Why study public finance?
1. When should government intervene in economy?
2. How can the government intervene?
3. What is the effect of intervention on economic outcomes?
4. Why do governments choose to intervene in a particular way?

Definition: An allocation (assignment of property to every member of society) is **efficient** if no one can gain more without someone else losing. An allocation is thus inefficient if it is possible for someone to gain more without anyone losing. Clearly, efficiency is a desirable property of an allocation.

Why do governments exist? A basic reason for the existence of governments is the protection of property rights. Without the protection of property rights, it becomes very difficult for anyone to have an incentive to produce anything, invest in a business, or engage in trade. Thus the protection of property rights is necessary for an economy to function.

Examples: Under the rule of Genghis Khan, by extending the Mongol (Chinese) empire all the way to the Middle East, trade routes were protected. This (1200’s) was a period of large amount of economic expansion for China and Middle East (Iran, Iraq). Partly because of protection of trading routes.

Very drastic differences in wage rates exist in locations that are close geographically, but divided by country borders. e.g. Mexico, United States near Mexico. With NAFTA, differences have become somewhat smaller, but still exist. Due to the fact that the US gov has organization and protection of property rights, Mexican gov has more corruption which leads to less protection of property rights (bribes must be paid to engage in business - like an uncertain tax that may have to be paid).

But there are additional reasons for governments to exist.

Basic Microeconomics lesson: With complete markets, complete information, no externalities, a competitive market equilibrium (there can be more than one) yields an efficient outcome for society.

Government may choose to intervene when one of these conditions is not satisfied. For instance, in the presence of externalities, government intervention (in the form of taxes or subsidies, for example) may yield a more efficient outcome than the competitive market equilibrium.

A specific example involves health insurance. Market for health insurance may seem like a competitive market: It is supplied by a large number of firms and bought by large number of consumers. However the market for health insurance
has market failure: incomplete information. The insured know more about their likelihood to become sick than the insurer. This can lead to a problem called unraveling. The price of insurance for a given individual is determined by the probability with which the insurer believes that he will become sick. If the insurer has no specific information about the individual, this probability depends on the percentage of people seeking health insurance who are likely to become sick. Given any price, the people likeliest to stay healthy will not buy insurance, and the people most likely to become sick will buy it. But this causes the probability of a buyer of insurance becoming sick to be higher than the probability for the general population from the point of view of the insurer. Thus the price of insurance is higher than it would be if everyone were insured. It could be that the price is so high that nobody wants to buy insurance - the market disappears (for some types of insurance this has happened, such as income insurance - there was never any private income insurance before gov started providing unemployment insurance). Sometimes government intervention can increase efficiency.

Another problem with having health insurance provided by the private market is that health insurance involves externalities. When a person has health insurance, it imposes a positive externality on others. This is because someone with health insurance is more likely to receive preventive medical care, such as immunizations, than someone without health insurance. But immunization decreases not only the likelihood that the immunized person will get sick, it also decreases the probability that other people with which the immunized person comes into contact will get sick. Thus immunization and other types of preventive medical care impose a positive externality on society. Therefore health insurance creates a positive externality. Thus the amount of health insurance purchased in a market equilibrium is lower than the efficient amount. Government intervention (for instance through subsidies) may lead to an efficient amount of health insurance being purchased.

The other main reason for government intervention is to redistribute wealth or income. The additional benefit provided by an additional dollar to a very poor person is higher that the additional benefit provided by an additional dollar to a very rich person. Therefore society may want to redistribute some wealth from the very rich (who get less benefit from it) to the very poor (who get more benefit from it). Why might a particular non-poor member of society want such a redistribution?

1. Can put one’s self in poor person’s shoes or can imaging becoming poor one day
2. Don’t want to have to see starving people, un-kept up houses, the effects of dire poverty, etc.
3. Prefer to have less poor people so they don’t steal from you
4. Prefer to have less poor people so they can buy things, contribute to economy,
children can have better opportunities and maybe not be poor when they grow up.

Government might want to intervene even without externalities, incomplete info or incomplete markets, to maximize a particular social welfare function. A social welfare function may weight more heavily the welfare of the poorer citizens of a country. Then some kind of redistribution may increase the value of the social welfare function even if it results in an inefficient outcome.

