

ECO 3206: PUBLIC SECTOR ECONOMICS

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LEARNING OUTCOMES

Upon successful completion of this course the student will be able to;

- Provide arguments for the case of government intervention in a modern economy.
- Identify both market failure and government failure and explain the causes of each.
- Distinguish between public goods, goods produced by the public sector and goods provided by the private sector.
- Identify externalities, their impacts, and evaluate the relative merits of various public sector interventions designed to resolve the associated issues.
- Explain and critically evaluate the concepts of equity and efficiency as a basis for decision making in taxation and public expenditure.
- Explain the planning and budgeting process in developing countries
- Distinguish between tax avoidance and tax evasion and articulate the considerations relevant to the design of public policy to minimize tax evasion
- Analyse specific policy issues in the area of public expenditure and taxation from the perspectives of both traditional public sector economics and public choice
- Critically evaluate contemporary public debate on topics in public sector economics.
- Understand the usefulness and limitations of economic analysis in the field of public finance.
- Critically evaluate systems of taxation and proposals for tax reform

Public sector economics is the study of the role of the government in the economy. Government is instrumental in most aspects of economic life:

- 1) Government in charge of huge regulatory structure
- 2) Taxes: modern governments collect 30-50% of National Income in taxes
- 3) Expenditures: tax revenue funds traditional public goods (infrastructure, public order and safety, defense), and welfare state (education, retirement benefits, health care, income support)
- 4) Macro-economic stabilization through central bank (interest rate, inflation control), fiscal stimulus, bailout policies

The degree of government intervention in an economy is a critical determinant of its performance. The Chinese Communist Party once thought that central control of an economy would not only reduce income inequalities but also accelerate growth. Since decentralizing parts

of its economy, freeing up some markets, and even legalizing private property, China has become the world's fastest-growing economy.

At the same time, some of the world's poorest nations remain economically imprisoned by excessive regulation, undeveloped markets, high taxes, unsecured property rights, and pervasive corruption. The three core questions in economics are WHAT, HOW, and FOR WHOM to produce.

We should also ask who should resolve these core questions, the governments or the market place? Where, when, and why do we expect market failure—suboptimal answers to the WHAT, HOW, and FOR WHOM questions? Where, when, and why can we expect government intervention to give us better answers—or to fail?

Are the market's answers good enough? Is the mix of output produced by unregulated markets the best possible mix? Will producers choose the production process that protects the environment? Will the market-generated distribution of income be fair enough? Will there be enough jobs for everyone who wants one?

In reality, markets don't always give us the best-possible outcomes. Markets dominated by a few powerful corporations may charge excessive prices, limit output, provide poor service, or even retard technological advance. In the quest for profits, producers may sacrifice the environment for cost savings. In unfettered markets, some people may not get life-saving health care, basic education, or even adequate nutrition. When markets generate such outcomes, government intervention may be needed to ensure better answers to the WHAT, HOW, and FOR WHOM questions.

There's substantial agreement about how and when markets fail to give us the best WHAT, HOW, and FOR WHOM answers. But there's much less agreement about whether government intervention improves the situation.

Four questions of public economics:

When should the government intervene in the economy? How might the government intervene? What is the effect of those interventions on economic outcomes? Why do governments choose to intervene in the way that they do?

The size and role of the government is one of the most fundamental and enduring debates in economics. Economics can be used to analyze the relative merits of government intervention in the economy in specific areas, but it cannot answer the question of whether there is “too much” or “too little” government activity overall. That is not to say that one cannot find many examples of government programs that economists would consider to be a highly inefficient, if not counterproductive, way to achieve policy goals. Reducing inefficient government spending would benefit the economy; however, reducing efficient government spending would harm it, and reducing the size of government could involve either one.

Government intervention can increase economic efficiency when market failures or externalities exist. Political choices may lead to second-best economic outcomes, however, and some argue that, for that reason, market failures can be preferable to government intervention. In the absence of market failures and externalities, there is little economic justification for government intervention, which lowers efficiency and probably economic growth. But government intervention is often based on the desire to achieve social goals, such as income redistribution. Economics cannot quantitatively value social goals, although it can often offer suggestions for how to achieve those goals in the least costly way.

‘Why does government do what it does?’ Here the answer explains behavior rather than recommending behavior. People who make government policy are assumed to be acting in their own self interest, just as we view firms or workers as behaving in their own self interest. This attempt to describe rather than prescribe government actions is the **positive** approach to government policy.

What would it be like to live in a nation without government?

All economies of the world can be said to be ‘mixed’, to a greater or lesser degree, in that there is no economy where there is no state activity (this would be anarchy), and no economy where the market has no role at all.

There would be no system of courts to administer justice. Provision of national defense and internal security would be difficult or disorganized with no central government to maintain and supply the armed forces. You could forget about such programs as Social Security, unemployment insurance, and welfare that provide income support to the elderly, the unemployed, and the poor or disabled. How would police and fire protection be provided? Driving on roads, over bridges and airports that we take for granted could also be a problem because virtually all the highways, streets, and other public transportation infrastructure we use every day are supplied and maintained by governments or their agencies. There would be no publicly funded primary and secondary schools. Higher education, which is heavily subsidized by the governments, also would be in trouble. Institutions ranging from medical schools to public clinics and hospitals would have their operations impaired without government support. The rule of law, standardization of weights and measures, and a stable currency – all relevant for determining economic growth would be obvious challenges.

Now that you have finished reflecting on what your life would be like without governments, you can better appreciate how much you rely on government services each day. We all benefit from government activities and expenditures. There are costs as well as benefits associated with the activities of governments. The role of government in society is so hotly disputed because we differ in our assessments of the costs and benefits of government programs. Many people think the role of government in the economy needs to be expanded and look to government to help

solve their own problems. Others think the role of government in the economy is already excessive and would like to see its scale of influence reduced.

Government expenditures are financed mainly by taxes. Citizens benefit from the many goods and services made available by governments, but they also pay the costs of these services. We differ in our views about what governments should and should not be doing in part because our valuations of the benefits we get from government differ. We also disagree because of variation in the amount of taxes and other costs each of us pay.

GOVERNMENTS IN MARKETS

Government and markets are inextricably linked. Government sets the legal and institutional frameworks within which markets operate. It raises taxes based on the activities of businesses and consumers in markets. It has an interest in market outcomes and the way these are distributed between different groups and firms in society. Sometimes Government wants to encourage the market to deliver particular products and services for wider social benefit. At other times it wants to discourage market products because of their wider negative effects. These links and tensions are an intrinsic part of a modern market economy.

Recent developments in financial markets and the economic downturn have cast a new light on Government's role in markets. Public trust in the ability of markets to deliver efficiency and stability has been challenged. Governments across the world have recently intervened in markets more heavily than in many previous years.

Government's more active role in markets coincides with a need to spend carefully. Any intervention needs to be well designed and fit for purpose to ensure that the highest value for money can be achieved and that damaging unintended consequences are avoided. This may mean a renewed focus on the delivery of public services, such as healthcare, education or benefits, which have traditionally been provided directly by the public sector through an actual or near monopoly. At the same time, policy makers around the world are facing potential turning points

in how we meet the challenges of, for example, fuel supply and alternative energy sources, environmental degradation, and food supply and security. As a global community we are facing fundamental questions on how we adapt existing and new markets to changing circumstances.

THE ROLE OF COMPETITION

Competition is a process of rivalry between suppliers seeking to win business. Competition is sometimes assumed to focus only on price, but suppliers can also compete in other ways, for example by developing the quality of existing products, by using their entrepreneurial skills, or investing in research to develop new goods and services.

Some of the processes of competition can also be applied within the public sector. For example, hospitals might compete for patients within a framework where consumers can choose between different providers. For the most part, open competitive markets are the best way of maximising consumer welfare and raising economic growth.

Competition:

- **Drives firms to improve their internal efficiency and reduce costs.** Cost minimisation allows firms to deliver the same goods and services to consumers, but at lower prices. This will attract a greater number of consumers and the firm will gain a larger market share.
- **Provides incentives to firms to adopt new technology.** Early adoption of technology and/or new techniques and processes helps firms minimise their costs.
- **Provides incentives to firms to invest in innovation.** Investment in innovation allows firms to improve the quality of their existing products and/or develop new products and services to better suit the changing needs and preferences of consumers.
- **Reduces managerial inefficiency.** Competitive pressures from other firms and new entrants lead firms to look for better, more efficient ways to organise their business. Lack of effective competition could lead firms and managers to operate with inefficient business models and technology as firms are unlikely to lose profits.

Competition is not just about the behaviour of firms within a given market. Significant benefits are derived from the entry or the threat of entry by new firms and the exit of inefficient firms.

New firms bring with them new ideas and better, more efficient ways of producing goods. They also create incentives for existing firms to improve their performance and develop their products, in order to avoid losing market share and being forced to exit the market. Reducing entry and exit barriers can therefore be a powerful mechanism in driving and maintaining competition. Over the long term, competition, through improving firm-level efficiency and incentivizing investment in innovation, generates higher rates of productivity growth resulting in increased economic growth and greater prosperity.

Competition in domestic markets also increases the degree to which domestic firms and products can compete in international markets. It does this in several ways:

- Domestic competition in the traded goods and services sectors can directly improve competitiveness by driving exporting businesses to become more efficient.
- Where goods and services are not directly traded, they often provide important inputs for other firms. Competition in these markets reduces input costs for exporting businesses.
- Even where non-traded goods and services do not provide direct inputs for exporting businesses, competition can still play a role in creating the conditions for attracting inward investment and mobile foreign labour and capital.

While the overall benefits of competition are clear, if competition is not adequately regulated it can cause significant consumer detriment.

The Four Questions of Public Sector Economics

When should the government intervene in the economy?

How might the government intervene?

What is the effect of those interventions on economic outcomes?

Why do governments choose to intervene in the way that they do?

What is it about free and competitive markets that work to squeeze more out of productive resources than has been possible in centrally planned economies? Can we rely on markets to

satisfy all the desires of individuals? When do **markets fail** to supply useful goods and services, and when does the profit motive, which is necessary to keep a market system going, result in undesirable side effects? To answer such questions, we must first develop some norms for evaluating resource use. We must then examine how well markets achieve results that satisfy the criteria we set up to evaluate resource use. After we evaluate free market performance, we can then discuss possible defects of markets and examine how these defects give rise to demands for government goods and services.

A useful starting point for analyzing government activities is the study of the role of markets in allocating resources. Markets facilitate exchanges of goods and services and inputs. Free exchange between buyers and sellers in unregulated, competitive markets often achieves outcomes that rate high in terms of the standards of economic performance used by many economists. However, markets cannot be relied upon to supply all useful goods and services, and sometimes market transactions have undesirable side effects, such as pollution. In those circumstances, government supply of goods and services through political institutions can result in net gains to citizens' well-being.

In public sector economics, we study both the virtues and defects of the marketplace. We begin by defining the concept of efficiency. We then discuss conditions under which markets operate efficiently and examine some instances in which they fail to do so. We also show how government subsidies and taxes can distort resource allocation and cause losses in output and efficiency in markets.

We also consider policy problems that arise from the failure of market outcomes to maximize social welfare even when markets operate efficiently. These policy problems reflect the fact that

not all efficient outcomes are equally desirable from the perspective of society. In such cases, government policy can be used to potentially improve market outcomes by improving some conception of social welfare. **Poverty and inequality** in any market outcome is socially undesirable. Even when market outcomes are efficient, they can leave wide dispersions in income or other economic outcomes. Depending on how society aggregates preferences, outcomes with lower levels of poverty and inequality can often lead to a higher level of social welfare.

When should the Government intervene?

Market failure – the idea that in some circumstances unfettered markets will not produce an efficient outcome. A problem that causes the market economy to deliver an outcome that does not maximize efficiency.

Redistribution- the shifting of resources from some groups in society to others. For example, governments may view income redistribution- the transfer of income from rich to poor, from working age adults to the elderly, or from the general population to members of some favored group-as one of their proper roles.

When does government step in?

- To correct shortages or surpluses
- To provide when the market does not or cannot
- To regulate and correct where there is perceived inequality or inefficiency
- To protect individuals and groups in society and provide a safety net for those unable to help themselves
- To reduce poverty
- To influence property rights

The public sector should only intervene when there is a market failure and a need to redistribute resources and **only** when intervention will lead to an improvement. This is most likely when:

- The market failure is big – there is evidence of a significant problem

- Public sector intervention is effective.

Public sector intervention is more likely to be effective when it addresses the cause of the market failure, and where it seeks to improve the functioning of the market rather than supplanting it.

Reasons for intervention

Competition by itself may not necessarily deliver the best outcomes. Markets do not always work effectively, and as a result Government plays a crucial role. Government interventions in markets can be divided into two broad types: to set the framework within which markets operate, and to influence market outcomes as illustrated below.

Why does Government intervene in markets?

1. To make markets work more effectively
 - Setting the market framework
 - Protecting competition in markets
 - Ensuring that consumers are able to exercise choice, and are not coerced or defrauded
2. To influence market outcomes
 - Addressing externalities – for example, pollution, congestion
 - Using markets to deliver public services
 - Adjusting the outcomes for different groups

Setting market frameworks

Government plays a vital role in creating the basic framework within which fair and open competitive markets can exist. At a very basic level Government is responsible for establishing the ‘rule of law’, creating property rights, ensuring contracts are upheld, and setting up the necessary institutions for the proper functioning of markets. This includes the establishment of a competition and consumer law framework that governs the way firms and individuals should behave when operating in markets.

Competition law prevents firms from making anti-competitive agreements, and ensures ‘dominant’ firms are not able to exploit their position to distort market outcomes, by, for example, restricting the entry of new firms and charging higher than competitive prices. It also restricts mergers which could lead to a substantial lessening of competition.

Consumer law aims to protect consumers from scams, frauds and other potentially abusive practices. It sets out consumers’ rights in relation to the firms they deal with and aims to ensure that traders act fairly and honestly towards their customers.

Without this competition and consumer law framework consumers would be vulnerable to exploitation by firms and could potentially withdraw from markets altogether.

It is important that policy makers take care that their policies do not unnecessarily infringe on the established competition and consumer law framework, by for example encouraging voluntary agreements between firms that might breach competition law.

Wider market interventions

- Government frequently intervenes to achieve particular social objectives, such as poverty reduction or improvement of the health and well-being of citizens.
- Government also intervenes where markets have failed to help stabilise the economy following an unexpected disturbance, or to help speed up the economic recovery following a downturn. This has recently been observed following the financial crisis and economic downturn.
- There are costs and benefits associated with any Government intervention in a market, and it is important that policy makers consider all of the costs and benefits of a policy intervention. Distortions to competition can often be easily overlooked by concentrating on more direct costs.
- Distortions to competition are not immediately visible as it usually takes time for the full consequences to emerge.

Even with the existence of a basic framework to ensure markets function effectively, Government frequently intervenes in markets either:

- because of market failures, or
- to achieve particular social objectives, such as reducing poverty or to improve the health and well-being of individuals.

Interventions to address market failure

'Market failures' are situations where markets are prevented from working efficiently to provide the goods and services that are demanded by consumers and in the desired quantities. Markets can 'fail' as a result of public goods, externalities, information problems and market power.

Public goods

There is a consensus that free markets would not provide certain public goods and services, such as national defence. This is because once the good is paid for and produced it is difficult to exclude others from benefiting from it; as a result, no individual or group is willing to pay for it.

Externalities

It is common for free markets to produce too much or too little of a good or service from a societal point of view. This can happen when the costs of production to an individual firm, or the costs of consumption to an individual consumer, do not include the wider costs or benefits to society.

A common example is pollution. Where firms are not required to pay for any environmental damage, they have little incentive to curb production and therefore produce too much from a societal perspective. Conversely, education would be underprovided if left to private markets; whilst a well-educated population increases the general welfare of the rest of society, this would not be taken into account by individuals when making consumption decisions.

Information problems (Information Asymmetry)

In some markets it can be difficult for consumers to be certain about the quality of a good or service before they buy it. This can disadvantage suppliers of better quality products because they will find it difficult to convince customers to pay the higher prices which are necessary to cover any additional costs the producers have incurred. In some extreme cases this mismatch could lead to the collapse of the market: if consumers cannot judge the quality of a product, they may end up buying nothing.

Government can intervene to help overcome these problems and empower consumers to make informed choices. For example, Government can require appropriate labeling showing the provenance of food products or the energy efficiency of electrical products. Government can also address the problem by educating consumers to better understand complex products and services, such as financial products.

Market power and natural monopolies

In almost all markets, some suppliers can exercise a degree of market power. Competition law exists to ensure that suppliers do not abuse this market power at a cost to consumers. In the extreme, there are some markets where it is more efficient for only one firm to produce the good rather than multiple firms. This typically occurs where there are large initial costs associated with setting up the infrastructure needed for production and delivery – for example, water and energy networks. Where there is a single monopoly firm, Government may also choose to regulate market power more directly – for example, through ex ante price controls.

Interventions to achieve wider policy objectives

Government also intervenes to achieve social objectives including:

- changing consumer behaviour where such behaviour has adverse effects on society or because of fears over harm for the individual
- the co-ordination of private investment where lack of information or confidence about the future development of a market threaten its success
- the development of private markets to address a long-term shift in the economy or the political landscape.

Government may come under pressure to intervene during cyclical downturns. In such cases it is argued that inaction by Government could lead to the failure of otherwise viable firms, job losses and a loss of skills. Such arguments conclude that this in turn would prolong the time it takes for the economy to recover.

Government may also intervene to ensure the security of particular supply chains that are considered essential for the functioning of the economy. For example, much has been made

recently about ensuring the security of food and energy supply in the face of potential future world shortages. Similar arguments have often been used with respect to defence.

How might/does government intervene?

The government intervenes in the economy in four ways. First, it produces goods and services, such as infrastructure, education, and national defense. Measuring the effects of these goods and services is difficult because they are not bought and sold in markets. Second, it transfers income, both vertically across income levels and horizontally among groups with similar incomes and different characteristics. Third, it taxes to pay for its outlays, which can lower economic efficiency by distorting behavior. Not all taxes are equally distortionary, however, so there are ways of reducing the costs of taxation without changing the size of government. Furthermore, deficit spending does not allow the government to escape the burden of taxation since deficits impose their own burden. Finally, government regulation alters economic activity. The economic effects of regulation are the most difficult to measure, in terms of both costs and benefits, yet they cannot be neglected because they can be interchangeable with taxes or government spending.

Tax or Subsidize Private Sale or Purchase

One way that the government can try to address failures in the private market is to use the *price mechanism*, whereby government policy is used to change the price of a good in one of two ways:

- **Through taxes**, which raise the price for private sales or purchases of goods that are overproduced. Intention: to redistribute and provide incentive or disincentive effects
- **Through subsidies**, which lower the price for private sales or purchases of goods that are under produced. Subsidies intended to encourage production/consumption.

Restrict or Mandate Private Sale or Purchase: The government can directly restrict private sale or purchase of goods that are overproduced, or mandate private purchase of goods that are under-produced and force individuals to buy that good.

- **Public Provision:** The government can provide the good and services directly, in order to potentially attain the level of consumption that maximizes social welfare, e.g. health, education, etc.
- **Public Financing of Private Provision:** Governments may want to influence the level of consumption but may not want to directly involve themselves in the provision of a good.
- **Regulation** – guides, codes of practice, legislation, independent regulators
- **Identifying property rights** – ownership of property, that is, intellectual property, granting of patents, etc.

What Are the Effects of Alternative Interventions?

Direct effects: The effects of government interventions that would be predicted if individuals did not change their behavior in response to the interventions.

Indirect effects: The effects of government interventions that arise only because individuals change their behavior in response to the interventions

Why Do Governments Do What They Do?

Political economy: The theory of how the political process produces decisions that affect individuals and the economy. For example: Why do governments regulate certain industries? Why not let market forces allocate resources? There are two views of government regulation. The first has been implicit in the discussion so far—namely, economic regulation is in the *public interest*. Economic regulation promotes social welfare by keeping prices down when one or just a few firms serve a market.

A second view is that economic regulation is not in the public interest but is in the *special interest* of producers. According to this view, *well-organized producer groups expect to profit*

from economic regulation and persuade public officials to impose restrictions that existing producers find attractive, such as limiting entry into the industry or preventing competition among existing firms. Individual producers have more to gain or to lose from regulation than do individual consumers. Producers typically are also better organized and more focused than consumers and are therefore better able to bring about regulations that favor producers.

How Does the Government Affect the Economy? Types of Government intervention.

1. Direct Government participation in markets

- Acting as a supplier
 - Through direct provision of goods and services to the public, and as collector and holder of public sector information.
- Acting as a buyer
 - Through competitive tendering.

2. Indirect Government participation in markets

- Taxes and subsidies
 - Through changing the costs of goods and services
- Regulation and influence
 - Through statutory requirements, information campaigns

Depending on the reason for Government intervention and the characteristics of each particular market, there are a number of types of intervention that the Government can choose from.

In many markets, the Government participates directly as a provider or as a buyer (procurer) of goods and services. Where this is not the case the Government can also influence firms indirectly

through taxes, subsidies and regulation, and increasingly through ‘softer’ forms of influence on businesses and consumers.

Direct participation

Government participates directly in markets for two main reasons: to provide public goods and services that free markets would be unlikely to provide at an appropriate level (see Externalities) and to benefit from the commercial value of public sector assets. Government is also a significant buyer of goods and services from the private sector.

Government buys from the private sector in order to deliver public services and also to carry out its functions, for example the provision of offices, IT equipment and research services. Government typically procures goods and services through a competitive tendering process. Potential suppliers bid for contracts, and the contract is awarded to the firm that best meets the specified criteria and provides the best value for money.

Indirect participation

Government usually intervenes indirectly where private markets exist but produce side-effects that have an impact, either positive or negative, on social welfare. When a negative side effect exists, for example pollution from car exhausts, Government can choose to discourage its production (for example, vehicle tax) and/or its consumption (for example, petrol or road tax). Such measures alter the incentives faced by producers and consumers. When a side effect exists that is beneficial to society and should be encouraged, for example research and development, Government can choose to subsidise it thereby encouraging production and/or consumption.

Government can also choose to intervene through regulation: to ensure minimum standards of health and safety, or that harmful ingredients are not allowed in food, for example. Government can also shape the direction of markets through its ability to influence the economy via targets and policy statements. For example, Government has set challenging carbon emission reduction targets and made commitments to purchase low carbon technology, thereby sending a strong signal to the market that it should invest in low carbon markets and technology.

Types of intervention

There are costs and benefits associated with all types of Government intervention. It is important to ensure that the appropriate tool is selected so Government can achieve its intended policy objective with minimal effect on competition, choice and the effective workings of the market. In both direct and indirect participation, Government has a choice between more traditional instruments and market-based approaches.

	Traditional instruments	Market-based approaches
Providing public services	Direct provisions	Competitive tendering User choice
Influencing private markets	Regulation on Tax and subsidy	Trading schemes Self-regulation

Government activity affects the economy in four ways:

- The government produces goods and services, including roads and national defense.
- The government transfers income through both the tax system and outlays. Popular perception typically focuses on transfers across income classes through the progressive income tax system and means-tested benefits, referred to as vertical redistribution. But vertical redistribution is dwarfed by horizontal redistribution, transfers unrelated to income class. The largest beneficiaries of transfers are the elderly, through programs such as Social Security.
- The government collects taxes, and that alters economic behavior. For instance, taxes on labor change the incentives to work, while taxes on specific goods (e.g., gasoline) change the incentive to consume and produce those goods.
- The government regulates economic activity for a number of reasons, including environmental protection, workplace safety, and consumer protection. The economic impact of regulation is

probably the hardest and most contentious to measure of the four types of government economic activity.

Rules of thumb

This suggests some questions which may help policymakers to make effective interventions, particularly in identifying whether there is a market failure rationale for intervention and what the causes of the market failure are.

Questions to ask about the rationale for intervention are:

- Is there a reason why the pricing mechanism wouldn't work / provide the most efficient outcome?
- Is there a reason why the buyer would not have enough information to assess the value of the product, (or the seller would not have enough information to assess the cost)?
- If the service is a good thing to provide, why hasn't it already been done? Why isn't the private sector providing the service? Why isn't the market working properly?

If these questions cannot be answered with reference to the market failures it is unlikely that there is a rationale for intervention based on market failure. The design of the intervention should relate to the market failure it seeks to address

so answering these questions will also help to develop a successful intervention.

Questions to ask about the design of the intervention are:

- Is the intervention designed to tackle the cause or the consequence of market failure?

- Will the intervention displace an existing market, could something be done to help this market to be more efficient rather than displacing it?
- Could something be done to support individuals and firms to co-ordinate to overcome the failure themselves?

And of course, in deciding whether to intervene it is important to consider how much the intervention will cost and the extent to which the benefits outweigh the cost.

The case against government intervention in the economy

Although proper government policy can theoretically fix any market failure, in practice it often fails to achieve its goals. When government tries to take the place of firms, the resulting enterprises tend to operate inefficiently because they lack the incentives (specifically, profit) that motivate private firms. Also, in cases where industries are regulated as natural monopolies, often such regulation effectively preserves the absence of competition.

The success of any government intervention depends crucially on the ability and the honesty of the officials entrusted to carry it out. When these qualities are lacking, the resulting **government failure** can be worse than any market failure that government policy was designed to correct. Recognizing such difficulties suggests that, whenever possible, the role of government should be defined as narrowly as possible.

PERSPECTIVES ON THE ROLE OF GOVERNMENT

Two perspectives on the role of government

Normative Analysis

Positive Analysis

Positive analysis is about explaining why there is a public sector, how government policies are chosen and how these policies affect the economy. It is about understanding what effects policies

have. In contrast, normative analysis investigates what the best policies are, and aims to provide a guide to good government. These are not entirely disjoint activities.

To proceed with a normative analysis it is first necessary to conduct the positive analysis: it is not possible to say what is the best policy without knowing the effects of alternative policies upon the economy. It could also be argued that a positive analysis is of no value until used as a guide to policy.

A. NORMATIVE ANALYSIS

In absence of market failures, government should only worry about the redistribution of income. With market failures, markets will not yield Pareto-efficiency, government should deal with the market imperfections.

Government should only intervene when:

- (i) In principle there is some way of intervening in the market to make someone better off without making any one worse off. That is, **making Pareto improvement**.
- (ii) The actual political processes and bureaucratic structures of democratic society are capable of correcting the market failure and achieving a Pareto improvement.

NOTE:

- a). Pareto improvement does not, however, necessarily imply that government intervention is desirable.
- b). The consequences of government intervention must be considered. The way government functions must be analyzed and understood in order to assess whether government action is likely to remedy market failures.
- c). Even when government bureaucracies and politicians behave honorably, the nature of government itself, still may help explain government's failures. For example, complicated political processes may cause public programs to fail.

B. POSITIVE ANALYSIS

There is often a significant difference between a programs stated objective and its design. The stated objectives may differ from the true objectives of the programs imbedded in the program designs and implementation.

Some economists believe that economists should focus on positive analysis: **describing the consequences of government programs and the nature of the political processes**, rather than on normative analysis (what the government should do).

NOTE:

- a). Normative analysis is an important part of the political processes in modern democracies
- b). Institutional analysis may lead to designs that ensure that public decisions reflect a broader set of public interests, rather than special interest.

Economists usually disagree in two broad areas:

- (i) About the consequences of policies (about positive analysis)
- (ii) About values (about the normative analysis)

Discussion

Use UPE and USE programs in Uganda to discuss the issues raised above.

Differences in views on the behaviour of an economy. Some economists assume perfect information and perfect competition while others assume imperfect information and competition.

Welfare economics assumed: perfect information, no agent effects on beliefs or information and a given state of information about technology. Different economists using different models will identify different consequences of a particular response. They may also disagree about the magnitude of the response.

Disagreement over values

Even when the consequences of a policy are known, there may be disagreements about whether the policy is desirable. Each policy is associated with trade-offs which individuals may weigh in different ways.

Stages of public sector analysis

- a). Description of public sector activities/and their organization
- b). Analyzing the consequences of government activities
- c). Evaluating alternative policies
- d). Interpreting the political process.

GOVERNMENT FAILURE

In reality, there are situations that justify government intervention. However, many governments have failed to achieve the objectives for the intervention. Why do governments fail?

In some cases the market itself may produce solutions to market failures. For example, in order to avoid problems of incomplete information, firms may invest in developing a reputation for quality. In other cases, such solutions may not emerge and this might lead to intervention by the government to correct the market failure. However, intervention by government can itself have consequences for social welfare. Government intervention might fail to completely solve the problem it is attempting to address. In some situations this 'government failure' could be worse than the problem the intervention was designed to correct, so that government intervention reduces rather than improves social welfare and/or equality. The major reasons for the systematic failures of the government to achieve its stated objectives include but are not limited to those outlined below:

(a) Information problems

In unregulated markets, the price mechanism can help producers to know whether or not they should be producing a certain good or service. If the price is higher than their marginal cost of production they know that the value consumers place on the product (as revealed by the price they are willing to pay) is greater than the cost of supplying more output. It is worthwhile expanding output.

Similarly, if the market price is below their marginal cost of production then customers do not value the products they are producing enough to continue maintaining current output levels. This

information helps suppliers to know whether or not to expand or contract output (and helps potential suppliers know whether they should enter the market). The decisions they take are both privately profitable for those suppliers and also help maximise social welfare by ensuring that products are produced when, and only when, their value to consumers exceeds the cost of producing them.

When services are provided directly to users by the government, rather than through a market, this price mechanism will not be present. Hence information on whether or not it is worthwhile (from society's point of view) to increase or reduce output is lost. The public sector, acting outside of a market, is likely to produce either too much or too little, and would only by an unlikely coincidence produce the socially optimal level of output.

(b) Inefficiency

As well as determining how much is produced, markets also help select the most efficient suppliers. Suppose there are two firms supplying a market with an identical product and one has higher costs than the other. As explained above, the market mechanism ensures that output is produced up to the point where price equals marginal cost. If price equals the marginal cost of the expensive producer, the other supplier will be able to expand its output which will lead to a fall in the market price. This means that price is below cost for the more expensive producer who will therefore cut back output, and perhaps exit the market altogether. In this way firms with lower costs win business from those with higher costs.

The market will also provide consumers with an opportunity to choose between firms producing higher or lower quality output. In general, unless there is a big enough difference in price, consumers will choose producers of high quality output over producers of low quality output. The market mechanism thus directs business towards producers with lower costs and/or higher quality output. Direct provision by the government removes this process and can lead to inefficient or poor quality services being provided.

