



Edexcel A - AS Level Economics

Theme 1 – Introduction to Markets and Market Failure

1.3 Market Failure Revision Notes

Contents

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1.3.1 Types of market failure

Understanding market failure

In a **free market**, prices decide how scarce resources (like land, labour, capital, and businesses) are shared out to meet everyone's wants and needs. This process is usually super efficient and works well most of the time. Think of it like a traffic light system for the economy, directing resources to where they're needed. 🚦

But sometimes things go wrong. This is called **market failure**. It's when resources aren't shared out in the best way for society. Imagine a pizza being cut unfairly, some people get too much (over-allocation), and others get too little (under-allocation). 🍕

Examples of market failure:

- When the market leads to **inequality** (some get a lot, others get none).
- When it causes **environmental damage** (like pollution).

Market failure happens when the price mechanism leads to resources being used inefficiently, causing demand and supply to result in a net loss of welfare for society.

Market failure can create:

1. **Too much** of some goods or services (like too many factories causing pollution).
2. **Too little** of others (like not enough healthcare or clean energy).

This means the economy isn't efficient or fair, and resources aren't being used in the best way for society. It's like having all the toppings on one slice of pizza while the others are plain.



1.3.1 Types of market failure

Types of market failure

There are different types of market failure which can include externalities, insufficient provision of public goods, and gaps in market information.

Externalities

- **Externalities are those costs or benefits which are external to an exchange. They are third party effects ignored by the price mechanism.**

Externalities are when someone outside of a deal or transaction gets affected, either positively or negatively. Basically, you're getting something you didn't sign up for. There are **positive** and **negative** externalities, and they can happen in two ways: **consumption** or **production**.

Positive Externalities (The Good Stuff):

- **Positive Consumption Externality:**
When someone's consumption benefits others. For example:
 - Vaccinations not only protect the person getting them but also help reduce the spread of disease, benefiting everyone.
- **Positive Production Externality:**
When producing something helps others. For example:
 - Beekeepers producing honey also help nearby farmers by pollinating their crops, boosting harvests.

1.3.1 Types of market failure

Types of market failure

Negative Externalities (The Bad Stuff):

- **Negative Consumption Externality:**
When someone's consumption harms others. For example:
 - Loud music at a party might be fun for the host but disturbs the neighbours trying to sleep.
- **Negative Production Externality:**
When producing something harms others. For example:
 - Factories producing textiles often dump untreated wastewater into rivers, polluting drinking water for nearby communities.

Why Do Externalities Cause Problems?

- The **free market** doesn't consider these side effects. If it did, prices and quantities would change:
- With **positive externalities**, we'd likely see **more** of these goods (like more people getting vaccinated).
- With **negative externalities**, we'd likely see **less** (like fewer polluting factories).



1.3.1 Types of market failure

Types of market failure

Public Goods

Public goods are things that benefit everyone but don't make much money for businesses, so they wouldn't be provided enough in a free market. Why? Because there's little incentive for sellers to profit from them.

Examples of public goods:

- Street lighting, flood defences, and clean air.
These goods are typically provided by the government to ensure everyone can access them. Imagine trying to make streetlights a paid service. 🏠💡

Information Gaps

In an ideal world, buyers and sellers would have equal knowledge about what's being sold. But in reality, **information gaps** happen all the time, leading to bad choices and market failure. This is called **asymmetric information**, where one side knows way more than the other.

What does this look like?

- A used car dealer might know a car has a hidden fault, but the buyer doesn't, so they overpay. 🚗
- On the flip side, a solar panel company might offer huge long-term savings, but buyers who don't understand the benefits might avoid buying them. ☀️

A Real-Life Example:

The health insurance market often suffers from information gaps. Insurers may not know how healthy a person is, leading them to charge higher premiums to cover their risks. Meanwhile, unhealthy people might hide key details to get cheaper insurance.

1.3.2 Externalities

Private, external and social costs and benefits

- **Externalities** are those costs or benefits which are external to an exchange. They are third party effects ignored by the price mechanism.

