The "Industrial-Military Complex" in Historical Perspective: World War I

Because of a scarcity of economically informed and managerially experienced personnel within the government, a large share of American mobilization during World War I was planned and executed by businessmen in temporary federal service. By focusing on the crucial question of military procurement, Professor Koistinen illuminates the war's legacy for government-business relationships.

The rubric "military-industrial complex" has gained widespread currency in the United States since being coined by President Dwight D. Eisenhower in 1961. Though imprecise, the term usually refers to the partial integration of economic and military institutions for the purpose of national security. The nature and consequences of the "complex" remain matters of dispute, but few contest that modern, industrialized warfare has had far-reaching effects upon American life at all levels. Scientific and technological advances have dictated a revolution in weaponry—a revolution which has broken down the distinction between both the civilian and military worlds and the private and public economic functions. Massive spending for war and defense has spread the influence of the "managers of violence" far and wide.

Numerous studies treating the "industrial-military complex" directly and indirectly already exist. Almost without exception, all have concentrated upon the World War II and Cold War years. To focus on those years is quite natural, for it is then that the most
blatant manifestations of the "complex" are evident. Nevertheless, to neglect the years before 1940 greatly limits our understanding of the subject for several reasons. In the first place, the so-called "complex" is more difficult to penetrate after 1940 than before. So comprehensive are the effects of twentieth century warfare that it is often difficult to distinguish the central from the peripheral. Moreover, in many instances essential documents are still denied the scholar. In the second place, and more importantly, the years after 1940 mark not a start but rather a culmination in the process of partially integrating economic and military institutions.

World War I is the watershed. In 1917, the United States had to mobilize its economy totally for the first time. Since a large share of the nation's industrial productivity went to the armed services, their supply and procurement systems had to be integrated into civilian mobilization agencies. The means for doing so were determined by a very chaotic interaction of the federal government as a whole, the industrial community, and the military services. From the wartime experience, the foundations for the so-called "complex" were laid. But the armistice ended the experiment in industrialized warfare before it was complete. What began with the war, however, did not end with it. Directly and indirectly, the 1920's and 1930's were years of consolidation for the government, for industry, and for the armed services in terms of fighting a war under modern conditions. The present article deals with these processes during World War I; the inter-war years will be the subject of a future essay.

According to Professor Ellis W. Hawley, three schools have dominated American thinking about what should be the government's policy toward the concentration of economic power: maintaining competition through the antitrust laws; economic regulation and planning by the federal government; and industrial self-regulation through cooperation within business and between it and the government. Of course, the three schools have never been mutually exclusive; numerous shadings within and among them exist. Industrial self-regulation as the middle way probably best characterizes the political economy of twentieth-century America. The antitrust impulse has had widespread appeal but inadequate political support. Economic planning and regulation has lacked both popularity and sustained backing. For a nation torn between its competitive, laissez faire ideology and the massive problems of

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consolidated economic power, the drift towards industrial self-regulation was quite natural. To varying degrees it found favor in the business community. For the nation at large, cooperation, or a "new competition" as it was often called, had the attraction of meeting the dictates of ideology while still solving some practical economic problems.

In theory and practice, industrial self-rule, policed by the federal government, made impressive gains during the Progressive Era. But its hold was far from absolute. Antitrust sentiments were still strong; numerous divisions still existed within business and the government over matters of political economy. Despite various attempts, industry was not granted immunity from the antitrust laws by having the federal government determine in advance the legality of business practices.

What was not possible during peace became imperative during war. Even if it was politically possible, the federal government lacked the personnel, the information, or the experience necessary for the massive economic regulation World War I demanded. Under the auspices of the government, businessmen had to do it themselves. War created the ideal conditions for industrial self-regulation. The demand for maximum munitions production and the lavish prosperity federal spending brought about, quieted temporarily antitrust and anti-business dissent. Wartime opportunities for rationalizing the economy, however, were matched by grave risks. Converting the huge American economic machine to war production could end disastrously unless exactly the right means were employed.

Neither the Wilson administration, Congress, nor prominent American industrialists, financiers, and the firms they represented appeared excessively concerned about the economics of warfare between 1914 and 1917. Less prominent members of the business community led in the drive for economic preparedness. The Chamber of Commerce of the United States was in the vanguard. Since its organization in 1912, the Chamber was an outstanding advocate for government-policed industrial self-regulation. Backed by the nearly unanimous vote of its membership, the Chamber was consistently far ahead of the administration, the Congress, and the general public in policies it supported for industrial mobilization.


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between 1915 and 1918.³ Legitimately concerned about the economic effects of war, the Chamber also perceived that a state of hostility would further its peacetime goal. A mobilized economy "will make individual manufacturers and business men and the Government share equally in responsibility for the safety of the nation," declared *The Nation's Business* in mid-1916.⁴ Chamber spokesmen never tired of reiterating that the national emergency was the perfect opportunity for businessmen to prove their new morality and patriotism to the country. Writing to the DuPonts in December 1916, the chairman of the Chamber's Executive Committee on National Defense stated: ⁵

The Chamber of Commerce of the United States has been keenly interested in the attempt to create an entirely new relationship between the Government of the United States and the industries of the United States. It is hoped that the atmosphere of confidence and cooperation which is beginning in this country, as shown by the Federal Trade Commission, the Federal Reserve Board and other points of contact which are now in existence, may be further developed, and this munitions question would seem to be the greatest opportunity to foster the new spirit.

Though the Chamber of Commerce was the prominent advocate of economic preparedness, other members of the commercial world initiated the specific action in behalf of industrial preparedness. Their first opportunity came in mid-1915 when Secretary of the Navy Josephus Daniels called upon members of leading engineering and industrial societies to serve as unofficial industrial consultants for the expanding Navy. Called the Naval Consulting Board, this group ultimately organized down to the local level.

