

LOGICAL ECONOMICS



JYOT TRIVEDI



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FOREWORD: ECONOMICS IN REVIEW



Welcome to our third issue of Logical Economics in 2025; this termly publication has been designed by students for students to help better understand stories that happen around the world, with just a hint of Economic theory sprinkled in.

Reflection is always an important part of life and so falls quite aptly at the end of this academic year.

The year in review so far seems to be one of volatility and mixed sentiment. Forecasts show signs of global growth slowing down according to the IMF, down from 3.3% in 2024 to now 2.4-2.9% in 2025. Many liken this pace of growth to that of the Global Financial Crisis of 2008. Does this mean we are in for an even more bumpy year ahead; only time will tell.

However, even with what seems like a negative outlook, there are signals of brighter moments to come.

There have been further development in renewable technologies, allowing supply and competition to increase, thus lowering prices, affordability and availability for many more people.

Mr. Shah

[1\)https://www.imf.org/en/Publications/WEO/Issues/2025/04/22/world-economic-outlook-april-2025](https://www.imf.org/en/Publications/WEO/Issues/2025/04/22/world-economic-outlook-april-2025)

Ai... the possible impacts

Mr. Shah?

Economic impact of Ai

Artificial Intelligence (AI) is transforming the modern world, bringing both opportunities and challenges. It is widely used across industries such as healthcare, finance, manufacturing, and logistics. AI boosts productivity, automates routine tasks, and enables data-driven decisions. For instance, AI can help diagnose medical conditions, detect fraud in financial systems, and optimise supply chains.

AI is revolutionizing industries by automating tasks, improving efficiency, and unlocking new opportunities for growth. In sectors like manufacturing, finance, healthcare, and logistics, AI is enhancing productivity through real-time data analysis and intelligent decision-making systems. For example, in healthcare, AI is being used to diagnose diseases more accurately and quickly, often identifying patterns that human doctors might miss. In finance, AI-driven algorithms help detect fraudulent transactions and make investment decisions.

However, this rapid integration also raises concerns about job displacement. Routine and repetitive jobs are increasingly being replaced by machines, leading to uncertainty among workers. While new types of jobs are emerging — particularly in AI development, data science, and cybersecurity — the pace of reskilling may not match the speed of automation.

Social impacts of Ai

AI is changing the way people interact with technology and with each other. Recommendation algorithms shape our online experiences, from what we watch on Netflix to what we read on news feeds. AI-powered language models are now being used in education, journalism, and customer service.

At the same time, there are growing concerns about privacy, bias, and misinformation. AI systems trained on biased data can perpetuate and even amplify social inequalities. Deepfakes and AI-generated content challenge our ability to distinguish truth from fiction, posing risks to democracy and public trust.

Social and Cultural Impacts

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Ethical and Legal Challenges

With great power comes great responsibility. The ethical implications of AI development are significant. Who is accountable when an autonomous car causes an accident? How do we ensure that AI systems are transparent, fair, and aligned with human values? Governments and tech companies are grappling with the need for regulation and oversight. Efforts are being made to create ethical frameworks, such as AI transparency standards and guidelines for responsible use. However, international cooperation remains fragmented.

Education and the Future Workforce

AI is also transforming education, both as a tool and as a subject of study. Adaptive learning platforms use AI to tailor lessons to individual student needs. At the same time, there's an urgent push to include digital literacy, coding, and critical thinking in school curricula to prepare students for a world shaped by intelligent machines.

Overall

There are many positives and negatives with Ai; like with any tool, how we design, implement and use it will determine the impact it has on a physical, social, ethical and even spiritual level. Note: this article was "mostly" written by Ai. Could you even tell? The world is changing a fast pace, how do we change with it?

The Gig Economy: A Revolution in Work or a Race to the Bottom?

Lynn Ishac & Vy Le

What is the Gig Economy?

