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The Strategic Implications of Industrial Preparedness

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Industrial preparedness means having the capability to produce in a timely manner the additional goods and services needed to support military operations. In effect, industrial preparedness means getting ready for industrial mobilization, which involves providing war materiel to bring military units to wartime readiness and to sustain them in combat. Materiel for readiness consists of end items--planes, tanks, ships--as well as consumables--ammunition, missiles, fuel, food. Materiel for sustainment consists primarily of consumables. The supply of materiel available to military units will be obtained both from stocks purchased and stored before the emergency and any additional stocks manufactured and purchased after it begins. Industrial preparedness seeks to assure that the combination of peacetime stocks and mobilization production will be sufficient to meet the needs of military units during a war.

The role of industrial preparedness in military strategy is anomalous. Prospectively, the role is almost always ignored by military planners, but retrospectively it is agreed that industrial preparedness was either vital for success or instrumental in defeat. Despite ubiquitous slogans (Be Prepared! Semper Paratus!) and folk sayings (An ounce of prevention . . .) exhorting us to pay attention to preparedness, Americans tend to put off preparing until after the need actually has occurred. That reluctance to get ready applies particularly to industrial preparedness and the larger topic of national mobilization.

Industrial mobilization is a major part--but still only a part--of the larger process of national mobilization.[1] In addition to marshaling the industrial capability of the nation to produce war materiel, it is necessary also to mobilize the economy, manpower, government, human services, and the military forces. Thus, industrial preparedness is a part of the capability of the nation to marshal its resources to support military operations--mobilization preparedness.

This article is focused on industrial preparedness, but it is impossible when proposing programs to isolate industrial mobilization and its preparedness aspect from national mobilization and general mobilization preparedness. Thus, while the description is focused, the prescription will take the broader view.

The Outlook for Industrial Preparedness

The outlook for industrial preparedness is grim.

Persuading the American people to support substantial spending for the armed forces in the post-Cold War era is difficult because the time, place, and enemy for the next war cannot be stated with a high degree of certainty. During the Cold War, there was an obvious opponent, and the United States prepared for the greatest threat to its national security, a global war with the Soviet Union. Now we are threatless in specific terms. There is consensus that the world will remain dangerous and full of pitfalls, but there is no general agreement on the kind(s) of wars for which we should prepare. This uncertainty about the threat is not only a planning problem, but a reason for even rational people to lose interest in paying attention to military matters and funding military programs. Thus, there are efforts by Congress and others to reduce military spending because "if there's no threat, there's no need for the money."

If inducing people to understand the necessity for retaining military forces in the post-Cold War era is hard, there is at least some appreciation for having enough military forces to take care of small problems (Somalia) and medium-sized problems (Saddam Hussein). Consequently, arguments over military force structure and personnel strengths tend to be bounded by upper and lower limits of spending, with the lower limit at some finite point above zero. There is substantial support for developing new weapons and modernizing the equipment in the hands of the troops. There is

also support for readiness in terms of training and stocks on hand, although the realities of the budgeting process are eroding readiness. Overall, there is support for retaining sizable, albeit smaller, military services capable of dealing with small wars and major regional conflicts.

This limited support for military forces, personnel, and modernization does not extend, however, to measures to promote industrial preparedness. It has been tacitly accepted by many government officials and defense intellectuals that there will never be a need to mobilize again; the argument now is over how fast to eliminate the function from the government. Despite the obvious necessity for having weapons and ammunition in sufficient quantities to fight, there is skepticism about even the need for industrial preparedness. Support for industrial preparedness is limited to actions necessary to support current production, modernization, and perhaps some minor surges in output.

The military services themselves do not really subscribe to a substantial program of industrial preparedness. They would rather have a plane or a tank in the hand than two in the plan. The services view an admission that some war materiel can be produced, in time to be useful, after the onset of an emergency as weakening their case for producing and procuring materiel before an emergency occurs. The services fear the view that there is no need to procure materiel whose production can be deferred until mobilization. Since this is exactly the view that OSD and OMB budget examiners will take, those fears are justified. Thus, the military services generally--and the Army in particular--do not favor measures that suggest they can forego having something on hand now against the prospect of producing it during mobilization.

