Berkeley Economic Review

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Editor's Note

Dear Berkeley Economic Review Readers,

It is with great pride and enthusiasm that we introduce the 2025 edition of Equilibrium, the Berkeley Economic Review's entirely student produced magazine. This edition reflects the collective curiosity, effort, and passion of our undergraduate writers, editors, and publication team, and we are thrilled to share it with you.

At Berkeley Economic Review, we believe economics is not just about models and markets—it is about understanding the underlying forces that shape society, drive innovation, and influence the everyday choices we all make. Through Equilibrium, we aim to present these ideas in ways that are accessible, thought-provoking, and deeply relevant to today's world.

In an increasingly interconnected world, taking a global view of economics has never been more important. The challenges and opportunities facing different countries are often linked in ways that transcend borders, from financial markets to labor mobility to environmental change. With this edition, we hope to capture a sense of that interconnectedness, spotlighting how diverse regions are responding to modern pressures in ways that are both distinct and deeply entwined.

This year's issue spans a wide range of topics, offering readers a truly global lens on economic transformation. From the football fields of Saudi Arabia to the energy infrastructure of Southeast Asia and the policy crossroads of Kazakhstan, these articles explore how countries—and markets—are adapting to modern pressures. Others revisit landmark economic historical phenomena or investigate contemporary inequities, raising questions about how we assign value, distribute resources, and pursue growth.

What unites these contributions is a willingness to look beyond the familiar and investigate how institutions, power, and capital interact in a changing world. Whether revisiting a centuries-old financial bubble or examining disparities in women's professional sports, our authors reflect a deep curiosity about both the structure and consequences of economic decisions—curiosity that we hope will resonate with you as you read.

As always, we are deeply grateful to our incredible team and to all those who have supported the Berkeley Economic Review's mission. We hope this edition of Equilibrium not only informs you but also challenges you to think more deeply about the forces shaping our world.

Thank you for being part of our community.

Sincerely,
Abby Morris and Larry Lin
Editors-in-Chief
Berkeley Economic Review

Thank you to our incredible partners for their continued support!

CORNERSTONE RESEARCH

Berkeley Economics

Breaking the Glass Backboard:
Pay Disparities in Women's Basketball

Basketball is a game of three-pointers, buzzer-beaters, and stunning athleticism, whether it's being played by men or women. Yet, while NBA stars soar to fame and fortune, WNBA players are left to navigate financial hurdles. WNBA star Angel Reese says that her salary of just over $70,000 is barely enough to make ends meet. And she's not alone in the league. The lowest earner in the NBA earns 4.6 times more than the highest earner in the WNBA – a $1,157,143 salary compared to $250,000. The pay disparity between the leagues is a statement about who we value in sports; and it's not looking good for the women.

Revenue Splits

Let's start with the revenue. The NBA generated $13 billion in its most recent season, while the WNBA earned just $200 million. That's not a typo, the NBA's revenue is 52 times that of the WNBA. It's no wonder LeBron James pulls in a cool $47 million annually while WNBA MVPs like Breanna Stewart are lucky to clear six figures.

Where does all the NBA's money come from? Media deals, merchandise sales, and global fan engagement pour billions into the NBA's pockets. Meanwhile, the WNBA's financial engine sputters along with limited sponsorships and inconsistent TV coverage.

The WNBA's revenue split adds insult to injury: NBA players enjoy nearly 50% of the league's revenue, while WNBA players get just over 9%. If this were a game, we'd be blowing the whistle for a foul.

The rest of the WNBA's revenue is allocated to operational expenses that are important for keeping the league afloat. This includes administrative costs such as salaries and travel logistics. Additionally, a significant portion is dedicated to marketing and promotional campaigns aimed at expanding the WNBA's fan base and boosting overall visibility. Community outreach programs and youth basketball initiatives also receive funding, as the league works to grow the sport at the grassroots level. And while all these investments are indeed important for long-term development, the glaring disparity in revenue share leaves players with an unequal piece of the pie, pointing to a structural imbalance that needs addressing.

New Contracts?

The reason for the WNBA's low pay isn't because it's not growing, because it has been. The 2024 season saw staggering growth, with a 170% increase in viewership and a 601% increase in merchandise sales.

Rather, the reason for the pay disparity is at least partly due to the contracts. The 9.3% revenue split in the WNBA is a result of the contract negotiated by the player's union, the WNBPA, and the league owners. This contract is called a collective bargaining agreement, or CBA. This type of CBA means that even if the WNBA revenue grows, player salaries won't grow with it.

That's why, in October, the WNBPA decided to opt out of the CBA and demand a higher revenue split for its players. The decision came after a doubling in revenue for the league, from $102 million to $200 million, all while player salaries remained virtually unchanged. If a new CBA isn't reached before the beginning of the new season, there will be a league shutdown, also known as a lockout, until the players and owners can negotiate a new contract, something that's already happened 4 times in the history of the NBA. All 4 times the NBA had a lockout, it was for the same reason: salary dissatisfaction. A lockout is the last resort, but if it came to it, the WNBA would be following in the footsteps of the NBA, and perhaps their salaries might as well.

In the event the situation does come to a lockout, there would be direct short-term impacts on the players, who would lose income when they're already struggling. Unlike their NBA counterparts, who would have major endorsement deals or accumulated wealth to fall back on, WNBA players would be left to come up with new streams of income as a new contract was negotiated. On the fan side, audiences might become frustrated and start to lose interest in the league, and viewership could take time to recover once the season resumes.

Despite the short-term challenges though, the WNBA would emerge stronger with a new CBA that fairly values them and gives them the salaries that they deserve.

Soft Cap vs. Hard Cap Salaries

One of the things the WNBA is asking for in the new player agreement is something called a "soft cap" on salaries. A soft cap is a team budget that sets a spending limit on players, but it allows for some flexibility. This flexibility allows teams to review the spending limit in special cases, like keeping a star player who has been with the team for a long time or signing new, up-and-coming players.

The NBA already uses this system. It helps their teams stay competitive because they don't have to let go of their best players just because they've hit their spending limit, and also allows for some financial rules to keep things fair between the richer and smaller teams. The WNBA wants a similar system to allow their teams to grow and invest more in players while keeping things fair across the league. In the long run, a soft cap could help the WNBA retain its rising stars and create more competitive teams, which in turn could boost fan engagement, sponsorship deals, and overall revenue.

However, adopting a soft cap isn't without challenges. If wealthier teams repeatedly exceed the cap to retain or attract star players, it could create an imbalance where only a few teams dominate, leaving others struggling to compete. To prevent this, the WNBA would likely need to implement additional measures, such as a luxury tax—a penalty for teams that exceed the cap, with the funds redistributed to support smaller teams. This balance would be important to ensure that a soft cap creates growth and competitiveness within the league rather than widening the gaps between the teams.