Externalities are like the ripple effects of an economic activity; they impact people who aren't directly involved in the transaction. These effects can be **positive (good)** or **negative (bad)** and are often called **spillover effects**. They can happen on the:

- **Consumption side** (what consumers do).
- **Production side** (what businesses make).

External Costs (The Bad Stuff)

External costs happen when the **social costs** (what society pays) are greater than the **private costs** (what the producer pays).

- **Private cost:** The cost a business actually pays to make something, e.g., wages for workers, rent for office space, machinery costs, raw material costs, etc...
- **External cost (negative externality):** The hidden harm to others that isn't included in the price, like noise pollution from construction.
- **Social cost:** Private cost + external cost.

Example:

A delivery company might save money using cheap, old vans. But those vans create air pollution, which leads to health problems in the city. The company pays for fuel, but society pays for the dirty air.



1.3.2 Externalities

Private, external and social costs and benefits

External Benefits (The Good Stuff)

External benefits happen when the **social benefits** (what everyone gains) are greater than the **private benefits** (what the individual gets).

- **Private benefit:** What the consumer personally gets from using a product or service.
- **External benefit (positive externality):** The bonus benefit to others, like how public Wi-Fi helps tourists and businesses around it.
- **Social benefit:** Private benefit + external benefit.

Example:

A farmer plants a new apple orchard. They sell the apples (private benefit), but the trees also help clean the air and create habitats for birds (external benefit).

1.3.2 Externalities

External costs of production

Sometimes, producing goods or services creates **negative side effects** for people who aren't involved in the transaction. These are called **negative externalities** of production, and they often cause market failure.

In a free market, businesses only think about their **private costs** - what it costs them to make something. But they don't consider the **external costs**, like the pollution or noise their production causes. This leads to **over-production**, meaning too many goods are made, and society suffers.

If businesses considered the **true costs** (private + external), they'd produce fewer goods, charge higher prices, and reduce the negative impacts.

Key Concepts

- **Marginal Private Cost (MPC):** What the producer pays to make one extra unit.
- **Marginal Social Cost (MSC):** The total cost to society (MPC + external cost).
- **Over-Production:** Happens when businesses only focus on MPC, leading to too many goods being made and a **welfare loss** for society.

Example:

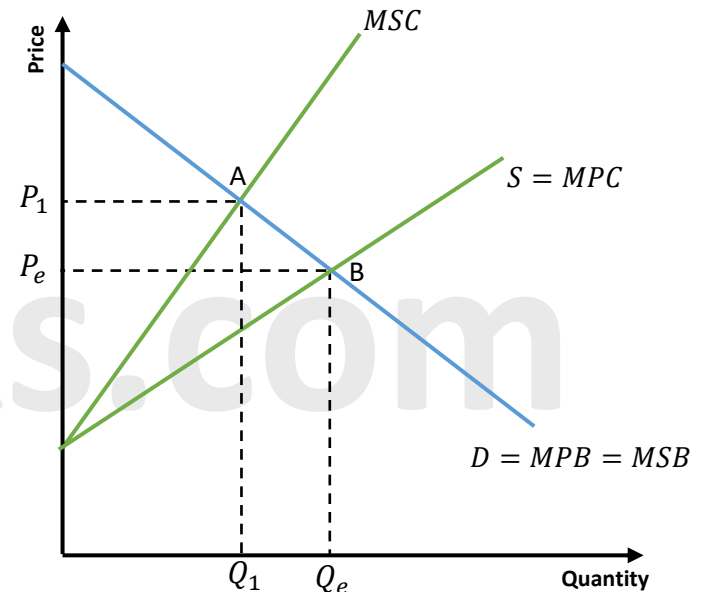
A factory making cheap shoes might dump waste into a nearby river, polluting the water. The factory doesn't pay for the cleanup, the town does. If the factory included the cost of cleaning the river, they'd produce fewer shoes and charge more.



1.3.2 Externalities

External costs of production

- **Marginal Private Benefit (MPB):** The extra satisfaction an individual gets from consuming one more unit of a good.
- **Marginal Social Benefit (MSB):** The extra benefit to society from that additional consumption.



