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The Political Economy of Armaments

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Department of Economics

Working Paper 7/89

THE POLITICAL ECONOMY OF ARMAMENTS

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ABSTRACT

The interaction of oil exports from the Middle East in the 1970s with arms imports to this region has drawn attention from several researchers. The existing literature, however, is seriously flawed for it ignores the large corporate players whose actions synchronize the two flows of income and, thus, fails to identify the significance of these corporations for the political economy of armaments. This present paper is the first of a series of four essays that attempt to relate the dynamics of market structures to the escalation of military sales. Here we briefly assess some neo-Marxist and institutional writings that offer insight into the subject of relevant issues. We find them deficient and perhaps outdated in some respects.

RESUME

L'interaction entre les exportations de pétrole, des années 1970 et les importations d'armes du Moyen-Orient n'ont pas manqué d'attirer l'attention de plusieurs chercheurs. Les documents existants affichent toutefois de sérieuses lacunes dans la mesure où ils ignorent les grands intervenants du secteur privé dont les actes synchronisent les deux sources de revenus et, par conséquent, omettent d'identifier l'importance de ces entreprises dans l'économie politique de l'armement. Cet article est le premier d'une série de quatre dont le but est d'établir un lien entre la dynamique des structures du marché et l'escalade des ventes d'armements. Un certain nombre d'écrits néo-marxistes et institutionnels sont évalués, lesquels permettent de jeter une lumière intéressante sur certaines questions pertinentes. A d'autres égards, ces écrits sont quelque peu insuffisants, voire dépassés.

1. Introduction

Since the beginning of the present century, the economic significance of the Middle East has primarily stemmed from the oil exports of this region. Such significance has been shared with a newer flow of arms imports in the last two decades. As oil crises became tied to armed conflicts in the region, there developed a growing and increasingly synchronized movement of *petrodollars* (revenues from petroleum exports that flowed into the Middle East) and *armadollars* (revenues from arms imports that flowed out of the region). Some interest in the relationships linking these two flows has been expressed in both governmental and academic literature. However, this interest has failed, in general, to identify these relationships as a salient new feature in the political economy of armaments. Moreover, we feel that such literature has often been mis-directed by ignoring one group of the principal actors (namely, the large oil and armament corporations) in the economic drama that has been unfolding here. In this paper, we briefly summarize a few streams of academic research that attempt to deal with the macroeconomic impact of military spending and with some structural issues. This present summary prepares the way for our discussion, in three companion papers, of new structural concepts such as the 'armament core' and the 'armadollar-petrodollar coalition' in relation to historical developments in the Middle East and the United States.

Most academic studies point to the issue of balance between the two flows of petrodollars and armadollars and seek to assess the economic feasibility of 'recycling'. For example, Chan (1980, p. 236) is typical when

he notes that 'the sharp increase in oil price during the 1973-74 period presented a very difficult balance of payment problem for many nations, including some oil exporting countries that were suddenly faced with major investment decisions for their unexpectedly large surpluses' and then examines oil and arms-related monetary flows for a heterogeneous group of 56 countries. Other researchers focus exclusively on the situation of Western arms-exporting countries. Snider (1984, p. 665), for instance, asks whether governments of the United States, Britain, France, West Germany and Italy are permitting arms exports to offset the cost of imported oil. Other studies in the recycling literature include those of Ray (1976), Willrich (1975), Pierre (1982), Kemp and Miller (1979), Pfaltzgraff (1978) and Kolodziej (1980). Their conclusions reveal views that military imports, while providing an outlet for oil revenues, also serve to bolster the 'self-image' of oil-rich countries and enhance the degree of internal stability that they experience. Also some authors conclude military sales will insulate arms-exporting countries from the negative effects of further external changes in the international financial and trading systems (Chan, pp. 237-8, and Snider, p. 668).

The macroeconomic format of these academic studies diverts attention away from the nature of underlying structures. Thus the studies effectively ignore the handful of large oil corporations which dominate the world oil market and hence obtain most of the world's *petroprofits*. The studies also overlook the cluster of large armament concerns which produce most Western arms exports and receive the ensuing *armaprofits*. These omissions are unfortunate in our opinion. The six largest oil companies -- Exxon, Royal

Dutch/Shell, Chevron, Texaco, Mobil, and British Petroleum -- recorded some \$220 billion of net profits over the period extending from 1966 to 1987. (See the entries of Table 1 for more information on the distribution of these profits.) Such income is positively correlated to the level of oil prices and negatively connected to the economic performance of Western industrial countries. The nine largest armament corporations -- Boeing, General Dynamics, General Electric, Grumman, Lockheed, McDonnell Douglas, Raytheon, Rockwell International, and United Technologies -- were less conspicuously successful for their collective net profits reached only \$55 billion in the same period. (See Table 2 for more complete information.) These corporations mainly produce for the U.S. army, although they also engage in civilian production, but their profits are quite sensitive to fluctuations in their sales of arms to the Middle East.

The activities of these large corporations suggest that economic theorists should introduce structural elements into their research in order to capture a realistic image for the political economy of military expenditure and oil revenues. In our brief survey, we begin with neo-Marxist views and some earlier institutionalist theories which have addressed the political economy of arms, especially by their attempts to connect military spending in the United States with the dynamics of the U.S. market structure. We argue that these theories may provide a few valuable insights but they are also deficient, perhaps outdated, in certain important respects. An alternative, hopefully better, perspective is sought in our companion papers.

