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**US HOUSE OF REPRESENTATIVES
COMMITTEE ON THE BUDGET**

Mr. Chairman, and Members of the Committee, thank you for inviting me to speak to you today on this important topic. I am professor Linda Bilmes, a faculty member at the Kennedy School of Government at Harvard University, where I teach management, budgeting and public finance.

By way of background, in January 2006 I co-authored, with Nobel laureate Professor Joseph Stiglitz, a paper that analyzed the economic costs of the Iraq War. At that time, we estimated how much the war in Iraq was likely to cost in total, taking into account budget costs to date, future operating costs, long-term accrued liabilities (such as veterans disability compensation), and economic costs (such as the lost earnings of those who were killed and wounded). At that time, we estimated that the total cost of the war would be from \$1.2 to \$2.2 Trillion, depending on the length of the war and other factors. We are presently updating our numbers and we will present an updated paper at the American Economic Association in January.

One of the long-term costs we identified is the cost of providing lifetime disability benefits and medical care for veterans. After we published the paper, we were contacted by the major veterans' service organizations, who thanked us for shedding light on this topic, but urged us to take a closer look into the needs of returning veterans. As a result I wrote a second paper published in January 2007, specifically looking at the cost of providing medical care and disability benefits to veterans deployed in Operation Iraqi Freedom and Operation Enduring Freedom (OIF/OEF). [The paper, *Soldiers Returning from Iraq and Afghanistan: The Long-term Costs of Providing Veterans Medical Care and Disability Benefits*, KSG Research Working Paper RWP07-001 has been submitted for the record.] Since then I have testified twice to the House Veterans Committee on this topic and I am submitting my testimony to the record.

As you know, Congress has already appropriated over \$600 billion for the war effort in Iraq and Afghanistan, of which three quarters, is for operations in and around Iraq. This year, the President is proposing another nearly \$200 billion in funding for operations,

which would bring the monthly total for the conflict to an average of \$14 billion. I would like to especially commend my fellow witness this morning, Amy Belasco, who has done an excellent job tracking these expenditures. I think she would concur that the Department of Defense accounting and reporting systems make it very difficult to know exactly where the money is being spent. Her efforts have been invaluable.

My testimony this morning is not going to focus on past expenditures. But before I begin, I would like to say something about the use of the “emergency supplemental” vehicle for funding the war. In my opinion as a budgeting professor, this is not the best way for the US budget system – or any budget system – to operate. The purpose of the emergency supplemental facility is to fund a genuine emergency or unforeseen event, such as Hurricane Katrina. The late transmittal of the supplementals during the budget process leads to less congressional review and a lower standard of detailed budget justification than regular appropriations. It is difficult to understand why, five years into the war, we are still funding it largely in this manner. We are denying the budget staff of both parties, who are some of the very best staff members in the Congress – the budget committees, the authorizing committees, and the appropriations committees – the opportunity to review these numbers thoroughly.. So it is not surprising, given this lack of transparency, that we have seen widespread waste and alleged corruption in payments to contractors, a lack of timely requests for vital equipment such as MRAPs, and continuing shortfalls in critical areas such as veteran’s health care.

My second, related, point related is that the Pentagon’s financial systems do not permit accountability over spending. In report after report, the Department’s own auditors, its own Inspector General and the GAO have concluded that the financial control systems at DOD are not capable of providing accurate, transparent accounts of where money is actually going. In addition, their accounts do not include accrued long-term liabilities. In the private sector, Congress enacted the Sarbanes-Oxley law almost unanimously in order to make corporate executives personally accountable for accurate and honest accounting.. But at DOD, there is still no accountability for spending hundreds of

billions of taxpayer dollars. This problem has been compounded by the huge sums that are being spent in Iraq. I strongly urge Congress to strengthen existing financial control laws and to consider enacting new ones that would require more transparency over financial transactions at the Defense Department.

These problems are directly relevant to the topic I will address today, which is how to estimate the total, long-term costs of the Iraq War. The government estimates prepared by CBO and CRS are measuring the budgetary cost of the war. The estimates that Professor Stiglitz and I have prepared count the full economic costs of the war. This includes long-term accrued liabilities, human costs, social costs and macro-economic costs.

Long-Term Costs

When I speak of long-term costs, I am referring to the costs that the US taxpayer will pay for decades even if we pulled out of Iraq tomorrow. These can be considered “promissory notes” of the war – accrued liabilities that *must* be paid. For example, in the first Gulf War in 1991, the operating costs of the war were paid mostly by our allies. By some accounts we even made a profit. But today, 16 years after the end of that war, the US government is still paying \$4 billion a year in disability compensation to veterans of Desert Storm/Desert Shield. And even that doesn’t include what we are spending on medical care and Social Security disability benefits for the veterans of that war, and on medical research into Gulf War illness.

