OPTIMAL FEDERALISM WHEN HOUSEHOLD INCOMES DIFFER

Suppose more realistically that households in society differ in income. Most households probably want to live in a locality where most other residents have high incomes for two reasons. First, they believe that if most other residents have high incomes, neighborhoods are likely to be safe and the average educational performance of public school students will probably be above average for the society. Second, high-income residents are able to contribute substantial tax revenue to fund public services.

Conversely, most households probably prefer not to live in a locality where most residents have low incomes for two reasons. First, they believe that if most other residents have low incomes, neighborhoods may be unsafe and the average educational performance of other public school students will probably be below average for the society. Second, low-income residents are unable to contribute substantial tax revenue to fund public services.

Residential Location When Incomes Differ: The Separation Process

So what happens? Many high-income (i.e., affluent) people move away from large cities and establish suburban towns where most homes have high prices. They often get their town council to pass **zoning laws** that limit the construction of low-priced homes and rental apartments within their locality. A zoning law may require that a plot of land for a home must exceed a certain size or that the size of a home exceeds a certain square footage, or it may prohibit rental apartment buildings. Thus, this **separation process** can be summarized this way:

> *The affluent move away from the nonaffluent, the nonaffluent try to follow, but the affluent use zoning laws to maintain their separation.*

Middle-income people who can't get into high-income suburbs establish their own suburbs and use zoning to maintain their separation from low-income people. Most low-income people remain in the cities, joined by some high- and middle-income people who prefer living near their city jobs or urban cultural attractions.

Of course, not every high-income suburbanite wants to maintain separation from all nonaffluent people. Some affluent people may feel it is wrong to try to separate from nonaffluent people and feel that their own children may benefit from experiencing some diversity in their school. Also, not every low-income household wants to live in a high- or even middle-income suburb despite the well-financed schools and other amenities.

Some low-income people may feel more comfortable living near other low-income people and having their children go to school with other low-income children.

In this chapter, we concentrate on separation motivated by differences in income. This is not to deny that some separation is motivated by differences in race, ethnicity, or religion. We focus on separation by income to illuminate the state and local public finance problems that would arise even if everyone were the same racially, ethnically, and religiously. Separation due to race, ethnicity, or religion adds further complexity.

State Funding of Public Schools

The residential separation process results in high-income towns, middle-income towns, and a large low-income "town" (the inner city). If public schools were financed solely from local taxes, then high-income towns would have higher-quality public schools. For example, suppose schools are financed entirely by a local property tax, and the ratio of the total property value in the town (the **property tax base**) to the number of pupils in high-income town H is twice as great as in low-income town L. Then if both towns levy the same property tax rate, property tax revenue raised per pupil will be twice as great in H as in L. With spending per pupil twice as great in H as in L, school quality will be higher. Thus, school districts differ in their **fiscal capacity**—their property tax base per pupil. Hence, two districts that set the same tax rate will raise different amounts of revenue per pupil.

Some citizens believe that all children should have equal educational opportunity regardless of the income or property wealth in their school district. This goal has been called **income neutrality**, or **wealth neutrality**. Several court decisions have held that a state must act to reduce the disparity in spending per pupil among its school districts because a significant disparity violates either the equal protection clause of the Fourteenth Amendment to the U.S. Constitution or a similar provision of a state's constitution (e.g., the *Serrano v. Priest* decision in California in the 1970s).

If citizens want to reduce the disparity in school quality between towns H and L, they can use the state government as a vehicle to redistribute funds from high-income towns to low-income inner cities. The state can levy taxes on households and/or business firms throughout the state, thereby extracting revenue from affluent suburban (and urban) households and from corporations and other business firms. The state tax revenue can then be distributed to local public school districts by a formula that favors low-income districts.

We consider three approaches: a foundation plan, a district power equalizing plan, and a variable matching grant plan.

A Foundation Plan

A foundation plan gives each district a grant per pupil that provides a basic minimum foundation upon which the district can add its own spending. The purpose is to make sure that every district can achieve a basic minimum expenditure per pupil. The grant per pupil is usually phased down as the wealth of the district increases. A shortcoming of the foundation plan is that it doesn't provide a financial incentive for a district to increase its own effort or spending.

