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Growth



“Zombie Firms: The Effect They Have on Total Factor Productivity in the UK, and How Exogenous Factors Allow for Their Survival”

George Dennes



RUGBY SCHOOL

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Editor's review

WHY WE HAVE CHOSEN THE TOPIC OF GROWTH

The Ostrom Society chose "Growth" as the topic of this half term's publication, as we were inspired by the current event where the UK has managed to dodge a recession by possessing 0.2% of GDP growth. It is not just a simple numerical figure, but causes great relevance to our everyday life.

Zombie firms: the effect they have on total factor productivity in the UK, and how exogenous factors allow for their survival

GEORGE DENNES

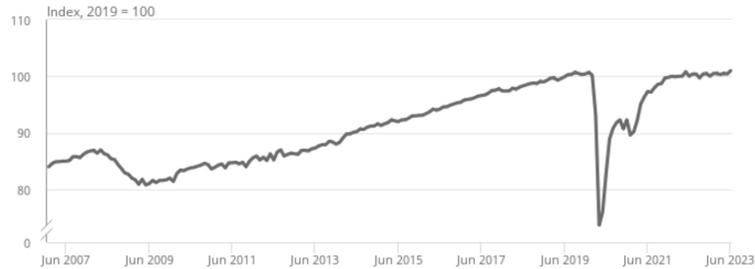


Figure 1: UK GDP, monthly index January 2007 to June 2023, UK. (Source: GDP monthly estimate from the ONS (ONS, 2023))

Economic growth is an increase in the quantity or quality of the aggregate production of goods and services in an economy (Roser, et al., 2023). This is measured in terms of the increase (or decrease), in real gross domestic product (RGDP), per annum. In the UK, prior to the pandemic and 2008 global financial crisis, the UK government has been generally successful in achieving sustained and sustainable economic growth. However, since the recovery of the UK economy following the COVID-19 pandemic, the economy has seen a significant period of stagnating growth, this economic output was driven lower, by falls in the consumption in for example, hospitality, and transport sectors (Harari, 2023).

This can be seen in figure one, below, by the growth since 2021. Another factor is a notorious period of low productivity in the UK, which has been ongoing since the global financial crisis in 2008; the UK economy has never properly recovered, (growth being 2.3% prior to 2008, and 0.5% between the financial crisis and the pandemic), and hence consequently leading to hysteresis in the years following.

Growth is inevitably important to the nation, as according to the International Monetary Fund (IMF), it means, "employment is likely to be increasing as companies hire more workers [...] and people have more money in their pockets" (Weston, 2023). In comparison

to, EU nations, the UK's economic growth is poor: 0.3 percentage points lower than the Eurozone alone. Seen in figure two.

In the case of this essay, quality, (as a component of economic growth), will be evaluated, in terms of analysing total factor productivity (TFP), of the UK economy, and how zombie firms, (firms which earn just enough money to continue operating and service debt but are unable to pay off their debt (Kenton, 2021)), lack contribution to TFP, and hence, economic growth, in the UK. Exogenous factors of TFP will be explored, and how this contributes to the survival of zombie firms. Total factor productivity is the portion of output not explained by the amount of input used in production. As such, its level is determined by how efficiently and intensely the inputs are utilized in production. (Comin, 2006). It can be seen in both a micro- and macro-economic scenario.

The formula below, shows how factors such as capital, labour,

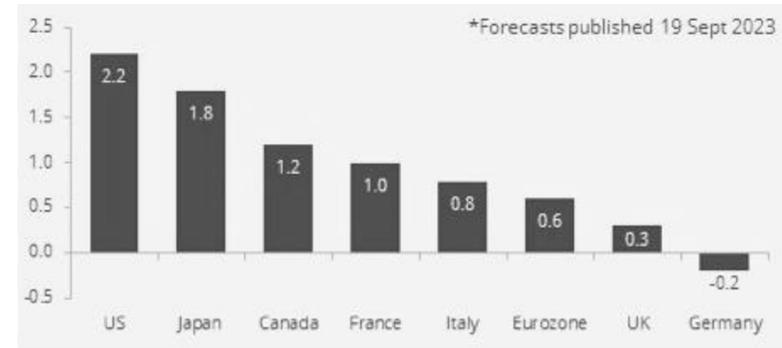
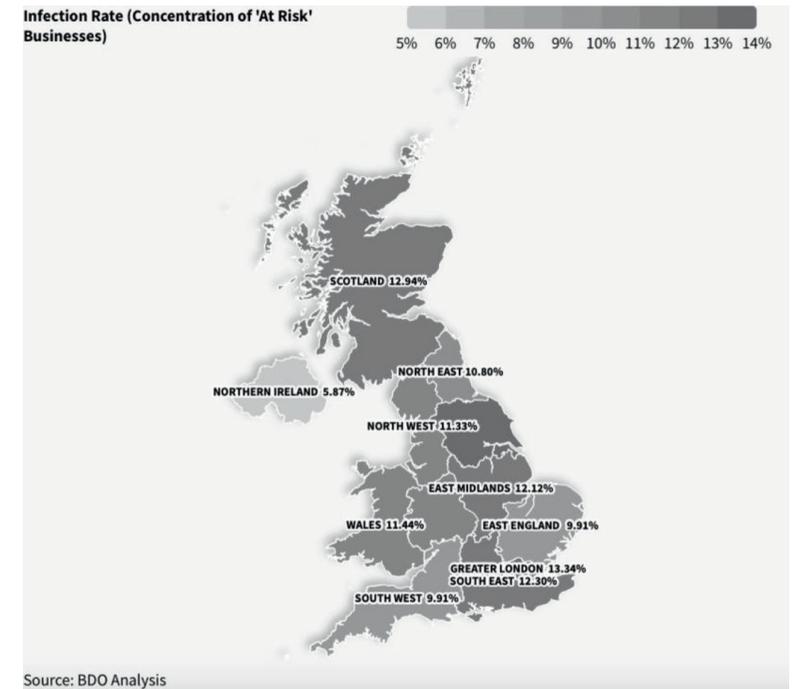


Figure 2: OECD real GDP growth (%) 2023 forecasts for G7. (Source: OECD (Harari, 2023))

and TFP contribute to output, (or growth), $Y = A \times K^\alpha \times L^\beta$ A being TFP; the factor explored in this essay, which contributes towards economic growth, Y . K , which is the total capital input, and L , which is the available labour force which produces output. Alpha (α) and beta (β) values are the elasticities of production for capital and labour, respectively (2023). A change in interest rates, (as part of monetary policy), for example, is considered an exogenous factor on this economic model, as it indirectly influences the values of the respective variables of this equation, (A , K , and L), which thus determines economic growth, Y .

As mentioned above, zombie firms do not contribute towards the TFP formula above, more specifically, to Y , as they may lack the resources for capital investment, which would create growth via this formula (Kenton, 2021), because they have no excess profits. It seems as though these firms (or those at risk), are common throughout the UK; in the £10m to £500m turnover bracket, of 15,000 businesses reviewed just under 12% could be deemed 'at risk' of being or becoming a 'Zombie' (Austin &

Peterson, 2023). It's noteworthy that Greater London has the highest percentage of 'at risk' businesses at over 13%, albeit the data is likely skewed by businesses having their registered office in the region, but core operations spread across the UK (Austin & Peterson, 2023). Figure three below, shows the regions at risk of zombie firms in the UK:



Source: BDO Analysis

Figure 3: concentration of 'at risk' businesses in the UK. (Source: BDO Analysis (Austin & Peterson, 2023))

According to Ross McWhir, of Value Creation Services, "Persistently low borrowing rates over the last decade have meant that cheap credit may have enabled underperforming businesses to persevere rather than restructure" (2021). The historically low borrowing rates, determined by the Bank of England, (Kenton, 2021), has an impact on the productivity of zombie firms, in terms of their utilization of capital and ability (or lack of), to invest; when total revenue is lower, due to their survival, their capital is exhausted, which doesn't contribute towards TFP (or subsequently growth). Further, economists argue that such monetary policies preserve inefficiencies while simultaneously stifling productivity, growth, and innovation. When the market shifts, zombies will be the first

to fall victim, unable to meet their basic obligations as rising interest rates make their debt more expensive to service, and high inflation pushing margins and firms' operating models (Kenton, 2021). This can be illustrated on the diagram below, showing the increase in average total costs (ATC) for zombie firms. This pushes their operating models, as the firm produces at P_1 Q_1 ; lower than their costs, C_1 , and hence experiencing a profit loss (shown by $C_1 - P_1$), and therefore are forced to close-down, and (according to Russ Mould, the investment director at the stockbroker AJ Bell: "hav[ing] no choice but to fold", because they have "reached a tipping point where they cannot generate enough cash to service borrowings" (Kollewe, 2023). Ric Traynor, the executive chairman of the company Begbies Traynor, a business recovery and financial consultancy, told Bloomberg that "over the next 18 months, we'll

see virtually all of them finally come to an end" (Kollewe, 2023).

This evidently shows that previously, due to the state of the economy, low interest rates have kept the zombie firms surviving, however, now it seems that due to forecasted economic predictions, this may no longer be the case, and the outlook of these firms across Britain, may change, (and for the better), as the elimination of these firms, can lead to the replacement of firms more valuable to the UK economy, and therefore, can contribute towards TFP, and hence growth, once again, solving the problem of low UK productivity.

Despite the high chance of these zombie firms failing in upcoming years, the government can have the ability to prevent this. This is what happened in 2008, with the global financial crisis (Noah, 2008), whereby firms were 'too big to fail', albeit

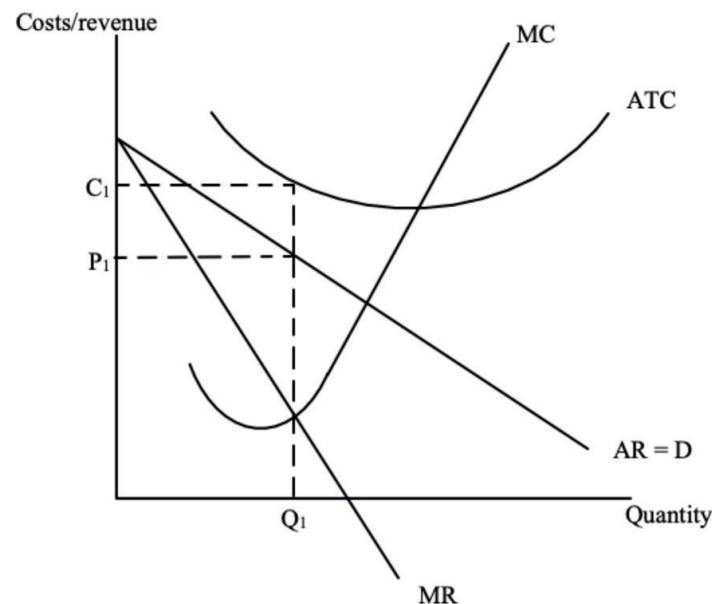


Figure 4: attempt of profit maximisation illustrating costs to revenues.

seen more frequently in terms of financial institutions. *Lemon Socialism* is a pejorative term for government intervention, whereby government subsidies are provided to weak or failing firms (essentially defining zombie firms), where the government (thus the taxpayer), absorbs part of the recipient's losses (Wikipedia, 2023). This is frequently carried out when the failure of firms thought of as being 'too big to fail', can have negative knock-on effects to the wider economy, and hence is prevented via this government intervention. This proves, therefore, that the exogenous factors, which in this instance is government intervention, can too, if necessary, allow for the survival of zombie firms.