(c) Principal-agent problems

The government's policy goals may not be perfectly aligned with the interests of the managers that are implementing its policies. Individual departments may expand their size, activities and

budgets beyond that which is efficient in order to increase their own importance. The interests of principal and agent can also diverge when an individual official has the scope to pursue his own political agenda.

Principal agent problems are found in both the public and the private sector, but designing an appropriate incentive contract to re-align interests can be more difficult in the public sector. The public sector is limited in how it compensates employees and cannot fire workers or award bonuses to the same extent as the private sector.

Furthermore, the pursuit of social welfare rather than profit maximisation gives rise to a complex set of objectives, some of which may be difficult to measure. An incentive contract in this case could lead to the agent focussing his efforts on the measurable output to the detriment of the other non-measurable objectives.

(d) Capture

Government officials may be ‘captured’ by special interest groups and act in ways that are in the interests of these groups, rather than society as a whole. For example, an official could be persuaded by domestic producers to impose an import quota that would harm consumers, or to continue an inefficient subsidy scheme by those receiving the transfers.

Because government intervention is a potential resource to such groups there is an incentive for them to organise and lobby the official to act in their collective interest. This will cause social welfare to suffer when the benefit accruing to the interest group falls short of the cost imposed on society. The adversely affected party will not lobby against the regulation if the incentives to do so are too weak.

For example, consumers may object to paying the higher prices resulting from an import quota but may find it difficult to organise themselves. Any benefits from lobbying must be shared with a large number of individuals, and the temptation to ‘free-ride’ on the activities of others is strong. **Regulatory capture** may also arise as a result of asymmetric information. For example, an official regulating prices in an industry may be reliant upon firms in the industry to provide cost information. If reported costs are not easily verifiable, this provides an incentive for firms to over-state their costs in order to obtain a higher regulated price.

NORMATIVE EVALUATION OF RESOURCE USE: THE EFFICIENCY CRITERION

Efficiency is a normative criterion for evaluating the effects of resource use on the well-being of individuals. The efficiency criterion is satisfied when resources are used over any given period of time in such a way as to make it impossible to increase the well-being of any one person without reducing the well-being of any other person. Developed by the Italian economist Vilfredo Pareto (1848–1923), it is often referred to as the criterion of Pareto optimality. The criterion represents a precise definition of the concept of efficiency.

Social Efficiency:

- ▶ Social efficiency: When there is no ``free lunch''. Someone has to pay.
- ▶ Autarky, trade, and free lunch.
- ▶ A **PARETO-efficient** state is where there is no more free lunch.
- ▶ A **Pareto-efficient** state is when one cannot make someone better off without making somebody else worse off.
- ▶ Having a free lunch is referred to as a **Pareto improvement** or making a **Pareto improving** move.

Pareto improvement: Making someone better off without making anybody else worse off (as in free trade).

Social Efficiency and Competitive Markets

- ▶ A competitive market tends to realize all free lunches.
- ▶ A competitive market is Pareto efficient.
- ▶ This is called: **The First Fundamental Theorem of Welfare Economics.**

First Fundamental Theorem of Welfare Economics: a Pareto-efficient allocation of resources emerges under assumptions: a. all producers and consumers act as perfect competitors; b. a market exists for each and every commodity (see “market failure” discussion below). The theorem indicates that a properly working competitive system leads to some allocation on the utility possibilities curve. There is no reason, that it is the particular point that maximizes social welfare. So even if the economy generates a Pareto efficient allocation of resources, government intervention may be necessary to achieve a “fair” distribution of utility.

Second Fundamental Theorem of Welfare Economics: Society can attain any Pareto-efficient allocation of resources by making a suitable assignment of initial endowments and then letting people freely trade with each other. It is important because of its implication that, at least in theory, the issues of efficiency and distributional fairness can be separated. If society determines that the current distribution of resources is unfair, it need not interfere with market prices and impair efficiency. Rather, society need only transfer resources among people in a way deemed to be fair.

If conditions for the first theorem are not satisfied, the free market allocation of resources may be inefficient as well as unfair (solved by the second theorem).

Market failure: market power, nonexistence of markets (asymmetric information, externality, public goods)

The fact that the market-generated allocation of resources is imperfect does not mean the government is capable of doing better.

The problems with welfare economics:

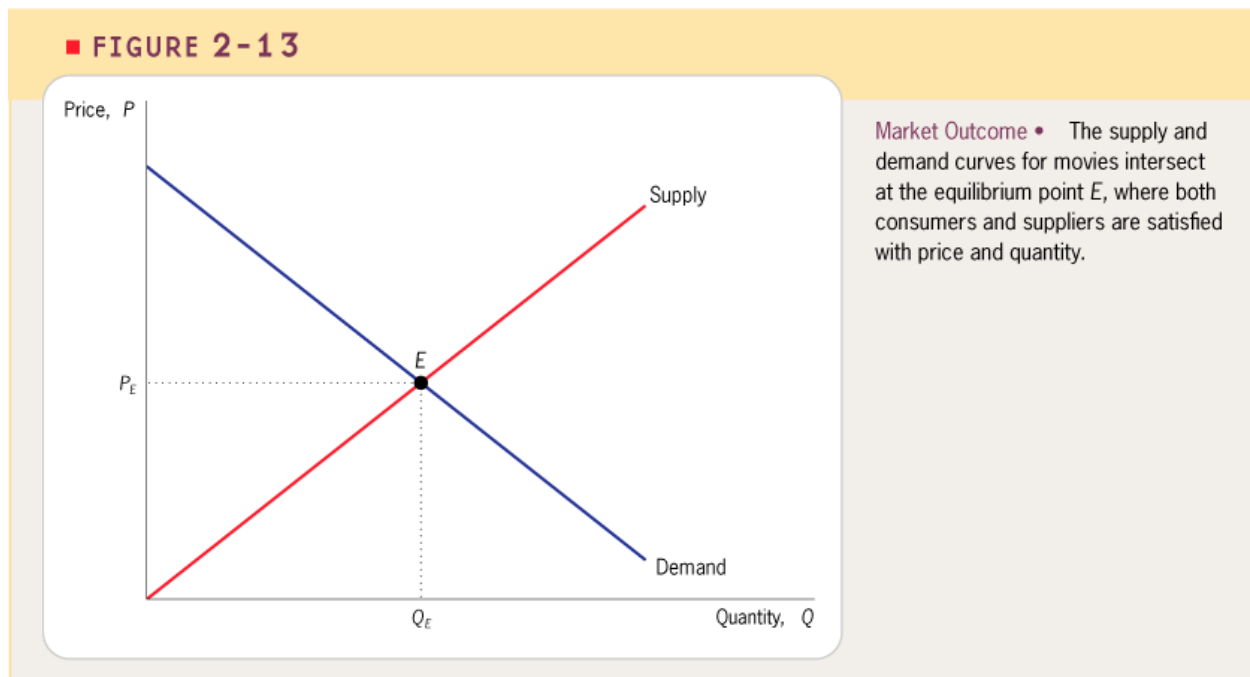
a. The underlying outlook is highly individualistic, with a focus on people’s utilities and how to maximize them (social welfare function). The basic view expressed in the function is that a good society is one whose members are happy. However, other societal goals are possible. Musgrave developed the concept of merit goods to describe commodities that ought to be provided even if the members of society do not demand them.

b. Its framework is its concern with results. Situations are evaluated in terms of the allocation of resources, and not of how the allocation was determined. Perhaps a society should be judged by the processes used to arrive at the allocation, not the actual results.

The great advantage of welfare economics is that it provides a coherent framework for assessing public policy.

Equilibrium and Social Welfare

Equilibrium

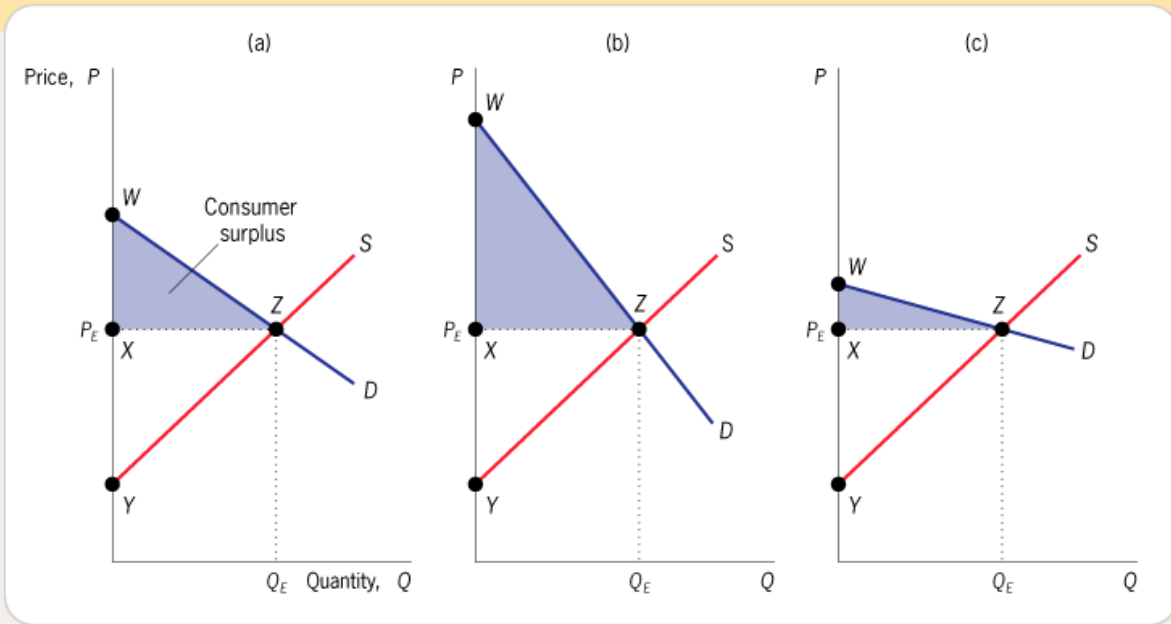


Social Efficiency

Social efficiency represents the net gains to society from all trades that are made in a particular market, and it consists of two components: consumer and producer surplus.

Consumer surplus: The benefit that consumers derive from consuming a good, above and beyond the price they paid for the good.

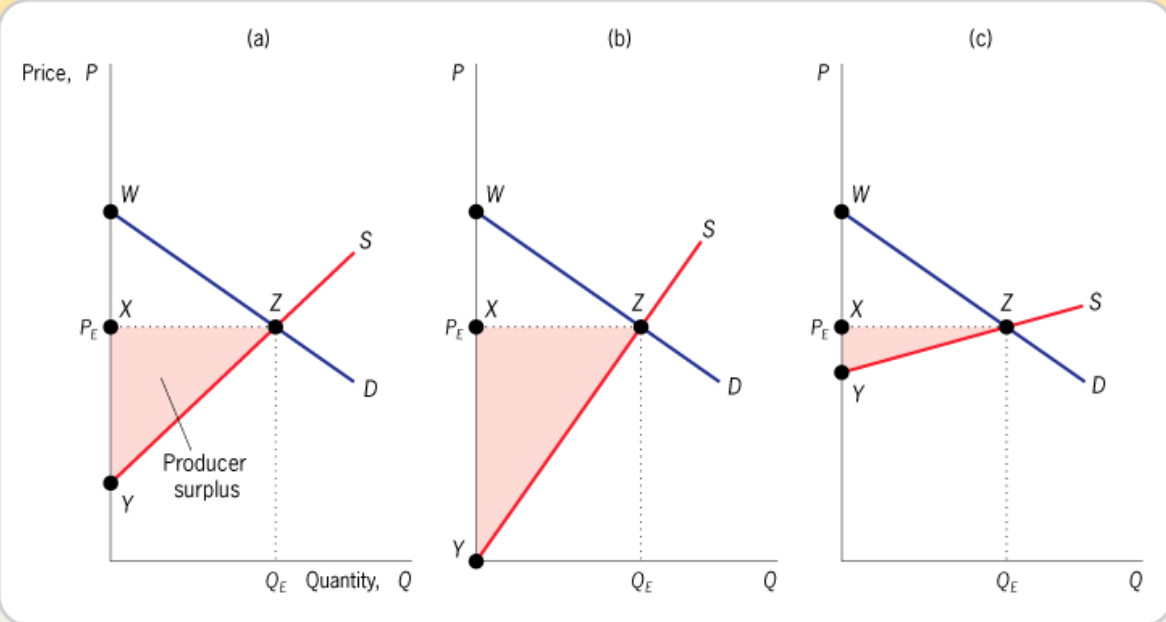
■ FIGURE 2-14



Consumer Surplus • The consumer surplus is the area below the demand curve and above the equilibrium market price, the shaded area WZX in all three panels of this graph. This represents the value to consumers of consuming goods above and beyond the price paid for those goods. As demand becomes more inelastic, consumer surplus rises; as demand becomes more elastic, consumer surplus falls.

Producer Surplus: The benefit that producers derive from selling a good, above and beyond the cost of producing that good.

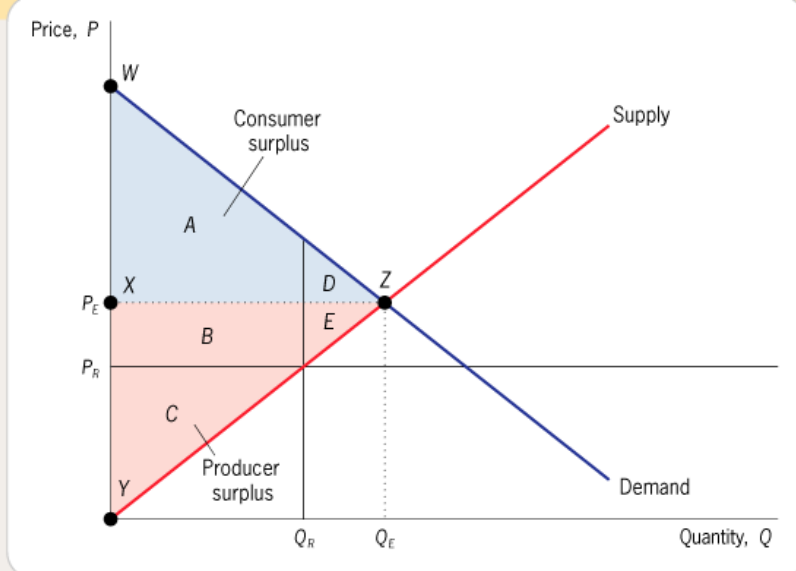
■ FIGURE 2-15



Producer Surplus • The producer surplus is the area below the equilibrium market price and above the supply curve, the shaded area XZY in all three panels of this graph. This represents the profit earned by firms on all units sold at the market price. As supply becomes more inelastic, producer surplus rises; as supply becomes more elastic, producer surplus falls.

Social Surplus: Total social surplus (social efficiency)- The sum of consumer surplus and producer surplus.

■ FIGURE 2-16



Competitive Equilibrium Maximizes Social Surplus • The sum of consumer surplus (the area below the demand curve and above the price) and producer surplus (the area above the supply curve and below the price) is maximized at the competitive equilibrium. A restriction on price to P_R lowers quantity supplied to Q_R and creates a deadweight loss of $D + E$.

Competitive Equilibrium Maximizes Social Efficiency

First Fundamental Theorem of Welfare Economics: The competitive equilibrium, where supply equals demand, maximizes social efficiency.

Deadweight loss: The reduction in social efficiency from denying trades for which benefits exceed costs

From Social Efficiency to Social Welfare: The Role of Equity

Social welfare: The level of well-being in society.

Governments have certain redistributive programs because their citizens care not only about efficiency but also about *equity*, the fair distribution of resources in society. The competitive equilibrium, while being the social *efficiency*-maximizing point, may not be the social *welfare*-maximizing point.

Equity–efficiency trade-off: The choice society must make between the total size of the economic pie and its distribution among individuals.

Social welfare function (SWF): A function that combines the utility functions of all individuals into an overall social utility function.

- **The Social Welfare Function: $W=W(.)$** The basis idea of the SWF is to make the society's notion of “fairness” explicit. Often people talk about being “fair” without specifying what they mean. For example, one can interpret this as :
- Higher income people should pay more taxes. If we accept this interpretation we are still left with the question of “How much?”
- Higher income people pay more in terms of average taxes. But again “How much?”
- Higher income people pay more in terms of marginal taxes. But again “How much?”

William Safire, a previous columnist for New York Times, defines “tax fairness” as “the poor should pay nothing, the middlers something, and the rich the highest percentage.” So his is in terms of averages. But the question of how much still remains.

How Government Influences Competitive Markets

Government affects what and how firms produce, influences conditions of entry and exit, dictates marketing practices, prescribes hiring and personnel policies, and imposes a host of other requirements on private enterprise. Most sectors are regulated to some degree, and the method and scope of regulation vary widely. Many companies are subject to operating regulations governing pollution emissions, product packaging and labeling, worker safety and health, and so on. Other firms, particularly in the financial and the public utility sectors, must comply with financial regulation in addition to such operating controls. Banks and savings and loan institutions, for example, are subject to regulation of interest rates, fees, lending policies, and capital requirements.

Competition policy is about applying rules to make sure companies compete fairly with each other. This encourages enterprise and efficiency, creates a wider choice for consumers and helps reduce prices and improve quality. These are the reasons why countries (governments) fight anticompetitive behavior, reviews mergers and state aid and encourages liberalization. Economic and social considerations enter into decisions of what and how to tax or regulate. From an economic efficiency standpoint, a given mode of tax or economic regulation is desirable to the extent that benefits exceed costs. In terms of efficiency, the question is whether market competition by itself is sufficient, or if it needs to be supplemented with government regulation. Social equity, or fairness criteria are also weighed in the tax or regulatory decision-making process. If a given change in public policy provides significant benefits to the poor, society may willingly bear substantial costs in terms of lost efficiency.

Social Considerations

Competition promotes efficiency by giving firms incentives to produce the types and quantities of products that consumers want. Preservation of consumer choice or consumer sovereignty is an important feature of competitive markets. By encouraging and rewarding individual initiative, competition greatly enhances personal freedom.

Firms with market power can limit output and raise prices to earn economic profits, whereas firms in competitive markets refer to market prices to determine optimal output quantities. Public

policy can be a valuable tool with which to control unfairly gained market power and restore control over price and quantity decisions to the public.

Another social purpose of taxation or regulatory intervention is to limit concentration of economic and political power. Important social considerations often constitute compelling justification for government intervention in the marketplace. Deciding whether a public policy is warranted can become complicated because social considerations sometimes run counter to efficiency considerations.

Governments sometimes implement price controls, which are legal minimum or maximum prices for specific goods or services, in an attempt to manage the economy by direct intervention. There are two types of price controls: price ceilings and price floors.

A price ceiling is the legal maximum price for a good or service, while a price floor is the legal minimum price. Although both a price ceiling and a price floor can be imposed, the government usually only selects either a ceiling or a floor for particular goods or services. Binding price floors or price ceiling distort economic performance and reduce social welfare.

In the USA, costly government-set price floors in agriculture products have persisted because politicians remain highly sensitive to rural voters and powerful special-interest groups. Other special-interest groups seeking to set artificially high price floors in vigorously competitive markets have been much less successful.

Effect of the Government on Economic Efficiency

How can policymakers determine the appropriate role of the government in the economy? Most economists judge the economic merit of any government program based on its effect on economic efficiency. Does larger government raise economic efficiency or lower efficiency? The only overarching answer that can be offered is: it depends. Economic theory is clear that government intervention has the potential to improve efficiency when market failures exist, but is likely to reduce efficiency when markets are already “perfect.” In reality, government

intervenes both in cases of market failure and in cases where markets are already operating relatively efficiently.

As a result, some government policies raise economic efficiency and some lower efficiency. By no means are all spending decisions made by the government today justified on efficiency grounds. If it were possible to isolate and eliminate all actions that lowered efficiency, economic welfare could hypothetically be improved by reducing the size of government. Likewise, one could identify areas where government intervention could improve currently uncorrected market failures and a larger government would theoretically improve economic efficiency.

It is useful to define economic efficiency, which differs from popular parlance. As opposed to its popular usage, economic efficiency does not involve economic growth, wealth, or productivity. In fact, there are examples where efficiency is at loggerheads with these goals. Generally, an outcome is economically efficient if the marginal cost of producing one more unit of a good is equivalent to the marginal benefit of consuming one more unit of the good. When markets function perfectly, which is defined as a market with many buyers and sellers, no barriers to entry, perfect information, and the costs and benefits of the transaction are completely borne by the buyer and seller, an economically efficient outcome will occur and government intervention can only reduce efficiency. When there are market failures, government intervention has the potential to improve efficiency by moving away from the economically inefficient outcome produced by the market.

Although economic efficiency is easy to define theoretically, discord arises when applied to actual government policies. Typically, an efficiency-enhancing measure cannot be produced without being accompanied by efficiency-reducing side effects. For example, without our criminal justice system markets could not operate, but a criminal justice system cannot be operated without taxes that are likely to take an efficiency-reducing form. While there is a broad consensus that a tax-financed criminal justice system is efficiency-improving on net at some level, there is likely to be disagreement as to whether the benefit derived from a marginal increase in resources devoted to criminal justice from current levels would exceed the costs of a marginal increase in taxation to finance it.

Furthermore, the democratic process is conducive to compromises that include a mixture of efficiency-enhancing and efficiency-reducing measures. Judging the balance between the two is unlikely to produce wide consensus. Economic theory can describe the economic benefits (and costs) of a broad policy approach, but cannot predict how the compromise that emerges from the legislative process will differ from the policy as originally conceived. Measuring efficiency gains and losses of any proposal is more difficult when other policies are also distorting a market.

Economic experience documents that unregulated market activity can sometimes lead to inefficiency and waste. In some instances, production or consumption activity leads to the production of significant ancillary products with negative consequences for third parties. These third parties are forced to bear some of the costs tied to products enjoyed by others. At the same time, production or consumption activity sometimes leads to positive consequences for third parties. In both cases, inefficiency and waste occur because some of the costs or benefits tied to production and consumption are not fully reflected in market prices. In such instances, economists have found that the careful 'visible hand' of government policy can be used to improve upon the outcomes of unregulated competitive markets. Similarly, government policy can be used to improve economic efficiency when markets are faced with the problems of allocating supply and demand for goods with essentially public aspects of consumption and/or production. Wise government policies have the capacity to balance private and public interests and lay a better foundation for economic growth and a healthy environment.

Why might competitive markets fail to result in efficiency?

To understand when government intervention in the economy can increase economic efficiency, it is necessary to define a market failure. Before doing so, it is useful to give examples of what is not a market failure: inequality, poverty, fraud, discrimination, bankruptcy, layoffs, high prices, and so on, are not market failures, as defined by economic theory. While they are undesirable phenomena which may be valid targets of public policy, they are problems that either are not

economic in nature, or do not meet the definition of economic inefficiency: they do not involve a mismatch between marginal cost and marginal benefit. Economic theory has identified the following major types of market failures:

Public Goods

Some beneficial goods will not be provided by the market because they are “non-excludable” (people cannot be prevented from using the good) and they are “non-rival” (one person’s use of the good does not diminish another’s use). For those two reasons, a private producer has no incentive to supply the good. Economists refer to goods meeting these two criteria as “public goods,” which are often provided only by the government. (Private producers have found ways to provide some public goods. For instance, broadcast television and radio is non-rival and non-excludable, but can nevertheless be privately financed by advertising)

The classic example of a public good is national defense. Although private armies might be capable of defending the country, there is no incentive to form a private army because nobody would voluntarily pay for its services as a result of the “free rider problem”: once an army is in place, it has no means to defend its customers from attack without also defending non-customers. Only government, with the power of taxation, can raise the funds to finance an army. Similar public goods include basic knowledge, which once discovered can be enjoyed by all, and the civil and criminal justice system, much of which (e.g., property rights, dispute settlement, contract enforcement) makes market transactions possible. (To clarify the economic meaning of public good, which may differ from popular usage, it is useful to point out one government service that does not meet the economic definition of a public good, education. Education is an excludable good: a school could conceivably close its doors to keep individuals out if it wished. Education is also a rival good: a book used by one student cannot be used by another).

Because public goods are not transacted through the marketplace, it is difficult to determine whether government overspends or underspends on their provision. The value of any given public good is different for different people, and the political process rather than the marketplace must sort their preferences. For example, could an acceptable level of national defense be attained at lower cost? Or is the nation not secure enough at current levels of spending? During peacetime, these questions cannot be definitively answered.

Common Resources

Another type of good that cannot be efficiently provided by the market is a common resource, such as the environment, ocean fishing, and certain water supplies. Unlike public goods, these resources are rival—a fish or glass of water consumed by one person cannot be consumed by another. But the resources are not excludable because they cannot be assigned property rights. For that reason, they may be over-consumed and can be depleted or even exhausted over time in the absence of government intervention. As a result, government control or regulation is necessary for an efficient and sustainable use of the resources. It is no coincidence that some of the common resources in danger of “depletion” are those such as ocean fishing and the environment that do not fall within the exclusive jurisdiction of a single national government—with no single sovereign entity, over-consumption is harder to prevent.

Although the government has the potential to achieve economic efficiency through the regulation of common resources, its intervention may not move the resource closer to efficient use in practice. For example, many governments have subsidized the fishing industry, potentially exacerbating the depletion of ocean fisheries. Because common resources also cannot be valued through the marketplace, estimating the appropriate level of government intervention is difficult.

Monopoly Power

One reason perfect competition leads to economically efficient outcomes is because any one producer does not have enough market power to push prices above marginal cost. Monopoly producers can do so to earn “economic rents” (excess profits) by reducing production to an inefficiently low level. (Theoretically, there could also be buyers with monopoly power, in which case the outcome would be economically inefficient because price would be driven below marginal cost.)

Monopoly can occur for many reasons, including barriers to entry—legal or natural—and economies of scale. In the narrowest definition of the word, a market with a single producer, monopolies tend to exist only when marginal cost is continually declining (producing one more good is always less expensive than producing the previous good). This special case, known as a natural monopoly, tends to occur in markets where consumption of a good is non-rival (one person’s consumption does not come at the expense of another’s); utilities (such as electricity, water, cable, telephone) are the most common examples.

In most markets, neither a natural monopoly nor perfect competition exists. The best description for what does exist is termed monopolistic competition, where each company makes a product that is distinct but highly substitutable with its rival so that each company has some market power. In monopolistic competition, production is still inefficiently low, but closer to the efficient point than in a pure monopoly, and economic rents do not exist. As the number of firms increases and difference between products decreases, the monopolistic competition outcome approaches the perfect competition case.

Economic theory suggests that governments can increase economic efficiency by increasing a monopoly's production to its efficient point through regulation or direct ownership. Both approaches have been used historically for utilities. Over the past three decades, questions have been raised whether government intervention can truly raise economic efficiency even in the case of natural monopolies, given the political intervention, complexity, lack of profit motive, and distorted incentives that regulation produces for the monopoly. Some economists have argued that even when significant market concentration exists, with the exception of the natural monopolies, the potential for competition is powerful enough to deter producers from maximizing monopoly rents even when robust competition does not currently exist. It is noteworthy that government has rarely attempted to intervene to improve efficiency in monopolistic competition, even though a theoretical case could be made to do so. In cases where it has, such as the airline and trucking industries, economic regulation has widely been deemed a failure and largely eliminated.

Monopolies are not always less efficient than perfect competition, and sometimes they are fostered by the government for that reason. For example, as required by the Constitution, the government grants patents and copyrights so that inventors and authors can enjoy monopoly profits for their work. Without these government-created monopolies, there would frequently not be sufficient incentive to undertake those activities.

Externalities

In the market for many goods and services, all the costs and benefits inherent in the consumption and production of a good are borne by the buyer and seller. But some goods also create

“externalities” in their consumption or production. Positive externalities are benefits enjoyed by third parties, negative externalities are costs borne by third parties. Again, it is difficult to determine how much government intervention is required to correct an externality since the externality cannot be valued in the marketplace.

Pollution is the classic case of a negative externality. Society as a whole bears the cost of environmental degradation, and there is no incentive for the consumer or producer to take these societal costs into account. As a result, from a societal perspective the good is overproduced and over consumed in the free market outcome. If a good generates a negative externality, it does not mean that good should not be consumed. It means that to maximize social welfare, the consumption of the good should be reduced to the level that reflects its social costs.

Vaccines are an example of a positive externality. When someone is vaccinated against a communicable disease, society as a whole benefits since that person can no longer contract the disease and spread it to others. From a societal perspective, vaccines would be under produced and under consumed in the absence of government intervention.

Some social goals are often popularly justified on the grounds that they generate positive externalities, but the criteria to qualify as an externality are strict and economists are divided if social goals qualify. For example, home ownership is often viewed as generating positive externalities because home owners are viewed as having higher incomes, having higher rates of civic participation, and committing fewer crimes than renters. However, it is not clear that home ownership causes incomes and civic participation to be higher and crime to be lower or if it just

happens to be correlated with other personal attributes that cause these outcomes.³⁰ Similar arguments apply to education.

Asymmetric Information

Competitive markets only work efficiently when both buyer and seller are well-informed. In some markets, the buyer may be more informed than the seller, or vice versa. When this happens, the market outcome is inefficient. For example, in insurance markets, buyers know more about their riskiness than sellers. As a result, only buyers with higher risks will tend to purchase more insurance because they are more certain that the benefit of the insurance will exceed the cost. This pushes up the price of insurance and hampers insurers' efforts to pool risk. When government is able to provide information to the uninformed party or make participation mandatory, it can move the market back to an efficient outcome. For auto insurance, many state governments make (some) insurance mandatory to avoid the problem of asymmetric information. For employment insurance, the government provides the insurance directly. The insurance market is also distorted by moral hazard, which occurs when the insured party acts more recklessly as a result of the insurance. For example, some drivers may be more likely to speed or run red lights when they become insured, pushing up the price of automobile insurance.

Asymmetric information is also used as a rationale for financial regulation. Referred to as the principal-agent problem, the manager of a company or bank may not have the same incentives (e.g., the costs of risk-taking) as shareholders or depositors. Information disclosure and accounting laws can increase the information available to monitor the behavior of managers.

Failure to Optimize

The assumption in economic theory that people make rational, optimal economic decisions that maximize their well-being may be invalid in many cases. Without this assumption, an array of possible government interventions has the potential to improve well-being. An assumption that individuals do not optimize underlies diverse arguments such as Social Security is necessary because people do not save enough, primary education should be mandatory, the central bank should prevent financial bubbles, and drug use should be illegal.

Economic Stabilization.

