THE CAUSES OF GOVERNMENT EXPENDITURE GROWTH: A SURVEY OF THE U.S. EVIDENCE

Thomas E. BORCHERDING*
Claremont Graduate School, Claremont, CA 91711, USA

The growth of government budgets can be broken down into 3 institutional and institutional components. The former component – the familiar substitution, income, and population/public goods–tax sharing effects – is estimated to contribute about two-fifths of the growth of U.S. government spending. The latter component – rent-seeking political redistributions, bureaucracy and perceptual/informational impediments – is important, too, but an exact imputation cannot be asserted given the state of the art in empirical public choice theory. The cross-effects on spending of the growth of regulation and tax preferences or tax expenditures, though interesting, is not pursued.

1. Introduction

Any scholar of U.S. fiscal history must address one simple, but central point, to wit: Why did Americans, using a highly competitive, democratically organized political framework characterized by much consensus (at least until recently) on the acceptable budgetary process, choose to spend one-twelth of their income through the public sector at this century's beginning, but over one-third today?

Several years ago I attempted an answer to this question in a pair of papers [Borcherding (1977a, 1977b)] that described this growth (between 1870 and 1970) and suggested those factors underlying this growth. A continued assessment of the hypotheses concerning determinants of growth, directs this conference, but time and space constraints my effort parochially to U.S. fiscal history. I will, therefore, not pursue the harder questions of why public spending levels and growth rates differ among countries [Aharoni (1979)]. Table 1., which describes government taxes as a percentage of gross national product for eleven of the richest and eleven of the poorest countries

*I wish to express my appreciation to the Hoover Institution, The Claremont Center for Economic Policy Studies, Simon Fraser University's Programme of Distinction and the Nobel Institute for assistance on this paper. Special thanks to Lori Harnack of Claremont for typing assistance. Members of the Claremont Colleges Workshop in Economics and the Nobel Symposium on Growth of Government gave me many useful comments. Keith Acheson and Ross Eckert made detailed criticisms and suggestions on the previous draft which I have not always heeded. I am also indebted to a helpful referee and co-editor Angmar Sandmo, Douglas Wills, my student at SFU and now of the Fraser Institute in Vancouver, provided able research assistance.

in the world, indicates that this question is difficult. Clearly table 1 indicates that rich countries spend higher fractions of their income through the public sector, but save for a crude consonance with Wagner's Law, the task of parsing out the sources of differences is beyond the ken of myself and, to date, most other scholars.¹

Section 2 offers, almost without commentary, the key data on U.S. spending changes. Section 3 assesses the sources of this growth. I first

Table 1
Taxes plus social security contributions as a percentage of GNP for selected years 1965 through 1968 (in ascending order of per capita income).

<table>
<thead>
<tr>
<th>Poorest countries</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Rwanda</td>
<td>8.6</td>
</tr>
<tr>
<td>Upper Volta</td>
<td>13.4</td>
</tr>
<tr>
<td>Ethiopia</td>
<td>8.6</td>
</tr>
<tr>
<td>Tanzania</td>
<td>15.1</td>
</tr>
<tr>
<td>Mali</td>
<td>15.0</td>
</tr>
<tr>
<td>Indonesia</td>
<td>7.5</td>
</tr>
<tr>
<td>India</td>
<td>11.6</td>
</tr>
<tr>
<td>Sudan</td>
<td>13.1</td>
</tr>
<tr>
<td>Kenya</td>
<td>14.5</td>
</tr>
<tr>
<td>Ceylon</td>
<td>18.2</td>
</tr>
<tr>
<td>Thailand</td>
<td>12.8</td>
</tr>
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</table>

Average 11.8

<table>
<thead>
<tr>
<th>Richest countries</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan</td>
<td>20.7</td>
</tr>
<tr>
<td>Italy</td>
<td>34.1</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>42.0</td>
</tr>
<tr>
<td>Austria</td>
<td>43.2</td>
</tr>
<tr>
<td>France</td>
<td>43.1</td>
</tr>
<tr>
<td>West Germany</td>
<td>41.2</td>
</tr>
<tr>
<td>Switzerland</td>
<td>25.6</td>
</tr>
<tr>
<td>Canada</td>
<td>36.4</td>
</tr>
<tr>
<td>Belgium</td>
<td>38.1</td>
</tr>
<tr>
<td>United States</td>
<td>34.5</td>
</tr>
<tr>
<td>Sweden</td>
<td>46.9</td>
</tr>
</tbody>
</table>

Average 36.9

¹Larkey, Stolper and Winer's (1984) survey indicates the unsatisfactory results of cross-country surveys. Crucial ceteris paribus conditions are, other than Ahroni's, probably violated in the econometric specifications. Interesting attempts have been undertaken by Cameron (1978), Ott (1980), Nutter (1978), Peacock (1979), Pryor (1968, 1979) and Wagner and Weber (1977).

consider the effects of the apolitical factors – changes in the relative price, income, and population growth. The methodology employed to make sense of these is broadly applicable to any country or period, since it is developed from basic price theoretic principles and supplemented by modern public choice constructs. I then explore the putative political agents of government spending growth such as the alteration in tax shares as a result of a deliberate attempt to redistribute income to the politically advantaged, the self-interested behavior of government employees, the presence of fiscal illusion, and intergovernmental aid and centralism. 'Displacement-concentration', 'habitual budget', and 'stage of development', models of the growth of government [Clark (1945), Kaufman and Larkey (1980), Peacock and Wiseman (1961), Stigler (1956), Wildavsky (1964)] are not considered here for want of space. They are well surveyed elsewhere [Borcherdning (1977a, Larkey, Stolper and Winer (1984)]. Finally, in section 4 some comments are made about the limitations of my findings.

