

# Online event: Unleashing the AI Monster: Terrors and Triumphs in the Digital Realm

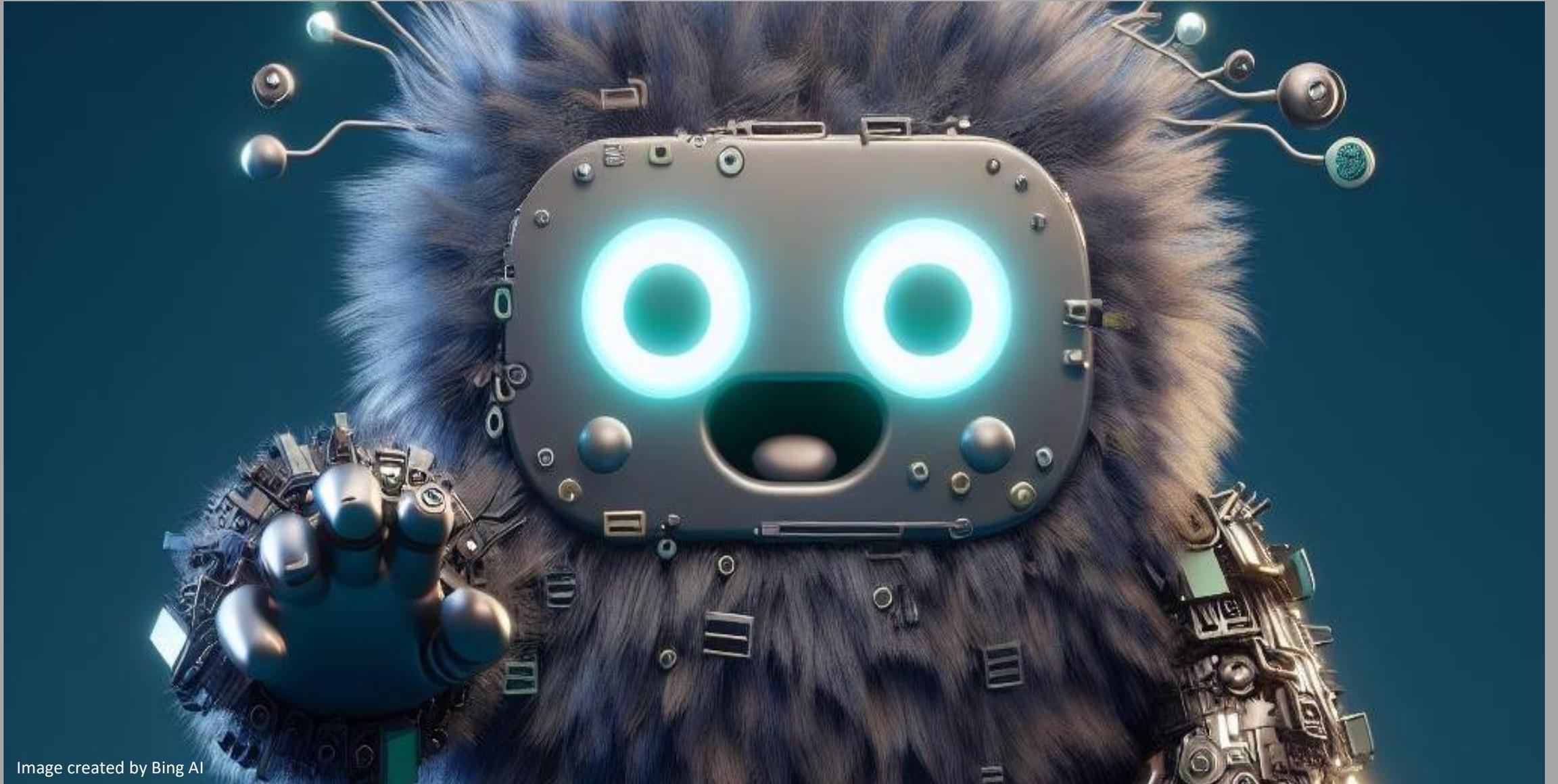


Image created by Bing AI

**Using ChatGPT to aid the Design of Class Materials:** contributed by Amanda Mason UHI - Inverness



# TODAY'S AGENDA

- Introduction
- Prompting a chatbot
- Create class materials
- Questions

# INTRODUCTION

## REASON I STARTED TO USE CHATBOTS



Had identified two topics I wanted to address but did not have much time to prepare.



