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Education Initiative 884: Short-Term Pain for Long-Term Gain?

Public education in Washington would receive a cash infusion of more than one billion dollars annually if voters adopt Initiative 884. The initiative, promoted by the League of Education Voters, which sponsored Initiative 728 (“the class size initiative”) in 2000, would increase the state sales tax from 6.5 percent to 7.5 percent and dedicate the new revenue to an “education trust fund” (ETF), with 10 percent of the funds directed to early learning, 50 percent to the public schools, and 40 percent to higher education.

Briefly, I-884 would provide substantial new funding for the public schools, early learning programs, and higher education. Further, the initiative would fund a 3.6 percent increase in teacher and school employee base pay, bringing pay to the level it would have reached had lawmakers not suspended cost-of-living-adjustment Initiative 732, and offer significant bonus incentives for teachers to receive national certification. A citizen oversight board would be established to assure compliance with the intent of the initiative. (Unless otherwise specified, all following details and quotations are from Initiative 884 [I-884 2004].)

Background

Four years ago, when state government enjoyed robust revenue growth and healthy reserve funds, voters adopted two education initiatives that relied on continued economic growth to increase school spending. Initiative 728 earmarked state property tax and lottery revenues to a dedicated “student achievement fund,” which would fund such activities as class size reduction, extended learning opportunities, professional development, and early assistance programs (I-728 2000). Initiative 732 mandated an annual cost-of-living adjustment (COLA) for all K–12 school employees, community and technical college faculty, and technical college classified employees (I-732 2000).

Within two years, the fiscal situation turned negative—revenue growth stagnated and the surplus disappeared. In 2003, the legislature amended each of the initiatives. Lawmakers modified I-728, reducing for fiscal years (FYs) 2005, 2006, and 2007 the increase in property tax support to the Student Achievement Fund required by the initiative, retaining more money for the strapped state General Fund. The legislature suspended the COLA for teachers required by I-732 for FYs 2004 and 2005, eliminated the provision that the COLA be considered

“basic education,” and removed the requirement that the state pay the COLA for employees not supported by state funding.

Elements of the Initiative

Constructed after a year of research—including consultation with educators, parents, and business and community leaders—I-884 targets spending in three areas: early learning, K–12 public schools, and higher education. A fourth section of the initiative addresses accountability and funding.

We’ll consider each of the major provisions separately, discuss the state sales tax implications, address the economic impacts of I-884, and conclude with a brief discussion of public policy considerations.

Early Learning. To expand early education opportunities for three- and four-year-old children from low-income families, the initiative establishes the “education trust early education account,” which would receive approximately 10 percent of the ETF revenues, initially about \$100 million per year. Through the “great beginnings preschool partnership program,” operated from the governor’s office, this funding would allow an additional ten thousand children a year to enroll in preschool programs, and upgrade the quality of the state-funded early childhood education and assistance program serving six thousand children.

Additionally, the initiative would establish in the governor’s office an eleven-member early education board. The governor would appoint eight members with early education expertise; the remaining three would be appointed by the superintendent of public instruction, the secretary of the department of social and health services, and the secretary of the department of health. The board would have staff support, with funding appropriated by the legislature from the early education account. The board’s responsibilities include establishing early education goals and performance benchmarks; establishing a plan and timeline for achieving goals, especially increased “access to high-quality preschool programs for low-income children”; adopting “research-based program standards, including teacher qualifications”; and determining an infrastructure funding formula to pay for capital and professional development.

Local partnerships would be established (e.g., with the educational service districts) to form advisory councils, conduct needs assessments, and plan, oversee, and evaluate program implementation.

K–12 Education. Half of the ETF money—about \$500 million a year, based on the initial estimate of \$1 billion annually in new revenue—would be dedicated to the K–12 public schools. Proponents say I-884 will fully fund I-728, meaning that the increased education funding promised in the earlier initiative for class size reduction, extended learning, professional development, etc., will be secured and enhanced by the sales tax increase.

I-884 establishes the “education trust student achievement fund,” essentially the student achievement fund created by I-728 and to be used for much the same purpose. The money would be spent to reduce class

size (particularly in grades K–4 and in math and writing classes); pay for optional all-day kindergarten; allow advanced classes and high school/college dual credit programs, and extended learning programs (e.g., longer school day, longer school year, weekend programs); and add course options related to achieving the certificate of mastery, which will be required for graduation in 2008.

The initiative would also allow the funds to be used for paid time for curriculum and lesson redesign, teacher training (especially for teachers with responsibility for special education or ESL students), mentor-teacher and principal training programs, reimbursing teachers for out-of-pocket costs related to classroom supplies, and additional student counseling and guidance.

The distribution to school districts would flow as follows. In the 2004–05 school year each district would receive \$254 per full-time-equivalent student (FTE) and a one-time \$35 per FTE allocation to pay the local share of compensation for staff not funded by the state. In the 2005–06 school year each district would receive \$520 per FTE plus an additional weighting of 0.667 for students enrolled in free and reduced-price lunch programs and for students learning English as a second language (ESL). After 2005–06 the allocation would increase with inflation.

Compensation, Bonuses, Certification. The K–12 portion of the initiative, however, is considerably more than just full funding of I-728. In particular, the initiative provides considerable new professional development incentives for teachers and a restoration of the I-732 cost of living allowance suspended by the legislature.

The trust fund provides \$93 million annually “to restore, to the degree possible, teachers' and other school employees' rate of pay” to the level it would have reached had the legislature not suspended I-732, about a 3.6 percent base pay increase. The drafters make clear that they do not intend “to relieve the responsibility of the legislature ... to provide fair and adequate compensation.”

Exceptional teachers would receive additional compensation if they achieve certification from the National Board for Professional Teaching Standards (NBPTS). Each teacher earning the NBPTS certificate would get a \$5,000 annual bonus. An additional \$10,000 annual bonus would be awarded to board-certified teachers for teaching or mentoring in a high-need school. Receipt of the bonus would be contingent on maintaining certification.

Funding is also provided (no more than 0.25 percent of the K-12 trust fund money) to support teachers in their pursuit of certification and development of a mentor-teacher training program.

High-Need Schools. Determining what constitutes a “high-need” school would fall to the superintendent of public instruction. I-884 prescribes that the definition should include no more than 25 percent of all schools, designated proportionally among elementary, middle, and high schools. The definition may consider such factors as the “percentage of students participating in free and reduced-price lunch programs, percentage of students learning English, and student mobility data.”

The higher education coordinating board would receive up to \$10 million annually to provide conditional scholarships for college students who would be certified to teach in a high-need area or who are teachers seeking an additional endorsement in a high-need area (e.g., math, science, or special education). Should the recipients fail to teach in the high-need area for two years in a Washington public school they would be required to repay the scholarship with interest.