2. Spending data

Table 2 indicates the absolute and relative magnitudes of public spending factored down by jurisdictional levels for the almost eight decades since the turn of the century. Table 3 calculates their annual growths and categorizes

Table 2
Billions of spending

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
<th>Federal</th>
<th>Non-federal</th>
</tr>
</thead>
<tbody>
<tr>
<td>1902</td>
<td>3.4</td>
<td>1.2</td>
<td>2.2</td>
</tr>
<tr>
<td>1913</td>
<td>5.4</td>
<td>1.6</td>
<td>3.8</td>
</tr>
<tr>
<td>1922</td>
<td>9.4</td>
<td>3.3</td>
<td>6.6</td>
</tr>
<tr>
<td>1932</td>
<td>15.6</td>
<td>5.4</td>
<td>10.3</td>
</tr>
<tr>
<td>1940</td>
<td>23.5</td>
<td>11.6</td>
<td>11.9</td>
</tr>
<tr>
<td>1950</td>
<td>44.4</td>
<td>28.3</td>
<td>16.1</td>
</tr>
<tr>
<td>1960</td>
<td>74.1</td>
<td>47.6</td>
<td>26.5</td>
</tr>
<tr>
<td>1970</td>
<td>124.6</td>
<td>77.9</td>
<td>46.7</td>
</tr>
<tr>
<td>1978</td>
<td>163.9</td>
<td>105.4</td>
<td>58.5</td>
</tr>
</tbody>
</table>

Per capita spending

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
<th>Federal</th>
<th>Non-federal</th>
</tr>
</thead>
<tbody>
<tr>
<td>1902</td>
<td>42.6</td>
<td>14.6</td>
<td>27.9</td>
</tr>
<tr>
<td>1913</td>
<td>55.6</td>
<td>16.8</td>
<td>38.8</td>
</tr>
<tr>
<td>1922</td>
<td>85.3</td>
<td>34.5</td>
<td>50.8</td>
</tr>
<tr>
<td>1932</td>
<td>125.4</td>
<td>43.0</td>
<td>82.4</td>
</tr>
<tr>
<td>1940</td>
<td>177.4</td>
<td>87.5</td>
<td>90.0</td>
</tr>
<tr>
<td>1950</td>
<td>291.3</td>
<td>185.6</td>
<td>105.7</td>
</tr>
<tr>
<td>1960</td>
<td>410.1</td>
<td>146.4</td>
<td>264.4</td>
</tr>
<tr>
<td>1970</td>
<td>608.2</td>
<td>227.9</td>
<td>277.9</td>
</tr>
<tr>
<td>1978</td>
<td>750.2</td>
<td>267.9</td>
<td>267.9</td>
</tr>
</tbody>
</table>

Percentage of GNP

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
<th>Federal</th>
<th>Non-federal</th>
</tr>
</thead>
<tbody>
<tr>
<td>1902</td>
<td>7.7</td>
<td>2.6</td>
<td>5.0</td>
</tr>
<tr>
<td>1913</td>
<td>8.1</td>
<td>2.4</td>
<td>5.7</td>
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<tr>
<td>1922</td>
<td>12.6</td>
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<td>1978</td>
<td>35.0</td>
<td>22.5</td>
<td>12.5</td>
</tr>
</tbody>
</table>

them by various functional relationships suggested by leading scholars of the subject.

Clearly such growth of the share of government in GNP (5.2 percent) is proximately 'explained' by the tremendous increase (5 to 6 percent) of transfers payments ('Big debate' or 'Modern', table 3) relative to that of the economy itself (about 3 percent). Alternatively, the federal government's budget expansion (almost 6 percent) could be said to be 'causal'. Such explanations involve accounting, however, not behavior. The deeper issue is what economic, political, and social forces caused spending growth to exceed the rise in national income by more than two percentage points for almost eighty years.

3. Sources of growth

To survey the sources of growth of government's claim on the national product an organizing model is required that allows changes in certain independent variables to have predicted effects on spending. The model used by Borcherding (1977b) will serve in the assessment process. The functional form employed is that conceived by Borcherding and Deacon (1972) and by Bergstrom and Goodman (1973). It conceives budgets emerging from rational actions under competitive and democratic political circumstances where the real decision-maker is the average citizen in the community, the 'median voter' to use the public choice theorist's jargon. To put it slightly different: he or she is the marginal chooser.

This Fiscal Everyman is hypothesized to have preferences for government produced goods of the form:

$$q = As^\alpha y^\beta m^\phi,$$

(1)

where $q$ is the amount of the good or service the chooser captures, $s$ is the price he faces for this $q$, $y$ is his income, and $m$ represents a set of political shift variables. The exponents, $\eta$, $\delta$, and $\phi$ have a convenient interpretation. They are, respectively, the price elasticity, the income elasticity, and the vector of various political/social elasticities of demand for $q$. Other non-marginal citizens have similar functions and these are by the median definition distributed around this pivotal voter in such a way as to cancel out each other's votes. I assume perfectly price elastic supplies of the public service to produce $q$.

The difficulty with eq. (1) is that it requires that $q$ and $s$ be directly measured. This requires further simplifying assumptions to enhance operability. First, I assume $q$, a subjective quantity, can be transformed into

2The median income earner is assumed also to be the median voter. Bergstrom and Goodman (1973) considered the (very reasonable) conditions where this holds.
where \( X \) is the amount of good or service produced for the group as a whole, \( N \) is the size of the group, and the exponent \( \alpha \) is the degree of publicness. If \( \alpha \) is zero, then the good is purely public and all of it is consumed by the median voter since \( q = X \). On the other hand, if \( X \) is purely private and if there are no common property 'crowding' problems, \( \alpha = 1 \) and \( q \) to this marginal chooser is \( X/N \).

To get \( s \), the subjective price at the margin to the chooser per unit of \( q \), in more convenient terms,

\[
s = tpX/q = tpN^\alpha,
\]

where \( p \) is the marginal cost of \( X \) and \( t \) is the percentage share of the cost of \( X \) borne by the median voter.

By suitable manipulation (1) can thus be rewritten:

\[
g = Ap^{\alpha+1}y^{\delta-1}N^{(\alpha+\alpha-1)t+\delta k+\phi m},
\]

where \( g \) is the share of public spending in total group income, \( y \) is the mean income of the group, and \( k \) is the ratio of median income \( y \) to mean income \( y \). What is exceedingly useful about this formulation is its ability to express the predicted growth rate of \( g \) as:

\[
g = (\eta + 1)\hat{p} + (\delta - 1)\hat{y} + (\alpha\eta + \alpha - 1)\hat{N} + \eta t + \delta k + \phi \hat{m},
\]

where the terms \( \hat{p}, \hat{y}, \hat{N}, \hat{t}, \hat{k}, \) and \( \hat{m} \) refer to annualized growth rates obtained by putting (1') in log form and taking total differentials of both sides. Eq. (4) will be employed below in assessing the contribution of each of the independent variables on \( g \) using parameter values generally found in the literature.