To avoid the consequences of the thriving zombie firms on the UK economy, various measures can be taken, to ensure that they begin to contribute towards TFP, and in turn, economic growth. Initially, managers can consider levels of automation vs manual activity, quality of output, and identify core process weaknesses, which essentially encapsulates the efficiency of inputs of the TFP formula, which therefore will significantly influence subsequent economic growth of the economy (Austin & Peterson, 2023). This is only one of many measures that can be carried out, to 'resurrect' zombie firms, and have them contribute once more to productivity. The government is currently attempting to drive higher growth by enhancing the supply-side of the economy. The government's 'Growth Plan' aims to unlock private investment across the UK, cut red tape to speed up delivery of

the UK's critical infrastructure, make work pay, and support people to get onto the property ladder (HM Treasury, 2022). These factors will all in turn boost short- and long-run aggregate supply, consequently boosting productivity, and growth in turn.

Overall, therefore, it's clear that exogenous factors on TFP (A), total capital input (K) and available labour force (L), do allow for the survival of zombie firms in the UK economy; factors such as monetary policy, and *Lemon Socialism*, (the latter proving the government's direct intervention), allow for the survival of such firms if necessary, if found in extraordinary circumstances,

such as the 2008 financial crisis. Therefore, this has a knock-on effect on the notoriously low productivity of the economy, and consequently, stifling economic growth (Kenton, 2021). The change in economic forecasts, specifically the end of what used to be 'historically low interest rates' (Kenton, 2021), may change the number of these zombie firms in the UK; which, if not structurally elevated, may be replaced by more productive firms, which will be effective to the economy once more, in terms of sustained and sustainable economic growth. These changes must occur, as it's clear that the rate of economic growth in this country is significantly lower than

the Eurozone; between 1974 and 2008, the UK's productivity grew at an average rate of 2.3% a year, significantly more than the growth rate between 2008 and 2020, at around 0.5% (Samiri & Millard, 2022). This indicates a substantial slowdown, outlining hysteresis, and must be reversed, in order for the UK's economy to be comparable to other European nations; policies to enhance productivity must be embraced, and incentives for firms to restructure, and resurrect, must be formed; the government must therefore intervene to accommodate this to return to the post-2008 thriving economy.

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Can and should economic growth in the UK be supported by targeted help for SMEs?

LEXI WARNER

This essay intends to analyse why and how we can help small to medium sized enterprises (SMEs) drive economic growth in the UK. SMEs are defined as independent businesses with fewer than 250 employees. They have an annual turnover of less than £40 million, or an annual balance sheet that doesn't exceed £34 million¹. Economic growth is defined as an increase in the production of economic goods and services, compared from one period of time to another². SMEs are crucial for the economy and economic growth, and account for a significant part of the business activity of the UK economy. While driving economic growth, they also provide employment opportunities and contribute to innovation and local communities. SMEs face specific challenges that larger companies do not, and developing policies to support SMEs will be beneficial to promoting growth in the UK economy.

SMEs make up a very significant part of the UK economy and represent 5.9 million businesses, or 99% of the businesses that exist in the UK. In 2022, SMEs in the UK had a combined turnover of

£2.18 trillion³, and accounted for 3/5ths of employment in the UK. This means that SMEs collective success and failure has a crucial impact on the UK economy and its growth and sustainability. SMEs also are responsible for the creation of many jobs, as they provide employment for 16.8 million people⁴. This is 61% of all jobs in the UK. If SMEs don't grow strongly, it is very hard for the economy overall to grow strongly given they make up such a large part of the economy.

SMEs generate lots of diverse employment opportunities across the UK creating groups of skilled and semi-skilled workers that help to drive future industrial and business growth⁵. As economic growth relies on low unemployment rates, SMEs positively contribute to the stability of the UK economy through increased productivity and consumption. When people are earning more, they tend to spend more on goods and services, which in turn increases GDP (the total monetary value of all goods and services produced in a country in a specific time period). SMEs are particularly effective in local communities as

they encourage people to spend more on small business which brings growth and prosperity to areas outside large, more economically advanced cities. This increases national GDP while also reducing income inequality by encouraging an equal distribution of income and wealth. A study by Santander found that SMEs were particularly important to the local economies of Southwest England, Wales and Northern Ireland where they provide 70% of the jobs in the private sector⁶.

SMEs also encourage competition and promote innovation across different sectors by providing a constant stream of new ideas and approaches to business. Businesses that grow out of the SME space and reach scale gain a lot of the media attention, but all started as SMEs at one point, and can often bring substantial change to industries. For example, AirBnB and Uber have fundamentally transformed industries and started as SMEs.

Given the small scale of SMEs and the direct contact they have with customers, they can be very responsive to changing economic conditions, customer requirements

and market opportunities. This adaptability and responsiveness to change provides resilience to the economy and allows changing customer needs to be met quickly and efficiently. SMEs can be quick to identify and seize new market opportunities driving innovation and growth in the economy. Many SMEs had to adapt during covid and were able to continue to provide products and services to customers during very challenging times.

Despite the above benefits that SMEs bring, they face specific challenges that larger firms do not. Given the greater variability of profitability, survival and growth amongst SMEs, they face less availability of finance and what finance is available, is at a much higher cost⁷. This can hamper SMEs ability to grow quickly and take advantage of market opportunities they identify.

SMEs also face a greater regulatory burden than larger firms and they are often ill equipped to understand ever increasing and changing regulations. This can restrict their ability to enter new markets and maximise opportunities in areas such as R&D and investing in new technologies. It also harms the ability of SMEs to operate and compete in particularly heavily regulated areas like biotech, medicine and financial services.

Technology is another area where the small size of SMEs is a material disadvantage. Over half of UK small businesses agree that technology will become more important for them over the next five years⁸. However, many small business owners struggle to identify the right technology

solutions for their business amongst a growing and ever more confusing range of options, and lack the skills to properly implement new technology platforms and solutions.

There are ways as a society that we can help to support SMEs to ensure the UK economy continues to benefit from their activities. Government policies can be directed towards providing better access to financing for SMEs. Governments can help with policies such as loan guarantees and specific lending programs for SME businesses.

As an example, Funding Circle, is a commercial lender focused on SMEs and it is accredited by the Government-owned British Business Bank to provide business loans of £25,001 – £250,000 under the Recovery Loan Scheme (RLS) which supports access to finance for small and medium sized UK business⁹. As small businesses faced challenges in 2022 due to covid, Funding Circle made over £1 billion in loans which, according to analysis by Oxford Economics, generated a £6.9 billion contribution to UK GDP, supported by nearly 106,000 jobs and provided £1.4 billion in tax payments to the UK exchequer¹⁰.

Governments must seek to reduce the regulatory burden on small businesses. SME firms tend to be poorly equipped to deal with understanding and complying with complex regulation and rules. Government policies should ensure that regulatory complexity is kept to a minimum and investment should be made to ensure transparency and support for SMEs trying to understand

and comply with regulations. Particular effort needs to be made to simplify regulation around technology, R&D and innovation to ensure SMEs can continue to invest in these areas to drive overall economic growth¹¹.

Governments and large corporations alike can help SME firms to bridge the digital divide and better utilise technology to reduce costs and drive growth. According to openaccessgovernment.org, half of UK small businesses are experiencing cost savings or increased profit from using the right tech. And, over half of UK small businesses agree that technology will become more important for them over the next five years. Unfortunately, many small businesses find that determining which digital tools are available and right for them is very difficult. Nearly 4 in 10 businesses want to use more digital tools in their business, but don't know which are right for them and are concerned that getting it wrong could impact their finances. Both government and large corporations can develop resources and programs to make it easier for small businesses to bridge the digital divide and identify the best technology to utilise in their businesses.

Through policies and activities targeted at SMEs, government and larger business can help to support this very important sector of the economy. For example, Goldman Sachs have a program called 10,000 Small Businesses, or 10KSB which, each year, selects 140 small businesses and provides them with training and support across a range of functional areas including finance, technology, innovation,

productivity and developing talent. Since the program began in the wake of the 2008 financial crisis, Goldman Sachs claim that the program graduates have seen material benefits in terms of growth in revenue and job creation, compared to a control group of similar firms. For example, Goldman analysis shows that 48% of alumni grew revenue by more than 20% compared to 31% of the control group. Furthermore, 47% of alumni increased their headcount since the start of the covid pandemic

compared to only 26% of their high growth peers. Also, 68% of 10KSB alumni engaged in innovation by adapting their businesses during the pandemic. These results provide some indication of the positive impact of education and resources devoted to training and equipping SMEs in important business areas¹².

SMEs make up an important part of the economy in the UK. If SMEs thrive and grow, the overall economy is likely to grow as well. SMEs however, face difficulties

due to lack of access to finance, a high regulatory burden and challenges in making confident use of technology to reduce costs and drive productivity and growth. Government policy can be directed to help in these areas by reducing complexity, increasing transparency and providing resources to support programs directed towards SME businesses. Such policies are a win win for everyone as they will help to drive economic growth and support local businesses and their communities.

Capitalist economic growth vs the ongoing endeavour to progress into an environmentally sustainable future; two conflicting objectives?

ELLIE MOYNIHAN

‘Economic growth’ can be defined as, ‘an increase in the amount of goods and services produced per head of the population over a period of time’. Currently, the theory of economic growth has been a topical matter at the forefront of socio-economic debate in the present day; which non-economic variables ultimately determine the rate at which the general level of production of an economy is growing, and thereby contribute to an understanding of the question as to why some society’s grow much faster than others. In this essay, I will delve deeper into the specific matter of environmental sustainability in the context of the pursuit for economic growth. Many would argue that the two objectives are inherently conflicting which, if true, would beg the controversial question; which should be prioritised? This ultimately poses a moral dispute.

The purpose of this essay is to examine one of the fundamental questions governing and linking global politics and economics in today’s world; is environmental sustainability compatible with economic growth? Or rather,

as referred to in my title, are these two conflicting objectives. This topical matter cannot be overlooked in light of today’s climate crisis. Consequently, this essay will present a few different angles towards approaching the ultimate question, concluding with my personal take on the matter.

The concept of ‘sustainable’ growth, in today’s global climate of competitive capitalist targets for increased output is, some would argue, entirely non-operational. Critics would say that the accumulation of pollution is an inevitable consequence of long-run sustained growth. Conversely, the strive for environmental sustainability negatively impacts growth targets.

Many esteemed social and physical scientists such as Cleveland, Ehrlich and Holdren have contended that higher levels of economic activity (production and consumption) require larger inputs of energy and material, consequently generating larger quantities of waste byproducts and displaying the impossibility of environmentally sustainable economic growth. The

justification for this argument is that, despite seemingly positive rising incomes, impacts such as increased extraction of natural resources, accumulation of waste, and concentration of pollutants would eventually result in the degradation of environmental quality, long term, and a correlating decline in human welfare. Conversely, the progressive decline of the resource base may even put economic growth itself at risk as an economy with limited and worsening resources will not be able to optimally grow due to restricted productivity.