Higher Education. Post-secondary education would receive 40 percent of the ETF funding—about \$400 million annually based on the billion-dollar estimate—with the money supporting enrollments, financial aid, and “targeted investments in research” conducted at public colleges and universities. The ETF dollars would be distributed from the ETF higher education account.

In the 2006 and 2007 fiscal years, 62.5 percent of the funds in the higher education account would be targeted for new enrollments, rising to 68.75 percent in subsequent years. At least 43.75 percent of the funds would be required to fund new enrollments at the peer average; 18.75 percent would be dedicated to high-demand enrollments; and beginning in 2008, the additional 6.25 percent would be divided between high-demand and peer-average funding rates as determined by the legislature.

These higher funding levels, according to initiative backers, would pay for at least twenty-five thousand additional higher education enrollments, including seven thousand high-demand enrollments in such programs as skilled workforce training, nursing, and engineering at rates reflecting the higher costs of such programs.

Funding—not to exceed \$19.6 million per year—is provided to compensate those community and technical college employees entitled to a cost-of-living increase under I-732.

Beginning in 2006, 12.5 percent of the funds in the account are to be used for financial aid programs. The initiative requires expanding eligibility for the state need grant program to 65 percent of median family income beginning in FY 2006.

Eligibility for the state's Promise Scholarship program would be expanded for the 2006 high school graduating class, extending it from the top 15 percent to the top 30 percent of the class, reaching an additional seven thousand students.

The initiative would also provide substantial new funding for academic research, dedicating 25 percent of the higher education trust fund money (about \$100 million) in FYs 2006 and 2007 to enhancing “the capacity to obtain other research funding and to conduct high priority research,” i.e., the money would be available as matching funds for federal and other grants. The share would drop from 25 percent to 18.75 percent beginning in the 2008 fiscal year (when the funding available for enrollment growth would increase by 6.25 percent).

According to terms of the initiative, 80 percent of the research money would be distributed directly to the universities, with 60 percent of this portion allocated to the University of Washington, 30 percent to Washington State University, and 10 percent shared by the comprehensive universities and The Evergreen State College. The remaining 20 percent of the research funding would be allocated to the

higher education coordinating board for a competitive research grant pool.

Oversight and Accountability. Initiative 884 would create the “education trust citizen oversight board,” composed of eleven voting members: eight citizens “with demonstrated leadership in improving education” appointed by the governor, and three experts—the superintendent of public instruction (or designee), a member of the early education board, and a representative of an institution of higher education. The state auditor (or designee) would serve as a nonvoting member of the board.

The board would be supported by a professional staff, headed by an executive director appointed by the board. Board members would receive no salary.

The board would monitor the activity of the legislature, receive financial audits, establish performance benchmarks, adopt necessary rules and procedures, commission performance audits, and make recommendations to policy makers regarding ways to achieve the initiative's objectives. Among the board's primary responsibilities would be assuring that the trust fund is not used to supplant existing education funding.

The initiative limits the amount of trust fund money available to administration to no more than 1/12 of 1 percent and establishes criteria to verify that funds are not supplanted by the legislature. The state auditor is charged with responsibility for confirming that the initiative's “maintenance of effort” requirements are met.

The Sales Tax Increase

Effective April 1, 2005, the state retail sales tax would go from 6.5 percent to 7.5 percent. The one-cent increase—a 15.4 percent increase in the state rate; a smaller percentage increase if the combined rate, which includes a varying local tax portion, is considered—would be deposited in the ETF for distribution as discussed above.

The state sales tax was last increased in 1983, when the legislature increased it from 5.4 percent to 6.5 percent. Initially, that hike excluded Clark, Cowlitz and Skamania counties; the Supreme Court overturned the differential rate, and effective January 1, 1985 the 6.5 percent became uniform statewide.

The Washington State Department of Revenue's Tax Reference Manual (TRM), January 2002, reports that Washington's state rate “is exceeded only by the 7.0 percent rate levied by Mississippi and Rhode Island,” and notes that neither of those states allows a local sales tax rate. The Manual also reports that the combined state and local maximum rate of 8.9 percent in Washington “is exceeded only in a few other states with significant local sales tax rates” and that the higher rate in those states is generally imposed in only a few local jurisdictions. “In contrast, in Washington it is estimated that a combined ... rate of 8.5 percent or more now applies to over 60 percent of all taxable retail sales” in the state, and a “combined rate of 8.8 or 8.9 percent (most of King and Snohomish counties) applies to about 48.5 percent of all retail sales.”

Washington permits thirteen local-option sales and use taxes (TRM 2002b, 24). These include a 0.5 percent basic tax for cities and counties (imposed by 280 cities and all 39 counties), an optional tax of up to 0.5 percent for cities and counties (imposed by 273 cities and 36 counties), a transit tax ranging from 0.1 to 0.9 percent, a “high-capacity transportation” tax of up to 1.0 percent (imposed in the Sound Transit region), and a number of 0.1 percent taxes for criminal justice, county correctional facilities, sports stadia, and public facilities. The highest combined state and local rate in the state is 8.9 percent, with many urban areas reaching a combined rate of from 8.5 to 8.8 percent.

The sales tax tends to be “relatively 'popular' with taxpayers,” according to the state revenue department (TRM 2002b, 17), in part because it is paid incrementally and taxpayers can exercise some control over the size of their tax burden. And, as the 2002 Washington State Tax Structure Study Committee (TSSC) found,

Surveys in other states have found that many taxpayers list the retail sales tax as the “most fair” because everyone pays the same rate of tax. However, sales taxes are regressive because low-income taxpayers spend a larger portion of their incomes than do high-income taxpayers. Thus a tax that is perceived as fair in one respect is considered unfair according to the principle of vertical equity. (TSSC 2002, 7)

Washington's taxes are paid disproportionately by that segment of our citizens whose income is the lowest. (TSSC 2002, 29)

As the tax rate increases, the equity problems magnify.

The TSSC also expressed concerns about the state's over-reliance on retail sales taxes.

Our heavy reliance on the retail sales tax exposes us to the very patent diminishing of the sales base. It is clear that out-of-state and Internet purchasing is on a continuous rise, and there is no assurance that a means can be devised to enable us to impose a tax on these transactions. (TSSC 2002, 30)

High sales tax rates depress retail business activity in the state. The effect is large. The TSSC found that

Sales and revenues in the 14 counties bordering Oregon and Idaho would increase by an estimated 22 percent if the sales tax differential were eliminated. The high sales tax also exacerbates problems with remote sales. Washington residents purchase an estimated 6 percent more products remotely per capita compared to average

per-capita purchases because of Washington's higher sales tax. (TSSC 2002, 29)

Retailers are not the only businesses disadvantaged by the state's high retail sales tax rates. The sales taxes paid by businesses on their own purchases contribute to the high business tax burden in the state. The TSSC reports that the "proportion of state taxes collected from business compared to households is dramatically different from norms: 46 percent from business in Washington compared to a western states average of 30 percent." (TSSC 2002, 29)

A more recent study by the Council on State Taxation (COST) ranks Washington tenth in the business share of all taxes, fourth in business taxes per employee, seventh in business taxes per dollar of private-sector business activity, and fourth in business taxes per dollar of capital income (Cline et al. 2004). The COST study, performed by the accounting firm of Ernst & Young, LLP, uses a slightly different base than did TSSC and calculates the business share of all taxes in Washington at 54 percent (Cline et al 2004, 10). The Oregon and Idaho shares are 35 percent and 40 percent, respectively.

