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THE ECONOMICS OF AN INFLATION AND POPULATION-BASED STATE-SPENDING LIMIT-THE CASE OF WASHINGTON'S INITIATIVE 601

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INTRODUCTION

Washington State passed its first budget limitation, a cap on revenue growth, by initiative in 1979. With Washington State's constitutionally required balanced budget, this revenue limit was thought to be sufficient to constrain spending as well. For a variety of reasons, this 1979 limitation failed to restrain the growth of Washington State's spending, especially since 1989 (See Table 1).[1] Many states that passed tax or expenditure limitations (TELs) in the late 1970s and early 1980s have had similar experiences.[2] Because of the perceived ineffectiveness of Washington's 1979 initiative, a new initiative was drafted and passed by Washington voters in 1993. This new initiative, Initiative 601, was written in ways its drafters hoped would prevent the state legislature from avoiding the limitation, e.g., the initiative prohibits the state from raising fees to compensate for the limitation or shifting funding responsibilities to local governments.[3]

Initiative 601 replaced the 1979 initiative's revenue limit with a moratorium on raising taxes except through supermajorities (e.g., 2/3 of both the state House and Senate). Also, the new initiative explicitly limits the growth rate in state government spending to the sum of inflation and the growth rate in the state's population. Three other states (Alaska, California, and Nevada) also use or have used the *inflation plus population growth rate* (IPPGR) limitation. However, most states use the *personal income growth rate* (PIGR) limitation similar to the one used in the earlier Washington initiative, because it is reflective of real per capita economic growth in addition to inflation and the population growth rate (Caiden, 1980, p. 146).

This paper presents a positive economic analysis of the differences between the IPPGR and PIGR spending limitations not only for Washington State but for any state using or considering the IPPGR limitation. The implications of the IPPGR limitation and Washington State's Initiative 601 are also discussed.

Voters for Initiative 601 may have thought they were voting for a "lid on" the size of the state government. The wording of Initiative 601 indicated it would control the growth of government spending, not that it would reduce the size of government spending. However, this paper shows that over time Initiative 601 will shrink the size of state government spending relative to personal income as long as real per capita income continues to increase. Furthermore, Initiative 601 will result in a rapidly decreasing portion of Washington State's tax revenues going directly into its budget. In particular, after 47 years, less than half of taxes collected will fund regular general-fund appropriations. The continual decrease in the state government's relative size compounded by the decreasing fraction of taxes going for regular general fund appropriations makes the IPPGR

limitation an unlikely permanent and feasible limitation to state government spending.

For a finite period of time, however, the IPPGR's shrinking government effect and budget-cut-like environment may be consistent with the desires of the electorate and may encourage greater governmental efficiencies. In particular, Initiative 601 should force Washington State to put funds into an emergency or "rainy day" fund.

TABLE 1
WASHINGTON STATE GOVERNMENT SPENDING AS A PERCENT OF PERSONAL INCOME

Biennium	Total Government Spending	State-Funded General-Fund Spending Less K-12
61-63	10.60%	3.43%
63-65	11.00%	3.47%
65-67	10.90%	3.61%
67-69	11.70%	4.16%
69-71	13.40%	5.03%
71-73	13.20%	4.88%
73-75	12.00%	5.04%
75-77	12.30%	5.17%
77-79	11.70%	5.19%
79-81	12.20%	5.23%
81-83	12.00%	4.51%
83-85	12.80%	5.33%
85-87	13.30%	5.30%
87-89	12.90%	5.21%
89-91	14.40%	5.64%
91-93	15.20%	6.20%

To form the basis for the rest of the paper, the next section reviews the usual justifications for government-provided goods and services. That the IPPGR limitation will shrink the relative size of state government over time is demonstrated in the third section. The economic theoretic analysis of the fourth section reveals the unlikely characteristics of the electorate necessary for the electorate to be continually content with a stagnant level of state-provided services resulting from the IPPGR limitation. The fifth section shows that the level of state provided goods and services will actually decline unless productivity in the state public sector increases at least as fast as in the private sector. In case Washington's voters, by voting for Initiative 601, actually did want to shrink the relative size of state government, the sixth section discusses the budget cutting and waste-elimination possibilities for that shrinkage. The final section presents the authors' conclusions and some reflections on the IPPGR limitation and Initiative 601.

