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insight.

Silver Linings

Letter from the Editor-in-Chief

Welcome to the 23rd issue of Insight Magazine!

The stories of hope that make up this autumn issue aim to be a breath of fresh air to the twin crises of the global pandemic and climate breakdown - omnipresent events which have shaped the past couple of years. This publication searches for silver linings appearing in defiance of these defining issues that overcast our global economies.

With COP26 coming to a close on the other side of the M8, we wait in anticipation of the dawn of innovative policies to fight climate change which match the lofty promises set by global leaders. In light of this, I am pleased to announce that this semester, Insight will be expanding its media content with a short film explaining the outcomes of the climate conference. This will include interviews with leading environmental economists and activists, so make sure to keep a lookout on our social media channels!

On behalf of the Insight community, I would like to take this opportunity to thank the School of Economics for their continued support for the magazine, without which this publication would not be possible. And a special thank you to the student authors and editors for all their hard work in making this issue come to life.

All the best,
Serena Grover

Serena Grover

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Post Pandemic Potential

With the vaccine programme full speed ahead, and lockdown restrictions fully lifted, analysis can be made on the economic implications of the global pandemic. Consumer spending habits have changed the scope of expenditure forecasts, requiring a serious update to the basket of goods.

Within this section, David Mesa-Ruiz writes about the exacerbation of inequality and the relevant responses from policymakers, George Smith explores the spike in household savings resulting from lockdown-induced low consumption, and Estee Lu uses pandemic consumption analysis to discuss the evolution of “signalling”.

Pandemic

All Else Not Equal

COVID-19, Inequality, and the Role of Policymakers

David Mesa-Ruiz analyses the effects of the pandemic on inequality and the response of policymakers.

The effect of the pandemic on income inequality has been a focal point of media attention. There is particular attention on the fact that the pandemic has exacerbated income inequality in developed countries. For instance, work-from-home measures have meant that many low-paid service jobs, which typically require face-to-face contact, have been curtailed. Meanwhile, most high-paid jobs have continued to operate remotely—triggering a K-shaped recovery in the wake of the pandemic. There is also concern that inequalities between low and high-paid jobs may continue to worsen with the increasing capacity of AI to replace tasks performed by low-paid workers.

Beyond economic inequality

Often overlooked, however, is the effect of the pandemic on another important dimension of inequality: gender. Recent research and aggregate statistics suggest that women have been more exposed to employment loss, as women tend to work in occupations that are more susceptible to the effects of the pandemic. The expected result is upward pressure on the average gender wage gap for years to come.

More optimistic trends are observable elsewhere. The gender childcare gap in UK households has somewhat improved: the allocation of childcare tasks has slightly equalised in those households in which men work from home, have been furloughed or are newly unemployed. That said, the time allocation gap for childcare and home-schooling remains at one hour per day in households in which men and women of similar characteristics both work from home, in similar occupations. Moreover, mothers who have stopped working due to the pandemic perform far more domestic duties than fathers in an equivalent situation. Perhaps most tragic is the fact that the shock of the pandemic on household bargaining has also contributed to an increase in domestic violence since the pandemic's onset.

Although male deaths from COVID have been higher, the impact of the pandemic on mental health has disproportionately affected women. Already experiencing poorer mental health pre-pandemic, many women have seen their mental health decline due to worsening economic prospects. This is heightened by the increased burden of childcare and household tasks performed alongside work-related tasks at home. Sadly, these gender differences in mental well-being extend to childhood. Recent research has outlined a significant difference in the effect of the pandemic on mental health between girls and boys, especially among 10-15 years old.

Another overlooked aspect of the pandemic is the impact of school closures on intergenerational mobility. In recent lockdowns, pupils attending private schools were twice as likely as those attending state schools to have access to regular online teaching. In addition, children in those households that have lost income due to the pandemic have more limited access to supplementary paid learning resources relative to their peers in those households that did not face any income loss. These facts combined have inevitably widened the gap in achievement between low- and high-income children.

Policymakers, the only 'great equalisers'

The multifaceted effects of the pandemic on inequality present several salient challenges to policymakers, as well as many opportunities to improve the situation we find ourselves in.

The increase in income inequality will need addressing. An obvious solution is for governments to provide guaranteed income to low-income households which have been disproportionately setback by the pandemic. However, such support is likely to be met with controversy, given the dramatic rise in public debt since the pandemic began.

On the issue of gender inequality, the pandemic may have helped shift attitudes towards an equal division of household duties. Policymakers may capitalise on this momentary change in attitudes to establish new household norms in the future—which seems urgent, given the recent rise in domestic violence. Changes in norms may also positively impact gender segregation in some occupations unveiled by the pandemic.

As for the detrimental and unequal effects of the pandemic on mental health, policymakers could act by increasing public access to care workers and other resources, as well as providing a broader suite of options for treatment and referrals. Again, however, this may elicit some criticism due to the resources this would require from the NHS, which has been under stress throughout the pandemic.

Considering the widening education gap, failure to act now will result in persistent (and increasing) disparities between low- and high-income children in education, income, and health.

The deepening inequalities brought on by the pandemic may prove harmful for the UK's economic outlook as they limit equality of opportunity in society and, in doing so, may generate inefficiencies. Tackling these issues should therefore be a priority for policymakers. Time will tell whether they will rise to the challenge.

Pandemic

Lockdown: A Blessing for our Savings?

George Smith discusses the implications of the post-Covid boost in household savings resulting from the decrease in consumer spending during lockdown.

The COVID-19 pandemic saw a divergence between the condition of personal finances and the national economy. While the headlines screamed of economic catastrophe, many households, particularly affluent ones, improved their financial situations, accruing savings due to reduced consumption expenditure during periods of lockdown. In the UK, the average savings rate increased from 9% to 26%, the highest on record. This apparent silver lining has important macroeconomic implications for the pandemic recovery and the coming decade as a whole.

A quick glance at the theory prompts to the conclusion that these savings will be invested in businesses, allowing them to expand their operations, and generate income for household lenders, as well as drive economic growth. There also appears to be a degree of pent up demand present in the economy which will be realised by a surge in consumer spending, fueled by savings as the economy reopens. All sounds good.

However, a key caveat to this is that without an increase in production, an increase in either investment or consumption will drive inflation, as more money chases the same quantity of goods. In particular, increased spending on consumption may increase the price of consumer goods, while increased investment could have an inflationary effect on the market for the factors of production, including labour.

In For a Penny

There are signs that increased investment is boosting the recovery of the UK economy, but the evidence is mixed. For one, economic growth has been strong compared to predictions, with GDP figures realising the optimistic scenario from the Office for Budget Responsibility March 2021 forecast, despite delays to the reopening road map announced in February.

Along with strong GDP growth, the record number of job vacancies may suggest businesses are investing. It is not clear, however, whether this can be attributed partially to household savings or whether it simply represents a rebound in demand and a less cautious attitude to COVID than had been expected.

Another appearance made by investment in this post-Covid economy is through new company incorporations. The rate of these has risen by around 30% during the pandemic. This suggests people have the savings and the time to try their business ideas. Overall levels of investment were reduced during the pandemic as businesses scaled back operations, but they have recovered towards pre-pandemic levels since the easing of lockdown. Gross fixed capital formation is 5% lower than in 2019, but it has rebounded rapidly from the 2020 low. Nevertheless, company dissolutions have also risen during the pandemic. This upheaval may help to account for the fact that total investment is yet to return to its pre-pandemic levels.