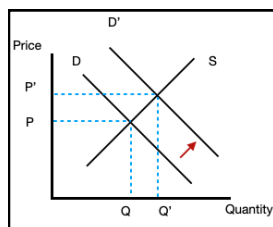
The term 'Gig Economy' refers to a labour market defined by freelance, flexible and temporary work, frequently made possible via online marketplaces such as TaskRabbit, Uber, and Deliveroo. Workers, often referred to as "gig workers", are typically independent contractors or self-employed rather than traditional employees. The model has transformed the way people work, from delivery riders to freelance designers and online tutors. This shift, notably accelerated during the recent pandemic, has reshaped labour markets worldwide. Factors like digital connectivity, strong demand for convenience, and a desire for flexible working have all fuelled its significant growth and popularity.

Economic Benefits

The gig economy offers significant flexibility benefits to workers, primarily through increased labour supply. It provides a valuable avenue for individuals with non-traditional schedules, such as students, parents or semi-retired individuals, to earn income, therefore expanding the overall labour supply. This model also grants workers greater autonomy, allowing them to choose when and how much to work. This flexibility could potentially outweigh financial considerations, attracting workers even if wages are sometimes lower than traditional employment.

From the perspective of firms, the gig economy presents considerable economic benefits. A key advantage is reducing labour unit costs which lowers average variable costs, leading to a fall in total costs. It avoids expenses associated with traditional employment, such as pensions, sick pay, or national insurance contributions. It also reduces the need for extensive traditional corporate infrastructure and fixed labour costs, as platforms operate with a more agile workforce model. Moreover, the gig model enables firms to easily adjust their workforce based on fluctuating demand. Furthermore, it increases efficiency by facilitating a quicker matching of supply and demand for services, allowing firms to lower their prices and increase producer surplus through higher revenue/ abnormal profits.

For consumers the gig economy offers convenience and choice. Lower prices for consumers (driven by platforms' reduced costs) can therefore shift demand to the right, increasing quantity demanded. This accessibility delivers significant gains in consumer surplus and utility. The direct match of demand and supply leads to increased market efficiency, offering services that may have been inaccessible and more costly.



Economic Challenges & Market Failure

However, beneath the surface of flexibility, some argue that the gig economy often comes at a steep price for workers, raising significant concerns about market failure and exploitation.



As 'independent contractors', gig workers typically lack the fundamental protections afforded to employees. This means there is no minimum wage guarantee and no access to employee benefits.

Whilst their earning may sometimes exceed the minimum wage, a 2024 Citizens Advice report highlighted that many gig workers are often not legally guaranteed the National Minimum wage, and many actually earn less than this after accounting for expenses.

Moreover, they typically receive no paid sick leave, holiday pay, or unemployment benefits, and crucially, lack employer contributions towards their pensions. This shifts significant risk to the individual and raises serious concerns about their financial future. For example, ahead of the recent Glastonbury Festival, PensionBee Chief Business Officer UK, Lisa Picardo, highlighted that while the event generates millions, many workers making it happen — from self-employed traders to stage crew — earn nothing towards their retirement.

Furthermore, gig workers often struggle to form unions or engage in collective bargaining. This lack of collective worker power leaves them vulnerable to the dominant monopsony power of large platforms. In economics, a monopsony is a market where there is only one dominant buyer. Just as a monopoly can dictate prices to consumers these large platforms, as the primary buyers of gig labour, can effectively set terms and wages for workers with little negotiation. This allows them to significantly influence the labour market to their advantage, often resulting in workers being paid less than their marginal revenue product — the true value their labour adds. This power imbalance ultimately weakens their position in the labour market and contributes to the economic exploitation observed within the gig economy.

The gig economy presents a fascinating, yet complex, economic landscape. While it undeniably offers significant benefits in terms of flexibility for workers and unparalleled convenience for consumers, it often leads to worker precarity and market failures, notably due to platforms' monopsony power. As the gig economy continues to reshape our labour markets, the challenge for policymakers will be to find a crucial balance. The aim should be to harness the innovation and flexibility that gig platforms offer, while simultaneously ensuring fair labour standards, and competitive markets where workers are not treated as 'second-class citizens'.