3.1. The effects of a-institutional economic changes

3.1.1. Price effects

Baumol (1967) has hypothesized that because the government sector is largely a service industry with relatively low capital–labor intensities, productivity rises therein are likely to be smaller compared to those in the manufacturing and primary sectors. Spann's survey (1977a, 1977b) concurred and his work suggests a 1.5 percent annual price rise in government outputs.

This study also cites Bradford, Malt and Oates (1969) as confirming this figure. Also, Peltzman (1980) obtained a 1.4 percent growth by noting the differences between the 1929–1974 rise in the private goods and services price deflator and that of government’s implicit price index. In addition, Borcherding and Deacon (1972) and Bergstrom and Goodman (1973) developed empirical estimates of price elasticities, \( \eta \), around \(-0.50\) and a large number of following studies replicated these original estimates [survey by Perkins (1977)]. Deacon’s (1978) estimates, however, are unique and worth mentioning. They are income compensated price elasticities, about \(-0.40\). This is the elasticity I will use, since I do not wish to confound substitution with income effects.

Given that \( \eta \) is \(-0.4\) and \( \hat{p} \) is 1.5 percent per annum, the effect of a rising relative price of \( X \) on \( g \) is \( \hat{g} = (1 + \eta)\hat{p} = 0.009 \) and accounts for a nine-tenths of one percent annual growth rate in the government's share of GNP. Because observed \( g \) is 2.9 percent per year, the Baumol Effect explains 31 percent of the growth of \( g \) or why U.S. government spending would now account for 16 percent of GNP rather than the 8 per cent share of 1902.

3.1.2. Income changes

As income rises the demand for all goods and services consumed (including future consumption in the form of current savings) rises by the same amount. Governmentally financed services are no exception to this rule. In fact, an hypothesis put forth by the nineteenth-century economist Adolph Wagner (1893) holds that as a society progresses, government involvement in fiscal-budgetary matters rises even faster. The implications of Wagner's Law is an income elasticity, \( \delta \), in excess of one, though a close reading of Wagner suggests that at some later stage an equilibrium level \( g \) comes about. This constant share prediction implies a steady state \( \delta \) of unity.

Most empirical studies of Wagner’s Law, however, discover an income elasticity around 0.75 [e.g. Beck (1976)]. Recently, however, Peltzman (1980) has argued this is too low, because none of the previous studies took the pains to employ measures of 'permanent income' as the causal factor. Since consumption decisions are based on permanent rather than temporary income levels, the resulting \( \delta \)'s are biased downward, a point Friedman (1957) noted for savings in his study of aggregate consumption. Using

\( ^3 \)Current research on Michigan data by Professors Perry Shapiro of University of California Santa Barbara and Theodore Bergstrom of the University of Michigan confirm this. They develop both price index data and price elasticity measures that serve to reinforce this hypothesis.

\( ^4 \)If \( \delta > 1 \), then public spending at some point would exceed national income. In one sense this is possible, since transfers can be taxed away and redistributed. In a more fundamental sense net transfers plus exhaustive public expenditures cannot indefinitely rise faster than national income.
moving average income figures to remove transitory effects, Peltzman found 
\( \delta \) was 1. Thus, the income effect on \( g \), \( g_2 = (\delta - 1) \gamma \), is zero.\(^6\)

This still leaves the contribution of \( k \), the change in inequality over the period, \( g_k = \delta k \). Since \( y \) exceeds \( k \), \( k \) is less than 1. This change in \( k \) over time, \( k \), must be discovered empirically, though it is difficult to find consistent estimates for long periods. Peltzman (1980), however, employing National Bureau of Economic Research proxy data which indicate a growing equalization of income in the United States, implying that \( k \) is rising. For instance, he finds that the ratios of unskilled to skilled wages in the building trades were 0.53 in 1910 and 0.80 in 1975.\(^7\) If \( k \) changed accordingly, the annual growth in \( k \) would equal six-tenths of one percent. The effect of this on predicted \( g \) is \( g_k = \delta k \) or 0.006. Thus, growing income equality would explain a bit more than 20 percent of the share growth of government spending in GNP or why the government share in 1978 is 13 percent rather than the 8 percent of 1902.

Such an interesting measure of \( k \) will be rejected by those who claim there has been much less increase in equality over time. Cutting \( k \) back by half, to 0.3 of one percent, yields a 1978 \( g_k \) of 10 percent of GNP. Because \( g_2 \) is zero, \( g_k \) is the net effect on public spending's relative growth of the median income recipient/median voter becoming wealthier over time. Thus, \( g_k = g_2 + g_k \) explains why government spent 11 percent of GNP in 1978 rather than the 1902 ratio of 8 percent.

3.1.3. The effects of public goods economies and tax-share changes

As eqs. (1) and (4) show, population increases affect the level of desired spending and, hence, the share of government spending in GNP. The term \( g_N = \alpha y (\gamma + \alpha - 1) \) yields the population growth's contribution to overall \( g \).

The studies by Borcherding and Deacon (1972) and Bergstrom and Goodman (1973) indicate \( \alpha \approx 1 \), though Deacon (1977) did discover some sharing economics at the local government level (\( \alpha = 0.75 \)). For the most part, it appears that little if any sharing economies are empirically observable, except for small communities [McMillan, Wilson and Arthur (1981)]. I will assume, therefore, that \( \alpha \) for output at the federal level - where it has never been measured - lies between 0.75 and 1.0, so that aggregate \( \alpha \), to a rough approximation, is 0.88. Given that \( \eta = -0.4 \) and \( N_i \) is 0.013, the effect of \( N_i \) on government's share of GNP, \( g_n \), is negative, about -0.006. This means that had only this aspect of population change been operating over the period, and no others, \( g \) in 1978 would have been over 35 percent smaller than in 1902, falling from 8 percent to only 5 percent. Thus implies that population growth explains a negative 15 percent of the observed \( g \).

This counterintuitive aspect of \( N_i \)'s growth is incomplete, however, since it ignores the effect of changes in \( N \) on \( t \), the share of budgetary cost the median chooser bears. Whatever the complicated behavioral relationships determining \( t \), it seems reasonable that changes in \( N \) are inverse to changes in \( N \). Thus, if the chooser in a 9-person community paid one-tenth of the cost of the \( X \) produced, he would pay one-twentieth of the cost when that community doubled its size to 18 people (other things constant). Thus, to a first approximation, \( t = \frac{N_1}{N} \). Since \( N = 1.3 \) percent per annum, \( t \) should equal -1.3 percent. Given \( a = -0.4 \), this implies that \( g_k = \alpha a N \approx \alpha a N = 0.005 \).