Media Coverage and Visibility

What fuels the NBA's massive revenue? Coverage. From prime-time games on national networks to highlight reels dominating sports feeds on social media, the NBA is a well-oiled marketing machine. Turn on your TV or scroll through Instagram, and you'll find courtside celebrity appearances and flashy ads featuring stars like LeBron James or Steph Curry. This saturation not only cements the NBA's cultural dominance but also drives fan engagement, sponsorships, and billion-dollar revenue streams.

The WNBA? Not so much.

Despite showcasing elite athleticism, heart-stopping moments, and rising stars like Sabrina Ionescu, Caitlin Clark, and A'ja Wilson, the WNBA struggles to carve out similar media attention. The league's games are often relegated to off-hours or lesser-known channels. But why is this the case?

Historically, women's sports have received minimal media coverage, partly because of longstanding gender biases that perceive male sports as more competitive or exciting. These biases are still prevalent today, perpetuating a cycle where less coverage is allocated to women's sports, which stunts the league's growth. Broadcasters have also been hesitant to prioritize women's games because they believe that these games won't attract consistent viewership, despite the steady year-to-year increases we've been seeing in the league's audience. It becomes a self-fulfilling prophecy: fewer eyeballs on games mean fewer opportunities to build fan bases, which keeps revenue and player salaries low.

Along with game broadcasts, the NBA also benefits from a near-constant media drumbeat, with post-game interviews, pre-season buzz, podcasts dissecting player stats, and highlight reels that go viral in seconds. In contrast, WNBA narratives rarely make it past niche sports media. The problem isn't a lack of compelling stories (think Ionescu's triple-doubles or Brittney Griner's emotional return after her detainment in Russia), it's the systemic failure to elevate these stories into mainstream sports consciousness.

So what's the solution? It starts with equal airtime. Placing WNBA games in prime-time slots on major networks would exponentially increase visibility. The harsh reality, however, is that without an evident profit incentive, these corporations, driven by bottom lines and shareholder interests, are unlikely to prioritize women's sports.

Demonstrating that this investment would be worthwhile starts with showing the untapped market potential. Data from events like the NCAA women's championship prove significant interest in women's sports when made accessible and promoted effectively. The 2023 NCAA Women's Basketball Championship game between LSU and Iowa drew 16 million viewers, making it the most-viewed women's college basketball game ever, surpassing even the NBA playoffs viewership at certain points. The two biggest stars from that matchup, Angel Reese and Caitlin Clark are now in the WNBA, meaning that same excited viewership could easily be translated into the professional league.

Conclusion

With a revamped contract and increased media coverage, the WNBA could start to see its salaries soar. But change won't happen overnight. It requires a collective effort from the league, players, broadcasters, sponsors, and fans. A more equitable revenue split and adopting a soft salary cap would give players the compensation they deserve and allow teams to build competitive rosters. Increased media visibility would amplify the league, showcasing the talent and dedication of its athletes to a larger audience

Fans, too, have a role to play in this. Watching games, buying merchandise, and advocating for better coverage can signal to corporations and media networks that investing in women's basketball is both ethical and profitable. The WNBA has the talent, the narratives, and the momentum, now it's just time to break the glass backboard and elevate the league to the heights it deserves. ■

- Mahlet Habteyes, Edited by Emma-Jane Burns

Ronaldo, Riches, and Results:

How Saudi Arabia is Becoming the New Football Frontier (and Why Your Favorite Player Might Be Heading There Next!)

Football in 2022 was nothing short of a marvelous experience for fans.

Lionel Messi finally lifted his most important trophy and Argentine fans celebrated in the streets for weeks as they had rightfully earned the title of World Champions; Real Madrid lifted their 14th Champions League trophy in a nail-biting 1-0 win against Liverpool; and football finally came home as the English Lionesses defeated Germany in a thriller over-time Women's Euro Final.

But, in the transfer market, something massive was brewing.

In December 2022, just days before the new year, the Saudi Pro League (RSL) announced bombshell news that shocked the football world: Christiano Ronaldo, one of the greats, would be transferring to Al-Nassr in the RSL, for an annual base salary of around $75 million for 2.5 years along with roughly $140 million in commercial deals and image rights.

Some blamed him for picking money over passion, others applauded him for his ambition to advance the sport in the Middle East, and some fans even thought the news was fake! Whatever you might think, there is no doubt that Ronaldo's move was the first domino in a series of historic transfers: Neymar Jr, Karim Benzema, and Roberto Firmino from top European clubs.

Ronaldo's transfer was part of Crown Prince Mohammed Bin Salman's greater project: Vision 2030. With the goal of economic diversification, Vision 2030 aims to lead Saudi Arabia away from its fossil fuel dependency with the help of football. Furthermore, the country's Public Investment Fund (PIF) has greatly impacted international football. So, how has the PIF changed the football landscape? Why has Vision 2030 focused on football? Lastly, how has this massive financial presence affected European football?

The Public Investment Game Plan

Created in 1971, the Public Investment Fund is Saudi Arabia's sovereign wealth fund and one of the biggest wealth funds in the world, with around $925 billion worth of assets under management. Crown Prince Mohammed Bin Salman controls the PIF, and its purpose is to invest on behalf of the Saudi Arabian government. More than half of the PIF's investments are within Saudi Arabia and on private multi-industry companies. Interestingly, the PIF has become prominent in local and foreign football leagues in recent years.

In 2021, the PIF took ownership of the Premier League (EPL) club, Newcastle United F.C., in one of the most complicated takeovers in EPL history. After almost a year of legal drama, the PIF obtained an 80% stake in the club, with PCP Capital Partners and Reuben Brothers (consortiums of the PIF) each taking 10%. In total, the takeover was worth almost $390 million. A report in April 2023, by the sports journal, The Athletic, stated that the UK Department of International Trade had attempted to improve the reputation of Saudi Arabia by creating a public relations offer to the Premier League. Public relations aside, the takeover is very significant as it diversified the Saudis' investments away from oil by leveraging sports as a platform for growth.

In 2023, the PIF purchased a 75% stake in four major RSL clubs: Al Nassr (where Ronaldo transferred to), Al-Ahli, Al-Ittihad, and Al-Hilal. This enormous move in ownership aimed to "unleash various commercial opportunities...across numerous sports," stated the PIF. However, these moves were met with a fair amount of criticism from sports journalists and human rights activists who claimed that these actions were due to a "sportswashing" ploy. The argument of "sportswashing" refers to corporations, governments, etc, using sports to mask past controversies and wrongdoings. Regardless of true intentions, the PIF's increased ownership of football clubs is all part of

Vision 2030.

The Economic Vision 2030

Saudi Arabia's Vision 2030 was launched in 2016 under the direction of the Custodian of the Two Holy Mosques, King Salman and His Royal Highness, the Crown Prince, and the Prime Minister. It is termed "an ambitious plan for an ambitious nation," and intends to transform the country's socio-economic landscape through three phases, "each lasting five years and building on the last."

