The Oxford Handbook of
THE ECONOMICS OF
PEACE AND CONFLICT

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CHAPTER 13

ESTIMATING THE COSTS OF WAR: METHODOLOGICAL ISSUES, WITH APPLICATIONS TO IRAQ AND AFGHANISTAN

JOSEPH E. STIGLITZ

AND

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1. Introduction

Governments spend large amounts of money in fighting wars, but until recently, these expenditures have not been subject to rigorous analysis. The reason is obvious: in a war, the priority is to win. No one wants to second-guess the generals on how much money should be spent. After a war, the issue of whether the money was well spent is of interest to historians; public attention is focused on more pressing issues, such as dealing with the aftermath of the war.

The Iraq and Afghanistan wars, however, are different. Unlike most wars, they were wars of choice. Iraq did not attack the United States. The U.S. invasion of Iraq, followed by the introduction of a new policy termed "preemptive" war. The initial U.S. air strikes in
Afghanistan were launched to eradicate Al Qaeda strongholds after the bombings of September 11, 2001. But subsequently the United States made a decision to topple the Taliban government and to mount a full-scale war in Afghanistan.

In both Iraq and Afghanistan, the advocacy of war has continued for nearly a decade. In both cases, military actions are necessary to ensure U.S. security. However, the United States has been able to determine, to a large extent, the terms of these wars. The scale of U.S. military intervention, the number of troops deployed, and the amount of funding devoted to these endeavors are not determined by the United States.

These wars have also been long wars—arguably the longest wars that the United States has ever fought. After a year or two, it was clear that the conflicts would be continuing for an extended period of time—long enough for an analysis of the benefits and costs. In addition, the Iraq and Afghanistan conflicts have been unpopular, and has accompanied a widespread sense of the way the wars have been handled. Many serving in the armed forces, for example, have objected to the length of the war and the heavy reliance on contractors, the "stop-loss" policies, the lack of access to medical care and delays in processing disability claims, and the lack of access to medical care and delays in processing disability claims, and the lack of access to medical care and delays in processing disability claims, and the lack of access to medical care and delays in processing disability claims, and the lack of access to medical care and delays in processing disability claims, and the lack of access to medical care and delays in processing disability claims, and the lack of access to medical care and delays in processing disability claims, and the lack of access to medical care and delays in processing disability claims, and the lack of access to medical care and delays in processing disability claims, and the lack of access to medical care and delays in processing disability claims, and the lack of access to medical care and delays in processing disability claims, and the lack of access to medical care and delays in processing disability claims, and the lack of access to medical care and delays in processing disability claims, and the lack of access to medical care and delays in processing disability claims, and the lack of access to medical care and delays in processing disability claims, and the lack of access to medical care and delays in processing disability claims, and the lack of access to medical care and delays in processing disability claims. The heavy reliance on contractors, the "stop-loss" policies, the lack of access to medical care and delays in processing disability claims, and the lack of access to medical care and delays in processing disability claims, and the lack of access to medical care and delays in processing disability claims, and the lack of access to medical care and delays in processing disability claims, and the lack of access to medical care and delays in processing disability claims, and the lack of access to medical care and delays in processing disability claims, and the lack of access to medical care and delays in processing disability claims, and the lack of access to medical care and delays in processing disability claims, and the lack of access to medical care and delays in processing disability claims, and the lack of access to medical care and delays in processing disability claims, and the lack of access to medical care and delays in processing disability claims, and the lack of access to medical care and delays in processing disability claims, and the lack of access to medical care and delays in processing disability claims.

Perhaps more than in other wars, economics has been central. Some have argued that the invasion of Iraq was motivated largely by a desire to control the supply of oil. The Iraq War was unusual in other ways, it was the first war totally funded by borrowing, and it was the first war that relied so heavily on private contractors. The administration seemed to claim the country could have guns and butters. But little time it was clear that our generation's guns and butters would be at the expense of future generation's butter.

We were among a group of researchers who undertook estimates of the costs of these wars. As we proceeded with our research, we uncovered a large number of analytic issues. In writing our book, The Three Trillion Dollar War: The True Cost of America's Military Expansion (Oxford University Press, 2008), we addressed some of these issues. This chapter summarizes the main analytic issues, explains how we addressed them, and suggests how, with further research, better results can be obtained.

2. BENEFITS

Quantification of the benefits of war is difficult. How does one measure the benefits of increased security, or even ascertain the extent to which security is increased?

The wars in Iraq and Afghanistan have been directed against complex networks that are not state-like in nature, rather than against the nation-states themselves. Consequently, two issues assumed paramount importance in these conflicts.

Securing territory may not necessarily result in greater security. There is a difference between diverting versus destroying a threat. The Obama administration, in its decision to extend the conflict in Afghanistan, focused on the importance of denying Al Qaeda a safe haven from which to train and attack. George W. Bush argued for the initial invasion of Afghanistan and the war in Iraq on similar grounds.

Preventing a particular piece of territory from being used for such purposes only enhances security if there are no other pieces of territory from which hostile actions can be undertaken. Al Qaeda has been called a "failed state" by many experts. It has cells in many countries and it has the ability to move its bases of operations into Pakistan, Lebanon, Somalia, and the like. It is not clear how any of a host of failed states around the globe could not be a base for international terrorism.

Inadequacy of forces in opposition. A traditional war calculus involves counting how many of the enemies' troops one has killed or injured sufficiently that they are removed from the battlefield (or how many tanks and other materiel one has destroyed). The classical enemy has a fixed capacity, so it is reasonable to think that if we destroy 90% of his capacity, his strength diminishes relative to our strength. But those more recent conflicts are of an entirely different nature. Most of the "enemy" is not conscripted, but volunteers. The way the war is waged may affect the supply of such volunteers as well as the materiel support given to the opposition by the host population.

In such conflicts, ensuring economic stability, including employment opportunities for those who might benefit from the conflict, may be critical in bringing the war to a finish. For example, during Malaysia's 12-year battle against a fierce insurgency, the government succeeded only after it adopted a strategy of economic development known as "KMJAN." The focus on strengthening governance, stabilizing the military, providing employment in rural areas (where insurgent recruits are drawn from), and providing social services eventually checked the insurgency and sustained economic growth. This has been a major issue in Iraq, where some of the most effective Insurgency, the decision by L. Paul Bremer, the U.S. administrator of Iraq, to dissolve Iraq's 500,000-member militia.

Whenever one country invades and occupies another, the occupier risks uniting the population in the name of patriotism—even if the government that has been removed is widely disliked. Under such circumstances, winning the hearts and minds of the local population is both more important and more difficult.
The two main strategies that are deployed can be thought of as the "carrot" and the "stick." The carrot in this case is to persuade the population that life would be genuinely better under the new regime supported by the invading power. The stick approach is to persuade the populace that, in any case, the invader and his allies will win, and therefore it is rational and in their best interest for the populace to cast their lot with the invader—in other words, to make the population fear the consequences of opposing the invader.

The other side, of course, a similar set of choices. Part of the strategic debate on both sides is the mix of the two. But the invader is in a disadvantageous position, particularly if it undertakes the latter strategy (see, e.g., Kadar 2006). First, governments (state actors) usually have an institutionalized system of accountability (whether insurgents do not). For instance, state actors may have signed conventions regarding the treatment of prisoners. (Even if the military does not fully comply, there are citizens within the country that demand compliance and there may be consequences if they do not.) Second, those defending their country may feel morally justified in taking extreme actions against those that have abet the enemy. And third, those within the country that has been invaded are closer to the scene and may have a wider range of mechanisms for retaliation, including social sanctions.