2. Structural Awareness: Beginnings

Given the size of the major oil and armament companies and their small number, there is a pressing need to move beyond the familiar neoclassical framework of economists with its basic assumptions of free entry, price takers, omniscient decision-makers and powerlessness. Similarly, we cannot avoid either a somewhat belated recognition of the fundamental asymmetries that occur in the process of economic development or other significant features of economic systems that must preclude flexible adjustment of economic activities. These real constraints further weaken the relevance of the common neoclassical framework for any perceptive treatment of the arms and oil industries of this century. Thus we should not be surprised to find that many assessments of the structural relationships existing within these industries are not rooted in the neoclassical framework but rather are firmly based on some neo-Marxist and institutional theories, which emerged in the 1930s and were subsequently revived in the 1960s when involvement in the Vietnam conflict affected the U.S. economy.

An important precursor for such theories was Veblen (1904, 1923). He was perhaps the first modern economist to place the dynamics of market structure (and particularly ownership) at the core of economic analysis and he identified the central role of 'institutional waste' in the evolution of capitalist economies. Unfortunately, Veblen could not provide statistical data, his theoretical initiatives were rarely developed in a systematic fashion, and the sarcastic style of his commentaries served to isolate his impact from the neoclassical paradigm and related ideologies that became

predominant in academic circles. A wider re-examination came only after the emergence of systematic market failure with the economic crises following the 1929 shock to the financial system of the United States.

By the second half of the 1930s, at least three major attacks on mainstream economic theories had occurred. All involved structural elements, more concern for realism, and an appreciation for historical and institutional context. Surprisingly, all remain significant for the political economy of military expenditures today -- although attenuated by a half century of political and economic change. Amongst these attacks were Keynes' demonstration that an inherent equilibration need not remove the unpleasant spectre of mass unemployment; the incomplete explorations of alternative market forms (imperfect or monopolistic competition) by Robinson and Chamberlin, which again drew attention to the strategic conduct of firms and pointed to the complexity of pricing decisions for their outputs; and the empirical studies of Means (1935) and Hall and Hitch (1939) that pointed to the phenomenon of administered prices. Research by Sraffa and Robinson on the consequences of heterogeneity of economic agents (for example, in connection with the meaning of capital aggregates) had begun but was not to be effectively recognized until much later. These attacks were encouraged by tentative governmental responses to crisis, which stimulated debate and reintroduced concern for both general recovery and individual hardship. To some extent, it is fair to say that theories of 'political economy' revived as the application of the existing 'economic' theories disappointed both their proponents and their critics.

Kalecki (1938, 1943a) was active in this revival of political economy when he stressed 'the degree of monopoly' (rather than perfect competition) as the core of a model for price behaviour, which differentiated between an industrial sector for raw materials, where prices fluctuate with demand, and another sector for finished products with cost-determined prices. When combined with horizontal curves for short-run, prime costs in the finished-goods sector, this perspective yields a simple macroeconomic proposition; namely, the ratio of unit price to unit prime cost is equal to the ratio of total product value (the sum of overhead cost, profit, the wage bill, and raw material cost) to total prime cost (only the wage bill and raw material cost). Kalecki felt that this ratio is determined by the 'degree of monopoly' which reflects the actual success of capitalists in raising the value of the ratio. This theoretical construction seems somewhat remote from military expenditures except for the identification of capitalists' power to command higher profits in some familiar industrial situations.

For our purposes, Kalecki's perspective is significant because he chose to invert popular methods of analysis. He began with the distribution of national income and then rationalized this distribution by reference to apparent changes in the underlying social and economic institutions -- that is, he focused on major aspects of market structure to explore the aggregate performance of a national economy. This approach led him to the business cycle, the feasibility of successful anti-cyclical policies, and the long-run impact of class structure on economic performance with governments being driven by social pressures and not class neutral. From this perspective, prominent groups (such as the government, rentier interests, and industrial

leaders) are treated as collective actors who display major social characteristics and respond to political influences.

During the 1940s, macroeconomic theorists were especially interested in governmental policies to achieve full employment. Kalecki (1943b, p. 144) argued that such policies can temporarily reverse an economic slump but any attempt to *maintain* full employment is likely to elicit an unfavourable response for it constitutes a direct assault on the 'class instinct' of industrial leaders. In his view,

A strong opposition of 'business leaders' is likely to be encountered ... In this situation a powerful bloc is likely to be formed between big business and the *rentier* interests ... The pressures of all these forces, and in particular of big business would most probably induce the Government to return to the orthodox policy of cutting down the budget deficit.

The use of such emotive language is far from the political sterility of conventional neoclassical theories and it serves to remind us of profound differences between alternative perspectives on policy effectiveness. Many macroeconomists presumed the feasibility of long-term stability with full employment while Kalecki perceived an inherent degree of instability that flows from class interests.

Kalecki noted two alternative *ideal types* for the structure of modern capitalism. One of these types reveals a regime of capitalist democracy in which the government is caught between big business and the masses so its actions generate a 'political business cycle'. The other ideal type is a fascist regime in which the opposition of business to government investment and full employment is removed by the simple device of a forceful military-spending policy in anticipation of future armed conflict. Recognition of

these ideal types is clearly fixed in the troubled climate that prevailed when Kalecki expressed his views. However, counter-cyclical expenditures and a commitment to military spending are easy to identify for most advanced capitalist economies even now. The interaction of business support and military spending is also discernible even if we might perhaps hesitate before describing some governments as fascist.