JUSTIFICATION FOR GOVERNMENT-PROVIDED GOODS AND SERVICES

Government-provided goods and services can be justified on several grounds. First, the government plays a role in providing public goods and quasi-public goods. Public goods are goods that provide benefits to the population as a whole once they are produced, and one person's consumption of such goods does not detract from others consuming that good. National defense is such a pure public good. Because national defense benefits everyone in the nation, individuals usually will not be motivated to individually fund national defense. Thus, the government needs to fund national defense. Similarly, the government will often fund other public goods to avoid undersupply.

Most of the goods and services funded by state governments are quasi-public goods. Quasi-public goods benefit the specific individuals involved and simultaneously benefit society as a whole or other third parties. For example, education benefits individual students and society simultaneously by increasing the likelihood that these students will become productive members of society rather than burdens on society. Other examples of public goods or quasi-public goods provided by state governments include the criminal justice system, child & family services, and alcohol and substance abuse services.

Government spending can also be justified to remedy market inefficiencies resulting from monopoly power or externalities such as pollution. For example, a state utility commission regulates utility companies to prevent them from taking advantage of their monopoly power. Various state agencies regulate the degree

to which businesses or other operations can pollute the air, water, or land.

A final justification of government spending concerns income distribution. Many consider it in society's interest to provide a safety net for households of lower or no income. In addition to benefiting those lower-income households, the safety net also benefits both those with higher current incomes and society as a whole. Those with higher current incomes are less bothered by their uncertain future if they know there exists a safety net if things turn out differently than they hope. Society as a whole benefits if the safety net increases the likelihood that children covered by this safety net will become productive members of society rather than criminals. Thus, income redistribution can be viewed as a quasi-public good. (For more detailed discussions of the justification of public goods and services, see Musgrave & Musgrave, 1980, Hwang & Gray, 1991, and Jones, 1990).

While there may be disagreement as to the appropriate level of state-provided goods and services, few would argue that the state should provide no goods and services. Given that some economic or equity justification exists, there should be some "optimum level" for these state-provided goods and services. This "optimum level" ought to be reflected through the political system as a compromise between those who believe in a low level and those who believe in a high level of this spending (See Kirlin, 1982). As a matter of fact, state government spending has been increasing over time, perhaps at a greater than optimal rate. To limit this growth, voters have responded with tax and expenditure limitations. The next section looks at the difference between the two major types of these limitations -- the PIGR limitation and the IPPGR limitation.

DIFFERENCE BETWEEN THE PIGR AND IPPGR LIMITATIONS

The following analysis demonstrates that changes in total personal income result from changes in three and only three factors: (i) inflation, (ii) population, and (iii) real per capita income. Thus, the difference between the IPPGR and PIGR limitations is that the PIGR limitation allows state spending to change with all three of these components, whereas the IPPGR limitation only allows state spending to change with inflation and population changes, not with changes in real per capita income. Therefore, as long as real per capita income continues to increase, the IPPGR limitation of Initiative 601 will reduce the size of state government relative to personal income.

Define the following variables:

$Y \equiv$ total nominal personal income
$N \equiv$ population
$P \equiv$ general price level
$y \equiv$ real personal income per capita
$\pi \equiv$ inflation rate
$n \equiv$ population growth rate
$r \equiv$ growth in real personal income per capita

For the sake of simplicity, assume the population growth rate, inflation rate, and growth rate in real personal income per capita are constant over time. Therefore, for each time t,

$$y_{t+1} = y_t(1+r)$$
$$P_{t+1} = P_t(1+\pi)$$
and
$$N_{t+1} = N_t(1+n)$$

These in turn imply that:

$$y_t = y_0(1+r)^t \qquad (1)$$
$$P_t = P_0(1+\pi)^t \qquad (2)$$
$$N_t = N_0(1+n)^t \qquad (3)$$

Total personal income for the state equals the state population times the price level times real per capita income. In symbols, this tautological relationship is presented below:

$$Y_t = N_t * P_t * y_t \qquad (4)$$

Substituting (1), (2), and (3) into (4) gives

$$Y_t = N_0(1+n)^t P_0(1+\pi)^t y_0(1+r)^t$$

which can be rearranged as follows:

$$Y_t = N_0 P_0 y_0(1+n)^t(1+\pi)^t(1+r)^t$$

By (4) evaluated at time t=0, replace N_0 P_0 y_0 above with Y_0:

