THEORY OF THE STATE, GOVERNMENT TAX AND PURCHASING POLICY, AND INCOME DISTRIBUTION

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Until recently, there has been virtually no discussion among professional economists of the impact of government expenditures on the distribution of income.[1] Neoclassical economics has traditionally shown little interest in distributional issues. Little is said beyond the assumption that factors are paid their marginal products. Micro economics is said to take a "neutral" stance with regard to distributional issues. Static efficiency of allocation is attainable for any income distribution, and consequently, so the parable goes, no income distribution is superior on purely economic grounds to any other. Macro economics also purports to be neutral with respect to distribution. Government expenditures in Keynes' model appear as an undifferentiated blob called "G". The only interest macro economics takes in distribution issues is concerned with the marginal effect of redistribution on the marginal propensity to consume out of income. Keynesian economics, therefore, is unable to say whether one form of government expenditure is superior to another so long as both accomplish macro objectives.

When orthodox economists have approached the issue of the government's distributional impact, they have until recently focused solely on its use of taxes and transfer payments. Public finance has traditionally ignored the expenditure side of state activity since, after all, government activity was a necessary evil, benefiting no one. Gillespie's path-breaking study in 1965 finally acknowledged the utility of government spending, but his analysis and those that have followed in the orthodox tradition have been hampered by a number of awkward premises.

First, the orthodox studies of fiscal incidence implicitly accept the view of the government as a neutral arbiter rather than a protagonist of the dominant classes in society. Second, benefits of government services are assumed to be accurately measured by outlays. Thus, if we find that the government spends four times as much on highways as on police, it is assumed that the utility of highways is four times that of police even though one cannot even imagine the continuity of the status quo without the police while many responsible citizens argue that we should drastically curtail outlays on roads. Obviously, the utility of the police in terms of system maintenance exceeds that of the more expensive highway expenditures. Third, it is assumed that for each dollar spent by the government, only one person will benefit when, in fact, many disparate groups can benefit from the same expenditure. A dollar spent on education benefits the student as well as his/her employer. Fourth, Gillespie and his orthodox followers ignore any effect of the government on the *pre-tax, pre-transfer* distribution of income which they take as given. A hypothesis which we examine in this paper is that the government has an enormous influence over the shape of the pre-tax, pre-transfer income distribution.

A more general criticism of previous studies of fiscal incidence is that they suffer from a poorly defined theory of the state. This assertion is most clearly illustrated by the categorization in previous studies of a wide variety of public expenditures as "public goods" (such as national military expenditures). The benefits of these "public goods" are allocated among various income groups in several ways, for example on the basis of wealth ownership (both productive and consumptive) or on a *per capita* basis. The method of allocation chosen has enormous consequences for one's estimate of overall fiscal incidence. According to Herriot and Miller, those with incomes over $50,000 either *receive* a net benefit of 4.5 percent of their total income from the government or *lose* 42.1 percent, depending upon the allocation formula chosen for public goods. Previous studies have taken an agnostic position with respect to the appropriateness of the several allocative assumptions. But this is

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[1]Gillespie was the first economist to attempt to deal with this issue empirically in any depth. See also Tax Foundation, Inc. and Herriot and Miller.

merely simple empiricism without theoretical foundation, and thus the formulation of specific hypotheses which employ scientific procedures is impossible. What is needed to provide an interpretation of the data is a well-articulated theory of the state—an area to which we turn our attention in the next section of this paper.

I. Theory of the State and Government Expenditures

The question of how the effects of government expenditures on interpersonal income distribution are analysed lies at the heart of the differing liberal and radical theories of the state.[2] The dominant liberal pluralist model that is implicit in previous studies of fiscal incidence views the society as divided along "interest group" lines with each interest group protecting and attempting to further its objectives. The role of the state in this view is a neutral *arbiter*, mediated through the electoral process, receiving "informational inputs," weighing the political pressures it is under, assessing the voting strength of the various interest groups seeking its favor, and so forth. What results in the mixture of governmental actions is largely a function of the number of votes each interest group can muster and the shrewdness with which it can organize its forces. Standing somewhere in between are the mediating representatives of the state in the form of political parties. Though these mediating political parties may have ideological biases which color their predilections, for the most part these parties are sufficiently malleable to bend with political pressures. And over time, as ideological concerns give way to pragmatic political ones, the parties become more and more alike in their goals of interest group aggregation and mediation. The key elements of this view of the state are mediation, increasing neutrality of ideological preconception, and growth of the number of interest groups represented through the political process.