1. students not understanding/using the right terminology within their summative assessment.



2. encouraging students to think critically about 'market failure' and government interventions.



I turned to ChatGPT3.5 AI tools to help me prepare.



Consider this scenario: delivering economics to students who are not keen on 'theory' based topics.



Going to talk about how I have been using ChatGPT3.5 in learning and teaching.



'Overshared' in an Alpine course and here I am!



# Prompting

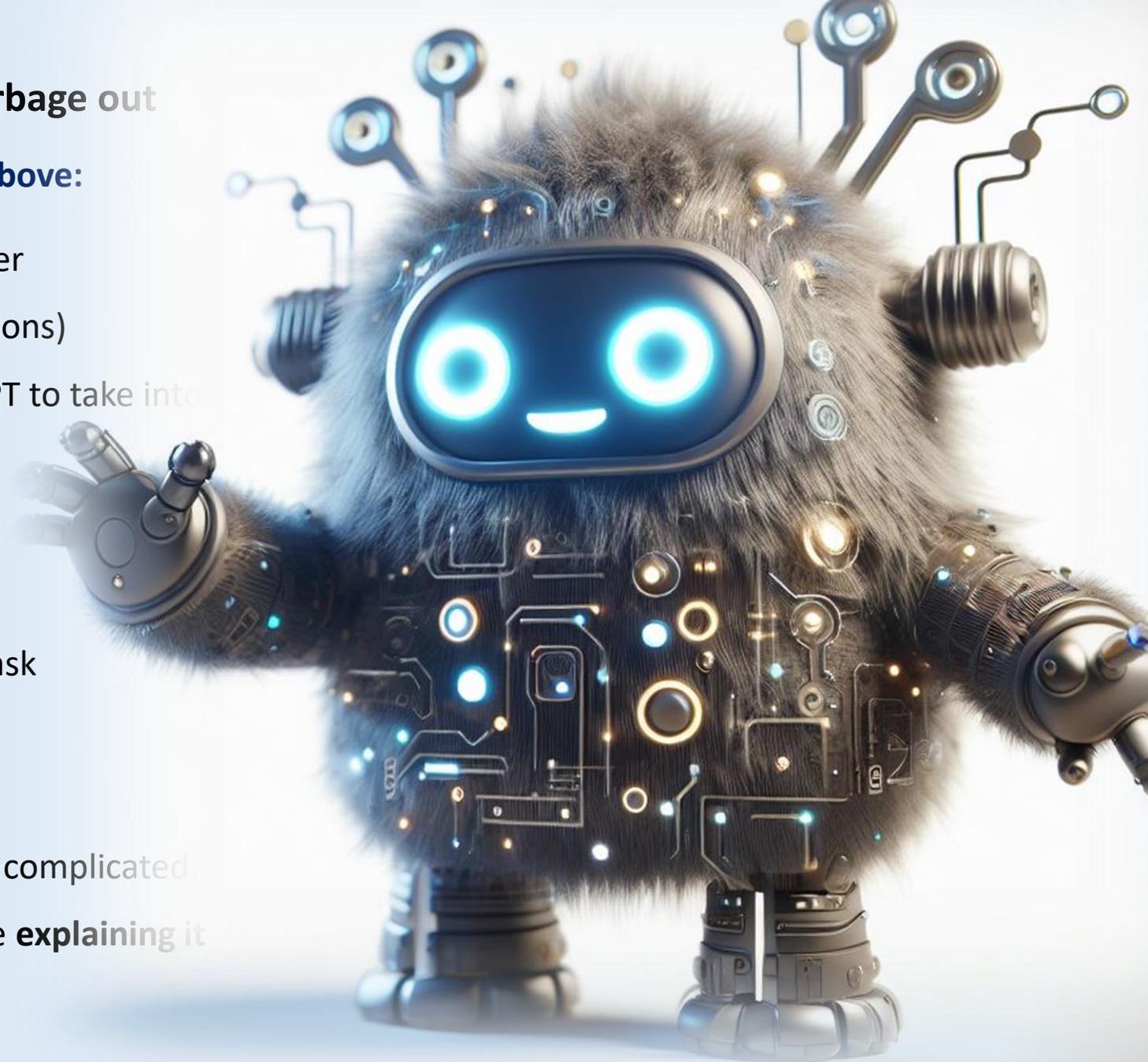
- Whilst the prompting guidelines have some merits, I like to **go fishing** and see what ChatGPT comes back with.
- I normally start with prompting ChatGPT to do the whole thing first and review the results.
- ChatGPT can surprise me and do so much more than I think it can.
- Then I think about applying what I have found, to my cohort making sure my initially aims for the class materials are covered.
- I might need to change the prompts a few times to get exactly what I am looking for.