$$Y_t = Y_0(1+n)^t(1+\pi)^t(1+r)^t \qquad (5)$$

Equation (5) shows that total nominal personal income grows because of three factors: population growth, inflation, and the growth in real per capita income. The IPPGR spending limit only takes into account the growth rate in population and the inflation rate. To show the implications of leaving out the real growth rate in per capita real income, interpret the IPPGR spending limit to be:[4]

$$G_t = G_0(1+n)^t(1+\pi)^t \qquad (6)$$

Thus, the ratio of state spending to personal income under the IPPGR limitation is

$$\frac{G_t}{Y_t} = \frac{G_0(1+n)^t(1+\pi)^t}{Y_0(1+n)^t(1+\pi)^t(1+r)^t}$$

$$= \frac{G_0/Y_0}{(1+r)^t} \qquad (7)$$

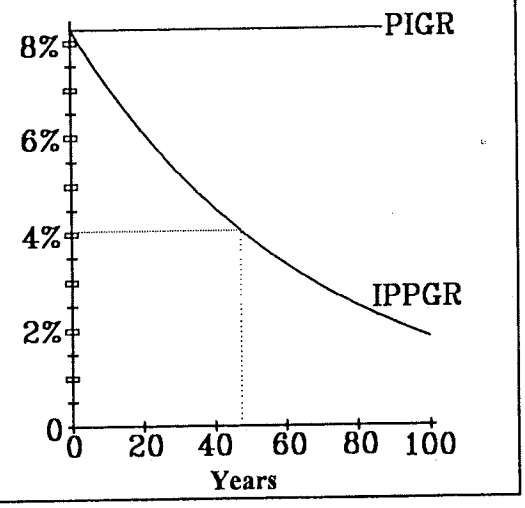
As shown by (7), the IPPGR limitation forces the fraction of personal income spent on state government spending to decline over time when the growth rate in real per capita income is positive.

How significant is this shrinking effect of the IPPGR limitation? To see how the limitation would have affected Washington State if it had been in place for the past 40 years, the parameters in (7) were estimated using data for 1954 and the latest data as of 1994. (i) The average growth rate in personal income was 8.37%, (ii) the average population growth rate was 1.84%, (iii) the average inflation rate was 4.85%, (iv) the average growth rate in real per capita income was 1.51%, and (v) the 1954 government spending/personal income ratio was 8.27%.

If an effective IPPGR limitation had been put into effect in 1954, state spending would have been reduced from 8.27% to 4.53% of personal income. This means that as a fraction of personal income, state spending would have been reduced by over 45%.

Using equation (7), Figure 1 plots how government spending would fare with Initiative 601 over a time span of 100 years assuming the growth rate in real per capita income continues to be 1.51%. The IPPGR limitation would force state spending as a fraction of personal income to steadily decline over time, halving itself in about 47 years. In contrast an effective PIGR limitation would allow state spending as a fraction of personal income to stay constant.

FIGURE 1
Gov't Spending as a % Of Personal Income Under The PIGR and IPPGR Limitations.



Washington State's Initiative 601 has a rebasing provision, Section 2(5), that may cause spending to decline even faster than the IPPGR limitation. In particular, if actual state

government spending is less than the spending limit in a particular year, the rebasing provision adjusts the spending limit downward (but not upward) to actual spending. Future spending limits are then computed from this lowered spending limit. The rebasing provision could then speed up the drop of state government spending in relation to personal income.[5]

In the case of Washington State's Initiative 601, the declining ratio of allowable spending to personal income will create an interesting result. With the same tax rates, Washington State revenues will continue to increase proportionately with total personal income. Thus, expenditures will fall below revenues. Initiative 601 stipulates that the resulting surplus of funds shall first be put into an emergency fund and then into an education construction fund.

Where T_t is the taxes at time t, an initially balanced budget would mean that $G_0 = T_0$. If the ratio of taxes to personal income remains constant, then $T_t/Y_t = T_0/Y_0 = G_0/Y_0$. Equation (7) then implies that the ratio of taxes to allowable spending in year t equals:

$$\frac{T_t}{G_t} = (1+r)^t \qquad (8)$$

Thus, the percentage of tax revenues in year t that will be put into either the emergency fund or the education construction fund will equal

$$\frac{T_t - G_t}{T_t} = 1 - \frac{1}{(1+r)^t} \qquad (9)$$

If per capita income continues to increase at a 1.51% annual rate and tax rates remain the same, almost 14% of Washington's general fund tax revenues will be going into the emergency and education construction funds after ten years. After 20 years, the percentage is almost 26%. After 47 years, more of these revenues would be going into these funds than into the regular general fund budget.