Finally, the "fear" strategy may be counterproductive. The U.S.-led operations in Afghanistan and Iraq have involved a great deal of collateral damage, including widely publicized deaths of civilians and a number of scandals, such as the death of prisoners at Abu Ghraib prison. Informational disadvantages may make the occurrence of collateral damage more likely. The "enemy" may deliberately try to increase the collateral damage, knowing that in doing so support for the invading army will be undermined. As a result, these policies often have just the opposite effect than that intended. At certain phases of the U.S. operations in Iraq, killing or imprisoning even one insurgent has probably led to an increase in the size of the opposite. Our policies have even been an essential part of the recruitment strategy of the opposition.

One of the main objectives of the U.S. counterinsurgency strategy was to change this equation. In 2006, at the peak of sectarian violence between Sunnis and Shiites, the U.S. military implemented a policy to weaken the hold of resistance by recruiting and paying for individuals who joined pro-U.S. "fighting councils." According to The New York Times, the United States paid about $300 a month to members of the Sunni Awakening movement "to guard key points and buildings and for those who used to be insurgents—no matter which side they are while closely aligned with the Shiite bị tử or with the "stabilization" strategy that has focused on providing support to the population. However, the apparent sectarian conflicts have made it difficult to establish a stable economic and social base.

Thus the situation in Iraq (discussed later in this chapter) demonstrates this problem: the country suffered from a mass exodus of its middle-class professionals, and now, as later, only a tiny fraction of them have decided to return to Iraq. The complexity of wars and conflicts makes it difficult, if not impossible, to quantify benefits. How can one assess the benefits of driving the enemy out of country A if it has become well-established in country B during the military action against it? Or if the groundwork for settling up in country B has been aided by cooperation with the U.S. activities in country A? How is one to capture the benefits of military action in one country if the effect is closely aligned with regime that are less favorable to the United States? Timeframe also influences the assessment of benefits. What may seem beneficial now may prove to be costly in the longer term, for example, if the United States box itself into a second conflict with a nation that developed animosity towards it during the initial conflict.

3. Estimating the Costs of Conflict

Most of the discussion on benefits is the value of additional security obtained from war. This is a subject on which reasonable people may disagree, since it involves assumptions (typically unverifiable) about what would have happened in the absence of the conflict. Estimating the cost of the war is easier, although several aspects of the cost calculation are highly problematic. There is no doubt that wars are expensive. The questions are analytical; thus, estimating the full magnitude
of those resources and secondly, assigning a value to them. Each phase
particularly distinguishes four types of costs:
(i) resources spent to date, (ii) resources expected to be spent in the future,
(iii) costs borne by the government, and (iv) costs borne by the rest of the economy. The latter costs are referred to as the economic
costs, as opposed to the government costs of the conflict. In terms of the economic costs,
there are microeconomic costs—costs borne by particular individuals or firms—and
macroeconomic costs—costs borne by the rest of the economy. In each step we have to assess quantities of resources used up and
"valuations" of these resources.

What makes the exercise especially challenging is that government accounting systems do not document most costs in a way that enables an easy assessment of the full budgetary impact. Such problems arise frequently in accounting exercises, as we explain later, but in the case of war accounting, there is a further problem of transparency. Governments often want to hide the full costs of war from the electorate, especially when the war is unpopular.

The costs of war from the government's perspective are not all one-sided. Sometimes the defense establishment has an incentive to not fully budget for concealment spending for nonwar items to avoid reducing its budgets. The same is true of the construction of military bases in Iraq.

The overall economic costs are typically much larger than the budgetary costs, but there are instances where this is not the case. An example is where payments from the government to the private sector exceed the value of the resources procured. In these instances, these payments are called "transfer payments." In ordinary large-scale economic parlance, these may be called "transfer payments." To avoid double counting, the government has found it useful to have paid contractors for services that were not provided at all.

Though such problems arise in all government procurement, there are usually safeguards in place that limit its scale. During the Iraq War, many of these safeguards were suspended or relaxed. The sheer size of the U.S. military operations in Iraq and Afghanistan frequently strained the capacity of the defense department to provide necessary resources. The government has been found to have paid for services that were not provided at all.

The use of contractors has been costly in many respects. Numerous studies have calculated human and budgetary costs. For instance, during the 18-month period from fiscal year 2007 through the first half of 2008, the United States spent $34 billion on 57,000 service contracts for construction, capacity building, security, and a range of support services for U.S. forces in Iraq and Afghanistan. There were over 200,000 contractor personnel working on these activities, and during this period there were at least 455 contractors killed and 13,787 injured. The heavy reliance on contractors had other negative consequences. In previous wars, army commanders were able to relieve the heavy strain of conflict by deploying temporary units to lighten combat zones to facilitate troop movement and to provide security to troops and bases. The heavy reliance on contractors has meant that contractors have had to perform these roles, often under the oversight of private contractors.
3.1 Accounting

Accurate accounting is important because it provides information on the use of resources that is essential for good governance. Such information is particularly important when there are agency problems, that is, when an individual is acting on behalf of another. Whenever there is delegation of authority, there is the possibility that the agent will pursue his own interest at the expense of the principal on whose behalf he is supposed to be working. The only way that such risks can be mitigated is through “transparency,” so the principal knows what the agent is doing.

This agency problem is especially acute in the public sector—where government officials are supposed to act on behalf of the “public interest.” It is easy for them to act to their own interests, or to act in the interests of particular groups, or simply to make bad decisions that end up wasting taxpayers’ money. Transparency—clear, accurate financial information that is made available in a timely and timely format—is an essential part of democratic governance and accountability.

Once a government embarks on a war, it has a myriad of decisions to make. Not the least of these is the decision about when to end. An accurate assessment of the full costs of the war is a central issue in making good decisions. The military budget and accounting systems should be able to accurately track what has been spent as well as anticipate the order of magnitude of future costs. For example, 50,000 troops have already been wounded, it is feasible to estimate the approximate minimum future liability that the government will incur to provide these veterans with medical care and disability compensation (if a business incurs a liability with its employees, these costs appear in its financial statements as a deferred liability; at a minimum, the notes to the balance sheet would indicate a situation, or a provision for a reserve would be set aside). For an ongoing war, accurate accounting of costs incurred is important information in assessing how costs are going forward.

Financial and accounting information also affects decisions concerning the conduct of conflict. While lip service is always paid to the fact that life is precious in reality the military makes trade-offs. This point was made all too graphically by Secretary of Defense Donald Rumsfeld’s famous response to a soldier’s question in Kuwait in 2001. When asked why there was insufficient materiel to fortify the army’s vehicles, the Pentagon chief famously replied: “We go to war with the army we have, not the army you might want or wish to have at a later time.”

The real point of Rumsfeld’s answer was that a decision had been made by administration that the expected benefits of an immediate invasion outweighed the cost in lives and injuries that would result from lack of sufficient force. Few believed it was possible for the military to equip the troops with armor. Few believed it was possible for the military to equip the troops with armor. Few believed it was possible for the military to equip the troops with armor. Few believed it was possible for the military to equip the troops with armor.

In the private sector, firms need accurate and comprehensive financial and cost accounting systems to make good decisions. This is also true in the public sector. Military decisions are affected by costs (even though the military faces only a part of the costs), and other government agencies bear some of the budgetary costs, while other parts of society bear some of the economic costs. But from the side perspective of military accounting, the cost of a life is equal to $500,000, which includes $400,000 in life insurance and $100,000 in “death grant” payments. This number does not reflect the fully loaded cost to the military of recruiting and training an individual to replace the one who is lost, and the impact on morale and mental health on the rest of the unit, which may result in higher medical costs. From an economic standpoint, the actual loss to the economy, not to mention the human loss, is closer to $125 million, which is close to the “value of statistical life” used by civilian government agencies. However, this figure does not appear anywhere in the reckoning of the costs.