Inevitably, when discussing economic growth, countries such as China and India who have experienced rapid growth in recent years immediately come to mind. Unfortunately, the common denominator uniting both countries is their severe and worsening air pollution rates as a result of traffic, fossil fuel burning power plants and heavy industries. Another notable example of a nation currently experiencing accelerating economic growth is Guyana, which is currently holds the position of the fastest-growing

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- ¹ <https://labs.com/labs-edit/what-are-smes-why-are-they-so-important-for-the-uk-economy/>
- ² <https://ourworldindata.org/what-is-economic-growth>
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economy in the world. The World Bank released a statement in which it was notably commented that, 'Guyana's increasing reliance on the extractive sector raises its vulnerability to oil-related shocks... oil production has environmental consequences that must be carefully considered'. Oil production rose from almost zero in 2019 to over 100,000 barrels per day in 2021. It is no coincidence that this increase in oil production has also seen Guyana's average growth rate predicted at 25.8% from 2022-2026, placing it as by far the fastest-growing economy in the world. This example clearly exhibits the seemingly positive correlation between economic growth and potentially harmful environmental methods of generating revenue as some nations capitalise on their extensive natural resources.

However, the debate as to whether economic growth and a sustainable future can co-exist is by no means linear and many would argue to the contrary; that a model could exist in which the two aims are complementary to one another. After further research, I began to observe that, included in many frameworks for optimal economic growth were the non-economic factors of innovation and invention. These factors point to the fact that a model in which innovation and invention are prioritized could aid both environmental sustainability and economic growth. A recent example of this can be seen in the creation of the new planned city of NEOM in Saudi Arabia which was designed with the intention of contributing towards the country's economic and sustainability goals.

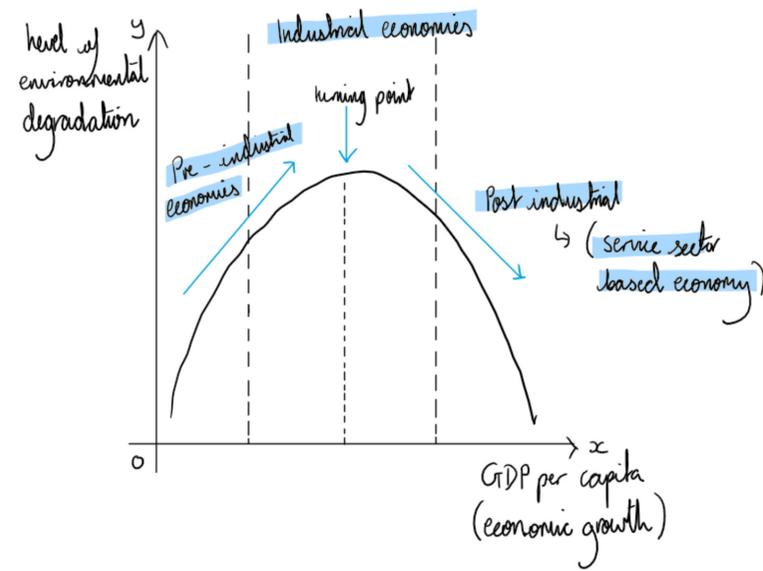
NEOM aims to be a net-zero carbon city and has thus far

attracted significant partners and investors interested in testing renewable energy technologies and infrastructure. The creation of the city NEOM reflects the intentions of Saudi Arabia in rebranding its image and participating in the creation of a greener future as they move away from the prior reputation of being environmentally unsustainable. Recently, Saudi Arabia has faced difficulties in the face of diminishing natural resources, which is coupled with their heavy dependence on fossil fuels. In light of this, NEOM is an innovative approach to tackle this challenge through the nation moving towards a greener approach to fuelling their economic goals in the long term. The NEOM project aims to incorporate a range of innovative technologies, including green hydrogen plants, solar-powered desalination plants, and urban air mobility systems. If successful, Saudi Arabia will become the first country to implement and test fully sustainable technologies which align with Sustainable Development Goal 11, as defined by the United Nations. The success of sustainable cities, such as NEOM, will ultimately pave the way for similar issues faced in other countries across the globe to be tackled with a greener approach which supports the argument that innovation can be used as a mechanism to unite economic growth and sustainability targets.

China is another nation which is currently at the cutting edge of trying to make growth sustainable through their new approach to 'ecological modernisation'. The eyes of the world have been on China in recent years as they are faced with the challenge of

balancing the development of their national economy whilst protecting their ecological environment. China has set out to prioritise sustainable development as a fundamental national strategy since 1992 but has faced difficulties in doing so. The nature of China's ecological preservation goals is of significance, not only to China, but to the rest of the world as China maintains its position as the world's largest developing country; a title which inevitably holds the nation to significant environmental accountability. However, progressing into a more sustainable economic structure will not only be ecologically beneficial for China, but economically so as well. The World Bank publicized that economic losses due to air pollution accounted for approximately 7.7% of China's GDP in 1995 and, according to new research, this value reached a further 10.3% in 2002. These figures emphasise the undisputed fact that, despite ecologically damaging methods of generating economic output being viable in the short term, the long-term implications of environmental unsustainability go hand in hand with economic losses.

The 'Environmental Kuznets Curve' is a model which hypothesizes that, initially, economic development leads to a deterioration in the environment, but, after a certain level of economic growth, a society begins to improve its relationship with the environment and levels of economic degradation reduces. With higher income comes the flexibility to opt for goods and services which are less material-intensive, and for improved environmental quality that leads to the adoption of environmental protection measures.



It could certainly be argued that, as a country enters a period of economic prosperity, people are able to demand and afford a more efficient infrastructure and a cleaner environment. This emphasises the potential for the relationship between economic growth and sustainability targets. This hypothesised relationship between environmental degradation and economic growth is known as the 'Environmental Kuznets Curve', and I have sketched an example of this below.

The graph exhibited above demonstrates the hypothesis that, at low levels of development, both the quality and intensity of environmental degradation are limited to the impacts of subsistence economic activity on the resource base and to limited quantities of biodegradable wastes. As the process of industrialisation comes underway, agriculture and resource extraction intensify which has the effect of accelerating waste generation, which is shown in the graph above by the upwards

sloping curve as an economy moves from 'pre-industrial' towards 'industrial'. However, these economies eventually hit the turning point, which leads to higher levels of development experiencing a structural change towards information-based industries and services (e.g., the quaternary sector), more efficient technologies, and increased demand for environmental quality which results in a levelling off and eventual decline in environmental degradation.

Despite this theory being seemingly promising, there are obvious drawbacks which must be highlighted; at what level of per capita income is the turning point? How much damage would have taken place by then and can it be reduced?

I would like to conclude by giving my opinion on matter; for the optimistic model of the Environmental Kuznets curve to become a reality, it is vital that a very targeted governmental

policy accompanies this economic growth, to ensure an improving, sustainable environment. 'Governance though goals' is a phrase recently used by the UN through their employment of the 17 Sustainable Development Goals.

For environmental improvement to come into fruition at higher income levels, I believe conscious institutional and policy reforms must first be put in place, not only on a governmental scale but also involving intergovernmental policies. The climate crisis is a global matter and consequently the policies and efforts put in place to tackle the crisis should reflect the communal, inter-continental issue we as a world all face. As such, it may be necessary to employ UN schemes with the intention of accelerating the development process so that poor countries are able to experience the same improved economic and environmental conditions enjoyed by developed countries.

Britain's economic growth after the COVID-19 Pandemic

DORA CAI

The unexpected coronavirus pandemic has sent the world's greatest economies tumbling, with the UK's economy being no exception. The worldwide national lock down caused a significant fall in UK GDP, in which public health measures and closure of non-essential shops drove a 19.8% fall in GDP between April and June 2020. Household spending fell

by 20% during this period. The decrease in aggregate demand of the economy led to unemployment rising from 3.8% to 5.2%, pushed by the inability of firms to operate sufficiently during pandemic and the furlough scheme which affected 11.6 million jobs.¹

However as COVID restrictions were lifted at 2020, UK's GDP had

recovered by 17.6% in the third quarter of 2020, with household spending recovering too and a decrease in unemployment rate. But, how well is the UK economy actually recovering? Despite clear improvements and growth in economy, the truth is, based on latest GDP growth figures and other statistics, it is implied that the British economy will bearing the long-term effects of the pandemics for a long period of time.

Britain's economy was still 0.8% smaller at the end of 2022 than it was before the first lockdown. In comparison, France and America has had a 1.2% and 5.1% growth in the same period respectfully. With the slow growth of GDP, other problems arise: UK is currently suffering from a cost of living crisis; a shrunken work force with an elderly population; high inflation and a surge in energy prices due to the Russian-Ukraine war. The Office for Budget Responsibility has also predicted that despite Britain avoiding a recession in 2023, the economy will still shrink by 0.2%. So, what has stopped the Britain economy from growing back to normal? One main reason is the low

productivity level of the economy, worsened by Britain's shrink in labour force.

The current labour force participation rate is a full percentage point lower than in December 2022.² The aging of the baby boomers has contributed to this drop in percentage with their retirements, and with an aging population it is hard for the UK government to decrease unemployment levels and maximize production capacity. Moreover, the symptoms of long COVID have impacted people's cognitive and mental health, preventing them from returning to their jobs. Factor immobility has also been a problem, in which workers who were only trained to one job were unable to switch jobs after being unable to continue work in their previous jobs due to health problems after catching COVID. This waste in resources and decrease in productivity not only contributes to low growth, but also to low real wages which will decrease aggregate demand further. Thus, it isn't hard to conclude that Britain is suffering poor economic growth.

However, robotics and artificial intelligence have been seen as the solution to this productivity problem. Chancellor Jeremy Hunt also sees it this way, and has made correcting poor business investment and increase labour force as his main goals at the Autumn Statement 2023. Changes in monetary policies have been made, including the "superdeduction tax break" which reduced taxes on business investment in technology. With the tax reduction the cost of investment will decrease, which increases the rate of return

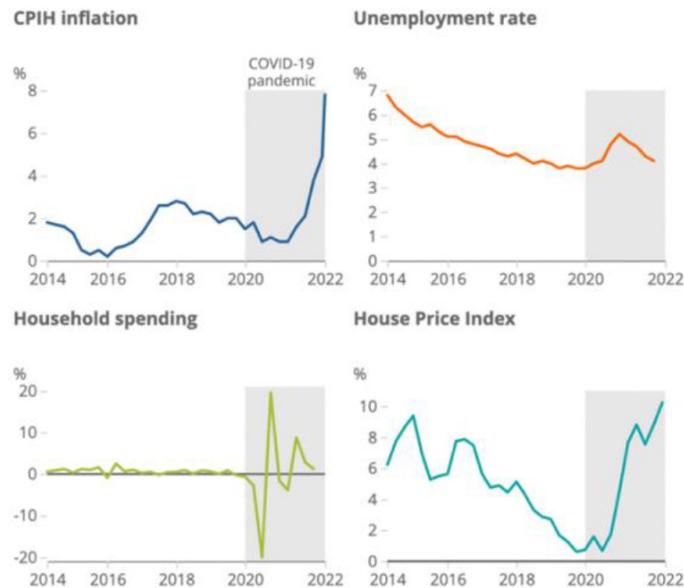
(MEC) and will lead to a rise in planned investment, increasing the marginal efficiency of capital. This policy was further pushed by the "full capital expensing" policy announced, which means firms will need to pay lower amounts of cooperation tax. The Bank of England has also reduced interest tax further to 5.25%, as an attempt to increase spending and investment in the economy. Also, Jeremy Hunt has also introduced the policy in which if workers rejoin the labour force that the government will provide three years of support for childcare. This policy has not yet been in action, but seems promising to increase labour force again.

