

Solutions and Activities
for
CHAPTER 1

WHY STUDY PUBLIC FINANCE?

Questions and Problems

1. Many states have language in their constitutions that requires the state to provide for an “adequate” level of education spending. What is the economic rationale for such a requirement?

There are two economic rationales for government provision of a good or service: market failure and redistribution. A market failure argument for state provision of education would be that an educated population benefits society generally because, for example, well-educated individuals have better job prospects and are therefore less likely to commit crimes. Each person who receives an education receives a private benefit (e.g., higher wage rate) and also confers a positive externality on the community (e.g., lower crime rate). In the absence of public provision of education, self-interested people would acquire less-than-optimal levels of education because they would not take into account its external benefit. Public education can correct this market failure. An argument can also be made that public education is redistributive because it increases the human capital of all students regardless of their individual economic status.

2. How did the composition of federal, state, and local government spending change over the past 40 years? What social and economic factors might have contributed to this change in how governments spend their funds?

Since 1960, there has been a marked shift of federal spending away from defense spending and toward spending on education, welfare, housing, Social Security, and health. In 1960, defense spending accounted for approximately half of the federal budget, while education, welfare, housing, Social Security, and health accounted for about 20% of the budget. In 2007, Social Security and health-care spending *each* exceeded defense spending, which accounted for just over 20% of total federal spending.

Health spending has also increased as a fraction of state and local spending, more than doubling between 1960 and 2007. Otherwise, the composition of the state and local spending has been relatively stable over that time.

The increases in expenditures on Social Security and health care reflect the aging of the population. As the baby boom generation has aged, there is a greater need for these kinds of spending. Furthermore, this generation has played an increasingly important role in the political process, which has allowed them to win increases in spending directed toward their interests.

The relative decrease in defense spending may have been influenced by the collapse of the Soviet Union and the end of the Cold War.

3. Some goods and services are provided directly by the government, while others are funded publicly but provided privately. What is the difference between these two mechanisms of public financing? Why do you think the same government would use one approach sometimes and the other approach at other times?

Direct public provision of a good or service occurs when the government itself produces the good or service. Police forces and military are examples of direct provision. Public financing of private provision of goods and services occurs when the government wishes to increase the provision of a good or service, but it does not want to directly involve itself in its provision. An example is when the government hires private companies to build or repair roads, or when the government purchases military aircraft from private companies instead of building them itself.

Public funding for private provision is appealing relative to direct public provision whenever the private market can produce the goods or services more efficiently than the government. This is likely to be the case where there is an existing market or industry for the good or service, especially when that market is competitive. When there is no existing market for a good or service provided by the government, or when that market is characterized by an imperfectly competitive industry, there may be a stronger case for direct provision (although it is important to recognize that direct provision can also suffer from efficiency failures). There may be national security concerns related to private provision of certain goods and services, especially those performed by the military and police forces. The government is more likely to provide these goods and services directly.

4. Why does redistribution cause efficiency losses? Why might society choose to redistribute resources from one group to another when doing so reduces the overall size of the economic pie?

Redistribution can cause efficiency losses if there are behavioral responses to the redistribution system. The government might raise money to fund redistribution by imposing a tax on labor income, and this might cause a reduction in the labor supply. Similarly, generous unemployment benefits might induce some who are out of work to remain unemployed. Despite these possible efficiency losses, we (collectively) choose to redistribute wealth. Some reasons for redistribution are that people have a taste or preference for a certain degree of economic equity; that the existence of a large or visible underclass is somewhat discomfiting or threatening; that people are risk averse and so are willing to pay for a “safety net” in case they or their families ever need assistance; and that humans are naturally empathetic. In a country with many very poor people, redistribution from the few rich to the many poor may make the majority of people better off, even if it reduces the overall size of the pie. A democratic process may therefore lead to the occurrence of this sort of redistribution.