In the Iraq and Afghanistan conflict, there are 4 major categories of long-term costs. These are 1) veterans’ disability payments, 2) veterans’ medical care; 3) Social Security disability compensation, and 4) replenishment of military equipment.

Let me turn first to veterans. This war has imposed an enormous strain on our armed forces. Of the 1.5 million men and women who have served to date, about one third have done second or third deployments and the majority has had initial deployments extended. These men and women are serving in harsh, nerve-wracking conditions, in a war where

there are no clear front lines. Anyone driving a truck, even when they are not on patrol, can be blown up.

In Iraq alone there have already been 3,800 deaths, 28,000 wounded in combat, and another 28,000 injuries and illnesses among our forces. Thanks to advances in battlefield medicine we are saving many more of the injured than in previous wars. There are 7.5 wounded for every fatality, compared with a ratio of under 3 in Vietnam and Korea. Many of these are grievous injuries that include TBI, amputations, burns, blindness, spinal injuries and polytrauma – which is a combination of such things. If you include *all* those who are wounded in combat, or injured in a vehicle accident or contract a disease, there are 14 casualties for every death. But even this doesn't tell the full story,

There is a near epidemic of mental health trauma among soldiers returning from this war. To date 720,000 soldiers have been discharged. Over 250,000 of them have already been treated by VA hospitals for medical conditions related to their service, with 95,000 treated for mental health conditions and more than 45,000 for PTSD. Over 200,000 have already applied for disability benefits from the VA. The long-term costs of the war will include providing medical care for these veterans and paying them disability compensation and other benefits such as vocational rehabilitation, adaptive housing, family benefits and prosthetics.

A related long-term cost to the government is providing Social Security disability compensation. This is decided based on a single criterion: whether or not the person is able to work. There are a significant number of OIF/OEF veterans who will fall into this category. For example, according to the Veterans Disability Benefits Commission, one-third of patients with PTSD are “unemployable”. Given that there are 45,000 confirmed cases of PTSD already, that implies that already 15,000 Iraq war veterans may be eligible for Social Security disability compensation, in addition to all those who have serious physical disabilities.

If we maintain a presence in Iraq through 2017 we estimate that the long-term cost of providing all these benefits over the lifetime of the veterans will be at least \$400 billion. We projected these costs based on the number of claims and medical visits of the current veterans, and on historical data from the first Gulf War. For example, we know that 28% of OIF/OEF veterans have already applied for veteran's disability benefits and 88% of the ones that have been processed have been approved. Based on the Gulf War conflict, we can project how many Iraq and Afghan veterans will eventually seek disability compensation. Even though that was a short war with little ground combat, 45% of veterans applied for benefits and 87% were approved¹. More than 40% are enrolled and using the VA health care system. In reality, many veterans experts and medical doctors predict that Iraq war veterans will claim benefits and use VA health care system at a far higher rate than in the Gulf War.

Military Reset

A second long-term cost is the replacement of military equipment. We are repairing equipment in Iraq, but it is depreciating at a much faster rate than we are replacing it. The military has already said it will need \$10 to \$15 billion to replace equipment in the Army and Marines each year for the remainder of the war and for at least two years beyond. But there are other forces that will also need re-tooling as a result of the conflict. For example the Air Force fleet is aging rapidly due largely to the harsh flying conditions in Iraq. The Air Force estimates that it will need \$400 billion to restore the fleet to its target age. If only 10% of that cost is attributed to the five years of effort in Iraq, that alone is \$40 billion in cost. I will not go through all of our estimates here. But in total we estimate that all of this will add from \$100 to \$200 billion to the long-term budgetary cost of the war.

Economic Costs of the War

Now let me turn to the social and economic costs of the war. Economic costs differ from budgetary costs in several ways. First, they include costs borne by those other than the federal government, such as veterans, their families, or the communities where they live.

¹ Today 169,000 Gulf War veterans are receiving disability benefits. (GWVIS Reports).