The most dynamic accomplishments of the Naval Consulting Board were performed by a subdivision called the Industrial Preparedness Committee. Discovering that neither the Army nor the Navy had adequate information about the nation's industrial potential, the committee during 1916 inventoried thousands of industrial facilities for the services. The detailed work was done by voluntary effort and private financing under the direction of the then virtually unknown Walter S. Gifford, chief statistician for the American Telephone and Telegraph Company. But the real moving

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spirit behind the project was Howard E. Coffin, vice-president of the Hudson Motor Car Company. 6

For Coffin, efforts in behalf of preparedness were only an extension of his peacetime endeavors. In 1910, as president of the Society of Automotive Engineers, he had, with the help of others, transformed the society and the auto industry by bringing about the standardization of specifications and materials. 7 Rationalizing the productive process and promoting industrial organization were continuing interests of this restless individual. As few others, he foresaw the threats as well as the possibilities of industrial mobilization.

"Twentieth century warfare," Coffin insisted, "demands that the blood of the soldier must be mingled with from three to five parts of the sweat of the man in the factories, mills, mines, and fields of the nation in arms." 8 World War I was "the greatest business proposition since time began." 9 In the Progressive rhetoric, he and other industrialists were moved by "patriotism." Just as important, however, was the "cold-blooded" desire to protect their own interests. 10 Only industrialists and engineers were qualified to run a mobilized economy, Coffin averred. Under such leadership, war could be fought without untoward damage to the economy.

Coffin and his colleagues had plans for gradually expanding the activities of the Industrial Preparedness Committee as an agency for industrial mobilization. But a committee of unofficial industrial consultants was unsuited for such grandiose responsibilities. In August 1916, the Council of National Defense was created; the council ultimately absorbed the Naval Consulting Board.

The Council of National Defense was the brain child of Dr. Hollis Godfrey, president of the Drexel Institute of Philadelphia— an industrial training and management education institution. As early as 1899, Godfrey was nearly obsessed with the idea of management education as the high road to industrial efficiency and progress. Even before 1914, Godfrey reasoned that his ideas concerning management could serve the nation in war as well as in peace.

Early in 1916, unable to sit by while the nation drifted unprepared

6 Lloyd N. Scott, Naval Consulting Board of the United States (Washington, 1920), 7-37, 220-23.
10 U.S. Congress, House, Committee on Naval Affairs, Hearings, Estimates Submitted by the Secretary of the Navy — 1916, 64th Cong., 1st Sess., 1916, 3360.
into war, Godfrey outlined to General Leonard Wood a plan for applying the principles of management to the economy in order to achieve optimum performance. The two sketched out a proposal for a council of national defense. Over a period of weeks, Godfrey then consulted with numerous industrial colleagues, influential friends, and administrative officials. The final legislation was drafted in the War Department under Secretary Newton D. Baker's instructions. It was shepherded through Congress by the respective chairmen and influential members of the two Military Affairs committees. No meaningful congressional debate took place.

Passed in August 1916, as part of the Army Appropriations Act, the legislation provided for a Council of National Defense consisting of six Cabinet officers. Council members would nominate and the President appoint seven experts in various fields to act as a National Defense Advisory Commission (NDAC) to the Council. Together with the NDAC, the Council would serve as the President's advisory body on all aspects of industrial mobilization.

The creation of the NDAC was actually a formalization of the procedures adopted by the Naval Consulting Board: industrial experts voluntarily donated their talents as public officials without surrendering their positions or incomes as private citizens. The precedent was an important one. It provided the wherewithal for industrialists to guide the process of mobilizing the economy. Moreover, the personnel selected for the National Defense Advisory Commission revealed that it was more an expansion of the Naval Consulting Board than a new agency. Walter S. Gifford was selected as director and Grosvenor B. Clarkson, a journalist, advertising executive, and former civil servant who had handled publicity for the Board, was ultimately to become secretary. Both Coffin and Godfrey were chosen as members along with Bernard M. Baruch and others.

The legislation for the Council of National Defense was predicated on the assumption that private industry would be the primary source of munitions supply in the event of war. Nevertheless, opponents of preparedness zeroed in on the munitions makers in an effort to discredit the drive for an enlarged military force. War mongering, profiteering at the nation's expense, it was charged, would be reduced if the government alone produced munitions. Almost to a man, military personnel opposed the proposition as impractical. It would be prohibitively expensive and would not

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provide the armed forces the quantity of munitions needed once war was fought, they maintained. Industry, of course, took a similar stand, especially since the armaments industry was threatened as Allied orders were cut back.

To settle the issue, the National Defense Act of 1916 authorized a board of three military officers and two civilians to study the matter and make recommendations. They met in November-December 1916, under the direction of Colonel Francis J. Kernan. Benedict Crowell, chairman of Crowell and Little Construction Company of Cleveland and later Assistant Secretary of War, and R. Goodwyn Rhett, former mayor of Charleston, S.C., president of the People’s National Bank of Charleston, and president of the Chamber of Commerce of the United States, served as the civilian members. In its study, the Kernan Board relied heavily on the work of the Naval Consulting Board. Coffin, along with others involved in industrial preparedness, lent their advice.

After inspecting government arsenals and consulting with some leading industrialists, the board reported that it was “not desirable for the Government to undertake, unaided by private plants, to provide for its needs in arms, munitions, and equipment.” In the event of war the government should depend “largely upon private plants for war material. . . .” But the board did not stop there. Reading like an editorial from The Nation’s Business, its report praised businessmen for their patriotism in helping to prepare for an emergency and assured the nation that industry would continue to cooperate in the future. Concerning more immediate problems, the board recommended that plants producing munitions for the Allies not be permitted to remain idle when orders were terminated. It concluded by calling for a comprehensive plan for industrial mobilization.

Though only beginning steps in the long trek toward a mobilized economy; the work of the Naval Consulting Board, the organization of the Council of National Defense and its National Defense Advisory Commission, and the conclusions of the Kernan Board were of the greatest significance. They signaled the beginning of a


government-industry partnership for the purpose of national security. The initiative came from industry, but, out of necessity, the federal government, and specifically the military services, appeared willing to go along. When announcing the appointment of the NDAC members in October 1916, President Wilson observed: “The organization of the Council [of National Defense] . . . opens up a new and direct channel of communication and cooperation between business and scientific men and all departments of the Government. . . .”