Market imperfections, such as downwardly rigid wages, give rise to excessive unemployment in response to decreases in aggregate demand. Governments engage in monetary and fiscal policies in an effort to stabilize the economy to correct for these market failures to ensure full employment. Governments also seek to avoid excessive and erratic inflation that can erode purchasing power and can impair the functioning of financial markets. Although the stabilization activities of government do not absorb significant amounts of economic resources, they do represent an important complement to the efficient functioning of markets.

EQUITY VERSUS EFFICIENCY

Efficiency is not the only criterion used to evaluate resource allocation. Many citizens argue that outcomes should also be evaluated in terms of equity; that is, in terms of the perceived fairness of an outcome. The problem involved with applying criteria of equity is that persons differ in their ideas about fairness.

Economists usually confine their analyses of questions of equity to determinations of the impact of alternative policies on the distribution of well-being among citizens. For example, many

people are concerned about the impact of government policies on such groups as the poor, the aged, or children. Positive economic analysis of the outcomes of market and political interaction is useful in providing information about the effects of policies on income distribution. In the field of public finance, analysts usually try to determine the effects of government actions on both resource allocation and the distribution of well-being, thus providing useful information that citizens can use to judge the equity of alternative policies in terms of their own notions of fairness.

Key points for policy makers

For all interventions, it is important that a wide range of costs and benefits are considered. Failure to address indirect costs and benefits and possible spillovers can result in a less effective policy and unnecessary economic costs across a range of markets.

Risks to competition from Government intervention

Importantly, distortions to competition can be easily overlooked as policy makers concentrate on more direct costs of an intervention, particularly as it usually takes some time for the consequences of restrictions to competition to manifest. By intervening in a way that works ‘with the grain’ of markets, Government can minimize distortions to competitive markets whilst still achieving their policy goals. The Table below summarises some of the ways Government intervenes and their potential risks to competition.

Objective	Reason for intervention	Instruments	Risks to competition
Changing consumer behaviour	Some features of consumers' behaviour may have adverse effects on society (for example, alcohol misuse or obesity).	Education Minimum standards Information Tax Regulation Setting prices Restrict supply	Restricting the supply of particular goods or setting prices can significantly dampen competition and raise prices for all consumers. Consumers are heterogeneous, consuming and behaving differently from each other whereas supply-side and price-setting interventions can be blunt and have an impact on everyone.
Supporting specific markets, locations or products	Government may wish to develop specific markets or products to take advantage of long-term shifts in the economy and changes in consumer trends. Without intervention these markets and products may not exist (for example, low carbon technology).	Subsidies Regulation Targets Policy announcements	Risks from 'picking winners'. Competition may be distorted if Government support has differential effects across firms or creates barriers from entry by giving advantage to existing firms. Government support may distort the allocation of resources across the economy. The economy may end up producing goods that are not demanded by consumers. Private markets are better for allocating resources.
Restructuring industry	Orderly restructuring aims to reduce the negative impacts of disturbances to the economy, economic downturns or changes in trends. Necessary to help firms survive, preserve jobs and prevent the loss of skills.	Regulation Market creation Subsidies Tax breaks	Support to industries via subsidies may allow inefficient firms to remain in the market and does not reward financially sound firms. May dampen incentives to innovate. Blocks normal entry and exit to market, which is a key part of the process of competition. Facilitating mergers has a potentially large negative long-run impact on competition.
Security of supply	Ensure the security of particular supply chain considered essential for the functioning of modern industrialised economy.	Subsidies Tax breaks Regulation	Creating monopoly suppliers, facilitating mergers, and /or protecting existing firms from competition can have a significant impact on consumers and the rest of the economy. Many of these markets are inputs into other products. This will drive up prices and reduce innovation.

Assessing impacts on competition

Impacts on competition may be hard to identify or quantify, particularly as they tend to emerge in the long term. Unintended distortions to competition will be costly for consumers. To identify interventions more likely to distort or restrict competitive markets, the following key points could be considered:

- Does the intervention affect the possibility of entry and exit in a market – for example, by granting exclusive rights to supply, limiting the number of suppliers, or significantly raising the cost to new firms of entering the market?
- Does it affect the nature of competition between firms in a market, either through direct restrictions (such as price or product regulation) or by reducing the incentive on firms to compete strongly?
- Does it affect the ability of consumers to shop around between firms and exercise choice – for example, does it raise costs of switching?

Conducting competition assessments during the policy making process can be a useful way of identifying unintended consequences. It is important that this assessment takes place during the early stages of policy development. This will minimise the risk of developing a policy that is ill-designed or realising late in the process that unless changes are made, significant adverse effects on the market will render the proposed policy less effective.

In general, measures that directly limit competition in the market will not be the most effective instruments. Regulating price, entry or exit, or allowing anti-competitive mergers and agreements between firms, are generally rather blunt measures and can be less transparent than other interventions such as setting product standards or introducing taxes or subsidies.

While these measures may also have effects on competition they can typically be designed in a more focused and transparent way. Similarly, horizontal measures that do not discriminate by location, industry or firm type, such as skills strategies and assistance with access to capital, are less likely to distort competition than interventions aimed at particular markets or firms. And where interventions can be more easily removed, or are explicitly time-limited, the long-term impacts on competition may be reduced.

Minimising impacts on competition

When a proposed intervention is likely to adversely affect competitive markets, policy makers should consider alternative options that could achieve the same policy goal but with fewer adverse effects. In particular, policy makers should ensure that ways to influence consumer behaviour (the demand-side) are considered alongside instruments to change business behaviour (the supply-side). Influencing consumer behavior is, on the whole, far more challenging for Government than changing business behaviour: it is more complex and takes time for the effects to become visible. For this reason, there can sometimes be an incentive to intervene primarily on the supply-side, when demand-side measures might ultimately be more effective.

Intervening on the demand-side and attempting to instigate cultural change may have longer lasting effects. They are also less likely to give rise to black market type problems. Using taxation to increase the cost to consumers is also likely to be less distortive of competition.

Policy makers should ensure that timely progress checks are scheduled to evaluate the effectiveness of an intervention. For example, the US Civil Aeronautics Board Sunset Act of 1984 ended 40 years of close regulation of airline routes and fares, resulting in increased competition and lower prices.

Creativity is often needed in thinking about possible alternative measures which might be less restrictive of competition. It may not always be immediately obvious that there are alternatives to more traditional ‘command and control’ approaches. For example, some local authorities have introduced a system of choice-based lettings for provision of social housing. This market solution increased the transparency of the process and has reduced vacancy rates (properties are re-let more quickly). In addition, social tenants are more likely to occupy a property that meets their needs and surveys have shown a high degree of satisfaction among tenants.

PUBLIC GOODS

Although the production of national defence is similar to that of any other good, its *consumption* is fundamentally different. Products such as national defence are *collectively consumed*. As soon as we defend any one person, we defend all.

Because defence is not sold by the unit in markets and cannot be parceled out to individuals to enjoy in greater or smaller amounts according to their tastes, we all consume the total amount produced. We all pay taxes to finance the production of national defence, and we must consume the amount made available, even though we might prefer to have more or less than the government provides. An issue that concerns us all is how much of our resources we allocate to services such as national defence.

We explore the characteristics of goods that are collectively consumed. We also evaluate alternative methods of supplying public goods and show why it is efficient for people to *share* the costs of producing goods with shared benefits.

Public goods include fresh air, knowledge, official statistics, national security, common language(s), flood control systems, lighthouses, and street lighting. Public goods that are available everywhere are sometimes referred to as global public goods.

CHARACTERISTICS OF PUBLIC GOODS

Markets tend to fail to produce efficient amounts of goods that result in externalities when exchanged. Many goods and services provided by governments, such as national defence, would result in **positive externalities** were they made available for sale to individual buyers in markets.

An entire class of goods, including environmental protection, roads, and public safety, have benefits that must be shared by large groups of individuals. The production of these goods for sale in the marketplace would be accompanied by positive externalities because any such items purchased for individual use would provide external benefits to a large number of **third parties** as well. Market provision of goods with benefits shared by people other than those who purchase them for their own use is unlikely to result in an efficiently large amount of output. Goods with benefits that cannot be withheld from those who do not pay and are shared by large groups of consumers are **public goods**. **Public bad** refers to goods that have a negative utility – air pollution, water contamination, civil strife, financial instability, spread of disease – which the community would benefit from preventing or reducing. One of the main policy implications of the concept of public goods is that the government must play a role in their provision.

In most cases, government provision of public goods implies that the goods are freely available to all rather than being sold in markets. The costs of making the good available are usually financed by **taxes**.

Public goods are **non-rival in consumption**, meaning that a given quantity of a public good can be enjoyed by more than one consumer without decreasing the amounts enjoyed by rival consumers. For example, television and radio transmissions are non-rival in consumption. A given amount of programming per day can be enjoyed by a large number of consumers. When an additional viewer switches on a television set, the quantity of programming enjoyed by other viewers is not reduced. Similarly, the benefits of national defence services are non-rival. When

the population of a nation increases, no citizen suffers a reduction in the quantity of national defence because more people are being defended at any time.

In most cases, it is also **unfeasible to price units of a public good**. This characteristic of public goods, called **non-exclusion**, implies that it is too costly to develop a means of excluding those who refuse to pay from enjoying the benefits of a given quantity of a public good. For example, it is unfeasible to exclude those who refuse to pay for cleaner air from enjoying the benefits of a given amount of air quality improvement, once it has been supplied for the benefit of other people.

Air quality improvement has the property of non-exclusion. From a practical point of view, goods that are non-rival in consumption need not necessarily be subject to non-exclusion. Television broadcasting services, as was pointed out, are non-rival. However, it is feasible to exclude those who refuse to pay from the benefits of transmissions through **cable provision of the broadcasts or use of signal coding for satellite transmission**.

Similarly, the benefits of roads are often non-rival. However, it is feasible to use **tolls** to exclude those who refuse to pay. The characteristics of non-rival consumption and non-exclusion vary in degree from good to good.

Public goods are typically financed by business owners or the government through tax revenues. When a public good is consumed, the amount left for others to consume is not reduced, and it cannot be withheld from those who are unable to pay for it. For example, when you enjoy the air conditioning in a café, there is not less air conditioning for others to enjoy. There is no

competition to provide public goods because they are supplied to everyone. The police force is a good example of this. When we feel unsafe because we have heard strange noises late at night, we do not select which company to call. We simply call the police. Because there is no competition among producers and providers for public goods, they are referred to as **non-rivalries and non-excludable**. Non-excludable means that no one can be denied the service. For example, anyone who feels unsafe can call the police.

Many public goods may at times be subject to excessive use resulting in negative externalities affecting all users; for example air pollution and traffic congestion. Public goods problems are closely related to the free rider problem, in which people not paying for the good may continue to access it. Thus, the good may be under-produced, overused or degraded. Public goods may also become subject to restrictions on access and may then be considered to be club goods or private goods; exclusion mechanisms include copyright, patents, congestion pricing, and pay television.

Public Goods and Common Property Resources

This analysis is based on two broad sources of market failure that stem from the inability to exclude individuals from consuming a good or service.

1. Public Goods

2. Common Property Resources

The easiest way of defining these two types of goods is to consider two key characteristics of goods:

1. Excludable: A good is excludable if the supplier of that good can prevent people who do not pay from consuming it. There are many goods that are non-excludable, including clean air and many fisheries.

2. Rival in Consumption: A good is rival in consumption if the same good cannot be consumed by more than one person at the same time. There are many goods that are non-rival in consumption, including national defense and public television.

Four Types of Goods

The two characteristics above subdivide the space of goods and services into four types of goods:

1. Private Goods: Goods that are excludable and rival in consumption
 - a. Apples
 - b. Jackets
2. Artificially Scarce Goods: Goods that are excludable, but non-rival in consumption
 - a. Computer Software
 - b. Pay-per view movies
3. Common Property Resources: Goods that are non-excludable and rival in consumption
 - a. Fish
 - b. Biodiversity
 - c. Clean Air and Water
4. Public Goods: Goods that are non-excludable and non-rival in consumption
 - a. National Defense
 - b. Public Television

Pricing a good that is non-rival in consumption serves no useful purpose. After all, an additional consumer of a non-rival good does not reduce the benefit to others who wish to consume it. In other words, the **marginal cost** of allowing additional people to consume a given amount of a good with **non-rival benefits** is zero. It is therefore **inefficient to price goods that are non-rival in consumption**.

Pure Public Goods and Pure Private Goods

A **pure public good** is non-rival in consumption for an entire population of consumers, and its benefits have the characteristic of non-exclusion. A given quantity of a pure public good is consumed by all members of a community as soon as it is produced for, or by, any one member.

In contrast, a **pure private good** is one that, after producers receive compensation for the full opportunity costs of production, provides benefits *only* to the person who acquires the good, and not to anyone else. A pure private good is rival in consumption, and its benefits are easily excluded from those who choose not to pay its market price.

Market exchange for pure private goods results in neither positive nor negative externalities. A pure public good, on the other hand, results in widely consumed external benefits to all people, even if made available only for one person. These two extremes can be considered as poles on a continuum, where goods are ranked according to their degree of **public-ness** or **private-ness** in terms of the range and extent to which their production or consumption generates externalities.

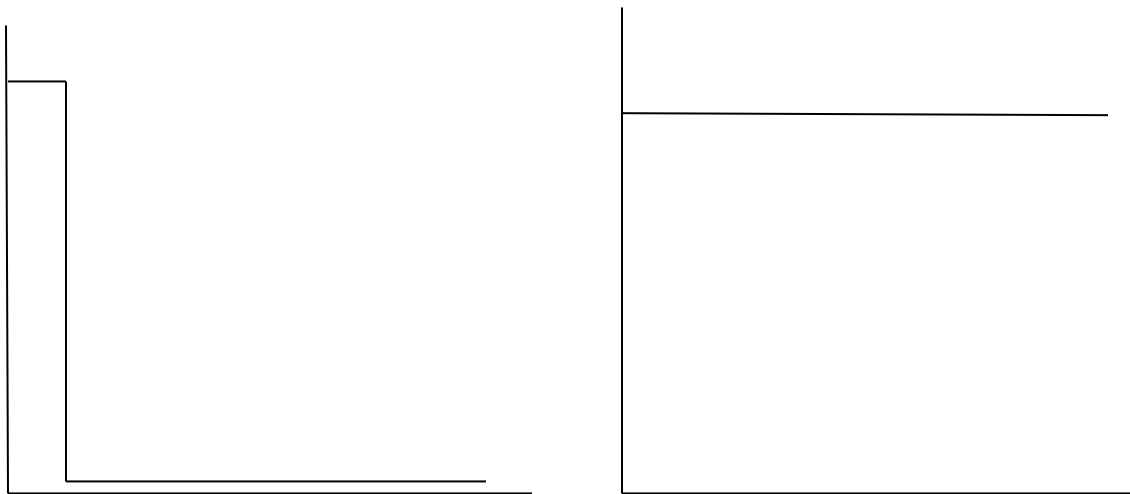
Pure public “bads” can also exist. These activities result in external costs affecting a wide range of the population. The quantities of public bads are of concern to all individuals. **Air pollution, for example, is a pure public bad** if pollutants diffuse in the atmosphere, thereby affecting all individuals, independent of the location of their residence.

At the other extreme, national defence can be considered a pure public good. It is impossible to protect any one individual against harm from a foreign invasion or attack without protecting all other individuals in the nation at the same time.

The marginal cost of distributing a pure public good to an additional consumer is zero for a given amount of the public good. This follows from the non-rival characteristic of pure public goods.

Figure 3.1A shows that the marginal cost of allowing additional people to consume certain amounts of a pure public good falls to zero after the good has been made available for any one person. Be careful not to confuse *distribution* cost with *production* cost. The marginal costs of accommodating an additional consumer will be zero for a *given quantity* of a pure public good. However, the marginal cost of producing *additional units* of the public good will be positive, as is the case for all economic goods, because increasing the quantity of a pure public good requires additional resources. This is illustrated in Figure 3.1B, where we assume that the average cost of a pure public good is constant. Two units of the public good cost twice as much as one unit. In this case, if the average cost of the public good is \$200 per unit, the marginal cost will also be \$200.

Figure 3.1. Marginal Costs of Consuming and Producing a Pure Public Good



The diagram in A shows that the marginal cost of allowing an additional person to consume a given quantity of a pure public good falls to zero after it is made available to any one person. The graph in B shows that the marginal cost of producing the good is always positive. In this case, the marginal cost of each extra unit of the good is \$200.

We can emphasize the distinction between pure public goods and pure private goods in still another way. A pure public good is not divisible into units that can be apportioned among consumers. A given quantity of a pure public good can only be shared rather than enjoyed

individually. Its benefits are collectively consumed by the entire population. A unit of a pure private good, on the other hand, can be enjoyed only by a single consumer. The more units of a given amount available to be consumed by one person, the less is available to rival consumers.

Exercise

1. What are the characteristics of public goods?
2. How do pure public goods differ from pure private goods?
3. Why is the marginal cost of allowing another consumer to enjoy the benefits of a pure public good always zero even though the marginal cost of producing the good is positive

PROVISION OF PRIVATE GOODS AND PUBLIC GOODS: MARKETS AND GOVERNMENT

The supply of goods and services and the mechanisms of distributing them among individuals reflect collectively agreed-upon institutional arrangements that have emerged in a community. It is difficult to make generalizations about the most appropriate means for making goods and services available. Private goods that are individually consumed are sometimes supplied through markets by government, as is the case for certain transportation services, electricity, and other public utility services. On the other hand, many goods that are non-rival in consumption and which have characteristics of public goods, are privately produced and supplied through markets. This is the case for certain recreational services sold through private clubs, television and other communication services, and private police protection. In many cases, goods and services are supplied both through markets under private production and by governments through political institutions. For example, both private and public schools are available.

Recreational services and facilities, such as parks, tennis courts, and golf courses, are supplied by both the government and the private sector. It is possible to imagine, at the extreme, pure private goods being supplied through government and financed through taxation. For example, citizens could agree collectively to supply clothing through government and allow every person one identical suit of clothes per year at no direct charge, financing the production and distribution of the clothing through taxation. Similarly, it is possible to envision goods that have the characteristics of public goods being produced privately and sold through markets when the costs of exclusion are not very high. This is the case for cable television services in which programming that is non-rival in consumption is produced by profit-maximizing firms that sell monthly subscriptions to their programming services. The fee serves as an exclusion device, making the service available only to those who sign a contract and agree to pay.

In practice, it is not possible to draw a neat line between pure private goods and pure public goods. Many intermediate cases exist in which external benefits or costs accrue only to some people and the transaction costs associated with trading goods with collectively consumed benefits are not prohibitive. In those cases, both private supply and government supply are feasible, and it is often difficult to determine which supply method is appropriate.

Congestible Public Goods and Private Goods with Externalities

Government supply through political institutions and private supply through markets are alternative means of making any good available. These two alternatives can be evaluated according to the extent to which externalities are associated with either the production or consumption of the good and the extent to which it is possible to develop a means of selling rights to use the good or service.

Congestible public goods are those for which crowding or congestion reduces the benefits to existing consumers when more consumers are accommodated. The marginal cost of accommodating an additional consumer is not zero after the point of congestion is reached. For example, an additional user of a congested road decreases the benefits to existing users by slowing down traffic and increasing the risk of an accident.

Price-excludable public goods are those with benefits that can be priced. Private clubs are often set up to share facilities, such as tennis courts, swimming pools, and dining areas for small groups. Membership rights, which are sold in the market, are sometimes negotiable and can be sold by their holders to others. By joining clubs and paying dues, members share in the cost of facilities and services that they otherwise would be unable to afford. Dues and limits on the number of members are determined by collective agreement of existing members.

The dues ration the facilities of the club to avoid the effects of congestion. Other price-excludable public goods include such public facilities as schools and hospitals. These goods can be priced, but their provision results in positive externalities.

TWO ADDITIONAL CLASSES OF PUBLIC GOODS

It is important to consider two other types of public goods: club goods and joint products.

Club goods

If exclusion costs are sufficiently small to allow utilization rates to be monitored and a toll or user fee to be levied, the users can form a collective called a club and provide themselves with a partially rival shared good. Transnational club goods—such as satellite communication networks, the electromagnetic spectrum's bandwidths, nature reserves, international airports, airplane corridors, orbital slots, and terrorist commando units—can be provided by members and financed through tolls that charge for the crowding costs at the margin. The toll mechanism

forces payments that “internalize” or account for the marginal crowding costs suffered by the membership for an additional unit of use. Even taste differences among members are taken into account: members with a stronger preference for the club good will use it more often and thus pay more in total tolls. Toll revenues can then be earmarked to finance the club good.

Through their toll charges, clubs maintain the connection between benefits and financing, because only those members whose marginal willingness to pay justifies paying the toll will use the facilities and then only to the point at which their marginal willingness to pay just equals the toll. Anyone whose marginal willingness to pay is less than the toll does not receive sufficient benefits from a visit to compensate for the marginal crowding cost that the visit imposes on others. Unlike with non-rival public goods, there is an efficiency rationale for excluding such agents, because their use is not costless. The ability of clubs to fund an optimal provision level depends on the nature of the crowding function, the production function of the club good, and other considerations.

Clubs can be privately owned and operated, as in the case of INTELSAT. Thus global clubs offer a private allocative mechanism that can supply an important class of transnational public goods without high transaction costs or the inefficiency that has come to characterize many forms of public provision. If some countries cannot afford membership, clubs may be associated with equity concerns, which must be addressed.

Joint products

A final class of public goods consists of joint products for which an activity simultaneously yields two or more outputs that may vary in their degree of publicness. For joint products an activity may result in a pure public output, agent-specific private outputs, and even a club good. By lessening threats to neighboring countries, **peacekeeping activities** yield region-wide public benefits from reduced instability along with country-specific benefits to the crisis-laden nation. International recognition and approval given to major peacekeeping nations (for example, Uganda in Somalia also constitute a nation-specific private benefit. Nation-specific benefits cannot be gained through free riding, so that a nation must contribute to the overall public activity if it is to obtain these private benefits. If, moreover, these nation-specific private benefits are complementary, in that nations desire to consume them along with the purely public benefits, spillovers of benefits may motivate more rather than less provision on behalf of the spillover recipient. Thus joint products figure in an essential way in any assessment of undersupply.

Education as a Public Good

Education is a service that has some characteristics of a public good while at the same time having characteristics of a private good. Education is commonly believed to result in widely ranging external benefits when it is provided at least at some minimal level to all children in a society. However, at the same time, the exclusion principle can easily be applied to educational services so that it can be withheld from those who do not pay for it. Education is a clear example of a partially public good. Decisions must be made, therefore, about how to supply it.

Education can be made available through the marketplace like any private good. Education can also be supplied by governments and given out free of charge in equal amounts to all children in a society.

In Uganda, as well as in most other nations, a mix of both private and public schools has emerged both through the marketplace and political interaction as a means of supplying education. However, on the primary and secondary level, education is mainly a government-supplied service (UPE). For higher education there are, of course, public colleges and universities.

But few public institutions of higher learning fully finance their activities with tax revenues. Students at colleges and universities pay a portion of the cost of their education through tuition and fees, and these prices have been increasing in recent years. Furthermore, a big percentage of students at institutions of higher learning in the Uganda attend private schools. It is clearly feasible to price educational services. And because the marginal cost of educating a student is certainly not zero, a zero price for the service is not an efficient alternative. Nonetheless, it is commonly agreed that education is such an important generator of positive externalities that it should be universally subsidized by government tax revenues. In the case of elementary and secondary education, the subsidization is complete and the price to families of children attending public schools is set at zero. The costs of providing educational services is financed with a combination of local and national tax revenue with the bulk of the revenues.

Education on the elementary and secondary level is almost universally compulsory up to a certain age. Thus, governments intervene in the supply of education to make sure every citizen consumes at least a minimal amount of this service.

What are the externalities associated with the production and consumption of education that result in such universal support of government supply and subsidization? Many believe that wide-ranging externalities exist when we live in a society where we can be sure everyone has a minimal level of education so that they can be productive citizens. We want to be sure everyone can read, have minimal computational skills so that they can manage their finances, and have adequate appreciation of public institutions and the duties of citizens to each other.

This minimal level of education helps us all live in a reasonably civil society and therefore has a component that can be viewed as a public good that is equally consumed by all. Education has a “socializing” function. It provides students with the ability to function effectively in a society by following rules, obeying orders, and working together with colleagues. It also provides students with such basic skills as punctuality, ability to follow directions, and other skills that increase their productivity as workers. Universal education also screens students by helping them to identify their abilities and to choose appropriate occupations as adults. In this way another public good aspect of education is its function of providing a better match of workers to jobs, thereby increasing productivity levels for a nation.

Many believe that some citizens would purchase less than the efficient amount of education for their children if it were provided in a competitive market. If this were the case, many brilliant minds could be deprived of sufficient education, and we would all be deprived of their possible future contributions to society. Further, some parents might not value education as much as others, and this could deprive their children of an adequate education. Whether or not under-consumption of education would actually result, it is clear that this idea is behind the principle of free and compulsory public education. Public education helps integrate all children into society.

Education is especially useful for helping immigrant groups to understand the basics of an adopted culture and political system and to learn a new language.

However, the fact remains that education has characteristics of a private good. No government can guarantee that all children in a society receive an equal amount of education. Wide disparities exist in the quantity and quality of education provided. Production of a given output of education might take varying amounts of inputs depending on the students being taught. In areas where schools have a disproportionate number of disadvantaged students, higher expenditures per pupil are necessary to achieve the same level of output as those areas where students have better home environments. Most studies show that the level of support parents can give students at home increases with household incomes, and home support is an important factor in learning for children.

Even if it were possible to equalize the quality and quantity of education provided in public schools, there is no way to prevent parents who want more than this standardized quantity and quality of education for their children from buying it in the marketplace. And since upper-income parents have more ability to pay for educational services, their children are more likely to obtain supplementary instruction or attend private schools where the quality and quantity of instruction could be higher.

Exercise

1. How do congestible public goods differ from pure public goods?
2. How do price-excludable public goods differ from pure public goods?
3. Give some examples of “semi-public goods” that are provided through the marketplace by profit-motivated businesses. Discuss the characteristics of these goods in terms of the

excludability of their benefits and the rivalry among consumers for the benefits of given amounts of the goods.

THE FREE-RIDER PROBLEM

A **free rider** is a person who seeks to enjoy the benefits of a public good without contributing anything to the cost of financing the amount made available. The free-rider problem stems from the incentive people have to enjoy the external benefits financed by others, with no cost to themselves. Free riding can be a reasonable strategy for any one individual, provided that no penalty exists and that only a few individuals choose the strategy. If all members of the community choose the free-rider strategy, no vehicle is available to hitch a ride on because no production of the public good would be forthcoming. Everyone would be worse off under this strategy, because the benefits of the public good will be forgone completely.

A public good has a classic free rider problem because of its two characteristics. A free rider problem is also said to occur when there is overconsumption of shared resources: This is also known as the tragedy of the commons. For example, a fisherman may take a high catch and free ride on other fishermen who are more concerned to preserve sustainable fish stocks.

Solutions to Free Rider Problem

1. Tax and government provision

One solution is to treat the many beneficiaries as one consumer and then divide the cost equally. For example, UK national defense costs £31bn. This results in higher taxes for UK taxpayers. Therefore the cost of national defense is paid indirectly by UK taxpayers. This ensures everyone who benefits from the service pays towards the cost. Some may dislike this approach e.g. some

anti-war protesters have tried to withhold a certain % of their tax arguing they don't want to make contributions to illegal wars. But, most people accept paying taxes.

Economists may criticize this approach arguing there is no guarantee the government knows consumer preferences and coercive action to make everyone pay and provide the good could lead to goods society does not really need.

2. Appealing to people's altruism

For some goods like visiting a garden, the garden may be able to raise funds by asking for donations if you enjoy your visit. There will probably be many 'free riders' who don't make a donation. But, enough people may be willing to make a donation to fund the cost of the garden/museum. This solution is only effective for services which have relatively low cost.

3. Make a public good private

A beautiful garden could be seen as a public good. However, if you erect a high barrier and limit entrance to those willing to pay, it loses its feature as a public good and becomes a private good.

4. Legislation

To deal with the free rider problem associated with overconsumption of common resources. The governments have tried various options such as:

- ☐ Quotas – difficult to implement and difficult to monitor
- ☐ Legislation – on size of net size, number of fishing vessels
- ☐ Compensation to move away from fishing.

IS THE INTERNET A PUBLIC GOOD?

Many of the benefits provided in cyberspace have features similar to public goods. Recall that a public good is defined by two characteristics. First, it is to some degree non-rival: one's consumption of the good does not reduce the amount available to another. Second, a public good is to some degree non-excludable in that it is difficult or impossible to exclude individuals from

benefiting from the good: one receives the benefits of a national defense system regardless of whether he pays taxes.

Although everyone in a group may be made better off by the provision of a public good, that in no way guarantees that it will be produced. Since excluding others from consuming the public good is difficult or impossible, there is the temptation to free ride on the efforts of others, such as enjoying fireworks (a public good) without contributing to their production. If everyone tries to free ride, the good will not be produced and everyone suffers.

The characteristics of providing public goods create two important challenges. The first is motivation — getting individuals to contribute to the provision of a public good despite the attraction of free riding. The decision not to contribute can be seen as a function of the desire to take advantage of someone else's efforts (commonly referred to as greed). On the other hand, an individual may be willing to cooperate but deems that there is not much of a chance that the good will be successfully provided and so does not want to waste his or her efforts. The second challenge is one of coordination: if a group of individuals is motivated to contribute toward a public good, the members of the group will need to coordinate their efforts, which will involve its own set of difficulties and costs.

Because the costs and benefits of providing some types of public goods change radically in online environments, so too do the dynamics of motivation and coordination. Knowing that a public good is a good that, once provided to one person, is available to all persons (such as national defense), then the Internet must meet the two criteria of non-rivalry and non-excludability. We could say that the Internet has the property of non-rivalry up to some point (this implies that the correct price for its use is zero). The next property, non-excludability, may

or may not hold based on the given perspective. It is possible to charge prices cheaply enough, given the technology, for Internet usage if you look at the Internet as a tool.

However, something with zero marginal cost, like the Internet, could still be privately financed; however, it would be inadequately provided. If a private provider charged an average cost to generate some profit, this would imply too small of an Internet facility. Nevertheless, that does not equate necessarily to no Internet at all.