Another way to look at the impact of the sales tax increase is to calculate what it would do to the "price of government," the concept that underlies the budgetary framework used by Governor Locke. The price of government can be measured as the share of state personal income absorbed by state and local taxes. The Tax Foundation estimates that state and local taxes represent 9.9 percent of Washington State personal income for 2004 (Tax Foundation 2004). The state ranks twenty-first among the states by this measure. Were the 2004 state sales tax rate 7.5 percent rather than 6.5 percent, state and local taxes would be 10.4 percent of personal income and the state would rank eleventh in state and local taxes as a share of personal income.

Economic Impact Analysis

We will estimate the impact of I-884 using a model of the Washington State economy constructed specifically for the Washington Research Council by Regional Economic Models, Inc. Because it allows supply and demand responses to changes in prices and wages, and permits substitution among factors of production, the WRC-REMI model is more elaborate than the standard input-output models commonly employed to estimate regional economic impacts (Treyz 1993).

The core of the standard input-output model is a catalog of interindustry purchases for the region in a base year, arrayed in an input-output table. The model then assumes that as a specific industry's production increases or decreases, its purchases from the region's other industries will change proportionately. Likewise, the industry's employment will change by the same proportion that its output changes.

Based on these assumptions, the model traces the cascading effects as one industry's increase in output stimulates an increase in the output of other industries (and its own). These effects are distilled in multipliers that measure how a change in the demand for the output of one industry will affect the total output of the local economy, or how a change in the

employment of one industry will affect the total output of the local economy (Chase et al. 1993).

But the standard input-output model is incomplete because it fails to model the numerous capacity constraints within the economy, the processes that set prices for goods and services and the responses of consumers and producers to changes in these prices. In the input-output model, industry and labor supply are perfectly elastic—so prices and wage rates don't matter.

Prices and wages do matter in the WRC-REMI model. The model divides the state into two subregions: the four central Puget Sound counties (King, Kitsap, Pierce, and Snohomish) and the balance of the state. There are fifty-three industrial sectors within each subregion. Within each subregion the model tracks interindustry transactions, much as an input-output model would.

Unlike an input-output model, however, the WRC-REMI model incorporates a number of significant behavioral responses to changes in prices and costs. The wage rate depends on the supply and demand for labor, while migration and labor force participation rates respond to changes in wage rates. The consumer purchases of specific goods and services respond to changes in relative prices and in personal income. Producers substitute among production factors in response to changes in relative factor costs. Market shares respond to changes in regional production costs.

To see the impact of a policy change, we first run a baseline simulation for the state economy for the twenty-six-year period from 2005 to 2030, followed by a simulation of the state economy with the policy change in place. The impact of the policy on an economic variable then shows up as the difference between the values in the two simulations.

It is important to keep in mind that economic impact analysis is narrower than cost-benefit analysis. Economic impact analysis seeks to predict the effect of a policy change on a limited number of economic variables such as employment and income within a geographically defined boundary. Cost-benefit analysis places monetary values on all of the gains and losses from a policy change. Some of these gains and losses may not be reflected in conventional economic variables, and some of the gainers and losers may reside beyond the economy's boundary.

This is certainly true with respect to education. For example, education arguably enhances social mobility, political participation, and the enjoyment of life. None of these values will be reflected in an economic impact analysis, but should be part of a fuller cost benefit analysis. Furthermore, those who obtain job skills at a school in this state will carry the skills with them if they migrate to another state. The skills still benefit the individuals even if they do not impact the Washington economy.

The economic impact of I-884 flows through three broad channels: The one-cent hike in the state sales tax will take about a billion dollars out of the state's economy, raise the cost of living, and raise production costs. The increased educational spending will put about a billion dollars into the economy. The human capital created through this spending will

raise the productive capacity of the state labor force. We will quantify the impacts from the first two of these channels before turning to the productive value of the education.

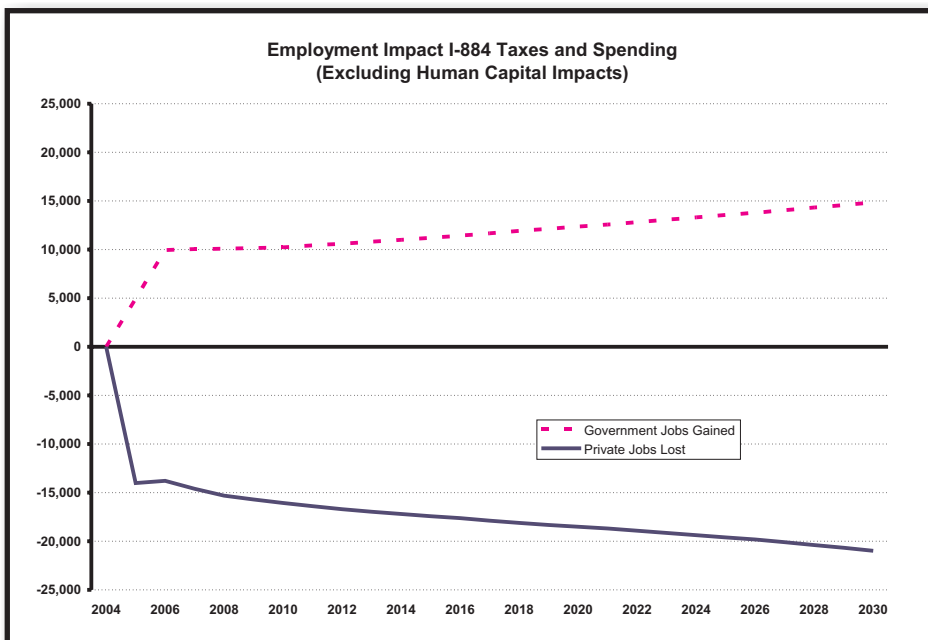
Impacts of the Sales Tax and Education Spending. Sixty percent of the sales tax revenue is collected from taxes on consumer purchases, 32 percent from business purchases, and 8 percent from taxes on government purchases (Washington State Department of Revenue 2002a). As a tax on consumers, the sales tax absorbs some consumer income and directly reduces spending. It also diverts consumer spending to out-of-state retailers. Over the long term, by raising the cost of living in Washington, the tax reduces real wage rates and slows migration to the state. As a tax on producers, the sales tax raises production costs. This reduces the competitiveness of state businesses in national and world markets. As a tax on state and local government, the tax absorbs revenues that could otherwise fund government services.