This accounts for 13 percent of the change in \( g \). This means that the cost-sharing aspect of population growth, public goods-sharing effects and other factors aside, causes \( g \) to increase by over 45 percent and yields a predicted 1978 \( g \) of almost 12 percent of GNP.

Combining the two above-mentioned population effects \( g_N \) and \( g_k \), as \( g_N = (\alpha - 1)(\eta + 1)N \), yields -0.001, a fall of one-tenth of one percent per year in \( g \). Thus, the net contribution of \( N_i \) to \( g \) over the period since 1902 is a small but still negative 5 percent. Had this been the only factor operating over this century, \( g \) today would be 7 percent, virtually unchanged from its 1902 level. Even if \( \eta \) were very elastic, say -1.2, and \( \alpha \) were much lower, e.g. 0.6, the net effect would have been a positive growth rate \( g_N \) of only one-tenth of one percent. This would give a population-adjusted \( g \) for 1978 of only 9 percent. Thus, the growth of population probably has had little effect on government's share of GNP, given the plausible values of the parameters that make up \( g_N \). This finding is confirmed by most studies which yield elasticity coefficients for \( N \) on per capita government spending not significantly different from zero, e.g. Peltzman (1980).

I will deal below with other (and important) demographic effects such as changing age distributions and percentage of female headed households on \( g \).

3.1.4. An aside on interdependencies

Bator (1960) asserts that much of second-century growth of government can be explained by what economists call technical externalities. By this he means that markets and their ally, the common law, fail to cost various activities high enough (or neglect to value certain positive spillovers suffi-
centrally) and government intervention in the form of public spending enter
the breach as a corrective.7 Bator argues, as did Wagner, that such market
effectivities rise relative to the growth of population and density, urbanization,
and manufacturing.
It is very difficult to develop proximate indices for these alleged non-
internalized effectivities independent of those captured by the income and
population terms. A number have been offered in the literature, however, and
I have examined several [Borcherding (1965, 1972)]. These include such
variables as urbanization, the ratio of manufacturing to agricultural activities,
and population density. The evidence suggests, however, that their respective
and total explanatory contributions are virtually zero (in any meaningful
statistical sense) and the instability in their values between studies suggests
that little (generally) has been gained by including them in (most)
econometric studies. (Highways seem to be an exception.) This is why I
neglected to discuss this aspect of the demand for public spending in eq. (1').
Possibly over time markets do fail and the comparative advantage of state
intervention rises [North (1984)], but economists have not been adroit at
detecting when, where, how, and why this is the case, though they have filled
libraries full of undocumented assertions, most of which neglect the con-
commitment change in the cost of state actions [Borcherding (1983)]. North’s
contribution to this volume is an important exception to this criticism, so it
is unnecessary to summarize his findings here.

3.1.5. The net effect of a-institutional changes
The sum \( \hat{g}_T = \hat{g}_T + \hat{g}_P + \hat{g}_N \) is approximately 1.1 percent per annum and
explains almost 40 percent of the growth rate of the U.S. public budgets over
the nearly eight decades following 1902. Put another way, these three
changes explain why government absorbed 18 percent of GNP in 1978, not
the actual share, 35 percent. (Table 4 summarises all these measures.)
If one is trying to explain only the 'Traditional' activities governments
have undertaken (table 3), \( \hat{g}_T \) is around 1.5, not the 2.9 percent per year for
all \( g \), and a-institutional factors would account for almost three-fourths of \( \hat{g}_T \),
or two-thirds of the 28 percent share of 1978 GNP devoted to government
spending. This means almost $2000 per household (in 1985 dollars) would
still be unimputed in the 'Traditional' category and the entire 'Transfer' or
'Modern' component, \( \hat{g}_P \), would be unexplained as well.

3.2. Institutional forms and public spending
Beginning in the 1950s economists began to model political behavior 'as if'
it was driven by the same narrow sets of self-interests as were private
markets [Mueller (1979)]. In this part of my survey this 'public choice'
methodology is employed and its contribution to the problem at hand is
indicated.
Although this methodological change in fiscal-political research truly
deserves the term 'scientific revolution', this new approach has yet to develop
that hallmark of a truly mature discipline - replicability of results.9 Whether
this is a 'bad' data problem or the more serious 'missing variables specifica-
dity difficulty is yet to be determined, but all the participants in the current
effort to act 'as if' those two were the trouble, not the paradigm itself.
Because others have (partially) attempted to survey this more recent 'poli-
tical' literature [Afxentiou (1979), Aharoni (1979), Aranson and Ordeshook

7This is a liability it shares with macroeconomics, if I am any judge of that still quarrelsome
literature.

Table 4
Summary of a-institutional contributions to public spending.

<table>
<thead>
<tr>
<th>Category</th>
<th>Measurement</th>
<th>As percent of ( \hat{g} )</th>
<th>Predicted 1978 ( \hat{g} )</th>
<th>Predicted to actual 1978 ( \hat{g} )</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Price effect</td>
<td>( \hat{g}_P = (1 + n)\hat{p} )</td>
<td>31</td>
<td>0.16</td>
<td>0.46</td>
</tr>
<tr>
<td>2. Income effects:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) mean income</td>
<td>( \hat{g}_A = (d - 1)\hat{d} )</td>
<td>0</td>
<td>0.08</td>
<td>0.23</td>
</tr>
<tr>
<td>(b) equality effect</td>
<td>( \hat{g}_E = \hat{d} )</td>
<td>10</td>
<td>0.10</td>
<td>0.29</td>
</tr>
<tr>
<td>(c) both (a) and (b)</td>
<td>( \hat{g}_T = \hat{g}_A + \hat{g}_E )</td>
<td>10</td>
<td>0.10</td>
<td>0.29</td>
</tr>
<tr>
<td>3. Population effects:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) public goods economies</td>
<td>( \hat{g}_P = (\eta + \alpha - 1) )</td>
<td>-21</td>
<td>0.05</td>
<td>0.14</td>
</tr>
<tr>
<td>(b) tax sharing</td>
<td>( \hat{g}_T = - \eta N )</td>
<td>17</td>
<td>0.12</td>
<td>0.34</td>
</tr>
<tr>
<td>(c) both (a) and (b)</td>
<td>( \hat{g}_N = \hat{g}_T + \hat{g}_P )</td>
<td>-3</td>
<td>0.07</td>
<td>0.20</td>
</tr>
<tr>
<td>4. Total a-institutional effects</td>
<td>( \hat{g}_T = \hat{g}_P + \hat{g}_E + \hat{g}_N )</td>
<td>38</td>
<td>0.18</td>
<td>0.52</td>
</tr>
</tbody>
</table>

