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Rent-seeking in U.S. government budgets, 1900–88

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1. Introduction

In a constitution of equal rights for all, the gains from exchange are increased in the post-constitutional stage through the creation of a minimalist fiscal state. This state enforces the structure of rights under the constitutional agreement, provides for pure public goods,[1] and provides for the common defense (Buchanan, 1975). In the post-constitutional stage under a Wicksellian rule of (near) unanimity fiscal expansion of the state is Pareto superior. All taxpayer-citizens by definition receive net benefits from the increment is public expenditure. Under a political system of universal suffrage and a voting rule of simple majority, public expenditures are concentrated to the winning political coalition and taxes are generalized. The concentration of net benefits from the state's fiscal function is exacerbated with a rule that allows legislative vote trading or logrolling (Buchanan and Tullock, 1962) and a system of progressive taxation.

The opportunity to concentrate net public expenditure benefits within the fiscal function of the state gives rise to rent-seeking by special interest taxpayer-citizens through government budget allocations. Special interest groups and coalitions of special interests through vote trading legislative representatives seek to reallocate budgetary expenditures toward themselves and away from other special interest groups. There are several important implications of budgetary rent-seeking. Budgetary rent-seeking is composed of "income" and substitution effects. The budgetary "income" effect is the general increase in government expenditures from one period to another. In 1902, federal expenditures were 2.6% of GNP.[2] Federal, state and local expenditures were 7.7% of GNP. In 1986, federal expenditures were 23.4% of GNP, while federal, state and local expenditures were 40%.[3] The increase in the size and scope of government expenditures represents an enormous rise in the opportunities for rent-seeking through budgetary reallocations. Holding "income" effects constant, budgetary rent-seeking is the increase in a particular government expenditure at the expense of other categories – the substitution effect.

A second implication is that resources devoted to rent-seeking activities will flow to where the gains from such activity are highest. By the nature of the scope of government activity, rent-seeking opportunities at the local level are relatively less than at the federal level. The opportunities for transparency of government expenditures and diffusion of taxes is greater at the centralized than at the local level. In 1902, local expenditures were 55.8%, state expenditures were 10.9%, and federal expenditures were 33.3% of total expenditures. In 1986, local expenditures were 24.9%, state expenditures were 17.2%, and federal expenditures were 57.8% of total direct government expenditures.[4] Thus the historical rise in the centralization of government activity partly may be due to the fact that opportunities for rent-seeking through budgetary reallocation are highest at the central level of government.

A third implication is that resources devoted to directly unproductive activities are withdrawn from productive activities. This withdrawal of productive resources from the economy has implications for real economic growth. Constitutional settings (broadly conceived as "rules of the game") create pools of wealth and define the type of behavior sanctioned by the state. Given a positive discount rate, opportunities from constitutionally legal activities that yield the greatest benefits are exploited first. With a fixed technology and resource endowment, the marginal returns from legally sanctioned activities decline as the more remunerative productive activities are exhausted. At some point in time, the returns from change in the constitutional setting that create opportunities for directly unproductive activities exceed the returns from productive activity. Eventually, if the proponents' pressure for change in the rule space, a function of the groups' benefits minus its organizational costs, exceeds the opponents' pressure of resistance, Hicks-Kaldor inefficient (total losses outweighing total gains) changes in the institutional framework arise (see Scully, forthcoming, for a full analysis). If rent-seeking budgetary reallocations are Hicks-Kaldor inefficient, an inverse relationship between the size of these reallocations and economic growth will exist – a testable hypothesis.

2. Measuring rent-seeking budgetary reallocations

I follow Katz and Rosenberg (1989) in the assumption that every interperiod change in the governments' budget categories arises from the rent-seeking activities of special interest groups. Real resources are committed by these groups in the pursuit of these rents. I follow also the assumption of competitive rent-seeking theory that the aggregate net benefit from this special interest rent-seeking is zero. That is, resources are expended until marginal benefits from budgetary reallocations equal marginal resource cost. Thus the activities of special interests in pursuit of these rents is a pure waste of national resources.