3. Structure and Surplus

Concern for the business cycle, so pressing in Kalecki's work, diminished after the end of World War II when the United States experienced two decades of almost uninterrupted prosperity. For many economists, the business cycle became 'obsolete' except as a minor aspect of growth and the NBER was compelled to recast the conventional definitions for cyclical phases. Baran and Sweezy (1966) responded to the new economic climate of affluence by seeking to amend Marxist theories of development. These theories, the two economists contended, were ill-equipped to deal with the new reality for they failed to acknowledge the qualitative shift from competitive capitalism to what Baran and Sweezy described as 'monopoly capitalism'. While keeping Kalecki's emphasis for the degree of monopoly, Baran and Sweezy stressed the *mechanism* by which price-cost relations were determined -- in contrast to Kalecki who deduced the degree of monopoly from an *ex post* examination of these relations.

The argument of Baran and Sweezy was reasonably simple. They began with the observation that the dominant economic unit in the United States is the

giant corporation, for which attention is focused on the productive process. Given the experience of price stability during the 1950s and 1960s, Baran and Sweezy argued that the diffusion of oligopolistic structures within mature capitalist economies will generate a significant feature of downward price-rigidity (perhaps even a modest upward bias). In contrast to the earlier phenomenon of competitive capitalism, when price changes were the pivot influences, the main dynamic element of mature capitalism to affect price-cost relations is the path of productivity. This element provides a means for the dominant form of industrial organization to have a major macroeconomic impact on both costs and profits:

The whole motivation of cost reduction is to increase profits [and not to reduce prices], and the monopolistic structure of markets enables the corporations to appropriate the lion's share of the fruits of increasing productivity directly in the form of higher profits. This means that under monopoly capitalism, declining costs imply continuously widening profit margins. And continuously widening profit margins in turn imply aggregate profits which rise not only absolutely but as a share of national product. (Baran and Sweezy, 1966, pp. 71-2)

This perspective led them to put forward a strong proposition (a law of monopoly capitalism) that in the recent economic conditions, 'if we provisionally equate aggregate profit with society's economic surplus, ... the surplus tends to rise both absolutely and relatively as the system develops.' (*ibid.*, p. 72)

The surplus, it was then argued, is mostly appropriated by the giant industrial corporations, who thus achieve relative financial independence from any major reliance on external financial institutions. Consequently, the national economy is relieved from the inherent industrial instability that previously came about from the speculative activities of the financial

interest groups that dominated 'big business' at the turn of the century [as described, for example, by Veblen (1904)]. Instead of assuring prosperity, however, the attendant 'tendency of the surplus to rise' now threatens the United States with chronic stagnation (Baran and Sweezy, 1966, p. 76). For the surplus to rise, the *surplus potential* must materialize and be absorbed by being recirculated into new economic activity. Insufficient means of absorption for any growing surplus potential is perceived within corporate boardrooms as a lack of investment opportunities so investment is curtailed, the societal surplus is reduced, unemployment increases and stagnation occurs.

What has this perspective to say on military spending? The answer lies in the view of military expenditures as *wasteful* (in the sense of channeling activities away from a productive process) yet providing an effective counteracting influence on the emergence and persistence of stagnation by permitting the realization of the surplus! Within Marxist literature such as Magdoff and Sweezy (1985, p. 145), growth that is propelled by investment contains the seeds for its own demise:

This is indeed part of the very nature of investment: it not only responds to demand, it also satisfies the demand ... Expanding industrial capacity always ends up by creating *overcapacity*: a strong incentive to invest generates a burst of investment which in turn undermines the incentive to invest.

(This view, of course, is a particular facet of the wider search for 'overproduction-underconsumption' contradictions that pervade much of the Marxist literature.) On the other hand, if surplus potential is wasted, it cannot create overcapacity. Among the various classes of wasteful

expenditures, the largest item and the one that is most effective in counteracting stagnation is held to be military spending.¹

4. Structural Waste and the Vietnam War

The book *Monopoly Capital* by Baran and Sweezy was published in 1966, the year in which military expenditures associated with the Vietnamese conflict first exerted their substantial influence on the progress of the U.S. economy. Such expenditures were less than 8 per cent of GNP in this year but they accounted for about a third of the annual increase in real GNP. [See Bureau of Economic Analysis (1986), *The National Income and Product Accounts of the United States, 1929-1982. Statistical Tables*, Table 1.1, p. 2.] The treatment of Baran and Sweezy was anticipated by Tsuru in an important Japanese article, entitled 'Has Capitalism Changed?', which appeared about a decade earlier.² These authors were concerned with the ability of mature capitalism to circulate a growing accumulation of saving. Indeed, Tsuru focused on the empirical aspects of 'offsets to savings' after defining these offsets to savings as the sum of all GNE components other than personal consumption. He drew attention to movements in two simple indicators; namely, the aggregate corporate rate of profit (as represented by the ratio of reported net profits to shareholders' equity) and the share of corporate savings (taken as the sum of undistributed profits, depreciation and depletion allowances) in GNP. Evidence was put forward to show that values for both indices were substantially and consistency higher in the years following the end of World War II relative to values experienced during the prosperous decade of the 1920s. In particular, Tsuru

noted the profit rate rose from about 10 per cent to 12 per cent while the share of corporate savings in GNP moved from 5 per cent to 7 per cent.

Given such change, Tsuru claimed these higher values would not be sustained (and thus stagnation or crisis avoided) unless the components of GNE that 'offset' savings could grow sufficiently to maintain their share of GNE. More analysis led him to conclude, however, that both private capital formation and net exports were already near their ceilings so expansion here would only increase accumulation to further exacerbate overproduction. Thus, since civilian government spending was also taken to be effectively constrained by some obstacles imposed by private interests, the only dynamic elements left to offset savings are various forms of institutionalized waste. This perspective, in contrast with more orthodox Marxist doctrines, provides a relatively new explanation for the growth of the modern state with strong governmental activity -- whereby the size of government rises with the emergence of the concentration or consolidation of the 'big economy' rather than diminishing. The modern government does not *serve* capital but, instead, is *integrated* within the working of mature capitalism when it generates institutionalized waste to offset savings.