In contrast, the radical perspective views the state as part and parcel of the capitalist economic and social system. And that system has certain institutions which are essential to its survival, certain norms which must be protected, certain ideological underpinnings which cannot be undermined, and certain functions which it must smoothly perform. With the transformation of capitalism into monopoly capitalism, the role of the state has taken on many more complex forms than it had under competitive capitalism. It was relatively easy for Lenin to identify the dominant state role as one of preserving and stabilizing the property relations of a capitalist economy, i.e., the state as the "dictatorship of the bourgeoisie." Moreover, the class dominance of that earlier system was also more easily identifiable and less subject to serious debate. Today, however, many of these same attributes of the state are hidden behind more complex state institutions with an obfuscating ideology, supported by important mediating institutions which prevent people from identifying the objective functions of the state in monopoly capitalist society. In what follows, we will consider several radical hypotheses about state action with emphasis on the role of government in the social welfare field.

First, it is important to recognize that the state influences the process by which people obtain income and thereby structures the *pre-tax, pre-expenditures income distribution.* Michelson (p. 78) offers an example of this: if the government

[2]The state, as used in this theoretical discussion, embraces executive, legislative and judicial actions, as well as police and military activities. (See Miliband.)

only has purchasing contracts with white construction companies that employ only whites, then blacks will end up with lower incomes. Enter government's tax and transfer programs and it appears that the state redistributes income from whites to blacks. But the need for such a redistributive policy originated with the government's own action. The government creates a redistributive function for itself by establishing the initial conditions which require a redistributive policy. Michelson concludes (p. 78), with reference to government redistributive policy towards blacks:

> The consequence of government action . . . is to reduce their before-tax income, then pay some of that loss back, and then claim a net redistribution in their favor!

Michelson (p. 77) succinctly captures the fundamental point of a radical analysis of state redistributive policy when he argues that "The entire impact of the government cannot be measured by only calculating redistribution from property after income has initially been biased toward property." Gordon (1972b, p. 321) has provided a useful summary of this important proposition:

> In modern industrial societies, the state has sweeping distributive impact on the lives of its citizens. Only a few of those distributive effects result from tax-and-transfer adjustments of the market distribution of income. The government not only pays wages and profits to individual 'owners' of labor and capital, but it also confers rights to engage in economic activities differentially among individuals.

The government, therefore, benefits certain groups in society by purchasing goods and services from them rather than from other groups. An even more important distributive activity of the government is in defining and maintaining the institutional structure in which (as in the above example) one group can benefit by owning enterprises which sell to the government and another group is forced to sell its labor to the first group to avoid destitution. By defining and enforcing property relations and markets in labor and capital, the state ensures the domination of those who own productive property. Furthermore, the government supports a wide array of socializing institutions (e.g., schools and the nuclear family) which support those property relations.[3]

The state's long-run objectives become coincident with the long-run objectives of the dominant classes in society—namely, *system-maintenance*.[4] At all

[3]We shall not attempt here to outline a general theory of state action in capitalist society since our concern here is with only a part of government activity, that which is thought of as social welfare expenditures. For a general discussion of the state, see Miliband, Moore, O'Connor, and Sweezy (Chapter 13).

[4]The implicit assumption is that maintaining the system is *not* in the best interests of the non-dominant classes (or at least not in the interests of the majority of the population). The argument is not couched solely in terms of income, that the dominant classes receive more than their fair share. The dominant classes do receive enormous sums for the mere ownership of property, an "activity" which is not productive and thus should not be remunerated. (Property may in some sense be productive, but the act of *owning* property is not productive in any sense.) Political economists argue that aside from its maldistribution of income, the capitalist system is essentially dehumanizing and alienating. Those outside the dominant classes are essentially unable to control their lives. They are controlled by owners of property through ostensibly neutral markets and through the state over which

[*cont.*—

costs the fundamental economic and social system must be maintained, including property relations, market relations, social relations of production, markets in capital, labor, and land, and so on. However, within this long-run objective there is room for a variety of short-run activities which are either offensive, in the sense that they propel the interest of the dominant class forward, or defensive in the sense that they are concessions made to groups potentially threatening to the long-run objectives of system maintenance. Other things equal, the state would undertake redistributive policies which benefit the dominant class. But other things are not equal and this is the dialectic that produces short-run social welfare programs which yield some benefits to the subordinate classes.

Such activities have become more prevalent in recent years in the United States due to the growing economic surplus in monopoly capitalism and the intensification of the dynamics of inequality inherent in the system's normal operation. One of the uses of this surplus, along with such things as military expenditures, is increased social welfare expenditures to "buy off" the intense discontent fostered by the very system of monopoly capitalism that provides the growing surplus.

