns by the armed forces, name the nearest sizable community. Thus, some war dead attributed to, for instance, Mitchell, South Dakota, may have lived outside its borders, and hence its observed casualty rate per capita could be exaggerated.

Table IV provides strong circumstantial evidence that such a "rounding-up" process was at work. The table shows that, in the 12 states identified as most rural by the 1970 Census, soldiers' statements about their hometowns imply that communities with more than 2,500 residents had *three times as many* casualties per capita as smaller communities. Yet, as the table also shows, these low-casualty, smaller communities had considerably lower average incomes than larger ones. Thus, unless the poorer areas of these states had surprisingly few casualties, an appreciable fraction of rural deaths have been misclassified as urban and inappropriately included in Table I.

The problem with data from cities was mentioned earlier: Urban residents have such divergent incomes that simply knowing that a person is from city X implies little about his economic status. Even if casualty rates *across* communities do not vary massively with income, one cannot thereby rule out huge *within*-community disparities. That proviso seems especially pertinent to large, heterogeneous cities, for certain mechanisms may have rendered such cities the nation's main repositories of casualty disparities by income.

The likeliest such mechanism is the Selective Service System. Military draft boards in cities faced different situations than did those in surrounding suburbs. Suburban draft boards dealt mainly with affluent registrants who often sought deferments from conscription. If such boards wished to provide the town's "fair share" of military recruits, they may have been forced into stringent interpretations of Selective Service rules. In central cities, however, the availability of working-class youths not trying to avoid the draft may have made it easier to meet military quotas while dealing leniently with deferment requests. Hence, avoiding military service may have been easier for urban middle-class youths than for comparably situated suburban youths.

As for wealthy communities, their overall casualty rate can be misleading because some of their residents are poor. Within such communities, there can be considerable variation in income across neighborhoods (although even the poorest section of a rich

Table IV
Some Data About Urban and Rural Death Rates^a
by Reported Home Community in the Nation's
12 Most Rural States

Part of State	Per Capita Death Rate	1969 Mean Family Income ^b (\$)
Urban	1 in 1,800	9,644
Rural	1 in 5,400	7,417
(Entire U.S.)	1 in 3,600	10,999

^a According to the 1970 *Census of Population* (Figure 36, Volume 1, Part 1, Section 1), the 12 most rural states in 1970 were Alaska, Arkansas, Idaho, Kentucky, Mississippi, Montana, North Dakota, South Carolina, South Dakota, Vermont and West Virginia.

^b Mean rather than median incomes were used above to facilitate aggregation. To avoid variants of Simpson's paradox, each state was weighted by its total population in both urban and rural averages.

town generally falls very high on the national income distribution). And if a serviceman who is only artificially a town resident (e.g., the son of a live-in maid, who resided with her at a mansion) were killed in Vietnam, it would be an egregious error to treat his death as a casualty among the very rich.

Conceivably, none of the potential difficulties in farmlands, cities, or suburbs seriously compromises any conclusions drawn from the *Memorial Directory* data. But one cannot demonstrate that the problems are inconsequential without attempting to deal with them explicitly. Starting in the next section, we describe our efforts in this regard.

4. THE NATIONAL ARCHIVES DATA

4.1. Urban Casualty Patterns

Because of an historical quirk, the *Memorial Directory* provides information about the dispersion of casualties by income across the neighborhoods of Queens, New York. The 2,000,000 residents of Queens identify strongly with their home neighborhoods (e.g., Astoria, Ozone Park, Corona, Forest Hills, Bayside) and, unlike most other city-dwellers, routinely listed their neighborhoods in mailing addresses (e.g., Forest Hills, New York 11375). Queens residents entering the armed forces apparently followed this custom; hence these neighborhoods are listed as homes-of-record in the *Memorial Directory*.

Individual sections of Queens were quite homogeneous at the time of the Vietnam War, but the overall spread of incomes in the borough was typical of that for a large American city. (By Census Bureau criteria,

Queens was as economically diverse as the comparably sized city of Philadelphia.)⁷ Coupled with neighborhood-by-neighborhood income data, the casualty statistics from Queens allowed the calculation of a disparity coefficient *D* for the borough. The *D*-value based on all 353 identifiable Queens war victims in the *Memorial Directory* was a modest 0.07. With neighborhood-level data, the median income among casualties was at the 46th percentile of the borough's distribution.