A simulation where the only policy change is the one-cent increase in the sales tax shows a decrease in 2010 statewide employment of about 32,000 jobs, or 0.8 percent, compared to the baseline simulation. (Note: This reflects a reduction in the rate of job growth rather than an absolute drop in the number of jobs. Even with the tax the state adds 206,000 jobs from 2004 to 2010.) The tax increases the cost of living by 0.4 percent in 2010, while reducing real personal income per capita by 0.4 percent.

A simulation where the only policy change is the spending program shows 26,000 more jobs statewide in 2010 than the baseline simulation. About half of these jobs are in the private sector. The price level is up slightly, 0.05 percent, while per-capita real personal income is up by 0.2 percent.

Chart 1 shows employment results for a simulation that includes both the tax increase and the spending increase. Private and government

Chart 1



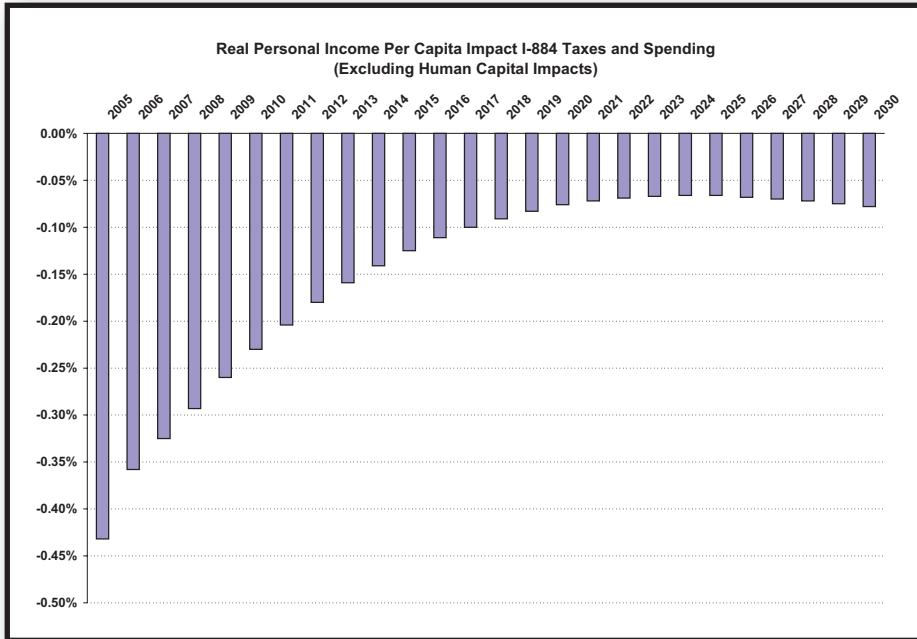
employment are shown separately. For 2010, the simulations show a net loss of 5,800 jobs, with 16,000 private-sector jobs lost and 10,200 public-sector jobs gained, compared to the baseline simulation. (Again, this reflects a reduction in the rate of job growth rather than an absolute drop in the number of jobs.)

Interestingly, the net job loss is concentrated in the four-county central Puget Sound region. The balance of the state actually nets several hundred jobs. This signals the fact that the share that the wealthier central Puget Sound region pays of the sales tax is

greater than the share it receives of the spending. The I-884 program transfers resources from the central Puget Sound region to the balance of the state.

The tax and spending program boosts the cost of living by 0.45 percent in 2006, the first full year. The cost of living impact then expands

Chart 2



slowly, reaching 0.50 percent by 2030. Similarly, 2006 production costs are 0.22 percent above the baseline simulation, while 2030 costs are 0.30 percent above the baseline.

Chart 2 shows the impact on real personal income per capita. In 2005, the program reduces real personal income per capita by 0.43 percent. This largely reflects the increase in the state's cost of living brought on by the sales tax increase. The higher cost of living reduces migration into the state, slowing the growth in the state's population and labor supply. (The state in this simulation has 37,000 fewer residents in 2020 compared to the baseline.) The slower

growth in labor supply increases the rate of growth of nominal wages. The more rapid growth in wages then leads to the pattern seen in Chart 2, where the impact on real income per capita lessens over time. The increase in wages is also reflected in the production cost growth noted above.

Valuing Education. The I-884 spending plan aims to increase both the quantity of education, by expanding higher-education capacity, and the quality of education, by boosting per-student K–12 spending and expanding preschool opportunities for disadvantaged children.

Quantity. Educational attainment measured in either years of schooling or degrees earned has a powerful effect on labor market earnings. In 2001, according to the U.S. Census, the median worker with a bachelor's degree earned 79 percent more than the median worker with only a high school diploma. The corresponding premium for an associate degree was 38 percent (Bureau of the Census 2003a, Table 9). By some measures education represents a large fraction of the United States' national wealth (Kroch and Sjoblom 1986).

Most economists believe that the education premiums largely reflect the fact that education enhances worker productivity (Krueger and Lindahl 2001; Card 1999). There is a worry that the correlation between education and earnings overstates the impact of schooling on earnings

because of “ability bias”: if people with higher innate ability go further in school on average, the observed education premium would reflect the combined effects of education and ability. David Card (1999) provides a review of the recent literature on this question and concludes that the bias is small, on the order of 10 percent. That is, 90 percent of the earnings

premium is due to the productivity-enhancing effect of education.

There is also evidence that spillovers create increasing returns from education. Alan Krueger and Mikael Lindahl (2001) argue that such increasing returns help to explain international differences in growth rates of gross domestic product. Enrico Moretti notes that most of the spillovers operate on a local scale (forthcoming). He (2004) estimates that a 1 percent increase in the number of college graduates in a city raises high-school dropouts' wages by 1.9 percent, high-school graduates' wages by 1.6 percent, and college graduates' wages by 0.4 percent.

Therefore, increasing the educational attainment of the state's labor force almost certainly would have a positive impact on the state

economy. The geographic mobility of workers, however, limits the impact of the state's education system on the overall educational attainment of the state's labor force.

