

Walter Oi and His Contributions to the All-Volunteer Force: Theory, Evidence, Persuasion

The All-Volunteer Force: A Symposium in Honor of Walter Oi
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John T. Warner
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At every military manpower conference we saw Walter Oi participate in, he would look around the room and comment, "It looks like we've rounded up the usual suspects." I think the usual suspects are here today.

Today's symposium on the history and current status of the all-volunteer force (AVF) is in honor of Professor Walter Y. Oi, who passed away late last year at the age of 84. The charge of our talk is to set the stage for the panel discussions that follow by reflecting on Walter's contributions to the discipline of economics, to the end of the draft in the United States, and to the management of the AVF. A bit of his early background is in order. Walter was born in 1929 to Japanese immigrants and grew up in Los Angeles. In 1942, he and his parents were interned in a Japanese-American internment camp in Colorado for the duration of World War II. Returning to Los Angeles at the end of the war, Walter entered UCLA, where he received a B.S. degree in business statistics in 1952 and an M.A. degree in economics in 1954. Walter then entered the Ph.D. program in economics at the University of Chicago and received his Ph.D. degree in 1961. His

decision to pursue a Ph.D. degree was made remarkable, indeed unbelievable, by the fact that he was effectively blind since the fourth grade.

Despite his physical handicap, Walter became one of the 20th century's most accomplished economists. Walter was not only a top-rate economic theorist, he was an articulate, authoritative communicator of economic concepts to persons not schooled in the arcane language used by economists. When Walter talked, people listened. He played a key role in persuading politicians and policymakers that the draft was an unfair and inefficient method for procuring military manpower and that a volunteer system would indeed work.

Walter Oi's Academic Career

Instructor, Iowa State College, 1957-1958

Instructor, Northwestern University, 1959-1961

Associate Professor, University of Washington, 1962-1965

Professor, University of Washington, 1965-1967

Professor, University of Rochester, 1967-1978

Elmer B. Milliman Professor of Economics, University of Rochester,
1978-2013

Chairman, Department of Economics, University of Rochester,
Rochester, 1976-1982

This slide shows the progression of Walter's academic career from Instructor at Iowa State in 1957-58 to Elmer B. Milliman Professor of Economics at the University of Rochester from 1978 onward.

Selected Economics Publications by Walter Oi

Labor as a Quasi-Fixed Factor, *Journal of Political Economy*, December 1962

The Neoclassical Foundations of Progress Functions, *Economic Journal*, September 1967

A Disneyland Dilemma: Two-part Tariffs for a Mickey Mouse Monopoly, *Quarterly Journal of Economics*, February 1969

Heterogeneous Firms and the Organization of Production, *Economic Inquiry*, April 1983

Employment Relations in Dual Labor Markets (It's Nice Work If You Can Get It), *Journal of Labor Economics*, 1990

Over his career, Walter authored a long list of articles that have become classics in the discipline of economics. Here is a small sampling of his formal publications. We won't discuss them but encourage you to read about them in our paper. They address a number of important puzzles in economics:

- The first paper: How the presence of fixed hiring costs affects firms' hiring decisions, hours-of-work decisions, wages, and labor turnover;
- The second paper: Why production costs fall with cumulative amount ever produced but rise with production rate per time period (a topic of importance in defense procurement);
- The third paper: How monopolies such as Disney price their products (a paper inspired by a trip he and Marjorie took to Disneyland); and
- The last two papers: How firms organize production: why large firms produce standardized goods while small firms produce customized goods, and why large firms pay more than small firms.

These papers have all become classics in economic theory.

Walter's contributions to economics also include a series of studies about the consequences of government intervention into markets: product safety, workplace safety, federal subsidies to mass transit, workplace-fairness rules, and minimum wages, to name a few. These studies are all characterized by rigorous development of an economic model of the marketplace without government intervention and then analysis of the effects of intervention. He viewed government intervention in markets with skepticism, and his models teased out their often subtle and unintended consequences.