The ultimate goal of Vision 2030 is to diversify the economy, driving economic growth beyond oil and lessening the country's dependence on its oil sector. Saudi Arabia's 0.8% GDP contraction in 2023 can be attributed to a 9% decline in oil activity. However, in the same period, the non-oil sectors expanded by 4.4%. According to the Ministry of Economy and Planning, the non-oil sector was valued at roughly $453 billion in constant prices and accounted for 50% of Saudi Arabia's GDP in 2023, a record high.

During the 2023 summer transfer window, Saudi Arabia spent $875 million purchasing foreign players according to the FIFA International Transfer Snapshot. Saudi Arabia's significant contribution to the summer's total spending ($7.36 billion, an all-time high) contributed to the 47.2% total spending increase from 2022.

All this spending has already started to pay off in the RSL. The league saw a 650% increase in revenue in the first month of the 2023/24 season (seasons last from Aug-May) at around $120 million. Broadcasting revenue also significantly increased as international broadcast deals increased; the 2022/2023 season generated roughly $710,000. Finally, digital and social engagement has grown with the league, attracting 75% more sponsors, and making the RSL the third most profitable league in the world regarding sponsorship revenue. In the coming years, the country aims to quadruple its football revenue and have the sport's sector contribution to non-oil GDP be more than 1.2% by 2030.

Figure 1: In the summer of 2023, Al-Hilal acquired Neymar Jr. and Al-Ittihad acquired Karim Beneza (for free). It is not a coincidence the four PIF-owned clubs have the highest spending. Image by Football Betting Sites (https://www.footballbettingsites.org.uk/blog/which-players-signed-to-play-in-saudi-arabia-in-the-summer-2023-transfer-window/)

Saudi Arabia has shown no signs of slowing down their football presence. Their goals certainly seem attainable, but how has this major financial presence affected the domineering European football leagues?

But, what about Europe?

The PIF's takeover of Newcastle United turned the club into one of the richest in the English Premier League overnight. As a result, other EPL teams were forced to reassess their financial strategies and investment policies. Furthermore, the player market became increasingly inflated now that Newcastle could outbid almost everyone, which led to high transfer fees and wages. This acquisition also affects the talent pool since Newcastle has greater financial power to attract high-demand players. This situation exactly parallels the broader picture of Saudi's increased football profile.

While the RSL lags in revenue compared to major European leagues, it still has enormous financial power. Their financial prowess has caused issues in Europe similar to Newcastle's in England.

For the high and mighty European clubs like Manchester United or Barcelona, lower-quality leagues such as those in Saudi Arabia were not considered a threat to the talent pool and transfer market. Saudi Arabian tours proved fruitful, and offloading aging players to the RSL worked well. For instance, despite the shock of Ronaldo's transfer, Manchester United (his preceding club) was likely relieved that he was leaving after some dramatic events. Similarly, the high wages in the RSL offered Chelsea the opportunity to reduce their overfilled roster by selling players.

Recently, however, the RSL is no longer satisfied taking in Europe's aging or undesired players and European leagues' inability to compete with the high wages in Saudi Arabia has proved to be a problem. For example, 26-year-old Rúben Neves (from the 25th richest team) and 30-year-old Marcelo Brozovic (who had strong interest from Barcelona) transferred to the RSL last year. The transfer of two young and talented players to RSL clubs highlighted European teams' vulnerabilities and inability to financially keep up with the RSL.

The Future & Closing Remarks

The RSL's growing presence and newest state-of-the-art stadiums and facilities are likely part of their preparations to host the 2027 AFC Asian Cup which sets the stage for the 2034 FIFA World Cup. Intending to increase tourism as part of economic diversification, hosting massive tournaments is certainly a large step.

However, critiques have not been silent. Human rights activists have urged FIFA and the Middle East to impose stricter human rights requirements before 2034—similar to what was asked in 2022 when Qatar hosted the World Cup. As Saudi Arabian football continues to expand, claims of sportswashing have grown rampant, and the Crown Prince has maintained an indifferent stance to the allegations.

Despite the controversy, Saudi Arabia's

RSL has certainly made a name for itself in the last few years. Supported by the PIF, football in the country plays an important role in its efforts of economic diversification, Vision 2030. With the winter transfer window approaching, the RSL will likely make some attractive bids to star players. We'll just have to wait and see. ■

- Saniya Pendarkhar, Edited by Kiet Hoa

Bloom and Bust:

An Insight Into the World's First Market Bubble

What is the first thing that comes to mind when you think of the Netherlands? Windmills? Bicycles? Stroopwafels? Well, if you've ever been lucky enough to take a flight over the country's vast vibrant fields, you might think of the tulip.

In the 17th century, a unique market developed in the Dutch United Provinces. Unlike most European nations at the time, this was not one of fish, timber, furs, grains, or spices. What distinguished the tulip market from any other in Europe was that the tulips themselves held no intrinsic value. Yet somehow, the price of a single tulip bulb managed to soar far beyond the rarest of precious metals. By February 5th, 1637, a single bulb could be purchased for as much as a modern-day equivalent of 750,000 USD. This marked the first significant financial bubble in written history, whose legacy reaches far beyond a cautionary tale of investing in speculative markets. "Tulipmania" was the root of modern investing, and understanding how the tulip market developed, soared, and crashed can help explain how contemporary capitalism functions and why it came to be. (CFI)

A key factor in the rise of this baseless tulip market was the burgeoning Dutch middle class. Following the fall of Antwerp during the 80 Years War, scores of Calvinist merchants fled to the Protestant Dutch Netherlands, and the likes of artisans, merchants, and those of various skilled professions became the majority in Dutch society. This new middle class wisely put their disposable income to work at the onset of the 17th century by purchasing shares in joint stock company ventures. Shares in these companies eliminated a great deal of the risk generally associated with funding a trade expedition that a single wealthy patron would otherwise finance. Joint-stock companies sold shares affordable to most members of the growing middle class, allowing all investors to assume limited liability (risk was limited to the amount they invested in the company as opposed to the entire venture). The sale of shares provided capital for companies to reinvest in their ventures and far less volatile returns for those who bought them.

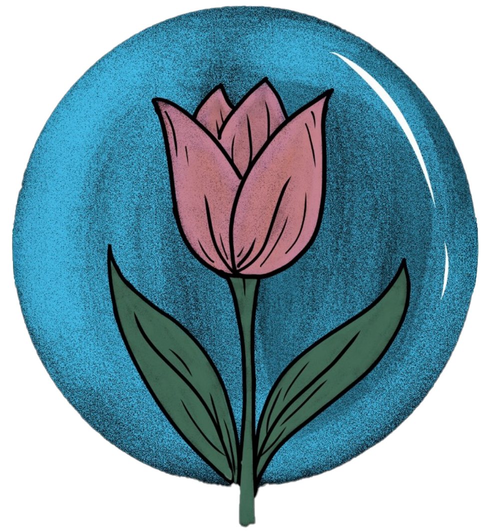
Nevertheless, investors eventually sought an even "safer" investment. Something that perhaps couldn't sink at sea, something exotic, something to visually display their great wealth – a far more conspicuous and speculative investment from a revisionist lens. In retrospect, the tulip, of course, was not a "safe" investment, but how could the Dutch have known? A market of this kind was unprecedented. The Dutch believed the flower held value in its extraordinary beauty and rarity and demonstrated their admiration by investing fortunes from textiles and trade into various bulbs that would hopefully bloom in extravagant colors and patterns.