These results are far from conclusive, however. Given that the typical Queens neighborhood had 30,000 residents, these supposedly microscopic results may still suffer from excessive aggregation. We therefore gathered from the military National Archives the exact home addresses of a random sample of casualties (generally, every third name in an alphabetical listing) from four additional cities:

- Baltimore
- Chicago
- Portland (Oregon)
- San Antonio

These cities were chosen to achieve diversity in both size and location.

We calculated *D*-values for the four cities using information about block-groups, the smallest residential subdivisions for which the Census Bureau provides economic data (Chicago alone had more than 2,000). Table V shows that disparity coefficients for these cities averaged 0.08, which is comparable to *D*-statistics reported earlier in this paper. Thus, to a first approximation, within-city disparities in casualty rates by income seem comparable in size to cross-community disparities.⁸

An unexpected outcome of analyzing the home addresses of urban casualties was that slightly over 20% of such casualties did not live in the cities they

Table V
Disparity Coefficients for Five U.S. Cities, Based
on Exact Residential Addresses

City	<i>D</i> -Value
Baltimore (98) ^a	0.02
Chicago (269)	0.04
Portland, Oregon (33)	0.05
San Antonio (67)	0.21
Queens, New York (353)	0.07 ^b

^a Numbers in parentheses reflect the number of servicemen from each city whose addresses were used in the calculation.

^b Calculated from neighborhood-level data rather than exact home addresses.

listed. Generally, such "outsiders" lived in surrounding suburbs. Thus, while the discrepancy between urban and suburban death rates was relatively small in the *Memorial Directory*, the actual difference was probably even smaller.

4.2. High-Income Areas

To ascertain whether the casualties from wealthy communities were representative residents, we gathered information about a sample of cities and towns in the top 10% of the national income distribution (essentially, every 20th entry in an alphabetical listing of those top-decile communities with at least one casualty). For each community chosen, we found the home addresses of each of its war dead. For every casualty, we compared median family income in the census tract from which he came with that of all other census tracts in the same community, searching for any tendency of the "poor side" of town to be overrepresented. No such tendency showed up: Based on home addresses, 50% of the casualties were from tracts associated with the wealthier half of residents, and 34% were from tracts of the wealthiest quarter.⁹

We also considered whether, despite home addresses, some of the casualties from affluent communities clearly were not affluent themselves. We looked at the full military files of 186 servicemen, which included such relevant items as letters from parents, statements about educational background, and reports from commanding officers. The assessment of such materials was necessarily somewhat subjective, but it thoroughly convinced us that the Vietnam casualties from wealthy communities were typical residents of them. In no cases was the deceased the son of, say, a live-in servant. Only one of the 186 war victims in our sample had a home-of-record that was highly misleading (namely, a soldier from rural Illinois who, prior to his induction, had gone to live with a brother in a Northern California suburb).¹⁰

4.3. Rural Rounding-Up Phenomena

To assess the misspecification of rural addresses (i.e., the rounding-up problem), we turned to Archives data about a random sample of casualties. We ultimately achieved data concerning 146 men with true origins in rural communities with fewer than 2,500 residents. Of these men, 26% ($38/146$) had listed larger communities as their homes-of-record than those in which they actually lived. About $\frac{2}{3}$ of those who had done so had named communities with between 2,500 and 10,000 residents, while almost all the remainder had placed themselves in cities with between 10,000 and 50,000 inhabitants.

Of more direct importance to us, 35% of those in the random sample with listed hometowns in the population range 2,500–10,000 actually came from either unincorporated rural areas or towns with between 1,000 and 2,500 residents. And 11% of the reported casualties from cities of 10,000–50,000 inhabitants were rural war victims who had "rounded-up" their addresses. In the rural states identified in Table IV, the rounding-up artifact was large enough to account for the table's sharp urban/rural differences. Even after adjustments for the artifact, however, relatively poor rural areas did not emerge with appreciably higher casualty rates than the rest of the nation.

5. REVISING THE DISPARITY COEFFICIENT

To gain maximum information from our endeavors, we tried to synthesize the general patterns in the *Memorial Directory* with the finer-grained data from the National Archives. We returned to our original random sample of 1,525 casualties and, after excluding the handful of deceased from outside the U.S., focused on the remaining 1,510. In essence, we strove for a reasonable approximation of their histogram of family incomes; then we proceeded to make a new estimate of the national disparity coefficient. The new calculation differed in two major respects from its predecessor:

- We no longer excluded from the analysis communities with fewer than 2,500 residents. We tried instead to estimate and then compare their sacrifices with those of the rest of the nation.
- We no longer assigned to urban casualties and residents the median family incomes of their cities. Rather, we sought more realistically to allocate the urban war dead across the income histograms of their communities.