Oi's Draft and AVF-Related Publications

Draft Debate Years 1964-1968

The Costs and Implications of an All-Volunteer Force, in *The Draft, A Handbook of Facts and Alternatives*, edited by Sol Tax, (Chicago, IL: University of Chicago Press), 1967

The Economic Cost of the Draft, *American Economic Review*, May 1967

Proposal for a Military Manpower Procurement Bill, Hearing before the Committee on Armed Services, U.S. Senate, April 18, 1967

Gates Commission Years 1969-1972

Manpower and Budgetary Implications of Ending Conscription (with B. Forst), in *Studies Prepared for the President's Commission on an All-Volunteer Armed Force Volume I*, 1970

Educational Attainment of Military and Civilian Labor Forces (with D. Reaume), in *Studies Prepared for the President's Commission on an All-Volunteer Armed Force Volume I*, 1970

AVF Years 1973-2013

National Service: Who Bears the Costs and Who Reaps the Gains?, in *National Service, Pro and Con*, edited by W. M. Evers (Stanford, CA: Hoover Institution Press), 1990, 82-102

The Historical Perspectives on the All-Volunteer Force: The Rochester Connection, in *Professionals on the Front Line: Two Decades of the All-Volunteer Force*, 1996

No More Greetings, in *The All-Volunteer Force (Thirty Years of Service)*, 2004

We turn now to Walter's contributions to the end of conscription and the implementation and management of the AVF. This slide summarizes Walter's primary publications related to these topics. Dividing his contributions into three time periods (draft-debate era 1964-68, Gates Commission 1969-1972, and AVF era post-1972), we articulate his contributions and the various roles he played.

By 1964, the draft was becoming a hotly debated topic. In that year, DOD initiated an internal study of the feasibility of ending conscription. The study team was led by a political scientist named William Gorham. Gorham enticed Walter to take a leave of absence from the University of Washington to accept a position on the study team. Marjorie tells us that, as academics do, Walter was seeking summer research support from various places and had submitted a proposal to do an urban travel study in Honolulu. He hadn't heard back about this proposal when the DOD opportunity came along, so he took the offer in hand. We are all beneficiaries of his risk aversion.

Walter's consultancy in DOD began a long involvement with issues related to the AVF. During this long involvement, he played the roles of economic analyst, research manager, communicator, mentor, and public servant.

In addition to Walter, the Pentagon study team included David Bradford of Princeton University, Stuart Altman of Brown University, and Alan Fechter of IDA. The team conducted its research over the course of the next year and completed its work in the summer of 1965. But Assistant Secretary of Defense for Manpower and Reserve Affairs Thomas D. Morris tabled the report for fear that if it were acted upon, it would hamper DOD's ability to meet increasing manpower demands resulting from the escalation in Vietnam.

On June 30, 1966, Mr. Morris testified about the study and the prospect of a volunteer force before the House Armed Services Committee (HASC). Parts of the study were read into the *Congressional Record*. They contained estimates of the budgetary impact of moving to a volunteer force. Depending on assumptions, the estimates ranged from \$4 billion to \$17 billion, with "mostly likely" estimates in the \$8-9 billion range. Given that the DOD manpower budget at the time was about \$12 billion, HASC members were not impressed. Secretary Morris flatly stated during his testimony that "Increases in military compensation sufficient to attract a volunteer force cannot be justified."

To this point, Walter's work for the Pentagon had not been revealed to the public. That was about to change. Professor Sol Tax of the University of Chicago organized a conference on the draft that was held at Chicago on December 4-7, 1966. Walter presented a paper based on his work in the Pentagon. A shorter version was published in the *American Economic Review* in May of 1967.