The crown jewel of the inflated tulip market was a variety known as the Semper Augustus. Even its name, which it owed to the ancient Roman emperor Caesar Augustus, signified royalty and extravagant wealth. Distinguishable by its vibrant red and white stripes, the Semper was among the most recognizable tulip varieties. But, what made it so valuable was its rarity. Through a process known as "breaking," florists intentionally infected bulbs with a floral disease known to mark tulips with unusual patterns and colors. However, this practice came with the risk that the bulb would never bloom, making these new artificial tulip varieties all the more valuable. But no matter how rare or vibrant any variety might be, the intrinsic worth of a single bulb was never comparable to a brewery, a small farm, or the most grandiose of manors. And yet, a single Semper could easily purchase any of these properties. Why on Earth was this the case? (Mike Dash, Tulipomania)

It all boils down to behavioral psychology, particularly the Greater Fool Theory, which states that an inflated financial market is entirely driven by speculative greed. Everyone believes they can find some "greater fool" who will buy their intrinsically worthless asset from them. Just like in a game of hot potato, floral speculators passed their tulip bulbs from one fool to the next, hoping they could find another buyer before the music stopped. But, in the end, someone was always left with the flaming potato in hand, and during tulip mania, that meant instant bankruptcy. Game over. Economists call the pause in the music the mean reversion. Eventually, crazy high prices return to Earth, and markets correct themselves. A mean reversion is inevitable when the growth of an asset's price outpaces the growth of its value. Unfortunately, unlike a tech company in Silicon Valley, a tulip is intrinsically worthless, which was reflected in the market's reversion.

Furthermore, the mindless submission of the middle class to the elitist practice of purchasing and trading tulip bulbs also reflects a herd mentality. A modern example of this phenomenon is the regular rush to purchase the new iPhone when it is released. Everyone NEEDS the latest model, or at least one without the embarrassingly antiquated home button. Why? Because everyone else has or wants it, and people tend to catch a bad case of FOMO when everyone else is doing something they aren't. When aristocrats began purchasing the novel flower from the Eastern Ottoman Empire, middle-class merchants, and skilled artisans were led to believe they had to buy bulbs or face alienation from the Dutch elite. Extreme speculators sold their land or mortgaged homes to raise the necessary guilders to purchase a bulb. While some amassed great fortunes, most were left penniless (or guilderless).

Beyond the behavioral frenzy, the economic climate of the Dutch Netherlands and the development of a critical financial instrument helped facilitate the tulip mania. The Ace, as referred to by the Dutch, was a legally binding contract that designated the sale of a tulip for a later date. People were not just buying existing tulips; they were buying in hopes that they would get one. At the height of the mania, bulbs were hardly sold directly to their buyers. Most often, Aces were exchanged not by floral connoisseurs but by speculators seeking a profit. Like mortgages in 2008, Aces were issued with no margin requirement. In most future markets, buyers must pay a percentage of the contract upfront as a safety net, but in the United Provinces, anyone with a pulse could buy an Ace. The tulip essentially became the cryptocurrency of its time – volatile and baseless. Eventually, the market reoriented in such a fashion that it resembled a modern stock exchange. Each tulip variety had a dynamic price attached to it. The Semper Augustus was the blue-chip stock of the mania and soared off the charts at a peak value of 5,200 guilders (the modern-day equivalent of $750,000). To fan the flames of the fever pitch tulip mania, interest rates in the Netherlands dropped steeply (in other words, money was cheap). Now, it was possible to trade tulip futures without any margin. With guilders flooding the economy and the relative availability of the Ace, prices soared. However, the mania incentivized the mass cultivation



of tulips throughout Europe, and supply steadily rose as demand began to decline. (Mike Dash, Tulipomania)

Eventually, doubts crept in, and the seemingly unwavering confidence in the market began to wane. Suddenly, a cascade of contract sales struck the market. Desperate tulip merchants rushed to cash in on their Aces with no buyers to be found. A domino effect ensued, and the Netherlands fell into an economic crisis. Like a house of cards, a beauty from afar but bound to collapse, the tulip market began its implosion on February 3rd, 1637. By February 9th, the market had lost one-third of its value, and by May 1st, tulips were utterly worthless. (CFI).

So, we know how and why the tulip market rose and collapsed, but what was its immediate and lasting impact on the Dutch economy? Initially, many members of the largest middle class in Europe went bankrupt. Although equally invested in the tulip market, the aristocracy had a much softer landing due to their more diversified assets. Many members of the upper-class elite had a significant portion of their wealth tied to land. By comparison, the middle class mostly worked for wages and lived in densely populated cities on plots barely large enough for their homes. After many of them mortgaged what little property they owned to play the market, the crash left them with nothing to fall back on.

Rightfully fearing a complete economic collapse, the Dutch government intervened in the final months of 1637. The issue with futures has been and always will be that if a market crashes, all of a sudden, you are not getting what you paid for at a discount but rather a devastating premium. The government sought to eliminate the avalanche of debt that crashed down on members of the middle class who, in some cases, owed tens of thousands in guilders to aristocrats. By eliminating a legal penalty for failing to fulfill contracts, the hope was that middle-class speculators could focus on repaying their bank loans (the ones they snatched at low interest rates). The plan worked, and the middle class continued to expand and prosper over the next few decades. This success posed the question of whether the government playing an interventionist role in economic affairs would always be beneficial. While it may have worked for a short period, what about Holland's long-term financial stability? The country had achieved its dominance in foreign trade and shipping through a free market system. Was this the beginning of the end? Quite the contrary. Government intervention in Holland during the 1720s softened the impact of the South Sea Bubble, a catastrophic joint-stock financial crisis that briefly devastated the British economy. Regulations were imposed that prevented the monopolization of any single joint stock company, incentivizing investors to diversify their portfolios. By comparison, England's South Sea company held a government-sanctioned monopoly on all trade with South America and, therefore, was the sole investment in many British portfolios.

A surface-level analysis tells us that Tulipomania was a speculative disaster and a classic example of a financial bubble. However, this wild financial phenomenon was more than meets the eye. We know Amsterdam was a bustling bastion of European and global trade. One of the unintended consequences of globalization was a heterogeneous circulation of currencies. Coins from many countries were inefficiently exchanged and traded in Dutch markets. Some currencies, such as Charles V's Reichsthaler, were intentionally debased (the precious metal contents of the coins were decreased) but maintained face value. With a diverse array of currencies flowing through the market and fluctuating exchange rates unique to each coin, making everyday transactions was like trying to build a house on shifting sand.