> **In the UK, the average savings rate increased from 9% to 26%, the highest on record.**

Perhaps the most compelling evidence for the impact of investment is rising productivity. Workers are more productive when they can utilise more capital, which comes from increased investment. Productivity has risen, with output per worker 1.7% above pre-pandemic levels. Estimates of output per job, excluding furloughed workers, have increased by 7.2%. This rise can be partially explained by the less productive nature of industries which saw large numbers of furloughed workers. It may also be partially accounted for by the decrease of the workforce which leads to more capital being available per worker. Some of the increase in productivity has been sustained into the recovery though, so it is possible this is due to increased investment in capital arising from a surge in household savings.

Inflation

Given that the economy has contracted significantly, it is surprising that households are better off. One way to resolve this apparent contradiction is inflation. UK inflation has already risen to a 9 year high, but what is particularly interesting is the sectors that are driving inflation. These can be classified into sectors that are rebounding and sectors in which extra savings have encouraged more people to enter the market, despite them not being depressed in the first place. Sectors in which people are not spending excess savings and demand was not significantly reduced by COVID have seen little inflation.

On the consumption side, unsurprisingly, sectors that were particularly negatively impacted by COVID have rebounded. Hotels and transport have both seen high inflation at 8.6% and 7.8% respectively. This is driven by demand recovering after a reduction last year. Travel restrictions prevented booking and nerves around COVID meant many people preferred to stay at home. Savings certainly play a role in realising pent up demand. Restaurant diners are up on the equivalent week in 2019 by around 20%, but were almost 80% higher immediately after reopening.

Two Sides of the Same Coin

It is striking how unequally the increase in savings has been distributed. In the highest-earning quintile, 47% of households saw their savings rise, compared to just 12% in the lowest-earning quintile. In fact, 32% of this group have seen a decline in their savings. A House of Commons report said, "groups which are more likely than average to have taken on more debt since the start of the coronavirus pandemic include renters, people from minority ethnic groups, parents and carers, disabled people and those who are shielding, and young people."

While the source of savings is relatively unimportant for investment, it is consequential for changing consumer spending patterns and influencing which markets experience inflation. Markets that require a high level of savings before entry, such as luxury goods and housing, have seen quick inflation with the present surge in savings. Given the savings of the pandemic have mainly accrued to affluent demographics, it is unsurprising that goods fitting their tastes have seen particularly quick inflation. House price inflation in the UK has risen to 13% up from 2% before the pandemic, which can be attributed to a rise of speculative home investors with a lot of spare cash.

Another case of this is stock trading and cryptocurrency. In general, people require savings they can afford to lose before they will trust themselves on the stock market. Increases in household savings with little available spending outlets, coupled with the recent ease of retail investing can cause market anomalies such as the GameStop and cryptocurrency bubbles. This cannot be considered investment, in the sense set out by the neoclassical paradigm, as any profit will come at someone else's expense. In contrast, sectors where demand has remained relatively constant, and where people are unlikely to spend excess savings, inflation has remained low. One example is food where inflation has been a mere 0.3%.

My Two Cents

Both the rise in inflation and the rise in investment are also influenced by other factors. Many supply chains have been disrupted putting upwards pressure on inflation, compounded by other exceptional circumstances often related to the pandemic and tightening supply. For illustration purposes it is worth considering the recent gas shortages. A lack of storage, a particularly cold winter in 2020, as well as higher demand due to reopening business has led to surging prices, pushing gas firms out of business. Investment, on the other hand, has also been boosted by consumption exceeding its pre-pandemic levels.

The evidence seems clear that savings are driving inflation, particularly when considering sector by sector inflation. This suggests a surge in inflation will be temporary, but it is possible that high inflation figures will erode confidence in the currency, leading to the propagation of inflation across the economy. Rising wages will also accelerate cost push inflation across the economy, but it seems probable that inflation will end when savings are exhausted and, of course, increased inflation will bring that about quicker.

When it comes to investment, the evidence is less definitive, but it seems likely that savings have had a role to play in quicker-than-expected growth. With high inflation, it seems any boost to investment will also be temporary, as households spend their excess savings before returning to their previous spending habits.

Pandemic

The Evolution of Signalling

Estee Lu explores how the term "signalling" has changed over time, transforming the goods we buy, our work ethics and, even, our dating lives.

The term "signalling" was introduced by Michael Spence in his analysis of the information gap between employers and workers. With workers' innate productivity levels being unobservable, firms offer wages that reflect their beliefs about the average skill of workers in the market. Through signalling, skilled workers can differentiate themselves from the less-skilled by obtaining costly education. Signalling behaviour in this vein is not only evident in the labour market, but many other aspects of life. A prominent example is "conspicuous consumption," in which people race to the top of a social ranking by purchasing more expensive and outlandish goods.

Game of Status

Thorstein Veblen considered conspicuous consumption to be a "means of reputability to the gentleman of leisure," spending that serves to impress and enhance one's status in the eyes of others. In the modern era, one's social standing is determined by their relative income or wealth. While personal net worth is easily recognizable for someone on the Forbes list, the rest of the society engages in purchasing conspicuous goods, such as designer bags, bigger mansions and private yachts, to flaunt their wealth without disclosing the actual figures in their bank accounts.

However, the rise of the aspirational class - individuals defined not by their income brackets, but rather by their cultural capital and consumption choices - has challenged the current social status perception, and pushed for a switch towards goods that have more than monetary significance to signal one's social status. Instead of purchasing luxury goods, we consume products with hidden values. Carrying a bottle of 1947 Château Cheval Blanc does not scream "expensive" at first glance, but highlights one's taste immediately. This type of new conspicuous good requires a knowledge threshold to understand its worth and reveals a degree of sophistication that contributes to social ranking.

This switch is expedited by the pandemic. The series of lockdowns and travel restrictions have caused a contraction in the luxury goods industry, and the drop in demand is in part associated with the weakening power of status revelation using branded goods. Since people spend an enormous amount of time indoors, the number of social events where consumers can flaunt their possessions has decreased, and in these instances, the signalling mechanism fails, since no one is there to notice it.

As people are taking their social lives online, social media platforms are becoming another avenue for them to display their luxury expenditures. But, the frequency of social media content generation is so great that a photo can be engulfed in cyberspace in a matter of minutes. Further, repeated postings could lead to lost interest due to lack of novelty and also create the sense that the particular user only owns a few luxury items, which is not a good signal. So instead, people post about wine selections, yoga classes or book subscriptions, which fall under the new conspicuous consumption category that have hidden values on the degree of sophistication. These are relatively inexpensive goods and provide variety while

reflecting on the same level, one's quality of life that is positively correlated with social ranking.

In Hopkins and Kornienko's study on the status game, they indicate that if the social status is determined by one's standing in the income distribution, conspicuous consumption is "wasteful" as it has no net effect on the individual's position and leads to a Pareto-inferior outcome. If individuals have cardinal concerns instead, where they compare their relative levels of conspicuous consumption against the others, then greater competition would lead to lower welfare at all income levels as people trade-off between actual welfare-enhancing consumption and conspicuous ones.

While luxury spending is considered "wasteful", the new conspicuous goods could be "useful". For instance, readers of award-winning books are generally perceived by society to be elite and therefore occupy a high social ranking. Those who purchased them would eventually gain some knowledge from reading - or at least partially understanding - the content, warranting a meaningful post on social media. We may deem this as an act of cultural capital accumulation that could impact individuals' future networks or income. If competition for social status is inevitable, why not spend on goods that could have a small but lasting positive effect as opposed to wasting valuable resources.