5. Consider the four basic questions of public finance listed in the chapter. Which of these questions are positive—that is, questions that can be proved or disproved—and which are normative—that is, questions of opinion? Explain your answer.

The four basic questions of public finance:

1. *When should the government intervene in the economy?* The word “should” suggests that this is a question about which opinion will vary, so it is normative.
2. *How might the government intervene?* This question is positive. It asks: How does the government actually intervene now, and how might it intervene in the future? One can check whether a government might intervene in a particular way directly by examining the behavior of existing and future governments.
3. *What is the effect of those interventions on economic outcomes?* Economic effects can be

measured and thus are not a matter of opinion, so this question is positive.

4. *Why do governments choose to intervene in the way they do?* This is a factual (positive) question. It may be difficult to directly observe the answer, but one can potentially learn about the motivations behind a government's interventions by looking at patterns of behavior over time.

6. One rationale for imposing taxes on alcohol consumption is that people who drink alcohol impose negative spillovers on the rest of society—for example, through loud and unruly behavior or intoxicated driving. If this rationale is correct, in the absence of governmental taxation, will people tend to consume too much, too little, or the right amount of alcohol?

People demand goods primarily on the basis of their own enjoyment of that good. They tend to underweight the impact of their consumption on the well-being of others. In the absence of taxes on alcohol, people will tend to consume too much of it. That is, they will tend to consume more than they would if they took the harm they cause others into account.

7. What is the role of the Congressional Budget Office (CBO)? Why is independence and impartiality important when conducting empirical analyses?

The CBO provides economic analyses of proposed legislation, particularly estimates of the cost of proposed projects. To do this accurately and to provide the best possible advice to Congress, the CBO must carefully consider all the economic effects of a proposal. A politically motivated CBO might be tempted to understate some costs or overstate others in order to influence legislation.

8. To make college more affordable for students from families with fewer resources, a government has proposed allowing the student of any family with less than \$50,000 in savings to attend a public university for free. Discuss the direct and possible indirect effects of such a policy.

This policy would make college cheaper for students from families with less than \$50,000 in savings. There would be two direct effects of this policy. First, it would make the families of students who already intended to attend college better off if their families had less than \$50,000 in savings. Second, it would probably encourage additional students from low-savings families to attend college. A potential indirect effect of this policy would be to reduce the savings of *other* families—families that were saving money for a college education but would stop doing so when they could anticipate getting a free ride if they don't save.

9. The country of Adventureland has two citizens, Bill and Ted. Bill has a private legal business. He earns \$50 per hour. At a tax rate of 0%, Bill works 20 hours. At a 25% tax rate he works only 16 hours, and at a 40% tax rate he works only 8 hours per week. Ted works a manufacturing job. He works 20 hours per week and earns \$6 per hour, regardless of the tax rate. The government is considering imposing an income tax of either 25% or 40% on Bill and using the revenues to make transfer payments to Ted. The accompanying table summarizes the three possible policies. Does either tax policy raise social welfare? Are either of the policies obviously less than optimal? Explain your answers.

Effects of Redistributive Policies in Adventureland			
	0%	25%	40%
Bill's Pre-Tax Income	\$1,000	\$800	\$400
Bill's Taxes	0	\$200	\$160
Bill's Net Income	\$1,000	\$600	\$240
Ted's Pre-Tax Income	\$120	\$120	\$120
Ted's Transfer Payment	0	\$200	\$160
Ted's Net Income	\$120	\$320	\$280

Whether or not the policies raise social welfare depends on the society's taste for redistribution. Indeed, either of the policies makes Ted better off and makes Bill worse off than the status quo of no taxes, so if society deems it sufficiently important to redistribute to Ted, then either policy would raise social welfare. If society cares about only the "size of the pie," however, then both policies would lower social welfare. Whenever society deems that improving Ted's income by \$200 improves social welfare more than reducing Bill's income by \$400 harms social welfare, the 25% tax policy raises social welfare and is the optimal policy. The 40% tax policy can never be optimal, since the 25% tax policy makes both Bill and Ted better off than the 40% tax policy.

