

The rationale for public sector intervention in the economy

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Executive summary

This report looks at the rationale for public sector intervention in the economy. The report sets out the general theory underlying why and when the public sector should intervene and tries to give examples relevant to the Greater London Authority (GLA) and London Development Agency (LDA). The executive summary sets out the key concepts involved and the report seeks to explain these in a style which is accessible to readers with some familiarity but not a technical understanding of the concept of market failure. Technical terms shown in bold are explained in more detail in the glossary.

In the absence of specific market failures, competitive markets deliver the efficient amount of all goods and services – that is the amount which best meets people’s needs and preferences, given scarce resources. Market failure refers specifically to the causes of the failure, that is problems with the mechanisms through which the market works, not the consequences of the failure to deliver a certain outcome.

The public sector should only intervene in the economy when markets are not efficient **and** when the intervention would improve efficiency. Therefore, the first condition for public sector intervention is evidence that a market failure exists. The second condition is that the intervention will make an improvement. This will depend on how significant the failure is and on the public sector’s ability to design and implement an effective intervention.

Why should the public sector intervene in the economy?

Some goods and services have specific characteristics which suggest that a competitive market will not deliver an efficient amount of them:

- One instance of this occurs when one person’s consumption of a good does not prevent anyone else from consuming it as well. For example, one individual’s consumption of a train service does not prevent others from using the same service (assuming the train is not at or near to full capacity). Goods with this characteristic are referred to as being **non rival** in consumption. The market may struggle to deliver an efficient amount of such goods or services, particularly where this characteristic is coupled with a situation where it is impossible to restrict consumption of the good to those who pay for its provision, and so there is no mechanism for making a consumer pay. This leads to a **free rider problem** and goods with this latter quality are said to be **non excludable** or non exclusive in consumption. Goods and services which have both non rival and non excludable characteristics are called **public goods**.
- Markets deliver an efficient quantity of goods and services when producers and consumers (both referred to as agents in what follows) bear the full costs and benefits of their activity. Markets may fail when the activity of one agent imposes a cost or benefit on a second agent, but the second agent is not charged or compensated. Since an agent looks only at his own private costs and benefits, his decisions are not collectively the most efficient. Where the actions of one agent impose a cost or benefit on third parties with no compensation there is said to be an **externality**. Where there are positive externalities – not all of the *benefits* are considered – the market will under supply the

activity. Where there are negative externalities, such as pollution – not all of the *costs* are considered – the market will provide too much of the activity.

- In certain circumstance **information problems** may lead to inefficient markets. In practice, the overwhelming majority of markets are able to function without all agents having perfect information. However, particular problems may affect some markets.

Markets are efficient when all parties to a transaction have equal information about the good or service on offer. Problems can arise where there is unequal or **asymmetric information** between parties, particularly about the quality of the good or service on offer. Unless there is a mechanism for signalling quality, the uninformed side of the transaction finds itself trading with exactly those people they would not want to. This is referred to as **adverse selection** and discourages trade.

Reluctance to offer services can be caused by parties to the transaction facing different incentives after a service has been purchased. For example, once a person has comprehensive insurance to cover losses, they may have less of an incentive to take precautions against risk. Unless insurers can ensure that the person has some incentive to carry on being careful, they may not want to insure that person. The scenario where the provision of insurance increases the likelihood of an insurance claim is referred to as **moral hazard**. Thirdly, uncertainty or a lack of information about future returns may prevent efficient investment decisions. This may be exacerbated by incomplete markets for finance or insurance because of adverse selection and moral hazard as above.

- **Imperfect competition** can be an important market failure but is regulated by central government and is unlikely to be a significant concern to the GLA, LDA or other regional bodies.
- **Co-ordination problems** may prevent private firms and individuals from overcoming market failures or the consequences of the failures above. Co-ordination problems are more likely where there are large and heterogeneous groups of potential beneficiaries¹; unknown shared interests; high initial costs of co-ordination; or, no incentives or mechanisms in place to overcome the free rider problem.

Interventions for social justice or **equity** reasons are based on the subjective decisions and judgments of democratically accountable politicians, but a market failure framework should still be used to inform decisions and to ensure the desired outcome is achieved in the most efficient and effective way.

What are the risks of public sector intervention?

The existence of a market failure is not a sufficient case for intervention. Public sector intervention comes at a cost. Therefore it also needs to be demonstrated that the intervention will make an improvement and the benefits of intervention will exceed the costs.

¹ Those people in the group have different characteristics, tastes and preferences.

The success of cost–benefit analysis, where all the costs and benefits of public sector intervention are considered, depends on the public sector’s ability to accurately assess both the costs and benefits of intervention. This is important because the public sector frequently has poor mechanisms available when deciding how to allocate resources. Indeed **government failure** frequently occurs because the public sector faces the same, or worse, information problems than the market itself.

Public sector intervention may also fail to deliver the anticipated benefit if private agents do not respond to the intervention in the way the public sector thought they would. In particular there is a risk that public sector intervention may crowd out or displace future activity by the private sector, such that there is no overall improvement. Consideration also needs to be given to the **displacement, substitution and income** effects of an intervention.

Political failings arise when individual interests override the public interest, for example when special interest groups are successful in lobbying for an intervention for their own rather than the public’s benefit. **Administrative failings** arise primarily because public servants work for others rather than themselves and face different incentive structures to those of the private sector.

When and how should the public sector intervene?

The public sector should only intervene when there is a market failure **and** 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.

1. Introduction

This report looks at the rationale for public sector intervention in the economy. The report sets out the general theory underlying why and when the public sector should intervene and tries to give examples relevant to the Greater London Authority (GLA) and London Development Agency (LDA). The primary audience for this report are those within the GLA and LDA although the principles set out in the paper are equally relevant to other public sector bodies. The report provides a framework to help the GLA and LDA make better interventions.

The report seeks to explain the theory in a style which is accessible to readers with some familiarity but not a technical understanding of the concept of market failure. Technical terms shown in bold are included in the glossary.

The report answers questions such as:

- *Why* should the public sector intervene in the economy?
- *What* are the risks of public sector intervention?
- *When* should the public sector intervene?
- *How* should the public sector intervene in the economy?

In the absence of specific market failures, competitive markets deliver the efficient amount of all goods and services. Efficiency in this context refers to efficiency in allocating resources (**allocative efficiency**) – making the best use of scarce resources to meet people's needs and preferences. The term market failure refers specifically to the *causes* of the market's failure to deliver an efficient allocation – that is problems with the mechanisms through which the market works, not the *consequences* of the failure to deliver a certain outcome. Only public sector interventions to improve equity or social justice are made to rectify an outcome of the market which is seen to be undesirable by elected and accountable politicians, rather than to rectify market failure.

This paper focuses mainly on intervention for efficiency. The Regional Development Agencies (RDAs) are tasked with improving the regional economies through alleviating market failures – intervention for reasons of efficiency. The Economic Development Strategy for London recognises that a clear case must be made for public sector intervention and that public resources are used most effectively when they address a market failure².

Elected politicians often have a mandate from the electorate to intervene for social or equity reasons. Such interventions are based on the subjective decisions and judgements of democratically accountable politicians, but a market failure framework should still be used to inform decisions and to ensure the desired outcome is achieved in the most efficient and effective way. In the capital, the elected Mayor of London has a mandate to intervene for social or equity objectives and a rationale for public sector intervention framework will help illustrate how the public sector can intervene successfully to achieve social aims.

² LDA, 2005, Sustaining Success – Developing London's Economy, pp20-22

The rationale for public sector intervention in the economy

The public sector should only intervene in the economy when markets are not efficient **and** when the intervention would improve efficiency. The first condition for public sector intervention is the existence of a market failure which makes the market inefficient. This is a necessary condition for intervention, but it is not sufficient on its own to justify public sector intervention. The second condition is that the intervention will make an improvement. The public sector should only intervene when there is a market failure and when intervention is likely to be effective.