Within a sea of uncertainty, arose a pillar of trust and stability: the Bank of Amsterdam. A central bank allowed Dutch citizens to trade their various currencies for bank money, a universal credit in the Netherlands. Bank money was so valuable that it was traded at a premium, or Agio, as the Dutch called it. Although bank money helped revitalize the economy, it also led to a sharp spike in inflation. In an instant, the money supply more than quadrupled. The resulting inflation impacted the price of all goods, including tulips. While behavioral aspects of the frenzy undoubtedly resembled those of modern financial bubbles, inflation unquestionably accounted for a sizable share of the tulip's valuation.

So, tulip price hikes could largely be attributed to inflation. Why, then, is the mania remembered as a classic financial bubble that skyrocketed in value solely due to an irrational frenzy of get-rich-quick schemes? Look no further than Calvinists. Dutch Calvinists despised the conspicuous culture that consumed the Netherlands at the height of its prosperity in the Golden Age. The extravagant displays of wealth amongst the aristocracy directly violated a core tenet of their faith: frugality. To instill fear and bring an end to conspicuous consumption, Calvinists spread arguably false propaganda of a baseless tulip market. In a modern-day equivalent of going viral, this narrative induced the panic of contract sales that ensued.

Whether fact or fiction, much can still be gleaned from the psychological frenzy of Tulipmania. It serves as a warning about the dangers of speculative investments and is an important example of the advantages of government intervention, even in a capitalist economy. The irrational exuberance that fueled the tulip market is mirrored in contemporary financial crises, from stock market crashes to housing bubbles. Ultimately, the tulip market's legacy isn't just the crash of a flower's value, but the forces shaping financial markets and the importance of economic oversight. ■

- Teddy Kuser, Edited by Yubeen Hyun

New Forms of Financing and a Greener Grid for Southeast *Asias*

As Southeast Asia's energy demand continues to soar, the clean energy transition is becoming increasingly necessary for the region's growing population. With energy consumption projected to rise by 60% by 2040, renewable sources offer a sustainable, long-term alternative to a grid currently contributing to one of the biggest fossil fuel markets in the world. Continued dependence on emission-heavy fuels will worsen the effects a warming world has on the area. But more than just supplying carbon-neutral power in a time where mitigating climate change impacts is so critical, expanding Southeast Asia's renewable energy sector will promote energy independence and present significant opportunities for economic growth.

Growing Pains: The Energy Dilemma

However, balancing economic growth targets while meeting the energy needs of growing populations continues to be a daunting task for these countries, as financing and infrastructure gaps present barriers to meaningful growth. Outdated grids typically make it difficult to add renewable energy projects without causing strain, hindering opportunities for large-scale renewable energy projects, and discouraging private investment in the sector. Upgrading transmission lines and distribution systems is a crucial first step in ensuring renewable energy can be transported efficiently across large distances without contributing to grid congestion.

Achieving the right balance between economic growth and energy efficiency is also a topic of contention in many Southeast Asian nations undergoing a new round of elections. As candidates vie for public support, energy policy can become a pivotal issue, splitting voters on the challenge of finding a middle ground that satisfies both economic and environmental goals.

Banking on Development: A Multilateral Affair

This is where multilateral development banks (MDBs) come in, typically backed by multiple countries whose role consists of pooling resources to fund large-scale projects that individual nations or private investors may not be able to finance alone. MDBs, such as the World Bank, Asian Development Bank, and Asian Infrastructure Investment Bank, play a pivotal role in supporting renewable energy projects. These entities provide the funding needed for developing countries to build sustainable infrastructure, modern energy grids, and an economic environment able to support growing populations and increased energy demand.

MDBs achieve this through concessional loans, credit guarantees, and other financial tools. Concessional loans are offered with low to no interest rates, allowing countries and companies to borrow money for renewable energy projects at little expense. Credit guarantees encourage private investment by having MDBs cover a portion of any losses incurred from a failed project, reducing the overall risks for private investors and stimulating investment in the energy sector.

Aside from financial assistance, MDBs also provide policy guidance for facilitating long-term sustainable energy projects. Developing nations, including Thailand, Indonesia, and the Philippines in Southeast Asia, face inconsistent regulations and bureaucratic delays that continue to hinder developmental opportunities. MDBs tackle this issue by reforming market dynamics previously ruled by heavily subsidized fossil fuels, at the same time streamlining bureaucratic processes through arrangements like power purchase agreements, or PPAs. Doing so helps clean tech firms avoid limitations stemming from complex regulatory frameworks that draw out approval processes for new projects. This is especially true in the context of strict government control over publicly-owned grid infrastructure.

Here, multilateral development banks can facilitate collaboration between private and public entities, often in the form of stronger power purchase agreements. These arrangements provide clear, long-term contracts between power producers (often private companies) and purchasers (typically government entities or public utilities). This implies that private investors are assured of a guaranteed buyer for the electricity generated from the project, making the investment all the more attractive. Having clear guidelines included in the agreement also ensures financial security for all parties involved, locking in prices and terms over extended periods. This ensures stable revenue streams that can justify the – often quite large – initial capital investments needed for infrastructure improvements. Not only does this process provide a better view of projected long-term financial performance, but it also alleviates concerns over market volatility and pricing fluctuations by securing the provisions included in the PPA. Overall, this creates predictable environments for long-term investments through a blend of public and private financial support.

Taking the example of Bangladesh, the World Bank and Global Environment Facility have joined forces with multiple other development finance institutions in funding the country's non-bank financial institution known as Infrastructure Development Company Limited (IDCOL). Through this public-private partnership program, 4.2 million solar home systems have been installed in rural households as well as on remote shoals and islands, providing electricity to 12 percent of the population that previously relied on kerosene lamps for lighting. Resulting in increased energy access in Bangladesh with an estimated growth of 27% to 97% between 2003 and 2020, benefitting over 20 million people. This demonstrates the potential of strategic coordination between multilateral development banks and local development and commercial banks in expanding access to renewable energy financing.

Energizing Diplomacy

However, it is important to recognize the potential challenges of MDB involvement, specifically in reference to geopolitical tensions. Energy initiatives led by powerful states like China can be perceived as tools for leverage over other nations. While China's investments in renewable energy throughout Southeast Asia have provided essential infrastructure and funding sources, this strategy also enables China to exert significant influence over foreign energy policies and economic frameworks. This can lead to tensions between recipient countries and their investors.

The geopolitical landscape becomes increasingly complex when comparing MDB funding with bilateral initiatives from nations like the United States. While MDBs often promote inclusive approaches, bilateral initiatives may prioritize the strategic interest of the donor country, leading to competing energy agendas. Like China's involvement in Southeast Asia, the United States can generate its own influence through developmental aid or direct investments. However, this often comes with specific conditions reflecting American foreign policy goals, rather than the immediate needs of recipient nations.