An example of this is when a family member is forced to quit (or change) jobs in order to be a caretaker for a disabled veteran. Consider, for example, a veteran with severe physical or brain injuries who is 100% disabled. He will receive about \$44,000 from the Veterans Department and perhaps an additional \$12,000 in Social Security disability pay. He will receive health care and some additional benefits. But all of this adds up to a fraction of what it costs to look after a young man (or woman) who needs help getting dressed, eating, washing and other daily activities, as well as constant medical attention, 24 hours every day, 7 days per week. Someone else -- perhaps a wife, husband, parent or volunteer in the community -- is bearing the real cost of providing this care. The formula for calculating veterans' disability compensation is supposed to approximate the earnings that a veteran would have obtained had he not become disabled. But a recent in-depth analysis by the Veterans Disability Benefits Commission showed that the dollar amounts paid to younger veterans and to those with severe mental disabilities do not come anywhere close to matching what they could have earned².

Economic costs also refer to prices paid by the government that do not reflect full market value, or where there is a short or long-term impact on the economy as a whole. The US government's disability stipend doesn't compensate for the pain and suffering of the veteran and his family, or the impairment in quality of life, or the loss of economic productivity because he can no longer work. These costs are very real – but hard to quantify. For example, if veteran's hospitals cannot hire enough mental health professionals to treat the epidemic of PTSD, the burden is shifted onto the veterans and families. They are the ones who bear the cost of waiting in a queue for long hours, facing month-long delays³, and traveling hundreds of miles to seek medical attention.

Economic Value of the Loss of Life

² Final Report for the Veterans' Disability Benefits Commission: Compensation, Survey Results, August 2007

³ McClatchy Newspapers, (Charlotte Observer Sunday October 21st) revealed that some of the most severely injured veterans have to wait more than 30 days to see a doctor in the VA system. Waiting times were longest in areas such as traumatic brain injury and related diagnostic services.

One of the major *economic costs* is the loss of productive capacity of the young Americans who have been killed or seriously wounded in Iraq. We have estimated these costs, which we refer to as “social costs”, for soldiers who have been killed, wounded or injured.. The government’s budgetary estimate does not include the loss of economic output that occurs when a soldier is killed or incapacitated. Although it is impossible to translate the value of a life into purely monetary terms, the government commonly uses this approach and determines the “Value of statistical life” or “VSL”, based to some extent on the value of foregone earnings and contributions to the economy. This method is also widely used by economists and by insurance companies and other private sector concerns. There are a wide range of VSL values in use. If an American is killed in an environmental or workplace accident, the US government estimates the value of a human life at more than \$7 million..

Despite the fact that the military “family” mourns the loss of its soldiers, the official budgetary cost for a soldier’s death is \$500,000 paid to the soldier’s family. This amount is a small fraction of the value used in even the narrowest economic estimates – and much lower than the \$6 - \$7.5 million range used by civilian government agencies such as EPA, OSHA and FDA..^{4 5} In many cases, the dead were young men and women in peak physical condition, at the beginning of their working lives. Their true economic value could easily have been much higher.

Using a VSL of \$7 million, the economic cost of the more than 4,000 American deaths in Iraq and exceeds \$30 billion. And while it seems harsh to convert these deaths into cold financial numbers, at the same time it is important to recognize that our economy will suffer as a result of the fatalities in this war.

⁴ The “peak” age for VSL may be 29, in terms of lost earnings potential, with a VSL between \$6 and \$7.5 (Viscusi, and Aldy, NBER Working Paper 10199, 2003). Adjusting these numbers for 2007 dollars the average VSL would exceed \$8 million.

⁵ Compensation typically has been far higher if the individual has been injured or killed in an ordinary automobile accident or an accident in the private workplace. Outside of government, juries frequently award much higher amounts in wrongful death lawsuits, in compensation for the pain and suffering of the family.

We could also apply the VSL to the estimated 1,000 US contractors who have died in the region, many of whom were highly skilled specialists, working on reconstruction projects such as fixing the electricity grid and oil facilities. We have not counted their true loss to the success of the project in Iraq, or the fact that their high casualty rate has made it more difficult and more expensive for western contractors to hire replacements to perform these jobs. In addition, the standard budgetary cost does not include the cost to the military of having to recruit and train a new soldier to replace the one who has died. Nor does it take into account any indirect costs – such as the impact on morale, or the heightened risk of PTSD among comrades of the fallen soldier who have witnessed the death.

*Economic Cost of the Seriously Injured.*⁶

The wounded contribute significantly to the cost of the war, both in a budgetary sense (in the form of lifetime disability payments, housing assistance, living assistance and other benefits) and in an economic sense.

To date, there have been more than 60,000 “non-mortal casualties”, among US servicemen deployed to OIF/OEF, half of them in combat. 13,000 of these were seriously wounded and unable to serve after their injuries. The number also includes 31,000 servicemen and women who were injured in other ways while serving (such as truck accidents, construction accidents, training accidents, friendly fire and other reasons) or who succumbed to illness or disease, and required medical evacuation.