In the absence of any offsetting tendencies, inequality becomes more severe over time in monopoly capitalism. This occurs for two reasons. First, the economic system is dynamically disequalizing, what Marxists refers to as the "Law of Uneven Development." (See Bluestone, 1972a and Wachtel, 1973b.) For example, in the acquisition of human capital, individuals starting in a family with more economic wealth and more human capital will tend to acquire relatively more human capital. Moreover, the complementarity of the early socialization process and one's network of acquaintances acquired during elite schooling reinforces any unevenness in the acquisition of human capital itself. The same is true with physical capital: firms that start out with more physical capital and a larger share of the market have important economic advantages in information, market control, research and development, and investment funds to exacerbate the inequality over time. Diminishing returns to investment are easily offset by control of the market and control over information. This accounts for the increasing concentration and centralization in monopoly capitalist product markets, reaching its present heights in the form of conglomerates and multinational corporations. Finally, the state reinforces these tendencies, especially in its

they have little influence. Life in capitalist society is reduced to little more than the consumption of commodities, a process which can never yield satisfaction (satiation) since there are always others who consume more commodities and thus one can never have "enough." In non-capitalist societies, work is an expression of one's humanity; in capitalist societies it becomes its negation. One can hardly improve upon Marx's formulation of a century ago:

> . . . all means for the development of production transform themselves into means of domination over, and exploitation of, the producers; they mutilate the laborer into a fragment of a man, degrade him to the level of an appendage of a machine, destroy every remnant of charm in his work and turn it into hated toil; they estrange from him the intellectual potentialities of the labor-process in the same proportions as science is incorporated in it as an independent power; they distort the conditions under which he works, subject him during the labor-process to a despotism the more hateful for its meanness . . . A cumulation of wealth at one pole is, therefore, at the same time accumulation of misery, agony, of toil, slavery, ignorance, brutality, mental degradation. (Marx, p. 645.)

Stabilizing or maintaining the system is thus in the short- and long-term interests of the dominant classes. It *may* be in the short-term interests of others, but rarely in their long-term interests.

purchasing policies, primarily in the area of defense purchases. Here is where the militarism of monopoly capitalism's need to provide stable and hospitable national states in other countries intersects with the dynamics of uneven development at home. The defence establishment provides both: places to invest in other countries to export the growing domestic surplus and financially attractive contracts and investment subsidies at home to the powerful defense corporations.

To the extent that uneven development is cumulative—that is, it becomes more and more severe in each time period—then the state must penetrate into society more and more to offset the socially destructive aspects of uneven development. The extent to which the state will mitigate the growing tendencies towards inequality is conditioned by the need to prevent total societal breakdown, or put differently, to perform its system maintenance function. The extent to which the state will be forced to offset the dynamics of uneven development will depend on the political strength of the forces adversely affected by the dynamics of inequality. The extent to which this occurs depends on the unity of classes thrown in motion against the dominant class. Hence, the state will have to move faster and faster just to keep up. This explains the sharp increase in social welfare activities of the state since the Second World War, along with a stable income distribution. The state has entered the market to offset the negative aspects of the disequalizing tendencies just enough to forestall large-scale social unrest, which in this instance has meant the preservation of the existing distribution of income.

The forces that trigger increased social welfare expenditures emanate from a social movement of some sort. The labor movement of the 1930's has given way to the black movement of the 1960's. In both instances, social welfare concessions were extracted from the state. In the 1960's the resistance has been less because the growing economic surplus, as well as alterations in ideology, have paved the way both for more concessions and less resistance. Some of the concessions emerge from genuine ideals of economic equity, others from the objective necessity of system maintenance in the face of social unrest. It is interesting to note that both in the 1930's and 1960's, social welfare programs did not really get underway until political uprisings posed a sufficient threat to the dominant class to force them into concessions.

An argument similar to this one has been advanced by Gordon: (b, p. 322.)

> The state may act to solve economic problems posed by capitalist development, and it may occasionally make concessions to the working classes when its failure to do so might threaten the stability of the system. Within that general functional framework, marginal variations in the evolution of state policies will be affected by changes in relative class power and the changing dialectics of class conflict, on the one hand, and will be mediated through . . . 'superstructural' forces—the influence of custom, religion, ideology, and so on—on the other hand.