The recent U.S. census documents this mobility (Bureau of the Census 2003b, Table 3). Of people age 5 or older who lived in Washington State in 2000, 14.4 percent had moved to the state since 1995, while 10.3 percent of those who lived in Washington in 1995 had moved to another state by 2000. Chart 3 shows the in-migration rates by five-year cohorts; Chart 4 shows corresponding out-migration rates. Mobility is particularly

Chart 3

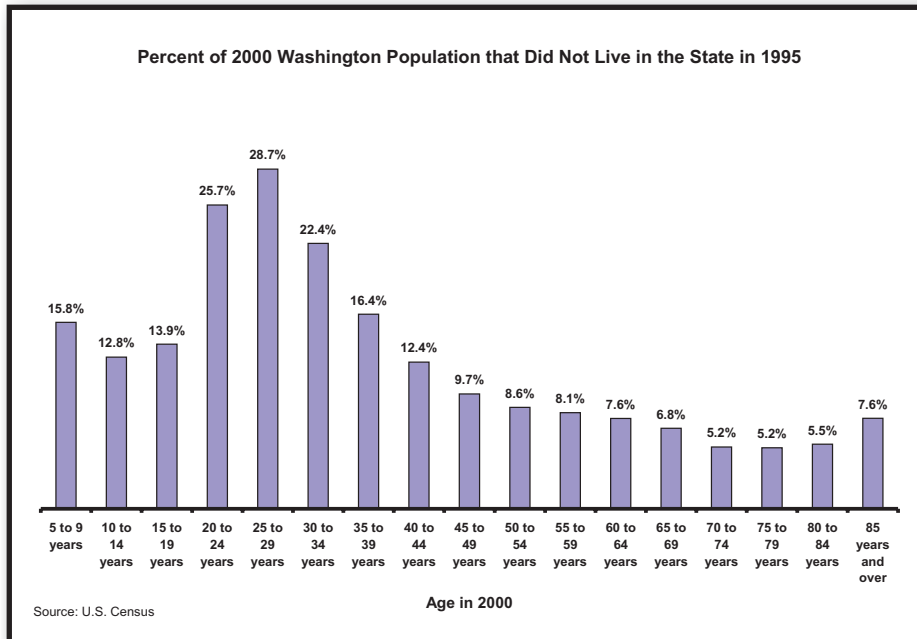
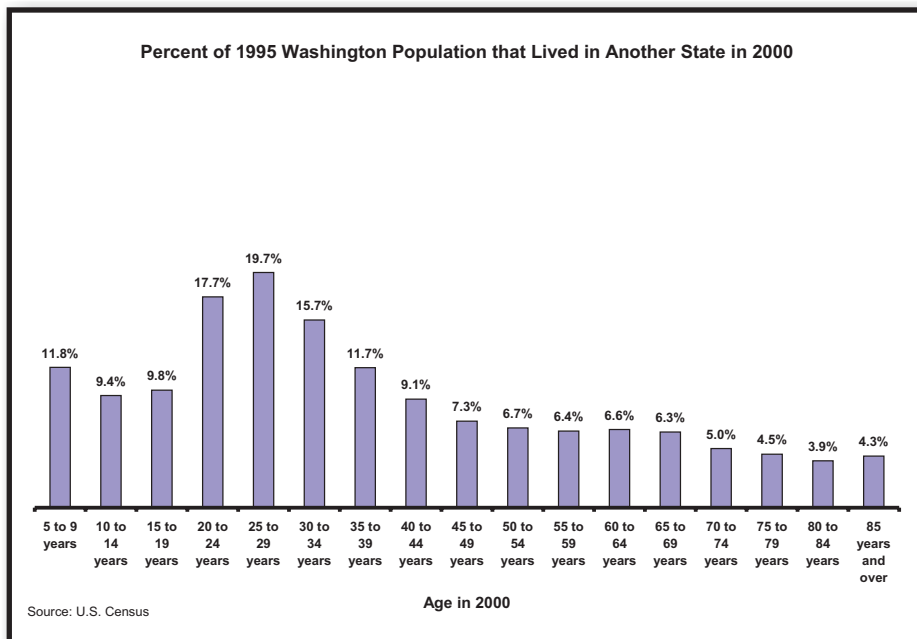


Chart 4



high between the ages of 20 and 30. In 2000, nearly 29 percent of state residents between ages 25 and 29 had lived in another state five years earlier. And almost 20 percent of the members of that cohort who were living in the state in 1995 had moved away by 2000.

Mobility rises with education attainment. A study by the Federal Reserve Bank of Boston (Kodrzycki 2001) looked at the migration patterns of a sample of 4,898 high school graduates born between 1957 and 1965. By 1996, 81 percent who had not attended college still lived in the state in which they had graduated from high school. In contrast, 65 percent of those who had graduated from college but had not attended graduate school lived in their high school state, while 56 percent of those who had done postgraduate work had not moved.

The 2000 census also confirms that the young, single and college-educated are particularly mobile. In the year 2000, 33 percent of Washington residents who were between the ages of 24 and 39, college-educated and single had moved to the state in the preceding five years. Similarly, 25 percent of the members of that age/education cohort who had lived in Washington in 1995 had moved out by 2000 (Franklin 2003). The census also shows that those individuals who moved to the state between 1995 and 2000 were more highly educated than those who already lived here, and that the state's faster-growing high-tech industries employed a relatively large number of people who had moved to the state recently (Lin 2004; Pittenger 2004). The latter fact is not surprising, as large shares of new jobs are generally filled by in-migrants (Bartik 1991, 95).

Educated people who migrate tend to move to states where their education is most highly valued (Dahl 2002; Heckman et al. 1996a, 1996b).

John Bound and colleagues (Bound et al. 2004) present a cross-state statistical analysis relating the number of bachelor's degree recipients produced by a state's colleges and universities to the number of bachelor's degree holders working in the state's economy. They estimate that graduating an additional ten students from a state's colleges will net at most three more college graduates in the state's work force, as fewer college graduates will then migrate to the state. They conclude, "State policymakers have only a modest capacity to influence the human capital levels of their populations by investing in higher education degree outputs." (Bound et al. 2004, 164)

Jeffrey Groen (2004) tracks the mobility of individual college graduates using two data sets. Looking at the subjects of the Mellon Foundation's College and Beyond survey, Groen finds that attending a home-state rather than an out-of-state college increases the probability of working in the home state twenty years later from 39 percent to 48 percent. Looking at the subjects of the National Longitudinal Study of the High School Class of 1972, Groen finds that attending college in state rather than out of state raises the probability of working in the home state fourteen years later from 52 percent to 62 percent. He concludes:

The empirical evidence in this analysis points to a modest link between attending college in a state and working in the state . . . The translation of additional students to additional college

graduates working in the state is much less than 1-for-1 because the labor market acts to re-sort students across states after college graduation. (139)

Groen notes that this result weakens the case for merit-based scholarship programs, which target aid to students who have performed well in high school, with little or no consideration of need. (Washington's Promise Scholarship is such a program.) Many states have initiated such programs in the belief that increasing the number of state residents who stay home to attend college will increase the state's pool of college-educated labor. Studies of Georgia's HOPE (Helping Outstanding Pupils Educationally) Scholarship find that the program has had a large effect on enrollments in that state's four-year institutions (Cornwell et al. 2002; Dynarski 2000). Most of this increase, however, represents the attraction of students who would have otherwise attended college out of state or attended one of Georgia's two-year schools. Similarly, a study of the merit-based New Mexico Lottery Success Scholarship found no evidence that the program increased the college enrollment rate of New Mexico's high school graduates (Binder and Ganderton 2002).

Quality. While there is much agreement in the literature that the quantity of education, measured by number of years attended, matters for earnings, there is less consensus on the impact of school resources on outcomes. A large number of studies have examined the impact on student outcomes of such variables as teacher-student ratio, teacher pay, years of teacher experience, teacher education levels, and per-student expenditures. The results are decidedly mixed.