Marginal dollar rents in period t from budgetary reallocation is defined as

$$\$R(t) = 1/2 \sum_i | \$B(t)_i - \$B(t-1)_i |, i = 1,n \quad (1)$$

where $\$B_i$ is the dollar amount of the budget allocated to category i, n is the number of budget categories, the summation is on absolute changes, and division by 2 avoids double counting.[5]

There are two biases in the measure of $R(t) that reduce its value as a true measure of the rents from budgetary reallocation. Some expenditure is on real resources for productive activities (e.g., protection of private property, pure public goods, etc.). Treating all changes in budget allocations as changes in rents biases the rent-seeking measure in an upward direction. On the other hand, the budget data on which the empirical estimates are made is not very disaggregated. The greater the degree of aggregation, the larger the underestimation of rent-seeking, since changes in the allocations at the disaggregated level tend to cancel as one aggregates the budget categories. This problem biases down the estimates of rents. Since the two biases are of opposite direction, they cancel to some unknown degree. In my judgment the net bias is sufficiently close to zero so we can take $R(t) as a measure of rent. Nevertheless, the net bias is an empirical question and these measures should be treated with some healthy skepticism.

Marginal rents at time t, R(t), from budgetary reallocation as a percent of GNP(t) is defined as

$$R(t) = \$R(t)/GNP(t) \quad (2)$$

Katz and Rosenberg (1989: 139–140) take one-half of the sum of the absolute percentage change in the proportions of the budget going to the categories. Their R_c is by definition the same as my $R(t)/G(t). Their measure of waste, W_c, is equivalent to my measure of R(t) in equation (2), since R(t) = [$R(t)/G(t)/G(t)/GNP(t)] = $R(t)/GNP(t). Hence, in Katz and Rosenberg marginal rents are divided by the stock of income produced by productive national resources. This specification of economy-wide waste is incorrect, because it mixes a flow of rents with a stock of GNP. The correct measure of waste is obtained by dividing the marginal rents (percentage change in rent-seeking, R(t)) by the marginal GNP (percentage change in national income from the productive employment of resources). Thus the correct measure of economy-wide waste in period t, W(t), from government budget reallocation is defined as

$$W(t) = R(t)/[GNP(t)/GNP(t-1)] \quad (3)$$

In comparing the *change* in rents to the *stock* of national income Katz and Rosenberg grossly understate the economy-wide waste from rent-seeking through government budget reallocations. The correct measure of waste is the comparison of the *change* in rents to the *change* in national income.

3. Government budgetary reallocations, 1900–88

Government budget data is available for the federal government, all state governments, and all local governments. The sources of the data are *The Statistical Abstract of the United States, Census of Government: Historical Statistics*, and *Historical Statistics of the United States: Colonial Times to 1970*. There were 18 categories of budgetary expenditure at the federal level and 22 and 24 categories at the state and local levels, respectively. There are several problems with the data. First, in some periods federal intergovernmental expenditure is separated by category from direct expenditure, in other periods these transfers are lumped in with general expenditures. This difficulty is overcome by making the interperiod comparisons with data containing the same vector of categories. At the federal level expenditure data in the earlier period is classified by government department rather than by functional category. Differences in budget categories exist as well in the state and local data, but these differences are relatively trivial. In any case, I corrected for changes in the vector of budget categories at the various government levels. Third, data for state and local government is annual only back to 1956. I break the analysis at 1960 and analyze federal expenditures on an annual basis in the period 1900–29. Some long run comparisons at the state and local level are possible for this early period.

3.1. Federal expenditures

Over the period 1960–88, marginal rents from federal budget reallocations as a percentage of the increment in nominal GNP [W(t) in equation (3)] averaged about 17%. The decade differences within the period (see Table 1) are not very meaningful. The relative amount of waste in the early decades of the 20th century is sharply lower. During 1923–29 (ignoring the years of WW I and its fiscal aftermath), waste averaged 4.8 percent of incremental GNP. During the period 1900–17, waste averaged 2.2% of incremental GNP. Partly, the rise in waste in 1923–29 is due to the constitutional change in the powers of the state to tax. Article XVI of the Constitution was passed in 1916, although individual income tax collections did not begin their inexorable rise until 1917. The constitutional change to progressive individual income taxation led to a 45% in-