Not only is there a quantitative dimension to state action as a dialectical response to social conflict, but there is a *qualitative* reaction as well. Initially, social welfare programs are introduced in a period of social upheaval to provide immediate benefits to the disaffected segments of society that are responsible for the uprising. However, at some point the dominant class needs to reassert its

control after the dust has settled, and it accomplishes this by introducing programs that attempt to reinforce work norms, to channel people back into the labor market, and to use the labor market as a primary disciplining device. In Piven and Cloward's formulation (pp. 7–8):

> . . . the trigger that sets off disorder is not economic distress itself but the deterioration of social control. To restore order, the society must create the means to reassert behavior, at least for a time, a surrogate system of social control must be evolved . . . , if the surrogate system is to be consistent with normally dominant patterns, it must restore people to work roles.

Hence, there is a cyclical component to social welfare expenditures both in a *quantitative and qualitative* sense: (Piven and Cloward, p. xiii.)

> The key to an understanding of relief-giving is in the functions it serves for the larger economic and political order, for relief is a secondary and supportive institution. Historical evidence suggests that relief arrangements are initiated or expanded during the occasional outbreaks of civil disorder produced by mass unemployment, and are then abolished or contracted when political stability is restored . . . expansive relief policies are designed to mute civil disorder, and restrictive ones to reinforce work norms.

We see this happening in the contemporary period, corroborating Piven and Cloward's insightful analysis of the history of poor laws, starting with the Elizabethan Poor Laws. Today, what started as a substantial increase in social welfare expenditures in the 1960's has degenerated once again into finding ways to rediscipline the population through the labor market by making work a prior requirement to the receipt of welfare payments of various sorts, from Aid to Families with Dependent Children to food stamps, to medicaid in some discussions. Eventually, after the initial phase of social experimentation, programs begin to take on more of a work-coercive character. Piven and Cloward (p. 22) have summarized this transition to work coercion as follows:

> Relief arrangements deal with disorder, not simply by giving aid to the displaced poor, but by granting it on condition that they behave in certain ways and, most important, on condition that they work.

Although this dimension to social welfare expenditures is the most general observation one can make, there are important exceptions which should not be overlooked. As the material forces of the economy advance, more and more segments of the labor force become redundant. Being no longer necessary for productive purposes due to increases in productivity, these segments of the labor force can be permanently removed, in some cases with the provision of a transfer payment. For example, the social security system, enacted in the 1930's, eventually had the effect of cutting the size of the labor force substantially, thereby reducing the measured rate of unemployment by substantial amounts. This segment was granted a transfer payment; however, other segments of the population have been eliminated from the labor force without the grant of a transfer. For example, child and women labor laws accomplished this result in the earlier part of this century. It is quite possible that today we face a more generalized problem of this type where a substantial segment of the labor force is

economically redundant in the sense that they do not have the skills required to function with our existing level of technology in an economy organized along monopoly capital lines.[5] For these people, some form of permanent income maintenance program may be the state's solution. (Gordon b, p. 323.)[6]

II. Government Tax and Purchasing Policy and Income Distribution

One of the many ways in which the state affects the pre-tax, pre-transfer distribution of income is through government purchasing policy which affects companies, industries, and workers differentially. Corporations receive higher profits from government sales than from non-government sales, and consequently, stockholders in those industries, *ceteris paribus*, will receive higher dividends. These higher profits derive from the nature of contracting with the government, namely, cost-plus contracts in which a high profit rate is guaranteed by the government purchaser and costs are not carefully monitored by the government. The literature in recent years surrounding defense contracting offers ample evidence for these observations. (See Kaufman.)

In addition, favorable relations with the government via contracting enable those industries to expand their physical plant capacity faster than would otherwise be the case. This capacity that an industry uses to produce goods for the government may not be suitable for producing private goods. Alternatively, private demand may be inadequate to utilize the capacity that already exists, and as a result, sales to the government may utilize excess capacity, thereby increasing profits above what they otherwise would have been.

But the distributional impact of government purchasing policy not only affects corporate profits and dividends. Higher profit structures and cost-plus contracts place the company in a vulnerable bargaining position vis-à-vis labor and permit workers to negotiate higher wage rates. As a consequence of cost-plus contracts, where costs are not closely monitored and higher wages easily passed on to the government buyer, labor will be able to bargain effectively for wage increases. This element alone, independent of the other forces determining wage structures, will affect the wage distribution (and therefore income distribution) as workers in some industries receive higher wages solely as a function of that industry's purchasing relations with the government.

Similarly, effective tax rates on profits vary widely among industries. Deductions and exemptions which arise from mineral depletion allowances, investment tax credits, and favorable treatment of foreign earnings and capital gains yield effective tax rates that range far below the nominal rates. Differential tax rates are merely implicit forms of subsidy. It makes little difference whether

[5]This need not be the case in a rationally planned socialist economy, but this question lies outside the concerns of the present paper.