In principle, the government could subsidize the Internet up to the point where additional users implied some marginal cost for maintenance. At that point, a fee could be assessed to cover the marginal costs. Whether the fee and maintenance are provided directly by the government or a private corporation licensed by the government has no bearing of relevance from the standpoint of standard economic theory.

Using this principle, there would also be a fee for congestion that has nothing to do with maintenance. The point of the fee would be to reduce crowding — to price the most casual or lowest-value user out of the system. Here again whether the government or a private firm administers the fee does not matter. Although the Internet has some of the characteristics of a public good, **it appears that the Internet does not neatly fit into the criteria of public goods** until we move from the concept of the Internet as a tool to an information media concept. In the realm of information, assuming that information is a societal good, the Internet represents access to electronic information.

If one goal of a democratic society is a well informed citizenry, then it could be argued that government should provide access to that information; in other words, the government should provide the Internet. The issue is based on the idea that some types of knowledge cannot be the

province of an individual or a corporation. Traditionally, knowledge of this type has qualified for subsidy as a public good. As an example, drug companies currently receive government subsidies for research and development of new drug products. This subsidy provides a commercial advantage from patents that allow drug companies to charge inefficiently high prices that restrict use of the product. From an efficiency standpoint, the cost of the drugs should be approaching zero, given their subsidized costs of production. The problem that arises is how to acquire the research from the private sector at minimal cost and how to prevent private parties from collecting the rents from publicly financed research. As with the Internet, the difficulty stems from the uncertain nature of the product, *ex ante*.

Herein lies one problem with public goods theory — it does not address facilities associated with innovation, where all of these costs and benefits are murky (this could easily be argued in the case of the Internet).

How can the provision of a public good be measured empirically?

The most direct way to measure a public good (or bad) is by its physical properties and quantity—for example, acres of wilderness areas, miles of roads, or number of international conflicts or financial crises.

But some public goods, such as defense or peacekeeping, do not have a well defined unit of measurement. Moreover, if the goal is to calculate the overall level of diverse public goods, a common unit of measurement is required because it is not meaningful to add, say, the number of bridges to the number of immunization shots. Money provides a well-defined, common unit of measurement. Thus expenditures for each public good can be summed over all the public goods in a transnational region, providing an aggregate level of provision.

Measuring public goods in terms of expenditures still poses difficulties, however, because the goods may be produced by a government, an intergovernmental organization, or the private sector. (For example, peacekeeping tanks for United Nations missions are manufactured by private corporations and then purchased by the UN.) Public goods produced in the private sector have prices that reflect their opportunity costs better than do public goods produced in the public sector.

TRANSNATIONAL (OR REGIONAL) PUBLIC GOODS

Today more than ever, there is heightened interest in transnational public goods—that is, goods that benefit two or more nations. This is due in part to the endorsement by the international community of the Millennium Development Goals or the recent Sustainable Development Goals to increase universal primary education, eradicate extreme poverty, ensure environmental sustainability, and promote new technologies.

A number of factors have given rise to an increase in the amount of transnational public goods worldwide and to the growing interest in them by both developed and developing countries. First, there are greater cross-border flows associated with globalization that involve a myriad of transnational public goods. Second, augmented trade and capital flows have created the need to support transnational public goods that foster international market and financial exchanges. Third, the growing pace of technological change constantly produces new public goods, with both positive and negative international consequences. Fourth, the fragmentation of nations is associated with national public goods becoming transnational ones. Fifth, as the world acquires

greater capability to monitor the natural and social environment, there is an enhanced awareness of transnational public goods. Finally, efforts to increase foreign assistance focus attention on supporting transnational public goods that promote economic and social development.

However, in a globalized world, transnational public goods need the requisite infrastructure that facilitates market exchange, such as rules governing shipping on the high seas, financial and accounting standards, contract law, and enforcement of property rights. In addition, the movement of transnational public goods prompts concern about market failures, which occurs when providers do not equate the requisite marginal benefits of public goods with the associated marginal costs. While movement of transnational public goods cannot be equated across the board with market failures, there is a need for better understanding of the properties of these goods and their implications for efficiency. Scarce resources to correct allocation concerns must be channeled to where the inefficiency associated with transnational public goods warrants intervention.

How Regional Public Goods Differ from National and Global Goods

Regional public goods differ from national and global ones in terms of the location of those who benefit from such goods. The beneficiaries of regional goods extend beyond a single nation but do not extend worldwide. Contiguity is neither necessary nor sufficient for the benefit or cost spillovers from regional public goods.

For developing countries, there are a number of institutional and collective factors that make the movement of regional public goods more problematic than national or global ones. First, providers are better able to control and monitor the beneficiaries of national goods when

compared with beneficiaries of regional goods, since the latter may lack a specific political identity. Second, the absence of identifiable beneficiaries of regional goods limits the ability of the supplier of those goods to offer collateral to back up loans or to account for loan or grant disbursements. Third, spillovers from many regional public goods in developing areas do not directly benefit provider countries as do global goods, as in the cases of curbing sulfur emissions (which can travel from Asia to North America), limiting the spread of infectious diseases, or eliminating security threats.

Fourth, the absence of a dominant nation in some developing regions may result in a lack of the leadership necessary to facilitate the movement of regional goods.

Fifth, competitive forces between regional providers may inhibit movement of regional goods.

Sixth, non-geographical barriers, such as language, geology or trade bloc membership, may hamper the provision of and demand for regional goods more than national or global goods.

Seventh, providers of all kinds—ranging from nations to non-profit institutions, charitable foundations and nongovernmental organizations—may traditionally rely on multilateral institutions such as the World Bank, the UNDP or the World Health Organization to fund national and global goods, whereas this tradition is less ingrained in providers that go through comparable regional institutions that are weaker and have less capacity than their global counterparts.

The existing infrastructure and network of global multilaterals to receive and disburse such funds provides them with a clear advantage over their regional counterparts. How efficiently will regional public goods be supplied relative to national and global goods given the differences between them? If nations must independently provide the public good without support from

other institutions, there is little disagreement in the literature that regional goods will generally be provided less efficiently and fare much worse.

When a nation determines its demand for a regional public good by equating the good's benefits with its associated additional cost of provision, it accounts only for the additional benefits that a regional public good confers on its own residents. Thus, benefits derived by other nations in the same region are not taken into account by the provider of a purely public regional good. The relative efficiency of regional and global goods is more controversial.

EXTERNALITIES

Externalities exist whenever economic transactions impact third parties not directly involved in the transaction. Negative externalities (such as increased pollution and rude awakenings) impose costs on other people or firms. Positive externalities benefit third parties who are not directly involved in a transaction. A classic example of a positive externality involves bees. The bees in a beekeeper's hives not only produce honey for the beekeeper to sell but also help pollinate the crops and flowers on neighboring properties, a beneficial service for which the neighbors often do not pay the beekeeper.

A free market usually does not produce the optimal quantity of a good when an externality is present. Instead, the market will produce too much of those goods with negative externalities and not enough of the goods with positive externalities

Externalities occur because economic agents have effects on third parties that are not parts of market transactions. An externality occurs whenever the activities of one economic agent affect the activities of another agent in ways that do not get reflected in market transactions. This is why externalities are taken as examples of market failure.

Examples are: factories emitting smoke and dust, jet planes waking up people, or loudspeakers generating noise. These activities are all having a direct effect on the well-being of others that is outside direct market channels.

In these cases market prices (of goods, air travel and entertainment) may not accurately reflect social cost because they take no account of the damage being done to third parties. Information being conveyed by the prices is fundamentally inaccurate, leading to a misallocation of resources.

The economic inefficiencies from externalities

Externalities create inefficient outcomes because society's overall benefit or cost from a transaction is different from the private benefit or cost to the consumer and producer involved in the same transaction. Private cost and benefit are the variables we normally consider when analyzing a market. External marginal cost is the cost imposed on a third party when an additional unit of a good is produced or consumed, and external marginal benefit is the benefit conferred on a third party when an additional unit of a good is produced or consumed.

When there are no externalities in a market, society's cost and benefit and private cost and benefit are the same, and no external marginal costs or benefits exist. When there are externalities, the social cost (the cost to society as a whole) is the private cost plus the external cost, and the social benefit (the benefit to society as a whole) is the private benefit plus the external benefit.

Negative externalities: too much of a bad thing

There are many examples of negative externalities in the world. They range from huge issues in the realms of businesses and governments (Asian pollution) to smaller irritations in our everyday lives (noisy lawn mowers).

- When British Petroleum decided to take a risk and skimp on safety on its oil rigs in the Gulf of Mexico, it saved some private cost but did not take into account the damage a spill would cause to the environment and to other industries in the region if things went wrong. Things certainly did go wrong in 2010.

- Small private jets in the United States generally pay significantly lower landing fees than large commercial airplanes do, but they crowd the airspace and lead to flight delays for others. Because the private jets do not have to pay the full cost of their flights (such as the higher costs of congestion), this is a negative externality.

■ When individuals decide not to get vaccinated (or decide not to vaccinate their children) against the measles, they and their children become carriers who can give the disease to others.

When doctors overprescribe antibiotics for patients, bacteria develop resistance to the medicine.

Because both these actions impose costs on third parties, they have negative externalities.

■ When you go to a ball game and the woman in front of you is wearing a big hat that blocks your view, she is not including the external marginal cost in her decision to wear the hat.

Remember that, without incorporating external cost into production decisions, firms will supply too much of goods that have negative externalities and sell them for too low a price.

Positive externalities: not enough of a good thing

A positive externality exists when economic activity has a spillover benefit enjoyed by third parties who are not directly engaged in the activity. Just as negative externalities create a gap between private marginal cost and social marginal cost (equal to the external marginal cost), positive externalities create a gap between the private benefit (as summarized by the demand curve) and the social benefit. The social benefit is represented by the social demand curve, which is the sum of the buyers' private benefit (the demand curve) and the external marginal benefit.

The decision to obtain a university degree has positive externalities. There is a benefit to getting more education, and we express that in a demand curve. There is also a cost (sometimes a huge cost!) to spending more years in school that includes not only tuition, books, and supplies, but also the opportunity cost of not being able to take a job that pays a salary while you are in school (which is often even more expensive than the tuition). Evidence does exist, however, that when more people in a city or a country acquire more years of education, the pay and job prospects of other people living in their area rise. One possible explanation for this link is that the more education you have, the more likely you are to start companies and hire other people. If true, there is a positive externality from your decision to spend additional years in school because the social benefit of that longer education is greater than the private benefit. It should come as no surprise then that in a circumstance like this, the free market will lead people to purchase fewer years of education than would be socially optimal.

Another classic example of positive externalities includes the research and development (R&D) undertaken by companies in many industries. These firms spend money to come up with new and better products, but often the discoveries they make help other firms improve their own products and come up with new ideas.

Apple created the iOS operating system for iPhones and iPads through their own R&D and, in turn, this creation enabled app developers to create programs they could sell for a profit. For example, the Finnish firm Rovio Mobile (a computer game development firm) came up with the program Angry Birds, which has been downloaded more than 1 billion times. Without Apple's R&D, Rovio would not have been able to profit like this.

Because Apple does not fully take account of the social demand curve when producing its R&D, it likely produces less R&D than society would like it to. The same is true for scientific research of many kinds, especially basic science research. Firms won't produce enough R&D if they can't fully recover or capture the social benefits of the R&D production.

Positive externalities are also attached to activities that make things safer for others or that improve the value of other people's property. Thus, companies that spend money on cyber security help make the Internet safer for everyone, and people who invest in the appearance of their homes raise property values for the whole neighborhood.

Effects of Externalities

Externalities create divergence between social benefit and private benefit and between social cost and private cost. In the presence of positive externality, $\text{marginal social benefit (of any activity such as education or health/medical care)} = \text{marginal private benefit} + \text{marginal external benefit}$. This is why, in the presence of positive externality, a commodity or service is under produced its actual output is less than the socially desirable level. And there is need to subsidies all activities which generate positive externalities and cause departure from Pareto optimality.

Likewise, in the presence of negative externalities, $\text{marginal social cost} = \text{marginal private cost} + \text{marginal external cost}$. As result a commodity or service is overproduced. Actual output exceeds

the socially desirable level, the activity generating negative externality has to be taxed in order to ensure Pareto optimality.

Solving the Externality Problem

There are certain solutions to the allocation problems posed by externality.

Two such solutions are taxation and merger:

1. Taxation:

The government can impose a suitable excise duty on the firm generating the external diseconomy. This tax is likely to cause the output of the product to be cut back and would cause labour to be shifted out of its production. This standard remedy was first suggested A. C. Pigou in the 1920s and is known as the Pigouvian tax.

2. Merger and Internalization:

A private solution for the allocation of distortions caused by the externality between X and Y would be for the two firms to merge. If a single firm operates both plants X and Y, it will recognise the harmful effect that production of Y has on the production function for good X.

In effect, the new (merged) firm would now bear the full social marginal costs of Y production because it also produces X now. The externality in the production of Y has been internalized as a result of the merger. The reason is that what was marginal external cost before the merger has now become a part of the marginal private cost of the merged firm.

How to correct externalities?

1. Coase Theorem:

Assumption 1: the costs to the parties of bargaining are low;

Assumption 2: the owners of resources can identify the source of damages to their property and legally prevent damages.

Once property rights are established, no government intervention is required to deal with externalities. The Theorem is most relevant for cases in which only a few parties are involved and the sources of the externality are well defined.

Applications: a. wildlife preservation; b. assign property rights to rivers.

2. **Internalize externality** by combining the involved parties.

3. **Pigouvian Tax:** a tax levied on each unit of a polluter's output in an amount just equal to the marginal damage it inflicts at the efficient level of output.

a. Tax revenue would be used to compensate Lisa. However, if it becomes known that anyone who fishes along the river receives a payment, then some people may choose to fish there who otherwise would not have done so. The result is an inefficiently large amount of fishing done in the river. The key point is that compensation to the victim of the pollution is not necessary to achieve efficiency.

b. Practical problems: it is difficult in estimating the marginal damage function. So finding the correct tax rate is bound to be hard;

c. The tax approach assumes it is known who is doing the polluting and in what quantities. In many cases, these questions are very hard to answer.

4. **Subsidies:** the efficient level of production can be obtained by paying the polluter not to pollute. A subsidy for not polluting is simply another method of raising the polluter's effective production cost. However, subsidies can lead to much production, are administratively difficult, and are regarded by some as ethically unappealing.

5. **Creating a market:** the inefficiencies associated with externalities can be linked to the absence of a market for the relevant resource: pollution permits. The fee charged is that which clears the market, so the amount of pollution equals the level set by the government. The price

paid for permission to pollute measures the value to producers of being able to pollute. The scheme also works if, instead of auctioning off the pollution rights, the government assigns them to various firms that are then free to sell them to other firms. With the auction, the money goes to the government; with the other scheme, the money goes to the firms that were lucky enough to be assigned the pollution rights. Cropper and Oates argue that the permit has some practical advantages over the tax scheme.

One is that the permit reduces uncertainty about the ultimate level of pollution. Moreover, when the economy is experiencing inflation, the market price of pollution rights would be expected to keep pace automatically, while change the tax rate could require a lengthy administrative procedure.

6. Regulation: It is likely to be inefficient when there are multiple firms that differ from each other. In general, each firm's appropriate reduction in output depends on the shapes of its marginal benefit and marginal private cost curves. Hence, a regulation that mandates all firms to cut back by equal amounts (either in absolute or proportional terms) leads to some firms producing too much and others too little. Most economists prefer market-oriented solutions. When very toxic substances are involved, regulation might be the best solution. But in general, the regulatory approach is probably the source of much of the failure in environmental policy.

Implications for income distribution:

1. Some of the polluters' former workers may suffer unemployment in the short run and be forced to work at lower wages in the long run. If these workers have low incomes, environmental clean-up increases income inequality.

2. Buyers of these commodities are generally made worse off. If the commodities so affected are consumed primarily by high-income groups, the distribution of real income becomes more equal, other things being the same. Thus, we also need to know the demand patterns of the goods produced by polluting companies.

Private-sector solutions to negative externalities

Coase's idea: If the allocation with externalities is inefficient, it means it is possible for one party to be made better off without anyone being made worse off. In that case, why can't the affected parties to an externality bargain over outcomes until the efficient outcome is reached?

Consider the example of a steel plant that dumps sludge into a nearby river, which kills the fish in the river. Fishermen are affected by this externality. Suppose the fishermen own the river. They would force the steel plant to stop dumping its sludge into the river. They would have the right to do so, since they have the rights over the river.

If the only way to get rid of sludge is to dump it into the river, then the only way to end this pollution is to shut down the steel factory. In this case, the steel plant owner might offer the fishermen to pay them for each unit of steel produced. The steel plant owner and the fishermen would have to compromise based on how much loss the fishermen make from the dead fish, and how much benefit the steel plant owner gets from having the steel plant operate.

This kind of agreement is called **internalizing the externality**. The steel firm is forced to include the costs of pollution in its private costs. The damage to the fish becomes another input cost to the firm. This works because the fishermen have property rights over the river. They can use the market to get compensated from the steel plant for its pollution.

Part I of the Coase theorem: When there are well-defined property rights and costless bargaining, negotiations between the party creating the externality and the party affected by the externality can bring about the socially optimal market quantity.

This means that externalities don't necessarily require government intervention. The only role for the government is to assign property rights. Once this is done, the socially efficient outcome will result from bargaining among the party creating the externality and the affected parties.

Part II of the Coase Theorem: The efficient solution to an externality does not depend on how the property rights are assigned. It just needs the property rights to be assigned somehow. In the steel firm/fishermen example, suppose the steel firm owned the river instead of the fishermen. Then the fishermen couldn't make the steel plant pay \$100 compensation for each unit of steel produced. However, they could pay the firm \$100 for each unit of steel not produced. This would lead to the steel firm incorporating the \$100 cost per unit into its private costs, as firms count opportunity costs as costs. Each unit of steel produced is \$100 forgone. So the private marginal cost curve rises to become the social marginal cost curve, if marginal damage to the fish equals \$100 per unit of steel.

If the benefit to the steel plant owner from having the steel plant operate is greater than the harm caused to the fishermen by the steel plant's pollution, then there will be a range of dollar values that the steel plant owner could pay the fishermen that would compensate them for the pollution. In other words, there is an amount of money that both the steel plant owner and the fishermen can agree on in order for the steel plant to continue its operation.

In the case where the benefit to the steel plant owner from continuing operation is greater than the harm caused to the fishermen from the pollution, it is efficient for the steel plant to continue

operation (total surplus is maximized among the possible outcomes). Thus, bargaining among the parties affected by the externality has led to the efficient outcome being implemented in this case.

In the case where the harm caused to the fishermen from the pollution is greater than the benefit to the steel plant owner from continuing operation, it is efficient to shut down the steel plant. In that case, there will be no amount of money that the steel plant owner will be willing to pay the fishermen (and that the fishermen will accept) to continue operation.

Problems with Coasian solutions

The Coase solution often does not work in practice. For example, one cannot often observe cases of people affected by pollution offering compensation to a polluting firm in exchange for reducing production. However, individuals have often sued businesses for harm caused by their pollution. Suing is a way to enforce a property right.

Why does the Coase solution rarely work in practice?

One problem is that the cause of the damage must be identified - the assignment problem. There may be multiple causes for the death of all the fish in a river. Another problem is that some dollar amount of damage to the affected parties must be determined. Bargaining may break down over how much should be paid by the fishermen to the steel plant, or by the steel plant to the fishermen. Also, the fishermen may not agree among themselves how the payment made by the steel firm should be distributed among them. The more the agents causing the externality, and the more people affected by the externality, the greater these problems become.

The holdout problem - suppose the assignment problem can be overcome, and it is determined that each unit of sludge from the plant kills \$1 worth of fish for each of 100 fishermen. Suppose

that the fishermen have property rights over the river and the steel plant can't produce unless all 100 fishermen say it can. Using the Coasian solution, each of the 100 fishermen gets paid \$1 per unit of steel production in order for the plant to be allowed to continue production. The last fisherman will realize that the steel plant can't produce without his permission. He can demand to be paid more than \$1 in order for the firm to continue operation. This holdout problem can lead to a breakdown of negotiations. The more people are affected by the externality, the stronger the holdout problem becomes.

The free rider problem

Perhaps the holdout problem could be avoided by assigning property rights to the side that has the fewest agents. In this case it would be the steel plant. But this causes a new problem. Suppose the steel plant has property rights over the river and it agrees to reduce production by 1 unit for each \$100 received by the fishermen. Suppose the optimal reduction in steel production (where social marginal benefits and social marginal costs are equal) is 100 units. Each fisherman pays \$100, the total is \$10,000 and the plant reduces production by 100 units.

Once 99 fishermen have each paid \$100 and output has been reduced by 99 units, the last fisherman may consider that the last unit of output reduction is not worth \$100 to him, once 99 units of output reduction have already taken place. He may not pay the \$100. Knowing that this will happen, the previous fishermen may also not pay their \$100. This free rider problem is another way in which the Coasian solution can fail to be implemented.

Transaction costs and negotiating problems

The 100 fishermen would have to organize themselves and to decide on a price to charge or pay the steel plant. This may bear some costs. For an externality like global warming, everyone in the

world is affected, and everyone would have to agree on prices to charge. Moreover the fishermen and the firm may not be able to agree on a price.

Public sector remedies for externalities

The US government has usually imposed quantity restrictions rather than Pigouvian taxes on polluters. For example when it wanted to reduce the amount of sulfur dioxide (SO_2) in the 1970s, it put a limit on the amount of sulfur dioxide that producers could emit. In 1987 when it wanted to eliminate the use of chlorofluorocarbons, it banned their use rather than impose a large tax on products using CFCs.

If the government had perfect information about supply, demand and marginal damage caused by production of polluting goods, then quantity restrictions and a tax would be identical. The government would mandate that the efficient amount be produced.

Now consider two firms dumping 200 units each of sludge into the river every day. The marginal damage done by each unit of sludge is \$100. Technology is available to reduce the amount of sludge created by each unit of production, but the technology has different costs to the two firms. For firm A pollution reduction is cheaper at any level of pollution reduction than for firm B.

Policy option 1: quantity regulation

The government could mandate a total reduction of 200 units. Typically the government would have the firms each reduce pollution by 100 units. This is not an efficient solution, because the firms have different costs of pollution reduction. The total costs of pollution reduction could be decreased if firm A reduced its pollution by 1 unit and firm B increased its pollution by 1 unit. The efficient solution is where each plant has an amount of pollution reduction where its

marginal cost curve intersects with the social marginal benefit of pollution reduction curve. This is at 50 units of pollution reduction for firm B and 150 units of pollution reduction for firm A.

Policy option 2: price regulation through a corrective tax

A tax of \$100 per unit of sludge is imposed on the firms. Each firm reduces pollution until its marginal cost of pollution reduction equals \$100. This leads to an efficient outcome. Firm A has 150 units of pollution reduction and firm B has 50 units of pollution reduction. Thus, if only the total efficient level of pollution reduction and the marginal damage are known to the government, a corrective tax is a more efficient way to get to the socially efficient outcome.

Policy option 3: quantity regulation with **tradeable permits**

The government issues permits that allow one unit of pollution each. When a firm has emitted 1 unit a pollution, it turns in 1 permit to the government. In this case, the government issues 200 permits, since it wants there to be only 200 units of sludge. Initially it gives 100 permits to each plant. Plant A will sell permits to plant B, because plant A's cost of pollution reduction is lower than plant B's. For the first permit sold, A will charge a price that is between A's marginal cost of pollution reduction and B's marginal cost of pollution reduction. They will trade permits until plant A's marginal cost of pollution reduction equals plant B's. At that point they will no longer find it optimal to trade, because there will be no price they can agree on. At this point, the efficient amount of pollution reduction by both firms has been reached. The only information required by the government is the total marginal cost and the marginal damage.

PUBLIC DEBT

Modern governments need to borrow from different sources when current revenue falls short of public expenditures. Thus, public debt refers to loans incurred by the government to finance its activities when other sources of public income fail to meet the requirements. In this wider sense, the proceeds of such public borrowing constitute public income.

However, since debt has to be repaid along with interest from whom it is borrowed, it does not constitute income. Rather, it constitutes public expenditure. Public debt is incurred when the government floats loans and borrows either internally or externally from banks, individuals or countries or international loan-giving institutions.

What is true about public borrowing is that, like taxes, public borrowing is not a compulsory source of public income. The word ‘_compulsion’ is not applied to public borrowing except in certain exceptional cases of borrowing.

Meaning of Public Debt

Public debt refers to a part of the total borrowings by the Government which includes such items as market loans, special bearer bonds, treasury bills and special loans and securities issued by the Central Bank. It also includes the outstanding external debt.

However, it does not include the following items of borrowings:

- (i) small savings,
- (ii) provident funds,
- (iii) other accounts, reserve funds and deposits.

The aggregate borrowings by the Government comprising the public debt and these other borrowings are generally known as ‘net liabilities of the Government’.

The Objectives:

Most government debt is held in long-term interest bearing securities such as national savings certificates, rural development bonds, capital development bonds, etc. In industrially advanced countries like the U.S.A., the term government or public debt refers to the accumulated amount of what government has borrowed to finance past deficits.

In such countries the government debt has a very simple relationship to the government deficit the increase in debt over a period (say one year) is equal to its current budgetary deficit.

The State generally borrows from the people to meet three kinds of expenditure:

- (a) to meet budget deficit,
- (b) to meet the expenses of war and other extraordinary situations and
- (c) to finance development activity.

(a) Public Debt to Meet Budget Deficit:

It is not always proper to effect a change in the tax system whenever the public expenditure exceeds the public revenue. It is to be seen whether the transaction is **casual** or **regular**. If the budget deficit is casual, then it is proper to raise loans to meet the deficit. But if the deficit happens to be a regular feature every year, then the proper course for the State would be to raise further revenue by taxation or reduce its expenditure.

(b) Public Debt to Meet Emergencies like War:

In many countries, the existing public debt is, to a great extent, on account of war expenses. Especially after World War II, this type of public debt had considerably increased.

(c) Public Debt for Development Purposes:

The Government borrow for development purposes in order to construct railways, irrigation projects and road construction and other works. In most developing countries of the world, the government borrows from the banks to meet the costs of development project and infrastructural facilities.

The Burden of Public Debt

When a country borrows money from other countries (or foreigners) an external debt is created. It owes its all to others. When a country borrows money from others it has to pay interest on such debt along with the principal. This payment is to be made in foreign exchange (or in gold). If the debtor nation does not have sufficient stock of foreign exchange (accumulated in the past) it will be forced to export its goods to the creditor nation. To be able to export goods a debtor nation has to generate sufficient exportable surplus by curtailing its domestic consumption.

Thus an external debt reduces society's consumption possibilities since it involves a net subtraction from the resources available to people in the debtor nation to meet their current consumption needs. In the 1990s, many developing countries such as Poland, Brazil, and Mexico faced severe economic hardships after incurring large external debt. They were forced to curtail domestic consumption to be able to generate export surplus (i.e., export more than they imported) in order to service their external debts, i.e., to pay the interest and principal on their past borrowings.

The burden of external debt is measured by the debt-service ratio which returns to a country's repayment obligations of principal and interest for a particular year on its external debt as a percentage of its exports of goods and services (i.e., its current receipt) in that year. An external debt imposes a burden on society because it represents a reduction in the consumption possibilities of a nation. It causes an inward shift of the society's production possibilities curve.

Three Problems

When we shift attention from external to internal debt we observe that the story is different.

It creates three problems:

- (1) Distorting effects on incentives due to extra tax burden,
- (2) Diversion of society's limited capital from the productive private sector to unproductive public sector, and
- (3) Slowing the rate of growth of the economy.

These three problems are discussed as follows:

1. Efficiency and Welfare Losses from Taxation:

When the government borrows money from its own citizens, it has to pay interest on such debt. Interest is paid by imposing tax on people. If people are required to pay more taxes simply because the government has to pay interest on debt, there is likely to be adverse effects on incentives to work and to save. It may be a happy coincidence if the same individual were tax-payer and a bond-holder at the same time.

But even in this case one cannot avoid the distorting effects on incentives that are inescapably present in the case of any taxes. If the government imposes additional tax on Mr. X to pay him interest, he might work less and save less. Either of the outcome or both — must be reckoned a distortion from efficiency and well-being. Moreover, if most bond-holders are rich people and most tax-payers are people of modest means repaying the debt money redistributes income (welfare) from the poor to the rich.

2. Capital Displacement (Crowding-Out) Effect:

Secondly, if the government borrows money from the people by selling bonds, there is diversion of society's limited capital from the productive private to unproductive public sector. The shortage of capital in the private sector will push up the rate of interest. In fact, while selling bonds, the government competes for borrowed funds in financial markets, driving up interest rates for all borrowers. With the large deficits of recent years, many economists have been concerned in the competition for funds; also higher interest rates have discouraged borrowing for private investment, an effect known as **crowding out**.

This, in its turn, will lead to fall in the rate of growth of the economy. So, decline in living standards is inevitable. This seems to be the most serious consequence of a large public debt. As Paul Samuelson has put it: —Perhaps the most serious consequence of a large public debt is that it displaces capital from the nation's Stock of wealth. As a result, the pace of economic growth slows and future living standards will decline.

3. Public Debt and Growth:

By diverting society's limited capital from productive private to unproductive public sector public debt acts as a growth-retarding factor. Thus an economy grows much faster without public debt than with debt.

When we consider all the effects of government debt on the economy, we observe that a large public debt can be detrimental to long-run economic growth.

In conclusion, there is no doubt a feeling among some people that interest payment on the national debt repayment is a drain on the nation's limited economic resources. It is pure waste of our resources to use them to pay interest on the debt. This argument is wrong because interest payment on the debt if domestically held do not prevent a use of economic resources at all. It is, of course, true that if our debt is held by foreigners, we will suffer a loss of resources.

In the case of domestically held (internal) debt, internal payment on the debt involves a transfer of income from Ugandan taxpayers to Ugandan bondholders of the same generation. Since, in most cases, taxpayers and bondholders are different entities, a large national debt inevitably involves income redistribution effects. But internal debt does not involve any using up of the nation's real economic resources.

Limit to Public Debt:

Though there is no clear end limit to internal debt there should be a definite limit to external debt. Moreover the upper limit to internal debt should be set by the annual rate of growth of per capita GNP.

Assessing the Debt:

What kind of burden does the national debt impose on taxpayers and on future generations?

One of the most obvious and significant burdens of the national debt is the interest that must be paid to borrow and maintain a debt of this magnitude. The interest burden of the national debt accumulates as additional debt is incurred each year. Because the debt is not being retired, interest must be paid year after year.