The best run government organizations use cost accounting to estimate the real and indirect costs of their activities. They also use accrual-based accounting systems to take future costs into account. The focus on current-year cash budgeting can lead to costly mistakes. For example, the decision not to buy more effective armor for troops and not to purchase mine-resistant vehicles certainly money on a cash basis. But these decisions predictably led to much higher death and injury rates. So, too, the decision not to fund the Department of Veterans Affairs adequately in 2005, 2006, and 2007 reduced current budgetary expenditures, but at the expense of increasing the long-term budgetary and economic costs of providing care to returning veterans. These and similar decisions were shaped by a accounting system that does not provide for the full long-term budgetary costs current policies and by a budgetary system that does not estimate costs to the economy.

One of the problems that we discuss in this chapter are well known and long-standing. In the government still uses cash accounting, while all other firms are required by law to employ accrual accounting—and the Pentagon widely known to have one of the worst accounting systems in government. These accounting problems have become increasingly significant in modern contexts. Thanks to modern medical technology, the survival rate on the battlefield has increased, however, the costs of caring for troops with disabilities goes on despite the conflict is over. We conservatively estimated in 2008 that the budgetary costs for the Iraq War would exceed $500 billion, a sum equal to the amount estimated at that point for the operational costs of the conflict. We updated the actual rates of medical claims by returning veterans, and in September 2008 we revised our estimate of these costs upward to between $600 to $934 billion.

In our government accounting systems fail to track or recognize these future liabilities.

In this chapter we focus on the problematic areas of the cost calculation, areas where research is required for the development of improved methodologies estimating costs.
3.2 Budgetary costs

Estimating the budgetary impact of war involves three key issues: (i) expenditures incurred to date, (ii) projected expenditures, and (iii) the treatment of interest. One might have thought that the first was a straightforward matter—to determine what the expenditures on the conflict have been to date. But matters are never so simple. We can ascertain what the government claims to have spent on the conflict, but for a variety of reasons this may be either greater or less than the amounts actually spent. Typically, as we have noted, governments have an incentive to try to portray the conflict to the public as being less expensive than it really is, so the normal presumption is that these numbers underestimate total expenditures.

3.2.1 Projecting future costs

One of the key problems in estimating the future costs of war while it is still in progress is that there is always considerable uncertainty over the outcome of future military operations and political decisions. The administration typically has a bias toward underestimating these expenditures, hoping that the war will be short, while the military is often biased toward demanding as many resources as possible to ensure success. This was true in Vietnam, and it has been true in Iraq and Afghanistan.

In such circumstances the wisest course for the analyst is to recognize the uncertainty and to conduct the analysis based on alternative scenarios, such as a quick victory, a protracted struggle, and some middle course. These scenarios can be probability-weighted to give an expected outcome.

When the war is over, the costs continue. Much of the following discussion focuses on the continuing costs of caring for disabled veterans. But there are also costs of maintaining peace and stability in the aftermath of the conflict. America still has a presence in Japan, Korea, and Germany decades after the end of the conflicts. 29

This chapter assumes that the analyst can collect or produce sufficient data to make reasonable projections of the resources required to conduct the war. We focus on the problems associated with calculating the budgetary impact of the conflict.

4. Estimating Budgetary Costs

There are seven major categories of difficulties:

- Allocating joint costs;
- Assessing incremental costs; the counterfactual;
- Hidden conflict expenditures;
- Projecting future costs;
- Impacts on non-defense budgets;
- Timing—delayed expenditures; and
- Cash versus accrual accounting.

4.1 Allocating joint costs: overview

Allocating joint costs, especially shared indirect costs, is a standard problem in accounting. The problem of allocating joint costs arises because some war expenditures are interrelated and shared with non-war expenditures. The Secretary of Defense may be paid whether there is a war or not. There is, in this sense, no incrementality, but the conflict absorbs a large fraction of his or her time, and it would be wrong not to include the value of the time he and others at "headquarters" spend managing the conflict. There is an opportunity cost, even if there is no obvious incremental budgetary cost.

There is also a wide range of significant costs that are shared but not allocated to individual conflicts, for example, the costs of recruiting (which increase if a war is unpopular), the costs of providing medical care to active-duty troops (which increase in number, length, and intensity of deployments is high), the costs of depreciation of equipment that is used across different theaters (e.g., aircraft carriers), and the costs of specialized training. Typically some of these indirect costs are attributable to a specific war if the military had better accounting procedures, it would allocate a larger fraction of personnel and other expenditures attributable to specific conflicts.

While there are inherent problems in allocating "joint costs," there are also many instances in which the direct costs that are paid from outside the military or veterans budgets should be attributed to the conflict. This would include, for example, the Social Security disability compensation that is paid to disabled veterans from the war who can no longer work. It is important in war accounting, in particular, to include a comprehensive accounting of all the "direct" as well as the indirect conflict expenditures (e.g., not just personnel in the war theater, but those providing logistical and other support wherever they are located).

An example

The problems of "cost allocation" are pervasive, and are nicely illustrated by the following example. Consider the case of a soldier who has done three tours of duty, two in Iraq and one in Afghanistan, and has spent half his time in rotation back in the United States. Six months after discharge he manifests severe symptoms of PTSD, is rated as severely disabled. As a result, he will receive disability payments and benefits for the rest of his life. How much of those costs should be attributed to the Afghanistan War? It would be wrong to "allocate" to the war just 50% of the cost because the cumulative effect of the wars led to the psychological condition. On the other hand, it would also be wrong to allocate all of the costs to the last deployed duty (in Afghanistan). Had he not served two previous tours of duty in Iraq,
he might have been able to get through his tour of duty in Afghanistan without psychological damage.

Or consider a soldier who was injured in Iraq, recovered, and is returned to the battlefield, only to be injured again in Afghanistan. Again, the cumulative effects may be far greater than the "single" effects. The cost of caring for a patient with two injuries may be more than twice that associated with caring for one because of adverse interaction effects.

4.2 Incremental costs

In principle, the costs of the Afghanistan conflict should be the incremental costs, but in practice we allocate costs in proportion to time spent in each conflict. As the war drags on, if the size of the standing armed forces is not increased, the distortion resulting from this methodology becomes increasingly large. A better system of incrementally accounting would make note of the high costs of increasing the size of the standing armed forces; this information would help lead to a better decision about whether or not the size of the armed forces should be increased.

For instance, medical studies have shown a strong correlation between the number of relatively healthy soldiers exposed to and his or her likelihood of developing PTSD (see Sheehan et al. 2009). We could estimate, with the current size of the active armed forces, the fraction of those who would have to serve a second, third, and fourth tour of duty and the average time between deployments for alternative scenarios. On the basis of past data, we can predict the disability rates associated with each successive deployment, and on that basis we can estimate the total number of disabling injuries and costs. We could then redo the calculations under the assumption that the size of the armed forces was increased. This would allow us to estimate the expected cost associated with disability of increasing the size of the armed forces.

Some critics of an early draft of our study on the costs of the Iraq War pointed out that the costs associated with injuries were overstated because young soldiers would have experienced higher injury (or even death) rates even if they were in military service. They argued that we should limit ourselves to the incremental costs. This argument may be correct in estimating economic costs, but for a basic estimate, the government bears the costs of such injuries whether or not they have been sustained in civilian life. It is certainly important to know the impact of conflict on injury, death, and disease rates. To ascertain this, we estimated death rates among peacetime military (in a period before the war) and compared with the numbers emerging in the Iraq conflict.

This is a subject that requires further study. For example, we need to account for "selection bias." As the military expanded, there has been a change in demographics. The demographics of the military are different from that of the general population as a whole, which is why we cannot simply compare, for example, military mortality statistics for the population as a whole (age and sex corrected) with those coming from the military. We need to account for the limited sample size of the military, and the high likelihood of serving multiple tours.