Oi's Empirical Analysis Obtained the Following:

- the careerist ratio would increase from 43% with a draft to 54% under an AVF
- the force could shrink by 3% due to fewer people in training
- each 10% increase in first-term pay would lead to a 13.6% increase in voluntary enlistments
- 62% of inductees in 1964 were true volunteers
- AVF accession requirements would be 29% smaller than requirements in 1965
- there would be a 60% voluntary enlistment shortfall at draft-level pay
- a 68% first-term pay increase was necessary to eliminate the shortfall
- the DOD personnel budget would increase from \$12.6 billion under conscription to \$16.1 under a volunteer force (27%)
 - Estimate at the low end of those contained in the internal Pentagon study
 - Other estimates did not account for changes in careerist ratio or force size

Many different viewpoints about the merits of conscription versus volunteerism were presented at the conference. Aside from cost, the main objection to a volunteer force was that it would be socially unrepresentative and become an all-black force. DOD representatives worried that personnel quality would suffer under a volunteer force. Others worried that the reserves would fall apart and that the services would be unable to attract certain skill groups, such as medical personnel. To solve the issue of who should serve when not all serve, some advocated universal training and others advocated universal national service.

In his discussion at the conference, Nobel Laureate Milton Friedman gave an impassioned defense of volunteerism on logical grounds and countered the various objections to a volunteer force. But it was Walter who demonstrated the feasibility of a volunteer force on *empirical* grounds. His paper accomplished several things. First, he estimated the budgetary cost of moving to a volunteer force. Then he estimated the true social cost of conscription and the hidden conscription tax that it implies. Key to his analysis of budgetary costs was the fact that a volunteer system with higher first-term

compensation would not only attract more volunteers, but volunteers who would stay at higher rates after completion of their initial enlistments. Higher retention and lower turnover would reduce the demand for new accessions and would allow for a reduction in total force size due to the fact that fewer recruits reduce the size of the training establishment.

An important part of this work was statistical analysis to estimate how sensitive enlistments are to military pay relative to civilian compensation. His work found that a 10 percent military-pay increase would lead to a 13.6 percent increase in enlistments. Armed with this estimate, he estimated that, after accounting for retention gains and force-size reductions under an AVF:

- AVF accession requirements would be 29 percent smaller than requirements in 1965.
- There would be a 60 percent voluntary enlistment shortfall at draft-level pay.
- A 68 percent first-term pay increase was necessary to eliminate the shortfall.
- The DOD personnel budget would increase from \$12.6 billion under conscription to \$16.1 under a volunteer force (27%).

This budget-increase estimate was, in fact, the lowest of those contained in the internal Pentagon study. Importantly, this was because the other estimates did not account for changes in the first-term/career mix or in force size.

The Conscription Tax and the Opportunity Cost of a Military Force

Line shows the relationship between military pay and the supply of recruits to the military in a population of size N . Recruits are arrayed by their *opportunity cost* (minimum pay that will induce them to enlist).

Areas:

$A+B+C$ = opportunity cost of M personnel

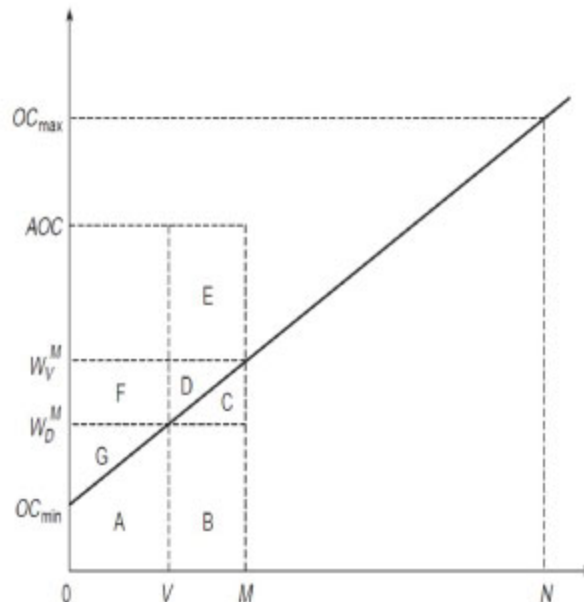
C = narrow conscription tax

$F+D+C$ = broad conscription tax

Narrow tax ignores *economic rents* to personnel while broad tax includes them.

