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CHANGING FORTUNES:
ARMAMENTS AND THE U.S. ECONOMY

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ABSTRACT

The present essay is the second in a series of four papers in which we examine the political economy of armaments in recent decades. In this paper we focus on the 'armament core' of large military producers which recently emerged as a powerful bloc within the big economy of the United States. The rise of this core was heightened by a gradual shift of large civilian companies toward armament business. We argue that the decline of large U.S.-based corporations in civilian world markets since the late 1960s was both a stimulus and a partial consequence to their increasing involvement with better investment opportunities in government-related activity, especially military production. The increasing significance of international developments inhibits the earlier effectiveness of the U.S. government in assisting corporations based in the United States with its own military spending.

RESUME

Cet article est le second d'une série de quatre dont le but est d'examiner l'économie politique des armements. Cet article porte sur le "noyau armement" des grands producteurs d'équipements militaires qui constituent un bloc puissant au sein de l'économie des Etats-Unis. L'essor de ce noyau se trouve renforcé par le glissement graduel des grandes entreprises civiles vers la production d'armements. Le déclin des grandes entreprises américaines sur les marchés internationaux civils depuis la fin des années 1960 constitue à la fois un stimulus et une conséquence partielle de l'intérêt croissant que ces entreprises accordent aux occasions de placement, plus intéressantes, dans les activités relevant de l'Etat, notamment dans le domaine de la production d'armes. L'importance croissante que revêtent certains développements internationaux inhibe l'efficacité avec laquelle le gouvernement américain venait naquère en aide aux entreprises basées aux Etats-Unis, par le biais de ses propres dépenses militaires.

1. Introduction

Military involvement by the U.S. government in Vietnam ended in the early 1970s. One factor in the withdrawal may, as suggested by Kalecki (1967), have been the pressure exerted by 'civilian' corporate interests in the U.S. political process. However, such effective pressure (to the extent that it occurred) should not be exaggerated. In particular, it should not be perceived as a sign of the relative supremacy of these interests among corporate groups. During the course of the Vietnam conflict, military procurement became an integral aspect of the U.S. economy -- one to be sought by both 'old' and 'new' large corporate groups, rather than being restricted to a narrow preserve of limited incidence. Since the end of the conflict, we have seen a persistent shift of the entire *big* economy (that is, the collective of very large U.S. corporations) away from participation in civilian production and toward participation in activities associated with military, space and atomic-energy priorities.¹ This shift reduces the value that can be attached to Kalecki's distinction between 'old' and 'new' business groups within the structure of the U.S. ruling class.² As an increasing number of large 'old' U.S. corporations redirected their focus of activity and bought into the 'new' high-technology fields, the dichotomies between civilian and military production and between 'old' and 'new' groups declined in relevance. Instead there arose a pressing need to identify an *armament core*, which is composed of the most important arms producers, and to clarify the economic significance of this core for the evolution of the United States, especially in the light of suggestions that the U.S. economy has experienced a decline.

2. The Armament Core

During the fiscal year 1986, the U.S. Department of Defense committed \$146 billion to prime contract awards (that is, to individual contracts exceeding \$25,000 in value). About 68 per cent of this aggregate sum went to the 100 largest 'Defense contractors' so it was unevenly spread throughout the U.S. economy. Members of the group of 100 contractors can be put into three convenient categories. The first group consists of the 15-20 largest Pentagon suppliers and can be termed the 'armament core', while the remainder form two groups which can be collectively identified by the name of 'armament belt'. We can then distinguish between those contractors in the armament belt that are giant corporations for which Defense contracts contribute a relatively modest part of their overall sales revenue (such as AT&T, IBM, ITT, Eastman Kodak, Ford, Chrysler, Exxon, Mobil and Texaco) and other smaller contractors, also in the armament belt, that rely more heavily on income from the military, space and atomic priorities for Defense spending (such as Singer, Teledyne, E-Systems, Loral, FMC, Harsco and Gencorp). Clearly this three-way partition is somewhat crude and subjective. Note that it does not recognize the impact of subcontracting, which may be significant, and it ignores contracts awarded by NASA and the Atomic Energy Commission as well as foreign military sales. Furthermore, the partition ignores the production of intermediate goods for subsequent supply to the prime contractors.³ Despite these flaws, however, the simple partition is adequate as a means of identifying the most important arms producers in the United States.

Choice of the boundary between the armament core and the armament belt is arbitrary to some extent -- there is a tentative 'twilight zone' of about 10 corporations, those ranked from 15th to 25th on the list of prime contractors, who cannot be clearly classified on either side of the dividing frontier. Given the attendant uncertainty and ambiguity, we concentrate our empirical evidence on awards to the largest 10 Defense contractors (the 'top-10'). In 1986, when ordered by the value of their prime contracts, these contractors were General Dynamics, General Electric, McDonnell Douglas, Rockwell International, General Motors, Lockheed, Raytheon, Boeing, United Technologies, and Grumman. With the exception of General Motors, the composition of this list has hardly changed since the middle of the 1960s. General Motors acquired Hughes Aircraft in 1985 to re-enter the top-10 list after some years of absence from that list -- so it is sometimes convenient for historical comparisons to focus attention on the 'armament nine', the usual top-10 prime contractors with General Motors and other transitory members of the top-10 excluded.⁴ In 1986, the top-10 contractors received 35 per cent of the value of all prime-contract awards, the next 5 contractors by rank received about 7 per cent and the following 5 contractors by rank received less than 5 per cent.