Often redistribution causes some loss of efficiency. This is because the redistribution may cause individuals to change their behavior from their market equilibrium behavior. For instance, if the redistribution is from richer to poorer, individuals may decide to work less hard in order to get more money or have to pay less due to the redistribution. For everyone the marginal return to each dollar they earn is less due to the redistribution. Thus there is often a tradeoff between equity and efficiency.

For the taxes mentioned above, the net tax liability depends on how much a person earns, thus on their behavior. Not all taxes have this property: A tax is called lump-sum if a person affected by the tax cannot change their tax liability by changing their behavior. We will see that under some conditions, lump-sum taxes don’t have the efficiency costs of other taxes. An example of a lump sum tax would be an estate tax if there were no bequest motive.

How can government intervene?

Tax/subsidize private trade.

Taxes raise the effective price of a good. This is a common solution to regulate goods creating negative externalities, which are overproduced in a market equilibrium. Subsidies lower the effective price of a good - often used to increase the amount of good traded that creates positive externalities, which would be underproduced in market equilibrium.

Bush administration proposed to have individuals receive tax credit for expenditure on health insurance. Currently the purchase of health insurance is not subsidized.

Restrict or mandate private trade.

Can require sale or purchase of goods that are underproduced or restrict sale or purchase of goods that are overproduced. In 1994 Clinton proposed to require firms to provide health insurance to employees. Hillary Clinton was commissioner in charge of health care reform. Clinton’s health care plan was defeated in Congress.

Provide publicly

By government providing good, can offer it at price of its choosing to try to attain social-welfare maximizing level of consumption of the good. In US, 1/4 of population has government-provided health insurance (through Medicare and
Medicaid). In Canada and many developed countries, all residents are automatically insured by the government. Another example: Primary education provided by gov.

Finance publicly private provision

Government may want to affect the level of provision, but not involve itself completely. 2003 legislation to add prescription drug benefit in Medicare has federal government reimbursement of private insurers. Other examples: Some research is publicly funded but privately provided, food vouchers.

Effects of government intervention: Direct and indirect. Effect of a policy is the sum of its direct and indirect effects.

Direct effects: predicted if people do not change behavior in response to the change in policy. Ex: Suppose gov intends to provide free public health care (as in UK). 45.8 million uninsured, average cost of treatment $2000/year → $92 billion/year = 45.8 million × $2000. This expenditure is much smaller than existing spending on health care by gov ($550 billion). If only direct effects were considered, all uninsured could be covered for less than 4% of federal budget.

Indirect effects: effects due only to individuals changing their behavior in response to the policy change. If gov provides free health care to uninsured, some privately insured will drop insurance and benefit from gov’s free health care program. If half of non-elderly privately insured do this, adds a cost of $90 million. Cost will be $268 billion. The question is how many of privately insured will drop private insurance to use gov health care. This is an empirical question.

Why do governments do what they do?

Of course governments are not always benign or maximizing social welfare - they may have their own agenda. How governments make decisions is discussed in Chapter 9 on political economy.

Chapter 1.2

Key facts about government in US and other developed countries.

1930 - federal government activities made up less than 3% of GDP. Since 1970s, gov spending has been about 20% to 30% of size of US economy (GDP). Similar growth has taken place in other developed countries.

In 1960 US was about average of OECD (Organization for Economic Cooperation) countries in terms of government expenditure as share of GDP. But since then, many other countries’ government expenditure share of GDP has grown much more than US. Gov share grew on average by 50% in OECD countries, only 20% in US. Greece started with gov share below US’s in 1960, but it tripled - today much larger than US. Sweden - in 1960 was similar to other nations, but grew to about 2/3 GDP. Has shrunk since then - now about half of GDP.

How much is the government centralized? Is spending concentrated at higher
levels of gov (federal) or is it dispersed among state or local govs? In US, federal gov accounts for ca. 2/3 spending and state and local govs for 1/3 (35.9%). Local and state spending is about 11.3% of GDP. Some countries have near 100% centralization - federal government does almost all the spending.

Spending, taxes, deficits and debts

Household runs on budget - cash outflow must be financed by inflow (income from work, pension or other). Excess inflow over outflow is a cash flow surplus - can be used to finance future periods, to pay off previous debt, or as inheritance (bequest) to children. Shortfall of income below spending is cash flow deficit - must be financed by savings or by borrowing. Borrowing leads to debt, which has to be repaid sometime (unless default, but then no one will lend to you anymore).