Walter estimated narrow tax to be between \$826 million and \$1.23 billion.

Broad tax estimated at \$5.3 billion.



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Walter then estimated the size of the conscription tax. The tax can be illustrated with the aid of this graph, which shows the relationship between military pay and the number of individuals willing to join the military in a population of size N —the enlistment supply curve. Each point on the supply curve represents what the last individual gives up in both pecuniary and nonpecuniary terms when he or she joins the military, what economists call opportunity costs. The area under the supply curve represents the total opportunity costs of potential recruits.

If the military demands M recruits, in a volunteer system it must pay the wage W_V^M and its wage bill will be the rectangle $W_V^M * M = A + B + C + D + F + G$. Under a draft with wage W_D^M , the military gets V volunteers and must therefore draft $M-V$ individuals. The wage bill under conscription is the rectangle $W_D^M * M = A + B + G$, and the government payroll is reduced by the area $C+D+F$. Using data for 1965, Walter estimated this area—the broad conscription tax—to be about \$5 billion. But area $F+D$ represents *economic rents*, a payment above and beyond recruits' opportunity costs, which are given by the area under the supply curve ($A+B+C$). Rents do not count as

true costs, but represent a pure transfer from taxpayers to military personnel. The area C is thus the part of opportunity cost that is extracted as an implicit tax on conscripts (narrow conscription tax). Using his point estimate of the supply elasticity, Walter estimated the narrow conscription tax to be \$826 million. With a smaller supply-elasticity estimate, the tax was placed at \$1.1 billion. These estimates indicated the large burden that the low level of first-term compensation at the time placed on the young. Note that, under this concept of the draft tax, Walter's estimate is a lower bound, because he assumed that those volunteers with the lowest opportunity costs would be the ones drafted to fill the gap between volunteers and total demand.

I'll discuss the two areas above the supply curve—D and E—in just a minute.

Milton Friedman on Walter Oi's Impact on the 1967 Chicago Draft Conference

"Walter Oi...gave what I believe was the most effective paper at the conference...an eloquent paper presenting the case for ending the draft on grounds of both principle and expediency. The impact was dramatic. Here was a blind man, enormously impressive simply for his capacity to prepare and deliver a cogent, closely argued, and fully documented paper. He conveyed a clear sense of moral outrage on an issue about which he had no conceivable personal ax to grind. To me, it was the high point of the conference."

During the course of his analysis, Walter addressed with detailed statistics and insight the concerns people expressed about the social representativeness and quality of a volunteer force. Walter's analysis and the confidence with which he presented it was the high point of the conference, and he is widely credited with having changed the

minds of many conference participants about the feasibility of a volunteer force. Years later, Milton Friedman said that Walter's paper was the highlight of the conference.

Walter even turned his work into Congressional legislation. Congressman Donald Rumsfeld of Illinois attended the Chicago draft conference and was a proponent of a volunteer force. On April 18, 1967, he testified before the Senate Committee on Armed Services and introduced a plan for phasing out conscription and moving to a volunteer force. His plan drew from a document that Walter authored (dated March 31, 1967) entitled "Proposal for a Military Manpower Procurement Bill." Walter's plan was read into the *Congressional Record* along with his Chicago conference paper. It was probably one of the few times an economist personally wrote a legislative proposal.

In the fall of 1968, economist Martin Anderson prepared a memorandum for Presidential candidate Richard Nixon about the possibility of ending conscription. Impressed by Anderson's arguments, Nixon advocated the end of conscription in a speech delivered on October 17, 1968. Some observers believe that this speech was the margin of difference in the 1968 Presidential election.

Soon after the election, Allen Wallis, president of the University of Rochester, approached Nixon transition team member Arthur Burns about the prospect of a Presidential commission to consider moving to an AVF. According to Wallis, Burns promised that he would propose it to the President if it could be shown that it could be done at a cost of a billion dollars or less the first year. On December 19, 1968, Wallis assembled a team of Rochester faculty members that included Walter, Martin Bailey, Harry Gilman, and Business School Dean William Meckling to quickly prepare a report on whether this was possible. The team delivered its report on December 30.