# How to prompt a chatbot – garbage in, garbage out

I've found most prompt guidelines align with these above:

1. **Role** – give Chat GPT a role, i.e., Financial Controller
2. **Action** – describe the action (step by step instructions)
3. **Context** – any additional context you want ChatGPT to take into consideration
4. **Examples** – [example 1][example 2][example 3]
5. Constraints – i.e., word count
6. Tell ChatGPT how you would like the answer, i.e., ask for a table **format**, ask for bullet points etc
7. **Experiment** with different phrasings
8. If you are looking for an explanation of something complicated, ChatGPT then ask to give your answer like they are **explaining it to a five-year-old**
9. Prompt for **fact-checking**



# Create Class Materials



I like to 'go fishing' with my first prompt, so I shared my situation with chatbot and asked for ideas.

## I prompted:

I am an accounting lecturer, teaching Economics Issues – An Introduction module, to HNC accounting students. Please give me some gamification ideas I can use for a revision class. Students are competitive. Please add some extra focus on the following topics:

- Worried about students not understanding/using the right economic terminology within their summative assessments
- Wanting students to think about what 'market failure' is and what tools government, have to intervene. Rather than regurgitating class materials – I want to give students confidence to think on their feet – be better prepared for their assessment

## ChatGPT gave me some ideas:



Gamification is an excellent way to engage and motivate your accounting students in a revision class. Given your concerns about economic terminology and the desire to encourage critical thinking about market failure and government intervention, here are some gamification ideas tailored to your needs:

1. **Economic Terminology Jeopardy:**
2. **Economic Term Pictionary:**
3. **Market Failure Scenarios:**
4. **Economic Terminology Bingo:**
5. **Economic Quiz Show:**
6. **Government Intervention Simulation:**
7. **Economic Term Card Game:**
8. **Market Failure Case Study Tournament:**
9. **Economic Terminology Relay Race:**
10. **Economic Debate Tournament:**



*A year ago, I needed to prompt ChatGPT to number the quiz questions and supply solutions. It/they have learned to do this automatically.*

## Create Class Materials cont.

I use chatbots to create quizzes for formative assessments (could use for summative) which comprise of the following:

**I prompted:** (i.e., you can copy & paste this directly into your chatbot – you will get different quiz questions each time).