Table 1. Average percentage increment waste from budgetary reallocations as a fraction of increment of GNP by level of government, 1900–88

Period	Federal	State	Local	All levels
1980–88[a]	18.8	4.8	6.7	30.3
1970–79	13.9	3.9	5.2	23.0
1960–69	18.3	3.5	5.3	27.1
1923–29[b]	4.8	1.9	7.6	14.3
1900–17[b]	2.2	1.1	6.7	10.0

[a] Average for state government is over 1980–86 and local government 1980–82.
[b] Estimates for state and local government are for the long run periods 1902–13, 1913–22, and 1922–27 and are biased downward. See discussion in Section 3.2 of the text.

crease in federal government receipts in 1917 and a 773% increase by 1920. Opportunities for rent-seeking through federal budget reallocations more than doubled.

3.1.1. Rent-seeking in federal budgets and economic growth

Waste in federal budget reallocations has grown through time. Partly this increase is due to the growth of the size of the government (the "income" effect) and partly to the growth in the competition of special interests for a greater share of the budget (the substitution effect). The theory of competitive rent-seeking hypothesizes that the resources withdrawn for this activity from productive employments lowers the growth rate of real national output. This hypothesis is tested over the period 1960–88 by comparing the waste percentage with the real rate of growth of GNP (g_{RGNP}). The simple correlation between W(t) and $g_{RGDP(t)}$ is −.58, significant at the 99% level. The regression coefficient is −.1788 (t = 3.68). Thus each 5.6 percentage point increase in relative federal marginal budgetary rents is associated with a 1.0 percentage point decline in real growth. As such, rent-seeking within the federal budget has a large effect on real growth. The rise in rent-seeking at the federal level partly may explain the slowdown in productivity growth in the U.S. economy. Yet, this statistical result surely is overstated and caution is warranted. One requires a more fully specified model of economic growth before a firm conclusion of the size of the effect of rent-seeking within the federal budget on economic growth is made. Nevertheless, even if the coefficient is overstated by a factor of 2 or so, the effect of rent-seeking on real economic growth will remain important.

Turning to the earlier period of 1900–29, the correlation between W(t) and $g_{RGDP(t)}$ is −.51.[6] The regression coefficient is −.0757 (t = 3.12). This coefficient is about 40% of the size of the coefficient for the period of 1960–88. The smaller coefficient is consistent with the lower mean level of rent-seeking in the earlier period.

3.2. State and local expenditures and the centralization of government

As is revealed in Table 1, over the period 1960–88, state and local waste from budget reallocations were much lower than at the federal level. It is too bad that annual data is not available for the earlier period. Some crude calculations can be made by comparing long-run increments in budget reallocations for the periods 1922–27, 1913–22, and 1902–13 with the same period increment in nominal GNP. Since budget reallocations will tend to cancel the longer the time interval of comparison, these calculations will be biased downward to an unknown exact degree. By making some long-run comparisons of a similar period length of the budget data over the period 1960–69, I conclude that the bias is not very strong. At the local level the 1960–69 change in budgetary reallocations divided by incremental GNP was 4.8%. The average of the annual percentages in Table 1 is 5.3%. For state governments the comparisons are 3.0 and 3.5% in Table 1.

With this *caveat* in mind, at the state level over the period 1902–27, marginal rents from budget reallocations were 1.7% of the increment in nominal GNP. At the local level they were 7.3% of incremental GNP. Tentatively, we can conclude that rent-seeking at the local level over the period 1960–88 has declined by about a quarter from the period 1902–27 (7.3 v. 5.7%) and at the state level has grown about 140% (1.7 v. 4.1%). Revenues at the local level continue to be dominated by property taxes (89% of revenues in 1902 versus 74% in 1985). State governments have been much more imaginative in expanding sources of taxation. In 1902, property taxes were 52.6% and sales taxes were 18% of revenues. In 1985, property taxes were less than 2.0%, sales taxes were 48.8%, and income taxes were 37.8% of total tax revenues. As new tax sources increased the flow of resources to state governments, functions that were a local prerogative historically (e.g., education, public welfare, etc.) and were constrained by a politically powerful tax interest (i.e., property owners) were transferred to state government. With more transparent taxation at the state level (e.g., sales and income taxes) the opportunity to concentrate public expenditure benefits and diffuse taxes increased. Partially, this explains the relative rise in rent-seeking at the state level and decline at the local level from 1902–27 to 1960–88.