4.3 Opportunity costs

One cost calculation must take into account opportunity costs, even when there are no incremental cash expenditures. There is always an opportunity cost in having the country engaged in a specific conflict. For example, the opportunity cost of using the National Guard to fight in Iraq was evident in the aftermath of Hurricane Katrina in New Orleans in 2005, during which nearly 2000 residents died and which caused $80 billion in property damage. At the time, 7000 National Guardmen from Louisiana and Mississippi, and much of their equipment, were stationed in Iraq, although these positions were backfilled, many of the most experienced and skilled National Guard personnel were not at home to deal with this homeland emergency.

4.4 Future costs

The difficulty in assessing long-term health (and disability) costs is that some of these costs manifest themselves only with delay, and there may be controversy over whether they are directly related to war service. For example, the problems associated with Agent Orange in Vietnam and Gulf War Syndrome show that such costs may be decades in the future and directly related to the conflict. In July of 2009 Congress appropriated $15 billion in benefits for veterans of the Vietnam era who had been exposed to Agent Orange nearly 50 years earlier. Again, the question is whether the costs are both incremental economic costs as well as to budgetary costs.

"Hidden" expenditures are often a reflection of a long-standing deficiency in current accounting. Most firms (larger than a corner grocery store) use accrual accounting rather than cash accounting. One wants to know the costs incurred this year and the year before in producing this product. But there are a variety of ways in which costs incurred this year may not be leasable spending this year. Most businesses do not use the accrual method of accounting for their military purchases and receive benefits in the current year. Often benefits are not recognized as costs, or the costs are not recognized in the current year. The result is a difference between current and accrual costs and benefits. In the case of the military, the gap between current and accrual costs is large and growing, for several reasons. It is not a trivial exercise to account for the government's accounting to an accrual and cost basis. Part of the challenge lies in valuing government assets. Even so, some 20 years after enactment of the Federal Financial Officers Act, the Pentagon has made the least progress of any executive department in this area.

5. How wars can increase nonwar expenditures

The complexity is that the war can increase the cost of nonwar acquisitions. While the U.S. Army and Navy Reserves faced difficulty in recruiting new enlistees during the worst years of the Iraq War because the war was unpopular, these difficulties were not perceived to be going badly. In response, the army raised compensation...
and enlistment bonuses and lowered the standards for fitness and education for new soldiers. These additional costs were borne by the entire military, even for personnel not serving in conflict zones.

The fact that the military had to pay more to recruit troops is clear, but there is a further difficulty in estimating the extent to which those costs are due to the conflict itself. There may be other factors contributing to those increased costs. Even in the absence of the war, costs may have increased. This is another instance of the well-known problem of the counterfactual—what the world would have been like but for the war.

The United States now faces a recession, with high levels of unemployment. This may enable the military to reduce its costs of recruitment—perhaps even to the level that prevailed before the war. But it would be wrong to conclude that the conflict has not imposed a cost. Given the recession, the costs of recruitment would have been even lower had there not been a war. Multivariate regression techniques can be used to estimate the supplemental cost of recruitment; these are likely to be related not only to the war itself and its popularity, but also to the recession, which is it conducted, including the risk of disability and death, the risk of multiple deployments, and the risk of being forced to stay in beyond the standard length of duty.

4.6 Impacts of wars on other conflict expenditures

A fourth complexity that played a role in the cost calculations for the Iraq War was the existence of expenditures that were saved by fighting a conflict. In the case of Iraq, the United States and its allies maintained no-fly zones over northern and southern Iraq from 1991 until the date of the invasion in 2003. Once the war began, this was no longer needed. In our estimate of the cost of the war, we subtracted these costs. However, we were unable to subtract the full impact of the military forces: for example, the no-fly operations were conducted primarily by the air force and the navy, whereas the army and marines have been the main actors in the Iraq War.

4.7 Incremental budgetary costs outside of defense

One of the reasons that a full budgetary accounting is so difficult is that a cost that imposes innumerable costs on other aspects of the budget. One of these—perhaps the largest amount—is interest costs when a war is financed by debt, as was done for the Iraq conflict. Our research also identified that a significant chunk of veterans' benefits is paid by agencies that do not fall directly in the military budget. Many of these are for services provided to returning veterans—such as job training for returning veterans provided by the Department of Labor, housing benefits paid for in part by the Department of Housing and Urban Development, veterans' assistance at the state and local level, and education and training benefits. The largest were additional costs imposed on the Social Security Administration for providing disability insurance and the Department of Health and Human Services for additional costs in Medicare, welfare benefits, etc. Another example is that the Department of Labor pays for a part of the cost of providing death and disability insurance for military contractors, and in both of these cases there is a difficult task of assessing the incremental costs associated with the conflict. Even if veterans have, on average, a higher incidence of public services usage, there can be a selection bias, that is, those who choose to go into the armed forces differ in one way or another, from those that do not.

4.8 Interest and the time value of money

Pre-wars costs occur over a long period of time, and future expenditures have to be converted into "current" dollars, reflecting the time value of money. There is an extensive literature on the appropriate discount rate to use in public cost-benefit analysis. Most of the complexities relate to discounting economic costs, and are discussed in section 5. In estimating the budgetary costs, it makes sense to use the actual borrowing costs of the government as reflected by the interest rate on longer-term government bonds.

Another problem is uncertainty about the future rate of inflation. Even if we know with precision how much real resources would be required to, say, care for a disabled veteran, we do not know the future budgetary costs (there is no such problem in converting past expenditures into current "real" dollars, since we know the past nominal interest rates and rates of inflation). The market provides a partial answer. Since 1997 the U.S. Treasury has issued inflation-indexed bonds (Treasury inflation-protected securities (TIPS)), which protect investors against the effects of inflation. The interest rate on these bonds can be subtracted from the "nominal" interest rate on conventional bonds to provide the market's best guess about likely future price inflation. However, this interest rate indicator is most relevant for the general price index; the inflation rate of the health care expenditures, for example, is likely to be substantially higher than the inflation rate in general.

5. Impact of Financing Method

One of the largest costs associated with the Iraq and Afghanistan wars is the interest costs associated with financing the wars. Any homeowner (or car buyer) knows that the total amount paid in interest on a 30-year mortgage is likely to be much larger than the principal amount borrowed. But including interest payments in stated war costs has generated a great deal of debate.
Some economists suggest that to include these costs amounts to double-counting. They argue that we should only consider the present discounted value of what we will spend on the war, in the same way that we do not include interest payments on the price of a car or a house.

The present discounted value of the conflict is an important piece of information. But so too is the total budgetary cost—including the interest associated with paying for it.

One of the reasons for taking this cost into account is that government expenditure is different from an individual. It is costly for the government to raise money. There are distortions associated with the imposition of taxes. If taxes aren’t raised, the government may be forced to cut back. We know that the marginal returns on government investments are very high—the difference between the borrowing costs and their returns is testimony to the high costs of taxation. (If there were no such costs, presumably public investment would occur to the point where the marginal return is equal to the marginal cost of borrowing.)

One reason is that the supply of savings to fund government borrowing is not infinitely elastic. Financial markets have a view as to what is an acceptable rate of debt to GDP. Smaller countries are more sensitive to such constraints, but every country finds it more difficult and more expensive to finance its ongoing deficits. Southern European countries have recently encountered these limits, obliging the governments to make large and unanticipated reductions in government spending in order to retain financial market confidence. Markets focus on the primary surplus or deficit (what the surplus or deficit would be without interest payments), but the full surplus or deficit. Hence a legacy of war debt has effects for long.

These are among the reasons why we care about the overall budgetary cost of the war, and how the government finances the war is relevant to its budgetary impact on the economy. Quantifying the impact is, however, not so easy. Again, it is a matter of counterfactual reasoning. We would analyze what would have happened to the government had it not been for the war. And we would compare the incremental cost of borrowing—the government, as it becomes more indebted, may have to pay higher and higher interest rates. This incremental cost of borrowing will vary depending on the prior level of indebtedness, other aspects of economic performance, and the extent to which the country has to rely on foreign borrowing.