There is something to be said for this viewpoint. The services have learned through bitter experience that the budget examiners will take money provided for peacetime production without funding the corresponding preparedness program. The services believe, rightly, that it does not make sense to defer resources for mobilization unless the necessary industrial preparedness measures are actually taken. Unfortunately, the budgeting game makes it very difficult to achieve a rational balance between what must be procured in peacetime and what can be deferred until mobilization.

Neither does OSD, except for a few preparedness enthusiasts, favor a strong industrial preparedness posture. Environmental and social programs, force structure, personnel strength, and above all modernization have higher priorities than preparedness. When the money is passed out, very little remains for preparedness. Despite assertions that the world is more dangerous, the old attitude that "war will not happen" once again prevails in the Pentagon.

The New Nature of Industrial Preparedness

There is still a need for industrial preparedness. The post-Cold War armed forces are more dependent than ever on their weapons and equipment. High-technology weapons, modern equipment, and soldiers skilled in using and maintaining them are the keys to achieving victory on future battlefields. The United States and its allies must be able to support the projection of combat power from the United States, develop a theater of operations from a bare base, and apply overwhelming combat power to achieve rapid victory, or failing that to sustain combat until the objectives have been achieved.

The new kind of industrial preparedness bears about as much resemblance to the massive mobilization for World War II as do the equipment and tactics of the fighting forces. Things have changed in military technology and doctrine, and things have to change with respect to industrial preparedness. One thing that has not changed is a lack of resources for peacetime procurement of all the troops, equipment, and supplies needed for a major regional conflict. Some combat power will have to be generated just before or sometime after the onset of the war. The capability to provide the additional resources needs to be carefully planned, with suitable preparations made to shorten the time between anticipation of the need and delivery of the resources to the fighting forces. Compared to the traditional kind of industrial preparedness that characterized World War II and the Cold War, the new kind of industrial preparedness will be smaller, quicker, and more sophisticated.

Smaller

Industrial preparedness will emphasize quality and timeliness rather than quantity. For World War II, the nation was able to turn out massive quantities of relatively simple weapons and equipment in short order. This was possible

because the people in charge simply went out and did it. (They didn't know that it was impossible!) During World War II and also the Cold War we simply overwhelmed the enemy with materiel. Our WWII tanks were not as good tank-for-tank as the German tanks, but we had a lot more of them. We turned out hundreds of ships, thousands of airplanes, and millions of trained and armed soldiers to defeat Germany and Japan. We will not have to do that again, which is fortunate because we could not do it again.

Future industrial mobilizations will be more like that for the 1990-91 war with Iraq. During that war, we did surge production of some critical items: boots, uniforms, chemical protective suits, and nerve gas antidotes. We went to commercial sources for off-the-shelf items: food, computers, radios, telephone switches, and global positioning receivers. We accelerated production of Patriot missiles, and we placed several new systems into combat without the prescribed years of testing and tinkering. We used host nation support and contractors extensively in the theater of operations to provide transportation, housing, food, and other essential supporting services. The mobilization for this war was large in absolute terms, but by comparison with that for World War II or the Cold War, it was relatively small.

Another factor that affected resource support during the war with Iraq is that US forces benefited considerably from the mobilization that had occurred in the 1980s for the final Cold War confrontation with the Evil Empire. By 1990, the bins and depots of the military services were full of parts, munitions, consumables, and supplies procured to sustain the initial phase of the war with the Soviet Union. These supplies, in a reprise of the Korean War that fed off stocks left over from WWII, were used against Iraq instead. Somewhat accidentally, we had pre-mobilized for the war with Iraq.

For a future war--even a major regional conflict--the fighting will have to be carried out by forces in being, sustained by resources on hand. As noted below, there will be little time to provide additional resources and no time for forming additional forces. Industrial mobilization for a major regional conflict (or two) will be small relative to the national economy but it will be essential for military success.

Quicker

Unlike the industrial mobilization for World War II, for which there was ample strategic warning (the war having started several years before Pearl Harbor was attacked), or the Cold War, for which there was an obvious threat, there is liable to be little warning of a major regional conflict. Future aspirants for the role of regional hegemon are unlikely to copy Saddam Hussein by giving the United States six months in which to assemble a coalition, train forces, and surge resources. Indeed, clever potential regional aggressors will seek to avoid US involvement by themselves adopting the US doctrine of winning fast with overwhelming force, leaving the United States with a military fait accompli to be ratified by hesitant diplomacy. (The prototype of this strategy for emasculating the US military services is being developed now by the Serbs in the Balkans.)