[6]The present paper is a much abbreviated version of the paper delivered at the 13th General Conference of the International Association for Research in Income and Wealth. In that expanded paper we provide empirical support for the ideas presented in this section of the paper on the Theory of the State. The expanded paper includes a discussion of transfer payments, federal cash and tax subsidies, and state and local government expenditures. Copies of the expanded paper can be obtained by writing to either Larry Sawers or Howard Wachtel at: Department of Economics; The American University; Washington, D.C. 20016, U.S.A. (Please add $2 to cover duplication and postage costs.)

the government directly gives a corporation a dollar or lowers its tax liability by one dollar except as regards the visibility of the subsidy. These tax subsidies have obvious distributional consequences: profits are augmented by tax subsidies directly; tax subsidies to corporations may allow them to pay higher wages, but there is no presumption that high corporate income automatically stimulates corporate generosity. The cost-plus contracts of government purchasing may allow wages to be passed on to the taxpayer painlessly, but higher wages bargained out of profits swelled by tax subsidies are not painless, but are a deduction from income on capital.

The impact of government purchasing policy on wage structures (and thereby on income distribution) can be viewed in the light of recent developments in wage theory, loosely referred to as *dual labor market theory.*[7] The dual labor market theory posits the existence of two separate labor markets in which there is mobility *within* a particular market but restricted mobility *between* the two markets. The two labor markets in the "dual economy" are stratified along two general dimensions: by the characteristics of jobs (and industries) and by the characteristics of individuals. These two principal forms of stratification interact, in the initial formulation of the theory, to produce a cumulative portrait of the two labor markets.

The primary sector contains the privileged members of the labor force. It is governed by an *internal labor market* in which there are relatively good working conditions, high pay, job security, administrative protection of jobs, mobility along seniority tracks, and so on. (Doeringer–Piore, chaps. 2–4.) The primary sector has evolved jobs with substantial skill specificity, requiring on-the-job training as opposed to formal education. Typically, the worker enters at a relatively low skill job in "*ports of entry*" and by virtue of seniority progresses upward receiving the necessary on-the-job training at each juncture.

The secondary sector, on the other hand, consists of jobs that do not possess much skill specificity. The labor pool to fill these jobs is comparatively undifferentiated, approaching a homogeneous mass of raw labor power. There is little or no on-the-job training required to perform these jobs and turnover is high. Further, as a consequence of the absence of union protection, there is no codification of work rules and seniority privileges as is the case in the internal labor market of the primary sector. Moreover, the workers who fill these jobs manifest traits that are compatible with these jobs: poor work discipline, high rates of turnover and instability, unreliability on the job, and the like. As a consequence, jobs in the secondary sector pay low wages, have poor working conditions, provide little job security, and have high turnover.

There has been a debate in the literature on dual labor markets concerning the question of what is the principle stratifying dimension within labor markets. What is the aspect of the labor process which is most important in explaining the duality in labor markets? On the one hand there is the argument of Doeringer and Piore that the *characteristics of workers* is the central variable which determines

[7]The more general form of dual labor market theory is the theory of *labor market stratification* (see Wachtel, 1972). A representative collection of the literature on dual labor market theories includes: Doeringer and Piore; Bluestone, 1972b; Gordon, 1972a; Harrison; Bluestone, 1970; and Wachtel–Betsey, 1973.

the stratification of wage structures and determines the assignment of workers to one sector or another. Jobs in the primary sector require a disciplined work force which is reliable and punctual, staffed by workers with substantial skills. Aligned against this argument is that of Bluestone and Wachtel–Betsey (1972). This position identifies the principle stratifying variable with the *structure of labor markets*, not the characteristics of the workers in them.

Important dimensions of labor market structure that have been identified in the literature are concentration of market power, existence of viable collective bargaining over wages, extent of production for foreign markets, the effective tax rate on profits, and the extent of production for the government. It is within the latter two factors that the dual labor market theory's concern with industrial structure intersects with the subject of the present paper, the distributional impact of the government. The purchasing policy of the government not only influences pre-tax, pre-transfer distribution of income *directly*, but it also influences wage structure *indirectly* via its influence over the structure of industries, a prime element in establishing the duality of labor markets. Similarly, government tax policy affects the after-tax distribution of income directly and, possibly, wages indirectly.

This discussion suggests two specific hypotheses: first, wages will be a positive function of the proportion of an industry's output purchased by the government, after controlling for the other forces affecting individual wage differences. Second, the structure of an industry will be influenced by the purchasing and taxing policy of government which will manifest itself in higher profits per worker. Specifically, profits per worker will be a positive function of the proportion of an industry's output purchased by the government and a negative function of effective tax rates, after controlling for the other forces affecting interindustry variation in profits per worker.