In 1967, Kalecki predicted the rise of 'predatory' business groups as a dominant element within the U.S. business community. We can assess whether the relative position of the armament core (as representative of such predatory groups) has substantially changed since Kalecki made his prediction by comparing some aggregate statistics for net profits over the

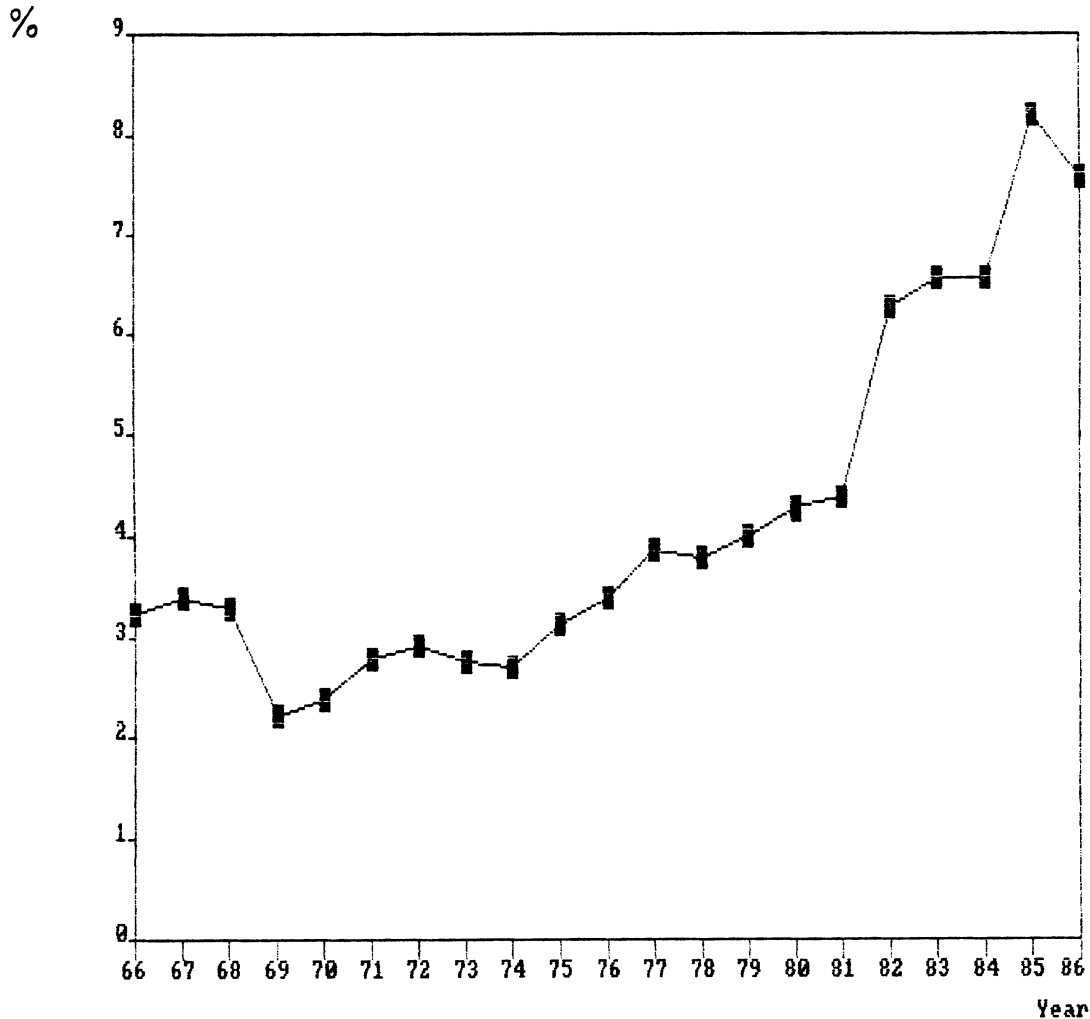
subsequent period. It seems appropriate to consider the share of the armament core in the net income of the 'big' economy, provided the latter can be suitably measured. Here we use the data provided by *Fortune* magazine for the 500 largest industrial corporations to indicate the size of net income for the big economy and we use data for the armament nine as proxies for net income of the armament core.⁵ These data yield the ratios of relative net income that are charted in Figure 1 for the period extending from 1966 to 1986 inclusive. The impression of changing fortunes that emerges from this figure supports Kalecki's prediction. The ratio fell from 3.4 per cent in 1967, when spending on the Vietnam War was close to its peak, to just 2.2 per cent in 1969 before rebounding in the following year and then rising more or less continuously thereafter. By 1985, the ratio had reached 8.2 per cent.⁶ The conclusion to be drawn from this evidence is that the significance of the armament core within the U.S. economy has risen dramatically since about 1970 as the core appropriated an increasing share of the big economy's net income.⁷ Further support for this conclusion is also provided by data from the Internal Revenue Service, which reveals that the share of the armament core in aggregate corporate net profits rose from 1.1 per cent in 1969 to 3.4 per cent in 1983.⁸