Unpacking the hidden external costs of electric vehicles

Daniel Samad-Abadi & Humayl Khan



The market for land vehicles

Since the early 1930s the demand for cars in the UK increased significantly, due to an increase in household disposable incomes. Cars have allowed consumers to travel from one place to another in a shorter amount of time than traditional methods. In this modern period we have seen a significant rise in demand for Electric Vehicles (EV) which incentivised firms like BYD and Tesla to enter the market in response to our government's objective of reaching net zero emissions by 2050.

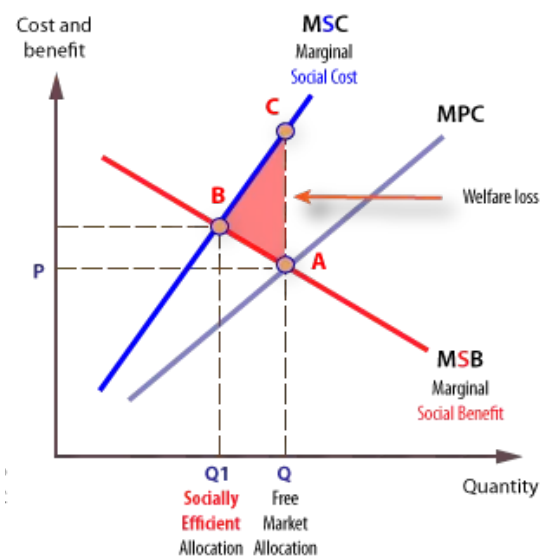
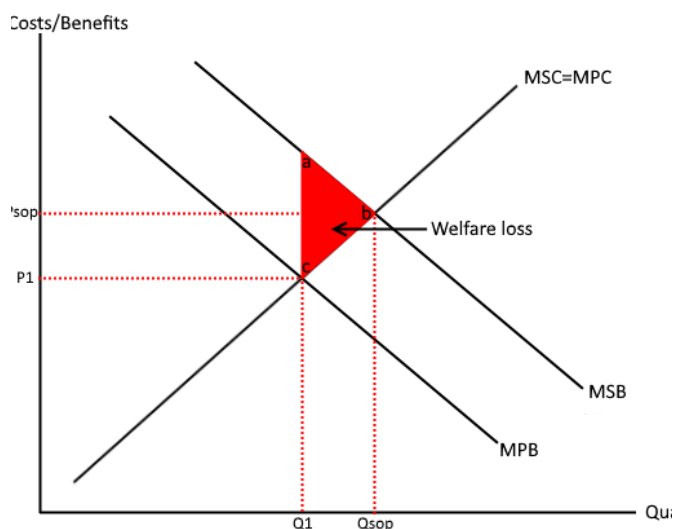
Benefits of reducing automobile emissions

Electric vehicles do not emit any carbon dioxide thanks to their lack of combustion engines meaning they do not use scarce fuel of petrol and diesel but rather electricity from lithium-ion batteries. As more EVs are produced backed by government subsidies assuming EV firms use it rationally this can lead to an increase in productivity of EV firm workers leading to externalisation of the positive consumption externality of the car market where the external benefits includes improving air quality, reduced greenhouse gas emissions, and decreased noise pollution which can improve productivity and efficiency for other external firms decreasing their costs of production leading to lower costs so they put these savings onto the consumers as lower prices.

The external costs of producing electric vehicles

With the value of the electric vehicles market forecasted to reach a value of over £570 billion by the end of 2025, there has been a high incentive for many firms to enter the market, especially from emerging markets such as China and Vietnam. However, the increased number of firms within the EV market has brought up an unintended consequence as a result in an increase of emitting pollutants towards the environment due to the increase of lithium mining.

As firms are heavily reliant upon firms such as BYD, who specialise in the production of lithium-ion batteries, this led to an increase in the amount of lithium mined in countries such as Australia and China. However, even though many argue that combustion engines are harmful to the environment, due to their emissions of carbon dioxide from the exhaust, a typical lithium-ion battery produces between 2 and 16 metric tons of CO_2 during production in economics this creates a negative production externality a type of market failure within the free market price mechanism for the electric car market. Some external costs to society from the production of EVs include but not limited to destruction of habitats affecting nearby wildlife and can cause water pollution which can decrease productivity levels in nearby areas therefore increasing burdens on healthcare services and increasing costs of production for nearby firms. So whether you are driving a car with a combustion engine or not external costs to society arise and it is uncertain whether in the future this problem can be resolved and being able to internalise this negative externality.