To evaluate these hypotheses we have used a data file which contains (for 119 manufacturing industries) a variable which measures the proportion of an industry's output that is purchased by federal, state and local governments.[8] This is the principle independent variable in the analysis, and it was derived from an input-output matrix of the U.S. economy (for 1958). Profits per worker, one of our important dependent variables, was derived from Internal Revenue Service data for the same 119 industries. From a variety of sources (IRS and Census of Manufactures, primarily), the data file provides information on an array of other industrial characteristics which affect profitability.

In addition to the evaluation of the hypothesis about the determination of profits per worker, we also want to test the hypothesis pertaining to the impact of government purchasing policy on wage structures among individual workers. For this purpose, the data file we have used contains information on the demographic characteristics of nearly 14,000 individuals who represent a cross section of the labor force in 1966. These data were collected as part of the Survey of Economic Opportunity, sponsored by the Office of Economic Opportunity, and provide a file of micro data which is a random sample of full-time, full-year workers who are working at their usual job. From this data source, we know for each worker

[8]The sources and derivation of the data are described in Bluestone, *et. al.* We are grateful to Barry Bluestone for the use of the data tape.

his/her hourly wage rate, characteristics of his/her job, and various demographic characteristics. In addition, since we know the industry in which the worker is employed, we can integrate the data on industry characteristics directly into the analysis. For our purposes here, we are most interested in the ability of the proportion of output purchased by the government in different industries to explain variations in wages among individual workers.

Using these data, we computed two separate regressions. The first regression estimated hourly wage rates as a function of: for the industry in which the worker is employed, the proportion of output purchased by the government, the degree of unionization in the industry, a market power factor, the absence or presence of industry regulation by government, the effective corporate income tax rate, net income originating in the industry per worker, age of the worker, his/her education, whether the worker is a union member, race, sex, training or nonregular schooling, the number of negative work traits associated with the job in which the worker is employed, and an imputed occupational level of the job in which the worker is employed. The second regression estimates net income (profits) originating in the industry per production worker as a function of: the proportion of output in the industry purchased by government, the proportion of dividends from foreign sources, the level of unionization in an industry, the market power factor, the absence or presence of industry regulation by government, the effective corporate income tax rate, and the recent growth rate of the industry as measured by increases in numbers of production workers.

The statistical technique used was multiple regression analysis. Out of a total sample of 13,896, we omitted individuals with missing data and those who were over-sampled, leaving 3,636 observations. Regressions on profits within each industry were weighted by the number of full-time, full-year workers so that larger industries play a statistically larger role in the analysis.

The regression results are presented in Tables 1 and 2. The regression on wage rates, which includes demographic variables, characteristics of the worker's occupation, and characteristics of the industry in which the worker is employed, has an R^2 of .394. The independent effect of government purchasing on wages is difficult to assess since this variable is moderately colinear with the other industry variables, especially with the level of unionization ($R = 0.286$). When the only other industry variable included in the regression is the profit rate, the coefficient on the proportion of the industry's output going to the government is \$.011 and is significant at the 99 percent level.[9] The elasticity about the mean is 1.3 percent, i.e., a one percent rise in the proportion of government purchases is associated with a 1.3 percent rise in wage rates. If the percent of government purchases were to rise from zero to two standard deviations above the mean, wages would rise on the average 17 cents per hour (or about 6 percent of mean wages). However, even this small effect vanishes when other industry variables are entered into the equation (i.e., the coefficient becomes insignificant), and it becomes impossible to tell which industry characteristic has an independent effect on wage rates.

[9]In a separate regression, not presented in the table, we specified the independent variable, government purchases, as the proportion of an industry's output sold only to the *federal* government instead of to *all* government jurisdictions (including state and local). The coefficient on this variable is \$.009.