The **free-market equilibrium** is at $P_e Q_e$, where businesses ignore external costs.

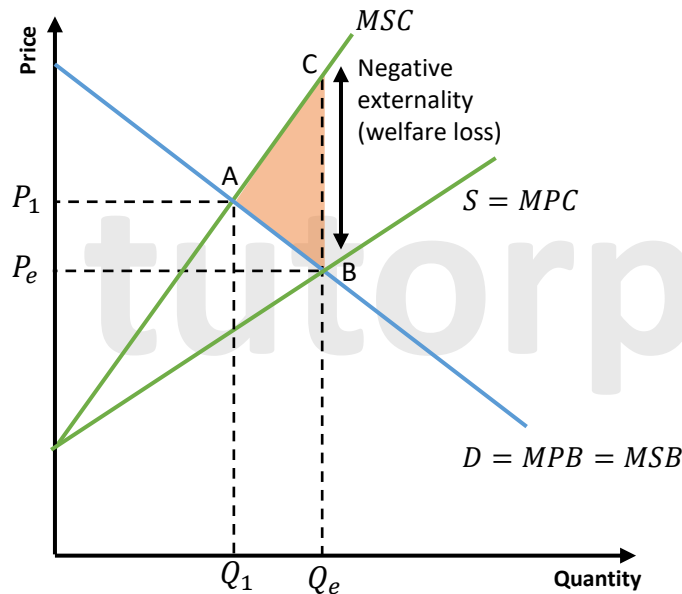
To fix this, we need to reach $P_1 Q_1$, where **MSC = MSB** (Marginal Social Cost = Marginal Social Benefit). The social cost of making the last unit equals the social benefit of consuming it. At this point, the market reaches the social optimum, and welfare is maximised.

1.3.2 Externalities

External costs of production

Negative externalities of production (diagram analysis)

Negative externalities happen when producing something causes extra costs for society that aren't paid by the producer. In simple terms, the **social costs** (what society pays) are higher than the **private costs** (what the business pays).



When markets are left alone, they ignore these extra costs. Businesses produce where $MPB = MPC$ (where private benefits equal private costs), which is at $Q_e P_e$ in the diagram. But here's the issue: society ends up paying more than it benefits, creating a **welfare loss** (the shaded area in the diagram). The bigger the external costs, the larger the gap between MPC and MSC.

1.3.2 Externalities

External costs of production

Ideally, the economy should produce at the **social optimum** ($Q_1 P_1$), where $MSB = MSC$ (social benefits equal social costs). But that's not what happens in a free market.

Why Do External Costs Grow?

The more something is produced, the bigger the external costs. For example:

- If one person cuts down a tree, the environmental impact is small.
- If a logging company cuts down an entire forest, the loss of biodiversity and carbon absorption becomes a major issue.

Examples of negative production externalities:

- Chemical factories polluting nearby water sources. 🏭💧
- Large-scale farming using pesticides that harm bees and other wildlife. 🐝🌱

How can we fix this?

Governments can step in with:

- **Taxes** (to make producers pay for external costs).
- **Regulations** (to limit harmful production).
- **Legislation** (to force businesses to reduce their impact).

1.3.2 Externalities

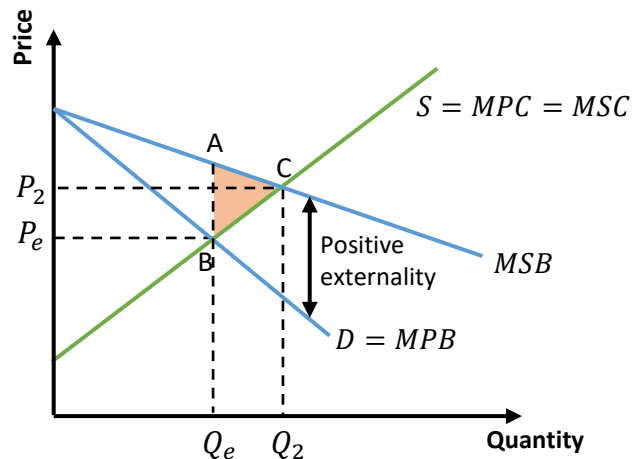
External benefits of consumption

Positive externalities happen when consuming something benefits not just the person who uses it but also society as a whole. Think of these as **merit goods**, things the market under-produces because people and businesses only focus on their own private benefits and ignore the wider societal benefits.