Economics class, first year college student, please make a quiz which has 2 of each, please number them and provide solutions:

- Multiple choice questions
- Fill in the blanks
- Matching game: Match the terms with definitions
- Short answer questions

Topics:

- Basic economic problem
- Concept of opportunity cost
- Changes to demand and supply when determinants for each are altered
- Concepts of price elasticity of demand
- Concepts of Income elasticity of demand

# Class Materials:

## Demonstration how to prompt in ChatGPT



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Sure, here's a quiz with two questions for each type you've requested:

## Quiz on Economics for First-Year College Students

### Multiple Choice Questions:

1. What is the primary concern of the basic economic problem?
  - a. How to allocate unlimited resources to meet unlimited wants.
  - b. How to allocate limited resources to meet unlimited wants.
  - c. How to allocate unlimited resources to meet limited wants.
  - d. How to allocate limited resources to meet limited wants.

**Solution:** b. How to allocate limited resources to meet unlimited wants.

2. Opportunity cost is best described as:
  - a. The monetary cost of an opportunity.
  - b. The value of the next best alternative when a choice is made.
  - c. The cost of a rare opportunity.
  - d. The profit gained from an opportunity.

**Solution:** b. The value of the next best alternative when a choice is made.

### Fill in the Blanks:

1. The basic economic problem is the scarcity of resources in relation to \_\_\_\_\_ human wants.

**Solution:** unlimited

2. Opportunity cost is the cost of forgoing the next best alternative when making a \_\_\_\_\_.

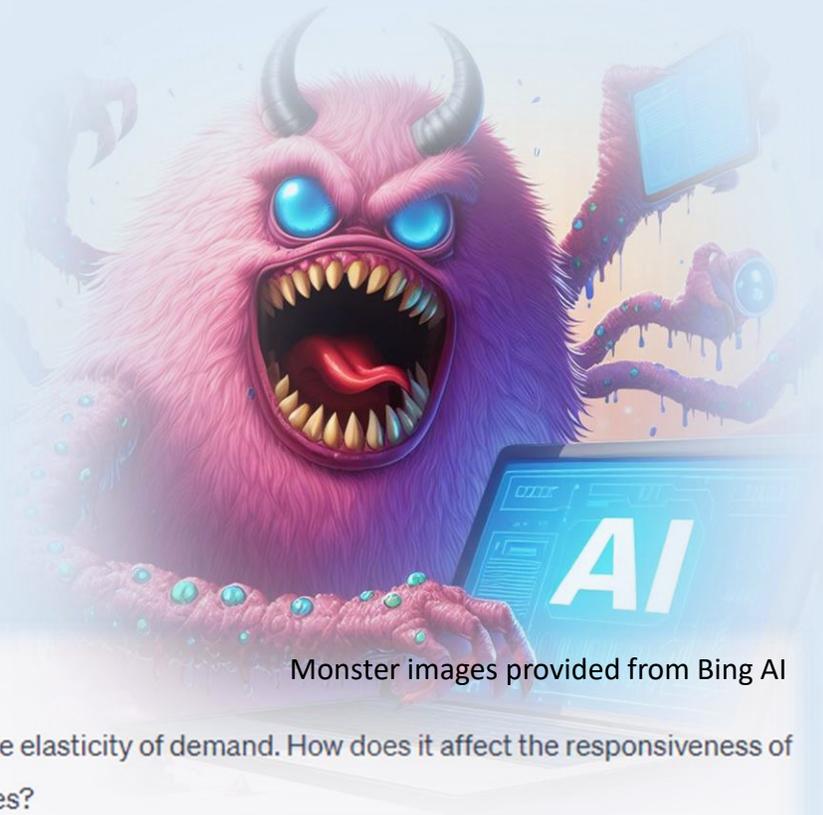
**Solution:** choice

# Quiz results



# Quiz Results

## cont.



### Short Answer Questions:

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1. Explain the concept of price elasticity of demand. How does it affect the responsiveness of consumers to price changes?

**Solution:** Price elasticity of demand measures how sensitive the quantity demanded of a good is to changes in its price. If the price elasticity of demand is high (greater than 1), it indicates that consumers are very responsive to price changes. If it's low (less than 1), consumers are less responsive to price changes.