The poor economic growth is also caused by lack of aggregate demand in the economy, where people are unable to demand as much goods and services before as pre-COVID levels due to the fall of purchasing power caused by inflation. The cost of living crisis in Britain also means falling consumer confidence and consumption: Russian's invasion of Ukraine has sent global energy prices soaring, and as UK prices electricity based on the cost of gas (the most expensive form of electricity generation) bills across the economy has been pushed up, worsening inflation while making it harder for consumers to spend more. Higher mortgage and loan payments will reduce disposable income for consumers, leading to a fall in consumption which makes up 65% of aggregate demand in Britain's economy. The failure of the mini budget of 2022 proposed by Liz Truss has also contributed to this. Her decision of removing the high income tax of 45% while only lowering income tax from 20% to 19% and plan to increase

corporation tax from 19% to 25% caused negative response from the people. Spending decreased in the economy because of the unreasonable policies, with both consumers and firms losing confidence due to the changes in tax. A fall in value of pound sterling against the US dollar quickly followed, as world markets reacted negatively to the increase borrowing required. These additional problems had slowed down Britain's economic growth significantly.

It is difficult for the British Government to set policies to increase aggregate demand as there is a trade-off between achieving economic growth and other macroeconomic objective such as stabilizing inflation. Thus, conflict between other macroeconomics objectives has also slowed down Britain's economic growth after the pandemic.

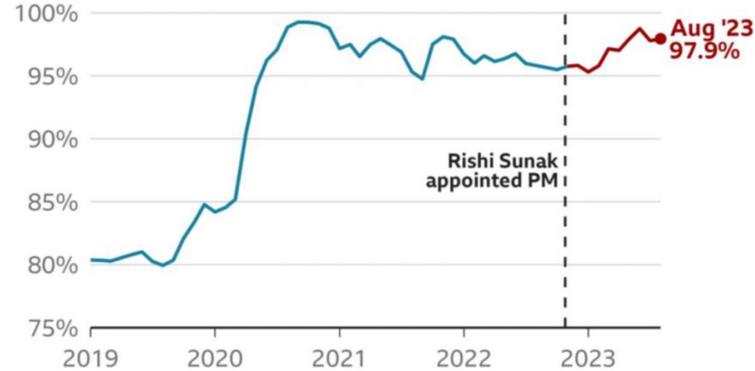
Prime Minister Rishi Sunak had made halving inflation a priority in 2023. To reduce inflation, the Bank of England has been putting up interest rates to limit aggregate demand to reduce demand pull inflation. This clearly contradicts with economic growth, which requires an increase in aggregate demand of the economy, and by doing so the bank only expects the UK economy to grow by 0.5% between 2023 and 2024. Also, in terms of protecting the environment and maintaining high future living standards, the British government has increased subsidies on low carbon energy. This has prevented economic growth, and has a high opportunity cost for the British government meaning less money can be invested in the



Source: Office for National Statistics - GDP first quarterly estimate, CPIH inflation, Unemployment rate (age 16 and over, seasonally adjusted), Household final consumption expenditure, HM Land Registry - UK House Price Index.

UK government debt remains high

Public sector* debt as a share of GDP



Note: *Excludes public sector banks

Source: Office for National Statistics

BBC

public sector to help stimulate the economy. Recently, the government has canceled the carbon net zero policy to promote growth, but the effects of this decision is yet to be proven.

A final major factor that had prevented Britain's economic growth is the large value of government debt. Government borrowing rose to £11.6bn in August, a £3.5bn increase than a year earlier, and the fourth highest August borrowing since 1993.

The British government has been borrowing large amounts to boost the economy, with hope that public sector investment such as new railways and roads will aid the economy and create jobs, adding to the national debt. Government debt has reached 97.7% of GDP this August, and in May the government's debt has reached more than 100% of national annual income. With the economy left vulnerable after the pandemic, these worrying statistics had impacted consumer

and business confidence, in which people anticipate a future further rise in taxes. Again, this had stopped spending and investment from increasing, slowing down economic growth. Furthermore, despite falling inflation Chancellor Jeremy Hunt has announced the taxes will not be lowered as people hope so and details of this policy will be confirmed in the upcoming Autumn Statement. Some experts predict that for the UK government to eliminate debt, a smart efficient monetary policy must be made, which is difficult given the current circumstances.

Overall, the British economy is still recovering from the aftereffects of the COVID19 pandemic. Economic growth has been slow despite positive visions at the beginning of the year. The future of Britain's economy will largely depend on the upcoming Autumn Statement in November, and we will only know successful the policies are when the GDP for the fourth quarter of 2023 is published on 13th February 2024.

To What Extent Do International Financial Institutions (World Bank and the IMF) Promote Growth in Kenya?

LENNY KINARO

In today's interconnected global economy, the intricate dance of supply, demand, and economic forces shapes the destiny of nations and individuals alike. However, in the case of developing nations such as Kenya, they are largely shaped by International Financial Institutions (IFIs). These include the World Bank and the International Monetary Fund (IMF). Both established in July 1944 at the Bretton's wood conference, where 44 countries gathered to agree on new framework of world monetary policies, they have grown to play pivotal roles in the contemporary global economy, while largely altering their purpose. Originally established to oversee a system of fixed exchange rates which tied all global countries to the USD (then tied to gold) in order to encourage trade after the 2nd World War and Great Depression, all while financially supporting developing nations through loans, today the IMF describes itself as a 'global organization that works to achieve sustainable growth and prosperity for all its 190 member countries'. It is able to achieve this through the proposal of economic policies that can be seen to promote a nation's

financial stability and monetary cooperation with a keen focus on increasing productivity, job creation and economic well-being. Although, the IMF has recently been facing controversy for pushing austerity in global in the developing global south during times of economic crisis, in what can be described as an attempt to keep developing nations in a state of perpetual subservience to the developed west. On the other hand, the World Bank was initially established with the purpose of providing financial assistance to European nations in order to rebuild during the aftermath of the 2nd world war, however today it has described itself as 'unique global partnership consisting of five institutions working for sustainable solutions that reduce poverty and build shared prosperity in developing countries'. This essay explores the extent to which these IFIs have contributed to economic growth in Kenya. It evaluates the impact of their proposed policies on various aspects of the Kenyan economy as well as the general global south. To understand the role of IFIs in Kenya's economic

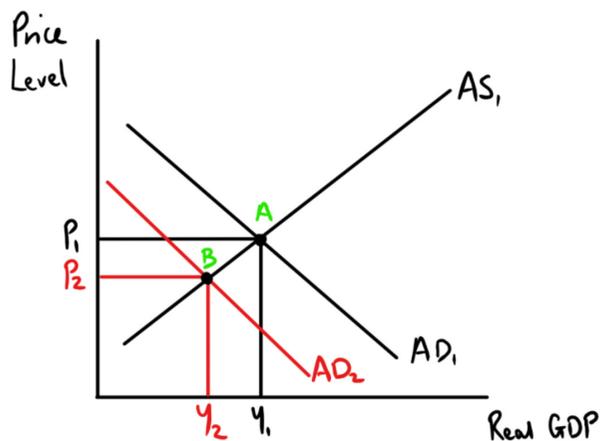
growth, it is crucial to consider the historical context. Kenya has been a recipient of loans and technical assistance from the World Bank and the IMF since gaining independence in 1963. Over the decades since, these institutions have supported various development projects, policy reforms, and capacity-building initiatives in the country.

Firstly, one of the primary ways in which IFI's tend to promote economic growth, is through the provision of financial assistance to countries in need, whether in the form of loans or grants. Kenya has long been a recipient of financial assistance, receiving substantial financial contributions from both the World Bank and IMF, of which they utilise to develop large, top-down infrastructure projects, education and healthcare to spur economic growth while boosting the standard of living amongst Kenya's population. This is evident to me as Kenya's external debt is currently sitting at 67.4% of its GDP, with around 40% of this owed to the World Bank, inclusive of a \$1 billion loan they granted

Sources:

¹ <https://www.ons.gov.uk/economy/grossdomesticproductgdp/articles/gdpandeventsinhistoryhowthecovid19pandemicshockedtheukeconomy/>
2022-05-24

² <https://www.brookings.edu/articles/why-havent-workers-returned-to-the-labor-force-after-covid-19/>



to Kenya only 3 months ago. With the newly elected government recently announcing a 3.6 trillion Kenya shilling (Kshs) budget for fiscal year 2023/24, a 1.5 trillion Kshs increase from the previous year's, the government can be seen to be basing the economy on amassing as much debt as possible to develop the nation.

IFI's also tend to provide financial advice through the implementation of specific policy reforms. These reforms are intended to promote economic stability and growth. In Kenya, these reforms have included measures to improve fiscal discipline, enhance governance, and promote private sector development. However, this is not always the case. While some of these reforms have been successful, others have faced challenges in implementation due to political and social factors. The IMF has long been criticized for encouraging borrowing countries to implement a period of austerity, during which, they largely decrease public expenditure in their economies during times of economic hardship, like the one we are currently experiencing globally.

This decrease in government spending results in a decrease in Aggregate demand (causing it to shift to the left, from AD_1 to AD_2) as $AD=C+I+G+(X-M)$. As shown in the diagram above, this will result in a decrease in real GDP from Y_1 to Y_2 . While the UK's weighting of government spending on Aggregate demand is only 15%, globally it tends to be in between 30-40% resulting in a significant reduction in real GDP, a measure of economic growth. This shows us that one of the very aims that the IMF promises to carry out, 'sustainable economic growth' is not only not being achieved through its suggested policy, but we can even see the opposite in play, as austerity tends to decrease economic growth real GDP, hence why it is a practice often avoided by developed nations. Such policy reforms are often a condition of financial assistance, thus developing nations are often forced into meeting such conditions. This policy has been on the receiving end of constant condemnation for having strong political influence with the United States of America and other Western global superpowers. Take the United States of America for

example. Currently it holds 20% of total voting power in the World Bank, being the only country to do so, thus deeming it able to block major changes at the Bank holding a considerable influence over it. Furthermore, traditionally, the World Bank Group's president has always been nominated by the United States' congress and tends to often be an American citizen. This strong influence can also be seen on the IMF, where the United States contributes \$117 billion annually, plus an additional \$44 billion in supplements making up over 20% of the institution's total quota. As a result of this, the United States of America is not only able to make its own changes within the IMF and World Bank but both institutions tend to align their policies with the interests of lending institution or its major shareholders, with the risk of opposing the USA possibly resulting in them unsubscribing or simply pulling out all their funding. As a result, many view the IMF's policy reforms as a device utilised by the western developed world, to ensure the generally undeveloped south remain in a state of perpetual subservience for the foreseeable future, with Africa's dependency on the west being a large source of revenue for developed nations. By luring developing nations lacking sufficient capital to develop with loans used to exploit these nations through cycles of debt used as a method of control or even subordination.