A District Power Equalizing Plan

Some states implement a **district power equalizing plan**, also called a **guaranteed tax base plan**. Under this plan, the state designates a target property per pupil (a target tax base) and gives a grant to any district with property per pupil less than the target. Specifically, it gives each district the difference between the tax revenue that the district actually raises and the revenue it would have raised if it had the target amount of property per pupil (the target tax base). It is as though the state brings the district's tax base up to the target (the "guaranteed" level). Note that the greater the property tax rate that the district sets, the larger its state grant, so this plan should encourage local tax effort and spending.

A Variable Matching Grant Plan

Although a variable matching grant plan has seldom been implemented, it deserves serious consideration. Under a **variable matching grant plan**, the matching rate would be highest for low-income districts and would phase down sharply as income per pupil rises. For example, the state might give \$20 for every \$10 a low-income district raises itself (a matching rate m of 2), \$10 for every \$10 a middle-income district raises ($m = 1$), and \$1 for every \$10 a high-income district raises ($m = 0.1$). Each school district would know its matching rate when it chooses its local school tax rate. By giving a low-income district a much higher matching rate than a high-income district, the variable matching grant program should narrow the quality gap between high- and low-income school districts.

A matching grant reduces the "price" of education to the local school district. With the grant, the low-income district can obtain \$30 of education for \$10, so its price is 33% (\$10/\$30); the middle-income district can obtain \$20 of education for \$10, so its price is 50% (\$10/\$20); and the high-income district can obtain \$11 of education for \$10, so its price is 91% (\$10/\$11). Hence, the grant program cuts the price 67% for the low-income district, 50% for the middle-income district, and 9% for the high-income district.

$$\text{District's price} = 1/(1 + m)$$

$$\text{District's price cut} = m/(1 + m)$$

For example, the low-income district's price equals $1/(1 + 2) = 33\%$, and its price cut equals $2/(1 + 2) = 67\%$. Table 11.1 shows the price and price cut for the three districts.

If the state matching rate m for the low-income district is set very high so that the price for the low-income district is set near 0%, then the low-income district is likely to choose to increase its spending a lot. Conversely, if the m for the high-income district is set very low (near zero) so that the price for the high-income district is set near 100%, then the high-income district is likely to choose to increase its spending only a little. Thus, the gap between districts in total expenditure (local plus state) per pupil—and therefore in school quality per pupil—should narrow.

TABLE 11.1
Price Cut for Three Districts

District's Income	State Matching Rate m	District's Price	District's Price Cut
Low	2.0	33%	67%
Middle	1.0	50	50
High	0.1	91	9

The variable matching grant plan has two advantages over the district power equalizing plan. First, each school district would be told its matching rate m, so it can easily see that it would receive m state dollars for each dollar that it raises itself for education. Second, the state would explicitly choose *how much* it wants to vary the matching rate as property per pupil varies across school districts; if the current degree of variation in matching rates does not reduce inequality as much as the state desires, the state could adjust its formula to explicitly increase the degree of variation of matching rates.

State versus Local Funding of Public Schools

States *on average* provide about 50% of the revenue spent by local public schools, but the state share varies widely. Local governments on average provide a bit more than 40%, and the federal government on average provides a bit less than 10%. What should make a citizen favor a high or low state percentage?

State government can redistribute funds from high- to low-income districts. A citizen who supports such redistribution should favor a high state percentage, whereas a citizen who opposes such redistribution should favor a low state percentage.

The larger the state percentage, the more likely the state will impose regulations. Local districts will probably retain greater control over the curriculum in their schools if the state percentage is low.

A state matching grant reduces the price of education to the local school district below its cost; the larger the state's matching rate, the lower the price the local school district faces. If a district's matching rate is 2, it must raise only \$10 to obtain \$30 of education because the state will match its \$10 with \$20. If there were no positive externality, this would induce the local school district to spend too much on education. If there is a positive externality—if others outside the school district benefit from the district's education spending—then a state subsidy via a matching grant is exactly what is needed to induce the district to spend optimally. Suppose many affluent suburbanites want low-income children to receive higher education spending per pupil than the low-income district could afford on its own. Then there is a positive externality, so a subsidy equal to the external benefit induces a socially optimal expansion.