2. Describe what income elasticity of demand represents and provide an example of a product with a high income elasticity and one with a low income elasticity.

**Solution:** Income elasticity of demand measures how sensitive the quantity demanded of a good is to changes in consumer income. For example, luxury goods like sports cars often have high income elasticity because demand increases significantly as incomes rise. Necessities like food have low income elasticity because people need them regardless of income changes.

### Matching Game: Match the Terms with Definitions

Terms:

1. Basic economic problem
2. Concept of opportunity cost
3. Changes to demand and supply when determinants for each are altered
4. Concepts of price elasticity of demand
5. Concepts of income elasticity of demand

Definitions:

- A. The scarcity of resources in relation to unlimited human wants.
- B. The value of the next best alternative when making a choice.
- C. How demand and supply quantities change when factors like price, consumer income, or preferences change.
- D. Measures how sensitive the quantity demanded of a good is to changes in its price.
- E. Measures how sensitive the quantity demanded of a good is to changes in consumer income.

Students would match the numbers with the corresponding letters like this:

Students would match the numbers with the corresponding letters like this:

1. A
2. B
3. C
4. D
5. E

I could ask ChatGPT to not pair the solutions in their natural sequence. It's easy for me to do that when I format.



## Putting it all together for the class:

Started the class with the quizzes, covering LO1 &2.

I spilt the class into 4 groups and gave each group a copy of the quiz to complete. Each correct answer had a monetary value attached. The groups were told, their totals earned in the quiz will be their starting values going forward in the next game. This gave them incentive to try harder.

The groups swapped their quiz papers and marked each other's with a marking schedule I give them, and when the groups received their marked quiz papers back, they made sure their quizzes were marked correctly.

This gave students a reason to go over the quiz questions three times – without realising this was part of their revision.

# Gamification

## Market Failure Scenario Game

I've gone fishing on my first prompt

### I prompted:

Create a gamification game based on Market Failure?

Sure, here's a gamification game based on market failure:

Title: Fix the Market

Objective: The objective of the game is to fix the market failures by making the right decisions as a government representative.

### Gameplay:

1. The game is played on a board with different squares representing different market scenarios.
2. Each player is assigned a government representative role and is given a budget.
3. The players roll the dice to move their pieces on the board.
4. When a player lands on a square, they read the scenario and are asked to decide on how to fix the market failure.
5. The decision could involve implementing regulations, taxes, subsidies, or other market interventions.
6. The cost of the intervention is deducted from the player's budget.
7. The player then rolls the dice again and moves to the next square.
8. The game continues until all the squares have been visited.
9. The player with the most budget left at the end of the game is declared the winner.



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### Scenarios:

1. Pollution: A factory is releasing harmful chemicals into a river that is used for drinking water. How can you fix this market failure?
2. Monopoly: A single company controls the market for a specific product. How can you fix this market failure?
3. Public Goods: A park needs to be maintained but no one wants to pay for it. How can you fix this market failure?
4. Externalities: A company is generating a lot of traffic and noise that is causing harm to the surrounding community. How can you fix this market failure?
5. Price Floor: Farmers are unable to sell their products at a price that covers their cost of production. How can you fix this market failure?

### Rewards:

1. A correct decision earns the player bonus budget.
2. The player with the most budget left at the end of the game is declared the winner.
3. The winner could receive a prize such as a certificate or a small gift.

Note: The game can be modified to include more scenarios and different types of market failures.