Lastly, IFI's have even played a significant role in imposing a debt burden on developing and emerging economies such as those existing in the continent of Africa. These institutions, supplying loans to such nations

during times of economic crisis or simply to develop their nations, tend to attach onerous terms & conditions. These often involve the privatisation of state-owned enterprises at risk of competing with Western multinationals. This approach, as expected, often results in negative consequences, such as increased levels of poverty as well as economic instability within these economies. The IFI's focus on debt repayment can even begin a debt cycle that hampers long-term economic development in these countries. This can be seen through Kenya's 3% of GDP expenditure on loan repayments annually, with these likely to increase in future. On the contrary, Argentina, a generally developed nation, currently holds a total national debt of \$336 billion, \$45 billion of which is owed to the IMF, though it is yet to make any debt repayments, with all repayments so far being dismissed by IFI's, a luxury rarely experienced by African nations. These instances of placing nations

in debt burdens have even led to accusation of such IFI's engaging in debt-trap diplomacy. This is a term generally used to describe an international financial relationship, where a creditor nation or institution such as the IMF and World Bank with the partial or sole purpose to gain the lender's political leverage. Debt accrued by these loans can result in a borrower's dependency on IFI's, thus providing them with this leverage in shaping the political landscape of borrowing nations. Concerns have been raised on the potential exploitation of African nation's economic vulnerabilities, with Western nations often gaining resources in exchange for financial support.

To summarise, International Financial Institutions, including the World Bank and the IMF, have undoubtedly played a strong role in promoting economic growth in Kenya. This has been through financial assistance as well as policy advice and the focused

support on certain sectors (such as the tele-communications sector) in order to bring about economic development in the nation. Although, challenges and criticisms cannot be overlooked regarding the involvement of IFI's in African nations.

In conclusion, the extent to which IFIs promote growth in Kenya is a complex issue that involves a plethora of factors. In my personal opinion, I feel as though the ideology behind these International Financial Institutions as set out at the Bretton Woods conference in 1944 is strongly positive and in practice should spur significant economic growth in developing nations. However, naturally these institutions are largely swayed by world superpowers such as the United States of America due to their financial significance to such IFIs, resulting in what I believe has been a net negative effect in Kenya and other developing nations worldwide.

Shaping Diamonds: De Beers' Monopoly and the Sparkling Mirage of Growth

JOSEPH GODWIN

In the world of economics, few industries have captured the imagination and mystique of the general public quite like the diamond market. Diamonds, once hailed as rare and precious gems, have become the centrepiece of a remarkable case study in monopolistic control, artificial scarcity, and ingenious marketing strategies, largely orchestrated by De Beers. This South African diamond conglomerate has successfully managed to maintain the illusion of scarcity, boosting the value of diamonds far beyond their true availability.

The Monopoly and its Origins

De Beers, founded in 1888 by Cecil Rhodes, was quick to recognize the potential for controlling diamond production. By the early 20th century, it had secured control over the vast majority of global diamond mines. The company was instrumental in shaping the modern diamond industry, which they did by not only monopolizing supply but also implementing a wide-ranging marketing campaign to control demand.

De Beers' monopoly over diamond production has been a dominant

force in the industry for decades. In 2022, the company's market share was estimated at 35%, down from its peak but still significant. This level of control allowed De Beers to influence prices through supply manipulation.

Monopoly Power and Market Dynamics

Economically speaking, De Beers' diamond monopoly is a textbook example of monopoly power and its impact on market dynamics. A monopoly occurs when a single company or entity holds exclusive control over the supply of a particular good or service. This control allows the monopoly holder to set prices and production levels without the constraints of competitive forces.

De Beers' monopoly status enabled it to create an artificial scarcity in the diamond market. As Nobel laureate economist Paul Samuelson once remarked, "Monopoly prices are sticky because it is easier to make people pay the old rates than to browbeat them into paying more." By controlling the majority of the world's diamond mines, they could limit the quantity of diamonds released into the

market. This deliberate restriction of supply led to a supply curve that was steeper than it would be in a competitive market.

Diamonds as a Veblen Good

Economists also categorize diamonds as a Veblen good. Veblen goods are those for which demand increases as the price rises, seemingly defying the law of demand. The higher the price of a Veblen good, the more desirable it becomes, as consumers perceive it as a status symbol or luxury item.

De Beers, through its marketing efforts and control over supply, has masterfully capitalized on the Veblen effect associated with diamonds. As the renowned economist Thorstein Veblen himself once noted, "The outcome of any serious research can only be to make two questions grow where only one grew before." The "A Diamond is Forever" campaign, in combination with their monopoly tactics, reinforced the notion that diamonds were not just a purchase but an investment in love and social status. The resulting increase in demand further allowed them to raise prices without diminishing consumer interest.

The Lasting Effects of the Monopoly

The lasting effects of De Beers' diamond monopoly are evident in the enduring perception of diamonds as symbols of love and luxury. As Nobel laureate economist Milton Friedman aptly stated, "Inflation is always and everywhere a monetary phenomenon." In this context, the inflation of diamond prices, driven by De Beers' monopoly, has created a self-sustaining phenomenon where diamonds are perceived as both valuable and timeless.

In conclusion, De Beers' monopoly and marketing strategies have had profound economic implications. They serve as a compelling case study of how monopoly power can artificially manipulate markets, create inelastic demand, and even turn diamonds into Veblen goods. As the diamond industry evolves, De Beers' influence may continue to wane, but its legacy persists in the form of artificially inflated diamond prices and the enduring cultural significance of these gems. The intricate interplay of monopoly power, demand elasticity, and consumer sentiment in the diamond market

will remain an intriguing topic for economists and market observers. Additionally, the industry will grapple with adapting to changing consumer preferences, ethical concerns, and emerging competition, further enriching the economic narrative surrounding diamonds. In this complex economic tale, the role of De Beers as both market manipulator and cultural influencer cannot be understated, and it continues to leave an indelible mark on the diamond industry.

Will economic prosperity ever lead to the dissolution of the poverty line?

LEXI DOWLING

Poverty is defined as 'the state or condition where people and communities cannot meet a minimum standard of living because they lack the proper resources; most commonly resulting in illness, inequality and vulnerability. 2022 estimates from the Development initiative, indicate that around 682 million people (8.5% of the world population) are living in extreme poverty. But with the rapid development of first world countries and the fast-paced growth of emerging economies is it possible that there could be a future in which the basic needs of everyone are met and poverty is eradicated?

Economic prosperity is characterized by sustained economic growth and increased productivity. Most commonly, economic prosperity is measured with GDP – a measure of the total value of all the goods and services produced in a country, in a year. It reflects the overall economic output and productivity of a nation. When GDP is inclining there are more opportunities for job creation, higher wages and an overall increased access to goods and

services which will intern lift many above the poverty line. Per capita income provides a more detailed insight into the average income figure for an individual inside the economy. It is simply calculated by dividing a country's GDP by its population. Economic prosperity correlates with a higher per capita income therefore decreasing the amount of people who earn below the extreme poverty line of \$2.15 per person per day.

However, growth is not the only factor that impacts poverty world-wide. Poverty can also be largely affected by a country's government and other global economic issues. Government policies, including taxation and minimum wage laws, can either help reduce poverty or exacerbate it. Well-designed policies can ensure that the benefits of economic prosperity are distributed more equally. For example, Luxembourg offers the highest minimum wage of any country worldwide at \$3,169 per month (for skilled talent over the age of 18) making it no surprise that Luxembourg is ranked 6th in the world for economic sustainability.

Nevertheless, in many countries the impact of economic prosperity is tainted by how wealth is distributed in a society. Economic growth primarily benefits the already affluent and widens income inequality. In such cases, the poverty line persists or may even rise despite overall economic prosperity. For example, in 2020, the Office for National statistics calculated that the richest 10% of households hold 43% of all wealth in Great Britain. The poorest 50%, by contrast, own just 9%. Worldwide, the top 0.01% owned 11% of the global wealth by 2021, part of the trend towards a massive increase in wealth for billionaires. Consequently, despite economic prosperity it is likely that the average annual income for someone on the poverty line is unlikely to rise significantly.

Moreover, despite a countries economic growth or rise in average annual income it may not be reasonable to suggest that poverty can be completely eradicated. As an economy prospers, prices will inflate. Inflation erodes the purchasing power of a currency, meaning that the same amount of money

can buy fewer goods and services. When prices rise faster than people's incomes, especially for essential items like food, housing, and healthcare, individuals and families may find it increasingly difficult to afford necessities. People with fixed incomes, such as retirees on pensions or individuals with low-wage jobs, are particularly vulnerable to inflation. Their incomes do not adjust to keep pace with rising prices and as a result, they may struggle to meet their expenses, potentially falling into poverty or experiencing a decline in their standard of living. Banks often raise interest rates to combat inflation. While this can help control inflation, it can also increase the cost of borrowing for individuals and businesses. Higher interest rates make it more expensive to finance mortgages, business expansion and overall investment which can reduce economic activity and lead to job losses or wage stagnation. As interest rates rise consumption will decrease and economic growth will downturn. As a result, the government will have to inject money into the economy in an attempt to boost spending. This will decrease the amount of money a government has available

to provide education and welfare programs. Strong social safety nets can soften the impact of economic hardships and help reduce poverty by providing assistance to those in need by providing aids such as benefits and housing. Investments in education are also vital for individuals to access the opportunities created by economic prosperity. If people lack the necessary skills and education to participate in the workforce, they may remain in poverty even in a prosperous economy.

In conclusion, while economic prosperity has the potential to reduce poverty, it cannot singlehandedly combat it. The dissolution of the poverty line depends on a combination of sustained economic growth, wealth distribution, education, and government policies. It requires an intricate and rounded approach to address the root causes of poverty and ensure that the benefits of prosperity reach all sectors of society.

Guyana: Risk and Reward for the Fastest Growing Economy in the World

RUPERT SNEATH

Over the past decade, Guyana has found reserves of 11 billion barrels of oil within its maritime borders, putting the small South American nation in the top 20 for oil and gas potential, on par with countries like Norway, Brazil or Algeria. This opportunity for incredible growth is particularly exciting due to Guyana's small population. Despite being the size of the UK, the country only has a population of around 800,000 people focused on its coastline. This means that the incredible wealth that Guyana could achieve would be shared among very few people. In 2015, when gas was first discovered, the GDP per capita was only \$11,000, making it one of the poorest countries in the Americas. Now, the country is predicted to reach \$60,000 per capita by the end of the year, putting it ahead of Saudi Arabia, Canada, France, and the UK, and not far behind Germany and Hong Kong. The path to economic prosperity, however, is not an easy one. Other countries who have had similar luck have fallen to political corruption and end up poorer than they were before, Guyana's neighbour Venezuela is a worrying example of this. Guyana's deal with the oil company Exxon also isn't

perfect, and the border dispute with Venezuela is also worrisome. Is Guyana on track to become incredibly wealthy, or is it at risk of falling foul to the trappings of an oil-led economy?