In 1957, Tsuru (pp. 27-8, 1961 English translation) felt that military spending was the most effective institution of waste although he questioned the political feasibility of maintaining high peace-time levels of military spending beyond the amount of 10.2 per cent of GNE in that year:

[If] the U.S. economy *needs* that relative figure of ten percent as an offset to saving for the prosperity level of economic activities, it would mean that its defense expenditure will have to amount to 56 billion dollars ten years from now when its gross

domestic product is expected to rise to a level of 560 billion dollars. We may say (and we should like to say for the sake of world peace) that it is rather questionable if the United States can spend on defense as much as 16 billion dollars more than today in 1968.

To some extent, his doubt was justifiable but, by 1966, the United States was not at peace. Instead, it was quite deeply involved in the Vietnam War with its annual level of military spending amounting to \$62 billion.

The impact of the Vietnam conflict on the structure of the U.S. economy is probably found in the acceleration of concentration and the movement within the big economy toward military-related activities. Kalecki, after returning from Cambridge to Warsaw, identified the transformation:

It is military expenditures that now become the motive force of the business upswing ... The situation is thus quite different from that prior to this period. The increase in military expenditures constitutes one-half of the increase of the national product; as a result, there appears a tendency for redistribution of national income to the armament industries. (Kalecki, 1967, pp. 109-10)

He suggested that if military expenditures were to continue increasing, a major shift would occur in the structure of the ruling class in the United States. The economic and political position of 'new' business groups (which he linked with the 'predatory' arms interest, primarily located in the west of the country, and the Bank of America as well as with oil interests in Texas) might strengthen relative to the position of the eastern business groups that had earlier been part of a dominant elite. Competition for power would, he felt, inevitably lead to a political upheaval and international economic realignment:

[The] 'old' business groups should have serious misgivings about the continuation of the war in Vietnam: what is advantageous to their competitors undermines their own economic and political position in the ruling class ... [The] more enlightened part of

the U.S. ruling elite cannot help but see the rapid decline of American influence in Europe ... This aspect of the war in Vietnam is particularly important for the 'old' groups of big business because they are linked to Europe by their heavy investment there. (*ibid.*, pp. 111-2)

Withdrawal from Vietnam might then depend on the outcome of the competitive struggle between rival business factions in the economic and political elite.

Clearly there are substantial issues here that go much beyond our immediate concern with theoretical approaches to the political economy of military expenditures. In their simplest representations, these approaches (as revealed, for example, in the few references that we have cited from the neo-Marxist and institutionalist literature) yield five primary propositions. First, any underconsumption or overproduction tendencies, to the extent that these exist, are intensified by the specific rise in the 'degree of monopoly' (Kalecki) or, more generally, by the qualitative shift from a competitive industrial structure to an oligopolistic one (Baran and Sweezy). Second, the prime force with which governments counter a tendency to stagnation or crisis arises from institutionalized waste. Third, spending on armaments is the most prominent form of institutionalized waste. Fourth, military spending permits the U.S. government to maintain an orderly realization of surplus and to propel both overall economic activity and employment because armaments do not directly compete with private investment. Finally, persistent institutionalization of military expenditures promotes the formation of the so-called military-industrial complex and the rise of armament producers in the United States.

Such structural reasoning is problematical in two important respects which we should address. One of these arises from the common preoccupation with the antinomy of underconsumption or overproduction. This preoccupation has an unfortunate consequence whereby debate is often restricted to a mechanical format for testing the validity of the basic dialectic context. The other problem stems from the form of empirical studies, which involve hybrids of Marxist hypotheses and macroeconomic categories.

5. Mechanisms and Laws of Motion

Much of the neo-Marxist and institutional writings, as well as the adverse literature that this elicits, focus on the proof or refutation of mechanisms or 'laws of motion' for modern capitalism. The attendant debate is largely dogmatic, in part because Baran and Sweezy formulated the 'tendency of surplus to rise' as a *natural law* under monopoly capitalism--a formulation that is closer to the biological materialism of Engels and Lenin than to the dialectical-historical myth of Marx.³ Underconsumption and overproduction, when interpreted as a dialectic myth, can only be perceived as a complete context and thus cannot be examined as an empirical hypothesis. Difficulties in this area may be illustrated by reference to the recent study by Griffin *et al.* (1982), which seeks to 'systematically assess the neo-Marxist view that military expenditures are used by the state as a counter-cyclical fiscal policy either to forestall a serious recession or to facilitate economic recovery' (p. S113).

Griffin *et al.* formulate a 'policy-making' model and seek to clarify the factors that induce governments to alter their levels of military expenditures. Unfortunately, they use the ratio of military spending to GNP as their empirical variable of interest with the following explanation (pp. S118-9):

Baran and Sweezy (1966, p. 72) quite explicitly argue that the rising surplus must be viewed relative to the actual national output (i.e., GNP); the 'absorption' or 'realization' problem, then, is how monopoly capital can 'absorb' a significant portion of this output and, hence, 'realize' the profit embodied within it ... Military expenditures expressed as a percentage of GNP measure precisely the degree to which national output is absorbed by military spending.

This explanation shows that Griffin and his associates go beyond their initial aim and confuse two related issues. One issue stems from the original question as to whether governments use variations in the level of military spending as part of a countercyclical policy. In that context, using the ratio of military spending to GNP as a variable of interest is quite unhelpful when the authors ignore the complex way in which the actions of any government affect *both* parts of the ratio. (Only variables potentially affecting military spending are included in their empirical explorations. Thus interpretation of the findings of the study is adversely affected by the omission of additional direct influences on GNP.)