Signals to "Swipe Right"

Signalling is also prevalent in the dating market. In Reduce Uncertainty of Online Potential Mates: Employing Signalling Theory, Lo and Lin indicated that the online dating environment is filled with uncertainties - attributes such as looks, income and education serve as signals to indicate one's potential quality to the rest. While these searchable attributes are easily observable, it can be challenging to distinguish one's experiential attributes, such as degrees of kindness, confidence, intelligence or humour, which are important to the success and quality of a match. Since such personal characteristics are considered invisible, people can only learn about them after being matched online and deciding to meet in person. Unfortunately, such interactions are time-consuming and have been severely curtailed amidst the pandemic.

On the bright side, many companies have rolled out video chats for matched users during the pandemic. This has reduced uncertainty in searchable traits, such as looks, and has also shone a light on certain experiential attributes, like honesty. Some firms like Bumble, one of the UK's leading dating apps, have gone further, allowing users to distinguish themselves even before a match is made, by adding a "vaccination badge" to their profiles once they receive a Covid-19 jab. This declaration showcases one's responsibility and intentions to protect those around them. It can even be perceived as an indication of one's risk aversion profile. These experiential attributes can boost one's perceived quality as a mate, something previously unnoticeable before "swiping right".

The evolution of signalling tools in this case disrupts the normal sorting behaviour by allowing for more characteristics that people can sort on. It is also time-saving, as matches made due to imperfect information of experiential attributes can be filtered out straight away, leading to better match quality.

Consistency in Good Performance

Returning to where signalling theory first started, Spence's job-market signalling model describes how the acquisition of education credentials sends signals regarding aptitude from workers to employers. To obtain such recognition, people are evaluated based on the many qualifying examinations that they have to sit throughout their schooling years.

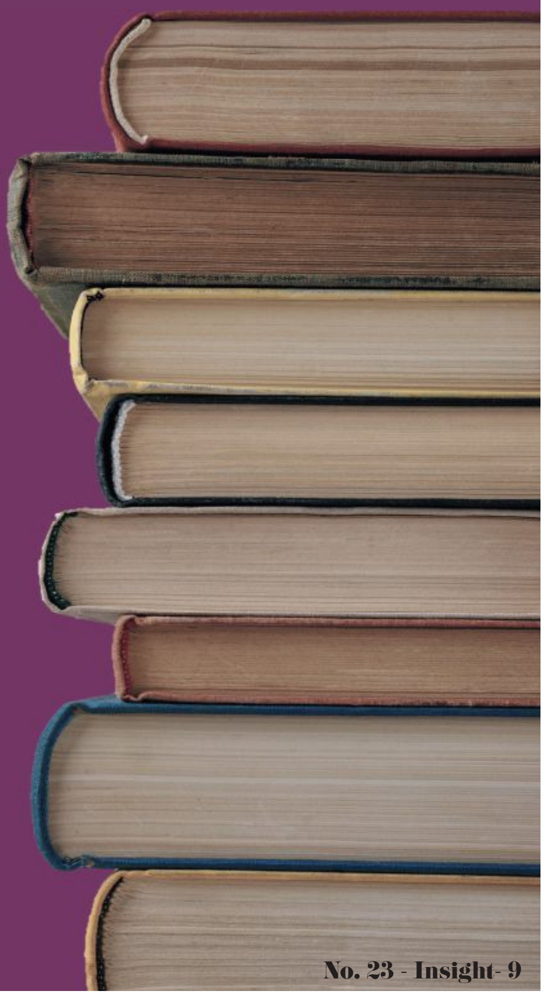
The pandemic has caused disruptions to the sitting of some qualifying examinations, forcing a change in the manner that students are evaluated. For A-levels, students are no longer appraised based on a one-time exam score, instead, schools provide a "predicted" grade that students would most likely achieve. This grade is calculated based on the standardisation of students' mock results and formative non-exam assessments.

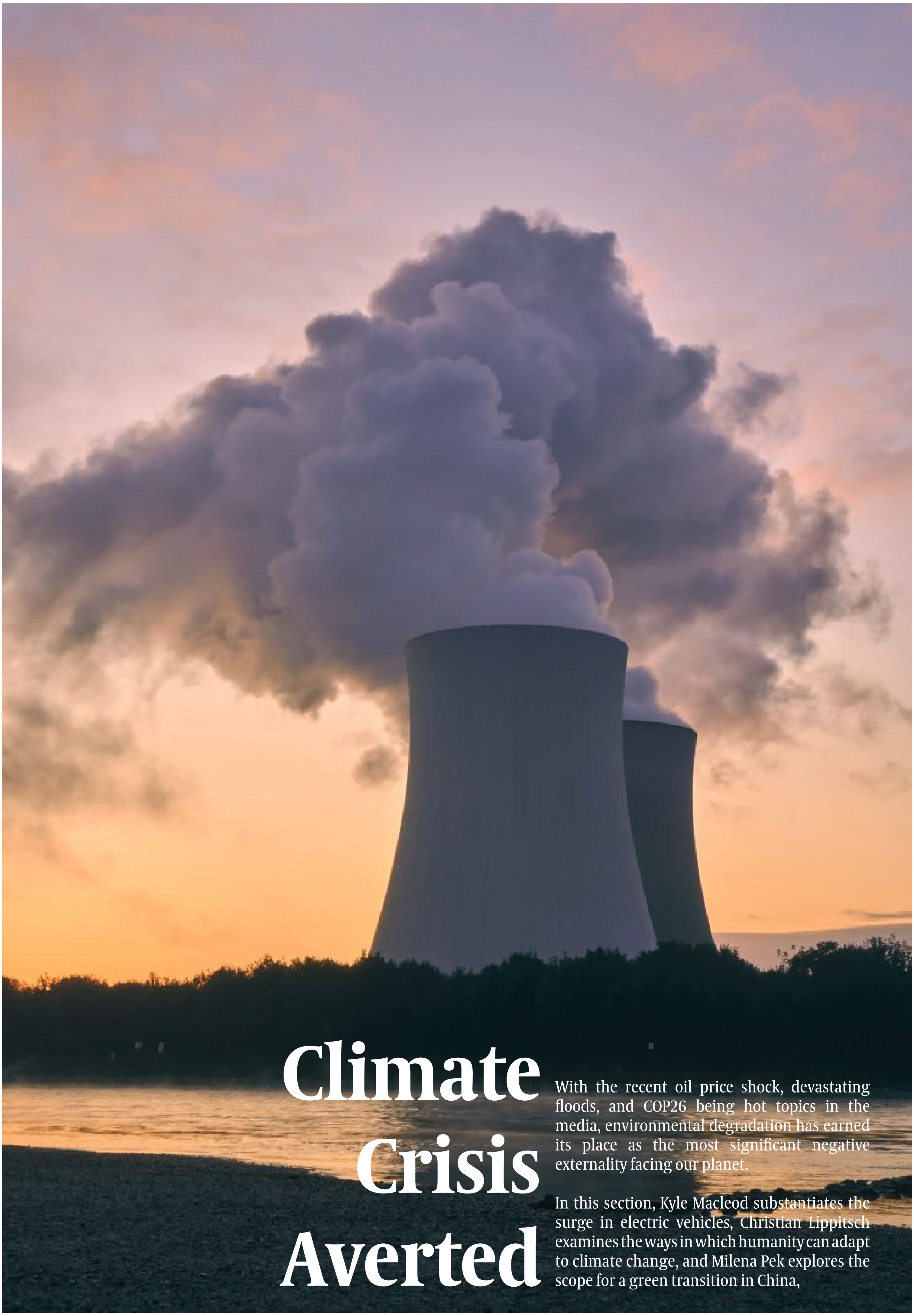
The change in grading is liable to potential bias. Sky News reported that for the 2021 cohort, 44.8% of students were given A or A* grades in England, Wales and Northern Ireland. It is hard to determine if such a boost was a result of bias from the new evaluation method, or if students generally improved.