Howard E. Coffin had ambitious plans for the Council of National Defense. He wrote to the DuPonts in December 1916:

Private industry in all the varied lines of Governmental supply must be encouraged and not discouraged. It must be educated, organized, and trained for the national emergency service. A closer and more mutually satisfactory business relation [sic] must be established between the industrial lines and every Department of the Government, and the work of the newly created Council of National Defense must be directed to this end.

The first meeting of the Council of National Defense and its Advisory Commission will be held in the office of the Secretary of War, December 6th, and within six months thereafter it is our hope that we may lay the foundation for that closely knit structure, industrial, civil and military, which every thinking American has come to realize is vital to the future life of this country, in peace and in commerce, no less than in possible war.

Organized in December 1916, the Council of National Defense and its National Defense Advisory Commission did not actively function until March. When war was declared, the Council and the NDAC, authorized only to investigate, advise, and recommend policies to the President and his administration, also assumed responsibilities for mobilizing the economy.

Lack of experience explains in part the failure to create a better, more powerful agency. No one was fully able to anticipate what was required. The nation had to go through the pragmatic process of working out solutions as problems arose. More importantly, there was the widespread desire to avoid permanent political and economic change during the war. Hopefully, a makeshift organization like the Council of National Defense, without clearly defined authority and consisting mainly of existing department heads, would be sufficient to meet war needs. When hostilities ceased, it could easily be disbanded. Moreover, vital issues of political economy

were central to any scheme for industrial mobilization. With Progressive divisions still great over the government's role in the economy, any attempt to set up new, powerful mobilization machinery could end in paralyzing debate in Congress and in the nation. Consistently, the President and the Congress avoided facing issues of economic mobilization whenever possible. Not until the mobilization program was on the verge of collapse during the winter of 1917–1918 did President Wilson strengthen the nation's industrial mobilization apparatus. Even then, only the minimal changes essential to the continued operation of the economy were made.

Consistent with prewar precedents, business representatives of the NDAC, not the Cabinet members of the Council of National Defense, led in mobilizing the economy. Haltingly, the commissioners groped their way in search of the proper means. At the outset, they chose to create the most efficient organization possible with the least disturbance to the \textit{status quo}. That meant the federal government would accept, use, and adjust itself to the configuration of power in and the basic pattern of the private sector of the economy.\footnote{Preserving the economic \textit{status quo} during wartime was a central idea of Coffin and was a basic assumption of the Kernan Board. See the discussion of Baruch below and also: Nye Committee, \textit{Minutes of the General Munitions Board From April 4 to August 9, 1917}, 74th Cong., 2nd Sess., 1936, Senate Committee Print No. 6, 1, 2, 4, 6, 39; Nye Committee, \textit{Final Report of the Chairman of the United States War Industries Board to the President of the United States, February, 1919}, 74th Cong., 1st Sess., 1935, Senate Committee Print No. 3, 43–44; Fisher, "Chamber of Commerce," 435–36.}

Several months after its creation, the NDAC divided itself into semi-autonomous committees corresponding to the natural subdivisions of the economy: the most important were transportation, raw materials, munitions and manufacturing, and general supplies. In order to relate commission activities to those of the economy as a whole, the commissioners selected or had various industries choose members to represent their interests on committees within the commission. Over 100 such committees were ultimately organized. Almost inevitably, major firms were dominant. Where a trade association like the American Iron and Steel Institute was supreme in its field, it provided the representatives. The Cooperative Committee on Canned Goods, for example, consisted of individuals from the California Packing Corporation, Libby, McNeill & Libby, the H. J. Heinz Company, and others; the steel committee included Elbert H. Gray as chairman and other members from Bethlehem Steel Corporation, Jones and Laughlin Steel Company, Republic Iron and Steel Company, and Lackawanna Steel Company.\footnote{See also, Daniel R. Beaver, \textit{Newton D. Baker and the American War Effort, 1917–1919} (Lincoln, 1966), 51–52, 71–76.}
The "dollar-a-year" man system was devised to provide the government with the services of experts without undue sacrifice on their part. Because appropriations were limited, businessmen often paid for their own expenses, clerical help, and even office space. Though far from a perfect solution, the system worked for awhile. It assured industry's cooperation at a time when the nation's mobilization agency was without authority. Industrialists and merchandizers worked hand in hand with the commissioners. Information on the capacity of the essential industries was collected, the means for curtailing production for civilian uses and converting industry to meet governmental needs were considered, and rudimentary price, priority, and other controls were developed. 18

Quite early in the war, therefore, the NDAC devised the means for organizing and controlling the private sector of the economy. The methods were often crude and piecemeal, but they could be perfected. Rapid progress was possible because the cooperative efforts of industry and the federal government in behalf of economic regulation during the Progressive Era prepared them to a degree for wartime conditions. Nevertheless, the economic mobilization program floundered for almost a year. Organizing supply—the civilian economy—was not enough. Demand—the multiple needs of claimant agencies like the Army and Navy—also had to be controlled. Throughout the war, demand exceeded supply. Consequently, unless war contracts were distributed with care and in order of precedence, the equilibrium of the economy could not be maintained. The NDAC, however, had no authority over the procurement agencies. They were free to do as they liked. A crisis was avoidable as long as claimant agencies procured in an orderly manner and cooperated with the NDAC. To a degree, most did. The Navy Department adjusted to hostilities without major difficulty. That was possible because it was always in a state of semi-preparedness and had an efficient supply system dating back to the late nineteenth century. Other private and public civilian agencies like the American Red Cross, the Emergency Fleet Corporation, and the Fuel and Food Administration also proved to be sufficiently flexible. But not the War Department. The flagrant inadequacies of its supply apparatus undermined the efforts of the NDAC.