3. Decline of the United States?

The growth of armament-related business since the end of the 1960s is intimately related to the overall decline in performance of the U.S. economy relative to performance in certain other industrial countries during this period. Some evidence of changing fortunes for the U.S. economy is revealed

Figure 1

THE ARMAMENT NINE AND THE BIG ECONOMY:
THE SHARE OF THE ARMAMENT NINE^a
IN NET PROFITS EARNED BY ALL FORTUNE-500 CORPORATIONS



SOURCE: Net profit data for the Armament Nine are from Standard & Poor's Compustat Services (1986) *Industrial Compustat*, Compustat II/130-Item Annual Magnetic Tape (for 1966-1985); 'The Fortune 500', *Fortune*, April 27, 1987 (for 1986).

Net profits of Fortune-500 corporations are from U.S. Bureau of the Census, *Statistical Abstract of the United States*, various years. (These data are based on the annual 'Fortune 500' listing in *Fortune* magazine.)

^a The Armament Nine corporations are Boeing, General Dynamics, General Electric, Grumman, Lockheed, McDonnell Douglas, Raytheon, Rockwell International and United Technologies.

by the values of a few macroeconomic indicators that are reproduced in Table 1. During the 1950s and early 1960s, the United States remained in essence a predominantly closed economy, as illustrated by the relatively low values for exports and imports in comparison to the U.S. gross national product. Exports as a share of GNP, for example, rose only slowly from an annual average of 5.3 per cent in the period 1951-5 to 6 per cent in 1961-5. Since the share of imports remained meanwhile at about 4.5 per cent, the trade surplus of the United States grew until the early 1960s.

Since the late 1960s, much more integration in the world economy has occurred with imports starting to grow faster than exports and with an attendant shrinkage of the U.S. trade surplus as a proportion of GNP -- an annual average of 1.4 per cent in 1961-5 moving to one of 0.7 per cent in 1976-80. Continuation of this process of change in the 1980s saw (i) imports still rising while the ratio of exports to GNP fell; (ii) emergence of a trade deficit that was 2.4 per cent of the GNP by 1986; and (iii) a dramatic and persistent decline in the U.S. share of world exports from an annual average of 19.4 per cent in 1951-5 to one of 12.2 per cent in 1981-5, and then to a new low level of 10.9 per cent in 1986.

Much of the relative decline of the United States can be attributed to developments in other developed countries such as Japan, West Germany and France. The combined share of world exports enjoyed by these three countries, for example, rose from an annual average of 13.2 per cent in 1951-5 to one of 25.6 per cent in 1971-5, and then stabilized thereafter at about 25 per cent. (See the final column of Table 1.) Furthermore, the oil

Table 1

THE 'DECLINE OF THE UNITED STATES'
(annual averages)

Period	Share of GNP (%)			Share of World Export (%)	
	U.S. Export	U.S. Import	U.S. Trade Surplus	U.S.	West Germany Japan, France
1951-55	5.3	4.5	0.8	19.4	13.2
1956-60	5.7	4.7	1.0	18.2	16.8
1961-65	6.0	4.6	1.4	16.8	20.3
1966-70	6.3	5.5	0.8	15.8	23.3
1971-75	8.4	7.4	1.0	13.2	25.6
1976-80	10.8	10.2	0.7	11.9	24.7
1981-85	10.7	11.1	-0.4	12.2	24.5
1986	8.9	11.3	-2.4	10.9	28.7

SOURCE: The shares of U.S. export, import and trade surplus in the GNP are calculated from *Citibase*, Citibank Economic Database [Machine-Readable Magnetic Data File, 1986] (New York: Citibank, N.A. 1978), p. X-4-1, Table 4.1, series GEX and GIM, and p. X-1-1 Table 1.1, series GNP.

The shares of the U.S. and of West Germany, Japan and France in world exports are calculated from International Monetary Fund, *International Financial Statistics Yearbook*, 1979, p. 62; 1983, p. 72; 1986, p. 114-115 and *International Financial Statistics*, Vol. XLI, No. 6, June, 1988, p. 74.

crises of the 1970s permitted the oil-exporting countries to substantially increase their share of world exports.⁹ Finally, some third-world countries, such as Korea, made significant inroads in markets for both consumer and investment goods.

These macroeconomic indicators must be interpreted with caution. The evident picture of a declining U.S. position, characterized by losses in export markets and by growing vulnerability to foreign imports, is clearly contingent on the assumption of a macroeconomic perspective with the individual country as its basic analytical component. This approach ignores the *multinational* character of large modern corporations. Inspection of the corporations in the Fortune-500 list suggests that most of them have foreign subsidiaries while the larger companies operate branch activities in nearly every non-communist country. Production by the foreign subsidiaries is not treated as a peculiar form of exports and is excluded from GNP estimates for the United States (except for foreign earnings remitted to U.S. parent firms). Nevertheless, the foreign activity is of great significance to the parent companies based in the United States, as revealed by the entries in Table 2. In the period of 1951-5, U.S.-based corporations received about 11 per cent of their net profits from foreign operations but the corresponding value for 1981-5 almost tripled to nearly 30 per cent.