Net Zero, Net Gain? The Economics of a Green Future

Vy Le & Jyot Trivedi

What is the green transtion?

While rapid technological advancements have fuelled substantial economic growth, they've also coincided with an escalating climate crisis, increasingly affecting our daily lives. Governments worldwide are now urgently seeking new, greener solutions for economic development to secure a more sustainable future for coming generations.

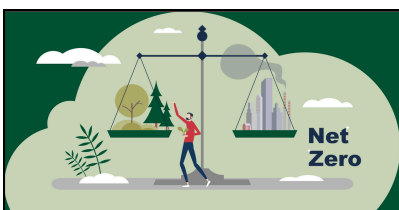
A key objective in this pursuit is "Net Zero" — a commitment to balance the amount of greenhouse gases emitted into our atmosphere with the amount removed. Given increasingly hot UK summers and the growing urgency of climate change, achieving Net Zero has become a key focus for many governments across Europe. This transition involves replacing fossil fuels with renewable energy, representing a significant global effort for a safer planet. This article will discuss the profound environmental, social and economic impacts of this goal, exploring the challenges and opportunities it presents.

The Problem: Market Failure & Externalities

To understand why governments must intervene in the pursuit of Net Zero, we first need to grasp the concept of market failure. In economic theory, a market failure occurs when the free market, left to its own devices, fails to allocate resources efficiently, leading to a suboptimal outcome for society. Environmental problems are a classic example of this.

A primary cause of this is negative externalities of production. When firms produce goods, they often generate by-products like carbon emissions, waste, or pollution. The crucial point is that the costs associated with this pollution are imposed on society, not the producer or consumer. These external costs mean the private cost of production is lower than the social cost, leading to an overproduction of polluting goods and services. Since firms do not account for the full societal cost, output levels extend beyond what is socially desirable.

Furthermore, a clean environment itself can be considered a public good, being both non-rivalrous (one person's use doesn't diminish another's) and non-excludable (meaning it is difficult/impossible to prevent individuals from benefiting once the good is provided). This leads to the free-rider problem, where



individuals benefit without contributing. Consequently, private markets have little incentive to provide such goods, as they cannot profitably charge for them. This results in an under-provision of a clean environment, thus necessitating government action.

The Solution: Government Intervention

To correct these market failures and steer the economy towards Net Zero, governments employ various economic tools. Carbon taxes (a form of indirect tax) are levied on carbon emissions or fossil fuels, raising their cost. This aims to internalise the externality, compelling firms and consumers to bear the social cost of pollution, thus discouraging carbon-intensive activities and generating revenue for green initiatives.

Conversely, subsidies reduce the cost of producing or consuming environmentally friendly goods and services, such as renewable energy or electric vehicles. These financial incentives encourage innovation and adoption, shifting supply outwards and increasing demand for sustainable alternatives. An example includes government grants for installing heat pumps in the UK.



Lastly, regulation involves direct laws and standards, like emission limits or bans on polluting technologies (e.g. the UK's planned ban on new petrol/diesel cars from 2035). While potentially less flexible than market-based tools, regulations are crucial for ensuring minimum environmental standards and compelling compliance, vital for meeting specific targets.

Challenges & Trade-offs

While essential, the green transition presents significant economic challenges and opportunity costs. Resources allocated to green initiatives mean foregone investments elsewhere (e.g. healthcare, education). There's also the equity challenge: carbon taxes can be regressive, disproportionately affecting lower-income households who spend a larger share of their income on essentials like energy. Furthermore, the risk of government failure exists, where policies might be inefficient, lead to unintended consequences (like carbon leakage), or struggle with the complexity of setting optimal intervention levels.

The green transition is vital for a sustainable future, driven by the need to correct market failures like pollution's negative externalities. Governments must carefully apply economic tools – taxes, subsidies, and regulation – to balance environmental goals with economic challenges, ensuring an efficient and equitable path to Net Zero.