Advanced Questions

10. In the United States, the federal government pays for a considerably larger share of social welfare spending (that is, spending on social insurance programs to help low-income, disabled, or elderly people) than it does for K–12 education spending. Similarly, state and local governments provide a larger share of education spending and a smaller share of welfare spending. Is this a coincidence, or can you think of a reason for why this might be so?

Local control is often considered more important for education than for other services because there may be regional variations in curriculum preferences—whether to teach the theory of evolution, for example. There may be fewer regional variations in preferences related to social programs, however, so people may be more willing to give up local control over these programs. Another possible explanation for federal control of social welfare programs is jurisdiction "shopping." If social insurance benefits varied substantially among states, people might move from one to another to avail themselves of more generous benefits.

11. The urban African-American community is decidedly split on the subject of school vouchers. Some community leaders strongly support the voucher system and the increased school competition it brings, while others oppose it. Why do you think this split exists?

This community contains a disproportionate number of poor families, with many students attending substandard schools. Proponents of the voucher system may believe that it will allow them to send their children to better schools or that competition will encourage their local schools to improve in order to retain students who would have a choice of schools under the voucher system. Opponents may view it as a threat to neighborhood schools, fearing that if students take their vouchers and leave, inner-city schools may become even more impoverished. Philosophically, some proponents believe that market competition can solve a wide variety of problems, while some opponents are suspicious of the market system—at least as applied in the context of education—possibly viewing it as an institution that favors those with more money to spend in the marketplace.

12. Many states have constitutional requirements that their budgets be in balance (or in surplus) in any given year, but this is not true for the U.S. federal government. Why might it make sense to allow for the federal government to have deficits in some years and surpluses in others?

Time-series graphs illustrate one striking reason to allow for deficits: during World War II the federal government spent far more than it took in. Like a family, a government sometimes faces unforeseen emergencies that require it to borrow. Had the United States been constrained by a balanced budget requirement at the time of World War II, the outcome of the war might have been very different. The family metaphor is relevant for a second reason: borrowing allows an entity to pay over time for a durable good that is being consumed over time. It makes sense for most families to take out a mortgage to purchase a home, because that purchase delivers benefits over many years. Similarly, many government investments yield long-term benefits. Surpluses and deficits may also have beneficial macroeconomic effects, such as helping to stabilize a volatile economy.

13. Proper hygiene, such as regular hand-washing, can greatly limit the spread of many diseases. How might this suggest a role for public interventions? What kinds of public interventions might be possible? Suggest three distinct types of possible interventions.

Individuals tend to ignore the external costs they impose on others by failing to wash their hands frequently enough (or by failing to employ other sorts of hygienic practices).

This suggests that they tend to wash their hands less than optimally and that there may therefore be a role for public interventions. One possible intervention would be a requirement that individuals wash their hands after using restrooms. (Such regulations are imposed for employees at businesses, for example.) A second possible intervention is public provision of hand-washing facilities. This would reduce the cost of hand-washing, thereby encouraging individuals to engage in that activity more frequently. A third possibility would be an advertising campaign to encourage hand-washing.

In-class Projects or Demonstrations

Federal Budget Shares and Positive Versus Normative Questions

1. How does the federal government allocate its budget?

On the first day of class (before most students have read the text), ask students individually or in small teams to allocate 100 “points” among the federal budget categories, showing the proportion of the budget they *think* is actually spent on each category. This is a positive question; initial guesses can be verified against the data in the text.

2. How “should” federal government dollars be spent?

After the first exercise, ask small groups of students to set an “ideal” budget (again based on 100 points so that their allocations can be easily translated into percentages), then require each team to justify its allocations. Part of this exercise forces students with differing priorities to negotiate over the 100 points. The exercise also encourages them to use economic theory to justify their allocations. Students can investigate the effects of these decisions at <http://www.nathannewman.org/nbs/shortbudget06.html>.