Magdoff (1967) pointed to the significance of foreign earnings in his examination of U.S. imperialism. During the 1960s, when the United States conducted an aggressive foreign policy, actual levels of exports and foreign investment by U.S. corporations were insufficiently large to be considered

Table 2

NET PROFITS OF U.S.-BASED CORPORATIONS
(annual averages)

Period	Net Profits (\$ million)		Foreign Profits as a % of Total Profits
	Total ^a	From Foreign Operations ^b	
1951-55	21,764	2,443	11.3
1956-60	26,102	3,423	13.2
1961-65	34,597	4,810	14.1
1966-70	45,980	6,837	15.1
1971-75	69,218	14,964	21.3
1976-80	135,145	30,759	22.4
1981-85	124,101	36,613	29.6

SOURCE: Calculated from *Citibase*, Citibank Economic Database [Machine-Readable Magnetic Data File, 1986] (New York: Citibank, N.A. 1978), p. X-6-9, Table 6.21B, series GAA, GABRWN and GABRWP.

^a Excluding payments of dividends to foreigners and share of foreigners in reinvested earnings.

^b Consists of receipts by all U.S. residents of dividends from their incorporated foreign affiliates and earning of unincorporated foreign affiliates, net of corresponding outflows.

the cause of this policy. Commentaries on the prevalent situation contrasted it with the case, argued earlier by Hobson, for the British Empire. They noted the low levels of exports and foreign investment, insisted that the United States was operating as an autarchy, and concluded the country could not be termed imperialistic at the same time. To the contrary, Magdoff argued this conclusion stemmed from a common misconception of the rising 'new imperialism'. His arguments had two strands -- one at the macroeconomic level and the other at a more disaggregated level.

At the first level, Magdoff noted the United States was becoming dependent on imported raw materials in general and on imports of strategic raw materials in particular. Also, while levels of exports and foreign investment were indeed small by the standards that had prevailed for the British Empire in the 19th century, he insisted that the foreign operations of U.S.-based multinational corporations were not small relative to the aggregate scale of domestic activity. Small flows of foreign investment had accumulated into a significant level of outstanding foreign assets. Furthermore, foreign sales were growing at a much faster rate than both domestic sales and exports, while foreign sales generated an increasing share of corporate profits. At the second level, the dependency on foreign markets was more striking. In 1957, only 163 corporations accounted for about 80 percent of U.S. direct investment abroad. These corporations were also the largest users of imported raw materials and the largest exporters so the vitality of their business was crucially affected by U.S. foreign policy. Magdoff suggests that the imperative of the U.S. governments in

formulating their foreign policy was to maintain and expand 'free markets' for the benefit of this particular collection of corporations.

The entries of Table 2 illustrate the evolution of dependency over the 35 year period from 1951 to 1985. Profits from foreign operations grew substantially after the early 1960s but Magdoff's perspective of a U.S. hegemony has limited validity for the last two decades, principally because a similar globalization was experienced by non-U.S. companies.¹⁰ During this recent period, foreign-based firms (primarily operating from West Germany, Japan, the Netherlands, France, the United Kingdom and Switzerland) continuously challenged the primacy of their U.S. counterparts both in their own base regions and in the world at large. One development of special significance was the penetration by the foreign-based corporations and investors into U.S. domestic markets. In 1970, U.S. direct investment abroad amounted to \$78 billion, an amount six times larger than the \$13 billion of direct foreign investment in the United States. By 1986, U.S. direct investment abroad reached \$259 billion, but this figure was not much larger than the direct holding of foreigners in the United States which reached \$209 billion in the same year.¹¹ Clearly, we have experienced a dramatic change in the economic environment with the changing fortunes of the United States as its focus.

4. Military Bias and Concentration Cycles

While they were losing ground in civilian markets both at home and abroad, U.S.-based corporations found the world economy less hospitable and

their activities were adversely affected by effective competition. The response of many large corporations, after the late 1970s, was to redirect their priorities toward projects involving armaments, space, atomic energy, medical equipment and finance. They sought out areas which were more dependent on the expenditures of governments and focused less of their initiative on the demands of civilian consumers. Alongside this redirection of activity, the corporations embarked on structural adjustments through mergers and acquisitions, which markedly increased the degree of concentration in the U.S. economy. This process of transformation, involving both a bias toward military spending and concentration, can be illustrated by historical developments in the automobile, aerospace, and electronics industries.

4.1 Automobiles

The U.S. automobile industry contained about 200 producers in the early part of the present century. By the 1970s, the multiplicity of producers had shrunk to leave an oligopoly of General Motors, Ford, Chrysler and American Motors in command of the industry. These dominant producers were indisputably the world leaders until the onset of the oil crisis in 1973 initiated a pronounced shock to their market position. Wide profit margins in earlier years had discouraged the search for new cost-reduction measures by the corporations and, as described in the memoirs of Iaccoca (1984), they were caught relatively unprepared by the tripling of oil prices in 1973 and by the speed with which the foreign automobile producers responded to the changed situation for the industry. The automobiles of producers in Japan

and Europe were smaller and more fuel-efficient so their assimilation reduced the market share of U.S. companies and opened the large U.S. domestic market to penetration by foreign interests.