The next section looks at the first condition for intervention, the circumstances and conditions under which markets are inefficient – why should the public sector intervene? The second section looks at some of the reasons why public sector intervention may not lead to an overall improvement – the risks of public sector intervention. Drawing on the rationale for and risks of intervention, the third section briefly considers when the public sector should intervene – when intervention is likely to be effective – and suggests some rules of thumb to use in deciding whether to intervene.

Throughout the document are a number of illustrative case studies of market failure which are likely to be relevant to the LDA and GLA. These are intended to help understand market failure in the GLA and LDA context and to help with thinking about how to intervene to alleviate market failure. They are not intended to give prescriptive or detailed policy advice, and do not represent position statements on any of the case studies considered.

2. Why should the public sector intervene?

As the previous section has shown, the existence of market failure is not a sufficient condition for public sector intervention, but it is a necessary condition. This section looks at five causes of inefficient markets or market failure:

- Public goods
- Externalities or spillovers
- Imperfect information
- Imperfect competition
- Coordination problems.

Public goods

The term **public goods** refers to goods which have some specific characteristics which suggest the market will be inefficient or absent. These characteristics are referred to as non rival and non excludable.

Where one person's consumption of a good does not prevent anyone else from consuming it, the good is said to be **non rival** in consumption. This means that it does not cost any more for an extra person to benefit from the good; it costs the same to provide the good to ten people as it does to one person. In economics terminology the marginal cost of providing the good to an extra customer is zero. This means that the normal 'market pricing mechanism' – whereby changes in the price co-ordinates the number of goods demanded by consumers and supplied by producers – breaks down, resulting in an inefficient level of provision of the good.

Where it is impossible to prevent people from using or benefiting from a good, and therefore it is impossible to levy charges to cover the cost of provision, the good is said to be **non excludable**. The benefits from a non excludable good extend beyond those who are prepared to pay for their provision. This leads to a **free rider problem** where people avoid paying for the provision of the goods because they know they will be able to benefit from them anyway. Non exclusion also makes it difficult to understand how people value the good and therefore how much should be provided.

Most goods have rival and excludable characteristics, for example a sandwich. It is easy to charge someone for the sandwich and once they have eaten it no one else can. The purest examples of public goods are national defence and public street lighting.

Another common example of a public good which might relate to economic development is the example of a lighthouse. The signal provided by a lighthouse helps to facilitate travel and trade. A lighthouse signal is a public good because the signal is non rival – the information it gives to one ship is still available to all ships in the area equally. Moreover, it is difficult to exclude any ships in the area from receiving the signal (or to charge them for receiving it).

The public sector may intervene in the supply of public goods because the market alone is unlikely to provide the most efficient quantity of the good. A private provider who cannot charge others for using the good will only consider the benefits he receives and not the

benefits to others. Therefore he will only supply the good up to the quantity that maximises his benefit over the cost of provision. In the example of the lighthouse, the cost of constructing a lighthouse is likely to be greater than the benefit of a lighthouse to one ship owner, but less than the benefit to all ship owners, so unless there is a mechanism for charging others or sharing the costs, it is unlikely that the lighthouse would be built at all. Even in examples where some quantity of the good would be provided by a private provider for his own use, it is likely to be less than the most efficient quantity because he will only look at his own private benefits, not the total benefits to all ship owners.

Goods which have one of the characteristics but not both are referred to as **mixed goods**. For example a bridge with a toll would be excludable, as you can prevent people from going across the bridge unless they pay the toll, but not rival in consumption, as one car crossing the bridge does not prevent another from doing so³.

Technological developments may make it more feasible to exclude people from the benefits of certain public goods than previously. In the example of the lighthouse for instance, new technology may have facilitated the development of excludable signals to ships.

Externalities

Markets deliver an efficient quantity of goods and services when producers and consumers bear the full costs and benefits of their activity. **Externalities** occur when producers or consumers do not bear the full costs and benefits of an activity. When a firm or individual undertakes an activity which has effects or implications for third parties these effects are called externalities. More specifically, externalities occur when the action of one agent imposes a cost or benefit on another agent but that agent is not charged or compensated for it. The market is inefficient because these extra costs or extra benefits are not taken into consideration when the firm or individual decides how much of the activity to undertake. (More information on externalities is provided in the glossary.)

Externalities arise when there is a difference between the private costs/benefits and the total social or collective cost/benefit of the activity faced by society as a whole⁴. Since an individual looks only at the private costs and benefits, his decisions are not collectively the most efficient.

Where the activity imposes an external cost to others there will be too much of the activity – individuals do not bear the full costs so they engage in excessive amounts of the activity. These are referred to as *negative externalities*. A common example is river pollution caused by industrial production, which affects other users of the river such as anglers or water companies. The industrial company may decide to increase production without considering the effects of this on fish stocks, the enjoyment of local anglers, or the extra costs imposed on water companies for water treatment.

³ Strictly speaking, bridges and roads etc are non rival up to the point of congestion which prevents vehicles moving freely.

⁴ In this report social costs/benefits are used to mean the total of the private costs/benefits of the individual and the social costs/benefits incurred by others.

Where the activity imposes an external benefit there will be too little of the activity – individuals do not retain all of the benefits so they under-invest in the activity. These are referred to as *positive externalities*. An example is investment in improving a derelict house in a terrace which may have additional positive benefits to the saleable value of other houses in the terrace. In this way, some positive externalities are similar to public goods – the benefits extend beyond those who pay for the activity. Goods which have positive externalities for society and would be under-supplied by the market are sometimes referred to as **merit goods**.

In some circumstance the market can resolve the problem of externalities:

- Through mergers of the parties involved so that one new larger party ‘internalizes the externality’ (so using the example above this would involve merging the industrial producer and the water company).
- Through negotiation if there are clear and enforceable property rights.

Both of these methods of resolving the externality are more effective when there are relatively few parties involved.

An important intervention by government in overcoming externalities is the definition of property rights and a mechanism for the enforcement of those rights. Other interventions to encourage provision of positive externalities, or to prevent excessive amounts of negative externalities, are only necessary where:

- Property rights are not enforceable (for example the provision of clean air).
- There would be so many people involved that the transaction costs of enforcement are too high (an example of this maybe traffic congestion).

An example of a positive externality is preventative health care such as vaccinations which stop the spread of infectious diseases. Similarly, investment in early years education is likely to have positive externalities for a country’s social cohesion and competitiveness.

Box 2.1: Case study – Research and development

The market failures associated with research and development are positive externalities. If private benefits are frequently less than the social benefits the market will under invest in research. This could occur if a firm is unable to appropriate all of the benefits of the research for themselves, for example, because a competitor is able to copy the findings of the research following the release of a new product. There is an externality argument for intervention.

How should the public sector intervene?

Patents are one policy response to problems associated with research and development. Patents grant the firm rights to the use of the research for a period of time, allowing them to appropriate the benefits of the research.

Other ways that the public sector may intervene are to:

- Co-ordinate collaborative research and development (R&D) by firms and universities who share the costs and *internalize* the benefits with wider use of the results in the short term. This disadvantage of collaboration on R&D among firms is the dampening of competitive innovation between the firms
- Produce or finance the research, which does not place restrictions on its use but is a heavy cost to the public sector. The public sector tends to directly support academic scientific research, which has the widest application and spillover and is less likely to be undertaken by the private sector.
- Subsidize research by the private sector to encourage extra investment. Subsidies such as tax credits also have pros and cons. On the plus side, tax credits are self-selecting – they put businesses in control of the research to be undertaken and do not rely on the public sector being able to guess what type of research will benefit the private sector most. On the down side, they are likely to encourage research with the least positive spillovers for other businesses rather than the greatest collective benefit. Therefore, tax credits may have a heavy deadweight cost – they support the research which was most likely to be undertaken anyway. Tax credits may also have an income effect, such that not much extra research is undertaken but the subsidy leaks out to support other activities.