Notes: Parameter values are \( \eta = -0.04, \delta = 1, \alpha = 0.88 \); independent variable changes at \( \hat{p} = 0.015, \hat{d} = 0.019, k = 0.003 \) and \( N = 0.013 \). Sources are listed in text.
Turchys (1975), Larkey, Stolper and Winer (1984)), I propose only to go through this literature impressionistically, giving the reader my reflections on the central tendencies and interesting deviations. Unfortunately, I will be unable to offer agreed-upon statistical elasticity measures, \( \phi_r \) for each of the various subcomponents that make up the political vector \( m \) in eq. (4) above, since in many cases the range of parameter and variable estimates is too wide or imprecise.

I shall, therefore, only glance at three aspects of budgetary politics which dominate current research in the area: (1) the role of general income distribution and special interest groups; (2) the demand and cost expansion effects of bureaucracy; and (3) the importance of imperfect perceptions by the citizenry and fiscal illusion. A fourth aspect, intergovernmental aid and centralism, which has elements of (1) and (3) will complete the discussion.

3.2.1. Voting and redistribution

Stigler (1970) offered the following proposition which he has entitled Director's Law: 'Public expenditures are made for the benefit primarily of the middle classes, and financed by taxes which are borne in considerable part by the poor and the rich.' He notes that in the nineteenth century taxes generally were not proximately tied to personal incomes, nor were the benefits of public spending closely tailored to particular beneficiary groups. There was no income tax, personal or corporate, and federal revenues came largely from tariffs and excise taxes, while real property taxes generally supported non-federal spending. Governments clearly were interested in redistribution; as Hughes (1977) and Anderson and Hill (1980) have shown, but severe restrictions on tax discrimination [Tuerck (1967)] and the limitation of expenditures to fairly general interest ('Traditional?') areas such as protection, the courts, roads, and the minimal provision of education, meant that the fiscal instrument of redistribution was of limited use.

In the twentieth century, Stigler goes on, these restrictions have been relaxed so that taxes and expenditures can be linked to income class. This means, in effect, that individuals in the majority coalition receive a tax-share 'break' through particular sorts of redistributive ('Modern?') spending, \( g_p \). As a result, effective tariffs to them. Since 'Traditional' or true public goods spending, \( g_p \), is assumed to be independent of these selfish rent-seeking transfers, aggregate \( g = g_p + g_t \) must rise. Meltzer and Richard (1978, 1981a, 1981b), Demsetz (1982) and Peltzman (1980) have explored Stigler's hypothesis with more sophisticated models.

10 Although they disagree about the period when American public intervention really begins to accelerate. Hughes (1977) and Anderson and Hill (1980) agree that it was 'regulatory finance', to use Posner's terminology (1971), not tax and fiscal policy, that was the chief instrument of late nineteenth-century redistribution. Weber and Wildavsky's (1984) evidence is consistent with this interpretation.

Meltzer and Richard assume that (a) all public services are in the redistribution category, i.e. they are purely private, and (b) the mean income of the community exceeds the median income. Since the median voter is by hypothesis the median income earner, and since he or she also determines the tax rate, it necessarily follows that redistribution will take place. They claim that over time a major fraction of redistribution empirically fits their model. The implication of their hypothesis is that if and when economic development and/or rent-seeking redistributions cause median incomes to come close to mean incomes, such redistributions will cease, there being no politically ineffective group left to exploit. Unfortunately, they do not adjust their class measures of income to permanent levels; hence, some of the inequality they observe is necessarily transitory and not behaviorally relevant.

Demsetz eschews this broad income-class approach to redistribution in favor of a variant of Stigler's special interest framework. He argues that specialization that accompanies economic development, the division of labor phenomenon associated with economic growth, is at the heart of redistribution. He offers evidence to substantiate this claim. Interests, it also finds that inequality in income distribution did not matter in the past (1920-42) but it does for the recent period (1950-72). This, he explains, is the manifestation of a de facto extension of the franchise, where those with lower incomes after the Second World War exercised their vote in a more self-interested way than before. This occurred because of the lower cost of mass communication between political entrepreneurs and themselves. Thus, Demsetz agrees broadly with Meltzer and Richard, but differs importantly on specific historical interpretation of how rents are sought and redistributed in the modern polity and on what constraints limit such actions.

The last and most difficult model of the three to summarize is Peltzman's (1980). He recognizes the force of Meltzer and Richard's and Demsetz's models, but goes deeper into the vote-gathering and coalition-formation processes. He agrees that differences among groups are a source of redistributive investments in political rent-seeking, but their intensity, and hence successes and failures, will turn on the costs and returns of forming effective coalitions and preventing the formation of blocking ones.

Peltzman first establishes theoretically, numbers in the group given, that the richest group will be forced to redistribute to the poorest one via the

11 Groups organized along special interest-consumer or producer class lines are assumed to have lower costs of 'getting together' politically than less cohesive larger groups of citizens that are exploited. This well-known phenomenon was discussed by Downs (1957), Stubblebine (1963), Stigler (1970) and Niskanen (1971), though it is an ancient proposition found in Smith's Wealth of Nations.

12 Demsetz hazards the prediction that low cost communication to the broad class of voters may in the future choke off some special interest spending, or at least its relative growth. By this, he implies a diminution of the 'fog factor' [Lindsey and Zycher (1978)] as a source of budget expansion as well as an increase in the solidarity of small (per capita) stakes general interest.
actions of self-interested, vote-maximizing politicians. Second, he shows that if incomes are more equally distributed within the potential beneficiary class, the political transactions cost of redistribution is lower than if that distribution is fairly unequal. This requires politically identifiable classes (enhanced by education and low-cost information such as modern mass communications) and solidarity of interests (small variance in incomes within classes).