Despite the potential controversy, there have been advantages as a result of this change. While the previous evaluation was a one-shot merit-fail game, the new method is based on a series of performances throughout the academic year. The predicted score generated in such a system not only provides a signal of merit that confirms the students' quality but is also a signal of consistent high performance. While this combination does not necessarily provide information about students' capability to perform under pressure, it still offers some insight into their aptitude and thus remains a valuable signal. In the long run, this could encourage students to consistently maintain high standards throughout the academic year.

Painting The Silver Linings

Despite the inconvenience the pandemic has caused, the advancement in certain societal tendencies is clear. In the aspect of status signalling, people are moving away from "wasteful" consumption of luxury goods in favour of new conspicuous goods that have certain embedded values and provide scope for positive externalities. The speed of such evolution has been accelerated by the sudden contraction in social interactions and the growing need to take our social lives online. The pandemic has also influenced the online dating landscape, where the quality of potential mates can be evaluated on a greater spectrum of signals. Finally, the elimination of one-time evaluation in certain qualification exams has encouraged students to perform more consistently, a quality that may improve one's work ethic later in life.





Climate Crisis Averted

With the recent oil price shock, devastating floods, and COP26 being hot topics in the media, environmental degradation has earned its place as the most significant negative externality facing our planet.

In this section, Kyle Macleod substantiates the surge in electric vehicles, Christian Lippitsch examines the ways in which humanity can adapt to climate change, and Milena Pek explores the scope for a green transition in China,

Gearing Up For the Ride of Our Lives

Kyle Macleod explores the effect of the recent fuel shortage on consumer attitudes towards electric vehicles.

Chronic UK fuel shortages made headlines in September of this year. The disruption caused by the pandemic and Brexit, in tandem with opportunistic media coverage, led to large-scale panic buying of fuel. A consequent shortfall of fuel and public pressure forced the UK government to take action, going as far as enlisting the army to transport fuel across the nation. But we are not out of the woods yet. The economy is still under pressure: businesses are facing astronomical shipping prices and lower consumer discretionary spending. Amid this chaos, however, are encouraging signs.

Tired of waiting in hour-long queues to get their hands on less than a week's worth of fuel, drivers' interest has started to shift away from gas-guzzlers towards electric alternatives. Electric vehicle (EV) sales in October 2021 were almost 50% higher than at the same time last year; this statistic becomes even more remarkable given that total car sales decreased by a third in the same period. Whatsmore, 15% of car sales in the UK now involve electric vehicles. It seems that the fuel crisis provided the encouragement many needed to make a definitive switch to EVs.

Turned Off?

Despite the current data offering a source of cautious optimism, there is good reason to be sceptical about the pace of EV adoption in the UK. For one, a global semiconductor shortage that has affected manufacturers of low-cost cars has hampered sales of conventional cars worldwide. The scarcity is unlikely to last, however, as the US is now subsidising the manufacture of semiconductors. Fuel prices are volatile, so it would be unwise to rely on a persistent rise in fuel prices to incentivise EV adoption—at least in the short term. That said, if fuel prices continue to fluctuate sharply, risk-averse consumers may be willing to pay a premium to rely on relatively stable electricity prices instead.

Unsurprisingly, consumers consider more than just operational costs when choosing their next car: limited driving range, long charging times and high initial prices of current EV models may deter consumers from making the switch to electric.

Tired of waiting in hour-long queues to get their hands on less than a week's worth of fuel, drivers' interest has started to shift away from gas-guzzlers towards electric alternatives.

These are issues that manufacturers are working to overcome, but they remain burdensome for EV owners in the short term. It is also worth considering the high costs manufacturers face in transitioning from the production of conventional fuel vehicles to the production of electric vehicles. It may be unrealistic to expect that the motor industry has the impetus to transition to a greener pattern of production and consumption. Instead, a serious effort to transform the sector may demand government policy.

Rage Against the Machine

The benefits of the widespread adoption of green vehicles are evident. Not only would the climate benefit from a reduction in greenhouse gas emissions, but societies would also benefit through reduced emissions of harmful pollutants (e.g., noise pollution in major cities), the stabilisation of the electricity grid, and reduced dependence on imported oil.

These benefits combined may justify government intervention that steers consumers towards electric vehicles. One such intervention may be reducing the effective price differential between EVs and petrol vehicles—perhaps through direct subsidies or increased taxation on high-emission vehicles. Alternatively, making EVs more convenient for drivers by increasing the number of available ultra-fast charging ports may spur purchases. Elsewhere, governments have promoted the adoption of EVs through similar policies; for instance, the introduction of road toll exemptions in Norway and free parking for EV owners in Sweden. A bolder policy commitment to EVs may include designated lanes on motorways.

There are several options for policymakers to promote electrification in the motor industry. Yet, perhaps the most effective policies will be those that make the benefits of EV ownership visible and enviable to all. Innovation will make the green revolution in road transport inevitable. Effective policies are needed to accelerate the adoption of EVs and decelerate rising emissions. Can governments flip the switch in time?

Runner Up of Insight Prize

Climate

Preparing for the Storm

Christian Lippitsch explores the myriad methods in which humanity can adapt to climate. change.

In late 2021, international broadcasters showcased a surprising variation of its media coverage of Scotland. Customarily, we might see footage depicting the scenic landscapes of the Highlands, or Scottish politicians commenting on the latest Brexit turmoil. But this year was different. At the end of October, international diplomats and protestors alike met in Glasgow for the next round of international climate negotiations, the 2021 Climate Change Conference: COP26. And, once again, commentators were likely to agree to disagree on the definition of substantial achievements and whether the summit's own ecological footprint was worth promised emission reductions.

For as long as the fight against climate change has been on the international agenda, there have been economists referring to the process as "humanity's biggest externality" – damage caused by individuals, industries and nations without paying for it. Achieving binding international commitment to forego short-term profits under the common goal of our future existence is the squaring of the circle that summits like COP26 put on their banner. Mitigation of climate change is an existential task and will remain so for generations to come.

But the coin has a second side, one that is impossible to overlook. It does not require regularly produced long-term projections to understand the damage caused by climate change; just by refreshing your news feed in the morning you will be aware of the wildfires in California, continuing droughts in East Africa, a once-in-a-century flood in Germany. Rising temperature levels go hand in hand with rising weather fluctuations, manifesting itself in natural disasters. While human welfare is the product of high income levels and low risk, climate change poses the antithesis; falling wealth and rising volatility. Already today, the number of once-in-a-decade floods has gone up by 30% relative to the historic average, for heatwaves, the number is 280. Analysts predict that annual damages caused by these extreme weather events will amount to $400 billion in the developing world by 2030. When climate change mitigation is one side of the coin; then adaptation to climate change is the crucial second side.

You won't always reap what you sow

A bitter irony of climate change is its link between cause and effect. For decades, industrialised countries have fuelled their prosperity engines with carbon dioxide, yet it is the Global South that is asked to pay the bill. The reasons why developing countries are disproportionately affected by climate change are rooted in their institutional capabilities, economic structure and geography. Whereas tight public budgets and resources limit the actions governments can undertake, their main vulnerability stems from sectoral labour allocation.

Consistent with patterns of structural transformation of countries' sectoral composition, most developing countries remain highly agrarian. In some economies, up to almost 80% of people work on mostly small, family-run farms, feeding themselves and other parts of their country. On these, farmers use mostly natural inputs to produce natural outputs. The sector's direct exposure to fluctuating temperature and precipitation levels may seem trivial, but certainly requires investigation in order to understand how agriculture is affected and what can be done about it.