There are also thousands of veterans who incur various injuries and illnesses while on active duty who are not medically evacuated. These numbers are reflected in the quarter of a million returning soldiers who have already been treated at a veteran’s medical facility. 80% of these veterans have applied for disability benefits which means that for at least 200,000 soldiers fighting in Iraq or Afghanistan have been left with a physical or mental impairment.

In our study, Professor Stiglitz and I estimated the economic loss to the wounded based on the severity of their injuries. We assigned economic values to soldiers who have suffered brain injury, amputation, blindness, other types of severe injuries (e.g., burns, spinal, and major organs), injuries that require medical evacuation (not including those counted above) and PTSD. We estimate that those with grievous injuries, who can no longer be employed, suffer an *economic* loss as great as someone who has been killed because their labor output will essentially be lost to the economy and therefore we should assign them a VSL similar to the one we used to calculate the value of statistical life. Using the percentage of disability service-connectivity they receive, we have then assigned partial values for injury to those with other significant impairments, such as moderate TBI and traumatic eye injuries.

Since our earlier study, we have done new research to determine the number of serious injuries including a study with several VA hospitals to gather empirical data. Some have questioned whether all the casualties in combat or accidental should be attributed to the war. The Dole-Shalala Commission argued strongly that they should. To address this point we compared the rate of accidental death and injuries for the five years prior to the war with the rates since 2003. In both cases the current rates are approximately 50% higher. We will be publishing this study shortly.

In total, we find that the economic costs of injuries will add a further \$200 to \$300 billion to the cost of the war.

Economic Cost of Mental Health Disability

Another significant economic cost arises from mental health disability. The Veterans Disability Benefits Commission discovered that disability pay for serious mental health problems understated the economic loss by a wide margin. For example, it found that VA benefits cover only 69% of the income that a 35-year old veteran with a mental health disability could have expected to earn had he not been disabled. For veterans who are rated 100% mentally disabled the Commission found that the lifetime earnings

disparity – the difference between what the veterans could have earned and the disability compensation he was paid – was as high as \$3.6 million.⁷

The Commission also found that veterans with severe mental health disorders had the poorest overall ratings on health and quality of life. Among veterans suffering from PTSD, one out of every three was not capable of working at all (“individually unemployable”). In addition, long-term mental health disorders led to poor physical health. The Commission writes: “Physical disability did not lead to lower mental health in general. However mental disability did appear to lead to lower physical health in general”⁸. This confirms the findings of Dr. Charles Marmar, chief psychiatrist at the Veterans Hospital in San Francisco, who has led a 30 year longitudinal study of Vietnam Veterans⁹. The results of his study found that PTSD patients suffered diminished well-being, physical limitations, compromised health status, permanent unemployment, days spent in bed, and perpetration of violence¹⁰.

Quality of Life Impairment

The Disability Commission provided a sense of the kind of life impairment that veterans experience. It found that 57% of all veterans with any kind of disability suffer “severe or very severe” bodily pain. This finding is all the more extraordinary because the data includes veterans who are only rated 10% disabled. Nearly half of the veterans surveyed took daily pain medication, and one quarter of them required help in routine activities such as bathing, dressing and preparing meals. Overall, 53% of the veterans reported that their disability had “a great effect” on their lives. Three quarters of the veterans agreed with the statement: “Living with my service-connected disability bothers me every day”.¹¹

⁷ VDBC, Ibid.

⁸ VDBC Report, p. 15 conclusions

¹⁰ Zatzick, Marmar, Weiss et al, “Posttraumatic Stress Disorder and Function and Quality of Life Outcomes in a Nationally Representative Sample of Male Vietnam Veterans”, RAND Corporation 1997

¹¹ From VDBC Report, September 2007

The impairment to quality of life was strongest among veterans with mental health disorders. For example, 99% had worse health status, overall, than would have been expected in their age bracket. They also scored extremely poorly on overall life satisfaction. Overall life satisfaction, even for the 10% disabled level, is only 61%. For those rated 50-90% mentally disabled, the overall life satisfaction measure hovers around 30%.¹²

The VA does not currently pay explicit compensation for quality of life impairments, and we have not yet included one in our study. However a number of other countries, including the UK, Canada, Australia and New Zealand, pay specific compensation for quality of life . Maximum lump-sum payments for quality-of-life loss in these countries range from \$220,459 in Australia to more than \$500,000 in Britain. It is worth noting that the President has recently proposed – as part of his overhaul of the veteran’s disability compensation system – that the US should begin to pay a quality of life stipend.