Eric Hanushek's pioneering survey of the literature relating school resources and test scores found "no strong evidence that teacher-student ratios, teacher education, or teacher experience have an expected positive effect on student achievement." (1986, 1162) In a recent update he noted, "One is left with the clear picture that input policies of the type typically pursued have little chance of being effective." (2003, F66)

Julian Betts' survey of the literature examining the relationship between school inputs and earnings (1996) finds that "much of this literature arrives at the same conclusion" that Hanushek drew from the inputs-test-scores literature. Most studies find no statistically significant positive relationship between resources spent on education and subsequent earnings, while holding years of schooling constant. In those studies that do find a statistically significant effect, the magnitude is so small that "it appears that a further increase is not the optimal formula for increasing the earnings of workers." Rather, Betts argues for policies that encourage students to stay in school longer.

Of the 118 analyses reviewed by Hanushek that test the impact of teachers' salaries on student outcomes, only 20 percent find a statistically significant positive effect. Seventy-three percent find no statistically significant effect, while in 7 percent of the studies the effect is negative and significant (2003, F76).

A recent study by Benjamin Scafidi and colleagues finds that relatively few Georgia teachers who leave teaching do so to take a higher-paying nonteaching job (Scafidi et al. 2003). While it is often said

that low salaries drive good teachers from the profession, the evidence is mixed and appears to vary among specialties. Dan Goldhaber and Dan Player (2004) compare teaching salaries to salaries in specific competing occupations and find that certain teachers (high-school math and science, for example) face relatively more attractive outside opportunities than others do. These particular teachers are those for whom pay is an issue, and across-the-board pay increases are an inefficient way to retain them.

Of the 276 analyses reviewed by Hanushek (2003) that test the impact of class size on student performance, only 14 percent find a statistically positive effect from lowering the teacher-student ratio. Fourteen percent find a statistically significant negative effect. Alan Krueger (2003) looked at the same literature and, weighting studies in a different way than did Hanushek, concludes lowering class size does have a positive effect.

One large-scale class-size-reduction experiment in the state of Tennessee (Project STAR) that did show significant benefits from reducing class sizes in grades K–3 has received a great deal of attention (Hanushek 1999a, 1999b, 2003; Krueger and Whitmore 2001; Krueger 2003). Supporters of class size reduction like to point to this study as the “gold standard” that has proved once and for all the value of widespread class size reduction. Hanushek, on the other hand, notes that the gap in student performance emerges in kindergarten and remains constant through first, second, and third grades. Therefore, the study really points to the value of small class sizes in just the first year in school: “Small classes . . . early in the schooling process have a one-time effect on student performance . . . [which] could reflect early training in the 'activity of school.'” (1999a)

During the 1990s, based largely on the success of Project STAR, the state of California undertook a massive effort to reduce class sizes for students from kindergarten through third grade. The public-private consortium established to evaluate the reform was unable to document that the class size reduction had a positive impact on student achievement (Bohrnstedt and Stecher 2002).

None of this, of course, means that the quality of schools does not affect student achievement. It simply shows that measures of resources are not reliable indicators of quality.

There is convincing evidence that individual teachers differ greatly in their impact on student performance (Hanushek 2003, F90-F91; Goldhaber and Brewer 1997). Teacher quality is not well measured by indicators such as salary, educational attainment, or years of experience. Dan Goldhaber and Emily Anthony (2004) show that the National Board for Professional Teaching Standards process successfully identifies the more effective teachers among those who apply for certification. It is unclear that the certification process itself adds to teacher effectiveness, however.

Several authors have surveyed the research on the effectiveness of early childhood education programs targeted at disadvantaged students (Barnett 1995; Gilliam and Zigler 2000; Currie 2001). Much of the research has focused on small model programs, which typically spent more per student than does the federally funded Head Start program, and offered lower teacher-student ratios. It is widely agreed that these

programs improve short-term performance on standardized tests of cognitive development. Whether these gains persist is less clear. There do appear to be longer-term benefits in educational attainment and economic success (Barnett 1992). This is generally consistent with Hanushek's interpretation of the results from Project STAR (1999a).

Public sector programs are less extensive than the model programs and have smaller (though still positive) impacts (Currie and Thomas 1995). Recent research by Janet Currie and Matthew Neidell (2003) suggests that increasing per-student expenditure does have a positive impact on performance.

Putting Education into the Simulation. Here we briefly describe the manner in which we have modeled the higher education, early learning, and K–12 components of I-884.

Higher Education. I-884 will add 25,000 slots to the state's two- and four-year colleges. For the 2001–02 academic year, undergraduate enrollment at the state's public two-year and four-year colleges totaled 205,085. That year the state's institutions granted 17,575 associate and 18,635 bachelor's degrees. Assuming that degrees will be granted in 2001–02 proportions to the 25,000 students funded by I-884, the annual flow will include an additional 2,142 associate and 2,272 bachelor's degrees.

These degrees account for little more than half of the FTE slots. To account for the remainder we assume that it takes 4.5 FTE student years to produce a bachelor's degree, 2.5 FTEs to produce an associate degree, and 1.5 to approximate the census bureau's "some college no degree" category. This implies that the initiative will produce 6,281 individuals in the latter category each year.

Based on the estimate by Bound et al. (2004), we assume that every 10 bachelor's graduates add 3 bachelor's holders to the state's population. While we know of no study that estimates the relationship between the outputs of graduates in the associate degree or "some college" categories and state educational attainments, individuals in these categories are less mobile than bachelor's degree holders. We assume a 10:6 ratio for associate degrees and a 10:8 ratio for the remaining college students. We use the earnings differentials for college-graduate age categories reported by the census, reduced by Card's (1999) 10 percent ability bias, to estimate the individual productivity increase for each student. We then aggregate across individuals and, assuming 85 percent labor force participation, translate into an aggregate productivity increase for the state.

Early Learning. Half of I-884's early-learning funding adds preschool slots for 10,000 disadvantaged children. We assume that the primary economic impact of this will be seen in higher rates of high school completion for these children. The study of the Perry Preschool Project found that it raised the proportion of students graduating from high school from 49 percent to 67 percent (Barnett 1992), and we use this to estimate the impact of the I-884 preschool slots. Thus we assume that the program will increase the number of high school graduates by

1,800 annually, beginning in 2019.

This considerably overestimates the impact of the I-884 preschool slots. Students entered the Perry Preschool at age 3 and participated for two years. In addition, the program spent considerably more per student than the typical Head Start program spends.

The remainder of I-884's early-learning funding will go toward enhancing existing programs. The initiative does not specify precisely what these enhancements will be and we have no basis upon which to estimate their impact. Because we have overestimated the impact of the slots, we believe that we have safely incorporated the benefits this spending on enhancements will yield.