As for the wellbeing of farmers themselves, their produce significantly depends on stable conditions, with every crop having its own individual optimal temperature. Experimental analysis demonstrates that reaching a temperature below the optimal creates relatively mild increases in yields. Go above this peak, however, and yields fall tremendously. Swapping a single day at 29 degrees for a day at 40 alone can reduce the average annual yield of corn by 7%. This highly non-linear effect accentuates the notion of current and projected losses at the hands of rising temperature levels.

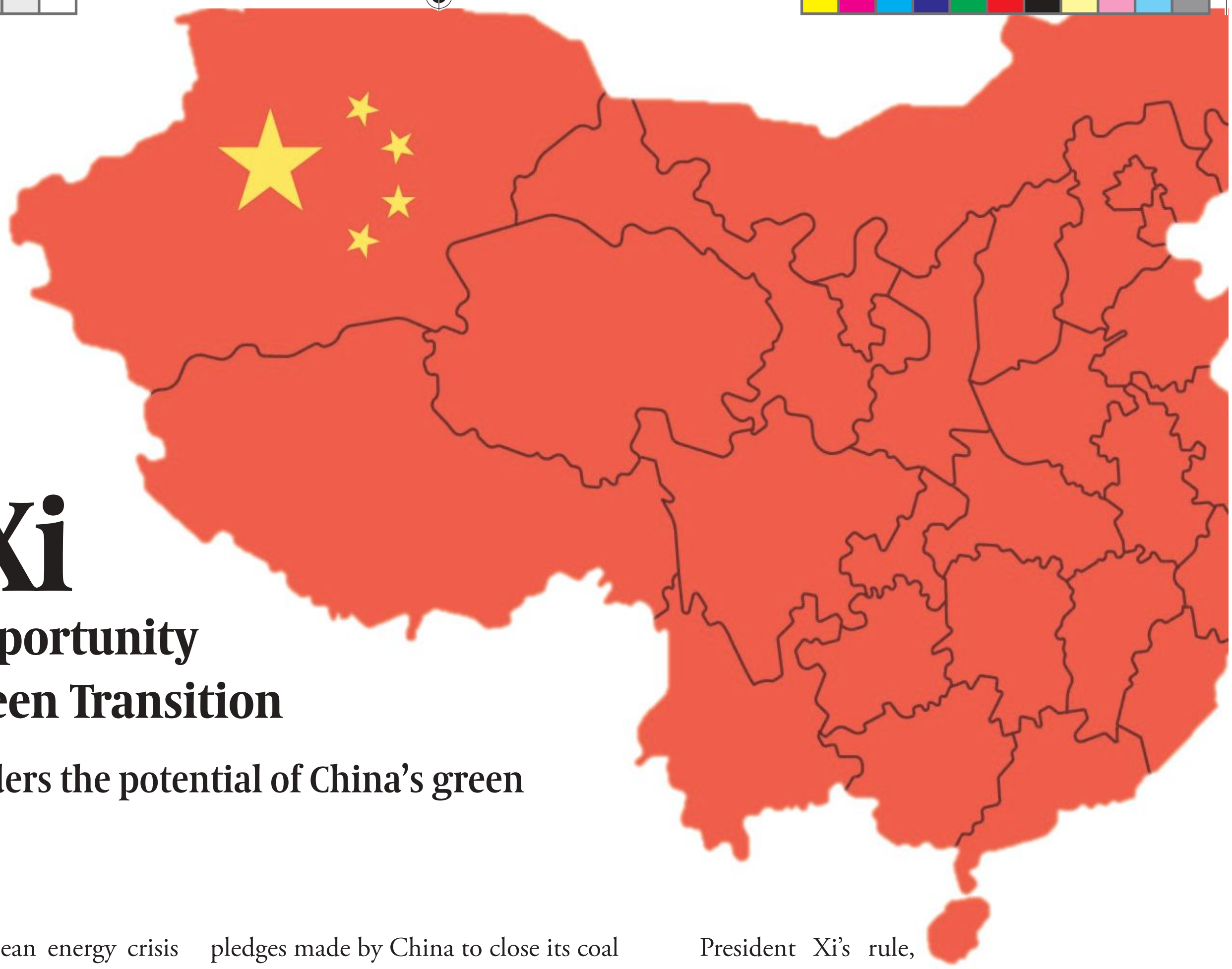
This asymmetry in crop sensitivity further indicates the crucial nature of stable environmental conditions. We are living between two extremes. The rising frequency of heatwaves means more days will be spent above optimal crop temperatures, while heat stress can be deadly for livestock. Heavy rains can destroy infrastructure such as road networks which reduces essential market integration. At the other end of the spectrum, droughts destroy crops and let entire harvests fail. With the lack of alternative incomes, farmers are pushed to starvation when such natural disasters hit, while undersupplied local markets fail to feed the rest. On a macro scale, the close link between natural disasters and food imports is clear; on a micro scale, rural populations are increasingly reliant on public assistance to provide the next meal.

Smothering the externality

These losses have the potential to undo decades of rising welfare and poverty alleviation. But this is a potential scenario, not a given. For agriculture alone there are plenty of options to adapt to this new normal. While migration appears as an ultima ratio, farmers across the globe change their produce to more resilient crops at shifted planting dates, they apply soil conservation methods and invest in capital such as irrigation systems. The potential of this is immense. A meta-analysis by the IPCC found average yields of adapted crops to go up by between 7 and 15% for different climate and precipitation scenarios. Another summary study by the OECD finds effectiveness, that is reduced damage, for these adaptations in agriculture to range from 40 to 98%. Zooming in, examples of irrigation investments show reductions of drought-related damages up to 80%.

Despite this potential, the long list of ways to adapt comes with another list of obstacles that prevent farmers from exploiting it. Ask farmers what stops them from adapting and their answers probably include insufficient information about weather, limited access to technology and technical support; and an inability to raise enough investment credit. While this list is not exhaustive, it illustrates what the government's role is in supporting the private fight against climate change and, once again, emphasises the meaning of functioning institutions.
A lot can be learned from existing programs that promote Climate Smart Agriculture i.e. a transformation of agriculture to jointly increase income and productivity, making the sector more resilient while reducing greenhouse gas emissions. Successful initiatives promote technology adoption through a combination of information about best-practice examples, education, and technical support to individuals and local social networks. To address increasing weather volatility, governments need to improve early warning systems and the dissemination of reliable weather information. This needs to be accompanied by investment in complementary infrastructure such road networks, energy grids and water supply. On top of direct financial support, governments will need to tackle malfunctioning financial markets. This can be done, for instance, by establishing more secure property rights for land that can be used as collateral to obtain credit. Alongside improved access to credit, better functioning insurance markets would endorse products such as weather index insurance. This would enable farmers to invest in sustainable and resilient farming systems by providing them with the necessary financial resources and reduced risk.
Again, this list is not exhaustive. However, it shows the possible pathways for directed policies to address the impacts of climate change today and the future. This will not be cheap, and require vast sums of national budgets. Africa's infrastructure alone has an annual financial need between $130-170 billion with an estimated investment gap of around 50-60%. Today, we stand at a decisive crossroads. One path will see billions of people in falling living conditions who will be deprived of their homes when climate change makes regions unbearable to live in. The other path, however, shows a chance to not only adapt to a new reality; but to see living standards on a rising trajectory through smart investments and rising productivity.

Governments of the Global South will not be able to carry this burden by themselves. So far, ambitious international commitments to mobilize money have not lived up to what was promised. The hope lies in summits like COP26. Supporting these countries is not a philanthropic deed, but a necessity for the global community. And to use, once again, the words of an economist, it will be the belated internalisation of humanity's biggest externality.