The rising burden of the debt service or interest cost of maintaining the debt will be passed on to future generations who will have to pay the interest on the current debt. At the same time, however, many of those to whom interest will be paid will be Ugandan citizens who own government securities.

Should we pay off the debt? First of all, it would be a huge, probably impossible burden, even over several years, to raise, through taxes and other revenues, the amount needed to pay off the debt. Second, with repayment of the debt, a significant income redistribution would occur as the average taxpayer becomes poorer due to the increased tax burden and the holders of government securities become richer with their newly redeemed funds.

Also, some portion of the debt is external, or foreign-owned. While, under normal conditions, this is not a serious concern, in a period of accelerated repayment it would mean a sizable outflow of funds. Finally, in order to pay off the public debt, a series of surplus budgets would be needed.

However, as Keynes pointed out, a surplus budget has a contractionary impact on the economy. While the debt was being paid off, economic activity would decline. In short, the opportunity cost of lowering the national debt would be a slowing down of the economic activities.

Classification of Public Debt:

The structure of public debt is not uniform in any country on account of factors such as categories of markets in which loans are floated, the conditions for repayment, the rate of interest offered on bonds, purposes of borrowing, etc.

In view of these differences in criteria, public debt is classified into various categories:

- i. Internal and external debt
- ii. Short term and long term loans
- iii. Funded and unfunded debt
- iv. Voluntary and compulsory loans
- v. Redeemable and irredeemable debt
- vi. Productive or reproductive and unproductive debt/deadweight debt

i. Internal and External Debt:

Sums owed to the citizens and institutions are called internal debt and sums owed to foreigners comprise the external debt. Internal debt refers to the government loans floated in the capital

markets within the country. Such debt is subscribed by individuals and institutions of the country.

On the other hand, if a public loan is floated in the foreign capital markets, i.e., outside the country, by the government from foreign nationals, foreign governments, international financial institutions, it is called external debt.

ii. Short term and Long Term Loans:

Loans are classified according to the duration of loans taken. Most government debt is held in short term interest-bearing securities, such as Treasury Bills or Ways and Means Advances (WMA). Maturity period of Treasury bill is usually 90 days.

Government borrows money for such period from the central bank of the country to cover temporary deficits in the budget. Only for long term loans, government comes to the public. For development purposes, long period loans are raised by the government usually for a period exceeding five years or more.

iii. Funded and Unfunded or Floating Debt:

Funded debt is the loan repayable after a long period of time, usually more than a year. Thus, funded debt is long term debt. Further, since for the repayment of such debt government maintains a separate fund, the debt is called funded debt. Floating or unfunded loans are those which are repayable within a short period, usually less than a year. It is unfunded because no separate fund is maintained by the government for the debt repayment. Since repayment of unfunded debt is made out of public revenue, it is referred to as a floating debt. Thus, unfunded debt is a short term debt.

iv. Voluntary and Compulsory Loans:

A democratic government raises loans for the nationals on a voluntary basis. Thus, loans given to the government by the people on their own will and ability are called voluntary loans. Normally, public debt, by nature, is voluntary. But during emergencies (e.g., war, natural calamities, etc.,) government may force the nationals to lend it. Such loans are called forced or compulsory loans.

v. Redeemable and Irredeemable Debt:

Redeemable public debt refers to that debt which the government promises to pay off at some future date. After the maturity period, the government pays the amount to the lenders. Thus, redeemable loans are called terminable loans.

In the case of irredeemable debt, government does not make any promise about the payment of the principal amount, although interest is paid regularly to the lenders. For the most obvious reasons, redeemable public debt is preferred. If irredeemable loans are taken by the government, the society will have to face the consequence of burden of perpetual debt.

vi. Productive (or Reproductive) and Unproductive (or Deadweight) Debt:

On the criteria of purposes of loans, public debt may be classified as productive or reproductive and unproductive or deadweight debt. Public debt is productive when it is used in income-earning enterprises. Or productive debt refers to that loan which is raised by the government for increasing the productive power of the economy.

A productive debt creates sufficient assets by which it is eventually repaid. If loans taken by the government are spent on the building of railways, development of mines and industries, irrigation works, education, etc., income of the government will increase ultimately. Productive loans thus add to the total productive capacity of the country.

Public debt is unproductive when it is spent on purposes which do not yield any income to the government, e.g., refugee rehabilitation or famine relief work. Loans for financing war may be regarded as unproductive loans. Instead of creating any productive assets in the economy, unproductive loans do not add to the productive capacity of the economy. That is why unproductive debts are called deadweight debts.

Methods of Redemption of Public Debt

Redemption of debt refers to the repayment of a public loan. Although public debt should be paid, debt redemption is desirable too. In order to save the government from bankruptcy and to raise the confidence of lenders, the government has to redeem its debts from time to time.

Sometimes, the government may resort to an extreme step, such as repudiation (rejection/abandonment) of debt. This extreme step is, of course, violation of the contract. Use of repudiation of debt by the government is economically unsound.

Here, instead of concentrating on the repudiation of debt, we discuss below other important methods for the retirement or redemption (recovery/improvement) of public debt.

i. Refunding:

Refunding of debt implies issue of new bonds and securities for raising new loans in order to pay off the matured loans (i.e., old debts).

When the government uses this method of refunding, there is no liquidation of the money burden of public debt. Instead, the debt servicing (i.e., repayment of the interest along with the principal) burden gets accumulated on account of postponement of the debt- repayment to save future debt.

ii. Conversion:

By debt conversion we mean reduction of interest burden by converting old but high interest-bearing loans into new but low interest-bearing loans. This method tends to reduce the burden of interest on the taxpayers. As the government is enabled to reduce the burden of debt which falls, it is not required to raise huge revenue through taxes to service the debt. Instead, the government can cut down the tax liability and provide relief to the taxpayers in the event of a reduction in the rate of interest payable on public debt. It is assumed that since most taxpayers are poor people while lenders are rich people, such conversion of public debt results in a less unequal distribution of income.

iii. Sinking Fund:

One of the best methods of redemption of public debt is sinking fund. It is the fund into which certain portion of revenue is put every year in such a way that it would be sufficient to pay off the debt from the fund at the time of maturity. In general, there are, in fact, two ways of crediting a portion of revenue to this fund.

The usual procedure is to deposit a certain (fixed) percentage of its annual income to the fund. Another procedure is to raise a new loan and credit the proceeds to the sinking fund. However, there are some reservations against the second method.

Dalton has opined that it is in the Tightness of things to accumulate sinking fund out of the current revenue of the government, not out of new loans. Although convenient, it is one of the

slowest methods of redemption of debt. That is why capital levy as a form of debt repudiation is often recommended by economists.

iv. Capital Levy:

In times of war or emergencies, most governments follow the practice of raising money necessary for the redemption of the public debt by imposing a special tax on capital.

A capital levy is just like a wealth tax in as much as it is imposed on capital assets. This method has certain decisive advantages. Firstly, it enables a government to repay its (emergency) debt by collecting additional tax revenues from the rich people (i.e., people who have huge properties).

This then reduces consumption spending of these people and the severity of inflation is weakened. Secondly, progressive levy on capital helps to reduce inequalities in income and wealth. But it has certain clear-cut disadvantages too. Firstly, it hampers capital formation. Secondly, during normal time this method is not suggested.

v. Terminal Annuity:

It is something similar to sinking fund. Under this method, the government pays off its debt on the basis of terminal annuity. By using this method, the government pays off the debt in equal annual installments. This method enables government to reduce the burden of debt annually and at the time of maturity it is fully paid off. It is the method of redeeming debts in installments since the government is not required to make one huge lump sum payment.

vi. Budget Surplus:

By making a surplus budget, the government can pay off its debt to the people. As a general rule, the government makes use of the budgetary surplus to buy back from the market its own bonds and securities. This method is of little use since modern governments resort to deficit budgets. A surplus budget is usually not made.

vii. Additional Taxation:

Sometimes, the government imposes additional taxes on people to pay interest on public debt. By levying new taxes—both direct and indirect—the government can collect the necessary revenue so as to be able to pay off its old debt. Although an easier means of repudiation, this method has certain advantages since taxes have large distortionary effects.

viii. Compulsory Reduction in the Rate of Interest:

The government may pass an ordinance to reduce the rate of interest payable on its debt. This happens when the government suffers from financial crisis and when there is a huge deficit in its budget.

There are so many instances of such statutory reductions in the rate of interest. However, such practice is not followed under normal situations. Instead, the government is forced to adopt this method of debt repayment when situation so demands.

Conclusion

We have discussed in this unit that public debt is how much a country owes to lenders outside of itself. These can include individuals, businesses, and even other governments. The term public debt is used interchangeably with the term sovereign debt. However, public debt usually only refers to national debt, but some countries also include the debt owed by states, provinces, and municipalities. Therefore, be careful when comparing public debt between countries to make sure the definitions are the same.

PUBLIC BUDGET

Each government wants to undertake several economic and non-economic activities and pursue certain policies, which have their financial counterparts in the form of revenues, borrowings, and expenditure. Accordingly, the government describes its intentions and policies, which it would like to pursue during the forthcoming period usually a year and draws up a financial plan corresponding to this scheme of things. Such a financial plan contains the details of estimated receipts and also proposed expenditures and other disbursements under various heads. Therefore, a budget enables the authorities to decide about each individual item of revenue and expenditure in the overall context of its policies.

No government can afford to take taxation, borrowings, expenditure and other fiscal decisions at random. On account of their connection, all decisions and policies must form a part of its overall set of objectives. The whole approach has to be quite systematic if chaos and wastage are to be avoided. In general, a budget shows financial accounts of the previous year, the budget and revised estimates of the current year, and the budget estimates for the forthcoming year. In addition, the estimates for the forthcoming year are split up into two parts- those based upon the

assumption that existing taxes and their rates would continue, and those based upon the proposed changes therein. A budget, in this sense, becomes both a description of the fiscal policies of the government and the financial plans corresponding to them.

Meaning of Public Budget

In a budget, it is quite possible that some revenue happen to be earmarked for certain specific expenditures, for example, certain projects for poorer sections of the community. In an underdeveloped country to whose poor people this argument could be directed, this argument does not apply because there is not enough to significantly improve the lot of everyone. Through income redistribution the poor masses can only feel a marginal relief. Even if there were a lot of income to redistribute, the desirability of reducing inequalities would not be disproved. It would only point towards the need for going slow in this direction, so that the poorer sections also get accustomed to higher standards of living.

The second consideration is that of the effect of inequalities on production through the will and capacity to work, save and invest. This is a controversial field and clear cut widely acceptable generalizations are difficult to make. In a poor country, where the need to reduce inequalities is the greatest, saving potential is only with the higher income groups. With a big shift towards equalities, such a saving potential is much reduced especially because the poorer sections of the community are bound to consume away a major portion of their newly acquired incomes. The objective of economic equality, therefore, comes into conflict with that of economic growth. In other words, both will and capacity to save on the part of the members of the society are likely to suffer when a shift towards income and wealth equalities is made. An underdeveloped country, therefore is faced with a difficult choice.

Thirdly, the distributive effects of public expenditure must be viewed in the context of its method of financing, for example, if the tax system of the country were regressive, it would militate against the distributive effects of public expenditure. Similarly, if public expenditure were financed through deficit financing, or through such borrowings as are inflationary in character, inequalities would widen. However, deficit financing to a limited extent need not generate inflationary pressures. Similarly, public borrowings out of genuine savings of the economy are

expected to be only mildly inflationary, while the long term solution of its economic difficulties cannot be had without economic growth. The problems of income distribution also cannot be postponed indefinitely.

A budget may be presented in parts. In Nigeria, for example, railway is financed from a part of the central Government finances, but the railway budget is presented separately from the main budget of the central Government. However, the totals of the receipts and expenditure of the railways are incorporated in the budget statement of the Government of Nigeria. Similarly, the budget may be divided on the basis of different layers of the government. In a big country, such as Nigeria, it is mostly that in addition to the central Government, there will be various states and local government. Each layer of the government prepares, passes and implements its own budget. More so, some intergovernmental transactions also take place and depending upon the legal and accounting procedure such transactions may form a part of the budget of one layer or the other. The net effect of the fiscal policy of the government depends upon the collective budgeting of all the layers of the government.

Reasons why the account of the Budget maybe split up

There are two reasons why the account of the budget maybe split up.

1. The Political Cause: When technically, the existing executive government may or continue for the full year on account of the fact that elections are due, then a 'lame duck budget' is presented - a budget which covers only a part of the year. Such a budget enables the next executive to formulate its own budget for the rest of the year.
2. Supplementary Budget: it is not always possible to foresee and provide for all emergencies such as war or natural calamities, which will necessitate an extra expenditure. Similarly, for some reason or other, the revenue receipts may fall short of the expected ones. In these circumstances, the authorities may find it fit to have a supplementary budget.

Kinds of Budget

In olden days, a budget was more or less only a statement of the financial plans of the government. But now the importance of the government activities is fully recognized.

Government's financial activities contribute a major portion to the flow of funds in the economy and the government's fiscal policy together with the financial flows have a wide impact on the working of the economy.

Accordingly, various facets of budget estimates are presented to indicate the manner in which the budget would be affecting the economy. The actual role of the government transactions in the life and working of the economy cannot be underestimated because of the immense impact, which it may have. According to Pigou, though money is practically always the medium of public finance, it is not the thing in which it really deals with. The money is merely a ticket embodying command over services and goods. It is those, not the money that represents them, which constitute the object of all transaction. Therefore, it is through them that the budget affects economic activities of the society. Before we discuss the kinds of budgets from the economic standpoints, let us first distinguish between the executive and legislative budgets:

1. A legislative Budget

This is the one, which is prepared and adopted by the legislature directly or through its committees. An executive budget, on the other hand, is the one which is prepared by the executive branch of the government. Such a budget is also normally passed and adopted by the legislature but by the hands of the executive. It is generally believed that an executive budget is preferable to the legislative one. The executive is better equipped to estimate probable receipts and required expenditures. Legislature is not likely to be able to do this efficiently. However, the final responsibility for the executive budget always lies with the executive. It is not desirable to just thrust certain estimates and figures upon the executive and ask it to realize the targets especially if these estimates are highly unrealistic. Finally, when the executive prepares the budget, it can be more directly held responsible for any shortcomings and lapses.

2. Multiple and Unified Budgets

In the United States of America, there was a tradition to divide the budget into parts and present each part in a way as would make it possible to evaluate the specialized functions of the government. But it is now felt that what is needed is a unified budget because it is total effect of a budget which is more relevant and that can be seen only in a unified budget. This is basically

so at times of emergencies. Then true results of the fiscal operations of the government budget get scattered in the case of multiple budgets and have to trace out through various documents.

3. Conventional and Cash Budgets

In the United State of America, another distinction is made between the conventional or administrative budget and the cash budget. Apart from the minor differences, the main differences between the two is that in conventional budget, revenue and expenditure are shown on accrual basis and those flows of funds are excluded which do not belong to the government. In this way, the conventional budget is stated to harbor two deficiencies as far as its role in the flows of funds in the economy and therefore, its effects on the economy are concerned.

Firstly, as noted above, it runs on accrual basis and as receipts and payments falling due in a period generally differ from the ones actually made, there is a distortion of the actual picture of the flow of funds caused by the government activities. Secondly, the actual handing of various cash receipts and payments, though not belonging to the government, also have their profound role in the flow of the funds and the effects thereof. Thus, the conventional budget always presents an inadequate picture of the government activities.

In the cash budget, on the other hand, all the flows of funds to and from the government of actual payment basis are shown, inclusive of funds, which are not owned by the government. Cash budget, therefore, is invariably larger than the conventional budget and a better representative of reality.

(4). Zero Base Budgeting

Zero base budgeting is an innovative technique to guard against wastage in public expenditure. The technique works out not through auditing, which is a post-operative check but an examination of the very rationale of an expenditure item under consideration. It is a method which is sought to be transplanted from the commercial world. The management of a commercial enterprise, in an effort to maximize its profitability, should be interested in detailed investigation of each item of expenditure and see whether it is really needed, or whether it should be revised or even totally deleted. More so, each section of the enterprise is to start with an

assumed position of its own non-existence (and, therefore, no provision for it in the budget) and compare it with alternative levels of its operation with corresponding budgetary provisions. If a section is not able to justify its own existence, it would be closed down and if its existence is justified the optimum level of its operations and the corresponding budgetary provisions have also to be defended. In other words, in zero based budgeting, no section of business is supposed to be essential. It has to prove its worthwhileness.

Types of Government Budget

Government budgets are of the following types:

- ☐ Union Budget: The union budget is the budget prepared by the central government for the country as a whole.
- ☐ State Budget: In countries like India, there is a federal system of government thus every state prepares its own budget.
- ☐ Plan Budget: It is a document showing the budgetary provisions for important projects, programmes and schemes included in the central plan of the country. It also shows the central assistance to states and union territories.
- ☐ Performance Budget: The central ministries and departments dealing with development activities prepare performance budgets, which are circulated to members of parliament. These performance budgets present the main projects, programmes and activities of the government in the light of specific objectives and previous years' budgets and achievements.
- ☐ Supplementary Budget: This budget forecasts the budget of the coming year with regards revenue and expenditure.
- ☐ Zero-Based Budget: This is defined as the budgetary process which requires each ministry/department to justify its entire budget in detail. It is a system of budget in which all government expenditures must be justified for each new period.

Classification of Budget

A budget can be of 3 types:

- ☐ Balanced Budget: When government expected receipts are equal to the government proposed expenditure, it is called a balanced budget.

☐ Deficit Budget: When government expected expenditure exceeds government proposed receipts, the budget is said to be deficit. A deficit budget can be of 3 types, Revenue, Fiscal and Primary deficit.

☐ Surplus Budget: When government expected receipts are more than proposed expenditure.

A budget can be classified in 3 categories which are:

☐ According to Function

☐ According to Flexibility

☐ According to Time

Need and importance of a government budget

Government Budget is a subject of immense importance for a variety of reasons

1. Planned approach to Government's activities
2. Integrated Approach to fiscal operations
3. Affecting economic Activities
4. Instrument of Economics policy
5. Index of Government's functioning
6. Public Accountability
7. Allocation of Resources

Conclusion

A budget is a political instrument that: weighs policy priorities against available public resources; specifies the ways and means of providing public programs and services; establishes the cost of programs and the criteria by which these programs will be evaluated for efficiency and effectiveness; ensures that the programs will be evaluated at least once each budget cycle; redistributes income; provides the government with a spending limitation; and provides transparency by which the government may be held accountable at the end of each budget cycle or political term.

PUBLIC EXPENDITURE

Expenses incurred by the public authorities, such as central, state and local self- governments are called public expenditure. Such expenditures are made for the maintenance of the governments as well as for the benefit of the society as whole.

Public expenditure refers to the expenses which a government incurs for (i) its own maintenance, (ii) the society and the economy, and (iii) helping other countries. In practice, however, with expanding state activities, it is becoming increasingly difficult to separate the portion of public expenditure meant for the maintenance of the government itself from the total.

Historically, public expenditure has recorded a continuous increase over time in almost every country. However, traditional thinking and philosophy did not favour this trend because it rated market mechanism as a better guide for the working of the economy and allocation of its resources. It was argued that each economic unit was the best judge of its own economic interests guided by a private economic unit, the public sector had no such motivation.

Accordingly, its efficiency was bound to be very low. Has this philosophy been practiced in its entirety, public expenditure would not have grown as rapidly as it did? In reality, however, the state could not ignore problems of economic growth and social injustice. It could not remain a silent spectator of the miseries of the people. This resulted in the acceptance of several versions of socialist and welfare philosophy.

However, in spite of the fact that public expenditure has increased rapidly during the last two centuries or so in almost every state, and in spite of its growing role and importance in national

economies, the area of public expenditure remains relatively unexplored. According to Lowell Harris, economists have generally concentrated their attention on the theory of taxation. The theory of public expenditure has been more or less confined to that of generalities in terms of the public expenditure on employment and prices. Of course, it may be pointed out, that lately this deficiency is being removed by various studies in the field of public expenditure.

Causes of Increase in Public Expenditure

a) Size of the Country and Population:

We see an expansion of geographical area of almost all countries. Even in no-man's land one finds the activities of the modern government. Assuming a fixed size of a country, the developing world has seen an enormous increase in population growth. Consequently, the expansion in administrative activities of the government (like defence, police, and judiciary) has resulted in a growth of public expenditures in these areas.

(b) Defence Expenditure:

The tremendous growth of public expenditure can be attributed to threats of war. No great war has been conducted in the second half of the twentieth century. But the threats of war have not vanished; rather it looms large. Thus, mere sovereignty, demands a larger allocation of financial sources for defence preparedness.

(c) Welfare State:

The 19th century state was a 'police state' while, in 20th and 21st centuries modern state is a 'welfare state'. Even in a capitalist framework, socialistic principles are not altogether discarded. Since socialistic principles are respected here, modern governments have come out openly for socio-economic uplift of the masses.

Various socio-economic programmes are undertaken to promote people's welfare. Modern governments spend huge money for the purpose of economic development. Government plays an active role in the production of goods and services. Such investment is financed by the

government. Besides development activities, welfare activities have grown tremendously. It spends money for providing various social security benefits. Social sectors like health, education, etc., receive a special treatment under the government patronage. It builds up not only social infrastructure but also economic infrastructure in the form of transport, electricity, etc.

Provision of all these require huge finance. Since a hefty sum is required for financing these activities, modern governments are the only providers of money. However, various welfare activities of the government are largely shaped and influenced by the political leaders.

(d) Economic Development:

Modern government has a great role to play in shaping an economy. Private capitalists are utterly incapable of financing economic development of a country. This incapacity of the private sector has prompted modern governments to invest in various sectors so that economic development occurs. Economic development is largely conditioned by the availability of economic infrastructure. Only by building up economic infrastructure, road, transport, electricity, etc., the structure of an economy can be made to improve. Obviously, for financing these activities, government spends money.

(e) Price Rise:

Increase in government expenditure is often ascribed to inflationary price rise.

Types of Public Expenditure

Public expenditure may be classified into developmental and non-developmental expenditures. The former includes the expenditure incurred on social and community services, economic services, etc. Non-developmental expenditure includes expenditures made for administrative service, defence service, debt servicing, subsidies, etc.

Public expenditure is classified into recurrent expenditure and capital expenditure. Recurrent expenditure includes civil expenditure (e.g., general services, social and community services and economic services), defence expenditure, etc. On the other hand, capital expenditure comprises

expenditures incurred on social and community development, economic development, defence, general services, etc.

Public expenditure may also be classified as plan expenditure and non-plan expenditure. Non-plan expenditure falls under two broad heads, viz., revenue expenditure and capital expenditure. The former comprises interest payments, defence expenditures, subsidies, pensions, other general services (like health, education), economic services (like agriculture, energy, industry, transport and communication, science, technology and environment, etc.)

Expenditures on agriculture, rural development, irrigation and flood control, energy, industry and mineral resources, etc., are included in plan expenditure.

Principles Governing Public Expenditure or Canons of Public Expenditure

Rules or principles that govern the expenditure policy of the government are called canons of public expenditure. Fundamental principles of public spending determine the efficiency and propriety of the expenditure itself. While making its spending programme, government must follow these principles. These principles, in short, are called canons of public expenditure.

The following are the four canons of public expenditure:

- (i) Canon of benefit
- (ii) Canon of economy
- (iii) Canon of sanction
- (iv) Canon of surplus

(i) Canon of Benefit:

According to this canon, public spending has to be made in such a way that it confers greatest social benefits. In other words, public expenditure must not be geared in such a way that it provides benefits to a particular group of the community. Thus, public expenditure is to be made in those directions where general benefits rather than specific benefits flow in. However, often public expenditure is incurred for the benefit of a particular group. This sort of public expenditure does not violate the canon of benefit. Any public expenditure for the development of a backward area does promote social interest.

(ii) Canon of Economy:

Economy does not mean miserliness. It refers to the avoidance of wasteful and extravagant expenditure. Public expenditure must be made in such a way that it becomes productive and efficient. Efficiency in public expenditure requires economy of expenditures. To enjoy the maximum aggregate benefit from any public spending programme, it is necessary that the canon of economy is observed.

An uneconomic expansion in public expenditure will result in scarcity of funds and the much-needed growth of the productive sectors will be hampered. This means lower social benefit. It is thus obvious that the canon of economy is not independent of the canon of benefit.

(iii) Canon of Sanction:

The canon of sanction, as suggested by Shirras, requires that public spending should not be made without any concurrence or sanction of an appropriate authority. Arbitrariness in public spending can be avoided only if spending is approved. Further, economy in public spending can never be ensured if it is not sanctioned.

(iv) Canon of Surplus:

This canon suggests the avoidance of deficit in public spending. Like individuals, saving is a virtue for the government. So the government must prepare its budget in such a way that government revenue exceeds government expenditure so as to create a surplus. It must not run deficit to cover its expenditure. However, modern economists do not like to attach any importance to Shirras' which is the fourth canon called the canon of surplus. To them, deficit financing is the most effective means of financing economic programmes of the government.

Importance of Public Expenditure:

An old-fashioned dictum says that —The very best of all plans of finance is to spend little, and the best of all taxes is that which is least in amount. No one today believes this philosophy. In the 1930s, J. M. Keynes emphasized the importance of public expenditure.

The modern state is described as the 'welfare state'. As a result, the activities of the modern government have widened enormously. Modern governments are undertaking various social and economic activities, particularly in less developed countries (LDCs).

i. Economic Development:

Without government support and backing, a poor country cannot make huge investments to bring about a favorable change in the economic base of a country. That is why massive investments are made by the government in the development of basic and key industries, agriculture, consumable goods, etc.

Public expenditure has the expansionary effect on the growth of national income, employment opportunities, etc. Economic development also requires development of economic infrastructures. A developing country like Uganda must undertake various projects, like road-bridge-dam construction, power plants, transport and communications, etc.

These social overhead capital or economic infrastructures are of crucial importance for accelerating the pace of economic development. It is to be remembered here that private investors are incapable of making such massive investments on the various infrastructural projects. It is imperative that the government undertakes such projects. The greater the public expenditure, the higher is the level of economic development.

ii. Fiscal Policy Instrument:

Public expenditure is considered as an important tool of fiscal policy. Public expenditure creates and increases the scope of employment opportunities during depression. Thus, public expenditure can prevent periodic cyclical fluctuations. During depression, it is recommended that there should be more and more governmental expenditures on the ground that it creates jobs and incomes.

On the contrary, a cut-back in government's expenditure is necessary when the economy faces the problem of inflation. That is why it is said that by manipulating public expenditure, cyclical fluctuations can be lessened greatly. In other words, variation of public expenditure is a part of the anti- cyclical fiscal policy.

Keep in mind that it is not just the amount of public expenditure that is incurred which is of importance to the economy. What is equally, if not more, important is the purpose of such

expenditure or the quality of expenditure. The quality of expenditure determines the adequacy and effectiveness of such expenditure. Excessive expenditures may cause inflation.

Moreover, if the government has to impose taxes at high rates there will be loss of incentives. So, it is necessary to avoid unnecessary expenditure as far as practicable, otherwise benefits of better economic development may not be reaped. As a fiscal policy instrument, it may be counter-productive.

iii. Redistribution of Income:

Public expenditure is used as a powerful fiscal instrument to bring about an equitable distribution of income and wealth. There are good much public expenditure that benefit poor income groups. By providing subsidies, free education and health care facilities to the poor people, government can improve the economic position of these people.

iv. Balanced Regional Growth:

Public expenditure can correct regional disparities. By diverting resources in backward regions, government can bring about all-round development there so as to compete with the advanced regions of the country. This is what is required to maintain integration and unity among people of all the regions. Unbalanced regional growth encourages disintegrating forces to rise. Public expenditure is an antidote for these reactionary elements.

Thus, public expenditure has both economic and social objectives. It is necessary to ensure that the government's expenditure is made solely in the public interest and does not serve any individual's interest or that of any political party or a group of persons.

Wagner's Law of Increasing State Activities

Adolph Wagner (1835-1917) was a German economist who based his law of increasing state activities on historical facts, primarily of Germany. According to Wagner, there are inherent tendencies for the activities of different layers of a government (such as central and state governments) to increase both intensively and extensively. There is a functional relationship between the growth of an economy and government activities with the result that the governmental sector grows faster than the economy.

From the original version of this theory it is not clear whether Wagner was referring to an increase in (a) absolute level of public expenditure, (b) the ratio of government expenditure to GNP, or (c) proportion of public sector in the total economy. A number of reasons can be enumerated for his inherent long term tendency recorded in history:

Firstly, we can mention an expansion in the traditional functions of the state. Defence became increasingly more expensive over time. Within the country, the administrative sector kept increasing both in coverage and intensity. The government machinery had to be manned by experts in their fields. With the progress of society, administration of the government, and its services had to become increasingly more extensive, cumbersome and expensive so as to retain efficiency.

Secondly, the state activities were increasing in their coverage. Traditionally, they were limited to only defence, justice, law and order, maintenance of the state and social overheads. But with growing awareness of its responsibilities to the society, the government started expanding its activities in hitherto unexplored field of socio-economic welfare. These measures included efforts to enrich cultural life of the society and provision of social security to the people (such as old age pensions and so on). Subsidies for and direct provision of various merit goods also registered an increase. Most governments also took active steps to ensure distributive justice by reducing income and wealth inequalities.

Thirdly, the need to provide and expand the sphere of public goods received an increasing attention. The state tried to shift the composition of national produce in favour of public goods and this, in turn, necessitated an expansion of the government.

Wagner's Law was based upon historical facts. It did not reveal the inner compulsions under which a government has to increase its activities and public expenditure as time passes. It was applicable only to modern progressive government, which were interested, in expanding public sector of the economy for its overall benefit. This general tendency of expanding state activities had a definite long term trend, though in the short run, financial difficulties could come in its way. But in the long run, the desire for development of a progressive people will always overcome these financial difficulties.

Thus, Wagner was emphasizing long term trend rather than short term changes in public expenditure. Moreover, he was not concerned with the mechanism of increase in public expenditure. Since his study is based on the historical experience, the precise quantitative relationship between the extent of increase in public expenditure and time taken by it was not fixed in any logical or functional manner. His contention that public expenditure had been increasing over time could not be used to predict its rate of increasing in future. Actually, it is consistent with Wagner's law to state that in future the state expenditure would increase at a rate slower than the national income though, factually speaking, it had increased at a faster rate in the past. Thus, in the initial stages of economic growth, the state finds that it has to expand its activities quite fast in several fields like education, health civic amenities quite fast in several fields like education, health, civic amenities, transport, communications, and so on. But when the initial deficiency is removed, then the increase in state activities may be slowed down.