This example shows the complexities faced the public sector in considering whether intervention is merited and what type of intervention will be most cost-effective, and illustrates the importance of considering how the private sector will respond to an intervention. It also demonstrates that in terms of the public sector, central government controls most of the policy instruments available to alleviate market failure including patents, tax subsidies and financing academic research.

At a regional level, the main instrument described above is co-ordination between businesses and research organisations and to encourage greater involvement and use of research and development by business. With coordination, as with other direct interventions, it is important to remember that there is no rationale for the public sector ‘picking winners’ by selectively providing support to research which is considers will have the greatest commercial value. The public sector has no better information than the private sector about what will succeed and what will fail; arguably it has worse information.

Box 2.2: Case study – Environmental externalities

A long-standing market failure is negative externalities which affect the environment. Many economic activities have environmental costs which are not reflected in the market price for the activity. A particularly topical issue at the moment are activities which, through consumption of energy and fuel, produce a higher level of carbon dioxide than collectively society would like.

How should the public sector intervene?

The market failure arises because not all of the costs of carbon dioxide emissions are considered by those who undertake polluting activities. One way round this is to provide 'rights to pollute' which a firm can purchase at a cost.

Tradable emissions permits are a market coordinating mechanism when rights to produce a certain volume of emissions are granted. Firms must either reduce their output of emissions, or purchase a permit for their extra output, with the effect of increasing the private costs of producing the emissions. In this instance the public sector introduces a cost to polluting which increases the private costs towards the social costs and makes the companies consider this extra cost in their decision making.

Other interventions which are available to government include:

- Regulation of inputs, production methods, or the volume of emissions.
- Fines or taxes on activities which produce carbon dioxide to bring better alignment between the private cost of the activity and the social cost of the activity. This may encourage private agents to undertake less of the activity or to switch to less energy intensive methods.
- Subsidising those alternative inputs or production methods which produce less emissions, or other forms of emission abatement, to bring better alignment between the private and social benefits of these alternatives. However, as with all subsidies, it is important to consider the **deadweight, income and substitution effects**.
- Encouraging innovation and the use of best practice in environmental solutions through support for research and dissemination.

Many of the interventions available to alleviate environmental externalities are controlled by central government, in particular regulation and taxation. The Central London Congestion Charge is an example of regional intervention to tackle a particular local issue, namely to raise the private cost of travel by car relative towards its true social cost.

Imperfect Information

The availability of information about a product and rational decision making by participants in the market are important elements in the theory of efficient markets. **In practice, the overwhelming majority of markets are able to function without all participants having perfect information.** But for some goods or services the availability of information or information processing difficulties may prevent people from making rational decisions. This can be a barrier to economic activity as potential gains from trade could be realized if better information allowed people to provide or consume additional goods and services.

Information problems may exist with the information availability or processing information difficulties, and may concern:

- the price of goods or services
- the quality of goods or services
- the future need for goods and services, or future benefits of investment.

Problems with the availability of information are rarely about the price of goods and services, but are more commonly about the quality of a product, for example the quality of a second hand car, or hygiene standards in a restaurant. Sometimes the private sector will develop a solution to provide information to the consumer, such as industrial standards certified by trade bodies, warranties, consumer information magazines, guides, or through professional services such as structural surveys. In other cases the public sector may intervene through regulation, to ensure the suppliers provide information.

Difficulties of processing information to make rational decisions may arise where there are:

- long time horizons involved
- very small probabilities
- complex information.

In these circumstances, public intervention is more likely to be needed. Markets are generally more efficient where information:

- is complete
- is cheap and easy to provide
- easy for consumers to understand
- the costs of choosing badly are low
- consumer tastes are diverse.

The market is therefore good at providing clothes without any intervention at all; food and consumer goods where there is some degree of regulation of health and safety standards; but less good at providing health care, where information is poor, people require individual information (which is not cheap and easy to provide), information is technical, and making a bad choice is costly.

Where information problems are relatively easy to alleviate the public sector may intervene through regulation or the provision of information. This tackles the cause of the problem and helps the market to work efficiently rather than replacing the market. Where there are

complex information problems involving very technical information, or a unique service, there may be a case for intervention in production and allocation of the service.

Box 2.3: Case study – Business support

Information problems may create market failures in the provision of business services. These include:

- Firms not having enough information to make efficient decisions.
- Asymmetric information about the quality or relevance of business support services. This may mean that businesses are reluctant to purchase support services because they cannot be confident of their value. There are potential efficiency losses because of reluctance to trade.

How should the public sector intervene?

The introduction of the Business Link Information, Diagnostic and Brokerage service (IDB) is a positive intervention in addressing these problems. The service will be impartial and independent of the provision of intensive business support services. This service will provide insight into the business's needs and independent brokering to appropriate business support providers. The IDB service can also act as a quality assurance mechanism to overcome asymmetric information problems about quality. In this model, the public sector intervenes:

- to provide information
- to develop an effective mechanism for signalling service quality.

In this model there is no need for public sector intervention in the provision of services.

Asymmetric information

Asymmetric information refers to a situation where one party in an economic transaction has better information than the other. This is not a problem of missing information which affects people equally, but a problem when only some of the people involved in a transaction hold some information which is relevant to that transaction. This often relates to the quality of the good or service on offer, whereby the seller has more information than the buyer.

Asymmetric information is a particular problem in finance and insurance markets, where the consumer has more information about its own characteristics than the provider.

For example, in insurance markets, a person has better information than the insurance company about whether they are a cautious person or a risk taker. This asymmetry of information can lead to **adverse selection** problems. The uninformed side of the market finds itself trading with exactly those people it wouldn't want to, i.e. those who are most likely to claim on the insurance will most want to purchase it. This occurs where an insurer doesn't know the characteristics of potential clients and offers insurance to everyone at the same average price. For potential clients who know that they are cautious and unlikely to need to claim on the insurance, the average price is too high and they won't take up insurance. Only relatively high-risk customers will take insurance at the average price – those the insurance company would not want to trade with.

The rationale for public sector intervention in the economy

In many cases the market itself can provide some solution to the problems of asymmetric information if good quality providers or low risk propositions can **signal** this to the uninformed side of the transaction, for example:

- In the product market – through warranties or kite marks which signal quality.
- In finance and insurance markets – through track record, collateral, or excess payments in insurance claims.

The public sector may intervene if adverse selection problems cannot be overcome sufficiently to ensure markets are complete or efficient enough. This is normally through regulation, such as compulsory motor insurance, or the development and enforcement of a quality signalling mechanism.

Moral hazard

Problems of moral hazard also affect insurance and finance markets where future actions and behaviour are important. **Moral hazard** refers to the situation where the provision of insurance increases the likelihood of an insurance claim. For example, once someone has comprehensive insurance to cover losses, they have less incentive to take precautions against risk. Moral hazard can also occur in finance markets where borrowers have low incentives to repay their debts. Where one party has information about their likely behaviour which the other party doesn't know, and fears the consequences of, this can hinder markets. As with asymmetric information, the uninformed side of the market transaction will trade less than it would if it had equal information.

The market can develop solutions to moral hazard in finance and insurance markets by ensuring the customers incentives are aligned to the providers. In insurance markets this is done through excesses and no claims bonuses, and in financial markets through collateral. The public sector may intervene if the market solutions which arise don't get to a point where an important market is complete or efficient enough. Intervention might include alleviating the market of some of the risk of moral hazard.

Box 2.4: Case study – SME finance

The market failure associated with Small/Medium-sized Enterprise (SME) finance is asymmetric information between a business and a lender. The business knows more about their own characteristics and the proposition which they are seeking finance for. This makes it difficult for the lender to price a loan accurately. To overcome adverse selection problems, lenders have typically used collateral as insurance against default on the loan.

Collateral signals to lenders the borrower's commitment to the venture and their own assessment of the risk – low risk borrowers are more likely to put their own assets at risk than high risk borrowers who would rather pay a high premium for risk than lose their own assets. However, not all borrowers have collateral with which to demonstrate their commitment and therefore some good, low risk borrowers may be denied access to credit. This leads to efficiency losses and equity losses.