Walter put work above family matters to work on this report. Marjorie told us that she and Walter had just flown to California so she could meet his family before their January wedding. They were there about 24 hours before Meckling called and said come home so they can get this paper to the Nixon team. They were on the next plane.

On March 27, 1969, President Nixon established the Gates Commission to study the feasibility of an AVF. The Commission was comprised of prominent Americans from all walks of life, including Wallis, Milton Friedman, and Alan Greenspan.

Wallis spearheaded the assembly of a research team to provide analytic support to the Commission. Meckling served its executive director, and Walter Oi, Stuart Altman, David Kassing, and Harry Gilman were appointed to serve as research directors. Meckling engaged a number of academics as well as professional staff at CNA, IDA, and RAND to serve as Commission staff members.

The Gates Commission staff began its work in early 1969. The work must have been hectic, because the Commission submitted its final report to President Nixon on February 21, 1970. (The staff papers were published in November of 1970.)

The Oi-Forst Report for the Gates Commission

- Drawing on work by other researchers, Walter and Brian Forst co-authored a very detailed report on which the Gates Commission's main recommendations were based
- Steps in this report were similar to earlier steps, but differed in several key respects:
 - treated each service separately by officer/enlisted status and projected not only future steady-state forces but the transitions to them from the force prevailing in 1970.
 - Projections were made under the assumption of four different steady-state force sizes (in millions, 3.0, 2.5, 2.25, and 2.0)
The AVF pay raises required to reach each of these steady-state force sizes was computed along with costs.
- This work provided *much smaller estimates* of the cost of transitioning to a volunteer force than Walter had previously estimated
 - 1967 Work: \$4 billion with 68% first-term pay increase for force of 2.65 million
 - new work: extra annual costs about \$2.1 billion for a 2.5 million person force with a first-term pay increase of around 35%
- Three factors appear to explain this much lower cost
 - The 1970 force had about 3 million active duty personnel; downsizing to a smaller force would not require as large a pay increase to meet accession requirements as would be required with a smaller initial force
 - The youth population was growing as a result of the baby boom and implied a smaller pay raise would be needed to meet future accession requirements
 - Other staff studies indicated that retention would increase more under an AVF than Walter had assumed in his earlier work
 - These predictions have proved to be quite accurate

Walter played key roles in the research process, both as a coordinator and manager of research and as a researcher himself.

Walter and Brian Forst co-authored a very detailed report on which the Gates Commission's main recommendations were based. Drawing on key parameters derived in the other staff studies, this report performed steps similar to those found in

Walter's 1967 papers. This report differed from earlier work by treating each service separately by officer/enlisted status and by projecting not only future steady-state forces but also the transitions to them from the force prevailing in 1970. Projections were made under the assumption of four different steady-state force sizes (in millions, 3.0, 2.5, 2.25, and 2.0). The AVF pay raises required to transition to each of these steady-state force sizes was computed along with costs.

From an analytical perspective, what is most interesting about this work is that it provided *much smaller estimates* of the cost of transitioning to a volunteer force than Walter had estimated earlier. His 1967 work estimated the budgetary cost of a volunteer force to be around \$4 billion, a 27 percent increase over the cost of the 1965 force. The new work indicated that a first-term pay increase of around 35 percent (50% basic pay increase) was needed to meet accession requirements for forces of 2.5 million or less, compared to his 1967 estimate of a 68 percent pay increase. The extra annual costs during the transition period and in steady-state were about \$2.1 billion for the 2.5 million person force.