Eventually the U.S. automobile producers sought assistance from their government to block the penetration of the U.S. market by rival foreign producers. Imports from Japan came to be guided by 'voluntary' quotas -- an arrangement of significant benefit to producers in both countries, primarily because of their subsequent pricing decisions. Japanese manufacturers enjoyed a considerable cost advantage for a number of persistent reasons. According to *Business Week* (November 7, 1983), these producers 'priced their cars at least as high as comparable U.S. built models ... [so if] there were no restraints, there would be sharp competition between [sic] the Japanese companies, and they would be forced to reduce profit margins.' The U.S. producers used this modest form of protection to raise their own prices at rates faster than those for the growth of their own costs and for inflation in general.¹² When the U.S. producers attempted to develop their own lines of smaller automobiles, they were unable to overcome the cost advantage of about \$1500-2000 per vehicle that was enjoyed by their Japanese rivals so they chose a novel course of action. Instead of focusing on direct competition, the U.S. producers augmented the tacit understanding on voluntary quotas with new structural alignments in which they exchanged shares with their foreign rivals and set up a series of joint ventures.¹³

These structural alignments slowed the decline in the status of the U.S. automobile corporations. However, they could not halt or reverse the

long-term trend away from the primacy of U.S. interests. Japanese manufacturers' share of the U.S. automobile market continued to advance--the level of 6 per cent in 1971 grew to about 25 per cent in 1987. Given the persistence of this adverse development, the three U.S. principals started to diversify their activities and, in particular, turned to production of armaments. Chrysler, active in military sales since the early 1970s, had become the 10th largest contractor to the Pentagon by 1981 but then the pressure of financial entanglements and a cash shortage in 1982 caused the corporation to sell its very successful tank-producing operation to General Dynamics. This action was a severe setback to Chrysler's plans and, subsequent to the corporation's achievement of renewed solvency, it sought new acquisitions in the defence area. Purchase of Gulfstream Aerospace in 1986 permitted Chrysler to regain membership in the Pentagon top-100 list of contractors.

The second-largest U.S. automobile producer, Ford, chose to develop its own line of high-technology items through the Philco subsidiary, which gradually moved out of consumer markets and was renamed as Ford Aerospace in 1976. By this time, the corporation received \$1.5 billion from annual sales of products to defence and space customers. Ford purchased another defence contractor, BDM International, in 1988 after being outbid for Hughes Aircraft by General Motors three years earlier. The cost to General Motors of Hughes Aircraft was \$5.2 billion and with its 1984 acquisition, for \$2.5 billion, of Electronic Data Systems, General Motors became the 5th largest Pentagon contractor. All three of the principal U.S. automobile corporations experienced modest increases for the share of military revenues in their

total sales after the mid-1970s. These shares remains quite small (for example, about 2 per cent for both Chrysler and Ford, 5 per cent for General Motors), but their contribution to profits was disproportionately larger.

4.2 Aerospace

The civilian aircraft industry in the United States has witnessed a series of concentration cycles during which the structure of the industry was modified.¹⁴ During the 1970s, there was a conflict over wide-body airframes as the DC-10 of McDonnell-Douglas and the L-1011 of Lockheed challenged the commercial success of Boeing's 747 Jumbo-Jet. Following the failure of this challenge, the Lockheed corporation was severely weakened and left the production of commercial jet aircraft. The other loser, McDonnell-Douglas, was initially created in 1967 when McDonnell absorbed Douglas as a means of diversifying its activities into this industry but the Douglas Division persistently failed to make an adequate level of earnings. By 1983, the accumulated losses of the division was about \$500 million. Although 381 orders were received for the DC-10, the division continued to make additional losses through 1987.¹⁵

A second concentration cycle was initiated when the hegemony of U.S. corporations in the production of commercial jet aircraft was challenged by the creation of an Airbus Consortium when aerospace companies based in France, West Germany, the United Kingdom and Spain decided to collaborate. The Airbus entered the market for wide-body aircraft and soon gained a substantial foothold with about 20 per cent of the worldwide sales by 1987.

This intrusion left the industry with chronic overcapacity. According to one estimate, the annual joint production by Boeing, McDonnell-Douglas and the Airbus Consortium in 1987 was 700 aircraft, about 200 more than could be readily absorbed by the world market for such aircraft!¹⁶ Further concentration seems likely since negotiations persist as an essential preliminary for any partial merger to link the European intruder with either McDonnell-Douglas or Lockheed.¹⁷ Structural instability is also encouraged by the sheer magnitude of individual order contracts, now involving billions of U.S. dollars. For example, in May 1988, the International Lease Finance Corporation signed a deal to buy 100 aircraft from Boeing (worth about \$3.7 billion) and 30 aircraft from the Airbus Consortium (about \$1.3 billion), while ignoring McDonnell-Douglas completely.¹⁸