Recent reviews of this problem have found that banks are increasingly using statistical analysis of data, or credit scoring, to overcome asymmetric information problems. The data used to develop a credit score includes:

- Information about the applicant and their business.
- The applicant's management of business and personal accounts.
- Banks experience of existing and past customers.

Where applicants have a track record and homogenous characteristics, credit scoring provides banks with information on which it can base a lending decision. This suggests that there may still be a market failure in lending to:

- Start-up businesses with no track record, and businesses with non standard characteristics.
- People or businesses that cannot signal their commitment to the venture, through collateral or other means.

How should the public sector intervene?

A good intervention in this case is for the public sector to alleviate the risk to the private sector caused by asymmetric information. This works with the market rather than displacing it. The Small Firms Loan Guarantee Scheme (SFLGS) has been a long-standing government intervention to alleviate this market failure.

Through the SFLGS, government guarantees 75 per cent of a loan made by a commercial lender to a small firm who has a viable proposition but has failed to get a conventional loan because of lack of security. In return for the guarantee, the borrower pays a premium to the Department of Trade and Industry of two percent a year. Most of the risk of asymmetric information and moral hazard therefore shifts from the lender to the government.

Uncertainty as an information problem

Uncertainty or a lack of information about future returns may prevent an efficient investment decision. If someone doesn't know what the likely returns are they can't determine whether and how much to invest. If returns aren't guaranteed, the best information is likely to be an indication based on previous experience of the average amount and probability of return. There may then be information processing problems as outlined above.

There are many markets where uncertainty does not cause a problem which merits public sector intervention, for example the stock market. But there may be other markets where uncertainty and poor information lead to inefficient levels of consumption, for example capital investment in very risky projects, or individual's investment in skills. Uncertainty may be exacerbated by risk aversion among some individuals and incomplete markets for finance or insurance because of adverse selection and moral hazard as above. The public sector may intervene in important markets where the degree of uncertainty is so severe that markets are incomplete or inefficient. In these cases intervention should seek to alleviate the information problem through regulation or provision of information, or to alleviate the degree of risk.

A note of caution: Information failures are often badly understood as a rationale for public sector intervention. As noted above, in practice the overwhelming majority of markets are able to function without all individuals having perfect information. It maybe useful to consider imperfect information as a market failure when there are such severe information problems that:

- most people would be unable or not confident to make consumption or investment decisions
- most producers would be unable or not confident to make production or investment decisions.

It is also important to bear in mind that, although the public sector may intervene to ensure information is made available, it does not have better information on which to base decisions than private individuals.

Box 2.5: Case Study – Investment in training

It is widely recognized that market failures affect investment in training and this understanding is often based on analysis of externalities which affect employer's investment in training for employees. In fact, information problems are also a significant market failure in investment in individual's investment in training.

Employer's investment in training for employees is affected by positive externalities – if the trained worker moves to another firm, the employer will be unable to appropriate the full benefits of the investment. Positive externalities are greater where training is more general and widely transferable, for example the greatest positive spillovers come from primary school education, whereas there are likely to be few spillovers from firm specific training.

Therefore, the government may intervene:

- In the provision of children's education.
- To encourage adults to invest in their own intermediate and higher level skills and make a return on this investment through higher wages, in this way the individual 'internalizes the externality'.

The market failures associated with under investment by individuals are information problems. In particular, individuals do not know what the return on their investment in skills will be, and therefore find it difficult to make an optimal level of investment. A related issue is information problems which restrict borrowing to invest in skills development – lenders do not know what the return is likely to be either and face problems of adverse selection and moral hazard. The case for intervention would depend on evidence to suggest that there is significant under investment in skills and that this would be improved by the intervention.

How should the public sector intervene?

In the first instance, intervention should seek to encourage provision of information about the financial returns of investment in different types of training and qualifications. This will allow more informed decisions by individuals and lenders. Government may also intervene to alleviate the risks of lending to fund investment in training and skills development (see Box 2.4: Case Study – SME Finance).

If there are cases where good information about the returns to training cannot be made available, there may be an argument for government underwriting the risk to individuals of investment in training. It should be borne in mind that government has no better information than private individuals in this respect and should not seek to selectively alleviate risk in what it considers are 'winning' areas but not others.

Imperfect competition

Perfect competition in markets refers to a situation where there are no barriers to entering the market and no individual firm in the market has an ability to affect prices. Under perfect competition there are no monopolies and all agents are **price takers** in the market. Where the conditions for perfect competition are significantly impeded, firms can act to distort the market and bring about an inefficient allocation of resources. For instance, a monopoly not facing competitive pressure will raise the price of the good it supplies so reducing the amount consumed to below the optimal level. The issue of imperfect competition is not considered here in any detail as it tends to be regulated by central government and is unlikely to be a significant concern to the GLA, LDA or other regional bodies.

Co-ordination problems

The previous sections have shown the main causes of market failure and pointed to some of the potential consequence of these failures which might justify intervention. However it has also been shown that in some circumstances the market will provide a solution, or that with discrete public sector intervention, private agents will arrive at a reasonable solution. For example, public sector intervention to define and enforce property rights where there is an externality. There are also examples of firms or individuals co-operating to overcome market failure. For example, tenants in flats co-operating to maintain and improve the appearance of common areas, and firms co-operating through trade associations. In these cases members of the group share common interests and benefit from cooperating with other members to meet these interests.

In the example of a block of flats, the benefits of co-operation are contained within a relatively small group who will benefit equally, ie the benefits are non rival. This is an example of an impure public good. Individuals and firms may co-operate to overcome market failures where:

- The potential beneficiaries are a fairly small group and therefore the effort of co-operating/ co-ordinating is low.
- The potential beneficiaries are homogenous group⁵ and therefore the benefits are valued equally.
- Even though some of the beneficiaries will 'free ride' on the investments of others the private benefits of the co-operative activity are expected to be greater than the private costs of co-operation / co-ordination.
- There are incentives or mechanisms to overcome free riding.

In other circumstances, such as large and heterogeneous groups of potential beneficiaries, there may be a case for public intervention to encourage, enable or catalyse co-operation. Intervention might include:

- Alleviating some of the risk to private agents of initial costs of co-ordination.
- Mechanisms for enforcing collective decisions to overcome the free rider problem.
- Mechanisms for people with shared interests to find one another.

⁵ Those people in the group have similar characteristics, tastes and preferences.

For example, the promotion of tourism may require public sector co-ordination because the potential beneficiaries are a large and heterogeneous group with some businesses likely to benefit more than others – it is possible that both hoteliers and retailers would benefit from an increase in tourists to London but the benefits to hoteliers may be greater.

Public sector co-ordination may also be necessary to respond to major events which effect very many people, such as natural disaster, or which cause temporary shocks to the market. In these circumstances, only the public sector is likely to have the capacity to organise and mobilise a strategic response.

Box 2.6: Case study – Business Improvement Districts

Business Improvement Districts (BIDs) are established to overcome co-ordination problems in the provision of goods with positive externalities for retail, leisure and service businesses.

Without co-ordination, there is likely to be under investment by firms in activities such as:

- local marketing and promotion,
- investment and maintenance of the public realm, and
- cleaning and crime prevention,

which may encourage more visitors to a shopping area. The benefits of these activities are likely to extend to all retail, leisure and service businesses in the local area and no single business is likely to be motivated to invest in the activities alone.

How should the public sector intervene?

BIDs are a co-ordination mechanism for encouraging businesses to collaborate in the provision of such activities. Businesses in a potential BID vote on whether to set up and fund a BID company to deliver beneficial activities. If the ballot is successful, a levy of one per cent of business rates is charged to all businesses (to alleviate the *free rider problem*) to fund the activities.

Government intervention facilitates co-ordination among firms by putting in place a framework of mechanisms and regulation which enable retailers who recognise a return on investment to co-operate.