A second, perhaps more substantial, issue involves the question as to whether military spending *effectively* absorbs 'surplus potential'. Again their model does not seem very useful. To illustrate the attendant difficulty, consider the question as to whether a value of 30 per cent for the share of military spending in GNP will indicate a greater degree of surplus absorption than some alternative value, say 10 per cent. We suspect

a reasonable answer to the question is 'not necessarily' for the mere increase in military spending does not inevitably lead to greater absorption. Since the size of a surplus potential is awkward to determine, we are faced with substantial difficulty if we want to show new military spending will absorb surplus potential that would otherwise not be realized.⁴ The issue of measurement is highly relevant for tests. We simply cannot turn to standard measures of productive capacity because these indices generally ignore the potential for changes in the social organization of productive activities. Empirical evidence is then obscure for we have no *benchmarks* from which to fix the extent of either underconsumption or overproduction. Thus conventional myths can provide a context for assessing the role of military expenditures but without much hope of ever giving a framework for testing functional relationships in an explicit manner.

6. The Failure of Macro-Marxism

Kalecki, Tsuru, and Baran and Sweezy stressed the process of concentration and they discussed the giant corporation as a central element in understanding broad *macroeconomic* phenomena. However, in their empirical work, these authors largely confined themselves to manipulation of aggregate categories. Kalecki (1943a, pp. 51-2) did indeed argue that:

The changes in the degree of monopoly are not only of decisive importance for the distribution of national income between workers and capitalists, but in some instances for the distribution of income within the capitalist class as well. Thus, the rise in the degree of monopoly caused by the growth of big corporations results in a relative shift of income to industries dominated by such corporations from other industries. In this way, income is redistributed from small to big business.

This view was further elaborated in Kalecki (1967) but, throughout his empirical work, there is no attempt to differentiate between small businesses and bigger ones. Nor is there a separation of old industries from their newer counterparts in terms of their relative performance. Similarly, Tsuru dealt with aggregate corporate saving and profitability while Baran and Sweezy (1966, p. 369, for example), sought to estimate the 'volume of economic surplus produced by the American economy' as a whole.

The same heroic framework of macro-Marxism is also used by opponents of the various absorption schools of thought. For example, Smith (1977, 1980) criticizes theories of both underconsumption and some related conceptions of 'military Keynesianism', as he terms them. He concludes, after exploring aggregate data for 15 OECD countries, that military spending hinders economic growth in mature capitalist economies. Furthermore, he rejects any attempt to link military spending with direct economic benefits that might accrue to separate pressure groups acting in these economies. While from a 'narrow economic perspective' such spending constitutes a 'net cost' to capitalism, it is needed, according to Smith (1977, p. 74), to create 'a political and military superstructure to define' the economic system. Smith repeats the flaws of the earlier literature that he seeks to criticize. While he refers to the need for concrete political analysis, the role of private interests, the groups of the military-industrial complex, the state bureaucracy, the capitalist profits, and the rate of profit, he fails to support this language with empirical definitions. In fact, the concepts disappear from his analysis to be replaced with an array of conventional macroeconomic categories -- GNP per capita, the ratio of military spending

to GNP, the share of investment in national expenditures, the rate of growth and the average rate of inflation -- which are clearly inadequate for his purposes.

Underconsumptionist theories associate overall economic growth with surplus absorption and the interests of the capitalist class. Smith suggests that since military expenditures are inversely correlated with aggregate economic growth (or positively related to unemployment), such expenditures will undermine the long-term interests of this class. Both approaches are deficient for their common reliance on macro-historical language leads them to ignore some major aspects of heterogeneity and dynamic adjustment. The outcome is an excessively-simple scenario focusing on whether the system is working for or against itself.⁵

Such macro-historical reasoning is disturbing to us. We do not recognize any mysterious long-term functions or agenda that the 'capitalist system' is set to fulfil. Economic growth is not necessarily a common benefit for individuals or groups that belong to a society. Nor is stagnation a fully-shared cost to these participants. If an increase in the level of military spending fails to produce an expansion of overall economic activity, the macro-historical perspective (Marxist or anti-Marxist) may suggest that the 'system' suffers but a disaggregated assessment will show that while some economic agents lose, others (in particular, the producers of arms) make substantial gains. The aggregate vision obscures the recognition of divergent experiences. Marxists often suggest that the concept of a national interest is used to conceal the dominant position of

capital over labour but their analytical amalgamation of a monolithic capitalist class is highly misleading too. There are important conflicts between separate business groups whose members enjoy different degrees of economic and political power, which should be examined rather than covertly ignored by aggregation. Stagnationary profits, in particular, can provide a means for the elevation of a new group of corporations to the potential detriment of other groups.

7. Sectoral Approaches

Some variants of macro-Marxism involve sectoral classes of economic activity. Kalecki (1943a), for example, chose to distinguish finished-good industries from raw-material industries while attaching his concept of the degree of monopoly to pricing in only the first of these two groups. He believed that raw materials were subject to speculative cycles so demand factors exert the decisive influence on their pricing. This characterization is appropriate for some historical periods and for some raw materials but it is not universally acceptable. A notable exception is provided by the oil industry after the formation of OPEC. During the 1970s, price changes in this industry bore little relation to either changes in the consumption of oil or erratic fluctuations in speculative activity. Instead the prices reflected the manifest power of OPEC and the large oil companies to increase the ratio of prices to prime costs (that is, to change the 'degree of monopoly'). If we look even further back in history, the price of oil has rarely been strictly demand-determined since Rockefeller successfully

consolidated a large part of the oil industry in the second half of the nineteenth century.