Additional factors, which contribute to the tendency of increasing public expenditure, relate to growing role of the state in ever-increasing socio-economic complexities of modern society.

(i) Many societies are experiencing a growing population, which becomes a major contributory factor in the growth of public expenditure. The sheer scale of state services has to increase to keep pace with population growth, including schools, hospitals and police, etc.

(ii) Most countries have registered increasing urbanization. Existing cities grow and new ones come up. Urbanization implies a much larger per capital expenditure on civic amenities. It necessitates a much larger supply of incidental services like those connected with traffic, roads and so.

(iii) Prices have a secular tendency to go up. This also adds to public expenditure even if the scale of state services remains unchanged.

(iv) The size and nature of public services necessitates an ever-increasing specialization. The quality of the services improves, both as a historical fact as also due to circumstantial compulsions. Better quality services and higher qualified administrators, technicians, etc., imply a higher cost of providing public services. Also the government has to purchase a number of goods and services for its own maintenance. With rising prices, expenditure on them also goes up.

(v) A modern government considers it a part of its duty to protect the economy from the failures of market mechanism. Accordingly, anti-cyclical and other regulatory measures are adopted.

Efforts are made to reduce the income and wealth inequalities and bring about social and economic justice, which, in turn add to public expenditure.

Limitation of Wagner's Model

Wagner's model has an important analytical limitation, which can be removed in an expanded version. A government is not a monolithic entity. It comprises a number of organs and associated institutions. Households and business units in the private sector also do not observe government activities passively. Instead, they respond to them more actively. Thus, the government decision making has become a complex phenomenon and has multifarious tendencies to increase public expenditure.

Buchanan and Tullock, in the context of United States of America experience, have viewed Wagner's theory in terms of increasing discrepancy between growth of government expenditure and government output and termed the phenomenon as 'Wagner Squared' hypothesis. They base their argument on two facts:

Firstly, in terms of the situation prevailing in the private sector, expenditure on civil servants grows faster than the corresponding increase in their output.

Secondly, with increasing social security and other measures, the proportion of population receiving transfer payments from authorities keeps increasing. This way, public expenditure increases both in absolute terms and as a proportion of national income.

It may be noted that even if the expenditure on employees in the private sector does not increase, and even if the proportion of population receiving payments remains stable, the Wagner squared hypothesis would hold. The major limitation of this hypothesis would hold. The major limitation of this hypothesis is that output of public servant cannot be measured with any degree of accuracy.

However, we may also say that modern governments have found new weapons whereby they increase their expenditure even without collecting more taxes. They now own public undertakings, which can be a source of revenue to them. But more important than that is their capacity and willingness to resort to deficit financing. Even in advanced countries deficit

financing has become a common occurrence. The public opinion is not strong enough to check this sort of policy even though it has disastrous inflationary effects.

Wiseman-Peacock Hypothesis

The second thesis dealing with the growth of public expenditure was put forth by Wiseman and Peacock in their study of public expenditure in UK for the period 1890-1955. The main thesis of the authors is that public expenditure does not increase in a smooth and continuous manner, but in jerks or step-like fashion. At times, some social or other disturbances take place, creating a need for increased public expenditure, which the existing public revenue cannot meet. While earlier, due to an insufficient pressure for public expenditure, the revenue constraint was dominating and restraining an expansion in public expenditure, now under changed requirements such a restraint gives way. The public expenditure increases and makes the inadequacy of the present revenue quite clear to everyone. The movement from the older level of expenditure and taxation to a new and higher level is the displacement effect. The inadequacy of the revenue as compared with the required public expenditure creates an inspection effect.

Furthermore, the government and the people review the revenue position and the need to find solutions for the important problems that have come up and agree to the required adjustments to finance the increased expenditure. They attain a new level of tax tolerance. They are now ready to tolerate a greater burden of taxation and as a result the general level of expenditure and revenue goes up. In this way, the public expenditure and revenue get stabilized at a new level till another disturbance occurs to cause a displacement effect. Thus each major disturbance leads to the government assuming a larger proportion of the total national economic activity. In other words, there is a **concentration effect**. The concentration effect also refers to the apparent tendency for central government economic activity to grow faster than that of the state and local level governments. British data are consistent with this hypothesis, but its application to other countries needs verification. Moreover, this aspect of concentration effect is also closely connected with the political set of the country.

On the face of it, Wiseman Peacock hypothesis looks quite convincing. But, we must remember that they are emphasizing the recurrence of abnormal situations, which cause sizeable jumps in

public expenditure and revenue. In all fairness to the historical facts, we must not forget that on account of advancement of the economy and the structural changes therein, there are constant and regular increments in public activities as also an increase in their intensity and quality. Increasing population, urbanization and an ever-increasing awareness of the civic rights on the part of the public, coupled with an increasing awareness of its duties on the part of the state, leads to an upward movement of public expenditure. To an extent, public expenditure gets financed by ever-increasing revenue, which is made possible through the expansion and structural changes in the economy. These days, in underdeveloped countries like Uganda, the state is deliberately trying to increase its activities and makes an effort to finance those activities through various tax efforts to finance those activities through various tax efforts. Even in developed countries, the state finds that it has to perform an increasing regulatory duty to protect the economy against instability and excessive inequalities of income and wealth. Thus, Wiseman Peacock hypothesis is still a description of a particular tendency and does not isolate all the relevant causes at work.

PUBLIC AND COLLECTIVE CHOICE

Public Choice theory is about the different **incentives** and processes that operate when goods are sought through **political means rather than through purely economic means**. The essential point is about the distribution of costs and benefits. The political appropriation and distribution of goods is attractive because it concentrates its benefits and disperses its costs.

Public Choice Theory:

- Politicians, bureaucrats and others acting on behalf of the ‘public’ may act in their own self interest as ‘utility maximisers’.
- The ‘invisible hand’ may not work in the provision of public goods.
- ‘Rent seeking’ or ‘Log rolling’ - two important concepts.

Many people can be taxed only a small amount and then a small number of people can be given large sums. This means that the many hardly notice the wealth that they have lost, while the few become active partisans of their own benefits. Politicians hear nothing from the many and a lot from the few, who also have some money to contribute to the politicians, money that may actually be, or be freed up by, the benefits they receive -- like the money teachers' unions get from compulsory union dues, from the money paid by the government to teachers. Thus, constituencies and interest groups are created for each particular political benefit program, and it becomes nearly impossible to get rid of them. The **rent-seeking** aspect of this is that the

beneficiaries receive rents on the basis of their participation in the interest group. They benefit because of who they are, not because of what they do or what they own in a more conventional sense.

‘Rent seeking’ or ‘Log rolling’:

Politics involves a series of **trade-offs** in public policy making

Traditional theory would suggest that decisions will be made that give the greatest utility to the maximum number of people

Rent seeking – where decisions are made leading to resource allocation that maximises the benefit to the decision maker at the expense of another party or parties.

Log rolling – where decisions may be made on resource allocation to projects that have less importance in return for the support of the interested party in other decision making areas. Logrolling: simple majority voting does not allow people to register how strongly they feel about the issues. Logrolling systems allow people to trade votes and hence register how strongly they feel about various issues.

Logrolling is controversial. Its proponents argue that trading votes leads to efficient provision of public goods, just as trading commodities leads to efficient provision of private goods. Proponents also emphasize its potential for revealing the intensity of preferences and establishing a stable equilibrium.

Opponents of logrolling stress that it is likely to result in special-interest gains not sufficient to outweigh general losses. While logrolling can sometimes improve on the results from simple majority voting, this is not necessarily the case. Minority gains may come at the expense of greater general losses.

Government decisions are affected by the self-interest of politicians, voters, bureaucrats, regulators and so on. When did you ever see voters in one constituency demonstrating to support the closure of their hospital so that health services in other constituencies can be improved?

This self-interest operating in the political system will lead to '**government failure**', which can be far more serious than '**market failure**' because of the coercive power that government exercises and because government is not subject to a direct competitive process. It is possible, in a representative democracy, for the self-interest of a very small number to lead to decisions being taken that could be to the detriment of the majority.

Government failure refers to situations where allocative efficiency may have been reduced following government intervention in markets designed to correct market failure. What about this government policy question? Should taxes be raised extensively on tobacco? If so, what will the reaction of the tobacco industry be? Do they have sufficient power to influence decision making?

How does Government Failure manifest itself?

- **Distortion of markets** – e.g. rent control, minimum wage, agricultural subsidies, taxes on fuel
- **Welfare impact** – erosion of consumer surplus and producer surplus – e.g. EU tariff support for manufactured goods and food

Disincentive Effects –

- High taxes hampering business expansion or enterprise
- Welfare benefits reducing the incentive to find work

- **Short termism** – solving the ‘hot topics’ of the day rather than the long term important issues – e.g. ID cards versus pension crisis?

- **Electoral Pressure**

Desire to get elected and pass ‘popular’ policies to capture votes e.g. spending on public services at the risk of higher inflation and future interest rates?

Impact on the environment

E.g. building new motorways rather than investing in public transport?

Regulatory Capture

Regulatory agencies become dominated by the firms they are supposed to be regulating!

Imperfect information:

Lack of knowledge of:

- Prices
- Value
- Costs
- Benefits
- Long term effects
- Behavioural changes
- External costs and benefits
- Value of producer and consumer surplus

– all mean less than efficient allocation may result from government intervention.

Public Choice applies the methods of economics to the theory and practice of politics and government. This approach has given us important insights into the nature of democratic decision-making.

- Just as self-interest motivates people's private commercial choices, it also affects their **communal/collective** decisions. People also 'economise' as voters, lobby groups, politicians and officials, aiming to maximise the outcome they personally desire, for minimum effort. Consequently the well-developed tools of economics – such as profit and loss, price and efficiency – can be used to analyse politics too.

- Collective decision-making is necessary in some areas. However, the fact that the market may fail to provide adequately in such areas does not necessarily mean that government can do things better. There is 'government failure' too. Political decision-making is not a dispassionate pursuit of the 'public interest', but can involve a struggle between different personal and group interests.

- There is no single 'public interest' anyway. We live in a world of value-pluralism: different people have different values and different interests. Competition between competing interests is inevitable. This makes it vital to study how such competing interests and demands are resolved by the political process.

- The self-interest of political parties lies in getting the votes they need to win power and position. They may pursue the 'median voter' – the position at the centre, where voters bunch. Government officials will also have their own interests, which may include maximising their budgets.

- In this struggle between interests, small groups with sharply focused interests have more influence in decision-making than much larger groups with more diffused concerns, such as consumers and taxpayers. The influence of interest groups may be further increased because electors are 'rationally ignorant' of the political debate, knowing that their single vote is unlikely to make a difference, and that the future effects of any policy are unpredictable.

- Because of the enormous benefits that can be won from the political process, it is rational for interest groups to spend large sums on lobbying for special privileges – an activity known as ‘rent seeking’.
- Interest groups can increase their effect still further by ‘logrolling’ – agreeing to trade votes and support each other’s favoured initiatives. These factors make interest group minorities particularly powerful in systems of representative democracy, such as legislatures.
- In direct democracy, using mechanisms such as referenda, the majority voting rule that is commonly adopted allows just 51 per cent of the population to exploit the other 49 per cent – as in the old joke that ‘democracy is two wolves and a sheep deciding who shall eat whom for dinner’. In representative democracies, much smaller proportions of the electorate can have undue influence.
- Because of the problem of minorities being exploited – or minorities exploiting majorities – many theorists argue that political decision-making needs to be constrained by constitutional rules.

Voting

In public choice theory, personal outcomes are determined through the collective outcome of decisions of voting. Because the probability of one person’s vote being decisive in large voting populations is effectively zero, the reason why people vote may not be that they expect to influence the outcome of voting. Voting may be expressive: voters may express themselves by identifying with a policy or with a candidate, as they might, for example, cheer for and identify with a sports team and be happy or sad according to whether “their” team wins; or, by expressing support for a candidate or political party, a voter may be communicating with and seeking

approval from other people. People may also vote as an act of civic duty: they have been taught that taking the time to vote is correct pro-social behavior. Their utility from voting may be from democratic participation.

Major Questions:

If markets fail to achieve efficiency in the presence of public goods and externalities, can voting achieve efficiency?

Before we consider the outcomes of voting, we need to justify using voting to make collective decisions.

Many decisions affecting our daily lives are made through the political process? For example, the quality of your local public educational system and road network is determined through political decisions. Politics also influences the amount of taxes you pay and how the burden of financing government programs is distributed among citizens.

The process is also used to compete for the favors of government. Politics determines who gets income support from the government and which businesses are the fortunate recipients of government subsidies.

The political process is based on rules embodied in a nation's constitution. In democratic nations, citizens have the opportunity to vote on issues or for candidates who take positions on those issues. The outcome of the process depends on voting and the behavior of a host of characters including politicians, elected officials, special-interest groups, and bureaucrats.

The political process involves more than merely counting votes and deciding on the rules for reaching agreement. Agendas for political action are drawn up by political parties, and alternative proposals are placed before parliament. A variety of groups then seek to provide voters with information on the costs and benefits of alternatives so they can decide how to vote.

The theory of public choice studies how decisions to allocate resources and redistribute income are made through a nation's political system. The political process is, of course, influenced by factors other than economics, such as ideology.

However, from an economic point of view, the purpose of politics is to provide citizens with useful goods and services. The theory of public choice examines how the political process is used to determine the quantity of goods and services supplied by governments.

THE SUPPLY OF PUBLIC GOODS THROUGH POLITICAL INSTITUTIONS: THE CONCEPT OF POLITICAL EQUILIBRIUM

The supply of a public good through political institutions requires agreements on the quantity of the public good and the means of finance. Political institutions rarely require unanimous agreement on both the quantity of the public good to produce and the cost-sharing scheme. In fact, a variety of public choice rules are used to make decisions in communities, the most familiar of which is majority rule.

Under government supply of goods and services, taxes rather than voluntary contributions are usually used to finance the goods and services provided. Citizens who vote against an outcome that is enacted must abide by the results. This differs from the voluntary cost-sharing model for supplying public goods in which individual citizens can **veto** proposed outcomes if they are dissatisfied with their share of the costs.

Political Equilibrium

A **political equilibrium** is an agreement on the level of production of one or more public goods, given the specified rule for making the collective choice and the distribution of tax shares among individuals. Tax shares, sometimes called **tax prices**, are preannounced levies assigned to citizens and are equal to a portion of the unit cost of a good proposed to be provided by government. To a voter, these tax shares represent price per unit of a government-supplied good.

The sum of the tax shares must equal the average cost of the public good to avoid budget surpluses or deficits. If t_i is the share of the cost per unit of a pure public good for voter i , then $\sum t_i$ for all the voters must equal the average cost of the good.

The cost of producing a public good influences the amount of taxes that citizens must pay to finance the production of each unit of the good. Given the distribution of tax shares per unit of a public good among individuals, an increase in the average cost of producing the public good will increase the individual's tax bill per unit of the public good. Unless such increases in cost are accompanied by increases in benefits, the increased taxes likely will serve to diminish support for increases in the output of the public good.

In reality, information on costs of producing the good is difficult to obtain. Debates preceding an election may influence the willingness of voters to support various levels of output of the public good. Political campaigns provide information on both the costs and the benefits of the alternative programs being offered to voters for their consideration. Control over information concerning the costs and benefits of public goods is an important factor influencing collective choices and their efficiency.

The actual outcome depends, in part, on the particular public choice rule used to make the decision. Proposals that cannot gain approval under unanimous consent might very well be

approved under majority rule. In general, the smaller the proportion of the community required to approve any given issue, the greater the probability the issue will be approved.

Elections and Voting

Public choices are made formally through elections in which each individual is usually allowed one vote. The economic analysis of the political process assumes that people evaluate the desirability of goods supplied by government in the same way they consider market goods and services. They are presumed to vote in favor of a proposal only if they will be made better off by its passage.

A rational person's most-preferred political outcome is the quantity of the government-supplied good corresponding to the point at which the person's tax share is exactly equal to the marginal benefit of the good. This level of output of the good provides the maximum possible satisfaction to that person. Increasing the quantity of the government-supplied good a fraction of a unit over this amount would make the person worse off.

The vote motive

It is not obvious why rational people bother to vote at all; perhaps it is something we feel we should do, however slight its effect, like cheering our favourite football team. But the fact is that people do vote – and in ways they hope will promote their own interests, according to Public Choice.

Those who run political parties, meanwhile, are pursuing interests of their own. According to early Public Choice scholars such as Black and Downs, their goal is to gather votes, and get their party elected. That is the source of the power and status they value. This vote motive is what

shapes their political positioning: they choose policies because they think they will win, and not necessarily because they think they are right. We have all seen political parties adopt – and ditch – policies on the strength of the opinion polls alone. Public Choice scholars argue, however, that political parties do not actually drift so freely from one policy to another. Normally, they have some broad ideology, and adopt policies that are generally consistent with that world view. Indeed, they would lose credibility if they suddenly abandoned their principles or their policies for immediate electoral advantage. And having an ideological stance could itself be a vote-gathering device: if voters are indeed rationally ignorant, the parties will be able to attract them only by having some broad label or approach that even uninformed voters will recognise and support.

The drift to the middle

Vote seeking parties will tend to bid for the middle ground – the **median voter theorem**. Take some simple issue such as how much we should spend on defence. Public Choice scholars call these one-dimensional issues, since people's choices lie somewhere on a single scale, ranging between nothing and a great deal. A few people will say we should spend nothing at all on defence, and a few will say we should spend much more than we do at present. But, like the shape of a bell, most people are likely to bunch around some point in the middle. To use jargon, their preferences are **single-peaked**. Not only are there more voters in the middle but if a party pitches its policy closer to where the voters bunch it is still likely to pick up those voters at one of the extremes. The rational vote-gathering strategy for an extreme party is therefore to move towards the centre, hoping that its more extreme followers will stay with it while simultaneously gathering up some of the large mass of moderate voters. Indeed, the nearer to the centre that any party moves, the more advantage it has over any that are farther out. The result is that political

parties converge on the centre of opinion, trying to position themselves close to the ‘median voter’.

To Vote or Not to Vote

A person’s decision to vote depends on the benefits and costs of doing so, as well as on the probability that voting will help to achieve the anticipated benefits. The individual also might receive benefits from voting that do not necessarily depend on whether the desired alternative is approved. One such benefit is the pleasure received from exercising the duties of being a citizen.

One of the costs involved in voting is the time and effort it takes to go to the polls. Other costs include those of gathering the information necessary to make a **choice**. This involves reading newspapers and going to meetings to understand the issues and positions of the candidates. This can be a time-consuming process.

Many citizens quite rationally believe that their votes will not make any difference in the **outcome** of an election. Indeed, any given citizen’s choosing not to bother to vote very likely does not affect the outcome of any given election. Voters reason that the probability of their votes influencing the election will be close to zero when the number of voters is large. Because the costs of voting are positive while the expected benefits, in terms of influencing the outcome, are close to zero for an individual voter, it is rational not to vote. In effect, nonvoters try to become free riders on the time and effort put in by those who do vote.

If all voters were to reason this way, a democratic nation would not be able to function as such because no one would vote! In fact, some democratic nations make voting a legal requirement for citizens in order to avoid free riding by nonvoters. However, even in nations where voting is not legally required, voters turn out to the polls in surprisingly large numbers. This indicates that

other forces, such as the pleasure of exercising the duties of being a citizen or social pressures, motivate citizens to vote.

In general, the closer the alternatives (candidate manifestos?) are, the less the benefit obtained from choosing one alternative over another. In these cases, the net benefit of voting is likely to be very low, even if the probability of influencing the result of the election is significantly greater than zero. Therefore, some might argue that voters are less likely to vote when they see little or no differences between the alternatives considered in the election.

In other cases, a given voter's most-preferred position might be so far from the alternatives being offered that the probability of receiving any net benefits as a result of casting a vote is very low. The voter will choose to stay away from the polls under these circumstances. The decision to vote therefore depends on the cost and the expected benefit of that action, as is the case for any economic activity.

Some voters who do vote do so on the basis of scanty information, and their votes might be different if they knew more about the issues. When an individual casts a vote based on poor information, it is doubtful that the social benefit obtained is any greater than if the voter had stayed away from the polls. To vote intelligently, voters must have information on the marginal costs, including extra taxes, that they will bear if the issue under consideration passes. They also must know the marginal benefits they will receive if the issue passes. A voter cannot vote rationally in an election to increase the quantity of a public good, such as more roads, without accurate information on the extra taxes and marginal benefits that will result if the issue wins. Unfortunately, because information on taxes paid and the benefits of many public programs is hard to obtain, many voters do not take the time to become fully informed.

Rational ignorance is the lack of information about public issues that results because the marginal cost of obtaining the information exceeds the apparent marginal benefits of doing so. When voting for parliamentarily representatives, few people take the time to find out where candidates stand on all the issues and what taxes the candidates support. As a result, many voters who do vote may be making decisions that are not in their own interests. For example, voters who do not research their decisions might actually vote in favor of extensions of public services, such as roads, beyond the point at which marginal benefits to them fall to equal the marginal costs they must bear as a result of the public choice.

No direct link between choice and outcome

Public Choice points to yet another failure of the political system, that of strategic or tactical voting. In market transactions, you make your choice and you get the good or service that you want.

In politics, you can express your choice in elections, but you may well end up with something you really hate. For this reason, many people **do not express their true preferences in elections**, but vote tactically. They might not vote for their favoured party or option, but for some other that has a better chance of winning. If the NRM Party candidate has little prospect of winning in a Ugandan parliamentary constituency, for example, NRM supporters may instead vote for the DP candidate in the hope of keeping out their FDC arch-rivals. This sends a false message to politicians and government officials, however, about what the electorate really want. It is hard enough to sum up the public mood from an election, when each person gets only one vote no matter how strongly they feel on an issue, and when electors' views often conflict. When many people are not even voting for what they believe in, the task becomes even harder. And when many electors decide, perfectly rationally, that their vote counts for so little that they would be wasting their time to research the issues – or even bother to vote at all – our supposedly democratic choices begin to look even less legitimate.

Interest groups, logrolling (vote trading- a state of affairs that gives wide scope for individuals

and groups to gain from exchanging support between each other), voter ignorance, strategic voting, bundling, time shifting, coercion, monopoly, exploitation ... it is plain that government has failures of its own. As Buchanan and Tullock say, government is not something that we should get romantic about.

TAXATION AND INCOME DISTRIBUTION

Tax Policy Design and Development

No single tax structure can possibly meet the requirements of every country. The best system for any country should be determined taking into account its economic structure, its capacity to administer taxes, its public service needs, and many other factors.

Tax levels

Both opportunity and choice affect tax levels. Countries with access to rich natural resource revenues tend to have higher tax ratios (taxes as a share of GDP) than otherwise comparable countries, though such revenues may also be highly volatile, reflecting commodity price changes. Tax ratios in higher income countries appear to reflect more choice than chance. Some, such as Sweden and the Netherlands, have large and centralized governments and others, such as the United States and Switzerland, have smaller and more decentralized governments.

However, tax ratios do vary by income levels. As studies (Tanzi, 1987) have shown, in general, taxes tend to rise as per capita incomes rise. The tax ratio rises from about 17 percent in the low-income group, to 22 percent in the medium-income group, and 27 percent in the high-income group.

Several factors could explain this relationship. The demand for public services may rise faster than income (the income elasticity for services is greater than one), particularly in lower-income countries. For instance, urbanization tends to rise with income, and the demand for public services is generally higher in urban areas. At the same time, however, it is usually easier to collect taxes in urbanized areas. More generally, the capacity of countries to collect taxes appears to rise as income levels increase.

On average, tax ratios rise with per capita income levels; however, the relationship between rising income levels and higher taxes is significant only for the poorer countries. As incomes rise in poor countries, the size of the public sector almost invariably becomes relatively larger. The rich countries have more choices, and some rich countries have chosen to levy much lower taxes than others. Even the poorest countries, while obviously more constrained than rich countries, appear to have considerable discretion as to how much they raise in taxation.

Tax structure

The manner in which countries raise taxes differs as widely as do the amounts they raise. The pattern of taxes found in any country depends upon many factors such as its economic structure, its history, and the tax structures found in neighboring countries. Choice also plays a part, as different countries may also attach different importance to such commonly accepted characteristics of a good tax system as fairness, economic effects and collection costs.

President approves Parliament's bills

Ministry of Finance, Planning and Economic Development

Represents the executive arm in the tax administration

Oversees the operations of the URA

Drafts government tax policies

Funds the operations of URA

Ensures proper government budgeting, utilization and accountability

Parliament URA Board Administration

- Enacts laws that guide URA
 - Administers and gives effect to the laws set out in the First Schedule of the URA Act in its operations.
- Advises the Minister on revenue implications, tax administration and aspects of policy changes relating to all the taxes.
- Performs such other functions in relation to revenue as the Minister may direct.

Cap 196

Categories:

Consumption taxes (e.g. VAT, excises);

Income taxes;

Personal income taxes;

Corporate taxes; and

Taxes on imports and exports.

A country's revenue structure depends to some extent upon its location and economic structure. In small island countries such as Barbados, for instance, international trade taxes may play an unusually important role. Generally trade taxes tend to be more important in the lower-income group, where they account for 24 percent of tax revenues, compared to only 1 percent in the higher-income group. Trade taxes (mainly customs duties) appear to decline steadily as countries become more developed. In general, however, trade taxes clearly decline in importance as income rises.

The higher the level of per capita income, the more a country relies on direct taxes, especially those on personal income. Consumption taxes too become relatively more important in more developed countries. These differences in tax structure appear to reflect certain basic differences between low and high-income countries. Low-income countries tend to raise more revenues at the border, where relatively few collection points need to be controlled. For the same reason, they are more likely to rely more heavily on excise taxes on tobacco, alcohol and so on. In contrast, direct taxes (and VAT) tend to require both a more effective tax administration and taxpayers who are more sophisticated, conditions more likely to exist in developed countries.

What Can Taxation Do?

The main purpose of taxation is to generate sufficient revenue to finance public sector activities in a non-inflationary way. Countries raise revenue in different ways. A country's choice on how to structure its tax system depends upon many factors, such as the level of development, the need and desire for increased public services, and the capacity to levy taxes effectively. Tax policy choices also depend on a country's preference as to such public policy goals as attaining a desired distribution of income and wealth and increasing the rate of national (and perhaps regional) economic growth.

No one likes taxes. People do not like to pay them. Governments do not like to impose them. But taxes are necessary both to finance desired public spending in a non-inflationary way and also to ensure that the burden of paying for such spending is fairly distributed. While necessary, taxes impose real costs on society. Good tax policy seeks to minimize those costs, that is, taxes should be administered in such a way as to create minimum pain to the payer.

Tax policy is not just about economics. Tax policy also reflects political factors, including concerns about fairness. In many countries, increased economic growth has increased the disparity between the rich and the poor. Taxes influence the before-tax distribution of income by changing economic incentives. They also influence the after-tax distribution of income through, for example, progressive income taxation.

Finally, regardless of what a particular country may *want* to do with its tax system, or what it *should* do with respect to taxation from one perspective or another, it is always constrained by what it *can* do. Tax policy choices are influenced by a country's economic structure and its administrative capacity. These factors reduce the tax policy options available to developing countries.

Efficiency, equity and administrative feasibility are key criteria in designing and evaluating tax systems.

A good tax system should meet these basic conditions (common canons of taxation): fairness, adequacy, simplicity, transparency, administrative ease, convenience, and ability to pay.

Although opinions about what makes a good tax system will vary, there is general consensus that these basic conditions should be maximized to the greatest extent possible.

1. **Fairness**, or **Equity**, means that everybody should pay a fair share of taxes. Tax should be levied fairly so that:

(i) The same amount is paid by persons or entities that are equal in earnings or wealth (horizontal equity).

Illustration 1

If B is a shopkeeper and makes a profit of Shs 10,000,000 in a year and is taxed at 10%, which is equal to Shs 1,000,000, and C who is a cattle trader makes a profit of Shs 10,000,000 in a year, he should also be taxed at 10%. Likewise any other person who earns an income of Shs 10,000,000, should pay the same tax.

(ii) The contribution in tax should increase as the taxable income increases (vertical equity). The principle behind vertical equity, which is most applicable in income taxes, is that the burden among taxpayers should be distributed fairly, taking into account individual income and personal circumstances. Vertical equity is to be taxed proportionate to the income one earns. The strongest shoulders should carry the heaviest burden.

Illustration 2

Whereas B and C in illustration 1 were taxed at 10% because both earned 10,000,000; if D earned Shs 15,000,000 this person may be taxed at 15%. There are two important concepts of equity: *horizontal equity* and *vertical equity*.

- *Horizontal equity* means that taxpayers in similar financial condition should pay similar amounts in taxes.

- *Vertical equity* is just as important, however. Vertical equity means that taxpayers who are better off should pay at least the same proportion of income in taxes as those who are less well off. Vertical equity involves classifying taxes as *regressive*, *proportional*, or *progressive*.
- *Regressive tax*: This is a tax not based on the ability to pay. A regressive tax is structured that the effective tax decreases as the income increases. A tax is regressive if those with low incomes pay a larger share of income in taxes than those with higher incomes. Almost any tax on necessities, such as food purchased at a grocery store, is regressive because lower income people must spend a larger share of their income on these necessities.
- *Proportional tax*: This is a tax whose rate remains fixed regardless of the amount of the tax base. A proportional tax may be considered regressive despite its constant rate when it is more burdensome for low income payers than to high income payers. A tax is proportional if all taxpayers pay the same share of income in taxes. No taxes are truly proportional. Property taxes often come closest since there is typically a close relationship between a household's income and the value of the property in which they live. Corporate income taxes often approach proportional because one rate applies to most corporate income.
- *Progressive tax*: A progressive tax requires higher-income individuals to pay a higher share of their income in taxes. The philosophy behind progressive taxes is that higher income people can afford and should be expected to provide a bigger share of public services than those who are less able to pay. Most income taxes are progressive so that higher incomes are taxed at a higher rate. A progressive tax is based on the principle of vertical equity.

While no system of taxes is perfect, it is important to seek horizontal equity because taxpayers must believe they are treated equally. It is just as important to seek vertical equity so government does not become a burden to low-income residents.