When war broke out, five, and later eight, bureaus—the Quartermaster Corps, the Ordnance Department, and the like—individually procured for the Army. Each had its own purchasing staff, handled its own funds, stored its own goods, and transported its own supplies. Determined to meet their own needs, the bureaus competed with one another and other claimant agencies. Contracts were let indiscriminately, facilities commandeered without plan, and equipment transported without regard to need. With such a system, it was virtually impossible for the War Department to come up with reliable statistics concerning requirements.

War Department difficulties did not start with the war. The politics of supply had been a constant source of aggravation within the department for decades. The strife became especially intense around the turn of the century when the Chief of Staff-General Staff system was created by the reforms of Elihu Root (Secretary of War, 1899–1904). Supervising the bureaus and bringing them under some centralized control were part of the responsibility of the Chief of Staff. But the tenaciously independent bureaus successfully resisted control. The staff-bureau conflict continued into the war years. Secretary of War Baker would not move forcefully to resolve it. A Progressive dedicated to applying local solutions to modern problems, Baker opposed temporary changes in the federal government during the war out of fear they might become permanent. Moreover, the former mayor of Cleveland consistently avoided controversy. Attempting to compromise nearly irreconcilable differences between the General Staff and the bureaus, Baker allowed the War Department to drift hopelessly toward disaster.

The General Staff-bureau controversy in part was responsible for the Army failing to anticipate the nature of twentieth-century

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warfare. Industrial production was as important, or more important, to military success as tactics or strategy. Relating its supply and procurement apparatus to a mobilized economy had to be part of the military mission in modern times.\textsuperscript{21} Had the staff-bureau conflict ended with the war and an efficient supply system been fashioned, the Army could have adjusted to emergency conditions with relative ease. Since neither took place, the Army came close to losing its control of supply by threatening the entire civilian economy.

Out of war costs approximating $32,000,000,000, the Army spent $14,500,000,000 between April 1916 and June 1919.\textsuperscript{22} Pouring such vast amounts of money into the economy through the department’s antiquated supply system unavoidably produced havoc.

To mitigate the effect, the National Defense Advisory Commission, while still organizing supply and attempting to perfect wartime economic controls, was forced to assume responsibility for coordinating supply and demand. No other agency existed for the purpose. Its task was almost impossible. The procurement agencies had the statutory authority; the NDAC had no more than advisory powers. They were not enough to hold the largest of the procurement agencies in line.

The NDAC’s difficulties with the War Department stemmed from two sources. In the first place, according to military dictum, those who controlled strategy must also control supply. The Army looked upon civilian mobilization agencies as a threat to its supply prerogatives. The very weakness of the Army supply system served only to strengthen the suspicion. Secondly, the War Department’s supply network did not correspond with that of the civilian economy. The bureaus were organized along functional lines — ordnance, quartermaster, and the like; the economy was informally structured according to commodities — raw materials, industrial products, and so forth.\textsuperscript{23} With the NDAC patterned after the economy, effectively coordinating supply and demand was out of the question. Logically, the Army had not only to reform its supply system but also restructure it along commodity lines. It stubbornly resisted until early in 1918.

The Army was able to resist not only because of its statutory


\textsuperscript{22} John M. Clark, \textit{The Cost of the World War to the American People} (New Haven, 1931), 90; Crowell, \textit{War Contracts}, 63. For comparative purposes, the War Department figure would be slightly lower if estimated normal expenses for the war years were subtracted.

\textsuperscript{23} U.S. War Department, Purchase, Storage, and Traffic Division, General Staff, Supply Bulletin No. 29, Nov. 7, 1918 — reproduced in, Graham Committee, \textit{Hearings}, Serial 1, 128–32.
authority, but also because Baker was selected as chairman of the Council of National Defense and served as President Wilson’s chief adviser on industrial mobilization. Unable to bring order out of confusion in the War Department, Baker failed to rise above departmental interests as chairman of the Council. He used his position to maintain the Army’s prerogatives undiminished. For almost a year after the outbreak of war, therefore, the War Department insisted that the civilian economy adjust to its decentralized, inefficient, functional supply system rather than vice versa. The tail was attempting to wag the dog.

At first the NDAC accepted the War Department terms. It attempted to make the War Department system work by serving more or less as a bridge between the industrial and military worlds. With the Army bureaus unable to keep up, the recently organized Cooperative Committees of the NDAC performed procurement activities. Individuals and committees aided the Army in distributing contracts within the industries they represented. In the case of the Quartermaster Corps, the Committee on Supplies literally built a procurement system around the corps and assumed many of its functions. NDAC aid unquestionably kept the Army bureaus from being totally swamped. But as worked out, the system was not an unmixed blessing. Indeed, commission operations were often illegal. Actually, if not nominally, industrialists awarded contracts to themselves and their colleagues. Small groups of businessmen admittedly engaged in collusive activity — activity sanctioned by the government. Army regulations and the antitrust laws were being violated.

The expediency, not the legality, of the NDAC’s operations was what bothered its members. Out of need, the NDAC was forced to assume the responsibilities of a general mobilization agency without that authority. The Army, and the Navy as well, used or ignored the NDAC to suit its own purposes. Frustrated, the commissioners began pressing the Council of National Defense to sanction a more effective organization. The latter yielded to NDAC entreaties only reluctantly. At first, a Munitions Standards Board, later a General Munitions Board, was created. Both were intended to facilitate military procurement; neither had much effect. As creatures of the Council of National Defense, they lacked authority. Technically independent of the NDAC, they were really only extensions of it. After months of turmoil, the hopelessly inadequate NDAC still remained the principal mobilization agency. As spring gave way


Testimony of various members of the NDAC before Congressional Committees is one
to summer in 1917, confusion was rife and the efforts to harness the economy were bogging down.