Peltzman’s model performs well econometrically and explains a great deal of the growth of post-Depression U.S. spending. He also recognizes that much redistribution is not rich-to-poor but poor-to-rich [Reynolds and Smolensky (1977)], as well as poor-and-rich-to-the-middle. He further points out, again consistent with Demsetz, that even if incomes are highly equal, the ability to divide groups politically by specialization and other sources of political interest (to reduce ‘the free-rider’ or ‘cheap-rider’ problem and to keep unwanted recipients out of particular coalitions) further enhances redistributive activity. Thus, unlike Meltzer and Richard, an equalizing of economy-wide income does not necessarily retard self-seeking redistributions in Peltzman’s view, since the transactions costs of rent-seeking will fall as well. Interestingly, Cameron (1978) also finds that equality enhances g.

One particularly important source of income class differences, namely the effect of a population’s age structure and the relative number of female household heads, is worth mentioning before closing this subsection. Smolensky, Pommerehne and Dalrymple (1979) note that the increasing share of population that is retired — twice as high today in the United States as compared to 1900 — and the increasing share of female-headed households, puts political pressures upon governments to redistribute income. In fact, Wilensky (1976) attempts to show that the growth of the elderly as a fraction of the population is the ‘...source of welfare spending that is most powerful’. Unfortunately, public choice theorists have not explored this promising area.

3.2.2. Bureaucratic influence on spending levels

The effect of bureaucracy on its own growth, what Buchanan and Tullock (1977) referred to as ‘Wagner squared’, is another important strand in the political economy literature on budget growth. The best known work here is by Niskanen (1971), who argued that bureaucrats have a desire for larger budgets and possess the monopoly power over the supply of their outputs which permits indulgence in these preferences. He allowed that bureaucrats have always desired larger budgets because of the ‘power, pay and prestige’ that rise along with them. It was, however, the Progressive Era, the New Deal, and the various Hoover Commissions that actually gave bureaucrats the monopoly power to exercise their preferences, a prerogative unknown to government employees under the nineteenth century’s ‘spoils system’. Thus, a growing bureaucratic monopoly power is said to cause g to rise, other factors constant.

An implication of Niskanen’s model is that a bureaucracy with great monopoly power, facing a relatively passive legislature and executive, will push budgets well beyond the competitive level sought by the median voter’s representatives. Of course, testing this requires a competitive budget benchmark and a direct test has so far eluded empiricists in the field. One operational implication has been recognized, however. If budgets are maximized, it follows that the observed price elasticities of demand ought to be about unity. Ott (1980) offered evidence for this, but McGuire (1981) found, as do most scholars, that absolute price elasticities estimates are almost always less than unity.

Furthermore, Niskanen’s model does not allow for ‘waste’, except where the price elasticity is just equal to −1.0. Evidence of ‘waste’, i.e. costs above competitive levels, is manifest [Borcherd, Pommerehne and Schneider (1983)], however, though the term is perhaps ill-advised. After all, ‘waste’ may simply be transfers to the politically advantaged. For example, Gunderson’s (1979) careful Canadian study suggested that one source of ‘waste’ is excess wages, some 6 percent, not including the nonpecuniary benefits of government employment and the superior pension guarantees. Deacon (1979) argued that non-competitive local government structures can increase budgets by as much as 25 percent, and Wagner and Weber (1975) found a similar relationship. How much of this excess spending is due to political transfers and how much to excessive outputs is not answered by these scholars, though Deacon guesses them to be about equal effects.

Why bureaucrats have all this redistributive power and elected officials are impotent to prevent excessive budget expansion (demand push) and wasteful expenditures (cost push) is not satisfactorily answered by Niskanen and his followers. In fact, more recently Niskanen (1979) effectively recanted his prior position and showed that politicians lose votes for excessive spending and incompetent supply decisions. Borcherd, Bush and Spann (1977) attempted to rescue Niskanen’s original proposition by arguing that bureaucrats are just another, but especially effective, special interest group. They press for budget expansion because their labor supply functions are less than perfectly elastic. They accumulate power, but spend it in increasingly costly ways (to legislators) as budgets grow.

Borcherd, Bush and Spann found that civil service variables explained anywhere from 2 to 80 percent of various sorts of spendings of non-federal public spending. In accord with their theory of increasing political cost, such increases rise, after some point, more slowly than did the civil service indices. Since all this involves redundancies and outwardly wasteful-looking programs, the budget-push aspect of the theory has been criticized as implying an inefficient strategy. It is, of course, in a transactions costless sense, but this presupposes that the direct cash transfers option is open and
effective. For various reasons having to do with tax and expenditure discrimination among recipients [Becker (1983), Borcharding (1983)] and the creation of misinformation to confuse the general citizenry of intentions [Lindsay and Zycher (1978)], transfers in kind are often the best that can be done.13,14

Mackay and Weaver (1978, 1979) and Romer and Rosenthal (1978, 1980) have attacked the notion of a decisive median voter determining public budgets, hence the belief in competitive politics itself. Mackay and Weaver argued that bureaucrats control agendas by specifying the mix of public services, and force larger budgets on the median voters via tie-ins. Romer and Rosenthal operationalized this empirically, arguing that the budget is expanded by offering an alternative budget so negligibly that the larger, bureaucratically preferred budget is chosen. Using this notion of a 'reversion budget', their model was tested on minimum mandated levels in Oregon school districts. They found empirical evidence for their hypothesis, i.e. the lower the reversion level, the higher the budget that is accepted. Needless to say, this view is not generally accepted by those whose research yields a more competitive picture of electoral and fiscal politics [Deacon (1981), Holcombe (1978), Innman (1978), Shepsle, Weingast and Johnsen (1981)].

Finally, evidence of bureaucratic power as part of the 'Iron Triangle', the coalition between clients, their elected representatives, and bureaucrats, has been offered by Fiorina and Noll (1978). Though a continuation of a long tradition in the political science literature made especially well known by Lowi (1979), the empirical evidence offered is not strong, nor, more importantly, can one argue that the phenomenon is present today to a degree dramatically greater than in times past, a necessary condition for a rising share of public budgets in national incomes. Nonetheless, studies on legislative committee structure and behavior [Shepsle (1978), Fiorina (1978), Shepsle, Weingast and Johnsen (1981)] show promise for explaining differences in spending behavior among otherwise similar jurisdictions.

3.2.3. Fiscal illusion and the rational choice problem

Fiscal illusion is claimed by some as another source of budget expansion. Buchanan (1967), Goetz (1977), and Stubbie (1963) all offered evidence that taxpayers underestimate their tax burdens. Of course, such ignorance is not totally irrational, because individual voters feel almost powerless to effect political decisions at the margins [Downs (1957)].