Baran and Sweezy (1966) preferred to differentiate between a productive sector and a financial sector, although one of them was later to recant:

In the present state of knowledge it is not possible to define or delineate the financial sector with any accuracy, and perhaps it never will be ... [Most] of the large corporations which are officially classified as 'nonfinancial' are, in reality, at least to some extent and often to a substantial extent, engaged in financial operations such as buying and selling securities and other existing assets, borrowing and lending money, etc. (Magdoff and Sweezy, 1983, p. 97)

Other authors, such as Griffin *et al.* adopt a dual-economy distinction between a competitive sector and a monopoly sector as part of a framework that is termed 'military Keynesianism'.

Following Gold (1977), Griffin *et al.* see the U.S. regime being monitored by a corporatist coalition of conflicting interests involving monopoly capital, large labour unions and hawkish political and military elements. The compromise that provides the 'glue' to maintain this coalition is a direct commitment to expand aggregate demand through military government spending rather than through non-military government spending. Griffin *et al.* are influenced by O'Connor (1973) to assert that governments are insensitive to overall stagnation tendencies but they are attentive to perceived difficulties occurring in the monopoly sector. These assertions are converted into empirical hypotheses that governments raise their level of military expenditures when the rate of growth of monopoly profits falls and when the rate of unemployment for unionized workers increases, but

governments ignore similar conditions when they prevail in the competitive sector or affect parts of the non-unionized labour force.

Part of the conversion to empirical hypotheses involves a prior specification for the dimensions of the two sectors. In this particular case, the monopoly sector is taken to include mining, construction, real estate and all durable and nondurable manufacturing industries with the notable exceptions of lumber, leather, furniture, textile and apparel industries -- so the sector holds 90 per cent of total assets, receives 75 per cent of all profits and accounts for 50 per cent of private employment. Some of the industries in this list may be more 'monopolistic' than those in the corresponding assignment for the 'competitive' sector but nothing in the choice of constituent elements clarifies why we should expect profits in the two sectors to move in opposite directions, or even to change at different rates! This criticism needs to be elaborated. While Griffin *et al.* (p. S127) contend 'monopoly capital is the economically more powerful of the sectors, and the state's ability to finance accumulation and/or legitimization programs depends disproportionately on revenues from monopoly sector profits', they ignore the heterogeneity of experiences within sectors. The monopoly sector includes very large businesses as well as medium and small ones but the authors *should* consider only the large corporations as forming monopoly capital. For instance, it is Citicorp and American Express, rather than small one-branch banks or savings and loans associations, which are powerful. Similarly, it is the revenue of companies such as IBM or Unisys which pay the bulk of corporate taxes. The arbitrary sectoral classification, ignoring intrasectoral differences, is unhelpful.

8. Final Comments

The dialectical myth of tendencies for underconsumption or overproduction provides an overall context for the study of military spending in relation to the dynamics of market structure. However, little knowledge is acquired either from statistical attempts to validate these tendencies (or to refute them) or from the imposition of simple 'laws of motion' on human history as a means of explicating the eventual breakdown of the capitalist 'system'. The aggregate categories of macro-Marxism should be abandoned and we should also move beyond excessive reliance on the familiar Standard Industrial Classification for sectoral studies of economic development. Economic power in the United States resides in the control and operation of the largest corporations. Our other papers focus on the activities of the prominent corporate members of the *armadollar-petrodollar coalition*, which we define to include the large armament producers, energy companies and (to a lesser extent) some financial institutions. These activities are crucial ingredients for any understanding of the political economy for both arms and oil industries.

Table 1

LEADING OIL COMPANIES:
SALES AND NET INCOME
(\$ million)

Year	British Petroleum		Chevron		Exxon	
	Sales	Net Income	Sales	Net Income	Sales	Net Income
1966	2,534	221	2,698	401	12,191	1,091
1967	2,595	154	3,298	422	13,266	1,192
1968	3,260	243	3,635	452	14,091	1,277
1969	3,424	232	3,825	454	14,930	1,243
1970	4,062	218	4,188	455	16,554	1,310
1971	5,193	361	5,143	511	18,701	1,517
1972	5,709	176	5,829	547	20,310	1,532
1973	7,723	760	7,762	844	25,724	2,443
1974	18,354	1,118	17,191	970	42,062	3,142
1975	15,718	293	16,822	773	44,865	2,503
1976	17,988	306	19,434	880	48,631	2,641
1977	23,035	688	20,917	1,016	54,126	2,423
1978	29,127	907	23,232	1,106	60,335	2,763
1979	40,501	3,598	29,948	1,785	79,106	4,295
1980	49,368	3,430	40,479	2,401	103,143	5,650
1981	49,192	2,047	44,224	2,380	108,108	5,567
1982	47,524	1,160	34,362	1,377	97,173	4,186
1983	47,122	1,257	27,342	1,590	88,561	4,978
1984	43,926	1,624	26,798	1,534	90,854	5,528
1985	59,225	2,309	41,742	1,547	86,673	4,870
1986	39,856	732	24,351	715	69,888	5,360
1987	45,206	2,280	26,015	1,007	76,416	4,840

Table 1 (continued)

LEADING OIL COMPANIES:
SALES AND NET INCOME
(\$ million)