The additional resources to be supplied, either to compensate for poor peacetime condition of military units or to sustain them in combat, have to be provided quickly. This means that industrial mobilization will have to be planned more carefully and in greater detail and specificity than before thought necessary or possible. There will be insufficient time (as there was not enough time during Desert Shield) for the routine, time-consuming procurement process. There will be insufficient time to figure out what is needed after the shortage becomes apparent. There will be insufficient time to get the permits and build the plants to provide essential items (the so-called "war stopper" items) that "should have been delivered yesterday." All of this planning and preparation must be done in advance.

More Sophisticated

Industrial mobilization will be more sophisticated. This means not just more complicated, which it surely will be; it will also have to be done more cleverly to avoid the vices of previous mammoth mobilizations. Future industrial mobilizations will have to be done with minimal--or at least imperceptible--adverse effects on the civilian economy. Halting the production of automobiles or imposing economic controls, as was done in the mobilization for World War II, will not be tolerated today. Nor would this kind of interference be a good idea: crippling our economy for a regional triumph could be a new kind of Pyrrhic victory.

The sophistication of the materiel to be produced is another factor requiring mobilization to be more sophisticated. It

will not be possible to lease a bean field, build a plant, and turn out light bombers in a few months.[2] The weapons and munitions to be produced for a future war are more complicated, the price of increased effectiveness. This means that more care has to be taken in the arrangements for surge production, especially when the surge entails conversion of plants to military production. The technical availability of dual-capacity manufacturers or "agile" manufacturing techniques[3] does not make the capability available automatically or quickly unless there has been considerable planning followed by iron-clad contingency contracts, both of which cost money in peacetime.

The manufacturing process is also more difficult, the price of increased constraints on industrial production. In previous mobilizations, the need to support the national war effort (even in the Cold War) made it possible to ignore some of the environmental and social implications of defense production. No longer. Environmental constraints on manufacturers will continue in force during mobilization; indeed, during mobilization tougher standards may well be imposed on manufacturers of war materiel. Opposition by public groups will be commonplace, both for general reasons (opposition to the war) and specific reasons (not in my backyard). Industrial preparedness has to take these constraints into account and prepare the government to deal with them when the mobilization occurs.

A future industrial mobilization will be smaller, quicker, and more sophisticated than earlier mobilizations, but it will also require the same hard work, dedicated effort, flexibility, and ingenuity that have characterized American industrial activity for over two centuries. What is new is that a future industrial mobilization cannot be accomplished on an impromptu, reactive basis but will have to be based on a good mobilization plan. Future mobilizations will need better planning and preparation than the brute force mobilizations of the past.

Industrial Mobilization Planning Cases

There are three basic kinds of military operations for which industrial preparedness is required in the post-Cold War era: low-intensity conflict, major regional conflicts, and global war.[4] Each of these kinds of military operations can occur in a wide variety of locations and circumstances against a wide variety of enemies. While some conflicts are more probable than others at the moment, the likelihood of specific conflicts changes over time, and the unexpected event has a nasty habit of happening. It is useful, therefore, to consider each of these kinds of possible military operations as generic planning cases, against which generic industrial preparedness plans can be developed.

Low-Intensity Conflict

Sustainment of low-intensity conflict will draw primarily on existing stocks of equipment, munitions, consumables, and supplies. There may be some surge requirements for specific items, but these will be small in demand and specialized in nature. There also may be some demand for urgent development of special items for a particular environment or threat. If we maintain the readiness of special operations forces and other units likely to be involved in this form of warfare, there should be little need for industrial mobilization. In the event that full readiness is not supported during peacetime, some industrial mobilization would be needed and should be planned for.

Major Regional Conflicts

The most serious threat postulated for the post-Cold War era is a major regional conflict involving the United States and regional coalition partners in conventional war against a regional power or coalition. The national security strategy that served as the basis for the DOD Bottom-Up Review said that the United States should have the capability to fight two of these wars concurrently, and the DOD force structure and budget are supposedly designed to carry out this strategy.