For example, Japan, with its high domestic savings rate, seems able to borrow at relatively low interest rates even with a high debt-GDP ratio.

Normally, governments finance a war through a combination of borrowings, cutting back on other expenditures, and raising taxes. But it is unusual in that case to be able to say that it was entirely financed by debt. The government went to war, taxes were cut, and other expenditures were increased, even though there already was a large deficit. Similar issues are raised when it comes to financing future expenditures, including future interest costs. (Should we be surprised that the government borrows, at the margin, to pay the interest on the debt that has already been borrowed to pay for the war?)

While it can be argued that the Iraq and Afghanistan wars were completely debt financed, that may not be the case in future conflicts. One needs to ask whether taxes have been increased to pay part of the cost of the war. In the past, governments have not forced everyone to pay for all the costs of wars. It is unreasonable to allow as a working hypothesis that there is some crowding out of other expenditures. One approach is to lay out the budgetary costs under alternative scenarios, for example, that war expenditures (including increased interest to pay for the cost) do not crowd out any other expenditures—a scenario with total debt financing, or say, a quarter of the expenditures are “paid for” by reduced nonwar spending.

There is another reason that the true incremental budgetary costs of the Iraq war may have been particularly high spending on the war was reportedly authorized in Congress by means of “supplemental appropriations.” This procedure has drawn much of the view of how much we are spending in the annual budget, which has led to higher deficits than Congress anticipated—arguably significantly higher than would have been tolerated if all spending had been consolidated into an annual budget, during which the Defense Department is required to prepare much more detailed explanations of its funding requests. Consequently Congress did not have the opportunity to make targeted cuts in war spending, and arguably felt less pressure to make good spending cuts in other areas because the war appropriations were bundled separately.

The incremental indebtedness as a result of the Iraq and Afghanistan wars has been considerable. Since 9/11, U.S. debt has risen from $6 trillion to $14 trillion today. Even moderate estimates suggest that the debt for wars has been a major contributor to this increase.

The analysis of the overall economic costs of the war, to which we now turn, is sensitive to some of these matters, but more sensitive to a host of other issues. In particular, the analysis of the overall economic costs of the war is sensitive to some of these matters, but more sensitive to a host of other issues. In particular, the analysis of the overall economic costs of the war is sensitive to some of these matters, but more sensitive to a host of other issues.

6. Economic Costs

General principles and differences between budgetary and economic costs

Economic costs of conflict that are most important—and frequently not counted at all—are comprehensive economic costs, the value of the resources used to fight the war and, including the value of our human resources injured and killed in the war.
There are marked differences between budgetary and economic costs. In some instances, budgetary costs exceed economic costs (e.g., as we noted earlier, overpayments to contractors). In many other cases, the budgetary costs are smaller than the economic costs. For instance, those injured in the war and their families typically face costs far higher than what the government pays out in health care costs or even disability payments.

In this section we provide a broad taxonomy of these economic costs, highlighting key analytic issues in the measurement and valuation of the resources used during the conflict and the broader economic impact. There are two kinds of economic costs: microeconomic costs, which are costs to individuals, families, and firms and macroeconomic costs, which are costs to the economy at large.

Again, a recurring issue is the counterfactual—what would have happened by the end of the conflict—for example, what would the soldiers have earned if their tours of duty had not been extended? What would reservists have earned had they not been called to active duty?

Major conflicts like World War II introduce a further complexity. Typically, in assessing costs, we assume that a government project leaves unaltered, say, the wage rate or the costs of goods. But this assumption is not valid for a large war, where government recruits a large enough fraction of the labor force. In these circumstances, there are indirect impacts on wages. Similarly, when a war takes a large fraction of the output of some industry, then there are impacts on prices. In this chapter we will ignore these effects, since most recent conflicts, while costly, do not have these general equilibrium effects.

6.2 Microeconomic costs

Even a comparatively small war like the Iraq conflict can have pervasive and lasting effects (measured as a percentage of GDP). It can stir up anti-American feelings that result in American businesses losing sales. As we noted earlier, the National Guard and reservists are not available for service at home, so an increased demand for veterans' services (in particular, health services) by returning troops (without a corresponding increase in budgetary allocations to expanded capacity to provide care) may result in harm to veterans of previous wars. Indeed, the volume and complexity of disability claims and medical bills for recent Iraq and Afghanistan veterans have had effects on other veterans waiting times for processing the claims of older veterans has increased, and it made it harder for them to get doctor's appointments in the VA system. Inevitably, there may be incidental (but significant) benefits to the use of systems such as for better artificial limbs, will be helpful to those who suffer injuries in ways. It is important to identify these effects, even if one cannot fully quantify them.

...
The same methodology can be used to assess the value of a disability, such as the loss of a limb. In the case of a disability requiring ongoing care, there are additional costs, beginning with the costs of medical care, but which go well beyond this figure. Estimating future medical costs is itself complicated. One cannot necessarily extrapolate costs from previous conflicts. Each conflict is different. Many of the injuries sustained in previous conflicts—such as those in Vietnam—did not cause death, but the disabilities caused by the injuries were significant. In previous wars, soldiers with such multiple damage types known as "polytrauma," typically would not survive. Advances in modern battlefield medicine have made it possible to treat severe casualties from Iraq and Afghanistan in situ and then airlift them to higher-level medical facilities. However, many of the victims received medical attention in a hospital setting, although some did not survive, with others suffering serious injuries, including amputations and other disabilities.

As of this writing, some 1.5 million veterans have returned from Iraq and Afghanistan. Approximately 630,000 U.S. service members and women have died in these conflicts. Of the 14 million veterans who have served in Iraq and Afghanistan, nearly 450,000 have already been treated in medical facilities for injuries ranging from brain injuries to hearing loss.

There are two cost streams associated with the wounded and injured: (i) the cost of medical care for veterans over their lifespan, and (ii) the costs of compensating veterans and their survivors. Some of these benefits are payable to all eligible veterans and their survivors. Veterans who are confined to a nursing home, regardless of their disability status, including five years of service, and who were diagnosed with PTSD, are entitled to receive monthly payments from the Social Security Administration. Those veterans who are confined to a nursing home, including those who were diagnosed with PTSD, are also entitled to receive monthly payments from the Social Security Administration. However, the high incidence of PTSD is likely to ensure that the medical costs of veterans who are confined to a nursing home will continue to rise for many decades. This has been the experience with veterans diagnosed with PTSD, and recent studies have demonstrated that PTSD suffers are at higher risk for heart disease, rheumatoid arthritis, hypertension, chronic obstructive pulmonary disease, and other health conditions.

One estimate does not include a range of additional costs that will be paid by veterans across government, including veterans' home loan guarantees, veterans' insurance, concurrent receipt of pensions, and other benefits. These costs are estimated to be between $500 billion and $1.5 trillion for veterans who are not enrolled in the VA system. It also does not include costs paid by state and local governments, or the G.I. Bill, which is an important source of funding for veterans who have served in the military.

### Costs of War

We now have the ability to estimate the costs of war, including the costs of caring for veterans, and the costs of providing medical care and paying disability compensation for veterans. Our estimates of the costs of caring for veterans and providing medical care for veterans and their families would be $500 billion and $750 billion, depending on the length and intensity of combat.

### Other budgetary costs

Our estimates do not include a range of additional costs that will be paid by government across government, including veterans' home loan guarantees, veterans' insurance, concurrent receipt of pensions, and other benefits.
investment that will yield significant economic benefits, but will also add to the budgetary cost of the war. Taking these costs into account, the total budgetary cost associated with providing for America's war veterans from Iraq and Afghanistan approaches $1 trillion.