Three factors appear to account for the smaller costs. The first is that the 1970 force had about 3 million active-duty personnel. Downsizing to the smaller force sizes would not require as large a pay increase to meet accession requirements as would be required with a smaller initial force. Second, the youth population was growing as a result of the baby boom. This growth shifted the supply of potential enlistees outward, implying a smaller pay raise would be needed to meet future accession requirements. Third, estimates from the other studies (and incorporated into the Oi-Forst analysis) indicated that retention would increase even more under an AVF than Walter had assumed in his 1967 papers.

The Gates Commission predictions about retention turned out to be remarkably accurate. In 1970, careerists – those with more than four years of experience – comprised 30 percent of the DOD enlisted force. The Commission predicted that the careerist percentage would increase to 47 percent in 1980. The actual (1982) number was 46 percent. By 1987, the careerist percentage had increased to 50 percent. Since 1987, it has grown to over 54 percent.

The Conscription Tax Revisited

- Gates Commission staff members Larry Sjaastad and Ronald Hansen re-estimated the size of the conscription tax and found it to be about \$2.1 billion, *more than double* the size of Walter's 1967 estimate of \$826 million.
- Walter had assumed, conservatively, that the individuals who were drafted would be the same individuals who would serve when pay is increased to attract M volunteers
- If people are conscripted randomly, as in a lottery, conscription will bring in many people with opportunity costs in excess of those of people who volunteer when pay is raised.
 - A completely random draft has excess opportunity costs of D+E in the previous figure
 - Narrow conscription tax is C+D+E
 - Sjaastad-Hansen data indicate a completely random draft has tax of \$3.4B
- Sjaastad and Hansen estimated the conscription tax to be about \$2.1 billion. This smaller estimate was based on data indicating that youth with high opportunity costs have a lower probability of conscription than youth with low opportunity costs
- Sjaastad and Hansen put the conscription tax rate at 51% of what draftees and reluctant volunteers would have earned in civilian life, a rate more than three times the tax rates borne by other citizens.
- Sjaastad and Hansen also estimated the resource costs associated with draft avoidance to be *larger* than the conscription tax itself.
- Together with this sizable estimate of draft avoidance costs, the Commission's lower cost estimates and larger conscription tax estimates made the case for ending the draft even more compelling than Walter's earlier estimates.

Gates Commission staff members Larry Sjaastad and Ronald Hansen re-estimated the size of the conscription tax and found it to be about \$2.1 billion, *more than double* the size of Walter's 1967 estimate of \$826 million. The source of the difference is that Walter assumed that the same individuals who were conscripted would be the ones to serve under a volunteer force.

With the aid of previous graph ([return to slide 6](#)), it is clear that under such a draft, the opportunity cost of both the draft force and a volunteer force is $A+B+C$. So while the (narrow) conscription tax is still area C, both forms of manpower recruitment have the same opportunity cost. Under a random lottery draft with no exemptions, the average conscript would have the opportunity cost AOC, and the total opportunity cost of the M-V conscripts would be $B+C+D+E$. The excess opportunity cost of the conscripted force over the volunteer force is therefore D+E. The conscription tax is C+D+E.

[\(return to slide 9\)](#) Assuming completely random conscription, Sjaastad and Hansen suggest a conscription tax of about \$3.4 billion. Their smaller estimate of \$2.1 billion

was obtained by assuming that the probability of conscription is not the same for everyone but varies inversely with opportunity costs, because individuals with higher costs will expend more resources to evade conscription.

Sjaastad and Hansen put the conscription tax rate at 51 percent of what draftees and reluctant volunteers would have earned in civilian life, a rate more than three times the tax rates borne by other citizens. They also estimated the resource costs associated with draft avoidance to be *larger* than the conscription tax itself. Together with this sizable estimate of draft avoidance costs, the Commission's lower cost estimates and larger conscription-tax estimates made the case for ending the draft even more compelling than Walter's earlier estimates.

Milton Friedman acquired the "AVF Purchase" for economists. Walter Oi was Lewis and Clark for those who followed him. He had explored the territory, discovered the routes through it and which were dead ends, met the natives and tribes, learned their languages, and documented what he found. Everyone who followed him into AVF work is indebted to him. I think that the Gates Commission staff could not have done what it did in the time it had without Walter's knowledge and skills.