Initiative 601 requires supermajorities in each house of the legislature (followed by a popular vote) to divert funds in the education construction fund to other uses. However, if the legislature deadlocks and is unable to get those supermajorities, the result may be plush educational facilities throughout Washington State without the funds to operate them.

In summary, both the IPPGR and PIGR limitations put lids on the size of state government. However, over time the IPPGR limitation of Initiative 601 will **reduce** the size of state government as a fraction of total state personal income. Since tax revenues will continue to grow proportionately with personal income as long as tax rates don't change, Washington State voters will find a rapidly increasing portion of their taxes going into the emergency and education construction funds and less going to directly fund state goods and services. While it could reduce tax rates, the legislature may be reluctant to do so because of the supermajorities and popular vote required under Initiative 601 to raise the rates back up in the future.

ELECTORATE DEMAND FOR STATE-PROVIDED GOODS AND SERVICES

The previous section showed that state spending as a fraction of personal income will decline over time with an effective IPPGR limitation. Nevertheless, the real level of per capita expenditure will remain constant. As a result, some may argue that a state under the IPPGR limitation will be able to provide the same level of service as it does now, that the IPPGR limitation would only prevent the state from increasing its level of service.

The political will of the state would allow the IPPGR limitation to continue permanently only if these state-provided goods and services are not normal goods, goods for which the quantity demanded increases when income rises. Normal goods are contrasted to inferior goods, goods for which the quantity demanded decreases as income rises. Economists generally operate on the assumption that these goods are normal goods (Merriman, 1987).

To say a good is normal means only that the desired quantity of that good increases when real

income increases. It does not mean that someone will want to spend a greater portion of his or her income on that good. For example, suppose a household's real personal income increases from $40,000 to $50,000, and this household's desired level of real state government spending per household increases from $4,000 to $4,500. Even though the desired level of government spending as a fraction of personal income declines from 10% to 9%, the state-provided goods and services would be normal in nature because the desired level of these increased.

Some examples can help us understand the consequences of treating state-provided goods and services as non-normal. Suppose real per capita personal income increases. This means that on average people have a higher standard of living and are able to buy more than in the past. However, if state-provided public goods and services are not normal, then people would not want to spend more in real terms on state-provided goods and services. For example, even though their real incomes have increased, they would not want to spend more in real terms on their children's education. (The majority of the operational funds of schools in Washington comes from the state.) In other words, the state's population would not want the quality of their schools to increase as their real incomes increased.

Another example is state law enforcement activities including police and prisons. If state spending is a non-normal good, then when real per capita incomes increase, people would want no increase in the quality and quantity of their protection from crime.

This non-normal treatment of state spending seems to run counter to expected human psychology. In particular, self-actualization and safety are at the top of Maslow's (1954) hierarchy of needs. Thus, once the basic human needs are met, people become more concerned about self-actualization and safety. As a result, it would seem that the demand for education (self-actualization for children) and crime protection (safety) would become greater as real per capita income increases.

Cox & Lowery (1990) and Joyce & Mullins (1991) provide additional evidence that public goods and services are indeed normal goods by showing that the public, while voting for tax and expenditure limits (TELs), at the same time is quite satisfied with the level of services the states provide, and may indeed wish for a higher level of services. Also Wallich (1965, p. 43) states, "with rising wealth and industrialization, the need for public services advances, and probably faster than living standards." Thus, not only are public goods and services normal goods, but their income elasticity[6] may be greater than one.[7]

DECLINING LEVEL OF STATE-PROVIDED GOODS AND SERVICES?

The preceding section assumed that since real per capita state spending would not change, the level of services provided by the state would be constant. Some might think that technological developments will allow the level of state-provided services to increase. That is false. Technological developments will improve the productivity of state workers. However, **those technological developments are needed just to keep the level and quality of state-provided services from declining**. This section shows that only in the unlikely event that the productivity improvements in the state public sector exceed those in the private sector will the level of state-provided services be able to increase under the IPPGR limitation.

Strong evidence indicates that services (including state-provided services) may experience slower productivity growth than the economy as a whole. Baumol (1967) explained and predicted the movement to a more service-oriented economy and argued that service providers have not experienced and will not experience productivity gains as high as have manufacturers. The state, primarily a service provider,[8] would therefore likely experience slower productivity growth than the overall economy. Baumol, Blackman, and Wolff (1985) updated Baumol's (1967) paper and found that service productivity grew at a 0.93% rate between 1947 and 1976 compared to 2.52% and 3.21% growth rates in the durable and nondurable manufacturing sectors.