As countries navigate competing interests, weighing the benefits of MDB-supported projects against the potential of dependency on powerful states is imperative. The main focus for developing these energy initiatives is reducing dependency on foreign resources like oil, promoting energy security, and ensuring economic stability.

Balancing Growth and Green

Weighing the benefits of MDB-supported projects isn't just an external issue, given that stakeholders within recipient nations often face competing priorities. This is evident, especially during presidential elections in Southeast Asian countries, where candidates may champion different visions. On one side, the tried-and-true method of powering economic expansion through a robust fossil fuel market. And, new to the table, demonstrating environmental commitment through investments in renewable energy initiatives. This divergence in priorities leads to a split electorate, as environmental activism is increasingly becoming a significant influence on voter behavior especially among younger demographics.

As one of the largest carbon emitters of fossil fuels in the world, this issue showed prevalence during Indonesia's presidential election in 2019. Leading up to the elections, tackling the severe air pollution crisis became a significant issue, particularly in urban areas like Jakarta, with over 57% of Jakarta's population directly suffering from respiratory problems linked to poor air quality.

The incumbent president, Joko Widodo (Jokowi), advocated for continued investment in coal and infrastructure projects to stimulate economic growth, aiming for a mix of renewable energy sources while maintaining continued reliance on coal. In promising to simultaneously push developments of renewables like palm oil, biodiesel, and geothermal energy he argued that this balance is necessary for job creation and economic progress. In contrast, his opponent Prabowo Subianto had energy proposals that leaned more toward traditional energy sources such as bioethanol and coal in centering his proposed policies on ensuring national energy security and lowering fuel prices and electricity tariffs as a way to boost consumer spending power and enhance the economy.

At the end of the race, Joko Widodo (Jokowi) won reelection, securing a second term and beating out his opponent Prabowo Subianto. Despite the environmental criticism regarding his coal policies he placed greater emphasis on renewable energy development, despite his continued support for coal-based energy. This election highlighted the tension between prioritizing economic development and addressing environmental concerns. This exemplifies the challenges Southeast Asian nations face as they navigate competing priorities of economic growth and environmental responsibility.

Watt's next?

Ultimately, the interplay between MBD initiatives and the geopolitical maneuvering of powerful states highlights the importance of strategic partnership and a cohesive approach to energy development that prioritizes sustainability, economic growth, and international collaboration. As the potential for renewable energy transition continues to grow, especially in Southeast Asia, it is imperative for countries to leverage international financing and energy expertise to create resilient energy systems that fulfill both growth targets and sustainable development goals. Fostering cooperative relationships transcending geopolitical boundaries helps mitigate the risk of dependency on any single power while still addressing pressing energy needs. This multifaceted approach is needed in order to harness a region's full energy potential, all the while remaining vigilant to the geopolitical tides that could sway energy initiatives in unpredictable directions. ■

- Sharla Sabaruddin, Edited by Caroline Crowley

Kazakhstan's Quest for Economic Resilience

A Balancing Act in Central Asia

For decades, Kazakhstan has ridden the waves of its natural abundance. Its economy is largely fueled by oil and gas exports, which account for nearly a third of its government revenue. However, this reliance on a single sector has left the nation vulnerable to the unpredictable forces of global markets, underscoring the need for economic innovation and forward-looking progress. The upheaval brought on by the pandemic in 2020 was a stark reminder of these vulnerabilities as oil prices plummeted and Kazakhstan's GDP shrank under pressure. Under the Kazakhstan 2050 Strategy, the country has set its sights on building a more diversified economy—one which may allow the country to finally pursue economic ambitions under a newly-powered framework. However, the question remains: Can Kazakhstan successfully transition away from its dependency on primary commodities to achieve economic autonomy?

The Density of an Oil-Based Economy

The nature of oil dependency has been described as a source of political predation. Such markets in capitalism have notably produced enclave economies governed by an imperial mandate often characterized by violence and instability. Though Kazakhstan's political economy doesn't explicitly reiterate the intrinsic animosity within the market, Kazakhstan's economic purview is befitting of an enclave designation. Hydrocarbons contributed to as much as 20% of total GDP in 2023 and in December 2023, oil exports averaged 1,424.583 barrels per day, a record increase from 1,315.167 barrels per day in 2022. Moreover, data shows that Oil Real GDP Growth in Constant Prices is forecasted to further increase by about 14.37% in 2025. Though 20% is a smaller fraction, the annals of oil have been at the center of Kazakh macroeconomic policymaking for quite some time.

Kazakhstan, endowed with its oil-oriented fiscal revenue, is inevitably subject to external volatility such as increasing interest rates, pricing fluctuations, and interrupted supply chains. This is simply the nature of oil-based capitalism. Thus, despite expressing efforts to enhance fiscal policy and resource allocation, Kazakhstan doesn't have much certainty regarding how fluctuations in oil may burgeon into issues conflicting with their economic stratagem. Subsequently, their dependence on such a volatile export dynamic has resulted in increased quasi-fiscal expenditures which weakens economic infrastructure by complicating the governance of financial reserves.

More often than not, off-budget spending to bolster crude oil has undermined non-oil budget revenues, neglecting essential social spending like education. According to the Human Capital Augmented Solow-Swan model, this strategy does not promote sustainable progress, as it allocates resources inefficiently. Improving the welfare of one sector comes at the opportunity cost of investing in areas critical to long-term growth, such as human capital development.

This dependence not only constrains economic diversification but also heightens vulnerability to external shocks. A substantial decline in any single commodity price can severely impact export revenues, as evidenced in other commodity-dependent nations where such downturns have precipitated reduced public investments and increased public debt. Furthermore, the United Nations Trade and Development institution highlights that 85% of the world's least developed countries exhibit commodity dependence, with 29 out of 32 nations with low Human Development Index (HDI) scores reliant on commodities dominating an average of 82% of total exports. This correlation underscores the broader implications of economic dependency, which frequently results in diminished public services and overall development.

The Crude Nature of Geopolitics

With trading partners like China, Russia, and Turkey, Kazakhstan's service in bolstering the global supply chain has inevitably resulted in the formation of a multi-vector policy tethered to crude oil contracts. This has caused the country to be situated awkwardly at the crossroads between conflicting geopolitical interests and ideologies of the great powers, despite them seemingly wanting to undertake a passive role as a third-party agent. However, Kazakhstan and other Central Asia states have always been the target of exploitation by their neighbors. Their natural wealth in energy and minerals, paired with their prime geographic location between the Middle East, China, Russia, and Eastern Europe, made them desirable on many fronts. As such, they were forced to play a more active role in the region to defend their sovereignty. However, despite oil giving Kazakhstan a trump card, to what extent are their trade structures autonomous?