By July 1917, change was essential. The NDAC structure could not maintain economic balance. Backed by influential members of the administration like William G. McAdoo, the Secretary of the Treasury and President Wilson’s son-in-law, the commissioners made a plea for the creation of a mobilization agency freed from military control and able to centralize and enforce its decisions.26

The impetus for change was strengthened by the first extended debate in Congress involving economic mobilization. NDAC operations, where favored businessmen could serve simultaneously as government agents and contractors, took on the proportions of a national scandal when publicized. The agitation was triggered by those business interests who found themselves excluded from a decision-making process which affected their interests. After acrimonious debate, Congress included in the Lever Act a provision restricting individuals from serving or acting in a capacity to influence the awarding of contracts beneficial to themselves or their firms.27

The drive for a more effective mobilization agency combined with congressional criticism led to a general reorganization in July 1917. The Council of National Defense replaced the NDAC structure with the War Industries Board (WIB). As its name implied, the board was to regulate the entire industrial might of the nation, not simply to expedite munitions production. The WIB absorbed the various committees and boards that had proliferated over the months under the Council of National Defense. For the first time, the federal government had one centralized organization for controlling industry.

In order to meet Congressional and business criticism, the WIB between August and December 1918, disbanded the Cooperative...
Committees of Industries. It then turned to the Chamber of Commerce of the United States to supervise and certify the formation of new industrial committees. Industries with trade associations or similar societies "democratically" elected members to represent them before the WIB. Precautions were exercised to insure that non-member firms had a voice. For unorganized industries, the Chamber facilitated organization. The elected bodies were called War Service Committees. Unlike the NDAC committees, their members were private, not public, representatives; industry financed their operations. Many of the committees were new, some — e.g. steel — were the old group with a new name and only minor changes. The Chamber of Commerce had been advocating such a system since before the war. In part it was based on the English mobilization experience.28

The War Service Committees granted business far more immunity from the antitrust laws than even the most sanguine advocates of industrial cooperation espoused during the Progressive years. A private, commercial body, not the federal government, certified committees to represent the collective interests of business. As a result, the modern trade association movement began to come of age. Associations grew rapidly in number and importance during the war years.29

The change from the informal, legally tenuous NDAC Cooperative Committees, reminiscent of the ambiguous relations between the government and industry during the Progressive years, was essential. Without the full support of all industrial elements, economic mobilization was difficult, if not impossible. Out of need, the federal government dropped its reservations about trade associations. Indeed, industry could treat with the government only on an organized basis. Writing in The Nation's Business in August 1918, Chamber of Commerce President Harry A. Wheeler (vice-president, Union Trust Company of Chicago) declared: 30


29 There is no one outstanding comprehensive work on trade associations. Several of the better volumes include: Joseph H. Foth, Trade Associations: Their Service to Industry (New York, 1930); National Industrial Conference Board, Trade Associations: Their Economic Significance and Legal Status (New York, 1925); U.S., Department of Commerce, Trade Association Activities (Washington, 1927).

30 The Nation's Business, August, 1918, 9–10.
Creation of the War Service Committees promises to furnish the basis for a truly national organization of industry whose proportions and opportunities are unlimited.

The integration of business, the expressed aim of the National Chamber, is in sight. War is the stern teacher that is driving home the lesson of cooperative effort.

Representing private interests, the War Service Committees were not officially a part of the WIB. Subdivisions of the board, called Commodity Committees, determined policy for and administered the various industries. The committees were usually staffed with industrialists on a “dollar-a-year” basis but allegedly free from conflicts of interest. Claimant agencies such as the Army and Navy also had representatives on the committees. To maintain a clear line of demarcation between the public and private domains, War Service Committees only “advised” the Commodity Committees. Some 57 Commodity Committees and over 300 War Service Committees were ultimately organized. The former were grouped according to the natural patterns of the economy: chemicals, textiles, finished products, and so forth. The latter operated with the Commodity Committee to which they corresponded.

The WIB never really got under way until early in 1918. By then it was clear that the distinction between public and private interests within the board was more apparent than real. The chief of the Agricultural Implements and Wood Products Section had been manager of the John Deere Wagon Company; at the head of Automotive Products was the former treasurer of the Studebaker Corporation; the former president of the Fisk Rubber Company was chief of the Rubber and Rubber Goods Section.31 Serving in such capacities, industrialists were supposed to “dissociate” themselves from their firms. But in November, 1918, the acting chairman of the WIB observed that individuals could absent themselves from negotiations if their own firms were involved. Not until mid-1918 did the board begin to institute precautionary policies against compromising appointments.32

Even if no conflict of interest existed, the Commodity Committee-War Service Committee system was not the neat separation of private and public interests that its proponents maintained. At

31 Principal WIB officials, their affiliations, and sources of income, are given in Nye Committee, Hearings, Part 16, 4142–45. Complete lists of WIB personnel and members of the War Service Committees are conveniently available in Clarkson, Industrial America, 501–543.

best, the decision-making process was organic. Grosvenor B. Clarkson described it as follows:

Through the commodity sections on the side of Government and the war service committees on the side of business, all industry was merged in the War Industries Board. Subject to the veto of the chairman of the Board, as the supreme interpreter of the national good, industry imposed its own emergency laws and regulations and assumed nine tenths of the burden and responsibility of enforcing them.

Clarkson went on to say that the Commodity Committee-War Service Committee system was the very nerve center and major source of policy for the WIB. The board was a form of industrial self-regulation writ large. Nonetheless, the organization of the WIB was a giant step forward. Effective industrial control was possible. Private industry was organized, an agency capable of coordinating mobilization existed, and trained personnel were available.

Regardless of the progress, the reorganization did not deal with the fundamental flaw. The WIB was without authority. Created by the Council of National Defense, it had only advisory powers. Actually, the board's creation was a victory for Secretary Baker and the War Department. They had resisted the concerted drive for an agency independent of and superior to the military services. Wilson upheld them. The Army still had the authority to force its methods on the economy. The WIB stood by helplessly. An impasse had been reached. Either the Army had to give way or the mobilization program would halt. The latter occurred before the former.