The first casualty of concentration was Lockheed when this corporation retreated into the security blanket of military production. Looking forward, the next casualty is likely to be McDonnell-Douglas, which was adversely weakened in the war of attrition for sales of civilian aircraft although it remains solvent. Chairman and chief executive officer of the corporation, John McDonnell, has acknowledged the need to keep close to defence contracting because of poor performance in its non-military activities. Boeing remains the undisputed industry leader but the aggressive price policies of the European consortium have caused Boeing to reduce its own prices and thus to experience a slump in earnings. On the political front, Boeing points to the subsidies provided by European governments to the Airbus Consortium (amounting to \$14 billion since 1970) as 'unfair'; while ignoring the cross-subsidization of earnings from sales to the U.S. military

establishment. In 1984, the military sales of Boeing accounted for 40 per cent of its revenue and 80 per cent of its net income so the supremacy of the corporation in production of civilian aircraft stems, in part, from an indirect military subsidy.¹⁹

4.3 Electronics

Our final illustration focuses on the recent experiences of General Electric as it shifted from the area of consumer electronics toward a deeper involvement in government-related activity, particularly toward the production of armaments and medical equipment. In 1985, a merger brought General Electric and RCA together for the sum of \$6.3 billion -- reuniting two corporations that had been separated as an anti-trust measure in the 1930s.²⁰ The two rivals had competed for sales of consumer electronic products and for military sales. This acquisition of RCA was conceived by General Electric as part of a wider strategy to strengthen the company as it became one of the largest U.S. producers in the armament, aerospace and atomic industries. During the period 1981-7, while Jack Welch was its chairman, General Electric sold some 232 business and product lines while buying 338 others.²¹ Such hectic restructuring, at an average rate of one transaction a week, stemmed from Welch's overt dislike for markets dominated by Japan's electronic firms.²² This process continued through 1987 when General Electric made a 'swap' arrangement with Thomson SA of France, by which GE gave up its consumer-electronic division (worth about \$3.2 billion) for a medical-equipment unit (worth \$770 million) and \$800 million in cash from the French company -- an apparent loss of \$1.6 billion!

The overall purpose of these actions was to achieve a consolidation of General Electric's stake in government-related markets and finance. Since the early 1980s, in a parallel adjustment, General Electric Financial Services ceased to be primarily involved with the financing of appliance sales and became a diversified financial giant with assets of \$50 billion and net income in excess of \$1 billion (but with only a small portion of its operations now being consumer-oriented).²³

5. Profitability and the Military Dimension

The relative shift of major U.S. corporations toward military business, which is effectively sheltered from the pressures of foreign competition, and away from civilian business is easy to connect with gains in profitability. When some military contractors sought to diversify in the opposite direction, they generally experienced severe difficulties. An appropriate illustration is provided by the attempt of Grumman to raise the extent of its civilian operations so they were 50 per cent of the overall sales. Grumman entered into the production of shipping containers, waste-treatment plants, buses, automobile parts and computer services but these initiatives usually resulted in losses and the eventual reselling of their production facilities. Currently, the non-defence operations of Grumman constitute about 10 per cent of sales and the 'the 50 per cent program' is essentially discarded.²⁴ The state of the company is similar to that prevailing in the early 1970s.

Other illustrations of the failure by a defence contractor to successfully diversify into civilian production are provided by the recent conduct of Rockwell International and General Dynamics. In 1985, the former acquired Allen Bradley, a producer of automated factories, for \$1.65 billion. This new activity was a drain on earnings and the company quickly resumed the search for further acquisitions in the defence industry. General Dynamics had its own 50 per cent programme for civilian sales in the 1970s but the corporation abandoned the attempt to diversify in this direction during the early 1980s. Most of its non-defence operations were sold so that military production now accounts for over 90 per cent of the company's sales.²⁵

The share of military sales in total sales frequently understates the significance of such government-related production for U.S. corporations. We have already noted how the yield of military production provided 80 per cent of Boeing's profits in 1984 but only 40 per cent of its sales. Scattered evidence suggests that similar disparities are a common experience for other Defense contractors. Thus it is tempting to conclude the growing 'military bias', that we have described here at some length, reflects acute awareness of the favourable profit differential to be found in military activities. When the House Appropriations Committee considered the desirability of halting the F-18 programme, there emerged the fact that sales of military aircraft generated half the revenue of McDonnell-Douglas and all of the company's profits. An audit of some 8,000 contracts between the Pentagon and General Electric (in effect during the period between 1978 and 1983) revealed a rate of profit of about 25 per cent -- a level that was 10 per

cent higher than the referential or 'anticipated' rate; substantially higher than the corresponding average return for GE's commercial business.²⁶

A major factor in the explanation of differentials is the practice of charging the Pentagon for 'cost-overruns', which is rarely matched in civilian operations.²⁷ A secondary advantage of the commitment to military production is one of earnings stability. Often the yield from Defense contracts can make the difference between an aggregate profit and loss for a corporation facing a difficult economic situation. In the third quarter of 1986, for example, General Motors struggled with an inventory glut and operating losses of \$339 million. Workers were fired and plants closed but the overall profit situation of the corporation was saved by the military sales of Hughes Aircraft and Electronic Data Systems as well as by the financial activities of GM Acceptance.²⁸

Although governmental audits (such as that by the U.S. Comptroller General in 1971) frequently confirm the profit differential for government-related business, assessments of its extent are confused by the conglomerate character of most armament producers. Civilian and military activities are bound together by both technological and financial sources of interdependency, which cannot be readily separated. Just as the revenue from GM Acceptance cross-subsidizes the car sales of the parent GM corporation, so too the political influence of General Motors as the largest employer in the United States can affect the ability of another subsidiary, Hughes Aircraft, to obtain a contract for satellite construction.