Once affiliated with the USSR, Kazakhstan and Russia have a long history of interdependence. Though Kazakhstan has made an effort to pivot away from Russia in recent years, its overdependence on the oil sector, once again, is an issue. About 80% of Kazakhstan's crude oil exports are dependent on the Caspian Pipeline Consortium. Thus, Russia's control of export networks means that Kazakhstan's ability to conduct trade depends on the Kremlin. In March 2024, Russia indirectly intervened in Kazakhstan's efforts to increase oil exports to Germany after the suspension of the Druzhba Pipeline due to legal troubles. Accordingly, investor sentiment toward Kazakhstan has become more restrained, influenced by Russia's monopolistic control over regional export channels and trade networks.

However, as Russia's presence in the region begins to wane under the shadow of the ongoing conflict in Ukraine, China is moving in to solidify its influence in Central Asia by capitalizing off of this geoeconomic fragmentation. The ambitious Belt and Road Initiative is beginning to manifest in Kazakhstan, with President Xi looking to cement trade routes and secure access to energy resources. By linking Asia with Europe, China hopes to revive the conduit through which goods, resources, and capital can flow as they once did on the Silk Road. But for Kazakhstan, this emerging partnership brings both the allure of investment and the specter of overreliance once more—they can't afford to repeat the same mistakes made by lacking divergence from Russia.

It seems that for Kazakh leaders, the task ahead is one of careful diplomacy: establishing a robust and balanced economy compels the nation to navigate both old dependencies and new allegiances in order to reduce its vulnerability to the vicissitudes of any single trading relationship, whether with China, Russia, or beyond. It seems that this will only be possible through diversification from oil.

Comparative Advantage is Relatively Disadvantaged for Kazakhstan's Diversification of Commodities

Though the obvious undertaking here would be to pivot away from this oil-backed economy, this compels us to question Kazakhstan's other options–and whether they are feasible for long-run economic growth. Kazakh leaders have proposed adapting their economic infrastructure under a mineral-based and agrarian framework–recently establishing new trade agreements between Singapore, the United Kingdom, and Germany to reap the abundance of rich mineral deposits in Kazakhstan.

As the global demand for critical minerals continues to increase, the industry offers vast promise and untapped potential. However, Kazakhstan faces an issue as its lack of foreign investments (once again due to its complex geopolitical dynamics) indicates that it doesn't have the necessary means of funding extraction. The Organization for Economic Cooperation and Development estimates that Kazakhstan is depleting its mineral reserves while concurrently not having the means to further finance exploration to replenish its stock.

Moreover, World Bank diagnostics indicate that the Kazakh government has not developed any consistencies in artisanal and small-scale mining (ASM). The informal nature of Kazakhstan's ASM industry, characterized by a lack of industry regulation and formality, renders the market inaccessible to financial markets, limiting its contribution to the supply chain. This situation is particularly concerning as the global economy transitions toward sustainable practices. Countries must acknowledge the risks associated with resource stranding, highlighting the ongoing pursuit of minerals critical for clean energy and the necessity of avoiding a narrow focus on commodities.

These efforts to diminish oil's status as the apex commodity have also compelled economists to evaluate the feasibility of sustaining industry profitability and social welfare. The anticipated cost surge associated with reduced oil dependency will inevitably introduce a balancing mechanism, compelling firms to redirect capital toward alternative resources. According to input substitution theory, firms seek cost-effective alternatives, reallocating resources to minimize expenses. However, the inability to follow isoquant analysis effectively–due to limited resources–means that firms will likely struggle to maintain output levels with less input. This shift will lead to a reduction in employment capacity, particularly in monotowns, where dependence on a single industry makes the impact of job displacement much more pronounced. As a result, the burgeoning of unemployment will reduce social welfare and thus human capital.

Kazakhstan has turned its gaze toward sectors like agriculture in order to combat its lack of economic diversification. With an abundance of rich land, the country has the potential to become a regional breadbasket. However the International Trade Administration reported in 2022 that about 75% of Kazakhstan's land mass is arable, yet only about 30% of the land is under agricultural production. Furthermore, like the mining sector, agriculture is subject to external volatilities. As documented by the United States Department of Agriculture, Kazakhstan is at risk of water scarcity and yields may decline anywhere from 9% to 47% by 2030. This will likely result in food scarcity and labor shortages as about 30% of Kazakhstan's working economically active population depends on this industry. Despite having a comparative advantage in Mining and Agriculture, Kazakhstan is unfortunately not at an economic advantage due to its lack of conditional agency.

Sowing the Seeds of Prosperity

In light of these challenges, the Theory of Second Best suggests that if Kazakhstan is unable to achieve an optimal economic balance by diversifying fully away from oil, it may still improve overall welfare by strategically investing in mineral and agricultural sectors. While these investments may not meet all ideal economic conditions, they could serve as compensatory measures, allowing Kazakhstan to make meaningful progress toward sustainable growth under current constraints. Kazakh leaders, despite all odds, are optimistic and have made notable efforts to restructure their export commodities this year.

The European Union along with countries like China and Afghanistan have also signed agreements to establish new trading partnerships. To capitalize on this potential, Kazakhstan must look beyond merely establishing partnerships and focus on developing a comprehensive strategy to diversify its economy effectively. While trade agreements are projected to boost Kazakhstan's GDP by as much as 5.5% by 2025, the country still faces the challenge of limited export commodities. This lack of diversification restricts Kazakhstan's ability to achieve self-sufficiency and exert greater control over its trade dynamics. By strategically strengthening its economic framework, Kazakhstan can pave the way for long-term growth and resilience.

Recognizing these efforts, the global financial community has taken notice: recent diversification measures have led to an upgrade of Kazakhstan's credit rating to 'Baa1' by Moody's—the highest in the country's history—marking a significant milestone in the country's pursuit of economic stability and growth. As Moody recently cited improved fiscal stability, a diversified revenue base, and robust foreign reserves, their findings seem to echo Kazakhstan's optimism about its economic future.

A Bold Step Toward Global Credibility and Regional Influence

As the nation begins emerging from its reliance on oil and gas, Kazakhstan's potential return to international capital markets through a dollar-denominated bond issuance signals a profound shift. By issuing bonds in the Dollar, Kazakhstan seeks to bolster its reputation on the global financial stage, inviting investors from beyond its borders to partake in its growth story. A successful dollar bond would diversify Kazakhstan's investor base and represent an opportunity for the nation to underscore its commitment to international financial standards. And yet, this is more than a quest for capital—it is a bid for the country's very identity as it aspires to be seen as a stable and credible partner in the global financial ecosystem.

Cultivating trade partnerships that transcend traditional dependencies will mitigate reliance on any single economic partner. By capitalizing on its comparative advantage in natural resources and leveraging its strategic geopolitical position, Kazakhstan can forge a diverse array of trade relationships that enhance its competitive standing in the global marketplace. This diversification of both trade partners and economic outputs will empower Kazakhstan to better withstand external shocks, optimize resource allocation, and capitalize on emerging opportunities in dynamic global markets.