Chaired by Frank A. Scott, president of Warner and Swasey Company, a Cleveland precision equipment manufacturer, the WIB first faltered and then stumbled. Deterioration was rapid after October, 1917, when Scott resigned, his health broken through agonizing months spent in government service. Daniel Willard, president of the Baltimore and Ohio Railroad Company, was practically drafted to replace him. But on January 11, 1918, he also quit in disgust over the board's impotence. A crippled WIB simply could not fulfill its functions. Various sections remained active but without over-all direction. Like a convulsed person, the WIB's limbs twitched without central motor control. For a time, a so-called War Council, made up of representatives from leading war agencies and others, tried without much success to provide leadership. The crisis was at hand. A new chairman for the WIB was not appointed

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83 Clarkson, Industrial America, 98, 303–311.
84 Beaver, Baker, 71–75.
until March. No one who was considered qualified would take the job without sweeping changes.  

The paralysis that gripped the board was matched by that of the economy. Uncontrolled procurement overloaded the Northeast with contracts far beyond its capacity to produce. With the unusually severe winter of 1917–1918, fuel was critically short and the railroad and shipping industries virtually halted in some sections of the nation. The mobilization effort, indeed the entire economy, appeared on the brink of collapse. To remedy the crisis, the administration was forced to bring the railroads under national control in December 1917. But overall coordination of procurement and production was essential to resolve the critical economic conditions. On that crucial issue the administration was stalemated.  

In the absence of executive leadership, the Senate Military Affairs Committee, under the leadership of a Democratic maverick, Senator George E. Chamberlain, of Oregon, moved on its own. The committee conducted an investigation of the War Department from December 12, 1917, until the end of March. It established beyond question the chaos in Army supply and highlighted its effects on the economy.

The Chamberlain Committee was greatly influenced by Waddill Catchings, formerly of J. P. Morgan and Company, now chairman of the War Committee of the Chamber of Commerce of the United States, and president of ironworks in New York and Ohio. For months, argued Catchings, Chamber members had devoted full-time effort to perfecting the nation’s mobilization machinery only to have conditions deteriorate rather than improve. Businessmen found their economic fortunes threatened not by government regulation but by government chaos. With a united Chamber behind him, Catchings recommended that the United States follow the British experience: separate procurement from the military and place it under a civilian-controlled ministry of munitions; and create a War Cabinet to direct the over-all national war effort.


57 Chamberlain Committee, Hearings, 1885–1924.
In January 1918, the Chamberlain Committee presented two bills to Congress incorporating the Chamber of Commerce recommendations. The proposed legislation led to the most extended and knowledgeable debate on economic mobilization heard in the halls of Congress during World War I. Legislation for a ministry of munitions, but not the war cabinet, was seriously considered. In order to circumvent it, the Army began to reform its supply system and the administration came forth with the Overman Act: a sweeping grant of authority for the President to reshuffle his administration to meet the demands of warfare. With the full weight of the administration behind the compromise proposal, the Chamberlain Committee legislation never stood a chance. In May 1918, the Overman bill passed with only slight opposition.

The compromise succeeded only because Wilson ended the War Department’s domination of the mobilization program in March. Under his general powers as President and Commander in Chief, Wilson separated the WIB from the Council of National Defense and placed it directly under himself. After the passage of the Overman Act, the President confirmed his action with an Executive Order. To chair the strengthened board, Wilson selected Bernard M. Baruch. According to the latter’s instructions, the WIB’s specific and general powers were great indeed. They included general coordinating authority over procurement. Without statutory authority, much of the board’s action remained legally tenuous. Moreover, the President’s directive was vaguely qualified at many points. Nevertheless, with Wilson’s full backing, the nearly complete support of business, and the critical conditions the nation faced, the WIB was able to enforce its decisions in most instances. The winter crisis, therefore, was resolved with the military services maintaining control of supply but not of the economy.

Probably without anyone being fully aware of its consequences, the Overman Act set a most important precedent for twentieth-century warfare. Unlike most belligerent nations, in the United States the military services continued to procure their own munitions and, therefore, remained in a position to affect the economy most directly and vitally during war as well as peace. To varying degrees Great Britain and France separated procurement from the services and placed it under civilian-controlled munitions ministries. Even

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in pre-revolutionary Russia the armed services did not maintain unqualified control of their own purchasing. In Germany, quite a different pattern emerged. The economy was largely mobilized under military authorities in league with large industrial elements.40

Maintaining procurement in the hands of the armed services was dictated more by political economy than military necessity. Businessmen had directed economic mobilization since April 1917, because they were the only ones qualified to do so. Yet, Wilson, members of his administration, and the public at large, doubted the ability of business to place the interests of the nation above its own.41 Such attitudes, combined with the desire to avoid political and economic changes during the war, led to granting industry a great deal of latitude for perfecting the mobilization machinery, while ultimate authority was continued with the traditional procurement agencies. Only when that expedient failed, did the business-dominated WIB gain some authority under the Overman Act.

To many government officials, going further than the Overman legislation, by separating supply from the armed services, was both undesirable and politically hazardous. It would have meant turning over to industry directly billions of dollars of contracts. The ministry of munitions legislation supported by the Chamberlain Committee was no more than a general grant of authority for a Director of Munitions to perform procurement functions. Out of necessity, the director would have to use the WIB or a similar agency controlled by businessmen to fulfill his responsibilities. Of course, under WIB operations, contracts were virtually in industry’s hand anyway. Nonetheless, as long as the armed services maintained the legal right of contracting, ceremonial distinctions between government and business operations were preserved.