The Oil Giant

The first issue is Guyana's deal with Exxon. So far, their production has brought \$2.8 billion in direct revenue to Guyana and led to work for 4,400 Guyanese¹, and the company intends to expand their oil projects in the region. However, there have been significant criticism of Guyana's government and its close association with the company. For example, Exxon executives join the Guyanese president in his suite at cricket matches, and the vice president regularly hosts press conferences to defend the oil company. Guyana is posed to become Exxon's top global oil producer, and for many it is unclear where the company ends and the government begins. Guyana's High Court handed down a historic ruling brought by two Guyanese citizens in May against the Environmental Protection Agency (EPA) and Exxon under the accusation that the EPA was failing to enforce requirements of its own permits by never securing

a guarantee from Exxon that the company would cover costs related to a possible oil spill. Guyana's oil reserves require deep-water offshore drilling, the riskiest kind when it comes to possible oil spills and represent similar conditions to the Deepwater Horizon explosion in 2010, which spewed oil into the Gulf of Mexico costing BP \$69 billion². Such a disaster in Guyana would be even more catastrophic, as an oil leak would likely send oil to the beaches of 14 different Caribbean islands, which would all hold Guyana liable for damages to their environment, fishing and tourism – all important sectors of their economy. Instead of allowing Guyana to prosper, this situation would cause the oil to put Guyana in incredible debt killing off any opportunity of fast growth.

The Resource Curse

"When you walked in the streets, you would hear every Guyanese saying, 'Thank God for Exxon!'"³. Alongside significant media promotion from Exxon and the government, people became excited about the opportunity for wealth. This has been a common story throughout Latin America, the Caribbean, and Africa: the fossil fuel industry is always busy

telling the story of fossil fuels as the solution to poverty. Unfortunately, this story hasn't succeeded in any Global South country in decades. A perfect example of these failures is Venezuela, which was once one of the richest countries in South America. Venezuela is an example of a petrostate, where the government is highly dependent on fossil fuel income. The country is home to the world's largest oil reserves, first discovered in the 1920s⁴. Since 1 Reuters 2 Intercept 3 Kaieteur News 4 CFR being discovered, the economy had a significant boom making the country incredibly prosperous. This boom was paired with power concentrated in a closed government with widespread corruption. Being a petrostate, the nation was incredibly vulnerable to what economists call Dutch disease. When governments develop an unhealthy dependence on single-sector natural resource exports (such as oil) it leads to the detriment of other sectors important to the economy. This means that when the oil production falters, which it did for Venezuela in 2010, the other

sectors that could protect the economy are left so weak there is nothing for the country to fall back on. The country's output has shrunk by three quarters and has suffered rampant hyperinflation, and the country's current goal is to reinstate the oil industry which could only put it back into the vicious cycle that caused its economic collapse.

With such a disaster on its doorstep, surely Guyana will be more careful with its oil? Current estimates of GDP suggest that it will go up by 300% to 1000% come 2025, making it the richest country in the hemisphere and potentially even the world in terms of per capita. This is because of its small population; such a huge amount of wealth is going to be shared among very few people. Guyana could follow the success stories of the Gulf states where Bahrain, Qatar, and the UAE amassed incredible wealth and prosperity. However looking at countries in similar situations such as Venezuela or Libya – which also fell apart after the rule of Gaddafi – the difficulty of the task for many is

not worth the risk. One possibility, which could prevent the fast rise and even faster decline of the Guyanese economy could be the Norwegian approach to oil profits. The country, instead of splashing out their newfound wealth, created a national fund that could slowly be used in infrastructure projects or in economic failure. The fund reached \$800 billion in 2014 and has continued to grow. This strategy, of course, requires significant trust between the citizens and their government, and for Guyana that trust is lacking due to its weak democracy and largely poor and uneducated people.

Guyana could reach the lofty heights of wealth that the gulf states found with oil, or they could crash and burn like their neighbour. This relies on the government's willingness to invest the money into the country's people and industries (thus not on their personal wealth) and the stability of the oil markets. If there is an oil spill or similar disaster, it could lock Guyana in economic peril for decades to come.

Sources:

- ¹ Reuters
- ² Intercept
- ³ Kaieteur News
- ⁴ CFR

How has introducing robots into the workplace effected the economy and how will it in the future?

LUDO INGLIS

In 1827 in Scotland the reverend Patrick Bell created the first successful crop reaping machine which would use a row of shears to cut the bases of the crops as they were pushed into the blades by the revolving reel in front of it, this could be pushed along by a horse. This was successful as it majorly decreased the time it took to harvest the crop. Previously the crop had been harvested by hand using a scythe which took lots of man hours and was labour intensive.

This new method meant that less workers needed to be employed which reduced the production cost of food, this meant that there was an increase in supply as more crop was produced and that crop was more affordable. This made food more accessible and affordable to the population. Foreign markets were also created by this as the increase in production led to more crop production which could be sold overseas and taxed, which led to growth in the economy as more money was injected into the circular flow of income.

The fact that these new machines took jobs away from people

can be seen as a terrible thing in the short term as it led to unemployment and a reduction in wages as there were more people willing to work for less money, this also decreased spending in the economy as people had less income so the economy would take a brief downturn.

In the long term the introduction of harvesters led to more specialist jobs as it caused a sector shift and more people started to work in factories. Specialists such as mechanics were also needed to fix the machines if they were to break and teachers were needed to educate these people. This would lead to higher paying jobs which could in turn increase consumption which leads to an increase in aggregate demand and an increase in GDP in the economy.

Research from McKinsey found that 45% of all jobs can be done by robots, these include factory workers, accountants, taxi/truckdrivers, translators, and many more. However jobs such as hospitality jobs, counselling and therapy roles, research scientists, engineers, designers, content creators aren't effected by robots as they still need the

human touch. Even still the taking of all these jobs will cause mass unemployment which can lead to negative economic growth as Between 1990 and 2007, the increase in robots (about one per thousand workers) reduced the average employment-to-population ratio in a zone by 0.39 percentage points, and average wages by 0.77%, compared to commuting zones with no exposure to robots, they found. This implies that adding one robot to an area reduces employment in that area by about six workers (Brown, 2020). However the implementation of the robots may lead to further jobs being created to design new robots and code/program the robots to new concepts as well as maintain them and manufacture them, similarly to when the first harvester was created. There has been a shift in the job market with an increase in demand for people working in robotics, programming and other stem subjects, which is positive as these are more specialist so will be higher paying. However this can also create inequality as those with these specialist jobs will have an increase in income yet those without the skills may fall behind and become unemployed.

We can expect higher productivity levels in the future. This is because robots have no need for a break and can run 24/7. Robots also decrease production costs, as although there is a large upfront cost, the robots can work nearly for free so are much cheaper than human labour as well as producing better quality products without error. The large upfront cost is worrying as it means that its more difficult for a new company to begin production, this leads to a reduction in competition and may lead to more inelastic goods where the companies can increase their prices and consumers may still have to pay the higher price.

Because there will be no need for cheap human labour these factories can be localised to produce products in the country they're selling to, this benefits the country's economy as it means the country can tax these factories. This will also have a positive environmental impact as there is less worldwide shipping which produced 700 million tonnes of carbon dioxide in 2021. However this will also mean that those less developed countries who previously hosted the factories will struggle from the challenges of deindustrialisation and unemployment.

In conclusion, the positives for introducing robots are that there will be far greater production and economic growth. However when also considering the negatives, the introduction of robots will cause unemployment, which leads to a decrease in wages so a decrease in spending, which can lead to a reduction in economic growth. So far the effect of robots has been positive however there are very few jobs entirely taken by robots. In the future when a greater percentage of jobs are taken by robots, it could be negative for the economy.

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How did the division of North and South Korea impact their respective economic growth trajectories, and what factors contributed to the differences in economic development between the two Koreas over time?

JAMES CONWAY

The division of North and South Korea in the aftermath of World War II has resulted in two starkly contrasting economic trajectories. The two Korea's split up due to Korea being liberated by Japanese occupation and leaders count agree on how to organise their government. South Korea has emerged as an economic powerhouse, known for its rapid industrialisation and technological advancements, while North Korea has remained isolated, with a largely stagnant economy. I'll be exploring in this essay, the initial economic disparities, and the subsequent factors that contributed to the differing paths of economic development in the two Korea's.

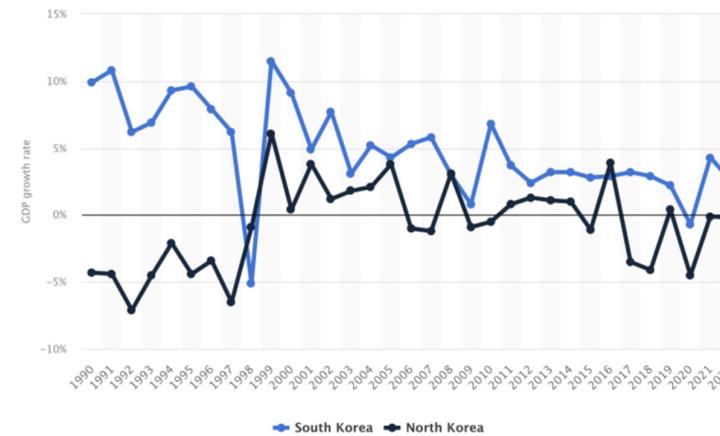
At the time of division, North Korea was not economically disadvantaged compared to the South. In fact, North Korea possessed several advantages, including a more developed industrial base, natural resources, and a higher level of urbanization.

To do with the industrial base, North Korea had a more significant industrial presence due to its historical ties with the Japanese colonial regime, which had developed industrial infrastructure in the region. South Korea's industrial base was relatively underdeveloped. The other point on natural resources is that North Korea had abundant natural resources, including coal and minerals, which provided an initial advantage in industrial development. The final point in this is about urbanisation, North Korea had a higher level of urbanization, which contributed to a more educated and skilled workforce.

Now moving on, the factors contributing to economic differences. The main factors were, political regimes and ideology, external factors, human capital and education, technological advances, agricultural policies and international trade.

Political regimes and ideology and external factors were big factors.

Political regimes and ideology had central planning vs free market, which had North Korea's central planning and state-controlled economy stifled innovation and productivity. In contrast, South Korea embraced a free-market economy that encouraged entrepreneurship and private investment. Another point is about international isolation, where North Korea's isolationist policies and hostile international relations hindered trade and economic cooperation, while South Korea pursued international partnerships and trade agreements that boosted its economic growth. Getting onto external factors, they were the Korean War, which inflicted severe damage on both countries, but North Korea suffered more. South Korea received substantial aid from the United States and other Western nations, helping to rebuild its economy. Also, geopolitical alliances, where South Korea's alignment with the United States and its participation in the global capitalist system provided access to technology, investments,



and markets, further propelling its economic development. Human capital and education and technological advances were also two important factors.

Human capital and education, with the investment in education, South Korea prioritized education, leading to a highly skilled workforce. Meanwhile, North Korea's emphasis on political indoctrination at the expense of education limited human capital development. Technological advances had industrialisation and innovation, where South Korea embraced technological advancements, fostering a competitive advantage in industries like electronics, automotive, and shipbuilding. North Korea's isolation and lack of innovation hindered its technological progress.