2. **Adequacy** means that taxes must provide enough revenue to meet the basic needs of society. A tax system meets the test of adequacy if it provides enough revenue to meet the demand for public services, if revenue growth each year is enough to **fund** the growth in cost of services, and if there is enough economic activity of the type being taxed so rates can be kept relatively low.

3. **Simplicity** means that taxpayers can avoid a maze of taxes, forms and filing requirements. A simpler tax system helps taxpayers better understand the system and reduces the costs of

compliance. The type of tax and the method of assessment and collection must be simple enough to be understood by both the taxpayers and the collectors. Complicated taxes lead to disputes, delays, corruption, avoidance and high costs of collection in terms of time and resources.

4. *Transparency and Certainty* means that taxpayers and leaders can easily find information about the tax system and how tax money is used. With a transparent tax system, we know who is being taxed, how much they are paying, and what is being done with the money. We also can find out who (in broad terms) pays the tax and who benefits from tax exemptions, deductions, and credits.

A good tax system is one where the taxes are well understood by the payers and collectors. The time and reason of payment as well as the amount to be paid by an individual should be well documented and certain or known. The tax should be based on laws passed by parliament.

5. *Administrative ease and Economical* means that the tax system is not too complicated or costly for either taxpayers or tax collectors. Rules are well known and fairly simple; forms are not too complicated; the state can tell if taxes are paid on time and correctly, and the state can conduct audits in a fair and efficient manner. The cost of collecting a tax should be very small in relation to the amount collected.

The administrative cost of collecting taxes should be kept as low as possible to both the collecting agent and the taxpayer. The general principle is that the cost of collection and administration of taxes to the collecting agent should not exceed 5% of the tax revenue. Likewise, the cost of compliance to the taxpayer should be as low as possible and must not be seen to hinder voluntary compliance.

6. *Ability to Pay* means that the tax should not take away so much of the income being taxed as to discourage the performance or participation in the tax base.

7. *Convenience*: Under normal circumstances, a taxpayer should not undergo undue difficulty to pay tax. Therefore, the place, medium, mode, manner and time of payment should not be an extra burden to the taxpayer.

Illustration 3

A person doing business in Tororo should not be inconvenienced to travel to Kampala to pay his/her taxes. An office should be created nearby to ease the process.

Classification of Taxes

Taxes are classified as either **direct** or **indirect**.

Direct Taxes are imposed on income arising from business, employment, property and the burden of the tax is borne by the individual or business entity. Examples of direct taxes include Corporation tax, Individual Income Tax, e.g. Pay As You Earn, capital gains tax and rental tax.

Indirect Taxes are taxes levied on consumption of goods and services collected by an Agent (Taxpayer). Notable indirect taxes include Value Added Taxes (VAT), excise duty, import duty.

Illustration 4

Shopkeeper B sells bread to K for Shs 2,000, on which VAT has been charged. The VAT on the bread is Shs 305 and is paid to the Government. Although K has paid the Shs 305 on bread that was priced at Shs 1,695, the tax is accounted to URA by B and K need not follow up the transaction with URA.

Role of Taxation

- (a) To finance Government re-current and development expenditure, i.e. paying salaries for civil servants and funding long term projects such as construction of schools, hospitals and roads.
- (b) It can be used to regulate demand and supply in the economy in times of inflation.
- (c) It encourages development of local industries with a view to providing employment and saving foreign exchange, by imposing high duties on competing imports. It encourages export of goods and services by reducing or removing tax on the export in order to make them more competitive in the world market.

(d) It protects society from undesirable or harmful products and industries by imposing high taxes on them, for instance excise duty on cigarettes and beer as well as environmental levy on used vehicles.

(e) To achieve greater equality in the distribution of wealth and income, the government may impose a progressive tax on the incomes and wealth of the rich. The revenue raised is then used to provide social services for the benefit of the society.

Raise revenue

Tax systems exist primarily to raise revenue to fund government operations. Lack of sufficient revenue often results in large budget deficits. Except when short-term fiscal stimulus may be considered appropriate for macroeconomic reasons, deficits generally have undesirable macroeconomic consequences such as crowding out private investment and increasing inflation. Preventing deficits requires good control over both the expenditure and revenue sides of government. The legislated budget must be structured each year to operate strictly within estimates of likely revenue receipts

Tax reforms should as a rule be undertaken to achieve long-term rather than short-term objectives. Tax systems should not normally be altered on a temporary basis to meet anticipated current year shortfalls. Frequent tax changes increase enforcement and compliance costs and may increase efficiency costs, especially where businesses make production and location decisions on the basis of a particular tax structure.

Unless tax revenues grow sufficiently quickly to finance desired services over the long term, governments must reduce expenditures, raise tax rates, or alter other structural characteristics of the system. Thus, a good tax system must generate sufficient revenue to fund projected government expenditures. Although countries differ in the projected rate of revenue growth primarily due to differences in projected demand for public services, usually revenue growth rate should be roughly equal to the overall economic growth rate, unless the country wants to increase (or reduce) the size of its government.

The rate at which revenues increase over time differs depending on the tax structure, the quality of tax administration, and the pace and nature of economic growth. The “income elasticity” of a

tax system measures how fast revenues grow relative to the economy. Tax elasticity is defined as the percentage change in tax revenues divided by the percentage change in GDP (or potential tax base, such as personal income). Elasticity equal to one, for example, means that tax revenues will remain a constant share of GDP. Elasticity greater than one indicates that tax revenues grow more rapidly than income. In principle, revenues should grow at the same rate as desired expenditures (that is, the income-elasticity for revenues and expenditures should be the same). In practice, however, many developing and transitional countries have had great difficulty in achieving this target. This leads to frequent tax “reforms” aimed primarily at closing short-term revenue gaps. Tax policies enacted in such economically and politically difficult circumstances often fail to resolve the underlying basic problem of inadequate revenue elasticity.

The overall elasticity of any tax system is simply the average of the elasticity of individual taxes, weighted by the percentage of total taxes raised by the tax. The elasticity of a tax depends on the specific characteristics of its structure. The elasticity of personal income taxes generally reflects the progressivity of their rate structure and, most importantly, the level of the personal exemptions (or zero bracket) relative to average income levels. Consumption taxes are more elastic if they cover more rapidly growing goods and services rather than just more slowly growing traditional goods and if they are levied as a percentage of the price (like a VAT) rather than on the specific number of units purchased (as with many excises). Property tax revenue increases more rapidly when reappraisals occur on a regular basis and when property is fully valued.

Revenue growth generally slows during recessions and accelerates during expansions. Revenue elasticity also tends to rise in expansions and fall in recessions, thus exacerbating the volatility of revenue flows. The elasticity of the corporate income tax is particularly volatile because in a recession corporate profits fall much more precipitously than overall economic growth. Countries that depend heavily on taxation of natural resources such as oil or minerals are especially vulnerable to cyclical swings, with wide swings in commodity prices changing the level of tax revenues. Generally, a country that relies on a balanced set of tax instruments rather than a single revenue source will have lower tax revenue volatility, just as an individual investor can reduce the volatility of her investment portfolio by adopting a diversified investment strategy.

Economic efficiency

Economists overemphasize the costs of taxation and the importance of efficient resource allocation. Taxes impose real economic costs, and all countries should seek to minimize such “deadweight losses,” which reduce the resources available to achieve socially desired objectives. Countries with scarce resources need to adopt tax policies to help ensure that those resources are used as efficiently as possible.

Taxes are simply a means of transferring resources from private to public use and are not themselves a cost in economic terms. Economic costs are incurred only when the amount of resources available for society’s use, whether for public or private purposes, is reduced by taxes. There are several ways taxes can reduce the amount of economic resources.

The costs of taxation

First, taxes cost something to collect. Depending on the types of tax, the actual cost of collecting taxes in developed countries is roughly 1 percent of tax revenues. In developing countries, the costs of tax collection may be substantially higher.

Another economic cost is the “compliance costs” that taxpayers incur in meeting their tax obligations, over and above the actual payment of tax. Tax administration and tax compliance interact in many ways. Administration costs are reduced when compliance costs are increased, e.g., when taxpayers are required to provide more information thus increasing compliance costs, but making tax administration easier and less costly. A tradeoff between administration and compliance costs does not always exist, however. Both compliance costs and administration costs may increase when, for instance, a more sophisticated tax administration requires more information from taxpayers, undertakes more audits, and so forth.

Third parties also incur compliance costs. For example, employers may withhold income taxes from employees, and banks may provide taxing authorities information or may collect and remit taxes to government. Compliance costs include the financial and time costs of complying with the tax law, such as acquiring the knowledge and information needed to do so, setting up required accounting systems, obtaining and transmitting the required data, and payments to professional advisors. Compliance costs are generally quite regressively distributed, and are typically much higher with respect to taxes collected from smaller firms.

Finally, taxes may give rise to what economists call “deadweight” or “distortion” costs. Almost every tax may alter decisions made by businesses and individuals as the relative prices they confront are changed. The resulting changes in behavior likely reduce the efficiency with which resources are used and hence lower the output and potential well being of the country. No matter how well the government uses the resources acquired through taxation, governments need to limit the negative consequences of tax-induced changes in behavior.

Taxes on wages (personal income taxes, wage taxes, social security taxes, and so forth) reduce incentives to work. For example, the higher the tax rate on wages in the formal sector, the less attractive working in the formal sector becomes relative to working in the untaxed informal sector. Consumption taxes also discourage work. Taxes on spending increase the amount of time one must work to pay for goods and services through the marketplace. As taxes are not imposed on leisure, at the margin, taxes likely discourage (taxed) work.

Taxes not only alter relative prices (in this case, the net (after-tax) wage), but also income. As taxes reduce individuals’ after-tax wages, they may choose to work more to compensate for lost income. The net effect on work of any tax change reflects both this income effect and the effect of the change in relative prices (the substitution effect). The substitution effect (the change in relative prices) will cause individuals to change their work decisions and, if those decisions had been economically efficient before the tax, to reduce the potential output of the nation.

Almost all taxes affect resource decisions. Consumption taxes, such as the value-added tax, may discourage the consumption of taxed as opposed to untaxed goods (e.g. housing in some countries). Taxes on gasoline, alcohol, and cigarettes can reduce the consumption of these items. Income taxes, because they tax the return to savings, may alter the amount of savings or the form in which savings are held.

Taxes may also affect investment, and such effects may be especially important when economies are more open to trade and investment. Foreign investors may choose to locate their activities in a particular country for many reasons, such as the relative costs of production, access to markets, and sound infrastructure. Taxes may also influence their choice of location. To the extent taxes

lower the after-tax return on investments in a country or a region, the level of investment and hence growth may be lower than it would otherwise be. Corporate income taxes may also influence the composition of a firm's capital structure (use of debt or equity financing) or dividend policy. For example, retained earnings are encouraged when dividends are subject to tax at the shareholder level and debt is preferred over equity where interest on debt capital is deductible and dividends paid from equity capital are not.

Good tax policy requires minimizing unnecessary costs of taxation. To minimize costs, experience suggests three general rules: First, tax bases should be as broad as possible. A broad-based consumption tax, for example, will still discourage work effort, but such a tax will minimize distortions in the consumption of goods if all or most goods and services are subject to tax. A few items, such as gasoline, tobacco products and alcohol, may be taxed at a relatively higher rate, either because of regulatory reasons or because the demand for these products is relatively unresponsive to taxation. The tax base for income tax should also be as broad as possible, treating all incomes, no matter from what source, as uniformly as possible.

Second, tax rates should be set as low as possible, given revenue needs to finance government operations. The reason is simply because the efficiency cost of taxes arises from their effect on relative prices, and the size of this effect is directly related to the tax rate. The distortionary effect of taxes generally increases proportionally to the square of the tax rate, so that doubling the rate of a tax implies a fourfold increase in its efficiency costs. From an efficiency perspective, it is better to raise revenue by imposing a single rate on a broad base rather than dividing that base into segments and imposing differential rates on each segment. In practice, the cost of differential treatment must be balanced against the equity argument for imposing graduated rate schedules.

Third, from an efficiency perspective, it is especially important that careful attention be given to taxes on production. Taxes on production affect the location of businesses, alter the ways in which production takes place, change the forms in which business is conducted, and so forth. Developing and transitional countries generally need to impose taxes on production for several reasons. First, countries with limited administrative capacity find it easier and less expensive to collect excise and sales taxes at the point of manufacture. Second, to the extent that taxes represent the costs of public services provided to businesses, the businesses should bear the

cost, via taxation, for those services. Finally, countries need to tax corporate income to prevent tax avoidance by individuals who would avoid shareholder level taxes by retaining earnings within a corporation and to collect taxes from foreign-owned firms.

Fairness concerns

Fairness or equity is a key issue in designing a tax regime. From one perspective, taxes exist primarily to secure equity. National governments do not need taxes to secure funds because they can simply print the money required to fund operations. The tax system can be viewed as a mechanism to take money away from the private sector in as efficient, equitable, and administratively inexpensive way as possible.

What is fair?

What is considered equitable or fair by one person may differ from the conceptions held by others. Tax scholars have defined fairness in terms of horizontal and vertical equity. Horizontal equity requires those in similar circumstances to pay the same amount of taxes. For apportioning tax liability, horizontal equity often embraces some notion of ability or capacity to pay. Vertical equity requires “appropriate” differences among taxpayers in different economic circumstances.

On the surface, both concepts have great intuitive appeal. Those who have the same ability to pay should bear the same tax liability. Similarly, it makes good sense for there to be appropriate differences for taxpayers in different situations. Unfortunately, both concepts may have limited usefulness in tax policy debates.

Questions may also be raised about the relative fairness of consumption taxes versus income taxes. Consumption tax proponents question whether any income tax system can be fair. There are several, somewhat related, strands to their positions. One approach takes a societal view. Income is what individuals contribute to society; consumption is what they take away from the pot. Therefore, if we want a society that will continue to grow and prosper, we are better off taxing consumption rather than income. A second approach considers consumption as a better measure of a household’s ability to pay. Because of the greater variations in income over a person’s or household’s lifetime, it may be better to use consumption as the base for taxation rather than income. Finally, income taxes impose higher taxes on households with higher savings. As such, the income tax system penalizes savers over those who consume currently.

Proponents of income tax claim that a person's net increase in economic wealth is a better measurement of ability to pay than the use of their income. That is, an income tax proponent would say the person who earns \$1 million and spends \$10 has a greater ability to pay than the person who earns \$10 and spends \$10. Under a consumption tax, both would bear the same tax burden while under an income tax, the first person would bear a much greater tax burden. Some consumption tax advocates concede the consumption tax alone would not be appropriate if it failed to tax a person's savings as well as consumption. It is argued, however, that the income tax is not an appropriate tool to tax savings. One alternative would be to use a consumption tax to tax spending and a wealth tax to tax savings.

Taxes affect equity in many and complex ways. They may treat people who are in essentially the same economic position differently (horizontal equity). Taxes may fall more heavily on those who consume alcohol than on those who consume housing, or on those who get their income in the form of wages rather than from farms or dividends. Taxes may also differ in their effects on income distribution (vertical equity). They may tax the rich relatively more (progressivity) or less (regressivity) than the poor.

Such arguments do not mean that corporate and personal income taxes do not serve an important role in developing and transitional countries. Such taxes are often the largest tax source for high-income countries, and the same may become true in other countries as their economies develop, more businesses and individuals become part of the formal economy, and information and tax administration improves. Currently, however, particularly in the least developed countries, revenue systems rely heavily on consumption taxes and are likely to continue to do so for some years to come.

Taxes may not make the poor richer, but they can certainly make them poorer. Fiscal attempts at poverty alleviation in developing countries must therefore be undertaken primarily on the expenditure side of the budget. Nonetheless, the poor should not be made even poorer through taxes. It may therefore be desirable to exempt certain "basic needs" items from even the broadest-based consumption tax. Certainly, heavy taxes on items that constitute major consumption expenditures for poor people should generally be avoided.

Tax incidence

To determine the fairness of a tax regime, one must consider the economic incidence of taxation. It is important to distinguish between those who have the liability to pay a particular tax and those who suffer the economic incidence or burden of the tax. Tax burdens fall on individuals in their roles as consumers, producers and factor suppliers, not on corporations or other institutions. For example, although the VAT law may require firms to pay VAT to the government, it is likely that the real economic incidence of the VAT falls on the ultimate consumer. Similarly, although motor fuel taxes are almost always collected high in the distribution chain (for example, at import or from major distributors), the cost of the tax is likely borne by consumers. In other instances, it is unclear who actually bears the economic costs of taxation. For example, the economic incidence of property taxes may be borne either by the owners of land and capital (who also bear the legal incidence) or by the users or renters of the property, depending upon market conditions.

Determining tax incidence requires a good understanding of how various markets operate in an economy, particularly the ability of different types of taxpayers to shift the cost of the tax to other economic actors. **Who actually bears taxes depends on the relative supply and demand elasticities of consumers and suppliers and other factors.**

For example, it is still not clear who bears the cost of the corporate income tax. As corporations are just legal constructs, the tax cost must fall on individuals. As a result of the corporate tax, shareholders (or all owners of capital) could receive lower returns, consumers could pay higher prices, or workers could receive lower wages, or some combination thereof. In addition, the tax consequences in the short-run could differ from long-run consequences. The incidence of a corporate income tax thus depends on such factors as the openness of the overall economy in terms of the inflows and outflows of capital investment, as well as on the extent to which capital moves between the corporate and unincorporated sectors, the relative capital-intensity of corporations, and the elasticity of demand for goods produced by corporations and other businesses. These factors are not easy to measure.

Consider also the payroll tax. Again, the incidence depends on the elasticities of supply and demand. Because the supply of labor is relatively inelastic, most or the entire tax burden falls on workers. In some instances, the imposition of a payroll tax may have additional effects. The change in the after-tax wage will have both income and substitution effects on workers. It is possible that the labor supply could curve backwards such that the wage rate could fall by more than the amount of the tax. In this case, because of the additional supply response, the employers could actually benefit from the imposition of a tax on labor.

In all countries, the tax system can effectively be split into two parts. One part of the tax system has relatively high tax compliance rates. A substantial portion of labor income may be subject to final or provisional withholding, many forms of income from capital may be subject to withholding or information reporting requirements, and many, but not all, medium and large corporations are subject to public reporting requirements and keep relatively accurate books and records. Taxpayers operate in the “formal” economy and the difference between estimated tax liability and actual tax payments is relatively small.

In contrast, the second part of the tax system has relatively low compliance rates. This part of the economy is comprised of many small enterprises operating, at least in part, in the “informal” economy. Here, tax evasion is quite high and efforts to bring this sector into compliance are difficult and expensive. The tax administration lacks the information and resources to tax effectively a large informal sector of the economy.

Tax administration

The best tax policy in the world is worth little if it cannot be implemented effectively. Tax policy design must take into account the administrative dimension of taxation. What *can* be done may to a considerable extent determine what is done in any country.

Tax design in developing countries is strongly influenced by economic structure. Many developing countries have a large agricultural sector that is not easily taxed. Many transitional and developing countries have a significant informal (shadow) economy that also is largely outside the formal tax structure. The potentially reachable tax base thus constitutes a smaller portion of total economic activity than in developed countries. The size of the untaxed economy is in part a function of tax policy. Lower tax revenues often lead governments to raise tax rates,

further exacerbating incentives to evade taxes. Improving tax administration is thus central to the choice of tax structures and to improving taxation in developing and transitional countries.

The resources used in administering and complying with taxes (or, for that matter, evading them) are real economic costs, in terms of the ability of the economy to provide goods and services. Good tax policy requires keeping such costs as low as possible while also achieving revenue, growth, and distributional goals as effectively as possible. This is no small task. Three ingredients seem essential to effective tax administration: the political will to administer the tax system effectively, a clear strategy for achieving this goal and adequate resources for the task. It helps, of course, if the tax system is well designed, appropriate for the country in question, and relatively simple, but even the best designed tax system will not be properly implemented unless these three conditions are fulfilled. Most attention is often paid to the resource problem -- the need to have sufficient trained officials, adequate information technology and so on. However, without a sound implementation strategy, even adequate resources will not ensure success. And without sufficient political support, even the best strategy cannot be effectively implemented.

Unfortunately, few countries at any income level have senior government officials who are eager to incur the economic and political costs of major tax policy and tax administrative reforms. Often, international agencies require such tax reforms as a condition for loans. Countries, desperate for revenues, launch frantic efforts to raise revenue without hurting politically powerful interests or without providing the time, resources and consistent long-term political support needed for effective tax administration. This reluctance to collect taxes efficiently and effectively without fear or favor is understandable in those countries with a fragile political foundation. But no magic way exists to obtain a viable long-term tax system without major changes in tax administration and often in tax policy also.

If the political will exists, the blueprint for effective tax administration is relatively straightforward. The tax administration must be given an appropriate institutional form, which may mean a separate revenue authority. It must be adequately staffed with skilled and trained officials. It should be properly organized, which generally means an organizational structure based on a function rather than on a tax-by-tax basis. Computerization and appropriate use of

modern information technology is important, but technology alone is not sufficient and these improvements must be carefully integrated into the tax administration.

Effective tax administration requires qualified tax officials. Tax authorities must provide for training and retraining staff as needed. The tax authorities need to collect the information needed for effective administration from taxpayers, relevant third parties, and other government agencies. The information must be stored in an accessible and useful fashion; and, most importantly, it must then be used to ensure that those who should be on the tax rolls, are, that those who should file returns, do, that those who should pay on time, do, and that those who do not comply are identified, prosecuted and punished as appropriate. All this is easy to say and hard to do -- but it is not an impossible task. Countries such as Singapore are models of what can and should be done, and such models should be studied closely and, once adapted as necessary, implemented.

The first task of any tax administration is to facilitate compliance. This requires making sure that those who should be in the system are in the system and that they comply with the rules.

First, taxpayers must be found. If taxpayers are required to register, the registration process should be as easy as possible. Systems must be in place to identify those who do not register voluntarily. Tax authorities should adopt an appropriate unique taxpayer identification system to facilitate compliance and enforcement.

Second, tax authorities need a process for determining tax liabilities. This may be done administratively (as with most property taxes) or by some self-assessment procedure (as with most income taxes and VATs).

Third, the taxes due must be collected. In many countries, this is best done through the banking system. It is seldom appropriate for tax administration officials to handle money directly.

Finally, tax authorities should provide adequate taxpayer service in the form of information, pamphlets, forms, advice agencies, payment facilities, telephone and electronic filing, and so on, to make taxpayer compliance with the system as easy as possible.

This approach rests on treating the **taxpayer as a client** (albeit not a willing one) to be served and **not a thief to be caught**. Unfortunately, the latter attitude seems to prevail in many developing countries.

Of course, some taxpayers are not honest, so the second important task of any tax administration is to reduce tax evasion. Tax authorities require estimates of the extent and nature of the potential tax base, for example, by estimating what is sometimes called the “tax gap.” Some estimate of the number and type of individuals and firms not registered with tax authorities is needed to devise strategies to bring them into the tax system. In some countries the major tax problem may be that many taxpayers who are in the system are substantially under-reporting their tax base. Without some knowledge of the unreported base, and its determinants, no administration can properly allocate its resources to improve tax collection and to ensure all parts of society bear their fair share of the tax burden.

In addition to exploring the nature of the tax gap and undertaking the often difficult tasks involved in extending the reach of the tax system into the informal economy to the extent feasible, close attention must also be paid to the simple task of ensuring that those who are in the system file on time and pay the amounts due. Immediate follow-up of non-filers and those whose payments do not match their liabilities is a too often neglected aspect of good tax administration. Adequate interest charges must be imposed on late payments to ensure that non-payment of taxes does not become a cheap source of finance. Similarly, an adequate penalty structure is needed to ensure that those who should register do so, that those who should file do so, and that those who under-report their tax bases are sufficiently penalized to increase the costs of evading tax.

Enforcing a tax system is neither an easy nor a static task in any country. It is especially difficult in the changing conditions of developing countries. Unless this task is tackled with seriousness and consistency, however, even the best designed tax system will fail to produce good results.

A third major task is keeping the tax administration honest. No government can expect taxpayers to comply willingly if taxpayers believe the tax structure is unfair or that the revenue collected is not effectively used. But even a sound tax structure and sound expenditure policy can be vitiated by a capricious and corrupt tax administration. Developed countries took centuries to

develop and implement sound tax administration practices aimed at preventing dishonest tax officials from succumbing to obvious temptations (and even then, not without regular embarrassing lapses). Unfortunately, most developing countries are trying to maintain large government operations on a precarious fiscal foundation without substantial time to solve the corruption problem.

Tax officials must be **adequately compensated, so that they do not need to steal to live**. They should be professionally trained, promoted on the basis of merit, and judged by their adherence to the strictest standards of legality and morality. Tax officials should have relatively little direct contact with taxpayers and even less discretion in deciding how to treat them.

Even if policies are good, the way in which they are administered can yield very different outcomes than those intended. Administration that is seen as unfair and capricious may bring the tax system as a whole into disrepute. The initial failure of transitional countries to develop their tax administrations when introducing new tax structures resulted in very uneven tax imposition, lower than anticipated revenue, and widespread tax evasion. Similarly, in some developing countries, corporate tax liabilities are often negotiated rather than calculated as set out in the law. Bribery is sometimes so common that it is considered a regular part of the compensation of tax officials. Such corruption undermines confidence in the tax system, negatively affects willingness to pay taxes, and reduces a country's capacity to finance government expenditures.

Finally, some have argued that improved tax administration alone can generate the revenues required to balance the budget or to finance tax policy changes that will narrow the tax base through concessions or lower tax rates. Although better tax administration will generally enhance tax collection, increased revenue may not be the only goal of improved administration, which is needed also to improve fairness, for example. Moreover, since improving administration takes time, any additional revenues may only accrue over a number of years. Cutting tax rates or granting additional concessions in the hope that improved administration will quickly make up any revenue losses is never a good idea.

Taxation and growth

Over the past 50 years, there have been many policy prescriptions for economic growth (Easterly 2002). Policy advisors have called in turn for increased capital investment, improvements in

education, population control, reduction of government controls on market activities, and loan forgiveness programs as “silver bullets” that would result in improved economic performance in developing countries. Unfortunately, none of these cures worked as advertised.

Similarly, there is no magic tax strategy to encourage economic growth. Some countries with high tax burdens have high growth rates and some countries with low tax burdens have low growth rates. The point is that the relationship between taxes and growth is complex. Just looking at the nominal tax rates provides little information as to the real effective tax rates on different individuals and different activities, the level of government infrastructure and services that are “purchased” with those tax dollars, and other government policies that may help or hinder economic activity.

Tax incentives

Many countries have sought to improve their economy by introducing a variety of tax incentives for investment, for savings, for exports, for employment, for regional development, and so on (Shah, 1995). Often, such incentives are redundant and ineffective, giving up revenue and complicating the fiscal system without achieving their stated objectives. Even to the extent that incentives may be effective in inducing investors to behave differently than they would have done in response to market signals, the result is often distorting and inefficient, diverting scarce resources into less than optimal uses. Essentially, **tax incentives improve economic performance only if government officials are better able to decide the best types and means of production than are private investors.** Tax incentives also result in very uneven tax burdens, with domestic companies often subject to full taxation (at least in theory), while other firms, often foreign investors, benefit from tax incentives that reduce their effective tax rates.

Despite such strictures, many developing and transitional countries continue to introduce and extend a variety of special tax incentives, partly in competition with one another for increased foreign direct investment. Experience suggests, however, that non-tax factors, such as a sound macroeconomic policy, good infrastructure and a stable governance system are more important factors in locational decision than tax benefits. Although a limited role for certain simple incentives may exist as part of a growth-oriented fiscal policy, as some East Asian experience suggests, tax incentives cannot compensate for the absence of such critical factors. Should a country decide to introduce a few limited incentives, these tax incentives should be well-

designed, properly implemented, and periodically evaluated if they are to do more good than harm.

It is important to understand how particular tax instruments work in particular environments. Some taxes that appear to be anti-growth and pro-redistribution (such as personal income taxes with highly progressive nominal rate structures) may, at times, have neither of these characteristics, while other taxes, such as the VAT, may seem regressive compared to other tax alternatives, but actually may be mildly progressive (at least between lower and middle income groups). However, one cannot judge the effects of a tax by its name, but only by close examination of the details of its design, implementation and economic consequences.

A “pro-growth” (and nothing else!) tax system

Consider a country that was concerned *only* with economic growth and therefore wishes to design a “pro-growth” tax system. What might such a system look like? Several characteristics come to mind.

First, there would be little or no taxation of profits, to avoid discouraging entrepreneurship and risk-taking. Taxing profits reduces the return from entrepreneurship and risk-taking. Consequently, under a pro-growth tax system, no good case exists for taxing normal profits. Most countries, however, do tax profits, and properly so – for example, to prevent people from placing assets in a corporation to avoid personal income taxes and to obtain a share for the host country of profits earned by foreign investors. Nonetheless, high taxes on profits are unlikely to form part of a growth-oriented tax strategy. Instead, at most a reasonably low and stable broad-based profits tax seems called for.

A purely growth-oriented tax strategy would also likely tax consumption more than income. The difference between consumption and income is saving, and from a strict growth perspective, more saving is better than less. So if domestic savings are essential to financing domestic investment, there is a “growth” argument for taxing income from savings more lightly.

Even in the most growth-oriented tax system, however, taxes should be kept as low as possible on the poorest people simply because they must consume to be productive. Just as some so-

called “investment” (for example, in luxury homes or elaborate office buildings) may not be conducive to productivity, so some “consumption” is productive. If people lack food to eat or lack basic clothing and shelter, or if they are not healthy and sufficiently educated to engage in meaningful work, they are unlikely to be economically productive. Equity (in the sense of not taxing the poor) and growth (in the sense of enhancing the productivity of the labor force) are thus quite compatible objectives. A “good” VAT in such a system, for example, might exempt certain specific items that constituted a significant fraction of the consumption of poor people.

Finally, a growth-oriented tax system in developing countries may seek to increase the cost of operating in the non-monetized traditional sector (through tax or other measures) to encourage movement into the monetary (modern) sector. Imposing higher taxes on traditional agriculture may be difficult politically and administratively, and it may not necessarily be equitable, but it is likely conducive to growth by shifting resources away from the traditional agriculture sector. Taxation of the modern sector through levies such as VAT and income taxes thus often needs to be supplemented by taxes on agricultural land and (especially with respect to the “informal” or “shadow” sector of the economy) presumptive taxes.

In short, a purely growth-oriented tax system would seem to be one that has a relatively low and stable tax on profits and some taxation of the traditional agricultural and informal sectors, but with major fiscal reliance being placed on a broad-based consumption tax that makes some allowance for exemptions of necessary consumption.