In 2008 we derived our initial estimates by looking at the costs for early returns of veterans and by extrapolating costs on the basis of the pattern observed in previous wars. These estimates were considerably higher than the estimates by the Congressional Budget Office (CBO), in part because CBO used early data on the number of veterans for returning Iraq veterans, which suggested that the cost of care for these veterans would be less than the average costs for veterans. We projected that these costs would become more apparent and grow larger over the lifetime of the veterans, whereas CBO projects out for only a decade.

We believed that these veterans' costs would rise for four reasons: (i) the costs were disproportionately associated with diagnosing and treating conditions, especially psychological problems associated with multiple deployments, and we anticipated that the costs would continue to rise; (ii) those returning early were less likely to bear the burden of multiple deployments; and (iii) the evidence from previous wars shows that the costs of caring for veterans extends well into the future. (iv) The peak year for paying veterans' disability compensation to World War II veterans was 1969—more than 50 years after the armistice, the largest expenditures for World War II veterans came in 1982, and payments to Vietnam and the first Gulf War veterans are still climbing, and (v) the costs are manifested as they become veterans and those costs are still rising.

We anticipate that the life expectancy of those with multiple injuries will be shorter, and a full economic analysis would attempt to assess the value of this loss of life expectancy. (This provides another area where budgetary and economic costs may differ markedly. The shorter life expectancy may be reflected in a savings in Social Security payments.)

Another instance of the difference between budgetary and economic costs arises from the significant costs of care borne by the families of those injured. For instance, seven 15% and 24% of military personnel reported that a friend or family member had to forego his or her employment to be with them or act as a caregiver. We can calculate the opportunity cost of these workers, and it is significant.

4.3 Economic impacts on women service members

Many of the economic and social costs associated with the war will not be fully known for decades. One example is the impact on women service members, who comprised 11% of the service members deployed in Iraq and Afghanistan. More than half of women on active duty have children. Female service members are also more likely to be single parents than their male counterparts—a staggering 30,000 female mothers had been deployed overseas by March 2009. (The army gives women 24 weeks to remain in the United States with their newborns before deploying for their next tour for a standard 12-month tour.)

The impact on the female troops, in the form of lack of time to spend with their newborns, work-life balance, mental health, and social integration issues, and divorce are just beginning to appear. A recent study by the Iraq and Afghanistan Veterans of America reported that divorce rates for female troops were three times higher than for male soldiers, and female veterans are up to four times more likely to be homeless than civilian women (National 2009).

4.2 Opportunity cost of time

Historically, most countries have relied on conscripts to fight wars. The fact that all troops are serving involuntarily implies that, on average, their compensation is only that required for voluntary service. Thus the budgetary cost is less than
Consequences and Costs of Conflict

The opportunity cost of their time, taking into account the nonmonetary costs and benefits (e.g., the risk of death and injury). In these cases, a full cost calculation should include an estimate of the opportunity cost of time, with an adjustment for the average wage as a measure of the opportunity cost. But typically, there are selection standards, and hence those serving are not fully representative. It should be possible, however, to make the appropriate quality adjustments.

A second adjustment relates to the fact that the "learning" in a military job may be different than that of an individual who has entered into a civilian career path. Thus wages of young people may be lower or higher than they otherwise would be because of the value of this learning.

Third, because of taxes (and possibly other market distortions), wages received by individuals may be less than the value of the (marginal) product of the work. In the case of the United States, with an all-volunteer armed forces, it might seem that none of these concerns is relevant. But that may not be correct, for several reasons. First, there is evidence that there may be "pecuniary" recruitment practices, some overzealous recruiters not fully informing enlisted of the risks they may face. Second, young individual's enlistment may not have fully comprehended the risks, especially since the conflict has been conducted differently from previous ones. In particular, recruits and those enrolled in the National Guard had no reason to expect the length and intensity of their deployments.

This argument applies with even more force to those who signed up for the National Guard. The National Guard was viewed as a "national" guard, not an international brigade, but this was changed suddenly and without warning in the United States, entered the Iraq conflict. The motivation for many individuals who volunteered for the National Guard was to safeguard their immediate community—primary from disasters such as floods, tornadoes, earthquakes, forest fires, and other emergencies. Thus, it is reasonable to assume that the compensation they received to enter the National Guard did not fully compensate them for the services they rendered.

In this context, it is natural to look at the opportunity cost of their time and other costs they bore compared with the wages they received for those services. A study suggested that the two were roughly commensurate (Kleeman, Loughran, and Martin 2006). While there were technical problems with this study, it raises issues about conceptual issues. For example, one might question the value of a job should include learning benefits and the impact on future job prospects. Learning a technical skill such as how to drive a mine may have limited value once the individual returns to civilian life. Moreover, there are large economic benefits associated with maintaining two homes. Third, there are large economic costs associated with maintaining two homes. Third, there are large economic costs associated with maintaining two homes.

3.3 Discounting

The economic costs of a conflict, like the budgetary costs, occur over a long time period. It is necessary to convert these into current dollars to calculate the present discounted value. The key question is the interest rate to be used in discounting. Reasonably, the appropriate interest rate is that confronting the individual, the interest rate at which he borrows (if he is, by and large, a net borrower) or invests (if he is, by and large, a net investor). Because, in practice, we typically do not know what interest rate is appropriate for each individual, the best that we can do is to estimate the present discounted value, using a range of reasonable interest rates, say 2% (for an individual investing in Treasury bills) to 5% (for an individual borrowing from a credit card company). Some suggest that the appropriate discount rates the average marginal return on capital, something like 7%. Others suggest it is especially when the impacts are long lived, we should be focusing more on the impacts through different generational groups, and using a social discount rate, reflecting not the natural ability to discount future consumption, but on how society values dollars gives to different generations. Such discount rates are typically lower than the 7% average return on capital.

While there is no consensus on the appropriate discount rate, the costs can be sensitive to that rate, especially when there are costs extending over long periods of time (as is the case of health care and disability costs). Low discount rates will result in much higher present discounted value.

Iraq costs

The discussion thus far has focused on the costs facing one side of the conflict. But I refer to face costs. In the case of the Iraq War, the costs to Iraq have been enormous, not just in terms of the destruction of property, lives, and societal institutions. It is difficult to measure the full cost to society and an economy that was almost completely destroyed and to compare that to the benefits of a society that is just beginning to rebuild. Here again, it is almost impossible to estimate the counterfactual: what would have happened if Saddam Hussein had stayed in power. The analysis of costs in Iraq presents a distinct set of issues. One of the most important aspects is quantifying how the war affected Iraqi society. Just on example of this pervasive implication is the issue of refugees and displaced persons. The population of Iraq is approximately 30 million. Prior to the U.S. invasion there were 150,000 Iraqis living outside the country. During the war, two million Iraqis fled to Iran, Syria, and elsewhere. To date, only a tiny fraction—about 51,000—of those displaced have returned to Iraq, despite generous financial inducements offered by the government (Brookings 2010).
But even this does not tell the whole story. The population that left the country included many of the middle class professionals who formed the backbone of society. For example, Iraq had 34,000 medical doctors prior to the U.S. invasion, and another 600 were murdered by December 2003, despite government efforts to educate new physicians. And the return of a small number of doctors to the country probably contributed to the rise in death, disease, and disability of many thousands of other Iraqis (Brookings 2003).