TABLE 1

HOURLY WAGE RATE REGRESSED ON INDUSTRY VARIABLES, CHARACTERISTICS OF THE WORKER AND THE WORKER'S JOB; AND NET INCOME PER WORKER REGRESSED ON INDUSTRY VARIABLES

Independent Variables	*Dependent Variables* Regression Coefficients and (Standard Errors) Hourly Wage (in dollars) Mean = $2.90 Std. Dev. = $1.52	
Characteristics of the industry		
Proportion of industry's output purchased by government (in percent)	0.003 (0.003)	0.011 (0.003)
Level of unionization (in percent)	0.008 (0.001)	—
Regulated industry (=1, otherwise =0)	0.232 (0.073)	—
Market power factor	0.001 (0.001)	—
Effective corporate income tax rate (in percent)	0.025 (0.005)	—
Net corporate income per production worker	0.0002 (0.00006)	0.0004 (0.00005)
Characteristics of the worker		
Age Dummies		
16–24 years old	−0.453 (0.081)	−0.445 (0.082)
35–44 ,, ,,	0.170 (0.059)	0.188 (0.060)
45–54 ,, ,,	0.256 (0.060)	0.260 (0.061)
55–64 ,, ,,	0.158 (0.070)	0.156 (0.071)
65+ ,, ,,	−0.208 (0.169)	−0.218 (0.172)
Education Dummies		
6–8 years	0.222 (0.111)	0.269 (0.113)
9–11 ,,	0.454 (0.111)	0.510 (0.113)
12 ,,	0.538 (0.111)	0.604 (0.112)
13 ,,	0.914 (0.127)	1.00 (0.129)
14–16 ,,	1.93 (0.143)	2.03 (0.145)
17+ ,,	3.30 (0.205)	3.36 (0.208)
Union membership (=1, otherwise =0)	0.137 (0.046)	0.271 (0.045)
Race (Black = 1, White = 0)	−0.409 (0.076)	−0.444 (0.077)
Sex (Female = 1, Male = 0)	−0.874 (0.047)	−0.896 (0.048)
Training or nonregular schooling	0.118 (0.052)	0.161 (0.053)
Characteristics of the job		
Number of negative working traits	0.046 (0.025)	0.030 (0.028)
Imputed occupational level	0.059 (0.006)	0.058 (0.006)
Constant term	0.458	1.66
R^2	39.4%	37.3%

The high multicolinearity between the government purchases variables and other elements of industry structure suggests that government purchases may influence wage differentials indirectly through the altered character of the industry structure when an industry has large purchasing arrangements with the government over a long period of time, as in the defense-related industries. Consequently, the *direct* impact of government purchases on wage differentials is masked somewhat by the mediating variables of industrial structure. A more refined analysis would have to take account of the impact of government

TABLE 2

NET INCOME PER WORKER REGRESSED ON INDUSTRY VARIABLES

Independent Variables	*Dependent Variables* Regression Coefficient and (standard error) Net Income per Worker (in $) Mean = $3462 Std. dev. = $45
Proportion of industry's output purchased by government (in percent)	63.82 (9.37)
Proportion of dividends from foreign sources (in percent)	66.62 (3.62)
Level of unionization (in percent)	−40.41 (4.94)
Regulated industry (=1, otherwise = 0)	147.76 (651.2)
Market power factor	129.09 (2.84)
Effective corporate income tax rate (in percent)	−547.55 (22.89)
Change in number of production workers 1961–1967 (in percent)	−46.66 (3.96)
Constant term	22,579.00
R^2	48.2%

purchases first on the various elements of industrial structure and then examine the impact of industrial structure on wage differentials. As the analysis stands, government purchases have a small (at best) direct effect on wage differentials and may have an indirect effect transmitted through the character of the industrial structure that government purchasing fosters. The analysis of the regression described in Table 2 supports this explanation.

The impact of tax subsidies on wage income is perverse: wages are actually higher in industries with *higher* effective tax rates (see Table 1). Profitability per se affects wages insignificantly. If net profits per worker were to rise from one standard deviation below the mean profits per worker to one standard deviation above the mean, hourly wages would rise as a result less than two cents per hour. Thus, by and large, tax subsidies to profits are *not* passed on to workers in the form of higher wages.

The independent effect of government purchasing on profits as measured by the coefficient on that variable is surprisingly large and highly significant (see Table 2). The coefficient is $63.82, i.e., a rise of one percentage point in the proportion of government purchases (e.g., from 5 percent to 6 percent) leads to a $63.80 rise in profits per production worker. (The coefficient on *federal* government purchases alone is $45.80.) The elasticity about the mean is 6.3 percent, i.e., a one percent rise in the proportion of output going to the government (e.g., from 5 percent to 5.05 percent) leads to a 6.3 percent rise in profits. If the proportion of output going to the government rose from zero to two standard deviations above the mean, profits per worker would rise $989 (or about 30 percent of mean profits). Profits per worker are dramatically influenced by effective tax rates. A

one percentage point lowering in the effective tax rate on profits yields a $547 rise in after-tax profits per worker.