To understand that productivity improvements in the state public sector must match those in the private sector just to keep the real level of state-provided services from declining, realize that the level of services per capita provided by the state equals the productivity per state worker times the ratio of state workers to the state's population:

$$\frac{\text{productivity}}{\text{state worker}} * \frac{\#\text{state workers}}{\text{population}}$$

$$= \frac{\text{total state services}}{\text{population}} \qquad (10)$$

However, the number of state workers will depend on the real state budget for salaries and the average state worker's real salary. To be exact, the number of state workers times the average real state salary equals the real state budget for salaries. On a per capita basis, this relationship is:

$$\frac{\#\text{ state workers}}{\text{population}} * \begin{pmatrix}\text{real average} \\ \text{state salary}\end{pmatrix}$$

$$= \frac{\text{real state salaries}}{\text{population}} \qquad (11)$$

Solving (11) for the number of state workers per capita and substituting into (10) gives:

$$\frac{\dfrac{\text{productivity}}{\text{state worker}} * \dfrac{\text{real state salaries}}{\text{population}}}{\text{real average state salary}}$$

$$= \frac{\text{total state services}}{\text{population}} \qquad (12)$$

Under the IPPGR limitation, real state salaries per capita will be held constant. Thus, in order to maintain or increase total state services per capita, the following ratio must either stay the same or increase:

$$\frac{\dfrac{\text{productivity}}{\text{state worker}}}{\text{real average state salary}} \qquad (13)$$

In other words, increases in the average state worker's productivity must at least equal increases in the real average state salary.

As the next section discusses, some productivity increases may be expected under the IPPGR limitation of Initiative 601. However, given the general nature of productivity gains in the overall service sector (both private and public), these resulting productivity improvements are likely to be less than those seen for the overall economy. Since the IPPGR limitation basically will keep real state salaries per capita constant, equation (12) shows two ways the state can respond to this slower productivity growth. One way is for the state to let total state services per capita fall. Alternatively, to avoid this service level drop, the state may try to keep the growth rate in the real average salary it pays from exceeding the growth rate in the productivity of its workers. However, this alternative plan is unlikely to succeed especially in the long run.

The average real salary for the overall economy normally increases as productivity increases.[9] Thus, if the average productivity of state workers grows less than does overall productivity and state-workers' salaries increase no faster than their productivity, the state workers would find their salaries increasing less than salaries for the overall economy. As state-paid salaries become less and less competitive with the private sector, state-employee morale would decrease and the state's employee turnover rate would increase. Also, the state would have more difficulty hiring new employees, especially those most capable. The lower employee morale, the higher turnover rate, and the lower quality of the state's personnel will tend to decrease state-worker productivity.

Once again, an example will help put this into perspective. With respect to education, technological improvements such as computer-aided-instruction or telecommunications could

help increase the quality of education or allow more students-per-teacher. However, given the nature of teaching services, these technological developments are likely to improve teacher productivity less than they improve the overall economy's productivity.

As increases in overall productivity lead to increases in overall real salaries, competition will put upward pressure on teacher real salaries. If teacher salaries fail to increase with overall salaries, then many teachers would likely leave their profession for the private sector, possibly resulting in lower productivity, since the best and brightest would find it more rewarding to make the switch. On the other hand, if teacher salaries do increase with salaries in the overall economy while their productivity improvements are less than for the overall economy, the IPPGR limitation would force the level of education services per capita to decline.[10]

The above argument depends on the competitive pressure in the labor market forcing increases in public salaries to keep up with increases in private salaries. Some would argue that public employment has some advantages over private employment, such as job security, and thus public salaries need not be as high as private salaries. However, even if a differential exists between public and private sectors, the increases in both sectors must be equal to maintain equilibrium.[11]

POSSIBILITIES FOR REDUCING STATE GOVERNMENT SIZE

If Washington State's vote for Initiative 601 was because voters want the relative size of the state government to decrease, there are two ways of doing so. One way is to reduce or eliminate certain portions of the budget. A second way is to increase the efficiency of the state government. This section looks at these possibilities, starting by examining the budget to determine what programs could be reduced or eliminated