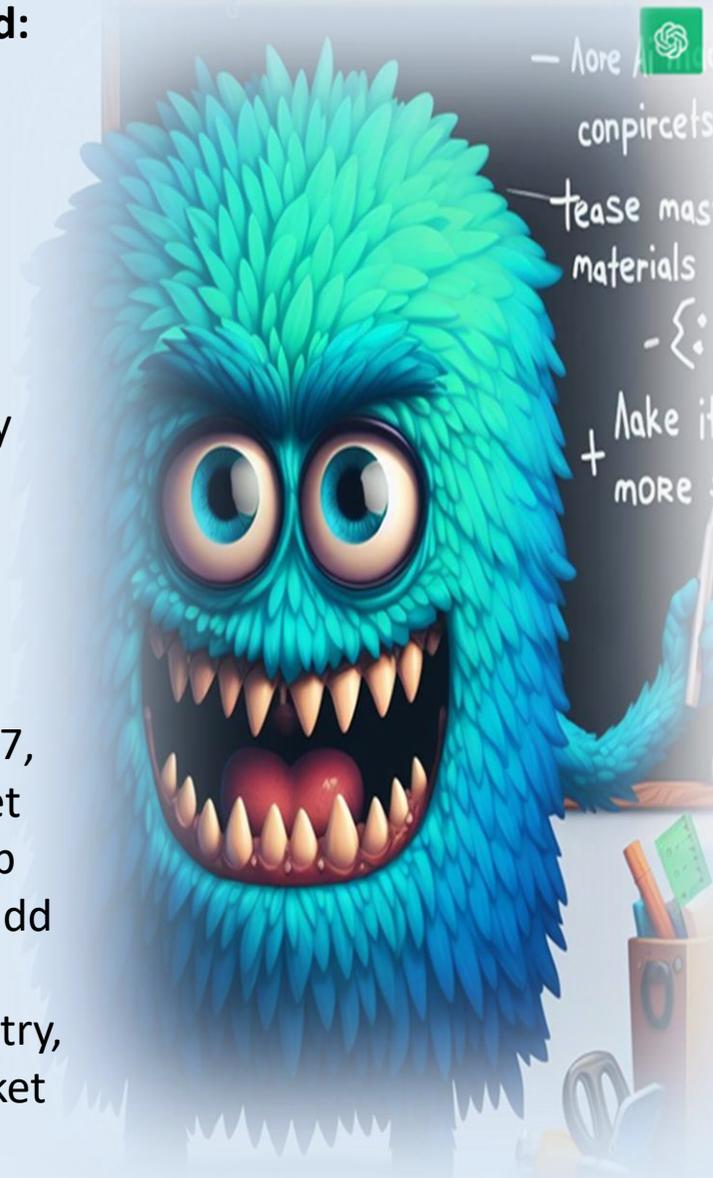
## The game looked great, but I didn't have time to create it

### I thought about what I needed:

- market failure scenario questions, with plausible solutions.
- monopoly style chance & community chest scenarios relating to 'market failure' examples giving a monetary gain or loss value for each one.

### I prompted:

Please create questions for my economic students SCQF Level 7, for each of the following market failures for students to come up with solutions for. Please also add possible solutions for each question: Information Asymmetry, Tragedy of the Commons, Market Power, and Inequality.



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## Gamification – cont. Market Failure Scenario Game

### 1. Information Asymmetry:

a) How can information asymmetry lead to market failure?

Possible solutions:

- Mandating disclosure requirements for sellers to provide more information about the products or services being sold.
- Creating independent regulatory bodies to monitor and enforce disclosure requirements.
- Educating consumers and providing them with unbiased information to help them make informed decisions.

b) How can the government intervene to mitigate the effects of information asymmetry in healthcare markets?

Possible solutions:

- Requiring healthcare providers to disclose information on prices and outcomes to patients.
- Providing incentives for providers to prioritize patient health outcomes.
- Regulating healthcare providers to ensure transparency and accuracy of information.

Whilst this is good, it's not giving me scenario questions. I did not prompt for scenario question, but seeing the results, I can clearly see they are needed. I made another request.

I'm showing my process, I will normally need to prompt a few times. I'll use prompts to find ideas and then prompt again (several times) to get exactly what I want. I'm not a professional prompter.

## Teaching Expertise Comes First - AI is an aid

So, I changed my prompt – due to using the same history trend, the chatbot will be able to consider everything I have requested in this same trend. I don't need to keep repeating myself.