Industrial mobilization to support a major regional war will serve three purposes:

- fill equipment shortages in existing active and reserve units caused by peacetime underfunding of the force structure
- provide munitions, consumables, and supplies to augment stocks on hand
- produce additional or new versions of major weapons, munitions, and equipment to modernize (perhaps by re-equipping in the field as was done in the war with Iraq) and replace losses

Global War

Fortunately, the end of the Cold War has diminished the probability of global war almost to zero. At present there is no nation that can pose a threat to the survival of the United States or even hope to win a war against the United States. This may not always be the case; some nations have the resources to pose a significant threat to the United States in the future should they perceive the need to do so. China's economic and military resources place her in this group; Germany, and even a rejuvenated Russia, could be members as well. Japan could muster great military power, but basic economic vulnerabilities--as was the case in World War II--make Japan an unlikely candidate. Others, alone or in coalitions, could challenge the United States during the next 20 to 50 years.

The strategic response to the rise of a major global threat would likely be an increase in the military power of the United States. Nonmilitary measures such as diplomacy, economic competition, and the formation of alliances with other nations would occur. At some stage in the perception of the threat, however, a decision would be made to increase the size and strength of our own military services. The initial response might be to increase the readiness of existing forces by raising unit strengths, filling out unit equipment authorizations, increasing training, and stocking depots with supplies and consumables. At some stage in the buildup, additional forces would be created, and new ships, air wings, divisions, and support units would be formed, staffed, equipped, and trained.[5]

Industrial mobilization to support such a defense buildup would emphasize production of substantial numbers of modern weapons and equipment items that incorporate the latest in technology, supported with adequate parts, consumables, and supplies. This kind of industrial mobilization would be similar to that which was undertaken to sustain the high level of military power the United States had during the Cold War. It would resemble closely the buildup of military power that occurred during the administration of President Reagan. This kind of industrial mobilization could occur without detailed planning, but it would be more efficient and rapid if some thought were given ahead of time to the needs of the services under those conditions. Consideration of the size and shape of major additions to US military power should be included in preparedness planning.

A Program for Industrial Preparedness

Industrial preparedness of the appropriate kind will not occur to the degree required without a national program promulgated by the President. The eight steps below suggest a program to assure that industrial preparedness is considered in the context of mobilization preparedness.

1. Include explicit consideration of national mobilization and industrial preparedness in the National Security Strategy.
2. Designate a National Preparedness Agency to be in charge of planning, preparedness, and coordination of national and industrial mobilization. The Federal Emergency Management Agency (FEMA) is the agency currently charged by law and executive order with preparedness and coordination for national mobilization. The Department of Commerce is the lead agency for industrial mobilization. If FEMA is unwilling or unable to accomplish the national mobilization mission, it should be reassigned to another federal agency (other than the Department of Defense).[6]
3. Direct the designated National Preparedness Agency to develop a National Mobilization Annex to the National Security Strategy. This annex should provide guidance and procedures to all federal agencies on how to plan and prepare for mobilization consistent with the National Security Strategy. Mobilization planning cases would be specified. Industrial mobilization would be a major part of the annex.
4. Prepare a National Mobilization Plan. The designated National Preparedness Agency should coordinate the preparation by all federal departments and agencies of a plan to be updated every other year. The biennial programming and budgeting cycle for DOD is a good model for mobilization planning. Preparing a Mobilization Plan every other year is a good compromise between workload and timeliness. The first year of the two-year cycle would be spent preparing the plan, and the second year would be spent exercising and evaluating it. The plan would address the mobilization planning cases of the Mobilization Annex and establish authorities, relationships, and processes for responding to them. As with all general plans, the principal product will be the

experience gained from the planning process. The plan itself, however, should be good enough to serve as the basis for modification in the event of an actual mobilization.

5. Conduct a review of the National Mobilization Plan biennially during the year for which no plan update is required. The President should direct a review of the National Mobilization Plan to be conducted jointly by the National Preparedness Agency (the provider) and the Department of Defense (the customer). After approval by the White House, the review will provide the basis for the next edition of the National Mobilization Plan.