Conclusion – Incomplete or inefficient markets

The previous sections have shown many of the circumstances under which competitive markets for goods and services which consumers would like and would pay for may be incomplete or not fully efficient. Incomplete or inefficient markets may be:

- For public goods
- Where there are externalities or spillovers
- Where there are information problems such as asymmetric information and moral hazard.

Market failures affect the economy in a number of ways. Market failures suggest the economy may not always allocate resources to maximise individual consumer's needs and preferences. More importantly for the LDA, market failures in business markets for goods and services such as access to finance may impact on business development. Thirdly, market failures affect sustainable economic development where they lead to inefficient use of environmental resources.

3. Intervention for equity considerations

Elected politicians often have a mandate from the electorate to intervene in markets for social or equity reasons. The electorate confers authority on democratically accountable politicians to base decisions about whether and when to intervene on their own values and judgement but a market failure framework should still be used to consider the potential consequences of the intervention and to ensure the desired outcome is achieved in the most efficient and effective way.

Public sector intervention to improve equity or distributional outcomes may be to:

- Improve the distribution of market outcomes between rich and poor, for example through taxes and income support – vertical equity.
- Ensure people in similar circumstances are treated equally, for example have equal access to services – horizontal equity.
- Consider the needs and outcomes for future generations, for example ensure that future generations are not made worse off by the activities of the present generation.

In practice redistributive interventions are mainly controlled by the central government in England. There is a significant body of literature which considers the rationale for and best methods of intervening to improve equity or social justice. In the main, the literature recommends that redistribution should be in cash benefits which allow individuals to make their own consumption choice within the market, rather than in-kind benefits through provision at no or low cost. However there may be some cases where externalities or spillovers mean that the public sector wants to encourage or discourage consumption of a particular good and therefore intervenes with a benefit in-kind. As with interventions for efficiency, it is important that the public sector gives strong consideration to whether in-kind benefits will have the effects on consumption it hopes for (see income and substitution effects in the next section).

Some interventions have equity and efficiency objectives, for example interventions to address discrimination. Interventions such as regeneration or employment support, which seek to improve equity and efficiency, are likely to be of particular interest to the GLA and LDA. In these cases, the justification for intervention needs to identify the intended beneficiaries and how equity will be improved, and how the project will improve the functioning of markets, as well as the cost of intervention. The rationale for the intervention framework set out in this paper should still be used to inform decisions and to ensure the desired outcome is achieved in the most efficient and effective way.

Box 3.1: Case study – Active labour market programmes

Programmes supporting people into employment are justified under social and economic rationales. Employment brings income and social justice to individuals, and also brings productive activity and competitiveness to the economy with positive externalities.

Market failures affect both the social and economic objectives of supporting people into employment.

- Society is committed to offering poverty relief benefits to those who are not in employment, but there are incomplete markets for unemployment insurance because of asymmetric information and moral hazard problems.
- The tax and benefits system creates institutional and administrative barriers to employment – people are caught in, or perceive themselves to be caught in, a *benefits trap*.
- Positive externalities of employment suggest that private sector markets, such as recruitment agencies, will be incomplete or inefficient, in particular the market is unlikely to provide the socially efficient level of service to those who will find most difficult to compete effectively for jobs.

How should the public sector intervene?

Active labour market programmes such as the New Deal offer an integrated service which alleviates the social, economic and institutions failures above, and some of the market failures which affect investment in training. Service offered by intensive employment support programmes often include a combination of:

- benefits administration
- labour market orientation
- job readiness or preparation for work
- information and signposting to education and training opportunities
- job search and vacancies information
- help alleviating the benefits trap.

Intensive employment support programmes can be targeted at those groups furthest away from the labour market, where there may be significant positive externalities.

Box 3.2: Case study – Enterprise in deprived areas

In deprived areas, market failures and the effects of market failures may combine and exacerbate to build more severe barriers to enterprise than in other areas.

For example, the case study on SME access to finance has shown the importance of collateral for start-up businesses. In deprived areas, individuals are more likely to lack collateral, and low house prices/housing equity are likely to exacerbate the problem. Individuals are also more likely to lack a historic relationship with the bank, which is an important element of the credit scoring process. Information asymmetries and lack of experience among lenders in deprived areas may lead to lower levels of understanding of the needs and performance of businesses in deprived areas. In combination these factors may lead to erroneous perceptions of poor credit risk due to fragile markets, lack of capitalization and collateral, and therefore lead to restricted access to finance.

Potential entrepreneurs in deprived areas may also face more acute personal barriers to enterprise, for example lower educational attainment, less access to training opportunities, and less work experience within a small business. Institutional and administrative barriers may affect those living in deprived areas more acutely. Entrepreneurs in deprived areas may lack informal sources of advice from friends and family with business experience and therefore be more reliant on formal mechanism of support in overcoming institutional barriers such as:

- Loss of benefits or perceptions of loss of benefits
- Fixed bureaucratic and regulatory costs fall heavily on small businesses
- Costs of dealing with a wide array of different public sector institutions which are not *joined-up*.

Finally, crime and perceptions of crime can be a barrier to enterprise.

How should the public sector intervene?

Intervention in deprived areas often has social and economic efficiency objectives and it is important that such projects are clear about how the intervention will alleviate the causes of market failure and as well as the consequences of the failure. Effective intervention is likely to:

- boost interventions which alleviate market failure for deprived areas
- target take up of interventions in deprived areas
- tackle institutional and administrative barriers.

Public sector intervention may also seek to create confidence among potential entrepreneurs, lenders, and inward investors in the prospects of an area or to co-ordinate other agents to overcome the market failures which prevent investment in deprived areas.

4. Risks of intervention

The previous section has shown the main arguments underlying why the public sector should intervene in the economy. But these arguments alone are not a sufficient case for intervention. **Public sector intervention comes at a cost.** Ultimately, all public sector intervention is funded from the taxation of individuals and businesses. Therefore it also needs to be demonstrated that the intervention will make an improvement and the benefits of intervention will exceed the costs. There is a risk that public sector intervention does not result in any improvement but is:

- ineffective – no efficiency gains are made
- detrimental – there are efficiency losses.

These considerations are particularly important when you bear in mind that raising revenues through taxation distorts markets, which makes them less efficient, and has a **deadweight cost**.

The main causes of ineffective or detrimental intervention can be thought of as **government failure**.

Government failure frequently occurs because the public sector faces the same difficulties as the market, particularly information problems. The public sector does not have any better information than the market about how individuals and firms value goods and services. Indeed in most instances the public sector has less information about the needs and preferences of individuals and firms.

Moreover, the public sector has poor mechanisms available in deciding how to allocate resources. In the market, prices are an automatic mechanism through which consumers indicate the value they place on different goods and services. In many instances the public sector does not have this mechanism at its disposal. Moreover, where price information is available it is arguably the case that the private sector will be more effective at interpreting the information than the public sector. Where price information is not available the public sector tends to use cost-benefit analysis to determine whether the benefits or value of an intervention outweigh the costs. The success of cost-benefit analysis as a mechanism depends on the public sector's ability to accurately assess both the costs and benefits.

A very real problem for the public sector in assessing the benefits of intervention is knowing how individuals and firms in the private sector will respond. It is possible that investment in goods or services by the public sector will **crowd out** or **displace** investment by individuals and firms. For example, improving state provision of pensions may encourage less private saving for retirement among individuals, with the result that nobody is better off in retirement than they would have been before the intervention. Similarly, intervention to improve the provision of business accommodation will crowd out private sector firms which operate or are looking to operate in this market. This could be the case with public provision of any good or service for which a market exists, including markets for goods and services which the GLA/LDA might consider intervening in, such as training, business support, etc.