Since the Commodity Committee-War Service Committee system nominally separated private and public interests, Congress appeared satisfied with the WIB. Nevertheless, the “dollar-a-year” man and War Service Committee practices — the very life blood of the WIB — were vulnerable. During 1917 they came under repeated attack; in January 1918, legislation was introduced to prohibit the use of


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industrial advisory committees and government officials serving on a nominal salary. Instead, the wartime economy would be run by paid employees free of compromising affiliations.\footnote{Cong. Rec., 65th Cong., 2nd Sess., Vol. 56, Part 1, 558; New York Times, January 5, 1918, 3. See also citations for the Cong. Rec. in footnotes 27 and 39.} For the most part, critics of the NDAC and WIB were conveniently ignored. Had Congress moved to place procurement in the hands of the WIB or attempted to write detailed legislation as to how civilians would perform procurement functions, WIB methods at least would have been in jeopardy.

The Overman Act allowed the administration and the Congress to dodge the vexacious problems of industrial mobilization. The WIB was strengthened without in any way disturbing its operations or clearly defining its authority. Moreover, the War Department—the major obstacle to successful mobilization—was forced into line. Issues almost too complex for direct resolution were, thereby, avoided.

Business representatives had every reason to support the Overman compromise and did so. Before the Chamberlain Committee, no one from among the business members on the Council of National Defense or on the WIB favored a ministry of munitions.\footnote{See the testimony of Willard, Baruch, Gifford, and Coffin, Chamberlain Committee, Hearings, 1799-1847, 1850-84, 2253-89.} As members of the Wilson administration they could not have done otherwise. But as long as the President was willing to strengthen the WIB they had no reason to press for the ministry idea. Furthermore, businessmen within government were not unconscious of the threat of a ministry of munitions to the existing mobilization machinery. While still chairman of the crippled and helpless WIB during the winter crisis of 1917–1918, Daniel Willard pleaded with business not to support a supply ministry. It was a risky experiment requiring legislation, he argued. Such legislation, Willard implied, was undesirable.\footnote{The Nation's Business, Feb., 1918, 7–9.} Both Grosvenor B. Clarkson and General Hugh S. Johnson, intimately involved with the wartime economic experience, concluded that the flexibility granted the NDAC and the WIB by the lack of specific statutes was a decided advantage, if not imperative.\footnote{Clarkson, Industrial America, 5–9, 20, 215–16; Final Report of the WIB, 3–4— for authorship of the Report see Nye Committee, Hearings, Part 22, 6393–95, 6642.} The attitude of businessmen within the Administration apparently influenced the business community. In February 1918, the Chamber of Commerce of the United States, largely responsible for the Senate Military Affairs Committee’s legislation, not only switched its support to the Overman Act, but also defended
the bill against its critics. "Those in charge of the administrative machinery of the Government" were opposed to more extended legislation, announced a Chamber member. Through the Overman Act, the desired ends could be achieved without weathering the cumbersome legislative process.46

Baruch's selection as chairman was as important to the WIB as its new grant of authority. From the day the NDAC was organized, Baruch was a prominent figure. His intimate but detached knowledge and understanding of the American economy and the men who ran it was central to his success. Long before war was declared, Baruch reasoned that successful mobilization depended upon winning industry's voluntary cooperation and maintaining the existing power structure. That meant industry would virtually have to be incorporated into the government. While a member of the NDAC, Baruch was instrumental in devising what ultimately became the Commodity Committee-War Service Committee system.47

The nature of the WIB demanded that its chairman have the confidence of industry and yet be above charges of conflict of interests or of favoring private over public welfare. Ironically, Baruch, the "Wolf of Wall Street," was tailor-made for the job. Before joining the NDAC, he divested himself of any connections that could compromise his activities. His speculative career raised opposition to his appointment in some circles, but a congressional committee gave Baruch a clean bill of health. Henceforth, his public image improved. For a time industrialists and financiers approached him with reservation because of his unorthodox occupation. However, uncertainty gradually gave way to trust as Baruch proved his abilities. Because he was largely above suspicion in the eyes of the public and the business community, Baruch could guide the risky process of incorporating industry into government while mostly giving industry its way. A more suspect individual would have met impossible obstacles.

When appointed chairman of the WIB, Baruch instituted policies which he had successfully applied in private business. He selected knowledgeable, competent young men to direct the major subdivisions of the WIB and gave them maximum freedom for carrying out their responsibilities. Authority was centralized, administration

decentralized. The Commodity Committees were enlarged and strengthened. In effect they became small war industries boards for the various industries of the nation.48

By early 1918, then, a mobilization agency with authority had been perfected. Organized supply was integrated into its structure. But the system would not operate unless demand, and particularly the War Department, was fitted into it. The prospect for a successful merger was better in March 1918, than ever before.

Actually, Baker began patchwork reform of the Army supply network in late summer, 1917. When it became clear, during the winter crisis of 1917–1918, that fundamental change was essential to prevent complete severance of supply from the War Department, the General Staff was reorganized to establish more effective supervision of the bureaus and to better coordinate the Army’s operations with those of the WIB.49

The more radical reforms Baker initiated did not produce the desired results until March 1918, when General Peyton C. March was appointed first Acting, and later Chief of Staff. In record time, the dynamic, aggressive March fashioned a powerful agency out of the withered General Staff he inherited.50

General George W. Goethals became March’s chief lieutenant for supply and procurement. Basing his authority on the Overman Act, he directed a near-revolution by managing to break down the old bureau structure and replacing it with a centralized supply system. It was a herculean task that met with intense resistance from the bureaus. At the time of the armistice the job was incomplete.

Ultimately Goethals became an assistant chief of staff and directed supply through a subdivision of the General Staff called the Division of Purchase, Storage, and Traffic. All of the Quartermaster Corps and the supply functions of the other bureaus, including purchase, storage, transportation, and finance were incorporated into the division. In the process, Army supply operations were reorganized along commodity, instead of functional, lines. The War Department’s system now paralleled that of the WIB. At last, the Army was adjusting to the civilian economy. Reforms also included

48 The WIB Minutes are helpful in tracing the board’s development, as are Crowell and Wilson’s volumes, The Giant Hand and The Armies of Industry: I. The 52-page introductory essay to the Final Report of the WIB is the one best source on the board. Clarkson, Industrial America and Baruch, American Industry are indispensable despite their very numerous limitations.