In sum, we find that a variety of hypotheses derived from the theory of the state we have developed, and specifically from the analysis of the impact of government on the pre-tax, pre-transfer distribution of income, are supported by the empirical work. The more the government purchases from an industry and the lower an industry's effective tax rate, the greater are its profits. Not only does government purchasing and tax policy lead to higher profits per worker but it also affects industrial structure in that market power is probably enhanced, capital structure altered, and union relations transformed. These elements of industrial structure interact with higher profits and favorable government purchasing and tax policy to feed the stratification of labor, thereby intensifying the duality in labor market structures. The net result of all these impacts is to alter wage structures from what they would have been without a differential government tax and purchasing policy. These inferences can be drawn from our results on the wage equation where government purchasing policy appears to exert a direct impact on wage structures as well as an indirect impact through the structure of industries (and its consequent impact on labor market dualism) which emerge from government purchasing and tax policy.

References

Bluestone, Barry, a, "Capitalism and Poverty in America: A Discussion," *Monthly Review*, 24, 2 (June, 1972), pp. 65–71.

———, b, "Statement Prepared for the Joint Economic Committee: February 29, 1972," (mimeo.), (Boston: Department of Economics, Boston College, 1972).

———, "The Tripartite Economy: Labor Markets and the Working Poor," *Poverty and Human Resources*, 5 (July/August, 1970), pp. 15–35.

Bluestone, Barry, Mary H. Stevenson, Charles Betsey, and William Bachman, *Code Book for 1967 Merged Survey of Economic Opportunity—Industry—Occupation File* (Ann Arbor: Institute of Labor and Industrial Relations, n.d.).

Doeringer, Peter B. and Michael J. Piore, *Internal Labor Markets and Manpower Analysis* (Lexington: D. C. Heath and Co., 1971).

Gillespie, W. Irwin, "Effect of Public Expenditures on the Distribution of Income," in Richard A. Musgrave (ed.), *Essays in Fiscal Federalism* (Washington: The Brookings Institution, 1965), pp. 122–186.

Gordon, David M., a, *Economic Theories of Poverty and Underemployment* (Lexington: D. C. Heath and Co., 1972).

———, b, "Taxation of the Poor and the Normative Theory of Tax Incidence," *American Economic Review*, LXII, 2 (May, 1972), pp. 319–328.

Harrison, Bennett, "Public Employment and the Theory of the Dual Economy," in Harold L. Sheppard, Bennett Harrison and William J. Spring, *The Political Economy of Public Service Employment* (Lexington: D. C. Heath and Co., 1972), pp. 41–75.

Herriot, Roger A. and Herman P. Miller, "Changes in the Distribution of Taxes Among Income Groups: 1962 to 1968," presented at the American Statistical Association (Fort Collins, Colorado, August, 1971).

Kaufman, Richard F., "MIRVing the Boondoggle: Contracts, Subsidy, and Welfare in the Aerospace Industry," *American Economic Review*, LXII, 2 (May, 1972), pp. 288–295.

Marx, Karl, *Capital*, Vol. I (New York: International Publishers, 1967).

Michelson, Stephan, "The Economics of Real Income Distribution," *Review of Radical Political Economics*, Vol. 2, No. 1 (Spring, 1970), pp. 75–86.

Miliband, Ralph, *The State in Capitalist Society* (New York: Basic Books, 1969).

Moore, Stanley, *The Critique of Capitalist Democracy: An Introduction to the Theory of the State in Marx, Engels, and Lenin* (New York: Paine-Whitman Publishers, 1957, reprinted by Augustus Kelly Reprints, Englewood, New Jersey).

O'Connor, James, *The Fiscal Crisis of the State* (New York: St. Martins Press, 1973).
Piven, Frances Fox and Richard A. Cloward, *Regulating the Poor: The Functions of Public Welfare* (New York: Pantheon Books, 1971).
Sweezy, Paul M., *The Theory of Capitalist Development* (New York: Modern Reader, 1968).
Tax Foundation, Inc., *Tax Burden and Benefits by Income Class, 1961 and 1965* (New York: Tax Foundation, Inc., 1967).
Wachtel, Howard M., "Capitalism and Poverty in America: Paradox or Contradiction?" *American Economic Review*, LXII, 2 (May, 1972), pp. 187–194.
———, b, "Thesis on Poverty and Inequality," *The American Economist*, 17, 2 (Fall 1973), pp. 17–22.
Wachtel, Howard M. and Charles C. Betsey, "Employment at Low Wages," *Review of Economics and Statistics*, LIV, 2 (May, 1972), pp. 121–129.
———, "Low Wage Workers and the Dual Labor Market: An Empirical Investigation," (mimeo, 1973).