The last two key factors are agricultural policies and international trade. Agricultural policies has collectivisation vs land reform, where North Korea's collectivization of agriculture led to inefficiencies and food shortages, while South Korea's land reform policies promoted agricultural

productivity and food self-sufficiency. On international trade, the main idea was export-oriented growth, where South Korea pursued an export-oriented growth strategy, diversifying its export markets and focusing on high-value products. North Korea's isolationism limited its trade opportunities.

The division of North and South Korea and the resulting disparities in economic development have been shaped by a multitude of factors, including political ideology,

external influences, education, technological advancement, agricultural policies, and international trade. South Korea's embrace of capitalism, democracy, and global engagement propelled it to become an economic powerhouse, while North Korea's isolationist, centrally planned economy, and political regime have stifled growth and development.

The stark contrast between the two Koreas serves as a powerful case study in the influence of political ideology and external factors on economic development. It underscores the importance of factors such as education, innovation, and international cooperation in shaping the destiny of nations. As the Korean Peninsula continues to be a focal point of global geopolitics, understanding the economic disparities between North and South Korea remains essential for policymakers and scholars alike. Ultimately, the two Koreas serve as a compelling reminder of the enduring impact of historical choices on a nation's economic trajectory.

But the Koreas used to be much more closely matched

GDP per capita in USD, 1950-2010



Source: The Maddison Project



Too Many People, Too Little land: Diving into Nigeria's Population Growth and its Adverse Effects on National Standard of Living.

JADESOLA OKUNUBI

The demographic transition model is arguably the most objective means of predicting population trends an economy and deducing its level of natural economic development and modernisation. Initially developed in 1929 by demographer Warren Thompson, it serves a graphical illustration of the relationship between the birth and death rate of a country. In Thompson's inceptive model, he elucidated four feasible stages: pre-industrial, urbanising/ industrialising, mature industrial and post-industrial. However, more modern demographic researchers typically propose the existence of five and have bestowed new names to them: high fluctuating, early expanding,

late expanding, low fluctuating and decline. Nonetheless, the premise of the differing models remains the same. More Economically Developed Countries (MEDC), such as the United States of America (USA), Australia, the United Kingdom (UK) and Canada, typically are at stage 4 of the model, with a stable population due to both low birth and death rates.

So where does Nigeria fare in this model?

Like all Less Economically Developed Countries (LEDCs), Nigeria currently is going through the second stage of the demographic transition model.

As illustrated in the diagram above, death rates are falling at an astronomical rate, resulting in a sharp rise in population growth. Economically, it is a double-edged sword. Better healthcare (especially paediatric care), advancements in food and water sanitation, and more intensive education have attributed to this: lowering national death rates by nearly half from 22.5 per 1000 in 1975 to about 12.4 in 2022. Nonetheless, compared to other LEDCs in Africa, Nigeria has the second largest death rates, following shortly after Lesotho. Birth rates are still at a staggering high, with the country having a fertility rate of 5.25 per Nigerian woman. Statistically, this leaves Nigeria as the sixth most populous country in the world, with a whopping population of 223 million people.

Allocation of resources

Objectively speaking, Nigeria is facing a population and congestion crisis. Merely driving on the jammed streets of Lagos, swarmed by a concoction of pedestrians, motorcyclists, yellow buses, trailers, tankers, cars,

lorries and tricycles (infamously referred to as 'kekes') visually conceptualises its population density of 246 people per km², incomparable to the United States' 37 people per km². A dense population, however, is no indicator of overpopulation: a situation in which a country lacks adequate resources to fulfil the needs of its population. Censuses show that the United Kingdom reports 280 people per km² but cannot be accurately classified as overpopulated. Economists therefore argue that standard of living is therefore a more reliable measure of determining how sufficiently resources are utilised to ensure material comfort to members of the economy. For the purpose of this discussion, four indicators would be considered would be utilised to assess Nigeria's standard of living and its inhabitability, namely: GDP per capita, life expectancy, and both education and income indexes.

Life expectancy refer to the average length of time a person is expected to live in a country, given its circumstances. Looking at the silver lining, Nigeria's life expectancy has certainly increased in recent years, with individuals living an average 8.99 years longer from 2000's 66.8 years to a reports 53.6 years to a remarkable 62.6 years. A cheap vaccine for Malaria – a leading cause of deaths in both males and females in Nigeria – has just been developed by the University of Oxford and has been recommended for mass production and consumption by the World Health Organisation (WHO). Nonetheless, Nigeria reports the second-lowest life expectancy in the World -11.3 years shorter than the global average and exceeded only by Chad.

How does this have anything to do with its population?

There is a distinct correlation between not only Nigeria's population, but to its education and income indexes. According to the National Library of Medicine, there is a meagre estimated 3.8 physicians are available for every 1000 Nigerians. However, this is likely to be an over-estimation, as it does not account registered physicians who are retired or emigrated. Compared to the UK's 17.5 physicians to every 1000 individuals, the problem is made more visible. With such a low supply of doctors and high demand for quality healthcare, the cost of private healthcare in Nigeria is extremely high and unaffordable to the over 88.4 million Nigerians who live in absolute poverty (less than 1.90 USD per day). A simple solution, economically of course, would be government funding on healthcare and medicinal education – perhaps education in healthcare. This only leads to another sad statistic. Nigeria ranks 161st out of 181 countries in youth education, with 20 million children out of school, accounting for every 2 in 5 uneducated youth in the world.

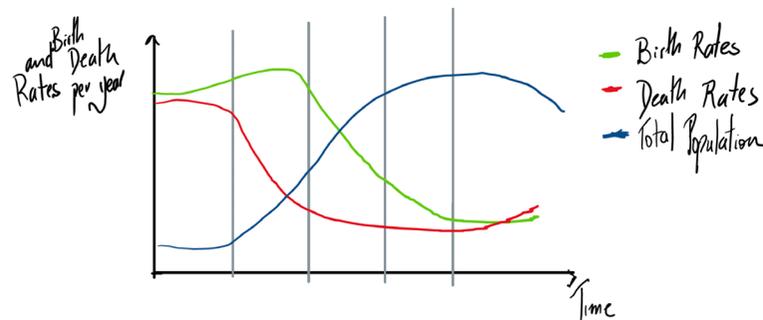
The government simply cannot afford to increase its spending to satisfy basic human needs. Nigeria is a country infamously known for its politicians' high corruption and embezzlement of public funds and tax revenue. Regardless of the budgeted amount for education, it would be right to assume that only a tiny portion of it is invested in the betterment of the education sector. The small minority of educated works often emigrate the country, leaving to countries

with better job opportunities, living standards and safer living conditions.

Solution

A plethora of Nigeria's economic hardships can be resolved by implementing basic textbook solutions, *ceteris paribus*, but a basic understanding of real-life economics highlights the near impossibility and little effects such solutions do have once actually implemented. Newly elected President Ahmed Tinubu's executive decision to terminate the Federal Government's subsidising of petrol seemed to many the perfect solution to the negative GDP growth rates in recent years due to the costly fuel subsidy program. However, skyrocketing petrol prices have increased cost of living exponentially, thus resulting in the economic crisis which the nation is facing currently. Economists argue that it would result in positive long-term implications, but is it truly worth the current suffering endured by most Nigerians?

Nonetheless, Nigeria should exploit its youthful population to propel itself forward. A whopping 60% of its demographic are below the age of 25, making it the 'youngest' country in Africa. Such a viable, employable populace results in high human capita, a rare advantage LEDCs have in favour of MEDCs in stage 4 of the DTM. Over-reliance on crude oil extraction should halt (especially due to the gradual global shift in preference of more sustainable energy sources), and economic diversification to other strategic industries would be extremely beneficiary to the nation.



How Did COVID-19 Affects Economic Growth in Different Countries

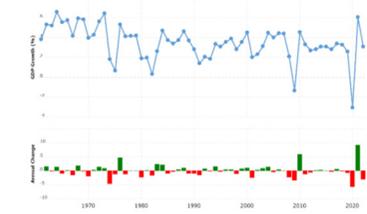
MAX WANG

Background Information

The trend of world economy has been increasing constantly since the industrial revolution. Although multiple events such as two world wars, the economic crisis in 2008, and the most recent COVID-19 have affected negatively on the economic growth, the overall world real GDP has grown in most of the times over last 60 years.

Introduction

However, as seen in the graph, there is one significant trough in year 2020 that represent the negative economic growth under the strike of corona virus which was first reported in Wuhan, China at the end of 2019. The real cause of this virus was still miserable, however, the impact it has brought to the world economy has gone far beyond expectation and caused billions

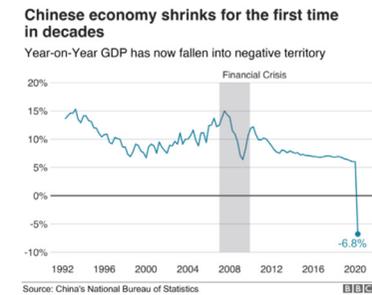


(World GDP Growth Rate 1961-2023, macrotrends.net)

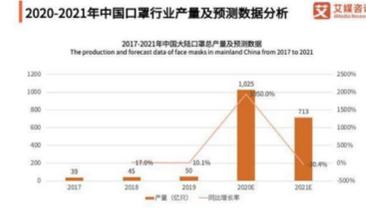
of dollars of economic losses. Although this was a global event, there are a few countries that were affected significantly more than other countries, out of all countries which have been affected. China, UK, and US were three representatives with different political background that can reflect how COVID has affected different countries and how they each reacted differently to the situation. With the different policies being published in these countries, their economy had been impacted negatively.

China

As one of the biggest economies in the world, China reported the first case of corona virus at the end of 2019, its economy has then experienced the biggest challenge since the financial crisis in 2008. The boost of the



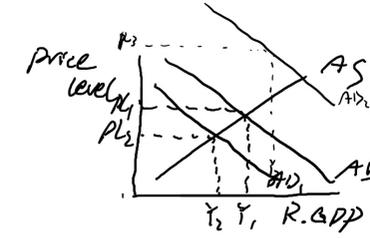
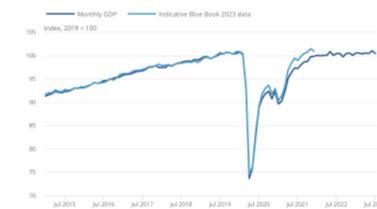
cases of corona virus was at the beginning of 2020, where people celebrate Chinese New Year together with family and friends, causing fast and widely spread of the virus, under pressure, Chinese government must announce the "lock-down" policy for Wuhan on January 23rd of 2020. As the situation gets worse in following months, the economy went even worse due to more cities were locked down and unable to produce efficiently. The long-term lock down policy made China one of the safest countries in the world, however, the cost of this is the huge amount of economies lost. During the lock-down, people were restricted from every public activity, most of the schools and companies were shut, most of the industries were paralyzed due to lack of worker. But on the other hand, the covid pandemic has created opportunities for specific manufacturers. For example, the demand for face masks has been boosted during the pandemic. Which suddenly caused a shortage of demand in the face mask market, to push the market back to equilibrium, the "invisible hand" will push up the price of face masks in China, which was proved by data from iimedia.com.