We amplify on a and b below.

5.1. Rural

Of the 1,510 casualties in our sample, 239 identified themselves as coming from rural towns or unincorporated outlying areas. For each such individual, we determined the county from which he came and approximated his economic status by the county's 1969 median income for rural farm or rural nonfarm families (whichever group was larger). For example, Slocomb, Alabama (1970 population: 1,883), is located in Geneva County, which in 1970 had rural farm and rural nonfarm populations of, respectively, 2,907 and 11,793. Because median family income in

the latter category was \$5,210 in 1969, we would assign that statistic to a casualty from Slocomb.

The sample included 263 servicemen with homes-of-record in communities in the population bracket of 2,500–10,000. To counteract rural round-up, we applied the National Archives findings and assumed that about 35% of these 263 casualties actually came from smaller rural communities. We did not, of course, know which particular individuals had rounded-up their addresses; we therefore randomly chose 35% of the servicemen and reclassified them as rural.¹¹ Once a servicemen had been reclassified, we used, as a proxy for his economic status, the previously described rural income for the county containing (or adjacent to) his listed hometown.

Following the National Archives pattern, we proceeded analogously with 11% of the 367 war dead who listed hometowns with 10,000–50,000 residents. After the adjustments, therefore, we wound up with a sample of $239 + 263 \times (0.35) + 367 \times (0.11) = 371$ war victims treated as having rural origins.

While these reclassifications may be viable in an expected-value sense, we acknowledge that many individuals reassigned from larger towns to rural areas actually lived in those towns, and that, similarly, many servicemen not reassigned to rural areas should have been. But we hope that these two kinds of errors—the first would generally lead to underestimation of income and the second to overestimation—largely canceled each other out in the disparity calculation. In effect, we deliberately introduced zero-mean noise into the analysis to reduce a dangerous systematic bias. Our belief is that, while imperfect, rural reassessments create a considerably more accurate portrayal of rural sacrifice than that provided by literal homes-of-record.

5.2. Urban

To depict casualty patterns in cities with more than 100,000 residents, we partitioned such cities on economic grounds into four quartile cities. Each such quartile contained 25% of the entire city's families: the poorest quarter, the next poorest, the second richest, and the richest.¹² (The quartiles need not correspond to continuous geographic regions: The wealthiest families could live at both the north edge of the city and the south edge.) We approximated the distribution of a city's casualties across these quartiles from the actual patterns we observed in Chicago and the three other cities whose home address data we had examined.¹³

Through randomization, we partitioned the casualties identified with a large city into five groups. Con-

sistent with the National Archives finding, we assumed that each casualty whose home-of-record was a large city had a 20% chance of residing not in the city itself but in the surrounding metropolitan area. (He thus had an 80% chance of living within the city limits.) We assigned each such nonresident the median family income for the city's Standard Metropolitan Statistical Area (SMSA) minus the core city. Those men assigned via randomization to the city itself were, as noted, spread among its quartiles under the cross-quartile distribution of actual casualties from Baltimore, Chicago, Portland, and San Antonio.

To measure economic status, we used each quartile's median family income as a surrogate for the affluence of its citizens. The four surrogates corresponded to the 12.5%ile, the 37.5%ile, the 62.5%ile, and the 87.5%ile of the original city's distribution of family income.

Finally, in the interest of consistency, we revised estimates of the overall U.S. family-income distribution according to the conventions just described. This revision entailed adding rural areas to the population base, and breaking large cities into quartiles. We assigned proxy incomes to all residents by the same procedures we used for the casualties.

6. THE NEW D-STATISTICS

When we recomputed the national disparity coefficient, we reached a *D*-value of **0.07**. That statistic was appreciably *lower* than the first approximation of 0.12 offered in Section 2, which indicates that steps taken to reduce biases in the earlier calculation acted to lessen the estimated variation in casualty rates by income. Table VI, the counterpart of Table I, shows revised estimates of the dispersion of casualties across deciles of the U.S. income distribution. The main difference between Tables I and VI is that the latter, reflecting new information about casualty rates in rural areas and poor urban neighborhoods, shows a far smaller excess of war deaths among the poor. (The lowest three deciles of income-sustained death rates in Table VI are about 10% above the national average, as compared to double that amount in Table I.) Table VI also suggests that families in the top 30% of the national income distribution suffered casualties at about ½ the national rate, rather than the ¾ suggested in Table I.