Wait and Xi

Crisis and Opportunity in China's Green Transition

Milena Pek considers the potential of China's green transformation.

The ongoing European energy crisis has left the continent in the throes of rising prices, supply chain disruption and fuel stockpiling. The world's largest energy consumer has not escaped the forces that led to the crisis in Europe: resurgent energy demand post-COVID and extreme weather have also given rise to an energy shortage in China.

Crises Unfolding

The energy crisis has brought about unprecedented challenges to the implementation, continuation, and enforcement of China's green energy policies. At the end of September, many people living in eastern China were surprised to receive news of scheduled blackouts due to an unforeseen energy shortfall. Factories trying to meet a recent spike in demand for Chinese products found themselves unable to operate without exceeding the strict energy consumption limits set by the Chinese Communist Party. The limits were introduced in the so-called "dual-control policy" on energy consumption and intensity, part of the CCP's efforts to curb CO2 emissions. Meanwhile, the government hurriedly tried to confront the energy crisis by allowing energy prices to fluctuate within limits set by regulators and by ordering functioning coal mines—some of which were reopened as recent as August—to increase production.

These short-term measures follow recent pledges made by China to close its coal factory projects abroad and achieve carbon neutrality by 2060, with peak emissions by 2030. The commitment to net zero, made by President Xi last year, was welcomed by the international community; it is widely recognised that without efforts by China, global emissions abatement to mitigate climate change will be severely hamstrung, if at all effective. The unprecedented challenge of the domestic energy crisis and the response of Chinese policymakers—which may undermine commitments China has made previously—have therefore reignited concerns, both at home and abroad.

Shall the Last be First?

The facts are stark. China is the world's largest emitter of carbon, by far. Research by the Global Carbon Project suggests that China emitted 2777 million tonnes of carbon in 2019, nearly double that of the United States or Europe. Until recently, the United States topped the list of carbon emitters but with China's rapid economic growth over recent decades came an inevitable rise in carbon emissions. The frenzied growth that China witnessed was in part a product of the absence of environmental protection. The CCP did little to promote sustainability, instead, the focus was on growth. That is until disastrous air quality in the northern provinces of China, especially in the nation's capital, became an inconvenient truth. Since then, and with the onset of President Xi's rule, the CCP has been carefully trying to balance economic growth with the aspiration of becoming an "ecological civilisation." So much so, that one of President Xi's fourteen principles, which were enshrined into the Chinese constitution in 2017, envisions the people of China living in harmony with nature and protecting the environment. President Xi's principle is just one aspect of the CCP's political rhetoric: references to the environment have surfaced in numerous party speeches and publications over the past decade.

The CCP's green aspirations seem to be more than just words. China is already the world's largest producer of solar panels and hydroelectricity as well as a world leader in solar energy capacity. There is a burgeoning electric vehicle industry and dozens of nuclear power stations in operation. China is undergoing an energy transformation on a scale that few countries could hope to emulate, which has helped to establish its image as a world leader in green energy—valuable political capital to the CCP.

Green energy production in China has not been without controversy, however. Many large-scale hydroelectricity projects have recently come under scrutiny for poor planning and lasting adverse impacts on local environments. The rapid production of solar panels and ongoing management of nuclear plants has, absurdly, generated large amounts of waste. China's energy mix is still dominated by heavily polluting carbon-based fuel sources despite material changes. It remains, by far, the world's most coal-hungry nation. For China's green transformation to be considered sincere, its reliance on fossil fuels must diminish. For sustainability in the country to be viable, the issues surrounding green energy production must not be glossed over.

Precipitating Change

In fact, the transition to sustainable energy is quickly becoming a necessity for China. The country spans several climate zones and is susceptible to extreme weather events. Natural disasters are not uncommon but will likely become more frequent as climate change intensifies. Already this year, massive flooding in the central provinces of Henan and Shanxi has affected millions of Chinese citizens and caused billions of renminbi worth of losses. Zhengzhou, the capital of Henan, is part of the "sponge cities" project, which aims to mitigate damage from torrential flooding through long-term planning and investment in infrastructure. The recent floods have, perhaps, highlighted the shortcomings of projects designed to mitigate damages from climate change: the combination of high maintenance costs and increased frequency of massive natural disasters raise serious doubts about financial sustainability. The alternative is to cut emissions and undertake comprehensive energy reform and large-scale sustainability projects, all of which are costly and may increase China's dependence on imported energy. The result is that Chinese officials face a difficult trade-off between costly mitigation and costly abatement.

Reassuringly, climate change is not taboo in China. Social awareness surrounding climate issues is on the rise: a national public opinion survey found that in 2017, over 94% of respondents believed that climate change was real. Moreover, official news outlets, such as Xinhua and People's Daily, have begun to report on the connection between climate change and extreme weather events. Such awareness may help to generate the political impetus needed to address climate change in China.

A New Growth Order

Commercial interests may, however, hamper political efforts to transform China's energy sector and the move towards sustainability. State-owned enterprises (SOEs) are predominantly found in industries characterised by high energy consumption and emissions, such as steel and cement production. Much of China's GDP is currently dependent on infrastructure projects and land development, which require large amounts of inputs from heavily polluting domestic industries. Efforts were underway to try to shift focus from investment in infrastructure and exports to technology development and domestic consumption, but the onset of the pandemic led the government to provide substantial stimulus to infrastructure and domestic production to boost GDP.
Once the effects of the pandemic wear off, measures to cut emissions may regather momentum. After all, state-owned enterprises have a political obligation to toe the party line, and therefore cut emissions. That said, without improvements in energy efficiency, cuts to emissions will invariably lead to lower volumes of production and a slowdown in GDP growth in the current investment-led paradigm. To make cuts to emissions feasible, China will need to rethink its approach to economic growth, which may present a tremendous challenge to the CCP's political credibility. Yet, without such a transition, natural disasters exacerbated by climate change and accompanying social unrest may prove to be even greater threats to the party. Nonetheless, the success of large Chinese technology companies, such as Tencent and Alibaba, suggests that a transition to a more forward-looking growth model less reliant on investment in infrastructure and housing may be possible.

Rosy Retrospection, Green Anticipation

Undoubtedly, China has made extraordinary positive steps towards a greener future. Recent events have, however, demonstrated the inherent difficulties and contradictions in turning the world's leading polluter into a global champion of sustainability and clean energy. That said, China's shortcomings should not be taken as a sign of outright failure. They should rather be seen as a reflection of the immensity of the task that the CCP has set for the country. Ultimately, China needs to learn from these experiences. The challenges the country has already faced in its green transition are likely precursors to larger obstacles that China will have to overcome on the path to sustainable prosperity.
Now is the time for pro-environmental pledges and rhetoric to be backed up by sincere efforts to tackle issues related to climate change. At stake is not just energy efficiency and security, but also the future of China's political institutions.

Control & Compromise

The final two articles explore how control and mutually beneficial improvements can be made through compromise. Kang-Hyup Lee examines the potential benefits that could arise from peaceful relations across the Korean peninsula, whilst Kawshika Puttur takes a look at the influx of cryptocurrencies and how central bank digital currencies can provide monetary policy sovereignty.

Compromise

Love Thy Neighbour

Prosperity and Reconciliation between North and South Korea

Kang-Hyup Lee explores the potential benefits of lasting peace on the Korean Peninsula.