Opportunities for more transparent expenditure and taxation are even higher at the federal level. In 1902, custom receipts were 42.5% and internal revenue (mainly, alcohol and tobacco excise taxes) was 48.3% of total federal revenues. In 1985, custom receipts were 1.6%, excise taxes were 4.9%, and income taxes were 53.9% of tax revenues. If one allows that income taxation is more transparent than sales or excise taxes, the transparency and sheer level of taxation at the federal level exceeds that of other levels of government. In 1902, federal taxes were 39.5%, state taxes were 11.0%, and local taxes were 49.5% of all

governmental taxes. In 1985, federal taxes were 67.7%, state taxes were 19.9%, and local taxes were 12.5% of all taxes. The rise of more transparent taxation has made it possible to concentrate benefits of public expenditure and to diffuse taxes most "efficiently" at the federal level, next at the state level, and least at the local level. Partly, the increased centralization of government is explained by the increased centralization of rent-seeking through budgetary reallocations. By reallocating taxation to higher levels of government the Tiebout check of moving with one's feet from tax-expenditure configurations that are not of benefit has been largely eliminated.

3.2.1. Rent-seeking at all governmental budget levels and economic growth
The measures of waste correlate negatively with the real economic growth rate at both the state and the local level of government. The simple correlation of W(t) and $g_{RGNP(t)}$ for the state level over the period 1960–86 is −.67 and for the local level over the period 1960–82 is −.65. Combining federal, state, and local measures into an aggregate all government waste measure, the simple correlation between the variable is −.69 and the regression coefficient is −.1504 (t = 4.33). Rent-seeking through budgetary reallocations apparently is as damaging at the state and the local level of government as it is at the federal level.

4. Summary and conclusions

A measure of waste from the competitive rent-seeking activity of special interest groups in federal, state and local budgets was calculated over the period 1900–88. This period in U.S. fiscal history is characterized by constitutional changes that have made for more transparency in governmental fiscal activities and for greater diffusion of taxes. The XVI Amendment to the Constitution created the progressive individual income tax (the corporate income tax was judged to be an excise tax in 1909 and passed the test of constitutionality). High marginal tax rates are a justification for a high average level of taxation. The Full Employment Act of 1946 insitutionalized government deficits as a means of meeting a political objective. As a result, opportunities for rent-seeking through budgetary reallocations rose in the United States. In the first two decades of the 20th century, waste at all levels of government represented about 10 percent of incremental national output. Today, waste is three times that amount.

The transparency and diffusion of taxes are highest at the federal level and least at the local level. Rent-seeking through budgetary reallocation has followed the public purse. One explanation for the observed centralization of government in the 20th century may be that opportunities to concentrate benefits and diffuse taxes are highest at the federal level.

Finally, the withdrawal of resources from the productive economy to pursue rent-seeking in government budgets lowers the rate of real economic growth. I find that rent-seeking through budget reallocations has had a significant and large negative effect on the growth rate.

Notes

1. Pure public goods (Samuelson, 1954) have the characteristic of consumption jointness and non-exclusion, and as such, cannot be market priced. The search for public goods with these theoretical characteristics is like the search for the Holy Grail. Even the example of the lighthouse has been challenged (Coase, 1974). Many goods that have an element of publicness in consumption can be produced and/or consumed within clubs (Buchanan, 1965). Of course, if one allows that externalities are a feature of some goods and services, weaker criteria are present for the production of public goods at the socially optimum level through common taxation.
2. Expenditures are from *Historical Statistics of the United States, Colonial Times to 1970* (1975: 1124, 1127). The GNP estimate is from Balke and Gordon (1989: 84).
3. *Statistical Abstract of the United States, 1989* (1989: 267).
4. See notes 2 and 3.
5. Katz and Rosenberg (1989: 139) use interperiod proportional changes in budget allocations. My results are not affected by the choice of dollar changes in budget reallocations as a measure of rent-seeking.
6. The real growth rate of GNP is obtained from Balke and Gordon (1989: 84–85).

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