13 Transfers to private cooperator factors in the form of higher payments also occur, as, for example, 'Buy American' public sector purchase rules seem to indicate.

14 If the reader disagrees, let him or her explain the phenomenon of tariffs. They operate in the same way, creating rents by shifting demands along less than perfect elastic supply schedules. Transaction costless transfers would always be in cash. In the real world difficulties in restricting benefits to targeted groups means that in-kind transfers are politically efficient.

But systematic and growing perceptual bias is required, however, for g to rise, other things equal. Closeller (1976) denied the former, and derived a model whose 'as if' implications and evidence suggested rational tax-price perceptions. Disagreement is typical of this part of public choice theory and it is my impression, reinforced by Pommerehne and Schneider's (1978) survey, that economists are split over this issue and several that are ancillary to it (e.g. the political business cycle and the operation of rational expectations15). Although no one has yet made a tight case for a biased and growing fiscal illusion, Wagner (1976) has offered an intriguing hypothesis: As taxes become more numerous in their sorts and more indirect in terms of their incidence, budgets expand. This, he claims, causes the perception of their burden, on the margin, to fall.

Unfortunately the direction of causation is unclear in Wagner's model. Do more complex taxes cause larger budgets, as he suggests, or do larger budgets cause a wider class of taxes? Furthermore, when Green and Munley (1978) respecified Wagner's model, they found no correlation. Pommarehne and Schneider (1978), using Swiss data, argued that tax complexity is only one aspect of difficulties of informational gathering. They focused instead on the perceptions of 'share visibilities' and the ease of monitoring political agents. They found that government (politicians) has some freedom to pursue its (their) private goals independent of the median voter's actual interests. Whether this reflects misinformation or non-competitive behavior (or both) is still not clear.

Buchanan and Wagner (1977) published a provocative book, Democracy in Deficit: The Political Legacy of Keynes, which claimed that the public acceptance of the Keynesian paradigm opened the way for deficit financing and the encouragement of public spending. The reception of this book at a special conference devoted to it [Barro (1978), Niskanen (1978), Tobin (1978)] was hostile, however. The criticisms and arguments revolved around rational expectations, the notion that individuals learn about the costs of future as well as present taxes over time and do not systematically hold biased perceptions because of fiscal indulgence in deficit spending. Niskanen (1978) showed, however, that monetization of deficits is associated with larger budgets. He is not one to ascribe this to ignorance, but to a tax choice which lowers the costs of fiscal activity. Barro (1978) agreed. Again causal direction is crucial here.

What is at stake here is the old Ricardian question of whether or not the

15 The hypothesis examined here is whether governments can manipulate votes by spending to create employment (or other quasi-ten-generating increases) before elections, while taxes (including inflation) go up thereafter. There are many studies of this political manipulation theory, but those by Stigler (1973), Nordhaus (1975), McCallum (1978), Frey and Schneider (1978), Alt and Crystal (1978), and Wagner (1977) are alternating examples of interesting papers that found against and for this view. Tufte (1978) devoted a whole book to the matter, as have O'Driscoll (1979), Kiewiet (1983), and Peretz (1983).
future tax liabilities associated with debt are properly discounted by current generations [Barro (1974)]. Issues of inflation, tax rate progression, and unintended (by voters) expansion of government revenues via 'bracket creep' arise as well [Tanzi (1980)] and their (biased or unbiased) assessments by the citizenry turn upon these same perceptual issues as well.

3.2.4. Intergovernmental aid centralism

One feature of modern federal states that is said to engender aspects of public goods spillovers, rent-seeking redistributions, and possibly illusion about marginal chooser costs, is intergovernmental aid. Unfortunately, opinion on the topic is too varied to draw reliable inferences. Borcharding (1965) and Borcharding and Deacon (1972) found little or no effect of such aid on public spending. They rationalized this on two grounds: (a) the aid was not open-ended and therefore it had no marginal effect; and (b) the income effects cancelled out, since taxes to pay for aid (current or anticipated) caused, on average, no net wealth transfer. Regrettably for this finding — the conventional wisdom until the mid-1970s — Gramlich (1977) and Gramlich and Galper (1973) discovered otherwise. Oates (1979) concurred, arguing that non-open-ended aid is perceived by decision-makers as marginal even though it is not! It is possible that subtle politically contracted 'strings' are attached to these block grants [Gramlich (1977)] which ensures they have price effects, though on average no net wealth effects are realized. Since intergovernmental aid has exploded over time (growing more than two percentage points per year faster than spending), it is potentially an important explanator of public spending growth.

Of course, for unitary governments such a finding would be of no importance in explaining changes in $g$ over time, but Cameron (1978) argues and presents evidence that budget expansion is enhanced by the non-competitive aspects of centralist politics and the greater religiosity that centralist states seem to manifest as opposed to federalist entities. Pryor (1968, 1980) and Borcharding (1983) offered supporting evidence for this. Peltzman (1980) and Oates (1983), however, found that centralism has no effect on government's share of GNP.

4. A few concluding remarks

Serious omissions remain in this discussion. First, I have proceeded as if scholars in the field knew what the words 'government spending' and 'GNP' really mean. Perhaps they do know what the former mean; it is 'the budget', though everyone recognizes that externalities from spending activities create added costs (and spinoff benefits) elsewhere as do regulation and tax expenditures. Furthermore, the opportunity costs of government capital goods and publicly owned land and natural resources are omitted in the budgetary accounts. GNP is another and trickier matter. As Bird (1979) has pointed out, much of government services are intermediate inputs that are reflected in measured private outputs. Adjustment for this is difficult but desirable, since the estimated ratios of budgets to national income, $g$, would probably be quite different and larger when this double-counting ceased. It is not clear how $g$ would change. If a great deal of modern government transfers are final services, it would cause $g$ estimates to rise; if these transfers are really social capital, $g$ would have to be revised downward.

Second, I have totally neglected the price effects of substitutes and complements to government budgeted goods and services. That is fine if one knew the relative prices of regulation and tax expenditure goods changed at about the same percentage rates as did those of government goods and services, since then there would be no cross-effects. But the evidence does not support this possibility [Borcharding (1977b, 1983)].