The additional high school graduates create higher labor force participation rates and higher productivity. We account for both of these effects. We assume that none migrate from the state.

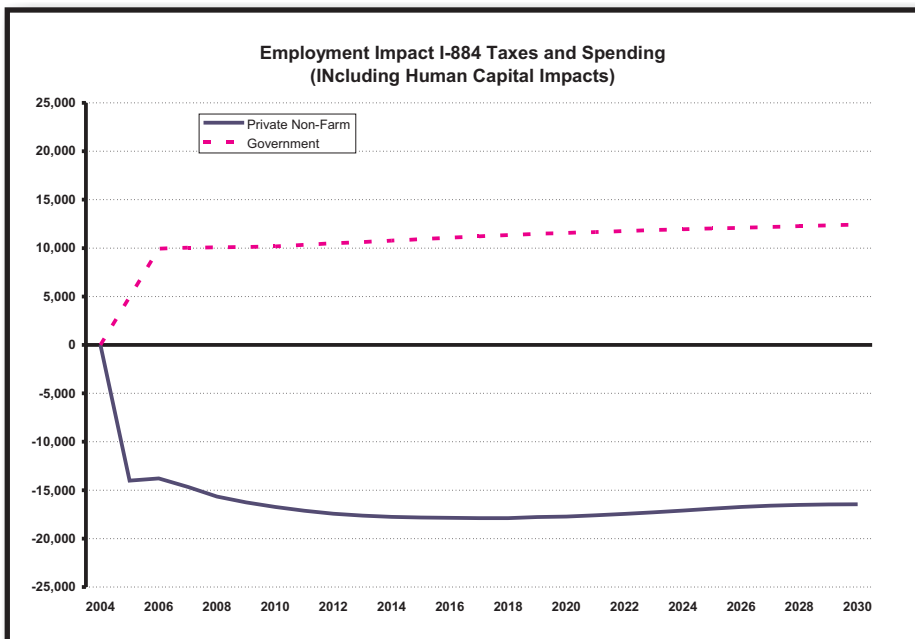
K-12. Aside from the money going to salary increases, the initiative gives general direction on the manner in which the K-12 money will be spent, but little in the way of specifics. The literature reviewed above suggests that the impact could be negligible. We reject that conclusion for the purpose of this modeling.

We assume that the K-12 funds will have an impact per dollar similar to that of the early-learning funds, reducing the drop-out rate and increasing the number of students who graduate from high school. The effect ramps up over time, with 750 additional graduates in 2007, 1,500 in 2008, 2,250 in 2009 and so on, until reaching 9,000 in 2017.

Human Capital Effects Added to the Simulation. Chart 5 shows employment results for a simulation including the human capital effects of I-884 along with the direct impacts of the tax and spending increases.

For 2010, the new simulation shows 6,600 fewer jobs overall, compared to the baseline, which is a slightly greater decrement than that in the simulation which did not include the human capital effects. This difference reflects the higher labor force participation rate: the increase in labor supply lowers wages slightly. With lower wages comes a lower rate of migration into the state and less housing construction. By 2030, the job loss compared to the baseline scenario is 4,000, contrasted with the 6,100 job loss in the simulation without human capital effects. The improvement in employment occurs in the private sector. Not surprisingly, the

Chart 5



impact on retailing employment is particularly large. In 2010 retail employment is 5,600 less than the baseline, a difference of 0.9 percent. In 2030 retail employment remains 5,600 below the baseline.

Chart 6

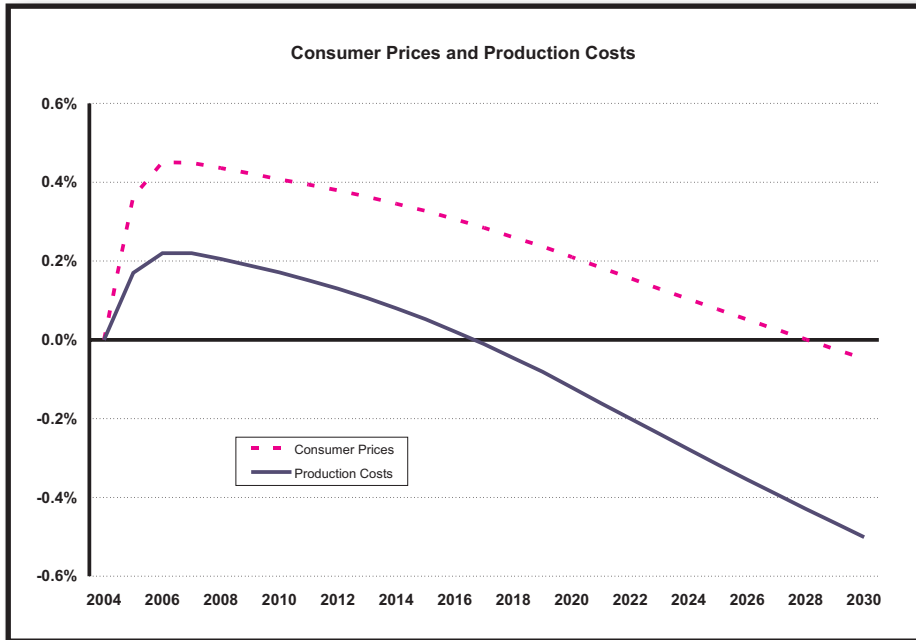
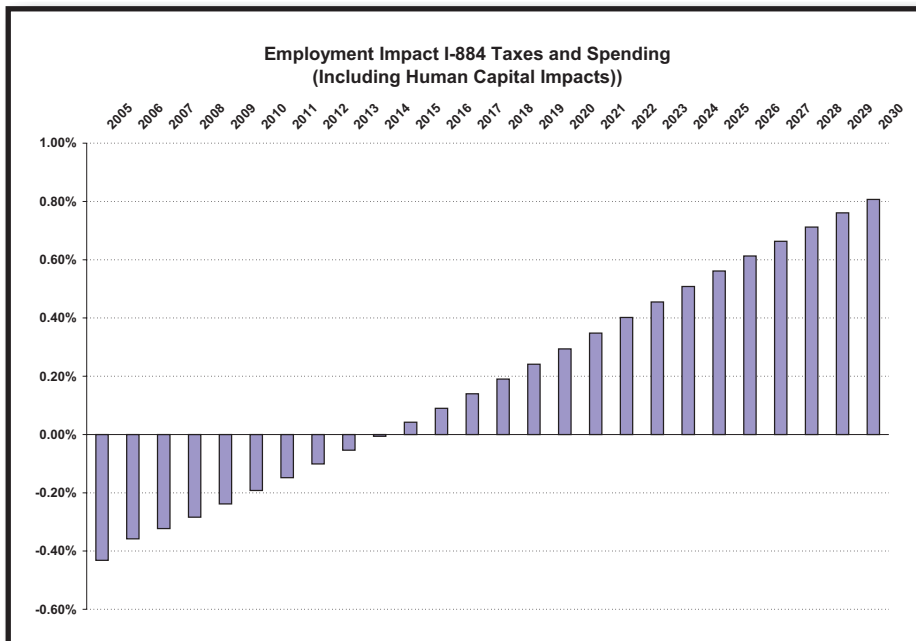


Chart 6 shows the effects on the cost of living and on production costs. With respect to these costs, including human capital effects makes quite a difference. The boost in the cost of living for 2006 is the same as in the simulation that did not include human capital effects, 0.45 percent. Now, however, the cost-of-living boost declines over time and is completely reversed by 2029. Similarly, the initial boost in production costs with human capital effects is the same as in the simulation without human capital effects. By 2017 the initial boost is completely reversed, and by 2030 production costs are 0.5 percent less than the baseline.