Public sector intervention may fail if the private sector does not respond to the intervention in the way the public sector thought it would. This is particularly the case where an intervention is intended to change production or consumption of goods and services by adjusting their relative prices. For example, it is often the case that making something cheaper will encourage greater consumption, but it is difficult to know how much extra will be consumed. This is because such subsidies have both income and substitution effects and the overall effect will depend on the relative strength of these two. The **substitution** effect refers to the situation where a price reduction for one particular good encourages consumers to buy more of that particular good. For example, it might be anticipated that a subsidy to reduce the price of milk will lead to more milk being consumed because of its cheaper price. The income effect refers to a situation where, after a cut in the price of milk (through a subsidy) the consumer would have more income left after buying the same amount of milk so could either buy more milk or buy more of other goods. So in this instance the income effect of the price cut acts as if the consumer has had an increase in their income which they can spend across a range of goods and services. There may be unexpected income and substitution effects of public subsidy of any good or service for which a market exists, including market for goods and services which the GLA/LDA might consider intervening in, such as training, business support, etc.

To be sure of the impact of an intervention, the policymaker would have to be in possession of all relevant information about how agents will be affected and how agents will respond. Such information is rarely if ever available, but thorough consideration should be given to the income, substitution and displacement effects of any intervention to ensure that the anticipated benefits are not going to be negated by the unexpected responses of individuals and firms.

Government failure can also be driven by **political and administrative failings**. Political failings arise when individual interests override the public interest, for example when special interest groups are successful in lobbying for an intervention for their own rather than the public's benefit, or influence the design and implementation of policy to serve their own interest. For example, an industrial or sector lobby may successfully seek preferential treatment or selective support on the grounds that it is a more important or a growth sector in the region.

Administrative failings arise primarily because public servants work for others rather than themselves, they face the information problems discussed above; and, importantly, they face different incentive structures to those of the private sector. Moreover, the interests of public servants may not coincide with the public interest, for example a public servant may be concerned with job security, promotion, and perceptions of their own importance. Some also argue that, because the quantity and quality of public sector work is difficult to monitor and measure, the public sector is inherently less efficient than the private sector.

Given the risks and government failures discussed, intervention should aim to try and help markets work more efficiently rather than to supplant them altogether. This is increasingly being recognized by governments and others. For example the Organisation for Economic Co-operation and Development (OECD) has reported that support to SMEs has tended to

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neglect the issue that the policies themselves can be the problem and the rationale for intervention. The OECD notes that existing support has served to 'protect SMEs from normal business pressures, leading to dependence on public sector programmes that has served to diminish their competitiveness and innovativeness, ultimately leading to even greater difficulties'.

This requires that intervention should aim to tackle the cause rather than the consequence of market failure.

5. When should the public sector intervene?

The previous sections have shown the arguments for and against public sector intervention. The difficulty for policymakers is balancing these considerations in deciding in the first instance whether to intervene at all, and then, if necessary, exactly how to intervene.

The public sector should only intervene when there is a market failure **and** when any intervention is likely to be effective. Intervention based on market failure is a necessary, but not sufficient, reason for intervention. It is also necessary to ask:

- Even if the market is not perfect, is it good enough? That is, despite its problems, can the market still solve the problem?
- Which type of intervention might alleviate the market failure and who is best placed to deliver it?
- Would the benefits of the intervention outweigh the costs?

Intervention is most likely to lead to an improvement where:

- The market failure is big
- Public sector intervention is likely to be effective
- The intervention tackles the cause of the market failure rather than supplanting the market.

Effective policymaking requires identifying the cause of the market failure, a shrewd diagnosis of the failure to be addressed, analysis of the ways it can be tackled without creating a culture of dependency on the state, evidence that the intervention will be effective, and a robust assessment showing that the costs of an intervention will be less than the benefits.

Box 5.1: Rules of thumb

This box 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 can't be answered with reference to the market failures described in section two 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. Guidance on cost-benefit analysis is available in the Treasury publication *Appraisal and Evaluation in Central Government*, commonly known as the Green Book¹.

⁶ HM Treasury, 2003, *The Green Book, Appraisal and Evaluation in Central Government*. View: www.hm-treasury.gov.uk/

6. Conclusion

Where markets work they are the most efficient means of meeting the needs and preferences of individuals and firms. There are a number of reasons why markets may not work efficiently and why there may be a case for public sector intervention. These are public goods, externalities, and information problems. The market can only be said to have failed when one of these reasons is present.

Evidence of a market failure, i.e. evidence of a problem caused by one of the reasons above, is a necessary but not sufficient condition for public sector intervention. A second condition is that intervention will lead to an improvement. Intervention is costly and complex, and is not always effective. Careful consideration needs to be given to how intervention can address the cause of the problem without creating a dependency, and to how individuals and firms will respond. A strong case for intervention will draw on evidence to suggest intervention will be effective, and on cost-benefit analysis to suggest that it is worthwhile.

Glossary

Adverse selection

This concept is closely related to the concept of asymmetry of information and essentially means that due to a lack of information individuals may purchase a product which after the purchase does not deliver a level of satisfaction (utility) that was expected prior to the purchase. The notion of adverse selection is often employed when analysing the provision of insurance services. For example an insurance company may adversely select to provide life cover to an individual who engages in activities (rock climbing) which unbeknown to the insurance company expose them to a level of risk which they have not factored into the insurance premium. Insurance companies will attempt to insulate themselves from the possibility of adverse selection by inserting exclusion clauses in their insurance contracts.

Allocative efficiency

Free markets allocate resources by employing the price mechanism. The quantity of a good or service which is produced and purchased in a free market is determined by the forces of supply and demand.

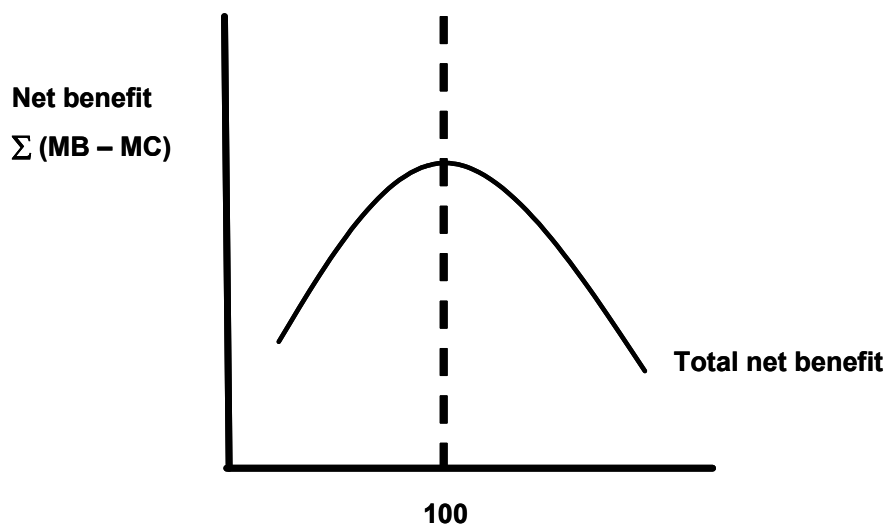
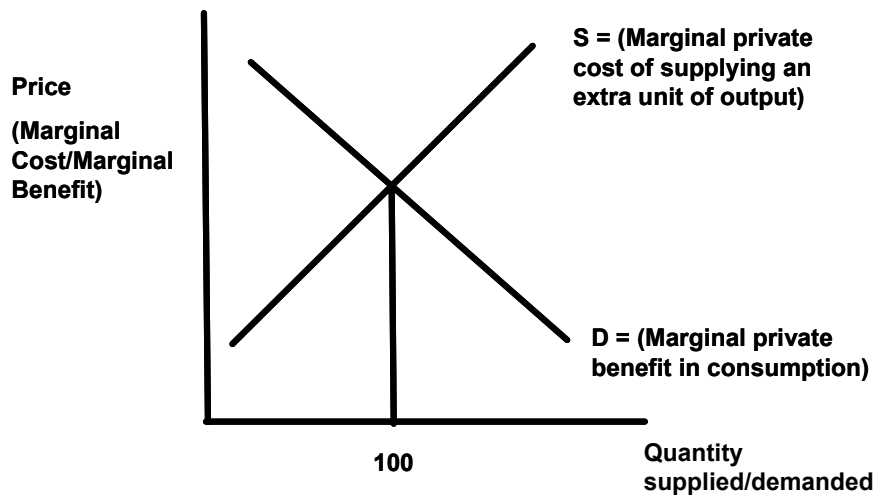
If consumer's willingness to pay for a good or service (the price they will pay) reflects all of the benefits which the consumer, and society in general get from the individual's act of consumption; and if the individual producer's willingness to supply at the market price reflects all of the costs incurred when producing a good or service then a market will allocate resources efficiently. In order to see why this is the case consider Figure G1.