Government finances similar. Outflow is gov spending, inflow is tax (and other) revenue. When revenue exceeds spending, budget surplus. When spending exceeds revenue, budget deficit. Deficit/surplus measured per year. Debt measures the accumulation of deficit over time. Debt must be financed by borrowing from citizens or from foreign nations. It can be financed by different kinds of bonds (from long-term - 30 year treasury bills or longer - to short-term - three month or less. These bonds could be indexed to inflation or not). A bond is a loan contract where the buyer of the bond buys the right either to a stream of interest or to a repayment at the end of a certain period (when the bond expires).

Except for enormous deficit during WWII (1941-1945), federal budget was close to balanced until late 1960’s. From mid-1970’s to mid-1990’s deficit rose to 5% of GDP. Shrank in 1990’s and turned into surplus by end of 90’s. Then turned back into deficit.

Debt stock rose sharply during WWII then fell gradually until mid-80’s. Now debt stock is ca. 35% of GDP. This is in the middle of the debt of other developed countries: Higher than Sweden or Australia, lower than Belgium (show figure 1-5).

In Chapter 4, we talk about the problems with having large debt.

In contrast to the federal government, state and local governments are usually budget-balanced. This is because many state and local governments have laws requiring that the budget be balanced.

The distribution of spending

Composition of federal gov’s spending has changed much over time. In 1960 more than half of gov spending was on national defense (a public good, because it is nonexcludable and nonrival). Because of nonexcludable property of public goods they are underprovided by private sector. Now defense spending is only 1/5 of federal budget. The 2009 base military budget was 515.4 billion. Adding emergency discretionary spending and supplemental spending raises it to 651.2
billion. The 2009 total amount of spending for military related purposes is about 1 trillion. Much of that is not included in the military budget, as wars in Afghanistan and Iraq are funded through extra-budgetary supplements (about 170 billion in 2007). (Figures from Wikipedia, Military Budget of the United States). Did military spending actually decrease, or was it just that other spending increased more? It only decreased slightly, under Clinton. Mostly it was increasing.

The change in composition occurred mostly because of growth of two areas: Social Security and Medicare/Medicaid. Social Security gives income support to the retired elderly. Medicare provides health insurance to elderly, Medicaid provides health insurance to poor and disabled. Social security is now about 18% of federal budget. The federal health care programs together make up 25% of budget.

Social security, Medicare and Medicaid are social insurance programs. They are made to correct failures in private insurance markets. A private good that does the same thing as social security would be an annuity - insurance against living too long. But such insurance provided by the private market suffers from the same adverse selection problem as health insurance – only people who expect to live longer lives buy the annuity, causing the price to go up. This is one reason for government to provide social security. Another reason is that people may be "myopic" – consuming more now and saving less for retirement than they need to have a comfortable retirement.

For health care markets, ca. 1/2 of all health care spending is done by governments (federal, state or local). For state and local governments, education, welfare and housing make up 45% of expenditures. For federal gov these make up 10% of spending.

Revenue sources

Most revenue comes in the form of taxes, but there is other revenue as well. In 2005, the main sources of revenue for the federal gov were income tax (42.0%) and payroll tax (38.2%). Income tax is a tax on income of US residents. Payroll taxes are taxes on earnings that fund social insurance programs. Income tax applies to all sources of income, such as returns to saving and capital gains. A payroll tax applies only to income from work.

Compare distribution of revenues in 1960 to 2005. From 1960 to 2005, the corporate tax as a percentage of revenues fell from 22.8% to 13.7%, payroll tax rose from 17.0% to 38.2%. Excise tax fell from 12.8% to 3.2%.

At state and local levels the percentage of federal grants has increased from 1960 to 2003 from 9.4% to 21.2%. These are redistribution from the federal to state and local governments. A fall in revenue from property taxes has been made up by increase in federal grants and income taxes.

Regulatory role of government.
Besides affecting society through taxing and spending, government regulates economic and social activities:

Food and medication must be approved by FDA (federal agency) - spends less than 0.1% of federal budget each year, regulating powers cover $1 trillion worth of goods (25% of consumer expenditures). Regulates food labeling, safety, bottled water, cosmetics, drugs and medical devices.

Occupational safety and Health Administration regulates workplace safety of the 111 million Americans employed at 7 million job sites. In 2002, over 78,000 workplace violations reported - firms paid $73 million in penalties.

Radio stations and cable TV regulated by Federal Communications Commission.

Air, tap water and land regulate by Environmental Protection Agency - supposed to minimize dangerous pollutants in air, water, food supplies.