50 The quality of March’s leadership is a main theme of Edward M. Coffman, The Hilt of the Sword: The Career of Peyton C. March (Madison, 1966) — see especially, 67–68, 76–77, 149, 151, 247–49. See also, Peyton C. March, The Nation at War (New York, 1932), 58.

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methods for obtaining reliable requirements information, centralized procurement of common items, and the standardization of contract forms and procedures.\textsuperscript{51}

War Department reforms were originally intended to head off a strengthened civilian agency in order to safeguard Army supply independence.\textsuperscript{52} Nevertheless, Army and Navy operations were slowly integrated into those of the WIB. For the Army, that was possible because of new vitality and new personnel. When selected to work with the WIB, officers like General Hugh S. Johnson at first approached the board with typical military suspicion. Soon they came to appreciate that the civilian agency helped secure rather than threaten military prerogatives by aiding the Army in fulfilling its responsibilities.\textsuperscript{53} Antagonism gradually gave way to harmony. Flexibility within the WIB helped. At the outset, authority in the Commodity Committees rested exclusively with the civilian section chief. Army members on various committees felt that under the circumstances they were unable to protect War Department interests. Upon the plea of General Johnson, the entire committee was made the source of authority.\textsuperscript{54} With similar organization, with a spirit of cooperation, the civilian mobilization agency and the War Department had finally reached a \textit{modus operandi}. From March 1918, forward, the crisis of the economy was resolved.

That is not to say that the mobilization machinery ran without flaws or that the munitions picture was bright at war’s end. Procurement agencies still set their own requirements; the WIB only determined how they were met. The board lacked the authority, and often the information, for working out a production program that was feasible for the economy. When hostilities ceased, the WIB faced the need to limit demand in order to avoid another crisis.\textsuperscript{55}

All of the claimant agencies affected WIB operations, but none as greatly as the War Department. Chief of Staff March looked upon the board as no better than the War Department’s equal, perhaps its inferior. As shifts in military requirements took place,
March refused to inform the WIB. Only a major showdown between Baruch and March resolved the matter in favor of the board. Realizing that the services tenaciously guarded the right to determine their needs, the WIB never even attempted to institute review procedures. Had the war continued with demand multiplying faster than supply, the explosive military requirements riddle would have become a major divisive issue. The thirty-division American Expeditionary Force program for 1918 was to be increased to eighty for 1919; General John J. Pershing was holding out for even more. Throughout 1918, Pershing’s forces were critically short of needed supplies, including ordnance, signal equipment, motor vehicles, and medical provisions; by fall conditions were becoming desperate. Only the armistice saved the day.86

Nonetheless, when hostilities ceased, there existed a mobilization scheme that worked. The armed services had preserved control of supply; the business community had experienced a return to stability despite the exigencies of war. The basic pattern was sound even if the mechanics needed perfecting and the lines of authority required clarification.

Scholars and other writers have generally interpreted the War Department’s encounter with the WIB and predecessor agencies as a struggle between civilian and military elements over domination of economic mobilization.57 That is a misconception. The conflict arose as civilian and military institutions were going through the throes of adjusting to modern warfare where economically the rigid lines of demarkation between them were no longer possible. Civilian administrations adapted with greater ease to the new conditions. The War Department, however, resisted the minimum changes essential for the successful mobilization of the economy.

Throughout a good part of World War I, the War Department was barely able to manage its own affairs, let alone extend its control over the economy. Its resistance to civilian mobilization agencies was more a result of isolation from, suspicion of, and ignorance about the civilian economy than a desire to dominate it. The Army supply bureaus, really more civilian than military with their close congressional ties and detachment from the line, and Baker’s fear of bringing them under control, were a central cause of the friction. Even Chief of Staff March’s arrogant attitude toward civilian institutions reflected a failure to grasp the fact that it was


87 For the most recent example, see: Beaver, Baker, 76.
no longer possible to compartmentalize civilian and military functions with finality.

Civilians were not anxious to take over military roles. The business community and its representatives were largely responsible for industrial mobilization. Their first concern was finding the means for mobilizing the economy without endangering the status quo. Some saw the war as an opportunity for strengthening the Progressive ties between government and industry. From the beginning, however, circumstances made the military services central to any mobilization scheme. While perfecting their own institutions, therefore, members of the NDAC, WIB, and private businessmen worked hand in hand with Army personnel to modernize military supply procedures. Ultimately the War Industries Board proved to be the right means for harnessing the economy. Civilians in general, but businessmen in particular, would not permit the War Department to ruin what they had carefully worked out to protect their own and the nation’s interests. Either the Army had to adjust to the WIB or lose its procurement prerogatives. Since separating procurement from the armed services was politically undesirable, the former rather than the latter solution was adopted with the Overman Act. Wartime industrial self-rule was possible because of the emergency, but only when left undefined. Severing supply from the Army and Navy could have threatened the entire enterprise. Out of those conditions, economic and military institutions were integrated for the duration of the war and the foundation for the “industrial-military complex” was laid.

Businessmen, in and out of government service, before and after the winter crisis of 1917–1918, devoted many hours to War Department supply problems. Before war was declared, the Chamber of Commerce organized advisory boards to facilitate the operations of local quartermasters. The following were among those who aided the Army in setting up the Purchase, Storage, and Traffic Division of the General Staff: Otto H. Kahn, of Kuhn, Loeb & Company, C. D. Norton, president of the First National Bank of New York; R. J. Thorne, president of Montgomery Ward & Company, Inc.; H. H. Lehman of Lehman Brothers; Girard Swope, president of Western Electric Company, Inc.; and F. C. Weems, of J. P. Morgan & Company. See: Fisher, “Chamber of Commerce,” 381–384; HMAC, Hearings, 1920, 447; Graham Committee, Hearings, Serial 1, 298; Dickinson, Building of an Army, 305–306.