As we produce units of output, up to 100 each additional unit of output creates more benefit in consumption (shown by the demand curve) than it does cost of production (shown by the supply curve). Hence from society's perspective total net benefit, (obtained from allocating additional resources to the production of this good) is increasing.

However if we produce the 101st unit of output, the cost of producing that output (shown by the supply curve) is greater than the benefit derived in consuming that 101st unit of output (shown by the demand curve) and hence the net benefit of the 101st unit of output is negative. As a result of this the total net benefit from consuming this good or service declines, and this trend will continue should we continue to produce additional units of output in excess of the market equilibrium 100 units of output.

Therefore this market is said to be allocatively efficient because price will adjust until market demand is equal to market supply (= 100). At this point the resources which have been allocated to the production of 100 units of output maximise the total net benefit which society derives from the consumption of those 100 units.

Figure G1: Supply and demand



Asymmetric information

This is a situation where there is an imbalance of information on either the buying or selling side of a transaction. For example, when you enter into a contract for plumbing services, is £50.00 per hour an appropriate fee to pay for plumbing services, and what do you expect to get from those plumbing services for a fee of £50.00 per hour. This creates the opportunity for people (plumbers) to behave opportunistically and either overcharge for a given level of plumbing services or under-provide in terms of service for the fee that they have charged.

Crowding out

Investment undertaken by the public sector, through the impact of public sector borrowing on interest rates and through revenue raising, increases the cost of borrowing and

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investment to the private sector, and so reduces private sector investment. In this way the public sector is said to crowd out private sector investment.

Deadweight

The expenditure used to achieve an impact that would in fact have occurred anyway without the expenditure.

Deadweight cost of taxation

The deadweight loss is a measure of the inefficiency caused by the imposition of taxation. The imposition of taxation changes the amount received by producers and the price paid by consumer for a good. This moves the market from its optimal level.

Displacement

Displacement occurs when public sector intervention in the market leads to a reduction in the amount of activity that the private sector would have undertaken had the public sector not intervened. Therefore the net effect of public sector intervention may to be significantly reduced when displacement effects are taken into consideration.

Externalities

The assertion that markets will efficiently allocate resources is dependant on a number of critical assumptions.

On the demand side we assume that the individual's benefit from the consumption of a good reflects the total benefit which society derives from that individual's consumption. Where this is not so, we get a consumption externality. That is a benefit or cost which an individual consumer does not take into account when deciding how much of a good or service to consume.

For example, if you choose to consume a flu vaccine this will not only generate benefit for you, it will generate benefits for those people to whom you do not pass on the flu virus. However, when deciding to pay for a vaccine you do not take into account the benefits you are generating for others. To use the jargon of economics you have not internalised the benefit which you have generated for others. Hence marginal social benefit (the extra benefit to society) will exceed marginal private benefit (the extra benefit to the individual).

If the market were left to allocate resources, a quantity 'Q' of flu vaccines would be produced and consumed. However this does not take into account the fact that the marginal social benefit of an individual consuming a flu vaccine is greater than the individual's evaluation (marginal private benefit) of the value of a dose of flu vaccine. The higher level of marginal social benefit is represented in Figure G2 by demand curve 'D1'. Given this higher level of benefit the optimal level of consumption and production of flu vaccines is Q*.

On the supply side we assume that the individual producer's cost reflects the costs to society of the production of additional units of output. That is we assume that marginal private cost is equal to marginal social cost. If this is not the case we have a production externality.

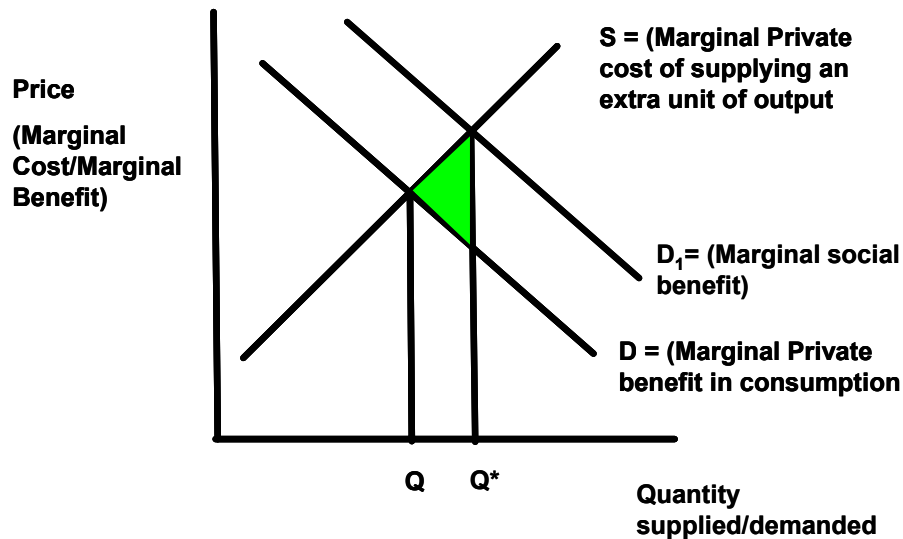
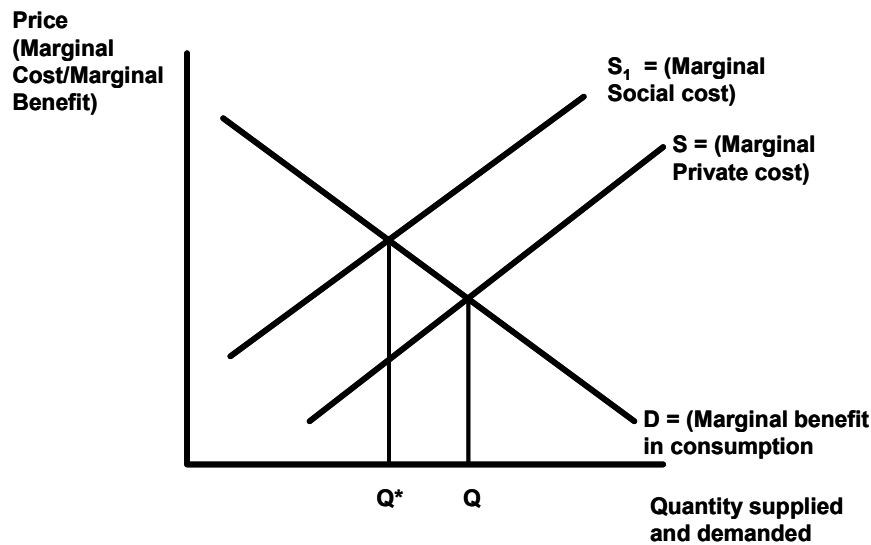
Figure G2: Positive consumption externality

Figure G3 illustrates the negative production externality in the example of an industrial producer who pumps effluent into the river, imposing a cost to the water company for water treatment.

If the industrial producer is not forced to take into account the cost which its pollution of the river is imposing on the water company, then an amount of industrial output ' Q ' would be produced. In allocating resources to the production of industrial output the market only accounts for private costs and benefits. However, as Figure G3 illustrates the marginal social costs of production, that is those that include the external pollution costs, are greater than the marginal private costs of production. The socially optimal level of output is Q^* , that is, that level of output which equates marginal social cost with marginal benefit. Note that for every unit of output in excess of Q^* marginal social cost is greater than marginal benefit and hence allocating resources to the production of those units generates a net cost to society.