6. Final Remarks

The precise impact of military business on the overall profit picture for major U.S. corporations cannot be determined but some qualitative conclusions are clearly supported by the evidence that exists in the public domain. A major feature of the changing economic environment in the last two decades is the increasing level of dependency of many large corporations on the support from their government and, especially, from its spending on defence. This 'military bias' of activity has recently been effectively augmented by a concomitant form of 'financial bias' with the emergence of large budgetary deficits after the late 1970s. The Defense Budget is largely financed through borrowing so the government bond market has become a major 'offset to savings' in its own right -- generating \$200 billion of new investment opportunities in 1988 alone. As is well known, the level of the U.S. federal debt grew to \$1 trillion by 1981 after more than two centuries of government borrowing but then doubled within the next five years! Inevitably, this dramatic development has intensified the transformation of the 'big economy' in the United States, with financial interests replacing productive ones.²⁹

Whether the presence of these military and financial biases, associated with what Gold (1977) and others term 'Military Keynesianism', contributed to an overall expansion or contraction of the U.S. economy is a complex issue that needs to be addressed. We are sure that the *causes* of the biases have an international character and cannot, themselves, be solely attributed to the pressure from stagnationary tendencies arising in the domestic U.S.

economy. Thus, to be valid for the present situation, the familiar commentaries from both neo-Marxist and institutional perspectives [which are briefly identified in Bichler, Nitzan and Rowley (1989)] must be substantially revised to acknowledge the new international realities. On the other hand, much attention must be given to developments in the big economy of the United States for they are the pulse of the world economy. The decline of U.S.-based corporations in domestic and foreign civilian markets was both a stimulus and a partial consequence to their involvement with the better investment opportunities to be found in armament, space and financial areas of activity. Thus the emergence of the armament core and the 'decline' of the United States should be perceived as joint features of an interactive, double-edged process of changing fortunes. A final aspect of this process involves the choice of arms exports to overcome a weakening in the effectiveness of the U.S. government to assist large U.S.-based multinational corporations by its own military spending.³⁰

Notes

1. The 'big economy' concept is explained and illustrated in Rowley, Bichler and Nitzan (1988) by reference to aggregate concentration in the Israeli economy.
2. Kalecki's distinction is repeated in Bichler, Nitzan and Rowley (1989) as a potential backdrop for a competitive struggle between rival business factions in the economic and political elite of the United States.
3. USX, E.I. Du Pont de Nemours, Dow Chemicals, Union Carbide and Alcoa, for example, are major suppliers to prime Defense contractors. However, these corporations do not often appear on the annual list of 100 Defense contractors since their products are not directly sold to the Pentagon. Note too the largest prime contractors are also the largest subcontractors.
4. Other firms (such as Litton, LTV, Northrop, Tennaco, and Textron) entered the top-10 list only occasionally during the two decades from 1966 to 1986. The parent company for Hughes Aircraft prior to the GM purchase was Hughes Medical Institute. Since the latter was a private company which did not release financial reports, it cannot be included in our indices.
5. *Fortune* considers a corporation to be 'industrial' if at least half of its sales revenue comes from manufacturing or mining activities.
6. The decline of the ratio in 1986 is significant in view of the persistent earlier trend. We discuss the decline elsewhere.
7. While membership of the armament nine is fixed, the composition of the Fortune-500 list varies each year. However, changes occur primarily at the bottom of this list so the impact of the changing population does not have a marked effect on the ratio. Clearly mergers and acquisitions affect both denominator and numerator of our figures. The ratio was calculated from information on net income of the corporations as reported to their shareholders. This information assesses income tax obligations according to statutory rates. In practice, actual taxes are often much lower (and thus actual net income much higher) than these reports suggest because of deductions, exemptions and credits that are included in the U.S. tax code. Such additional provisions are especially generous to the major Defense contractors, who can defer tax payments until contracts are completed and can avoid payment altogether through the 'net operating losses carryforward' scheme. Wildstorm (1985, p. 96) illustrates this flexibility by reference to General Dynamics during the period from 1975 to 1984. This company recorded operating profits to its shareholders in 9 out of these 10 years but paid no federal income tax because it could carry forward losses! Given this backdrop, it is possible that our figures understate the relative growth of the armament core because of differential tax advantages.
8. Intermediate figures for this second ratio are 1.1 per cent in 1975, 2.0 per cent in 1980 and 3.6 per cent in 1982. These IRS data are derived from tables prepared by the U.S. Bureau of Economic Analysis--*The National*

Income and Product Accounts of the United States. 1929-82. Statistical Tables (1986, pp. 402-4, Table 8.13, lines 1 and 19) and the U.S. Bureau of the Census--*Statistical Abstract of the United States: 1988* (1987, p. 512, Table 872).