TABLE 2
1991-93 WASHINGTON STATE BIENNIAL BUDGET FOR STATE-FUNDED GENERAL FUND EXPENDITURES

	($1000s)	% of Total	($1000s)	Total
TOTAL EDUCATION:			$9,149,891	59.91%
K-12 Schools	$7,041,475	46.11%		
Higher Education	1,982,759	12.98%		
Other	125,657	0.82%		
INCOME REDISTRIBUTION:			2,212,360	14.49%
Medical Assistance	1,053,952	6.90%		
Long-term Care	539,257	3.53%		
Income Assistance	619,151	4.05%		
SOCIAL WORK			1,256,685	8.23%
JUSTICE & CORRECTIONS			705,916	4.62%
ADMINISTRATIVE & EXECUTIVE			697,147	4.56%
NATURAL RESOURCES & RECREATION			309,381	2.03%
LEGISLATIVE			111,731	0.73%
TRANSPORTATION			42,659	0.28%
OTHER EXPENDITURES			786,385	5.15%
TOTAL BUDGETED EXPENDITURES			15,272,155	100.00%

Source: Washington State Department of Revenue (1991)

Initiative 601 controls the state-funded portion of Washington State's general fund. Table 2 presents Washington State's budget for state-funded general fund expenditures for the 1991-93 biennium.

By far, the biggest component of this budget is education. However, most of this funding goes for K-12 public schools, which is constitutionally guaranteed according the Washington State Supreme Court. Therefore, those funds are untouchable. The state can reduce higher education funds, but it would come at a time when an increase in high school graduates is expected to place increasing demands on higher education.

The second largest component of the budget is income redistribution, which consists primarily of medical assistance (Medicare and Medicaid), long-term care services, and income assistance (welfare). Many of the electorate do advocate reducing this component of the state budget. Popular movements led by economists such as Charles Murray encourage the withdrawal of all welfare funding with the anticipated effect of solving important social problems (Bogert, 1994; Kaus, 1994). These movements expect that a reduction or elimination of welfare will reduce illegitimate births and force former welfare recipients into the labor market. However, such a reduction of welfare may backfire (Jones, Et. al, 1985) leading to more crime and child neglect that could increase rather than decrease the need for state government spending (Hay & Jones, 1994; Besharov, 1994; Fanshel, 1992).

While income redistribution represents the second largest component of the state's budget, income assistance (welfare) represents only about 4% of the budget. Thus, the opportunities for reducing the state's budget through reduction of income assistance are much less than many of the electorate may believe. Also, if the state did drop income assistance, it would lose matching federal funds which exceed the amount of the state funds.

Other components of income distribution that can be reduced are Medicaid and Medicare or long-term care services. However, the elderly have a strong voting voice and have resisted reductions in Medicaid and social security. Thus, it is doubtful that they will allow Medicaid or long-term care reductions or eliminations. Also, as with income assistance, the amount of matching federal funds exceeds the state funds. Thus, the state would lose federal funds when it reduces or eliminates Medicaid, Medicare or long-term care services.

The third largest component of Washington's budget is for social work services such as developmental disabilities, mental health services, child and family services, community development, and alcohol and substance abuse (listed in order of budgetary significance). Cutbacks on these programs could have significant negative social impacts such as more developmentally disabled living on the streets, more crime caused by untreated mentally-disturbed individuals, more child abuse and neglect, and more alcohol and drug related crimes. Furthermore, substantial federal matching grants may be lost as a result of these cutbacks.

The justice and corrections systems represent the fourth largest component of Washington's budgets. However, the electorate has been pushing for a tougher stance on crime as demonstrated by its "Three Strikes and You're Out" initiative, which passed at the same time as Initiative 601. Thus, if anything the electorate seems to be calling for this component to increase not decrease.

In summary, the opportunities to eliminate certain portions of the state budget are limited and may be less than what the electorate believes possible. Certain programs like K-12 education are constitutionally protected, whereas other programs have matching federal funds that make their elimination difficult.

A paradox seems to exist of voters working hard to limit state spending on what are arguably normal goods. Yet, voters do not just desire any good; they also demand quality goods. Voters may feel that they can get more or higher quality of these goods at the same level of spending, simply by removing "waste" in government (Nieman and Riposa, 1986; Lowery, 1983; Joyce & Mullin, 1991).