The nation has 2.7 million "internally displaced persons" in addition to those who left the country and are refugees outside the country. Most of these are people whose lives were disrupted by the sectarian violence since 2005 and who cannot return to their previous homes. Despite massive government effort, fewer than 200,000 of them have been able to return to their former neighborhoods. A large number of these individuals have been able to return to their former neighborhoods. However, the lack of adequate housing, schools, and jobs has made it impossible for many people to return to their homes. In the absence of work, many people have fled to the cities, where they are living in squalid conditions and struggling to survive. Many people have been forced to leave their homes and seek refuge in neighboring countries. The situation is dire, and the United Nations is calling for humanitarian assistance to help those displaced by the conflict.
that Americans had less to spend on other goods, including goods made in the United States. Without countervailing actions on the part of monetary and fiscal authorities, it resulted in a weakening of aggregate demand, and given that the United States' economy was already weak, as it was just emerging from recession, contributed to an increase in unemployment.

The high price of oil had another macroeconomic effect—increasing inflation. The high price of oil had another macroeconomic effect—increasing inflation. The high price of oil had another macroeconomic effect—increasing inflation. The high price of oil had another macroeconomic effect—increasing inflation. The high price of oil had another macroeconomic effect—increasing inflation. The high price of oil had another macroeconomic effect—increasing inflation. The high price of oil had another macroeconomic effect—increasing inflation. The high price of oil had another macroeconomic effect—increasing inflation. The high price of oil had another macroeconomic effect—increasing inflation. The high price of oil had another macroeconomic effect—increasing inflation. The high price of oil had another macroeconomic effect—increasing inflation. The high price of oil had another macroeconomic effect—increasing inflation. The high price of oil had another macroeconomic effect—increasing inflation.

The increase in the price of oil led to a reduction in disposable income, which in turn reduced aggregate demand. The reduction in aggregate demand led to a decline in output and employment, and ultimately to inflation. The high price of oil also led to a reduction in the supply of goods and services, which in turn led to inflation.

In the United States, the concern was more about the weak economy than inflation. With the already large deficit limiting the ability of the government to respond to the fiscal policy, the burden of maintaining the economy at near full employment fell on monetary policy, which was focused on keeping prices stable. The Federal Reserve, which responded with a flood of liquidity, was placed on the Federal Reserve, which responded with a flood of liquidity, which was placed on the Federal Reserve, which responded with a flood of liquidity, which was placed on the Federal Reserve, which responded with a flood of liquidity, which was placed on the Federal Reserve, which responded with a flood of liquidity, which was placed on the Federal Reserve, which responded with a flood of liquidity, which was placed on the Federal Reserve, which responded with a flood of liquidity, which was placed on the Federal Reserve, which responded with a flood of liquidity.

We now know that the bubble—its breaking—has imposed enormous costs on our economy (and the global economy), costs that will be borne by the public for years to come, and which will reach into the trillions of dollars. Not only did the bubble lead to a massive misallocation of resources before it broke, but the breaking of the bubble has resulted in the economy operating well below its capacity for a period expected to last more than a half of a decade.

While it is possible to estimate the overall long-run costs of the bubble, in the aftermath, the question is, how much of those costs should be attributed to the war? To answer that question, we have to ask two further questions:

First, to what extent should we blame the cost of the war on the way the war was fought? The cost of the war should be considered in the context of the macroeconomic consequences of the war. Did the war cause inflation? Did the war cause unemployment? Did the war cause a reduction in output? Did the war cause a reduction in the supply of goods and services? Did the war cause a reduction in disposable income?

Second, what extent should we blame the cost of the war on the way the war was fought? The cost of the war should be considered in the context of the macroeconomic consequences of the war. Did the war cause inflation? Did the war cause unemployment? Did the war cause a reduction in output? Did the war cause a reduction in the supply of goods and services? Did the war cause a reduction in disposable income?

When we estimate the costs of the war, we estimate the costs, as it was actually fought. When we estimate the macroeconomic costs of the war, we should similarly estimate the costs as they were actually borne, not how they could have been.

The second question is to what extent can the increase in the price of oil be blamed on the Iraq War (similar issues arise in all conflicts). The price of oil is determined by many conditions in the global economy, and the price of oil in Iraq is only one of the contributing factors. Casual history is of limited relevance in the fact that the war wound down so too did the price of oil. But we do know that war was critical, but correlation is not causation. As the war came to an end, the bubble broke, and the global economy weakened, reducing the demand for oil.

It is uncertain how much of the increase in the price of oil was due to the war and how much was due to other factors. We are left with an estimate of the cost of the war but no way to attribute those costs to the war.
6.4.3 Long-term impacts on investment

But there are likely to be longer-term economic impacts on economic growth, and the magnitude of those long-term impacts depends on how the war is financed. We noted earlier, for instance, that the Iraq War almost surely crowsed out the economy and government expenditures, and among the government expenditures that are the easiest to crowd out are investment, since the impact of such investments is to be felt for years after the crisis. Infrastructure, and technology have been shown to have high economic returns, reducing those expenditures lowers long-term economic growth.

Many of these investments are complementary with private investment. For instance, the Internet, which was originally publicly funded, has been a major source of private investment. In certain cases, public investments may lead to lower private investments in the future. The cost of a war is financed not purely from increased revenue but from increased private consumption.

Calculating the long-term growth effects is not easy, and often because it entails a long-term general equilibrium analysis, what investment was to have been in the absence of the increase in government debt. This is especially true in a modern open economy, where countries can borrow from abroad.

Of course, even if the country borrows more from abroad, so that private investment is crowded out, there are costs to future standards of living. The debt has to be serviced.

If the economy consisted of a single individual living for another long, and if it were no cost in transferring money from the public sector into the private sector, then it would be wrong to add to the future impact to the market. But these assumptions are not valid, as we have already noted. The return to public investment typically exceeds the return to private investment. The effects of this are in addition, intertemporal distribution consequences, and a forgone cost. (There are, in addition, intertemporal distribution consequences, but with the costs of wars waged now and with these distribution consequences is a contentious matter, it entails that this increase in per capita income.)

6.4.4 Assessing indirect impacts: budgetary impacts and dynamics

So far we have largely discussed budgetary and economic costs in isolation from each other, but there are some important interactions that need to be taken into account. One that can be of first-order importance is the extent of the economic effects will impact tax revenues. There will be budgetary consequences (There can be second- and third-round effects; the budgetary impacts may persist even if the war is ended.)

7. Concluding Comments

It is commonplace today for governments to undertake extensive cost-benefit analyses of individual projects and regulations to assess and, where possible, quantify the benefits and costs. Our analysis of war follows in this tradition. In some ways our analysis is similar to cost-benefit analyses in other areas of the public domain: many of the costs and benefits involve nonmarketed goods and services, and therefore are difficult to value, the markets in which we are concerned are often distorted, so that it is difficult to know how market prices or market prices give correct social values, and particular problems are raised in the valuation of goods and services over time. There can be large distributional impacts (both within and across generations), and these too have to be valued. In addition, while the impact of a typical road project or environmental instrument is usually small, that one can ignore the costs on the macroeconomy or the costs of the war, is this not so for conflicts like the wars in Iraq and Afghanistan. However, estimating these broad impacts is often necessary to address the counterfactual: what would have happened but for the war? Reasonable people can differ on what would have happened. Would spending on infrastructure have been greater? Would tax increases have been lower? Would debt be smaller? What do we know is something (and in many cases, many things) would have turned out differently.

The true costs of the Iraq and Afghanistan conflicts may well be in the range of $8 trillion, or even higher. This is the long-run budgetary and economic costs calculated in. But in addition to the known costs of conducting current and future military operations, caring for war veterans, and macroeconomic impacts, the most troubling aspect of the Iraq conflict are the category of "might have been"—what are the budgetary and opportunity costs. Specifically, in the absence of the Iraq invasion, might the United States be mired so long in Afghanistan? Would oil prices have been as rapidly? Would the U.S. federal debt be so high? Would the economic crisis been so severe?

Hardly, the answer to all four of these questions is "no."