In a free market, people consume where $MPB = MSC$ (private benefit equals cost), shown as $Q_e P_e$ in the diagram. But here's the catch: this leads to **under-consumption** because the **external benefits** aren't being factored in.

If we accounted for these external benefits, more of these goods would be consumed, and they'd be sold at a slightly higher price, as seen at $Q_2 P_2$.

The ideal outcome, from society's perspective, is at $Q_2 P_2$, where $MSB = MSC$ (social benefit equals cost). Here, everyone wins, and there's no market failure. But to get there, more resources need to be allocated to these goods to maximise **welfare gain** (shown as the orange triangle on the diagram) to society.



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1.3.2 Externalities

External benefits of consumption

Why Do Social Benefits Grow?

The more people do certain activities, the bigger the social benefits. For example:

- **Using public transport:** Individuals save money and time, while society benefits from reduced traffic congestion and cleaner air.
- **Recycling:** Helps individuals feel good about reducing waste while society benefits from less landfill and lower pollution levels.

The Challenge

- Figuring out the size of these external benefits is tough because they often involve **subjective value judgments** (like deciding how much cleaner streets or reduced traffic are worth). Plus, **information gaps** make it harder, people don't always realize how their actions impact society.

How can we fix this?

Governments can step in to help by:

- **Subsidising** goods with positive externalities.
- **Partially providing** these goods themselves.
- Encouraging consumption through **public awareness campaigns**.

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1.3.2 Externalities

The impact of economic agents of externalities and government intervention in various markets

Externalities happen when a market action affects people or the environment in ways that aren't reflected in the price. Fixing these requires **government intervention** and real-world examples to understand their impact.

Negative Externalities

Real-Life Example: **Logging and Deforestation**

External Costs (the bad stuff):

- **Loss of forests:** Destroying trees reduces biodiversity and contributes to climate change.
- **Soil degradation:** Clearing trees causes erosion and decreases soil fertility.
- **Displacement of wildlife:** Animals lose their natural habitats.
- **Carbon emissions:** Cutting trees increases CO₂ levels in the atmosphere.

Who's Affected?

- **Loggers and timber companies:** Direct producers who profit from logging.
- **Wood product manufacturers:** Depend on deforestation for raw materials.
- **Local communities:** Often lose their natural resources and face environmental issues.
- **The environment:** Suffers damage, leading to long-term ecological problems.
- **Governments:** Have to deal with environmental restoration costs.
- **Environmental activists:** Groups like WWF that fight to protect forests.



1.3.2 Externalities

The impact of economic agents of externalities and government intervention in various markets

Government Fixes (how they step in):

- **Taxes:** Charging timber companies for the environmental damage they cause.
- **Regulations:** Limiting how much logging can happen in a specific area.
- **Fines:** Penalising companies that don't follow environmental standards.
- **Reforestation incentives:** Providing subsidies to plant new trees and restore forests.

Why It's a Balancing Act

While these interventions help reduce environmental harm, they also come with trade-offs:

- **Higher costs** for timber companies could lead to fewer jobs.
- **Slower economic growth** might occur in areas that depend on logging.

By carefully balancing these interventions, governments can reduce harm while keeping industries sustainable. 🌳 ✨

1.3.2 Externalities

The impact of economic agents of externalities and government intervention in various markets

Positive Externalities

Real-Life Example: **Public Libraries**

External Benefits (the good stuff):

- **Improves literacy and education:** Free books and resources help people learn and grow.
- **Boosts job opportunities:** Access to job search tools and training improves employment chances.
- **Encourages community bonding:** Libraries host events that bring people together.
- **Saves people money:** Free access to books, internet, and other resources reduces individual costs.
- **Promotes creativity:** Spaces for art, writing, and study inspire new ideas.

Who Benefits?