Year	Mobil		Royal Dutch/ Shell		Texaco	
	Sales	Net Income	Sales	Net Income	Sales	Net Income
1966	5,254	356	4,533	397	4,427	710
1967	5,772	385	5,026	439	5,121	754
1968	6,221	431	5,530	519	5,460	836
1969	6,621	456	5,851	568	5,868	770
1970	7,261	483	6,310	528	6,350	822
1971	8,243	541	7,244	529	7,529	904
1972	9,166	574	8,510	418	8,693	889
1973	11,390	849	10,867	1,066	11,407	1,292
1974	18,929	1,047	19,311	1,618	23,255	1,586
1975	20,620	810	17,516	1,177	24,508	831
1976	26,063	943	20,388	1,460	26,452	870
1977	32,126	1,005	26,052	1,573	27,921	931
1978	34,736	1,126	28,085	1,414	28,608	852
1979	44,721	2,007	37,464	4,158	38,350	1,759
1980	59,510	2,813	47,352	2,972	51,196	2,240
1981	64,488	2,433	46,530	2,197	57,628	2,310
1982	59,946	1,380	50,271	2,093	46,986	1,281
1983	54,607	1,503	48,250	2,493	40,068	1,233
1984	56,047	1,268	50,874	2,930	47,334	306
1985	55,960	1,040	48,937	2,326	46,297	1,233
1986	44,866	1,407	64,843	3,726	31,613	725
1987	51,223	1,258	78,319	4,726	34,372	-4,407

SOURCE: Data for British Petroleum, Chevron, Exxon, Mobil and Texaco 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 and April 25, 1988, 'The International 500', *Fortune*, August 3, 1987 and August 1, 1988 (for 1986-1987).

Data for Royal Dutch/Shell are from 'The International 200' and 'The International 500', *Fortune*, 1967-1988.

Table 2

LEADING ARMAMENT COMPANIES:
SALES, DEPARTMENT OF DEFENSE PRIME CONTRACT AWARDS (DOD PCA) AND NET INCOME^a
(\$ million)

Year	Boeing			General Dynamics		
	Sales	DOD PCA	Net Income	Sales	DOD PCA	Net Income
1966	2,357	914	76	1,797	1,136	54
1967	2,880	912	84	2,253	1,832	51
1968	3,274	762	83	2,662	2,239	30
1969	2,835	653	10	2,509	1,243	3
1970	3,677	475	22	2,224	1,183	-7
1971	3,040	732	22	1,869	1,489	21
1972	2,370	1,171	30	1,539	1,289	26
1973	3,335	1,229	51	1,642	707	40
1974	3,731	1,076	72	1,968	1,853	52
1975	3,719	1,561	76	2,160	1,289	81
1976	3,919	1,176	103	2,553	1,073	100
1977	4,019	1,580	180	2,901	1,372	103
1978	5,463	1,524	323	3,205	4,154	-48
1979	8,131	1,514	505	4,060	3,492	185
1980	9,426	2,385	600	4,743	3,515	195
1981	9,788	2,683	473	5,063	3,402	124
1982	9,035	3,239	292	6,145	5,891	160
1983	11,125	4,423	355	7,146	6,818	287
1984	10,354	4,564	787	7,839	5,952	382
1985	13,636	5,458	566	8,163	7,440	372
1986	16,341	3,556	665	9,211	8,013	-52
1987	15,355	----	480	9,344	----	437

Table 2 (continued)

LEADING ARMAMENT COMPANIES:
SALES, DEPARTMENT OF DEFENSE PRIME CONTRACT AWARDS (DOD PCA) AND NET INCOME^a
(\$ million)

Year	General Electric			General Motors		
	Sales	DOD PCA	Net Income	Sales	DOD PCA	Net Income
1966	7,177	1,187	339	20,209	508	1,793
1967	7,741	1,290	361	20,026	625	1,627
1968	8,382	1,489	357	22,755	630	1,732
1969	8,448	1,621	278	24,295	547	1,711
1970	8,727	1,000	328	18,752	386	609
1971	9,425	1,041	472	28,264	344	1,936
1972	10,239	1,259	530	30,435	256	2,163
1973	11,575	1,416	585	35,798	249	2,398
1974	13,413	1,211	608	31,550	300	950
1975	13,399	1,264	581	35,725	390	1,253
1976	15,697	1,347	931	47,181	345	2,903
1977	17,519	1,520	1,088	54,961	380	3,338
1978	19,654	1,786	1,230	63,221	420	3,508
1979	22,461	2,042	1,409	66,311	449	2,893
1980	24,959	2,202	1,514	57,729	509	-762
1981	27,240	3,018	1,652	62,699	622	333
1982	26,500	3,654	1,817	60,026	690	963
1983	26,797	4,518	2,024	74,581	893	3,730
1984	27,947	4,514	2,280	83,890	1,019	4,516
1985	28,285	5,891	2,336	96,372	1,614	3,999
1986	35,211	6,847	2,492	102,814	5,069	2,945
1987	39,315	----	2,915	101,782	----	3,551

Table 2 (continued)

LEADING ARMAMENT COMPANIES:
SALES, DEPARTMENT OF DEFENSE PRIME CONTRACT AWARDS (DOD PCA) AND NET INCOME^a
(\$ million)

Year	Grumman			Lockheed		
	Sales	DOD PCA	Net Income	Sales	DOD PCA	Net Income
1966	1,059	333	28	2,085	1,531	59
1967	969	488	21	2,335	1,807	54
1968	1,153	629	19	2,217	1,870	44
1969	1,180	417	22	2,075	2,040	-33
1970	993	661	20	2,536	1,848	-86
1971	799	1,098	-18	2,852	1,510	12
1972	683	1,120	-70	2,473	1,705	13
1973	1,083	909	17	2,757	1,659	14
1974	1,113	687	20	3,279	1,464	23
1975	1,329	1,343	24	3,387	2,080	45
1976	1,502	982	24	3,203	1,510	39
1977	1,553	1,428	32	3,373	1,673	55
1978	1,455	1,180	22	3,485	2,226	55
1979	1,476	1,364	20	4,058	1,797	36
1980	1,729	1,322	31	5,396	2,037	28
1981	1,916	1,710	20	5,176	2,657	155
1982	2,003	1,900	90	5,613	3,499	207
1983	2,220	2,298	110	6,490	4,006	263
1984	2,558	2,419	108	8,113	4,967	344
1985	3,049	2,733	82	9,535	5,082	401
1986	3,440	2,967	79	10,273	4,897	408
1987	3,325	----	36	11,370	----	421