David B. Kassing

Dave Kassing summed up Walter's contributions to the Gates Commission nicely. His statement reiterates that, without Walter, the Commission would not have been able to do the work it did in the short period it did.

Walter's Role in the Congressional Debates

- On April 23, 1970, President Nixon requested Congress to move toward an AVF while extending the draft & Congress debated the issue for over a year
- John J. Ford, staff director of the House Armed Services Committee, wrote about the opposition in Congress toward ending conscription:

“A substantial percentage of the members of Congress at that time were veterans of military service ... They had lived with the Selective Service law in effect virtually all their adult life. They had a sense of the *moral rightness*, if you will, of service to your country, or at least being liable for such service.”
- Walter testified before the House Armed Services Committee in the spring of 1971. According to Mr. Ford, it was his testimony that finally swayed the committee:

“The most helpful witness outside of the government was Dr. Walter Oi... His candor, knowledge, and willingness to challenge DOD data undoubtedly helped the Committee members feel more comfortable with an all-volunteer approach.”
- Legislation to create an AVF, augmented by a standby draft, was signed on September 28, 1971, and conscription was terminated on June 30, 1973.
- Walter's research going back to 1965 provided the evidence and the argument for this to happen.

During the Congressional debate about the Gates Commission report and the administration's proposed legislation to end the draft, Walter testified before the House Armed Services Committee. As the following quotation from John J. Ford, a staff member of the committee at the time (and later its staff director), indicates, most members of the committee – and indeed most members of Congress – were opposed to ending conscription. But according to Mr. Ford, it was Walter's testimony that finally swayed the committee:

“The most helpful witness from outside the government was Dr. Walter Oi. . . . His candor, knowledge, and willingness to challenge DOD data undoubtedly helped the Committee members feel more comfortable with an all-volunteer approach.” Walter's ability to communicate complex ideas to a lay audience shone through again.

Legislation to create the AVF was signed on September 28, 1971, and conscription was terminated on June 30, 1973. Walter's research going back to 1965 provided the evidence and the argument for this to happen.

Two Postscripts about the Gates Commission Analyses

- Recent work shows that an AVF has lower total social cost than a mixed force when force size is low but not necessarily when it is high
 - Payroll grows faster with force size under an AVF than under a draft
 - Higher taxes required to pay a larger force impose losses on the economy at rate of about 30 cents per dollar of taxation
- Gates Commission did not try to estimate or account for productivity differences between conscripted and volunteer forces
 - AVF-era studies have found significant productivity gains due to experience
 - Productivity gains due to a more experienced force makes the case for an AVF even more compelling

We offer two postscripts about the Gates Commission analyses.

First, while the Gates Commission presented a compelling case for an AVF, the case may not hold over all possible force sizes. Since the Gates Commission, economists have developed formal models that account for the various social costs of a volunteer force and how they vary with force size. They find that volunteer forces have lower total social cost when force size is low, but not when force size is large. Higher taxes required to pay a larger force distort economic behavior and impose losses on the economy at rate of about 30 cents per dollar of taxation, according to some estimates.

Second, Walter's analyses and those of the Gates Commission all indicated that a volunteer force does not need to be as large as a conscripted force to have the same

effectiveness. In their analyses, this was due exclusively to the AVF's smaller training establishment. It was clear from Walter's writings that he thought that more-experienced personnel would be more productive than less-experienced personnel, but neither he or others tried to estimate how much more productive more-experienced personnel are or how much smaller a volunteer force could be on productivity grounds.

But the advent of productivity measures during the AVF period has permitted such analyses, and studies done at CNA, IDA, RAND, and elsewhere with these data have shown more-experienced personnel to be significantly more productive than junior personnel. Had the Gates Commission been able to account for how much more productive a more-experienced volunteer force would be, its case for terminating conscription would have been even more compelling.