Costs to Families of Veterans

The repeated tours of duty have imposed an enormous emotional, social and economic strain on the individuals serving and their families. When a service member is critically wounded, friends and family members put their lives on hold. This puts enormous financial and emotional strain on their loved ones. Current law offers caregivers few employment protections, so they not infrequently lose their jobs and suffer financial consequences. The Dole-Shalala Commission estimated that 20% of families of veterans who were wounded, injured or otherwise incapacitated (such as with mental illness) have been forced to leave their employment in order to become full time caretakers.

We are in the process of estimating some of the economic costs to the families of having to sacrifice their income and jobs, some of the additional health care costs that families and society will incur in caring for seriously injured veterans. We believe this will impose an economic cost in excess of \$40 billion.

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¹² Ibid.

Macroeconomic Costs

Finally, let me briefly discuss the macroeconomic costs of the war, in particular, the effects of the increased price of oil. The price of oil in March 2003 was \$23 a barrel and has now hit \$90 per barrel. We attribute some portion of this increase to the war in Iraq. Looking back to 2003, at that time the futures markets, even taking into account factors such as the increasing demand in China and India and the constraints on refining capacity, still predicted that oil prices would remain flat. Instability in Middle East is a major reason for failure of normal supply response. However in order to be conservative we have only attributed \$5 to \$10 of this increase to the war.

The increased price of oil hurts the economy in two ways. First, it takes money out of the hands of consumers and transfers it to the oil producers. America imports around 5.0 billion barrels a year¹³, which means a \$5 per barrel increase translates into extra expenditure of \$25 billion (a \$10 increase would be \$50 billion) *per year*.¹⁴ Americans are poorer by that amount. If the increase persists for seven years, as our conservative estimate assumes, that's \$175 billion. For our moderate estimate which assumes the effect is for eight years, the cost is \$400 billion.

Second, there is a multiplier effect. The reduced purchasing power of Americans leads to a reduction in aggregate demand. Assuming a standard multiplier of 1.5 that implies that our GDP is reduced by approximately \$150 billion a year.¹⁵ Again, I emphasize that this is a conservative approach given that nominal oil prices are four times what they were in 2003

¹³ In 2004, they were slightly over 4.8 million barrels, in 2005, in 2006 slightly more than 5 million barrels. As this book goes to press, imports for 2007 have been running slightly lower than in 2006.

¹⁴ We emphasize that these are approximations. We have not adjusted the numbers either for inflation, for the time value of money, or for the changing levels of imports over the period. Fine tuning the calculations by making these adjustments would lead to slightly larger numbers than those used in our estimate. **ck**

¹⁵ Given the low level of savings in the US, we can expect consumers to spend an equivalent amount less on other goods. Even governments (especially state and local governments, which must limit spending to revenues) will have to spend less on goods made in America as they spend more on oil imports. And, of course, lower spending will cause the economy to produce less. Standard estimates of the multiplier are at around 1.5.¹⁵ which we use in our conservative estimate.

We assume GDP has gone down $\$25 \text{ billion} \times 1.5 = \37.5 billion every year, a total of $\$187 \text{ billion}$. We believe, however, that the total impact may in fact be considerably higher.

Globally, high oil prices and the resulting higher interest rates dampened our trading partners' economies, just as it dampened ours. The result was that they bought less from America.

Finally, we can pose the counterfactual question: what would have been the impact on America had the money we spent on Iraq been spent at home? Clearly there have been some winners in the economy – such as the oil companies and certain defense contractors. But overall, war expenditures have weakened the economy by more than just higher oil prices. Government money spent in Iraq does not stimulate the economy in the way that the same amounts spent at home would. To the extent that the Iraq war *crowded out* other expenditures, it lowered domestic aggregate demand. The money we have spent in Iraq has had a lower multiplier than the same amount invested here; funds that end up being spent on contractors in Nepal or transporting troops do not have a long-term investment in the economy.

These macroeconomic costs that we have estimated can be huge, depending on the assumptions and how comprehensive an analysis we complete. At a bare minimum, the macroeconomic costs of the war have exceeded $\$200 \text{ billion}$, but they may add hundreds of billions to the long-term economic cost of the war.

Summary

In summary the budgetary costs of the war capture only a fraction of the total costs. There are other significant costs – including costs that will occur in the future as well as costs the government does not pay in full or at all. There are also costs which are real, but less easy to put into dollar terms. These include the cost of pain and suffering and the diminished quality of life. In addition, there are significant costs in the form of lower economic activity overall. Taken together, we estimate that all these costs add nearly $\$1 \text{ billion}$ on to the total cost of the war that the government estimates.

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