Hard times or a competitive environment have often been necessary to induce businesses to reduce waste and improve their productivity and

efficiency. More than eighty-five percent of the Fortune 1000 firms, for example, downsized their white-collar work force between 1987 and 1991, affecting more than five million jobs. ITT, K-Mart, IBM, Peat Marwick, AT&T, Eastman Kodak, and Sears are only a few of the many icons of American industry that have made significant attempts at structural productivity improvement. One study of the U. S. auto industry indicated that downsizing was implemented primarily as a reaction to loss of market share or profitability (Cameron, et al., 1994).

Downsizing strategies are often viewed as necessary steps for survival in the competitive private sector (Borucki and Barnett, 1990). But since the government does not have market competition as an incentive to improve efficiency, the public cannot rely on such measures to guarantee the wise use of resources. Instead, other control mechanisms have developed over time to monitor government behavior. Cox and Lowery (1990) note that public monitoring, such as open legislative debates, media reports, and investigative agencies, are possible mechanisms for control. But these can be costly and time-consuming.

One alternative to such costly mechanisms is the implementation of spending limits. By forcing the government to operate within the boundaries of a single financial measure, flexibility is left to legislators in determining how best to use limited resources. Thus, putting the government in a budget-cut-like environment may help boost its productivity and efficiency.

The effectiveness of spending limits to induce efficiency is not clear. First, the state tax or spending limits of the past have not been constraining and so they have not demonstrated whether spending limits can induce efficiency. Second, many doubt that spending limits can improve efficiency; in fact, they may make it worse (See Goldner, 1991, and Hughes & Rieman, 1995). In particular, public projects that have a large economic return may be foregone or postponed because of the spending limits. Initiative 601 does not distinguish between government consumption spending and government investment spending that would increase future productivity. For example, Jones (1990) found that education (an investment good) may be especially important for business creation, yet Initiative 601 would have a disproportionately negative effect on the operating funds for higher education.

CONCLUSIONS AND REFLECTIONS

If Washington's voters thought that by voting for the IPPGR limitation of Initiative 601 they were merely putting a "lid on" the size of state government, they were wrong. Under the IPPGR limitation, the size of state government as a fraction of personal income will decrease over time as long as real per capita income increases.

As allowable state expenditures as a fraction of personal income decrease while tax revenues continue to increase proportionately with personal income, Initiative 601 will cause a rapidly increasing portion of tax revenues to go into the state's special emergency fund and education construction fund. If tax rates remain the same, more tax revenues will be going into these special funds after 47 years than will be going into the regular budget. Meanwhile, the level of state-provided goods and services will decline unless state productivity increases faster than private sector productivity, which is unlikely given the nature of state-provided goods and services.

One view of Initiative 601's passage is that voters did not understand that the initiative would actually decrease the relative size of state government. Another view is that Washington's voters may want Initiative 601's slowly decreasing relative size of the state government. In particular, the voting public may hope that the continuous budget-cut-like environment will induce elimination of government waste and lead to greater state government efficiency. Competitive constraints push businesses to improve productivity and efficiency. Thus, spending constraints may push the government to improve productivity and efficiency.

However, spending constraints may reduce the government's efficiency rather than promote it. Businesses often have funds available in case some unforeseen need arises. A prudent household would save some money from each

paycheck to build up a buffer of funds to be prepared for the uncertain future. A prudent government would reduce its spending now to create a "rainy day" fund, which would provide the government with more flexibility in the uncertain future.[12] Initiative 601, however, discourages such a prudent government. If the government would reduce its spending now, Initiative 601 would not only disallow the carryover of the excess of the limit over spending from one year to the next, its rebasing provision would also reduce future spending limits to reflect the current level of spending. Thus, as Pierce and Pharris (1994) state,

> "rebasing in this manner ... is counter to the policies of the initiative in that it is an incentive for the legislature to spend the full expenditure limit to avoid downward adjustments of the expenditure limit for future years..."

Initiative 601 will cause the Washington State government to save money to create an emergency fund. The creation of a "rainy day" fund was a major objective of the 1979 initiative but was not realized because that earlier initiative never became binding. Initiative 601 creates an emergency fund, but also makes that fund almost untouchable. Not only are supermajorities in each legislative house required, but Initiative 601 allows use of these funds "only if the appropriation does not cause total expenditures to exceed" the IPPGR limitation (Section 3(2)). Therefore, as long as tax revenues exceed the spending limit (an almost certainty), Initiative 601 bars the use of these emergency funds even with the supermajorities.

Regardless of whether those who voted for Initiative 601 actually wanted to shrink the size of government, voters will at some point become dissatisfied with a stagnant or declining level of state-provided goods and services if the public consider state-provided goods and services to be normal goods. Therefore, Initiative 601 is unlikely to be a permanent, feasible fix to the perceived problem of uncontrolled state government spending.