To be specific, economists do not know how close a substitute (or complement) regulation is for public spending. If they are largely substitutes, it may well be that when regulation is properly evaluated the deceleration in government's budgetary growth in the United States in the past decade will be more than offset by regulatory interventions. This is a distinct possibility given my reading of Weidenbaum (1979a, 1979b), Lilley and Miller (1977) and Shughart and Tollison (1983).16

Another omission is the whole category of tax preferences or tax expenditures, the forgiveness or diminution of taxes for certain classes of persons or on certain types of factors or outputs. By all accounts this is also a large and growing area, one not much present in the personal and corporate income-taxless United States of 1902. My conjecture is that, just as for regulation, tax expenditures are, on average, substitutes for budgeted expenditures, a position reinforced by Surrey's (1973) research. This hypothesis is clearly reflected in the U.S. Treasury's recent recommendation [U.S. Department of Treasury (1984)] for tax reform. That tax preferences have grown faster than revenues, thereby causing $g$ to be less than it otherwise would be, seems highly likely according to Surrey (1973).

Third, the effects on government spending caused by alterations in the cost of enforcing tax law, the so-called underground economy, as well as the deadweight cost of existing taxes, is just starting to get some attention [Barro (1974), Becker (1983), Usher (1985), Webber and Wildavsky (1984)]. It could well be that some of the expansion of the modern state is merely a

16Because of limited data Weidenbaum (1979a, and 1979b) and Lilley and Miller (1977) showed regulatory growth relative to that of the budget only for recent years. Shughart and Tollison (1983), on the other hand, studied federal legislation broken down into ways suggesting expenditure (or taxation) vs. regulation. They began with the administration of George Washington and concluded that budgets underplay the role of government in the earlier period, confirming Hughes' (1977) hypothesis.
manifestation of the political case and/or the efficiency of taxation compared to the past, a position North (1984) supports and one Webber and Wildavsky (1984) document.

Fourth, save for North and Wallis (1982) and North (1984), no positive theory of the division of labor between private and public actions is embodied in public expenditure models to date. Thus, we have no really useful way to predict why different societies have larger or smaller budgets (the other things of section 3 aside).17 The role of fiscal constitutions has been largely unexplored empirically, though the National Tax Journal (Supplement, 1979) sponsored a volume devoted to California's Proposition 13.

The new view of government as selfishly redistributive [Stigler (1970), Demsetz (1982), Meltzer and Richar (1981b), Pettman (1976, 1980), Becker (1983)], though 'unrealistic', is a useful methodological prophylactic to the 'public interest' fiscal theories of Galbraith (1958) and Bator (1960). Unfortunately, this 'new cynicism' neglects the role of productive expenditures, though as I showed earlier, raising the degree of publicness in government services does not yield a larger predicted g, but a smaller one, given the observed price inelasticity.

Finally, I have deliberately omitted discussion of ideology in my survey. It is an open question whether after the obvious elements of self-interest are separated from political action, scope for ideology remains. Kau and Rubin (1978, 1979) and Kalt and Zupan (1984) believe there is; Pettman (1984) does not. Furthermore, though ideology may explain some changes in the levels of spending [Kau and Rubin (1979)], to my knowledge no economist has made the formation of ideology endogenous within the fiscal system, save perhaps neo-Marxists like O'Connor (1973). Interestingly, that notions such as 'ideology' and 'public opinion' may have content beyond narrow self-interest, and that these may have effects on the growth of and scope for government, are unquestioned by non-economist scholars.18

For those disappointed with the last twenty, fifteen, or even ten years of research on government spending theory, let me suggest they pick up any of the standard works on government spending written in the late 1950s and 1960s (or before) and compare them with today's equivalents. The marginal product, though less than practitioners may wish, exceeds by several orders of magnitude the entire product of this earlier scholarship.

17To give one example, does it matter for g if a society is democratically or authoritarian-directed? Wagner and Weber (1977) showed it does not, but they did not explain why this is the case. Pryor's (1969, 1978) research confirmed this.

18A.V. Dicey's contribution comes immediately to mind, but even such Chicago School forerunners as Frank Knight (1935) do as well. Both held the Veblenian-dynamic view that the forms of economic organization not only reflect the tastes of societies and the transactions costs they labor under, but direct how these preferences and costs will form, develop, and unfold. Wildavsky's paper in this volume takes this position seriously. I do, too, but have no model to deal with this phenomenon.


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THE GROWTH OF GOVERNMENT IN THE UNITED STATES: AN ECONOMIC HISTORIAN’S PERSPECTIVE

Douglass C. NORTH
Washington University, St. Louis, MO 63130, USA

This paper first outlines the salient features of the growth of government in American history. Second, it offers a neoclassical explanation of that history in which increasing specialization and division of labor brought about by the industrial and technological revolutions in the nineteenth century drastically altered the demand for and supply of government. Finally, it argues that institutions matter and describes the way the particular structure of government was important in the timing and pace of its growth.

1. Introduction

The subject of this conference is the growth of an institution—government. In the neoclassical framework, however, there are no institutions except the market, which operates costlessly and perfectly. Numerous recent studies on the growth of government have theorized about the growth of an institution but have had no theory of institutions. As a consequence, they usually make implicitly assumed that institutional change is a passive response to changes in relative prices, i.e., that institutions do not matter. Such an approach begins by assuming away the most important aspect of institutions: their role in dampening responses to relative price changes. The very essence of an institution is the ability to reduce the uncertainty in recurrent interpersonal relations by developing a structured pattern of behavior. This means that institutions constrain behavior. In a world with institutions, only a limited number of responses to any change in relative prices are possible, with the response depending on the particular institutional environment. Furthermore, institutions do not work frictionlessly, and by separating principals and agents, they allow ideological considerations to influence decisions.

This paper offers both an account (an account that is essentially neoclassical) of the underlying influences that changed relative prices and an explanation of why those influences led to increased government intervention. I shall discuss some of these influences in this essay.

I would like to thank Lee Alston, Lee Benham, Elisabeth Cahn, Mike Manger, Bill Riker, Ken Shepsle, John Walls, Robert Weibe, Barry Weingast, participants in the economic history workshops at Northwestern University and the University of Chicago for helpful comments on an earlier draft. I owe a particular debt to my research assistant, Andrew Ruten, for his contribution to this essay.

*See Meltzer and Richerson (1978), Brench’s (1977, 1981), Pecuni (1968), and Bundes (1982).