Overall, China has suffered great economies lost to minimise the number of people get affected by the virus, although this made a great miracle compare between the population of China and the number of cases reported during covid, economically. Furthermore, China has amazingly avoided depression (two consecutive quarter of negative GDP growth) in 2020, followed by 241.9 billion CNY less than the prediction GDP.

UK

As a developed country, The United Kingdom has a consistent economic growth over last few decades. At the same year when Therese May resigned from prime minister to enforce UK leaving the EU trading bloc, Covid-19 was first reported in China and then discovered in UK on January 29th of 2020. The number of people infected increased by about 5 million within one year (worldometers.info). As shown in the graph, UK's GDP dropped by 25% in 2020 compared to 2019. During this year, the UK government announced lock-down policy on March the 23rd of 2020, this policy reduced the



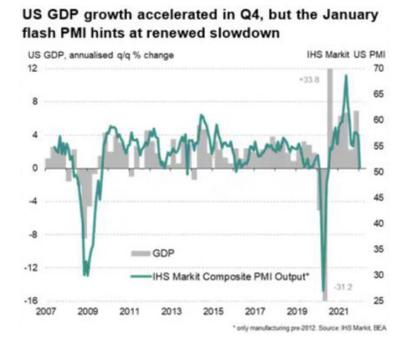
rate of number of cases growing, but also brought many negative effects to the country's economy. First, the unemployment rate was increased from 4% at the end of 2018 to nearly 5% in 2021. It also caused people to have low confidence in the market, which cause the consumption to decrease and lead to left shift of the aggregate demand curve, as shown in the graph, this will cause the national real GDP to decrease from Y1 to Y2. To save the market, the Bank of England must lower the interest rate to encourage spending over saving. The interest rate of 2020 and 2021 reached to a historically low point of 0.1% (Bank of England).

However, the economic growth was still not good enough for the UK government, which they allowed students and workers to get back to work on March 8th, 2021. After this decision was made, the economy was boosted significantly. As people are no longer restricted from work and public activities, the productivity of firms and consumption in the market will increase, which cause the aggregate demand to increase as well, as a result, UK's national real GDP will increase from Y1 to Y3.

USA

If China represents one extreme way of dealing with the covid pandemic, America is on the other extreme. The different type of

governments leads to different type of market. The US's market is more like a free market system, which means the trading is mostly lead by consumers instead of government, and the freedom of speech has affected the policies being published in America. The first case of Covid-19 was reported on January 20th, 2020. On the March 10th, small range of shutdown begins, including the New York City public school system (cdc.gov). The economy therefore got effected negatively, as shown in the graph, the slump caused by negative GDP growth was even worse than the financial crisis in 2008. After months of lockdown, citizens and companies become unsatisfied to the current government policy, in a democracy country like America, the government would not want their people to feel unhappy about the government, so the lockdown was cancelled and most of the facilities are back into work again. This immediately caused a rise in the number of people infected by the virus, the daily death rate soon reached to 500 people per day, although this could cause worse health problems, but the American government and public decide to put national output and profit as priority over public safety, this had an immediate effect on their economy, as soon



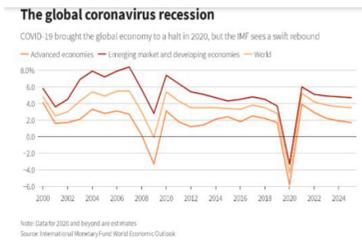
as the lockdown ended, their GDP growth rate went back to the same level as 2018. The US government has chosen a different way that can make the most profit instead of insuring people are safe. This made the GDP growth rate of America kept at a high standard compared to other countries, for exchange, America also has the highest death rate during Covid-19.

Conclusion

During the pandemic, three most representative country have each reacted differently to the situation, where they all can be seen as the result of different government system. As a communism country,

China increases its government spending focusing on building more quarantine hospitals and providing free covid tests, this protected people's safety, but the economy grow rate was significantly lower than previous years. The UK also implemented lockdown to public facilities, but as soon as they found it is affecting nation economy growth at an unacceptable extend, the UK government stopped the lockdown to save the economy. The US prioritised the GDP growth rate, which they had the quickest economy recovery from the slump caused by covid, the US economy got affected the least during the Covid pandemic.

Taking perspective globally, a significant slump can be seen on the graph, which represent an economic recession worldwide. The Covid-19 pandemic was a rare event in human history, the lost it brought to the world economy was uncountable, but different country reacted differently to each resolve this crisis.



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Industrial Growth in Post-Pandemic British Economy

SKYLER SHEN

Intro

The latest data show that the UK economy has grown faster than initially expected since the outbreak. The revised and corrected figures show that the UK economy is one of the fastest recoveries of the G7, and is possibly faster than Germany or France ever since the start of 2020. As Chancellor of the Exchequer Jerry Hunter said: “We know that the British economy is recovering faster than anyone thought.”

Background

Despite the overall recovery, the significant changes to industries all around the UK can not be forgotten. Taking the retail industry as a specific example: before the pandemic, the retailing is one of the fastest growing industry in the UK. But the blockade had put significant pressure on retailers and continued to affect their performance ever since 2020. For many retailers, this meant facing continued pressure from profit margins, store rationalization, omni-channel strategic investments, and supply chain restructuring. Similar difficulties were experienced throughout sectors in the UK economy,

but how industries react and their performances in after the epidemic is quite differentiated. This essay will focus on analyzing reasons behind the recovery of a few UK industries with the fastest industrial growth in post-pandemic economy.

Storage & Transport

Starting by looking at the Storage and Transport industry. Which is possibly realized during the lockdown to be one of the most overlooked industries. Shipping and delivery services includes the distribution and delivery of goods including medical equipment, raw materials, capital and products for daily use etc. The UK freight and logistics market is estimated at \$134.56 billion through 2023 and is expected to reach \$166.7 billion by 2029, with a compound annual growth rate of 3.63% over the forecast period (2023-2029). As quarantine policies reduce transportation, the demand for such service increased sharply during covid. Leading more Research & Development into the industry's supply sector. This eventually formed the well developed and effective Storage & Transport system we see today. With the strong recovery of British

economy, and as a important sector of production, increase in demand for storage and transport goes without saying.

Electronic Commerce

E-commerce refers to the business activity that takes information network technology as the means and takes commodity exchange as the center. All business activities that take the Internet as the media belong to the category of e-commerce. In recent years, with the continuous development and penetration of Internet technology, as well as the gradual increase of the penetration rate of Internet users, the global online retail sales have maintained an increasing trend year by year, and the e-commerce industry has developed rapidly. During the influence of covid, demand for electronic business activity such as video meeting, online transaction and communication has shown a significant rise. The ban lifting of offline activities has also enabled British consumers to adopt the “online + offline” shopping mode. The domestic e-commerce retail sales have increased to \$142 billion, accounting for nearly 20% of the total retail sales. At present, the

UK has developed into the largest e-commerce market in Europe.

Artificial Intelligence

The international competition in the field of artificial intelligence is intensifying, and the development of the artificial intelligence industry in the UK is at the leading level in the world. According to recent research, there are more than 2,300 AI enterprises in the UK, accounting for nearly 7% of the global AI enterprises, and only second only to the United States and China. During the battle between human and Covid-19, Artificial intelligence contributed greatly. For instance, with artificial intelligence image recognition technology combined with infrared thermal imaging

technology, the rapid screening and early warning of the forehead temperature of many people in a certain area can solve the problem of less facial recognition features caused by wearing masks and hats, and facilitate the rapid screening of people gathering places. AI mega data technology can also predict how many people may be infected from a macro perspective, help the government to make decisions about the material supply and control means, and accurately locate the hidden infections scattered in various places. Even in post pandemic economy, there is no doubt that AI will be the main force driver of economic growth. Further leading the development of the Deep Tech industry

across the UK and having a sustained and systematic positive impact on the country's overall infrastructure.

Conclusion

Although few industries were analyzed in this essay, there are still many more fields that generated strong growth in post pandemic British economy. They all contributed greatly to the recovery of UK economy. Through balanced, coordinated and mutual development, all industries will be able to work together to bring the UK economy back to the pre epidemic level and boost human development in the context of globalization.

Does economic growth always require a sacrifice?

REUBEN SODHI

The Cambridge dictionary defines sacrifice as the act of giving up something valuable to you in order to help someone else. In economics, this would be when a government gives up something in order to boost the economy. Today I will explore whether a trade-off is always necessary to achieve economic growth with a given example from the current world.

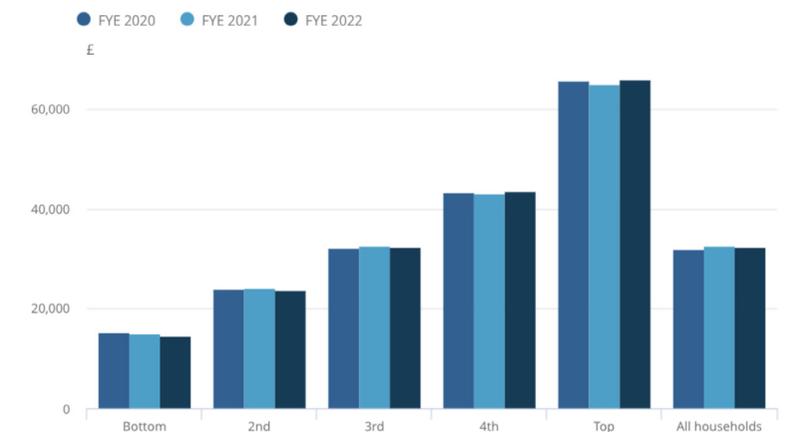
The example I would like to use is the UAE. They have undoubtedly experienced mass economic growth in recent years. Naturally the follow up question is how did they achieve that? Well, they exported oil and used the money they made from that to build a country that was attractive to tourists and expats. This has worked extremely well as Dubai is fast evolving into a business hub for the global elites as many are attracted to the 0% tax, the safety and for the Brits especially warm weather all year round. This sounds very good up until I discovered the wealth gap between the rich and the poor. In the middle east, in 2019, the top 10% of earners received 56% of national income in the middle east whereas the

bottom 50% only received 12% of national income. So, whilst UAE is thriving economically and becoming one of the most desirable cities on earth for those with wealth, it still has work to do on decreasing the wage gap, thus showing that there are negative outcomes of economic growth. It could be argued UAE is a giving up equality of wealth to help economic growth, thus showing they are making a sacrifice.

Let us now turn our attention to the UK cost of living crisis which flooded the news and panicked the country. As you would imagine, in times of economic difficulty, the wealthy cope with

little stress, whilst those who struggle to make ends meet are stressing more than ever, as seen in the diagram below.

The diagram proves that in times of crisis, those with less money gain wealth, as seen by the 4th band and top band whose income grew from Financial Year end 2021 to Financial Year end 2022. Whereas the bottom three bands experience a reduction in income. So, in times of crisis the less wealthy suffer. But to end this, and experience economic growth again, the government must inject money, which is a financial sacrifice on their behalf.



To finish, I would like to conclude that yes sacrifice is required for economic growth. However, whether this sacrifice is outweighed by the benefit in the future is equally as debatable. I would like to end on a quote from Alok Sharma, former secretary of state for business, who said 'Infrastructure is the backbone of economic growth'. Infrastructure costs money, so for there to be economic growth, someone has to pay the price of money, a valuable sacrifice.

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