9. The jump in the relative share of Japan, West Germany and France in world exports for 1986 reflects the impact of falling oil prices and oil revenues.

10. Note that the ratio between foreign and domestic earnings is also affected by changes in the exchange rates used to convert foreign profit figures into U.S. equivalents.

11. See U.S. Bureau of the Census, *Statistical Abstract of the United States: 1988* (108th edition), p. 758, Table 1330 and p. 759, Table 1332.

12. The quota agreement was so 'successful' that Japanese producers continued to restrain automobile exports to the United States after the agreement ended in 1985. See 'Why Carmakers Will Mourn if Export Quota Die' in *Business Week* (February 18, 1985, p. 46) and 'U.S. Car Quotas: How Less is More for Japan' in *Business Week* (November 7, 1983, pp. 61-2). The adverse consequences for consumers relative to the advantages to producers, domestic and foreign, were proclaimed as 'A Misstep by the Auto Makers' by *Business Week* (January 19, 1985).

13. Joint ventures linked General Motors with Toyota, Ford with Mazda, and Chrysler with Mitsubishi.

14. As commonly found in economics, the term 'cycle' is used without implying periodicity.

15. See 'A Dogfight could Nick the F-18' in *Business Week* (February 14, 1983, pp. 64 ff.) and 'Tower to McDonnell: Turbulence Ahead' by James E. Ellis in *Business Week* (May 23, 1988, pp. 117-8).

16. See 'Boeing Battles to Stay on Top' by Kenneth Labich in *Fortune* (September 28, 1987, pp. 64 ff.).

17. See 'Is Airbus Taking McDonnell Douglas for a Ride?' by John Rossand and Chuck Hawkins in *Business Week* (March 21, 1988, p. 51).

18. See 'A Bundle of Boeings' in *Time* (May 30, 1988).

19. See 'The Military Buildup at Boeing' in *Business Week* (March 11, 1985).

20. RCA began life in 1919 as a majority-owned subsidiary of General Electric with the direct encouragement of the Assistant Secretary of the Navy, Franklin Roosevelt.

21. See 'General Electric is Stalking Big Game Again' in *Business Week* (March 16, 1987).

22. See 'Jumping Jack Strikes Again' in *Time* (August 3, 1987). Welch's own account for how the GE-RCA merger was conceived supports this interpretation. The decision to spend \$6.3 billion on RCA came after a short meeting between the two companies' chairmen in which they talked about defence business and the tough Japanese competition in consumer electronics. Welch discovered that he and his counterpart thought almost alike and noted that 'when you meet people with the same philosophical bent and you both see global markets and you can both agree, you move.' See 'A Reunion of Technological Titans' in *Time* (December 23, 1985, p. 50).

23. See 'Why GE's Financial Powerhouse isn't Electrifying Wall Street' in *Business Week* (October 31, 1988, pp. 142-3).

24. See 'Grumman: Beating a Strategic Retreat to the Defense Business' in *Business Week* (November 14, 1983, pp. 210-1).

25. For the background on the activities of these two companies, see 'Rockwell Can't Replace the B-18 ... Or Can It?' in *Business Week* (February 29, 1988, pp. 46-7) and 'General Dynamics Under Fire' in *Business Week* (March 25, 1985, p. 72).

26. See 'Cracking Down on Contractors' in *Time* (April 8, 1985).

27. When Grumman had a fixed-price contract for the F-14 aircraft, then its primary product, the corporation lost \$255 million on the aircraft in 1974 and its subsequent recovery can be attributed to the sale of 80 aircraft to Iran. However fixed-price contracts are exceptional and more flexibility generally prevails. Consider, for example, the bid by General Dynamics to produce the SSN-688 nuclear submarine at a unit price of \$61 million. By 1976, the price has been raised to \$107 million due to 'anticipated' future cost overruns! Note this adjustment occurred before the cost overruns were actually incurred. See 'GD Under Fire' in *Time* (April 8, 1985) for more information on this sweetener. Other examples of price inflation include the Air Defense Gun of the Ford Aerospace Division (the unit cost of which grew from \$4.2 million to \$7.2 million), the Advanced Combat System of IBM (rising from \$2.4 billion to \$3.3 billion), and the Advanced Medium Range Air-to-Air Missile of Hughes Aircraft (rising from \$125,000 to \$400,000 per unit). See 'Forget the \$400 Hammers: Here's Where the Big Money is Lost' by Jonathan Tasini *et al.* in *Business Week* (July 8, 1985, pp. 48-50).

28. See 'GM's Big Operating Loss' in *Business Week* (November 3, 1986, p. 36).

29. An interesting account of the financial dimension is provided by 'Will Money Managers Wreck the Economy?' in *Business Week* (August 13, 1984, pp. 86 ff.). The holding distribution for the U.S. Federal Debt is not publicly available but a reasonable assumption is that much is owed to large institutional investors of the big economy (both domestic and foreign).

30. The era of arms exports is considered in Rowley, Bichler and Nitzan (1989).

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