The previous discussion, of course, assumes that the state government will find no avenues around Initiative 601. If the state does find ways around Initiative 601, the IPPGR limitation of Initiative 601 may yield a feasible permanent constraint after all. The relative size of the government could remain constant, however, only if the government's rate of innovating these alternative avenues offsets the reducing effects on the government's relative size resulting from the IPPGR's omission of the growth rate in real per capita personal income.

If the IPPGR limitation of Initiative 601 is not a permanent system fix to the problem of uncontrolled government spending, then what is? The PIGR limitation is one possibility because it does put a "lid on" the size of government without forcing that size to decrease. However, the PIGR limitation would still result in cutbacks during lean years and increased spending during surplus years, something Initiative 601 (Sec. 1(3)) was drafted to eliminate. Another option is a cyclically balanced budget. A cyclically balanced budget would force the government to save the increased revenue during good revenue years for anticipated revenue shortfalls during bad revenue years.

While this paper argues that the IPPGR limitation of Initiative 601 cannot be a permanent, feasible solution to the perceived problem of uncontrolled government spending, it should not be construed to say that Initiative 601 has no value. In particular, it will cause the state to save for its emergency or rainy-day fund, something the state has previously resisted doing despite the 1979 initiative. Initiative 601 is a part of political life, where voters may demand serious restructuring and downsizing of government during the short run or medium run, before agreeing to let government spending resume at the rate of personal income growth.

ENDNOTES

1. The percentages in the second column of Table 1 include funds received from the federal government. Also, a Washington State Supreme Court ruling in the late 1970s forced Washington State to increase its funding of elementary and secondary schools. Thus, a more accurate indicator of the growth in government spending is the third column of Table 1, which excludes federal funds and elementary and secondary education expenditures. Regardless of the figures used, the ratio of spending to personal income increased between 1989 and 1993.

2. Bails (1990) and Cox & Lowery (1990) argue that these limitations have not significantly limited state spending. For Washington State, the early 1980s recession reduced tax revenues below the limitation. Also, Bails (1990, p. 236) indicates that the lack of comprehensiveness is likely to be one of the primary reasons for the TELs' ineffectiveness. In particular, the 1979 Washington initiative only covered 79% of all revenue.

3. The 1979 initiative also restrained the state from shifting funding responsibilities to local governments.

4. According to the initiative, the new spending limit is $G_t = G_0(1+n+\pi)^t$. The difference between this limitation and the more theoretically sound (6) is numerically insignificant at least initially. (See also endnote #5).

5. Another way Initiative 601 could more rapidly reduce the size of state government concerns how it calculates the spending limit. In essence, to get the next year's spending limit, Initiative 601 multiplies the current spending limit by $(1+\pi+r)$. Technically, however, to match state spending increases to inflation and population growth, the current spending limit should be multiplied by $(1+\pi)(1+r)$. While relatively insignificant in the first year (0.04%), the differential increases over time amounting to 0.86% after 20 years and 1.72% after 40 years assuming the inflation rate (π) and population growth rate (r) are 3% and 1.5% respectively.

6. Another way to define a normal good is one which has a positive income elasticity. Inferior goods have negative income elasticities.

7. Empirically, Musgrave and Musgrave (1980, p. 153) find that the income elasticity of publicly provided goods and services has been greater than one. However, the proponents of the TELs may argue that this past experience was contrary to voters wishes and is why the TELs are needed. In particular, the increase in public spending may have occurred because of special interests and a lack of budgetary constraints like Initiative 601.

8. Highways, the most significant state-funded good, are not covered by Initiative 601.

9. Most of the increase in personal income is likely to come from increases in productivity. In the past some of the increase in real per capita personal income resulted from the increased participation of women in the work force. However, in Washington State that participation rate has been stable at about 60% since 1989.

10. It is possible that funds can be taken away from other state-provided goods and services and diverted to education. However, that would decrease the other levels of service. As a result, this argument that maintaining the same level of service depends on technological developments is still valid.

11. If $w_G = kw_p$, where k is a constant, w_G is the real wage in the government sector and w_p is the real wage in private sector, then the percentage change in w_G must equal the percentage change in w_p.

12. Initiative 601 does provide some very limited flexibility to temporarily exceed the spending limit in the case of natural disasters. Once again supermajorities in each house will be required.

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