I prompted:

Please rewrite each of the market failure questions in scenario form



1. Information Asymmetry:

a) Imagine you are a consumer looking to purchase a used car. How could the seller's knowledge about the car's history and condition create a situation where you are at a disadvantage in the market? What solutions could be implemented to mitigate this problem?

b) As a patient seeking medical care, how might a lack of information about your health condition, treatments available, and healthcare provider's performance impact your decision-making ability? What actions could the government take to address this issue in healthcare markets?

**Yay, just what I want**

# So, I printed some Game Cards

## Market Scenario

### **Information Asymmetry:**

Patients can't find information about their health conditions, treatments available, and healthcare provider's performance.

How can you fix this market failure?



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## Market Scenario Solutions

### **Information Asymmetry:**

Patients can't find information about their health conditions, treatments available, and healthcare provider's performance.

How can you fix this market failure?

### **Solutions could include:**

- Mandating disclosure requirements for sellers to provide more information about the products or services being sold.
- Creating independent regulatory bodies to monitor and enforce disclosure requirements.
- Educating consumers and providing them with unbiased information to help them make informed decisions.
- Requiring healthcare providers to disclose information on prices and outcomes to patients.
- Providing incentives for providers to prioritize patient health outcomes.
- Regulating healthcare providers to ensure transparency and accuracy of information.

## Gamification – cont. Market Failure Scenario Game

At this point, students have played the quiz and have their winning to bring into the next game.

I have the market **failure game questions** and **plausible solutions ready**

### Game Execution:

Give a 'Market Failure Card', to the first group – they have approx. 10 mins to prepare a presentation based on the card they received. They need to understand the type of market failure given and provide plausible solutions.

Meanwhile, the other three groups receive the same 'Market Failure Card' (as the first group). In addition, they receive 'plausible solutions. Their reasonability is to decide (firstly, within their groups) if the solutions provided by the group presenting are correct. This gives all students an opportunity to cover the topics in small group decisions and class wide debates.



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When everyone is ready, the **first group presents** their solutions, then the **three other groups discuss the merits of the presentation (debate)** and take a vote. This is fun to watch!

## I asked ChatGPT to create some Monopoly (community chest and Chance) cards, to add some fun risk into our game.

I prompted

Please create monopoly style chance & community chest scenarios relating to 'market failure' examples giving a monetary gain or loss value for each one.

### Chance Cards

1. You have just won a lawsuit against a company for polluting the environment. Collect \$500 in damages.
2. A natural disaster has caused a shortage of a key resource. Pay \$100 extra to purchase the resource for your business.
3. The government has implemented new regulations that favour your industry. Collect a tax break worth \$200.
4. Your business has experienced a sudden increase in demand. Collect \$300 in profits.
5. A new competitor has entered the market and is undercutting your prices. Pay \$200 in marketing expenses to stay competitive.

### Community Chest Cards

1. You have been selected to participate in a government program that provides funding for sustainable business practices. Collect \$500 in grants.
2. A customer has filed a complaint against your business for false advertising. Pay \$200 in legal fees to resolve the issue.
3. The government has introduced a new tax on your industry. Pay \$300 in taxes.
4. Your business has been fined for violating environmental regulations. Pay \$100 in fines.
5. Your business has won a bid to provide goods or services to a large company. Collect \$400 in revenue.



## I didn't have time to look for YouTube videos, so I asked the Chatbot

I prompted:

Please advise which YouTube videos will be good for teaching SCQF Level 7 students' economics, market failure



Here are some YouTube videos that can be helpful in teaching SCQF Level 7 students about economics and market failure:

1. "Market Failure" by Jacob Clifford (ACDCLeadership) - This video provides a comprehensive overview of market failure, including types of market failure, externalities

It's a great video.  
I added it to Brightspace -  
class materials.

# Images Bing AI created for this presentation

The three images of the metal monsters (on the bottom row) are Bing AI's own versions of scary AI monster for Halloween 🤩