Finally, Chart 7 shows the impact on real personal income per capita. In 2005, the program reduces real personal income per capita by 0.43 percent.

Chart 7



By 2015 real personal income is slightly above the baseline level. From that point the margin continues to grow so that by 2030 real personal income per capita is 0.8 above the baseline level. The gain in personal income is concentrated among those individuals whose educational attainment has increased as a result of the initiative.

In the short run, then, the negative impact of the sales tax hike on consumer prices and production costs dominates the story. In the long run it is the human capital effect that dominates.

Policy Considerations

Earmarking. The Washington Research Council has consistently expressed concern with the practice of earmarking tax revenues and creating dedicated funding streams (WRC 1996, 2000a). The National Conference of State Legislatures has written, "For most fiscal analysts and budget experts, there is little, if anything, to be said in favor of earmarking taxes." (Perez and Snell 1995)

When the tax being earmarked is a major revenue source for the state general fund, the earmarking further limits legislative discretion, removing an option that might be required to address short-term fiscal emergencies. Currently, the state relies extensively on the sales, property, and business and occupation taxes. If I-884 passes in November, it increases the likelihood that, should a tax increase be required to preserve existing services, the sales tax will be unavailable for consideration: at nearly ten cents on the dollar, the combined sales tax will have reached a threshold above which few lawmakers would seek to venture. Further, the purpose for which the tax increase is being earmarked is already established as the "paramount duty" of state government and that to which more than half of the general fund is dedicated.

As the Research Council noted in criticizing Initiative 728 (2000a), there is less legislative accountability attached to earmarked accounts than there is to direct state appropriations. Although the initiative establishes an oversight board to set performance standards, the money is distributed with very few strings. The additional funding amounts to a sizeable discretionary grant to local school districts, something many people might find desirable. Yet when they vote on the initiative, voters will neither know what the standards will be, nor the sanctions or rewards associated with failing to meet, or exceeding, the standards.

Notwithstanding the principles of fiscal policy that concern the analysts and budget writers cited by NCSL, education advocates point to the increased pressure for higher education enrollments and the stiffening accountability requirements in the public schools and say, "It's time to rise above principle and do the right thing." They contend that the public support for increased education funding has been demonstrated repeatedly in levy elections and the overwhelming victories of I-728 and I-732. Further, voters believe that there is more accountability associated with earmarked taxes. While a legislative tax hike for education might be viewed with suspicion, an earmarked tax allocated for specific purposes is precisely what voters demand in the present era of populist skepticism.

Initiative Guarantees. One reason—perhaps the primary reason—that people resort to the popular initiative is to secure a policy that the legislature has been reluctant to adopt. Traditionally, the extraordinary normative force of a ballot initiative has provided voters with the assurance that their policy preferences would stand. In the first two years after it passes, an initiative can only be amended by a supermajority vote of both chambers of the legislature. After that, it is like any other statute and can be amended by a simple majority vote.

Nonetheless, lawmakers typically have treated laws passed by popular initiative with particular deference.

That may be changing, perhaps in response to the increasing number of initiatives passed of late, perhaps in response to the recent fiscal stress. In the last two legislative sessions, lawmakers amended five initiatives. The two education initiatives passed in 2000 (I-728 and I-732) were amended as discussed above. Initiative 773, the tobacco tax initiative, was changed to permit more flexible use of the new revenue. The collective bargaining procedures authorized in the homecare workers initiative (I-775) were revised. And Initiative 790, giving police officers and firefighters more control of their pension systems, was amended in two separate bills.

Some of this simply makes sense. In the legislative process, bills go through numerous reviews, are frequently amended, and may face a final amendment in the veto process (for example, the “Cajun” primary that disappeared at the stroke of Governor Locke's veto pen in 2004). Even then, it is not uncommon for newly adopted legislation to be quickly amended. So, too, with initiatives. And the more complicated the measure, the more likely it is to require revision.

Critics of I-884 have charged that lawmakers might be quick to disregard the “do not supplant” requirements and use the new money for purposes other than those intended by the proponents. That seems unlikely in the near future, particularly if the economy continues to improve. Yet, over time, fund dedications do tend to erode. The citizens' oversight board established by the initiative would occupy a bully pulpit, and the recipients of the tax revenues can be counted on to defend vigorously their new funding.

Accountability. Backers of I-884 promote two notions of accountability. They want to make sure that the new funding is protected and spent as intended. And they promise to monitor and report on the results of the increased spending.

With respect to protecting the revenue stream, they have made the state auditor responsible for verifying that the maintenance of effort requirements are met. The oversight board will review financial reports and monitor legislative activity.

The second phase of accountability—assuring that the new spending produces verifiable benefits—involves such activities as establishing performance benchmarks, deciding whether and when performance audits are required, reporting outcomes to the public, making recommendations for continuous improvement, and commissioning projects to promote “a seamless, integrated, and connected education system.” In addition, local districts have accountability requirements associated with their use of trust fund dollars, which go beyond those adopted in Initiative 728.

Conclusion

In assessing Initiative 884, voters will have an abundance of information to weigh. Costs clearly matter, but they cannot and should not be divorced from an appreciation of benefits.

The economic modeling shows negative short-term effects: depressed private-sector job growth partially offset by education hiring; a slight increase in the cost of living; a drop in per-capita personal income; and so on. Over time, these negative consequences dissipate as the economy continues to grow. The future is uncertain, made more so today by world events, global competition, and the tentative state of our economic recovery. A significant tax increase will have a measurable and negative effect on job creation and investment.

A substantial increase in education investment, however, will have positive consequences that voters will also want to consider. The benefits of a more productive, better-educated workforce increase the attractiveness of the region to new and expanding industries, boosting their employment and capital investment. Expanded capacity in higher-education institutions and increased research funding will similarly expand economic opportunities.

The cost-benefit calculation that voters will make cannot be readily captured in an economic impact study. Better education may increase the mobility of Washington students, whose careers may take them far beyond the borders of this state. That, however, does not negate the responsibility of the state to provide them with the best possible educational opportunities. Whether the spending anticipated by I-884 will produce the desired outcomes remains an open, and legitimate, question.

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