Table 2 (continued)

LEADING ARMAMENT COMPANIES:
SALES, DEPARTMENT OF DEFENSE PRIME CONTRACT AWARDS (DOD PCA) AND NET INCOME^a
(\$ million)

Year	McDonnell Douglas			Raytheon		
	Sales	DOD PCA	Net Income	Sales	DOD PCA	Net Income
1966	1,060	722	43	709	368	18
1967	2,934	2,125	1	1,106	403	29
1968	3,609	1,200	95	1,158	452	31
1969	3,024	1,070	118	1,285	547	35
1970	2,088	883	93	1,259	380	34
1971	2,069	897	81	1,308	454	35
1972	2,726	1,700	112	1,465	507	41
1973	3,033	1,143	130	1,590	677	46
1974	3,075	1,309	107	1,929	740	58
1975	3,256	1,398	86	2,245	681	71
1976	3,544	2,465	109	2,463	784	85
1977	3,545	2,574	123	2,818	1,041	113
1978	4,130	2,863	161	3,239	1,307	150
1979	5,279	3,229	199	3,728	1,249	197
1980	6,066	3,247	145	5,002	1,745	282
1981	7,385	4,409	177	5,636	1,826	324
1982	7,331	5,630	215	5,513	2,262	319
1983	8,111	6,143	275	5,937	2,728	300
1984	9,633	7,684	325	5,996	3,093	340
1985	11,478	8,857	346	6,409	2,999	376
1986	12,661	6,586	277	7,308	4,052	393
1987	13,146	----	313	7,660	----	445

Table 2 (continued)

LEADING ARMAMENT COMPANIES:
SALES, DEPARTMENT OF DEFENSE PRIME CONTRACT AWARDS (DOD PCA) AND NET INCOME^a
(\$ million)

Year	Rockwell International			United Technologies ^b		
	Sales	DOD PCA	Net Income	Sales	DOD PCA	Net Income
1966	2,024	520	49	1,665	1,139	47
1967	2,438	689	68	2,215	1,097	57
1968	2,640	669	74	2,411	1,326	61
1969	2,667	674	65	2,354	997	51
1970	2,411	707	65	2,353	874	45
1971	2,211	478	69	2,031	733	-44
1972	2,363	703	78	2,028	996	51
1973	3,179	704	126	2,293	741	58
1974	4,408	819	130	3,328	1,212	105
1975	4,943	732	102	3,878	1,407	117
1976	5,195	966	121	5,166	1,233	157
1977	5,859	1,480	144	5,551	1,585	196
1978	5,669	890	209	6,265	2,400	234
1979	6,176	684	261	9,053	2,554	326
1980	6,906	969	280	12,324	3,109	393
1981	7,040	1,126	292	13,668	3,776	458
1982	7,395	2,691	332	13,577	4,208	427
1983	8,098	4,545	389	14,669	3,867	509
1984	9,322	6,219	496	16,332	3,207	645
1985	11,338	6,264	595	14,992	3,906	636
1986	11,794	5,590	605	15,669	3,527	73
1987	12,123	----	635	17,170	----	592

SOURCE: Sales and net income data 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 and April 25, 1988 (for 1986-1987).

Department of Defense Prime Contract Awards (DOD PCA) are from U.S. Department of Defense, Washington Headquarters Services, Directorate for Information Operation and Reports, *100 Companies Receiving The Largest Dollar Volume of Prime Contract Awards* (Washington, D.C.: Government Printing Office), annual, 1966-1986.

^a Sales and net income data are for calendar years while DOD PCA figures are for fiscal years.

^b United Aircraft until 1974.

Notes

1. The debate surrounding the concept of 'waste', especially conflict over its definition and measurement, has persisted since the days of Adam Smith. Any definition requires the differentiation of productive activities from unproductive ones -- a major epistemological hazard. We can argue that military spending is not a necessary cost for the reproduction of the labour force and so, from this limited starting point, we can class such spending as 'waste'. However, military expenditures can still be viewed as a necessary cost of promoting 'national integrity' (Veblen, 1923, ch. 2) but this cost is then one of maintenance of social order rather than one of the production of usable commodities *per se*.
2. The article was published in the Japanese journal *Sekai* in 1957. An English version, Tsuru (1961), appeared five years before publication of *Monopoly Capital*.
3. Hegel (1967, pp. 149-50, for example) acknowledged the myth of contradictions embedded within the societal structure; namely, the assertion that excess capital accumulation and the concentration process are jointly revealed with the underconsumption of the masses or overproduction of industry. Marx (1973a,b; 1909, Vol. III) was also familiar with the important role of government deficits and national debt in providing an additional outlet for investment by the aristocracy of finance. Both Hegel and Marx were also acquainted with early multiplier theories but neither of them considered their promulgation as a solution to an antinomy, which they saw as embedded within modern society.
4. Recall too that Baran and Sweezy argued the tendency for the surplus to rise would materialize only if this surplus was effectively absorbed -- for otherwise stagnation occurs.
5. See Schumpeter (1951) on the cost of imperialism. Note too the perception of Tuchman (1984) that the folly of political leaders often undermines the national interest or common will. Both adopt a macro-historical perspective.

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