On the 25th of June, 1950, North Korea invaded South Korea - The war for the Korean Peninsula began. What ensued was a bloody and costly conflict that claimed the lives of thousands. Homes were burned to the ground and key infrastructure, including roads, bridges and hospitals, was decimated. The economic impact of such destruction would last for decades. It eventually became evident to both sides that continuing the war, which pitted populations with a shared ethnic background and cultural affinity against each other, would only serve to cause more severe losses and heighten animosities. On the 27th of July, 1953, a truce was reached in Panmunjon, a village just north of the de facto border between the two countries.

Despite ongoing tensions since the end of the war and the combative attitude of North Korea, both sides appear to have heeded the warnings from history. A summit between the two countries recently took place in Panmunjon, during which a declaration of peace, prosperity and Korean reunification was signed. In September of this year, South Korean President Moon Jae-in reiterated the sentiment of reconciliation between north and south in a speech delivered to the UN.

The Reunited States

Friendly relations between North and South Korea represent the healing of divisions. They also represent an economic opportunity that could have consequences well beyond the peninsula. The dissolution of the land barrier between South Korea and the rest of the Asian continent will give rise to new transportation routes. For example, the trans-Siberian railway may extend to South Korea whilst the airspace above North Korea may open for commercial and cargo flights travelling to and from the south. The availability of more direct routes out of South Korea will lower transportation costs and, thereby, promote exports and imports passing through North Korea. Moreover, the costly hold-ups caused by hostilities will significantly reduce, accelerating trade between the two countries. Southward migration of North Korean citizens will likely increase the supply of cheap labour and increase demand, benefiting South Korean businesses.

North Korean citizens also stand to gain. The wealth of mineral resources in the country, such as iron ore and magnesite, would likely be exported in vast quantities and at lower prices than are seen today. Such resources are in high demand. Interest will continue to grow with the widespread adoption of technologies designed to fight climate change, which rely on many of the resources abundant in North Korea. The likely initial exodus of North Korean citizens may increase the supply of low-skilled, cheap workers to labour markets across the globe. This diaspora could help to alleviate acute labour shortages seen in many countries today. Of course, from the perspective of North Korean emigrants, life beyond the peninsula almost guarantees a higher standard of living.

The cultural interplay between North and South Korea will reignite with a free exchange of ideas and the movement of people between the countries.

Financial markets are also likely to prosper. Peaceful relations between the north and south will help to mitigate the uncertainty inherent in any investment in the Koreas. Military exercises, such as the testing of ballistic missiles by North Korea, and altercations have caused aggressive selling of Korean assets by foreign investors. Commitment to peace will contribute to stability in an otherwise volatile market and, therefore, limit the risk of investments. In turn, this may increase foreign capital flows into the peninsula, to the benefit of businesses in both North and South Korea.

Make K-pop, Not War

The cultural interplay between North and South Korea will reignite with a free exchange of ideas and the movement of people between the countries. The melding of unique yet similar ways of life, languages and varieties of food will likely generate an extraordinary cultural export. South Korea has already had great success in leveraging its distinct entertainment and food industries for export; K-pop, in particular, has become a global phenomenon. The influx of North Korean tastes and styles may enhance the appeal of South Korean cultural exports—securing the region's status as one of the most culturally influential in the world.

The exchange of ideas will likely foster advances in scientific research, offering a potential catalyst for innovation and economic growth. There is particular optimism around biodiversity research: over 2100 species of wild animals and plants, including approximately 30 endangered species, inhabit the demilitarized zone between North and South Korea. This well-preserved area could become a focal point of biological and environmental research and could even contribute to the understanding of environmental conservation.

Promises of Peace

In short, what began as the first steps towards de-escalating conflict at the end of the Korean war may eventually result in a prosperous period of harmony between the two Koreas. A silver lining for the people of North and South Korea, as well as the world.

Control

Recentralised Currency

The Rise of Central Bank Digital Currencies

Kawshika Puttur explores how Central Bank Digital Currencies are providing central banks with new hope for monetary policy sovereignty.

The Covid-19 pandemic emergency has underscored the need for an efficient, fast, and contactless payment system. The effects of the pandemic have given credence to a movement that was already gaining momentum: decentralised cryptocurrencies. Crypto is upending the frontier between finance and technology, with market capitalisation reaching US$ 3 trillion in 2021—a 12-fold surge since 2020.

Crypto assets present a panoply of opportunities but at the same time also bring challenges. Whether it be peer-to-peer lending, speculative investment, cross-border transactions or currency conversion, cryptocurrencies cater to the needs of their users faster and more cost-effective than traditional currencies—although speed and savings come at a cost. Cryptocurrencies are more vulnerable to theft through cyber attacks. Anonymous and unregulated crypto assets facilitate illicit and illegal transactions, difficult for authorities to trace. Further, a lack of effective monitoring may lead to regulatory arbitrage.

Evidence suggests that emerging markets are adopting cryptocurrencies at a faster pace than advanced economies. Relatively weak financial sectors in emerging markets are infamous for reducing confidence in local currencies, incentivising individuals to resort to crypto as a more reliable store of value. Some users prefer digital currencies as they impose few restrictions on exchange rates and make the transfer and storage of foreign assets cheaper and easier, attractive features for those sending remittances. Cryptocurrencies may also serve as an alternative to inefficient payment networks in developing countries.

Cryptastrophe

Despite the promise of crypto, the mushrooming of digital currencies may trigger "Cryptoization," a sudden and dramatic shift from traditional fiat to digital currency. This large-scale shift in the base currency may hamper the efforts of central banks to achieve policy objectives. Moreover, the ensuing currency mismatch has the potential to cause significant financial instability.

In the same vein, the emergence of private digital currencies was a wake-up call for central banks. In 2019, Facebook unveiled plans to launch its own cryptocurrency Libra (now known as Diem). Central banks were immediately apprehensive. Diem raised the possibility of a popular decentralised currency outside the control of central banks: strong networks effects, owing to Facebook's 2 billion users, could lead to Diem becoming a widely accepted means of payment. There is also concern about the control that private enterprises, such as Facebook, may exert over the monetary base, wrestling control of monetary policy away from central authorities.

Ledger of Last Resort

Ironically, embracing the crypto revolution may be the optimal response for central banks' who hope to preserve monetary sovereignty. Central bank digital currency (CBDC) may be the latest weapon in the monetary policy arsenal. A CBDC is a digital version of physical money issued by central banks; backed by a state guarantee, it is a relatively secure and less volatile means of payment than conventional digital currencies. Interest in CBDCs has been growing for some time. Since 2016 the Monetary Authority of Singapore has been investigating the wholesale introduction of a CBDC as part of Project Ubin.

The world's first CBDC, the Sand Dollar, was introduced by the Central Bank of the Bahamas in October 2020. The Sand Dollar was introduced in response to the destruction caused by Hurricane Dorian in the Bahamas. The event took the lives of many residents and left many buildings, including banks, in ruin. In the aftermath, Bahamians had little to no access to cash. The Sand Dollar, therefore, offered access to transactions without the need for a bank account.

Elsewhere, many central banks are exploring CBDC as an alternative to physical cash. In February 2020, Sweden's Riksbank began a year-long pilot project for its e-krona digital currency. Shortly after, in May 2020, Banque de France and Societe Generale, a private bank, used the blockchain to issue covered bond issuance worth €40million. There is also interest in emerging markets; for instance, in April 2020, China began internal testing to assess the feasibility of its e-yuan currency.

The waning use of cash was already noticeable before the development of digital currencies. The proliferation of digital transactions and contactless payments has caused the use of cash to plummet. The pandemic has accelerated the shift away from cash. The concern for central banks is that cash is losing its potency as a medium of exchange. Through the introduction of CBDCs, central banks may regain control of the monetary base. Whatsmore, central banks may use CBDCs to curb the monopoly power that tech giants may assert on private payment networks. CBDCs may also lower operational expenses, and thus, enhancing the current payment system.