Taxation and Decentralization

Reforming tax structures is generally difficult in any country. Reforming tax administrations is often even more difficult, and certainly takes longer. Even countries that succeed in reforming tax structures and administrations may still fail to reap the expected benefits unless they pay close attention to the often troubling problems arising from the finance of state and local governments. Such problems are by no means restricted to the relatively few (though important) federal countries such as Brazil, India, and Nigeria. Rather, they are arising with increasing frequency around the world in countries as diverse as China, Colombia, and Uganda.

Decentralization is occurring in many countries around the world, with the expected benefits varying to some extent. Some countries anticipate that better service delivery will result because

the diverse demands and needs of the population can be served more effectively by local officials who have better information on what people want. Local officials often can be held more accountable than national officials, and particularly by the local population who have better access to the mayor than to members of parliament. This allows improved local voice in deciding the level and quality of services and in demanding improvements where they are needed.

Decentralization may be seen as a means of accommodating the varying interests of different ethnic groups by reducing the potential number of points of friction. This has the potential to allow nation building. There may also be diseconomies of delivering some services at the national or even regional level, which means that local service delivery can be less expensive. The capacity to generate sufficient revenues is often a disadvantage of decentralization. The difficulties of taxing economic activity that can flee or be easily hidden is one of the reasons for problems in collecting tax revenues at the local level. While there are (as usual) considerable variations from country to country, in many developing and transitional countries, it is becoming increasingly important to ensure that local and regional governments, like national governments, have an adequate resource base. Unfortunately, this again is an area in which practice falls far short of what is needed, particularly when countries are really attempting to devolve significant public sector responsibilities to sub-national levels of government.

There is no single definition of decentralization of tax revenues. The extent of decentralization can be summarized in terms of the degree of local (or regional) control over four factors: ownership of tax revenue, choice of tax base, choice of tax rate, and tax administration. Revenue ownership is required if tax revenues are to be seen as decentralized, but ownership is normally not sufficient to view taxes as decentralized. The revenues are best seen as a grant if local governments only have revenue ownership, since the rate, base and administration are at the national level. In this case local governments cannot control the amount of revenues raised or the means through which the revenues are raised.

Transfers from higher-level governments may in many instances be sensible both to close the gap between what reasonable tax rates can raise from a region's tax base and to further national interests in the provision of services with interjurisdictional spillovers. But grants should

normally provide only part of local revenue because governments are normally more accountable for revenues that they raise directly and because taxpayers are better able to link the receipt of public services and the payment of the taxes if both are housed within a single government.

From the perspective of economic and political accountability, the most essential element of fiscal decentralization is that local or regional governments are allowed to determine the rates of taxes for which they are politically responsible, and that these taxes are sufficiently important in terms of the revenues generated to ensure that the setting of rates can affect expenditures in some noticeable ways. Control over the tax rate gives local officials the ability to influence the level of services provided (which is necessary if governments are to be devolved) and makes them more accountable to local citizens who are better able to see the extent of revenues going to the local governments. Thus, it is important that some taxes, and hopefully representing a significant amount of revenue, be decentralized to every devolved local government. But, decentralization of taxes does not necessarily require that local governments must finance all their expenditures, and a large role for grants and intergovernmental transfers will exist in most developing and transition countries.

Local control over tax bases is inappropriate in many cases because administration and compliance costs can often be reduced if the same tax bases exist across the country. A constant base means that businesses operating across the country are not subjected to multiple tax structures. There are also lower administration costs if the taxes are administered at the national level. However, the political incentive exists for higher-level governments to give away the tax base of a lower government (for which the higher government gets no revenue), as has occurred in Bosnia and Herzegovina, because the higher government receives all of the political benefits from the tax incentives without confronting the lost revenues. The perverse incentives are a disadvantage of local officials not having control over their base.

Local control over the tax administration is often not necessary because in many instances national collection of local and regional taxes may be more efficient than establishing numerous small and likely inefficient local collection agencies. There can be economies of scale in a single administration. Companies operating across the country are better controlled by a national

administration. Also, a national tax administration allows for the ability to move revenue agents from time to time in order to limit the likelihood of fraud. Again, the potential problem is that national tax administrations may do a poor job of collecting local taxes. The national tax administration does not have the same incentives to collect local taxes and to respond to local officials as it does to the Parliament and the Prime Minister. The result can be that the administration puts very little effort into ensuring that local taxes are collected well. Good incentives for effective collection of local taxes must be established if the national administration is to collect local taxes. A regional tax administration may be able to collect some local taxes as well, given the same caveats.

While the design of a good sub-national tax system is even more country-specific than the design of a good tax administration, like the latter this task lends itself to some generalizations. First, at the local level, in almost all countries more use can and should be made both of user charges and especially of a simple property tax. User fees should be imposed wherever possible to finance services. They can normally be effectively imposed when the recipients of services are easily identifiable and receipt of the service can be separately identified for individuals or households. Obvious examples include utility services, which should be fully priced, and any subsidies desired for equity reasons made explicit as public expenditures. Services such as utilities should be considered for privatization as well.

Local property taxes should also provide a significant revenue source. Central or regional governments may play an important role in setting up a standard tax law and in undertaking the technical tasks of valuing property and training staff, but collection and enforcement of property taxes should likely be at the local level making this an example of a tax that is best administered at the local level. In all cases, the determination of the tax rate should definitely be at the local level, albeit within some specified range that could be established by either the national or regional government. Maximum rates are particularly important for non-residential property, to curb “tax exporting” and similar ways of breaking the essential connection between those who make the policy decision with respect to rates and those who benefit from the expenditure of the revenues collected. The property tax, like user fees, can often be a good benefit tax, but only if local incentives to impose taxes on some captive industries are limited. Minimum rates may also

be useful to limit the degree of tax competition that can arise between local or regional governments. Few developing or transitional countries currently give local governments sufficient discretion – or responsibility – with respect to property taxes.

Secondly, if regional governments are expected to play an important role in providing nationally critical services such as education and health, they will usually need access to some more important tax base such as a payroll tax or a personal income tax (which in practice in most countries is little more than a payroll tax). The most efficient way to impose such regional taxes is usually as a “surcharge” on existing national taxes, with the regional taxes being collected together with the national tax – but being clearly shown to taxpayers as separate – and remitted to the appropriate regional government.

What Do We Tax

- Income.
 - Wages.
 - Interest and dividends.
- Consumption.
 - Sales tax.
 - Excise tax.
- Wealth.
 - Property (Personal and real).
 - Capital gains.
 - Inheritance.

Tax base: The measure of value on which a tax is levied.

Examples:

- All income after deductions above X amount.
 - Federal income tax.
- The value of your home.

- County real estate tax.
- The value of your automobile.

Personal property tax.

Principles of Taxation

- The goal of economic efficiency.
- The benefits received principle.
- The ability to pay principle.
- The horizontal and vertical equity principles.
- The progressive and regressive tax concepts.
- The goal of attaining social objectives.

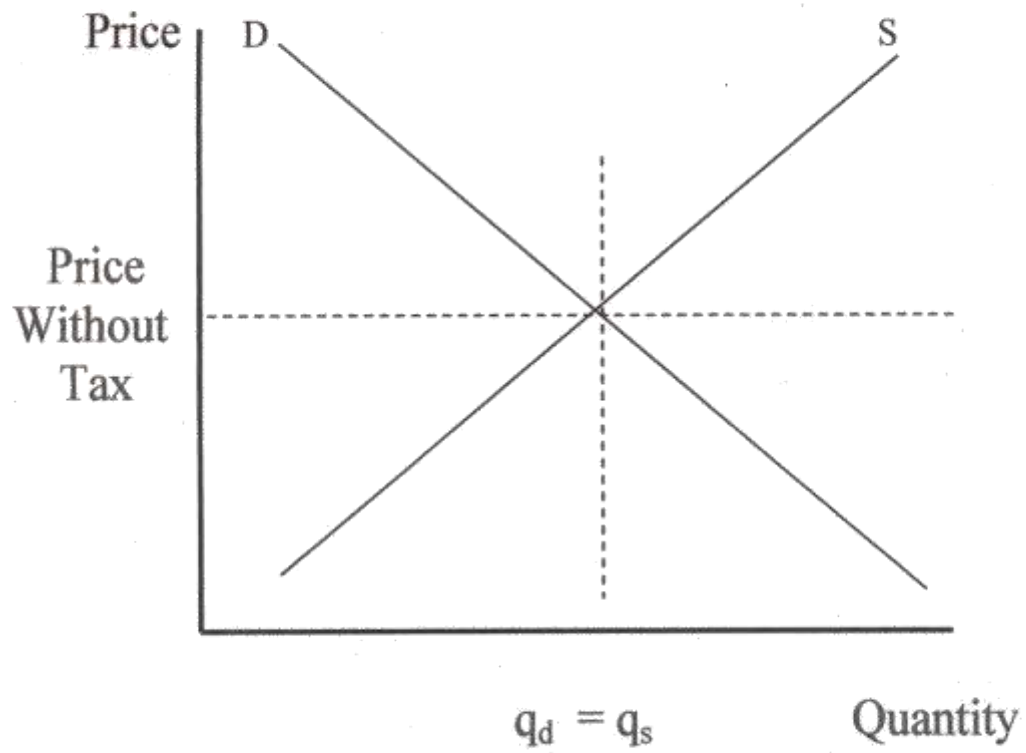
Taxes and Economic Efficiency

A tax is efficient if it imposes a small excess burden relative to the tax revenue it raises.

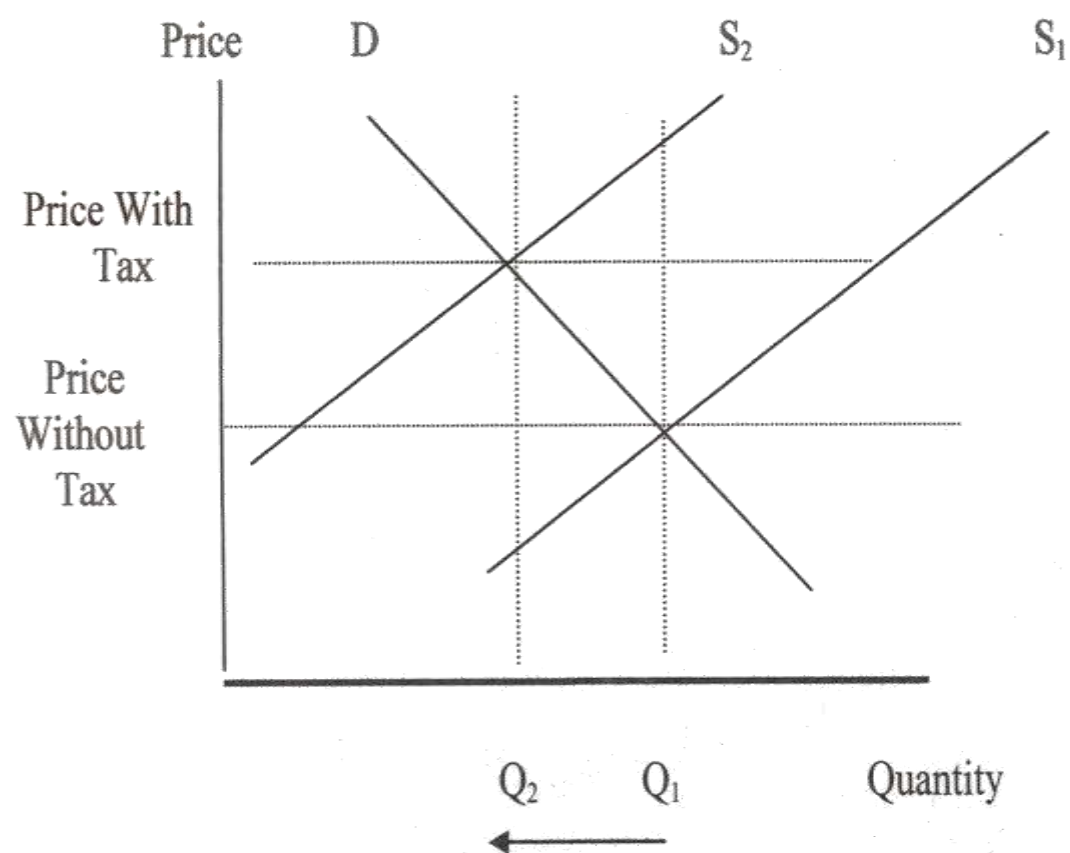
- Excess burden is the efficiency loss to the economy that results from a tax causing a reduction in the quantity of a good produced.
 - Do high taxes discourage the start of new businesses?
 - Do high taxes encourage people to leave the formal labor force?
 - Do high taxes alter incentives to work, save, or invest?
- A tax that is neutral with respect to economic decisions is preferable to one that distorts economic decisions.

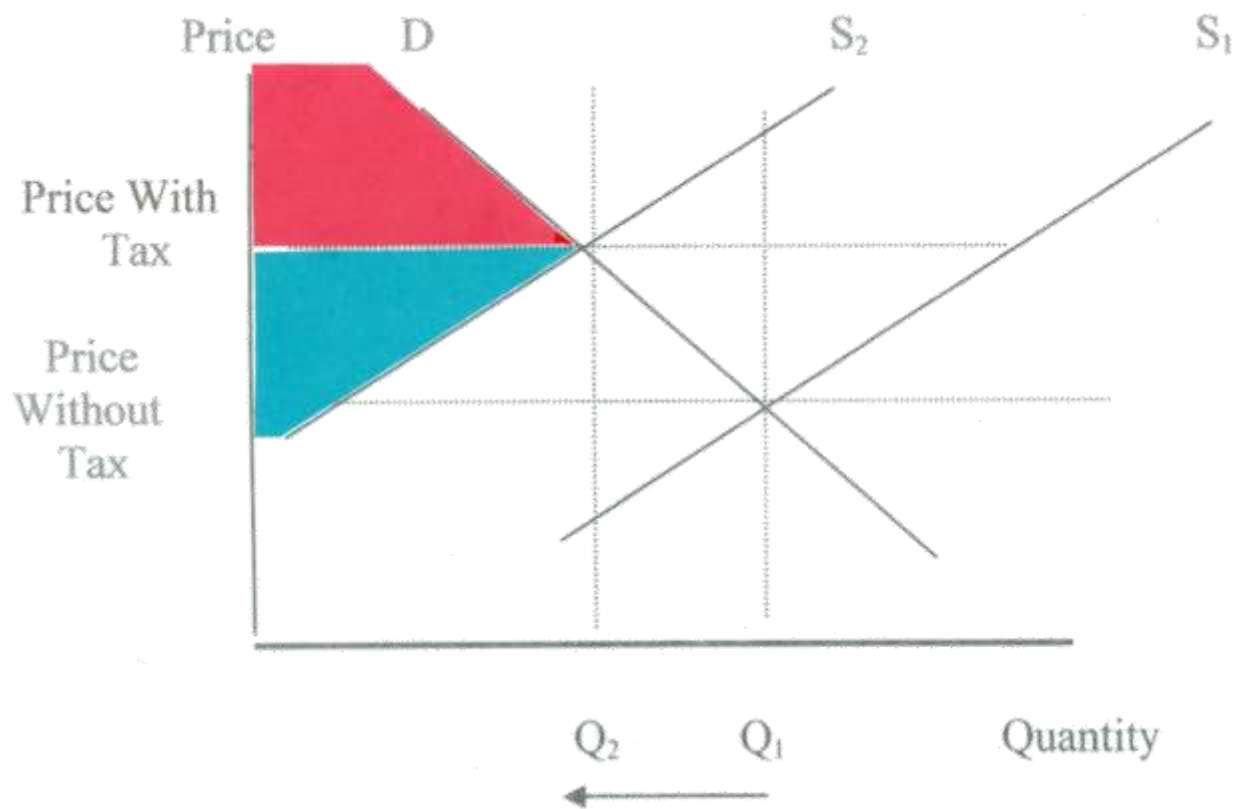
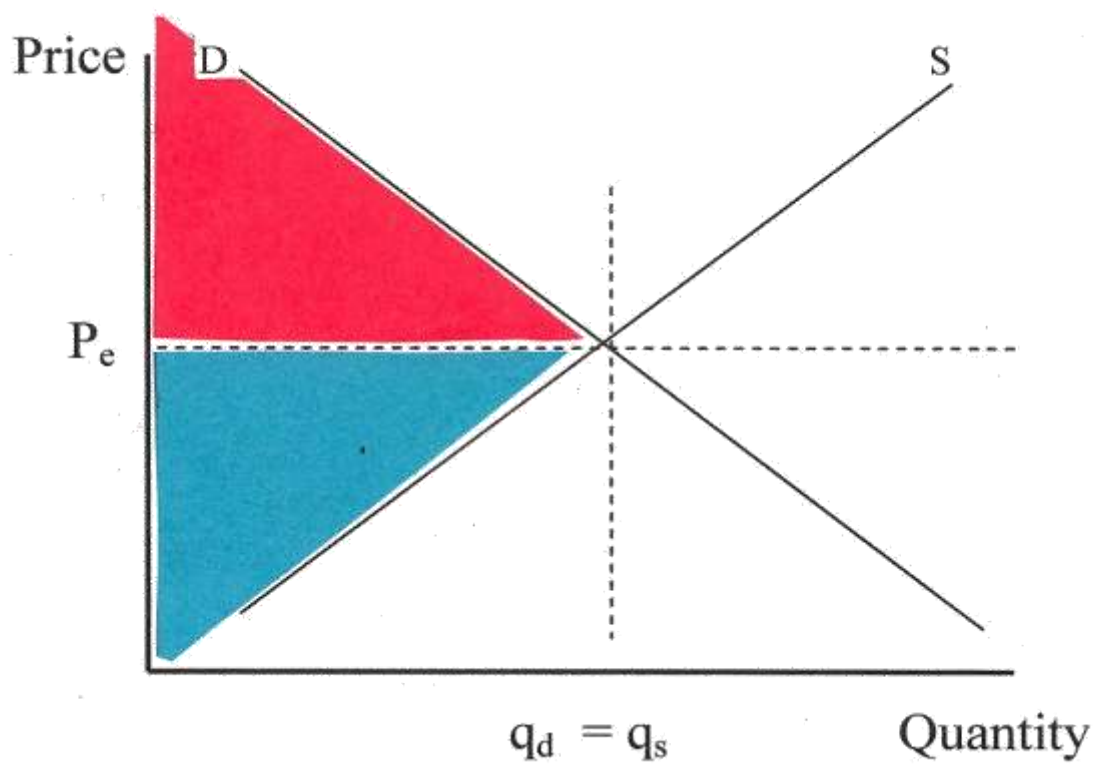
Tax Efficiency & Tax Burden

We begin with a common supply and demand diagram

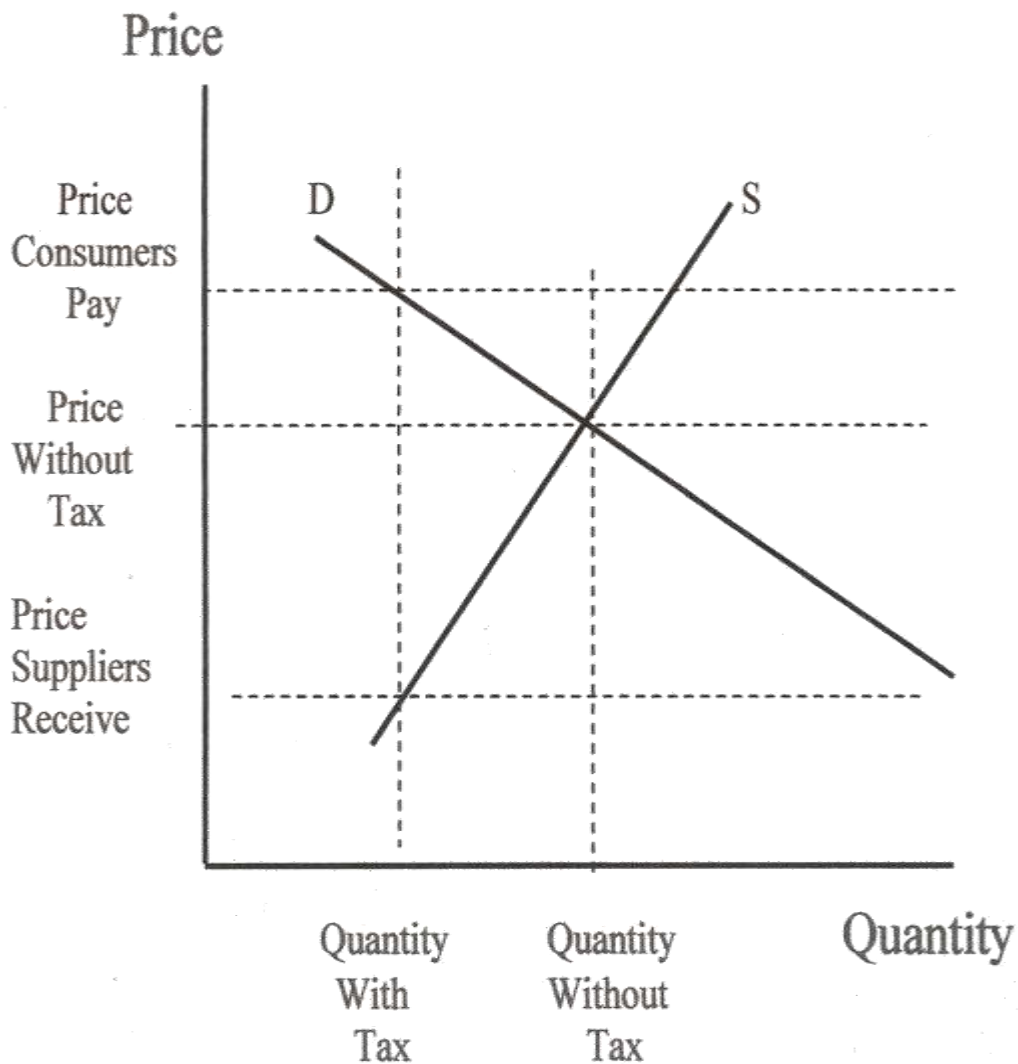


When we include the tax on the item the supply curve shifts to the left and the price increases.





With the new higher price and the lower quantity demanded, we see that producers are producing less and receiving a lower price. Therefore, high taxes lead to lower production.



Benefits Received Principle

A theory of fairness holding that taxpayers should contribute to government (in the form of taxes) in proportion to the benefits that they receive from public expenditures.

Examples;

- Toll roads and bridges.
- Federal highway trust fund.

- Landing fees at an airport.

The tax side and the expenditure side are connected.

Problem: How does society pay for public goods?

Ability to Pay Principle

A theory of taxation that holds that citizens should bear tax burdens in line with their ability to pay.

The tax side and the expenditure side are viewed separately.

- Regressive tax:
 - A tax whose burden, expressed as a percentage of income, falls as income increases.
 - Example: A retail sales tax.
- Progressive tax
 - A tax whose burdens, expressed as a percentage of income, increases as income increases.
 - Example: Individual income tax.
- Proportional tax :
 - A tax whose burden is the same proportion of income for all households.
 - Example: A flat tax.

Horizontal equity:

- The principle of horizontal equity holds that those with equal ability to pay should bear equal tax burden.

Vertical equity:

- The principle of vertical equity holds that those with greater ability to pay should pay more.

Social Goals and Taxation

There are citizens who believe that one of the legitimate purposes of a tax system is to promote social goals.

- Redistribution of income.
 - John Maynard Keynes.
 - Franco Modigliani.
- Promote economic growth.
 - Deduction of mortgage interest on income taxes.
 - Deductions for number of children on income taxes.
- Sin taxes.
 - Liquor taxes.
 - Tobacco taxes

Features of an Income Tax

- A tax on income.
- A tax on flow.
- Generally considered progressive.
- Contains both horizontal and vertical equity.
- An ability to pay tax.
- Generally considered to be anti-growth since tax payers are taxed twice.

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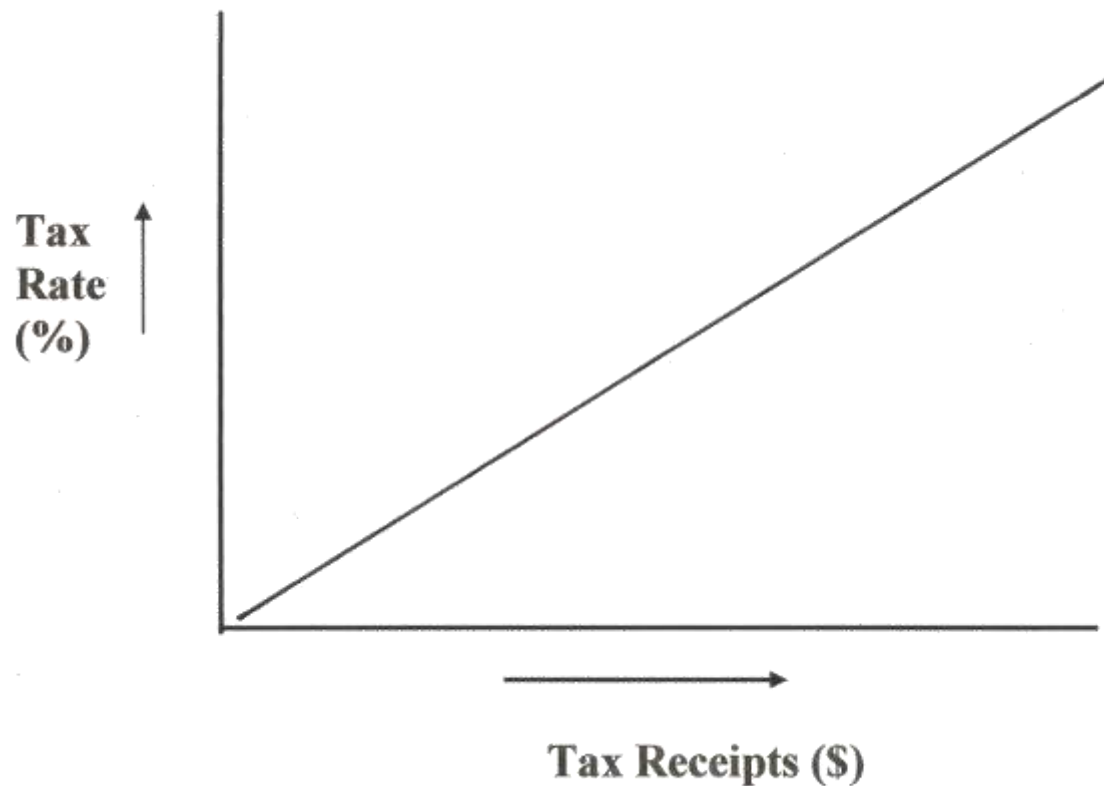
Features of Real Estate Taxes

- A tax on stock.
- A tax on wealth.
- There is vertical equity:
 - Those who have the most pay the most.

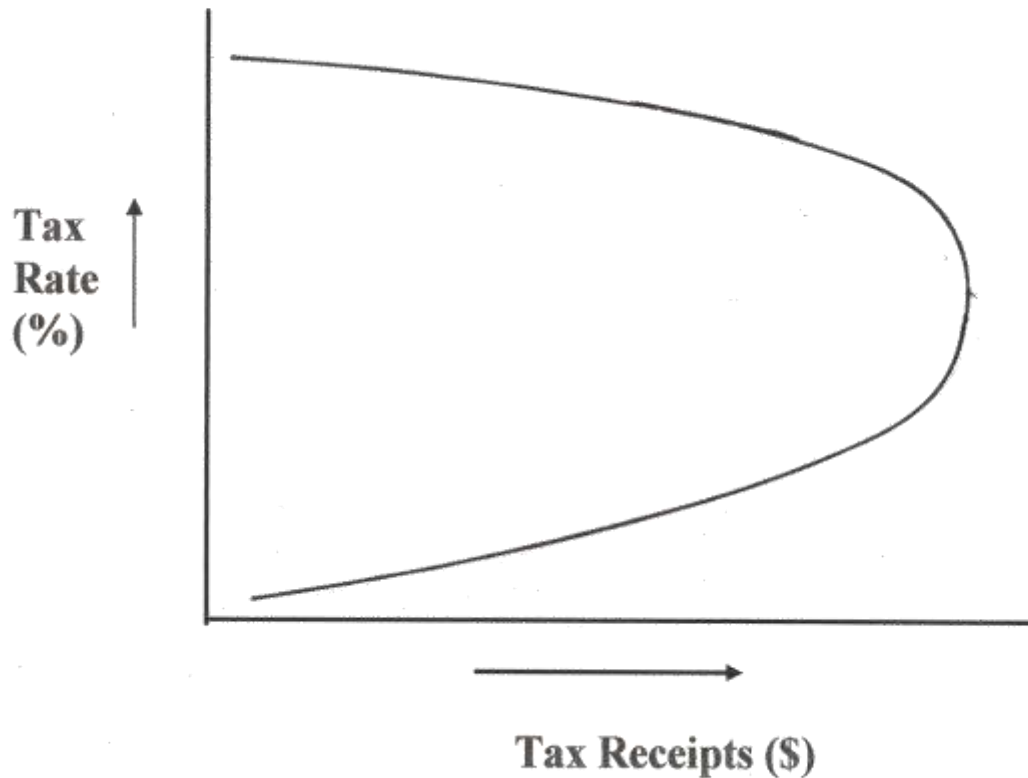
- There is no horizontal equity:
 - The tax is not uniform city to city.
- It is an ability-to-pay tax.
- Is it regressive?
 - Lower income households pay a larger percentage of their income.

However, studies show that upper income people pay a higher percentage of their income on housing that do lower income people.

Keynesian Rate/Receipts Curve



Laffer Rate/Receipts Curve



Supply Side Tenets of Taxation

- Beyond some point, high marginal tax rates on personal income can reduce people's willingness to work.
- High marginal tax rates discourage people from investing in education and improving their work related skills.
- High marginal tax rates encourage people to work in the underground economy.

When Do Tax Cuts Matter?

The concept of marginal utility:

As a general rule, people maximize their own utility:

- They make choices that maximize their satisfaction.
- They look at the marginal cost and marginal benefit.

- They consider what is happening today as well as what they believe will happen in the future.

Therefore:

- Temporary tax cuts have temporary benefits.
 - Any change in behavior will be short lived.
 - If the income tax is cut for next year but not the year after:

=> People will work hard next year, but not the next year after that.

- Permanent tax cuts affect peoples' future, and they pick up on that.

=> Permanent tax cuts affect peoples' utility, and, therefore, their behavior.