We also performed new regionally adjusted calculations similar to those in Section 2. Once again, the national *D*-statistic declined, this time from 0.09 to 0.05. After regional adjustments, the excess in death rates in the bottom three deciles of the income

Table VI
Final Estimate of Distribution of Incomes of Casualties Among Deciles of U.S. Income Distribution, Based on National Archives Adjustments of *Memorial Directory*^a Data

Decile	Percentage of Deaths
Lowest	9.6
2nd	13.1
3rd	11.2
4th	11.8
5th	9.4
6th	10.8
7th	9.1
8th	9.2
9th	8.0
Highest	7.8

^a These data pertain to all 1,510 U.S. casualties in our random sample, including those from communities with fewer than 2,500 inhabitants.

spectrum fell to 5%, while the deficit in rates in the top three deciles fell to 10%. Thus, for example, the casualty rate per 1,000 people in better-off communities was typically about 1/10 the overall regional average. The regionally adjusted ratio of poor-to-rich casualty rates (based on the top and bottom three deciles of income) was below 1.2.

The problems discussed in Section 3, in other words, appear not to have camouflaged disparity in the earlier *Memorial Directory* calculations. On the contrary, they evidently acted to exaggerate the initial estimates of disparity.

7. A PERSPECTIVE ON AFFLUENT CASUALTIES

Especially in these last few calculations, the representation of affluent citizens among the Vietnam War dead might strike many readers as unexpectedly high. Some supplementary data in the *Memorial Directory*, however, might make the outcome less counter-intuitive. Thirteen percent of the Americans killed in Vietnam were officers; among (the 344) casualties from the Westchester and Cook county communities in the nation's top decile of income, the figure was twice as high (24%). Suburban youths, in other words, may indeed have been underrepresented among privates, but they may also have been overrepresented among first lieutenants.

To explore the implications of this pattern, we estimated death risks for U.S. servicemen in Vietnam

as functions of their military ranks (of which there were 19).¹⁴ Then we estimated from *Memorial Directory* data the distribution of ranks of individual servicemen from affluent communities, and the corresponding distribution for nonaffluent ones. Through juxtaposing death risk by rank with the proportion of men at each one, we reached an approximation: Men from affluent communities who served in Vietnam were about 10% (i.e., a factor of 1.1) *likelier* to die there than were other servicemen. Such men served disproportionately in such hazardous roles as pilots, or infantry captains and lieutenants.

The factor of 1.1 suggests that, in wealthy communities, the per capita Vietnam *death* rate was slightly higher (relative to the national average) than the per capita Vietnam *participation* rate. But, more importantly, the ratio hints at the reason for a popular misconception. It might well be true that, as widely believed, few affluent youths were among the "grunts" in the Vietnam front lines. But it could be fallacious to infer from that circumstance that well-off Americans were out of harm's way.

The relatively high ranks of affluent servicemen inevitably raise another issue: voluntary versus compulsory Vietnam service. Because few conscripts became officers, the high proportion of officers among the wealthy suggests a higher-than-average ratio of volunteers to draftees. Perhaps, one could argue, the real difference between rich and poor was that Vietnam duty was optional for the former and mandatory for the latter.

One should be cautious in advancing that viewpoint. As indicated earlier, it is perilous to equate enlistment in the military with the desire to serve in Vietnam. Many *volunteers* were individuals who faced induction but sought less-unpalatable ways to fulfill their military obligations. That pattern was graphically suggested by the case of Presidential candidate Bill Clinton, who wrote a letter thanking an R.O.T.C. colonel for "saving me from the draft."

Still, one could plausibly assert that middle and upper class Americans had greater access than less affluent youths to student and occupational draft deferments, and to doctors who could identify and attest to disqualifying physical ailments. But to reconcile that observation with the findings in this paper, one would have to infer that the affluent did not proceed *en masse* to exploit their special advantages. Less vulnerable than other youths to unrelenting pressure to serve in Vietnam, they nonetheless appear to have gone there in sizable numbers. That possibility has scarcely been mentioned in discussions about

Vietnam casualties, but it deserves a place in any balanced assessment of what happened.

8. FINAL REMARKS

This analysis of Vietnam casualty data has yielded two primary conclusions:

1. Per capita death rates apparently were only slightly lower in affluent American communities than in others. (A plausible estimate of the deficit is 15%.) Aggregate national data, regional data, and case studies of two suburban counties and four quintessential "upscale" towns provide mutually corroboratory evidence on this point. Quite possibly, wealthy communities were no more underrepresented in Vietnam casualty lists than in those from preceding wars.
2. Residential address data from several large, economically diverse cities suggest little association between income and per capita death rates. A similar pattern emerges in suburban data. It appears, therefore, that within-community variation in casualty rates by income was as modest as cross-community variation.