The lack of regulatory oversight over digital currencies is also a concern for central banks. Crypto markets are notoriously volatile. A substantial shift towards cryptocurrency could create a shock that would destabilise financial markets, especially given the potential for the collapse of major private digital currency providers. While CBDCs cannot reverse the trend towards cryptocurrencies, they may offer more stability in the market; for example, promoting financial stability through the effective management of liquidity squeezes.

Similarly, interest-bearing CBDCs have the potential to improve the transmission of monetary policy by increasing the sensitivity of the economy to changes in policy rates. During protracted economic downturns, CBDCs may also be used to set negative interest rates to stimulate investment and consumption. At a more fundamental level, CBDCs foster financial inclusion by allowing residents to access transactions without a bank account. As of 2020, approximately 2 billion people had no access to financial services. CBDCs can help to bridge the gap between the unbanked and the global financial system.

Blockpain

Despite the many potential benefits for central banks, the introduction of CBDCs may be fraught with pitfalls. Once ascendant, CBDCs may induce customers to transfer deposits in commercial banks into centrally-backed digital currencies, leading to commercial banks suffering from disintermediation if they run short on deposits. Moreover, CBDCs may facilitate the entry of non-bank institutions into the payments market, which may further exacerbate disintermediation for commercial banks if non-banks influence credit allocation. Commercial banks may be required to pay higher interest rates to countervail a deposit shortage—reducing their profits. Households may also face difficulties whilst trying to match payments on long-term mortgage debts with quick redeemable deposits. In the event of a financial crisis, a deluge of savings could seek refuge in safer CBDCs, which may intensify financial stresses and even culminate in bank runs.

The proliferation of cyberattacks in recent years has raised concerns around the security of the CBDC systems. Although the current payment system is exposed to cyber threats, CBDCs would demand an entirely new approach to cyber resilience. As centrally-issued digital currencies would have to be readily available to anyone to be effective, they may feature many points vulnerable to attack. Hence, central banks will have to ensure that effective risk management frameworks are in place to mitigate cyber risks surrounding CBDCs.

Another downside of CBDCs is the threat to privacy. Digital currencies may offer central banks the ability to perform domestic surveillance. Many have speculated that the launch of the e-yuan in China is, in part, an effort to monitor private spending. CBDCs may not offer the same level of anonymity as fiat currencies and other forms of digital currencies, as the underlying blockchain technology records all transaction data. It is conceivable that central banks will use such data to identify users. Thus, authorities should be transparent about their privacy policies to protect users of CBDCs.

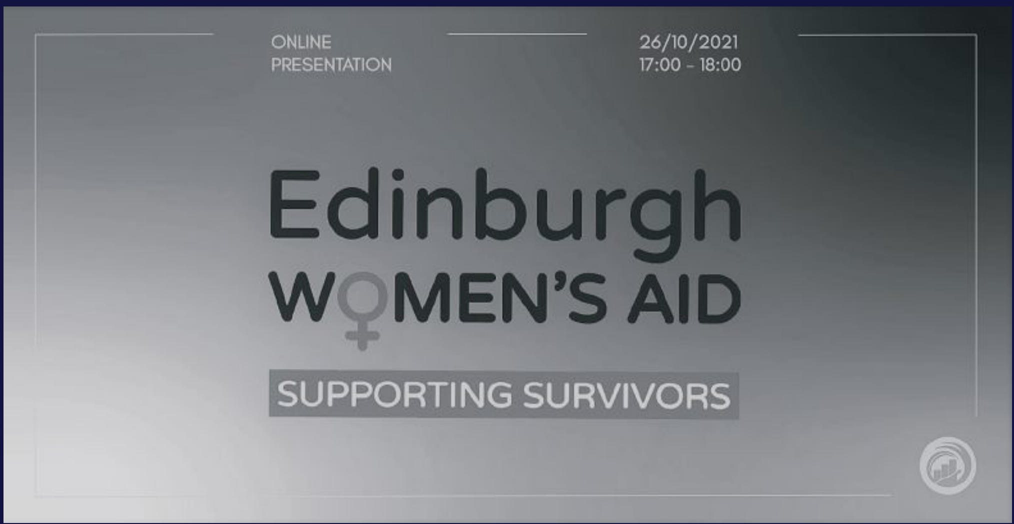
Market Close?

If crypto assets fall short of their promise, the outlook for the global financial system is gloomy. Nevertheless, the introduction of CBDCs could prove to be a game-changer in challenging private payment networks, promoting stability in financial markets, and fostering financial inclusion.

Given the prevalence of current trials and the extensive research undertaken by central banks, it is clear that CBDCs are nearing circulation. Their trajectories remain, however, uncertain.

Speaker Events with the University of Edinburgh Economics Society

Women's Aid Presentation



Domestic abuse is a shadow pandemic, crawling in our society. Women and children are its most affected victims. Edinburgh Women's Aid (EWA) has been supporting women, children and young people in Edinburgh affected by domestic abuse for the past 48 years. They provide a range of crisis, therapeutic, and prevention services. This year, EdEconSoc is continuing to support EWA. Econsoc hosted an event in partnership with EWA where students were able to learn more about the tragic escalation of domestic abuse, and EWA's life-supporting work.

Economic Development in the Highlands

In Conversation with Mark Bell

As a partner at AAB consulting, Mark Bell has led some of the largest and most innovative economic development assignments over the last 10 years. He leads multidisciplinary teams collaborating across the private and public sectors to support business growth across the UK and Europe. He brings his expertise and insight to the design of business growth programmes, advises the government on regional and sectoral growth strategies and supports clients in their approaches to economic development.

EconSoc's in-person speaker event gave students an opportunity to hear Mark explain where the theory of economic development meets reality, the future of SMEs in the Scottish Highlands and his advice for anybody starting a new career.

Bettering Humanomics: An Old, and New, Approach to Economic Science

with Deirdre Nansen McCloskey

Deirdre Nansen McCloskey professor emerita of six disciplines at the University of Illinois in Chicago, gave an online talk for the Economics Society in October. A well-known economist, historian, and rhetorician, with eleven honorary degrees from U.S. and European universities, she has written 19 books and around 400 scholarly and popular pieces on topics ranging from technical economics and statistical theory, to transgender advocacy and the bourgeois virtues.

Within her webinar presentation, she discussed the development of her economic thinking throughout her career. She left school leaning towards socialism, became a Keynesianist during her undergrad, followed by an economics engineer, Chicago School economist, Ancient and Modern rhetoricist, Austrian school Economist, and finally resting with Humanonmics.

In her recent publication, Bettering Humanomics: A New, and Old, Approach to Economic Science, Dr. McCloskey uses her interdisciplinary background, with a focus on humans rather than institutions, to provide a critique of contemporary economics and a proposal for an economics as a better human science. She describes humanonics to be economics which combines the objective and quantitative findings of positivist science and the subjective and qualitative understanding of the humanities.

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Economics Student Community

Outcomes of COP-26

Introducing Insight Magazine's Documentary Debut: Outcomes of COP-26

COMING SOON

With Glasgow hosting the UN's Climate Change Conference in November, Scotland's climate actions are becoming further elevated onto the world stage. Insight's documentary debut will seek to address actions taken to tackle global warming in the past, and the future, with notable attention on Scotland and the UK's role.

Reputable experts speak to Insight on their perspectives of COP-26. Whether the outcome has been positive, negative or simply not enough, Insight examines the climate action strategies of Scotland and the UK, and climate achievements within Scotland thus far.

Dave Reay
Executive Director
Edinburgh Climate Change Institute

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