- **Library users:** Individuals borrowing books or using facilities.
- **Local schools and students:** Gain access to additional study materials.
- **Parents and families:** Benefit from free children's programs.
- **Employers:** Have access to more skilled and educated workers.
- **The government:** Saves money long-term as better education and job opportunities reduce unemployment and social costs.



1.3.2 Externalities

The impact of economic agents of externalities and government intervention in various markets

Government Intervention

- **Increase funding:** Build more libraries or expand existing ones.
- **Subsidise programs:** Offer free classes or workshops in libraries.
- **Raise awareness:** Promote library benefits through public campaigns.
- **Collaborate with schools:** Provide shared resources for students.

The Balancing Act

While funding libraries boosts literacy and improves society, it may come at the cost of diverting money from other areas like healthcare or public transport. Governments need to balance these trade-offs to maximise the benefits for everyone. 📖 ✨

1.3.3 Public Goods

Private Goods:

These are things businesses sell to make money. Why? Because they display characteristics of **rivalry** and **excludability**.

- **Excludable:** If you can't pay, you don't get it. Think about Netflix, it's locked unless you pay for a subscription.
- **Rivalrous:** If someone buys the last concert ticket, it's gone. You're out of luck.

Businesses love these goods because they can charge money, and people compete to buy them.

Public Goods:

Public goods are different because they're:

- **Non-excludable:** You can't stop people from using them. For example, streetlights. You can't stop someone from benefiting just because they didn't "pay their share."
- **Non-rivalrous:** One person using it doesn't take away from someone else. For instance, national defence protects everyone equally, no matter how many people there are.

Because businesses can't make a profit from public goods, governments usually step in to provide them.



1.3.3 Public Goods

The "Free Rider" Issue

Public goods often run into a big problem called the **free rider issue**, which is why they're under-provided. Here's the deal:

Once a public good is available to one person, it's available to *everyone*. You can't exclude people who didn't chip in from enjoying it. And that's where the market stumbles, businesses can't make money from people who refuse to pay.

For example:

- **Street cleaning:** Once the streets are clean, everyone benefits, even those who didn't contribute a penny.
- **Flood defences:** If your neighbourhood builds a flood wall, you're protected whether or not you helped fund it.

Now, imagine a rational consumer thinking, "Why should I pay if someone else will?" This leads to a classic stand-off: everyone waits for someone else to foot the bill. But if everyone waits, guess what? The public good never gets provided.

The key issue here is **non-excludability**, you can't keep people from using the good once it's available. And without a way to charge free riders, the **price mechanism** doesn't work.

So, governments often step in to make sure these essential goods (like flood defences or clean streets) are provided, even if no one's rushing to pay.

Tip: Don't call the National Health Service (NHS) or state education public goods, they involve rivalry in consumption. Instead, they're better described as merit goods that provide external benefits.

1.3.4 Information Gaps

Markets don't always work perfectly because people don't have **all the info they need**; this is what we call an **information gap**.

In a perfect world, buyers and sellers would have the **same information** about products and services. We call this **symmetric information**, everyone's on the same page.

But in reality? It's usually **asymmetric information**, meaning one side knows way more than the other. For example:

- In the **used car market**, sellers know the car's true condition, but buyers? They're guessing. This creates a trust issue, nobody wants to end up with a bad deal.

Why It Messes Things Up

When one side has more info, markets can go haywire. This leads to:

1. **Over-provision** (too much of something bad):
 - **Example:** Fast fashion brands might hide poor working conditions. If buyers knew, they'd buy less, and fewer resources would go into making those clothes.
2. **Under-provision** (too little of something good):
 - **Example:** Solar panels could help reduce energy bills, but not everyone knows about government rebates. If they did, more people would invest in solar, and society would benefit.



1.3.4 Information Gaps

The Fix

Fixing information gaps can help markets work better. This means:

- Educating consumers about harmful products (like warning labels on cigarettes).
- Spreading the word about benefits (like government incentives for electric cars).

When people have the right info, markets get closer to **fair and efficient**.

Please see the '1.3 Market Failure Worked Examples' pack for exam style questions.

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