The war in Afghanistan diverted U.S. attention from Afghanistan, a war that is now in its fifth year and which threatens to destabilize nuclear-armed Pakistan. While war in Afghanistan might have already been taken over the Taliban, and suffered less expense and loss of life, if the United States had maintained its initial momentum and not been defeated in Iraq, and if the United States spent less time and expense in Afghanistan, it is likely that the U.S. and NATO forces would have done far better in Afghanistan than they have. If that had been the case, the United States would have been able to focus more on the Afghan reconstruction, and the resulting benefits would have been far greater.

However, the war in Iraq has diverted U.S. attention from Afghanistan, and the resulting costs and benefits are much higher. The long-term economic impacts of the war are likely to be significant, and the costs of the war are likely to be much higher than the benefits.

Despite the economic costs of the war, the United States remains committed to fighting it, and the war is likely to continue for many years. The long-term economic impacts of the war are likely to be significant, and the costs of the war are likely to be much higher than the benefits.
The second cost is the higher price of oil, which has had a devastating effect on the economy. When we consider a $3 trillion estimate of the cost of war, we find that an increase in the price of oil to the war. But, given the trend for higher oil prices, that small amount has a big impact—it translates into a much higher import bill for the United States. We now believe that our estimate of a more realistic estimate of the cost of the United States. We now believe that a more realistic estimate of the cost of war on the price of oil over a decade is $10 to $15 per barrel. That translates into a $20 billion increase in the cost of war.

Third, the war added substantially to the U.S. Federal debt. It was the first time in America's history where a government cut taxes as it went to war, even in the face of continued government deficits. The U.S. debt rose from 5% of GDP between 2003 and 2009, before the financial crisis. At least one-fourth of that debt is directly attributable to the wars. Of course, this does not include unfunded liabilities, for instance, the more than $100 billion dollars in future health care costs for veterans, or disability payments for returning troops.

This increased indebtedness means that the United States had far less room to maneuver in dealing with the global financial crisis. Worries about the debt and the deficit constrained the size of the stimulus package, which was not large enough to stimulate the economy. The war spending itself was in part, due to the war, and the stimulus package that we provided in our book were overly conservative overall. For example, the stimulus package included a $5 billion increase in health care spending, a $30 billion increase in education, a $20 billion increase in infrastructure, and a $10 billion increase in technology. The increase in oil prices reduced domestic economic growth.

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Notes

At this book goes to press, the Afghanist. War has been going on for more than a decade, and the United States is finally pulling the majority of its troops out of Iraq this year. This is the longest period of direct U.S. combat participation in a war in the U.S. history. The previous record for U.S. participation in a war was Vietnam (1964-1973), but the Gulf War (1990-1991). The length of earlier wars were the American Revolutionary War (7 years), American Civil War (4 years), World War I (1914-1918), Korean War (3 years), War of 1812 (2.5 years), Mexican-American War (1.8 years), World War I (1.6 years), Spanish-American War (8 months), and the Persian Gulf War (1.5 months). Since 1965, democracy has spread to more than 60% of the world's population, with the exception of places like Cuba and China. The world is now better able to fight and win wars. According to CNN/Opinion Research Corporation (CNN ORC) data, 72% of Americans say the United States did not make a mistake in the initial invasion (Gallop 2010), but as of June 2010, Americans support the U.S. war in Afghanistan by 56% to 42%. According to CNN/Opinion Research Corporation data, 72% of Americans say the United States did not make a mistake in the initial invasion (Gallop 2010), but as of June 2010, Americans support the U.S. war in Afghanistan by 56% to 42%. CNN/Opinion Research Corporation data, 72% of Americans say the United States did not make a mistake in the initial invasion (Gallop 2010), but as of June 2010, Americans support the U.S. war in Afghanistan by 56% to 42%.
Kerry described stop-loss as a "backdoor draft." Between 2002 and 2008, 58,500 troops were affected by stop-loss. In 2008, troops served an average of 6.6 months of additional service (Booz 2009). In March 2009, Defense Secretary Robert Gates called on the service branches to reduce the use of this policy.

4. Our book, The Three William Dollar War: The True Cost of the Iraq Conflict, was published in February 2009. The book estimates that the total budgetary and economic costs of the war in Iraq and Afghanistan will exceed $3 trillion, depending on the duration and scale of U.S. involvement. A number of economists have attempted to project the costs of the war, and most of these studies, adjusting for differences in methodology and timing of the work, have projected costs in a similar range. These studies include William Nordhaus (2003), Kristina Rose and Scott Wallace (2005), and the Center for American Progress (2007). An exception was the work of the Joint Economic Committee of the U.S. Congress (2006). The book by Steven M. Davis, Keith W. Long, and Robert H. Topel (2006), from the University of Chicago, co-authored an appendix that attempted to compare the cost of occupying Chicago, which they co-authored a paper that attempted to compare the cost of occupying Chicago in 2006. These studies are not comprehensive, but they estimate that in 2006, the cost of occupying Chicago was $200 billion.

5. In 2006, Davis and his colleagues estimated the cost of occupying Chicago for a year. They estimated that the cost was $100 billion. In 2006, the cost of occupying Chicago for a year was $100 billion. This estimate was based on the cost of occupying Chicago in 2006, which was $200 billion. The estimate was based on the assumption that the cost of occupying Chicago in 2006 was $200 billion. This estimate was based on the assumption that the cost of occupying Chicago in 2006 was $200 billion.

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military from war spending in Congressional Research Service reports (Belasco 2005 updates). Greater use of cost benefit analysis is needed. (Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics 2004). Increased transparency in refining and releasing new technologies is needed. (Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics 2004). The Office of the Secretary of Defense should continue to lead efforts to improve the effectiveness of the Military Media.
the cost to the United States of Operation Northern Watch and Southern Watch was $12 billion per year, which, if we credited it as cost savings due to the war.

33. It is likely that the future costs of Medicare will increase because medical costs for the majority of the two million veterans of the Iraq and Afghanistan wars (those who are not disabled) are likely to be higher than average. Those individuals will be outside of Medicare, so the costs are not currently counted in the VA's health care system after their five years of free access expires.

34. While this cost may eventually be very large, we were unable to estimate it in our analysis.

35. This is an obvious and dramatic example of a difference between budgetary and economic accounting. While shorter life expectancies lower budgetary expenditures on economic accounting, Social Security, few would suggest that there is an overall positive economic benefit from shorter (disability).

36. For a discussion of the literature and some of the central references, see chapter 2 of Hills and Sliglitz (2008).

37. For instance, during the period May 2003 to May 2010, the consumer price index rose by an average annual rate of 2.0%, while the rate of health care inflation rose at a rate of 3.8% (CBO, 2007). In fact, the difference was even greater because some health care is financed through the (COI). The rate of health care inflation has increased at a higher rate than the (COI).

38. See Sliglitz (2007) for an interesting discussion of how previous wars have been financed.

39. We did not include three items: (i) the interest already paid on money borrowed for war operations; (ii) the interest payable through 2017 on money borrowed for war operations; and (iii) an estimate of interest payable on future borrowing for war operations.

40. To the extent that the cost of the war is higher, there is a larger gap between the present value of the potential tax reductions and the present value of the cost of the war.

41. See chapters 3 and 4 of Hills and Sliglitz (2008).

42. See chapter 3 of Hills and Sliglitz (2008), for a comprehensive listing of all of the impacts.

43. Many are actually more complicated than that, since it could be argued that one should subtract the value of food and other resources used to sustain the individual from the estimated value of the individual's contributions to the economy.

44. In 2006 the EPA under the Bush administration lowered the estimate of the total life for environmental regulations from $7.8 million to $9.9 million, which would significantly lower the public outcry, because it was seen as a way to weaken pollution rules. However, as the water division of the EPA still uses a figure of $7.8 million. See Associated Press (2008).
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CONSEQUENCES AND COSTS OF CONFLICT