Oi Expressed the Following Concerns about the Military Compensation and Personnel Systems

- **Lack of Performance Incentives:**
"Humans, on the other hand, are not predictable. If you can show them the most efficient way to do a task, they will not repeat it steadily; rather, they will have a tendency to monkey... If we go with a system of [up-front] bonuses, especially initial entry-level bonuses and reenlistment bonuses, we establish a system of pay that is something very much like an overhead cost – a lump-sum payment. Once you have it (the bonus), you have very little incentive to perform properly."
- **Inefficient Retirement System:**
"the present retirement system is unduly costly, inflexible, and fosters inefficient manpower utilization practices. A drastic revision of the retirement program should be an integral part of the move to an all-volunteer force."

"Retirement and a pension after 20 years of service were probably initially adopted for reasons of physical fitness. Higher real incomes and medical science have increased longevity and health, and advances in military technology have reduced the need for brute strength... A policy that staggers the length of service requirements to qualify for full retirement could result in substantial savings in training and recruiting costs."
- **Up-or-out System:**
"Up-or-out" rules are of questionable value in a professional force."

After the AVF was implemented, Walter continued to play important roles in its evolution, not as a direct researcher but as a communicator, mentor, and participant in conference panels and DOD study groups, most recently as a member of the 2005–2006

Defense Advisory Committee on Military Compensation (DACMC) for which Paul Hogan was the executive director.

Over the years and in writings listed on an earlier slide, Walter raised several concerns about the structure of the military compensation system. As indicated (eloquently) in the first quotation on this slide, Walter questioned whether the military compensation contained sufficient performance incentives. Walter's second concern was the military retirement system, which he thought was unduly costly, inflexible, and fosters inefficient manpower-utilization practices. Walter's third concern was the military "up-or-out" system, which he thought causes unnecessary turnover and wastes valuable talent and experience.

These concerns about military compensation and personnel policy have been shared over the years by observers and policymakers inside and outside of DOD. Responding to these concerns, economists at RAND and elsewhere have used the models developed by Walter and others as a point of departure to develop very sophisticated models of personnel decision-making in the military setting and estimating them with modern econometric techniques and microdata from personnel records. The models have then been applied to analyze how personnel would respond to complicated changes to the military compensation system, including radical changes to the retirement system and modification of up-or-out policies. These models have supported numerous compensation-policy recommendations by DOD and by commissions and study groups such as the DACMC and the 10th Quadrennial Review of Military Compensation. Modern AVF researchers owe a debt of gratitude to Walter and other Gates Commission researchers for laying the groundwork for this new research.

“I am an economist. I realize that economists’ reputations differ. I was at the European econometrics society meetings in Athens where Mr. Joffe, a Soviet economist, described a May Day parade. ‘First came the tanks, then the weapons carriers, the little missiles, the intercontinental missiles, and, finally at the end of the parade came a little truck with three little men on it. Brezhnev turned and asked, ‘Who are they?’ The Minister of Defense replied, ‘Those are the economists. You wouldn’t believe the destructive power they can unleash.’ Yes, I am an economist.”

Walter Y. Oi (1982)

In closing, Walter was proud to be an economist and a staunch advocate of the economic way of thinking. In the late 1970s and early 1980s, there was much debate between economists and sociologists about whether the AVF was working. At the 1979 Hoover-Rochester conference on the draft, Walter got miffed about the criticism of the economic approach. Responding to a well-known sociologist, Walter expressed a keen sense of humor about this controversy:

I am an economist. I realize that economists’ reputations differ. I was at the European Econometric Society meetings in Athens where Mr. Joffe, a Soviet economist, described a May Day parade. “First came the tanks, then the weapons carriers, the little missiles, the intercontinental missiles, and, finally at the end of the parade, came a little truck with three little men on it. Brezhnev turned and asked, ‘Who are they?’ The Minister of Defense replied, ‘Those are the economists. You wouldn’t believe the destructive power they can unleash.’” Yes, I am an economist.

And a great one he was!