Figure G3: Negative production externality



Free rider

Often used in the context of a public good to describe a situation where a consumer cannot be excluded from consuming a good or service for which they have not paid. In the case of a public good this market failure can be corrected by government provision of a good or service with the cost financed out of general taxation revenues.

Government failure

The term is used here to refer to the reasons why a public sector intervention may fail to lead to an overall improvement.

Imperfect competition

Resources will be allocated efficiently if markets are competitive. A key assumption underpinning the concepts of competitive markets is that no one buyer or seller in the market controls a sufficient quantity of market supply or market demand to be able to influence market price. Where this is not the case and we have a situation of dominant suppliers or dominant buyers the market is said to be imperfectly competitive and output will be restricted below that which is consistent with an efficient allocation of resources to that market.

Imperfect information

An optimal allocation of resources assumes that consumers can clearly evaluate the benefits of consuming an extra good or service. It also assumes that producers can clearly identify the private cost of a particular production activity. Where this does not occur there is said to be imperfect information.

Income effect

Consumers have a fixed income which acts as a constraint on their spending. Within their budget constraint, consumers have a preferred mixture of goods and services depending on the relative prices of such goods and services. A change in the price for one particular good

within the overall basket of goods and services affects consumers' demand both for that particular good and all other goods and services. The effect of a price change for good 'A' on all other goods and services is known as the income effect. For example, if the price of good A is reduced, after buying the same amount of good A as before the price reduction the consumer now has income left over – it is as if the consumer has had an increase in their income which they can spend across a range of goods and services.

Intervention cost

Governments cannot intervene in markets costlessly. For example, the recent intervention to reduce congestion on the roads in London necessitated an expenditure on infrastructure to police the congestion charge area, collect the congestion charge and pursue those who failed to pay. In order to justify Government intervention to correct the market failure that resulted in congestion Government agencies need to demonstrate that the benefits of reduced congestion exceed the intervention costs, including the deadweight cost of taxation (see above).

Merit good

These are goods where the benefit to society due to the consumption of these goods exceeds the benefit to the individual who has undertaken the consumption. An example of a Merit Good would be education since it not only generates benefits for the individual but also generates additional benefits for the society in so far as an educated individual is able to produce an improved productivity performance.

Mixed goods

Mixed goods refers to goods and services which are neither purely private goods nor purely public goods. For example mixed goods may have one but not both of the non rival and non excludable characteristics of a public good, or be non rival up to a certain point.

Moral hazard

Moral hazard occurs after individuals have entered into a contract to buy or sell a good or service. A moral hazard occurs because individuals have an incentive to behave in a manner post-contractually that they were not expected to behave in pre-contractually. For example, returning to the case of insurance that was discussed in the explanation of adverse selection, there is a moral hazard that if an insurance company provides you with life cover, perversely this may increase your willingness to engage in risky activities, safe in the knowledge that should there be an accident your partner and children will be provided for.

Non excludable

Non excludable characteristics mean that once the good has been produced it is difficult to exclude consumers from consuming the good, think of policing, defence or street lighting.

Non rival

Non rival characteristics mean that consumption by one individual does not reduce the amount of the good or service available for consumption by another consumer. Think of street lighting or clean air.

Political failings

This occurs when individual or sectional interests are allowed to supersede the public interest because of effective lobbying on the part of those interests. This is often referred to as regulatory capture and represents a significant danger when a small number of interest groups are able to get very close to the public sector decision making process.

Price takers

Where no single firm operating in a market can affect the overall prices, all of the firms are said to be 'price takers'.

Private good

A good which can be provided efficiently by the market because it is excludable and rivalrous. Think of a loaf of bread. The person who purchases a loaf of bread can prevent others from consuming it and once it has been consumed it cannot be used again.

Public good

A public good is a good that it is impossible to produce for private profit and therefore is a good for which no market exists. The reason for this market failure is because public goods exhibit two important characteristics.

- (i) They are **non excludable** once the good has been produced it is difficult to exclude consumers from consuming the good, think of policing, defence or street lighting. This leads to the **Free Rider Problem** and means that private producers are unable to charge for the good (see above).
- (ii) The above cause of market failure is compounded by the fact that public goods are often **non rivalrous** and hence consumption by one individual does not reduce the amount of the good or service available for consumption by another consumer. Think of street lighting or clean air.

Spillovers

This relates to a situation where producers of a good or service may find it difficult to appropriate all the returns to their activities, there is a spillover from the producer to other parties (innovation is a common example). As a result producers' incentives to engage in certain activities which have spillovers are lower than the optimal level.

Substitution effect

Individuals and firms have fixed incomes which act as a constraint on their spending. Within their budget constraint, consumers have a preferred mixture of goods and services depending on their relative prices. A change in the price for one particular good within the overall basket of goods and services affects consumers' demand both for that particular good and all other goods and services. Where the effect of a price reduction for good 'A' encourages greater consumption of the good because of the price change this is a substitution effect, consumers are said to substitute towards the relatively cheaper good. Public sector interventions such as grants and subsidies create incentives for private

individuals and firms to substitute one activity for a similar activity (such as recruiting a different job applicant) to take advantage of government assistance.

Acronyms

BID	Business Improvement District
GLA	Greater London Authority
IDB	Business Link's <i>Information, Diagnostic and Brokerage</i> service
LDA	London Development Agency
OECD	Organisation for Economic Co-operation and Development
SFLGS	The Small Firms Loan Guarantee Scheme
SME	Small/Medium-sized Enterprise
R&D	Research and Development
RDA	Regional Development Agency
TfL	Transport for London

Other formats and languages

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Chinese

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Vietnamese

Nếu bạn muốn có văn bản tài liệu này bằng ngôn ngữ của mình, hãy liên hệ theo số điện thoại hoặc địa chỉ dưới đây.

Greek

Αν θέλετε να αποκτήσετε αντίγραφο του παρόντος εγγράφου στη δική σας γλώσσα, παρακαλείστε να επικοινωνήσετε τηλεφωνικά στον αριθμό αυτό ή ταχυδρομικά στην παρακάτω διεύθυνση.

Turkish

Bu belgenin kendi dilinizde hazırlanmış bir nüshasını edinmek için, lütfen aşağıdaki telefon numarasını arayınız

Punjabi

ਜੇ ਤੁਹਾਨੂੰ ਇਸ ਦਸਤਾਵੇਜ਼ ਦੀ ਕਾਪੀ ਤੁਹਾਡੀ ਆਪਣੀ ਭਾਸ਼ਾ ਵਿਚ ਚਾਹੀਦੀ ਹੈ, ਤਾਂ ਹੇਠ ਲਿਖੇ ਨੰਬਰ 'ਤੇ ਫ਼ੋਨ ਕਰੋ ਜਾਂ ਹੇਠ ਲਿਖੇ ਪਤੇ 'ਤੇ ਰਾਬਤਾ ਕਰੋ:

Hindi

यदि आप इस दस्तावेज की प्रति अपनी भाषा में चाहते हैं, तो कृपया निम्नलिखित नंबर पर फोन करें अथवा नीचे दिये गये पते पर संपर्क करें

Bengali

আপনি যদি আপনার ভাষায় এই দলিলের প্রতিলিপি (কপি) চান, তা হলে নীচের ফোন নম্বরে বা ঠিকানায় অনুগ্রহ করে যোগাযোগ করুন।

Urdu

اگر آپ اس دستاویز کی نقل اپنی زبان میں چاہتے ہیں، تو براہ کرم نیچے دیئے گئے نمبر پر فون کریں یا دیئے گئے پتے پر رابطہ کریں

Arabic

إذا أردت نسخة من هذه الوثيقة بلغتك، يرجى الاتصال برقم الهاتف أو مراسلة العنوان أدناه

Gujarati

જો તમને આ દસ્તાવેજની નકલ તમારી ભાષામાં જોઈતી હોય તો, કૃપા કરી આપેલ નંબર ઉપર ફોન કરો અથવા નીચેના સરનામે સંપર્ક સાધો.

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