Arguably, the most striking outcome of this study is a finding that did not arise. Had it emerged that communities like Chevy Chase had virtually no Vietnam casualties, or that the war dead in Chicago came in overwhelming numbers from the city's poorest sections, then a strong and nearly irrefutable link would have been established between economic status and casualty rates. Yet an analysis that could readily have documented such a link essentially failed to do so. (That outcome is consistent with the fact that American blacks—one of the nation's least affluent ethnic groups—did *not* sustain a disproportionate number of Vietnam casualties; 12.5% of the servicemen killed in Vietnam were black, as were 13.5% of the military-age population (Kolb 1991).)

If untrue, the belief that affluent citizens were conspicuously missing from the Vietnam war dead is harmful to all Americans. It demeans the sacrifices of the wealthy by implying that such sacrifices were nonexistent. It demeans the sacrifices of the non-wealthy by suggesting that, manipulated and misled, they shed their blood in a conflict in which the privileged and influential were unwilling to shed theirs.

Our data analysis required approximations and assumptions, and further studies could indicate imperfections in the results reported here. As of now, however, the available information supports the

proposition that, in terms of the bereavement it brought to America, Vietnam was not a class war.

NOTES

1. See, for example, "It's Time to Think About the Draft" (editorial) and "For Many Children of the Wealthy, War is a Faraway Thing" (by Marjorie Damon) in *The Boston Globe*, February 4, 1991, p. 10 and 11, respectively.
2. For example, the mean family income in 1975 for American managers and professionals was \$21,797, as opposed to \$14,692 for blue-collar workers and \$11,783 for farm workers (U.S. Bureau of the Census, *Current Population Reports*, Series P60, #104, Table 3, 1976).
3. About 50 casualties listed hometowns that had more than 2,500 inhabitants, but for which the Census Bureau did not provide income data. These individuals were omitted from the initial calculations.
4. The national distribution of income for communities with 2,500 or more residents (based on median community family incomes) was estimated from statistics for all communities with 50,000 or more residents and from a (scaled-up) 10% sampling (every tenth city by alphabetical order in Census reports) of communities with populations between 2,500 and 50,000.
5. Calculations with other proxies for the military-age population yielded similar results.
6. This 1970–1973 shortfall in Westchester/Cook counties did not show up among our full set of casualties from top-decile communities.
7. In 1970, the Gini coefficient (the Census Bureau's Index of Economic Concentration) was 0.33 for Queens and 0.34 for Philadelphia.
8. Table V does not readily support speculation about the Selective Service advantages of youths in cities. One reason might be that large cities had not one central draft board but rather many local boards serving generally homogeneous areas. Furthermore, most Vietnam servicemen were volunteers who, while sometimes prodded into enlisting by the draft system, may not have been attuned to the nuances of its decision-making.
9. In this calculation, we used as a proxy for the casualty's affluence the median family income for his census tract. We expressed the latter as a percentile of his town's income distribution (by census tract family medians). Suppose, for example, that the town had five tracts with equal

populations, and that a casualty's home address is in the second wealthiest. Then we would associate him with the 70th percentile of the town's income (i.e., halfway between 60 and 80, the range of percentiles identified with his tract).

10. Several other casualties were clearly of very high economic status, including the son of a famous movie actor and the son of the president of a prestigious law firm.
11. Such randomization was generally based on the last two digits of residential phone numbers which fell at consecutive lower-right corners of the Boston White Pages. (These digits closely approximate the uniform distribution on the integers from 0 to 99.)
12. Because of modest differences in average family size, the four quartiles (with equal numbers of families) are not identical in population. The poorest quartile has roughly 26% of the original city's residents, and the richest about 23%. Moreover, the fraction of residents of military-service age—as suggested by such proxies as the proportion at age 15—generally was slightly higher in poorer block groups than in wealthier ones. In quantifying variation with income in casualty rates, we applied a small adjustment for this pattern.
13. We weighted Chicago, Baltimore, Portland, and San Antonio equally, even though Chicago had more residents in 1970 than the other three cities combined. Our reasoning was that far more American cities are moderate-sized like Portland or San Antonio than huge like Chicago, and thus Chicago is not intrinsically preferable to the other cities for the purpose of extrapolation.
14. The calculation took into account that Vietnam

tours for officers were often longer than those for draftees.

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