6. Conduct a national mobilization command post exercise every other year. The National Preparedness Agency should plan and conduct a government-wide exercise to rehearse the linkages, authorities, and general actions that would be required to mobilize the nation for one or more of the particular planning cases.

7. Invest a modest sum in planning, exercises, data bases, and other activities needed to support the mobilization planning effort. Some of this money should be appropriated to the National Preparedness Agency for allocation to the civil agencies. This scheme of central funding for preparedness will assure that the civil agencies do their share in this enterprise--which, based on previous experience, is likely to be of low priority in their own funding plans. As the interested beneficiary of the preparedness program, DOD would provide preparedness funds from its own budget.

8. Invest additional funds for specific preparedness measures. We should fund specific preparedness measures considered to be worthwhile hedges against uncertainty and potential time-savers in a mobilization. These preparedness projects should be funded by the responsible agencies, by the Defense Preparedness Act Fund established by Congress for this purpose, or by the National Preparedness Agency.

Implementing these eight steps can, at relatively low cost considering the risk, help to assure that the nation will be prepared to support the wars that are certain to occur.

Strategy and Industrial Preparedness

Strategy needs to be informed by resource realities. Strategy without consideration of feasibility is merely a pipe dream doomed to failure when implemented. Strategy has to do with the global allocation of forces, and mobilization has to do with the marshaling of resources to support those forces. The former requires the latter. Mobilization will be needed, and the time to prepare for mobilization is before it is needed instead of after.

Mobilization preparedness is not popular, but it is necessary. Those who discount the possibility of future mobilization and thus the need for mobilization preparedness are unduly optimistic about human nature. Just as our certain knowledge that floods and hurricanes will continue to cause natural disasters is based on extrapolation from the historical record, a study of history strongly suggests that war will occur again. War in various forms is, in fact, occurring constantly over the globe--more so after the end of the Cold War than during that period of mutual restraint.

With war comes mobilization, whether budget examiners, government officials, or the military services like it or not. The United States cannot fight long or well without the high-tech equivalents of beans, bullets, and black oil; if we haven't enough in our stocks to outlast the enemy, we had better have plans to get more in a hurry when we need it. This certitude deserves more attention than it is getting. Otherwise we will be surprised again and made to pay heavily for having had neither the wit nor the will to prepare.

NOTES

1. The military services, and to a lesser extent the Office of the Secretary of Defense, use the term "mobilization" in the narrow sense of calling up the reserve components. This practice has the unfortunate effect of limiting appreciation by military personnel of the broader implications of industrial mobilization as part of national mobilization.

2. The mobilization for World War II was neither as simple nor as easy as this sentence implies. For a marvelous account of the turbulence and innovation of that process as it applied to the Army, see Geoffrey Perret, *There's A War*

to be Won: The United States Army in World War II (New York: Random House, 1991). This is one of the few history books that covers both the military operations and the equipment and resources that supported them.

3. On the topic of agility, see the article by Mike Austin, "Managing the US Defense Industrial Base: A Strategic Imperative," in this issue of *Parameters*, 24 (Summer 1994), 27-37.

4. The 1993 edition of FM 100-5, *Operations*, replaces the term "low-intensity conflict" (LIC) with the term "operations other than war" (OOTW). The new term includes a wide array of military operations, from domestic disaster response to peacekeeping to nation assistance to the kinds of armed conflicts (e.g., counterterrorism and counterinsurgency) formerly identified as LIC. For industrial preparedness, it is inappropriate to lump together into a single category operations in which combat is both unlikely and unintended (OOTW less LIC) and those in which combat is certain (LIC). Peacetime operations without combat can be supported from stocks on hand or obtained through the routine procurement process and will not require industrial preparedness measures that pay off when fighting leads to consumption of munitions and equipment losses that have to be replaced urgently.

5. This was the idea behind "Reconstitution," one of four principal pillars of President Bush's National Security Strategy. Reconstitution sank without a trace after a few months, torpedoed primarily by the military services and those officials in OSD charged with industrial preparedness.

6. For the past 47 years, a civil agency has been responsible for the mobilization function. DOD--a military agency--has not been given this mission because of a conflict of interest between its own demands as the major customer and the demands of the civil economy. Ten Presidents (from Roosevelt to Bush) supported the policy of civil supremacy in this function.

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