Resilience and Renewal

Kazakhstan is at a critical juncture where the strategic decisions made today will reverberate throughout its economy for years. The journey toward economic diversification necessitates a comprehensive approach that addresses immediate fiscal imperatives and fosters long-term sustainability and resilience. Embracing an adaptive policy framework that promotes innovation and value-added production across sectors—particularly mining and agriculture—will be pivotal in constructing a more balanced economic architecture. However, the principles of comparative advantage still illustrate that while a country may excel in the production of certain commodities, excessive reliance on these resources will likely yield adverse consequences–and this is something Kazakhstan needs to be careful about.

Economic diversification offers numerous benefits for all economies, including enhanced resilience against market volatility, creating higher-quality jobs, and facilitating structural transformation across industries. By broadening their economic bases, countries can reduce vulnerability to external shocks, stabilize export revenues, and promote sustained growth. This diversification is crucial for immediate economic stability and fostering innovation and sustainable development that can benefit future generations.

Overall, Kazakhstan's quest for economic resilience reflects broader regional dynamics and offers valuable insights into the complexities of resource-dependent economies navigating a rapidly evolving landscape. The urgent need to extricate itself from commodity dependence highlights the importance of implementing robust green industrial policies. By strategically investing in human capital development, enhancing infrastructure, and building institutional capacity, while simultaneously seeking to elevate its global profile through initiatives such as dollar-denominated bonds, Kazakhstan can chart a course toward a more self-sufficient and resilient economic future. The nation's journey serves as a microcosm of the broader shifts occurring in Central Asia—a region once overshadowed by powerful neighbors, now emerging as a crucible of opportunity and change. ■

- Aidan Morgan Chan, Edited by Davina Yashar

High School Essay Contest Winner:

Trend versus Truth: Unmasking Consumerism in a 'Sustainable' World

In the 19th century, the average American only owned a few outfits in their wardrobe. Today, brands like Shein drop 2000 new items per day [1] and Americans buy an average of 64 items of clothing annually [2]. Following industrialization and mass production, modern consumerism has become preoccupied with materialism, status, and competitive consumption [3]. Yet beneath this shift in individual consumption behavior lies a societal trend of corporations manipulating consumers into a culture of disposability.

Consumerism ideology theorizes that consumption in large quantities enables economic growth in developing countries [4]: over the past 40 years, China's industrialisation has caused the number of people under the International Poverty Line to fall by almost 800 million [5]. Nonetheless, overconsumption does not always improve lives. To push prices down and stimulate demand, transnational companies exploit individuals in developing regions willing to work for poor conditions and low wages. Garment workers in developing countries can be paid as low as just $3.43 per day [6], and supply chains include 160 million children working in child labor globally [7]. While low-barrier jobs increase employment in developing regions, education inhibition lowers productive capabilities and amplifies income inequality in the long term, trapping developing regions in low-paying jobs.

Present-day commerce utilizes low prices to turn chasing trends into a mass activity [2], taking advantage of the media to perpetuate trend cycles. Celebrities are photographed never wearing the same thing twice, and consumers are advertised into an unhealthy, spiralling pressure to keep up with daily trends through constant shopping. Fast fashion companies like Zara produce up to 52 micro-seasons per year, using sophisticated algorithms to get new styles to the market in days [8]. Overconsumption is not a manifestation of individualism, but rather an enslavement of society to the er-changing fads at the cost of global environmental destruction.

The fashion industry produces over 92 million tons of waste and consumes over 79 trillion liters of water annually [9]. While the entire planet feels the consequences of a warming climate, developing countries bear the heaviest burden [10], and local economic growth experienced by emerging economies is offset by climate destruction. Pakistan's summer floods in 2022 affected 33 million people, destroyed over one million homes, and flooded two million acres of crops [11].

In the escalation of global sustainability concerns, ESG metrics have emerged as a way to evaluate firm sustainability, but these superficial values only seem to justify further destruction. ESG metrics merely reward piecemeal sustainability strategies and insincere promises, allowing corporations to maintain profitability while championing themselves as 'sustainable'. Zara's parent company Inditex holds an MSCI rating of AA [12]; simultaneously, it has been linked to large-scale illegal deforestation [13], slave labour in outsourced factories [14], and more than

2.5 million CO_2 emitted from transportation alone [15]. Even as conscious consumers seek out ethical choices, they are only met with deceitful credentials from greenwashed firms.

Consumers must not be appeased by perfunctory changes; they must demand a systematic shift within commerce towards a global circular economy (CE), where products are designed with sustainability in mind from the beginning. Per the Ellen Macarthur Foundation, a circular economy "redefine[s] growth, focusing on society-wide benefits" [16]. While CE development has mainly been in developed countries, rapidly urbanising cities need to be prioritized. Industrialization can be su tainable– the concept of CE reconciles the burden of natural resources whilst encouraging long-term economic growth [17]. Observing previous CE principles implemented in developing countries, Bangladesh saved $4.7 million from recycling lead from batteries [18], and Kolkata's renewable biogas bus service allowed for a cost-effective method of transportation [19].

Necessity is the mother of invention. Corporations must be forced to realize that overconsumerism is outdated, and stakeholders need to view sustainability as a self-interest instead of conflict. Successful CE programs require consumer pressure, local government support, and a national framework conducive to CE finance. While 81% of green investments in developed economies are funded privately, only 14% in developing countries are [20]. This means securing funding for pilot projects will be crucial for developing regions. Through public-private partnership, China's sludge-to-energy program reduced emissions by almost 98% and was financially breaking [19]. With a support network, minor green projects are able to scale to a systems-level circular economy, driving economic growth while maintaining environmental protection [19].

Adam Smith once stated, "Consumption is the sole end and purpose of all production" [21]. Yet, modern society features firms manipulating consumers through deceiving practices– it is time for consumers to take control of their wardrobes, their consumption, and the direction the world takes. ■

- Yu Shuen (Vanessa) Wang

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High School Essay Contest Runner Up:

The Darkside of Consumerism: Market Failure and The Future of Global Sustainability

Within the realm of a dynamic global economic landscape, consumerism has increasingly driven the growth of industries such as fast fashion and drop-shipping. While the aforementioned industries act as significant economic catalysts in developing countries, the active production of negative externalities is often overlooked. Traditional market mechanisms are unavailing in correcting inefficiencies in the form of environmental and social costs, ultimately distorting market efficiency and successively, leading to market failure (Porter & Kramer, 2011). Amidst intensifying international concerns, Environmental, Social and Governance (ESG) frameworks have emerged as plausible counteractions, though their effectiveness has yet to be manifested in various economies (Eccles et al., 2014).

Fast fashion and drop-shipping industries primarily demonstrate market failure through labor exploitation, unsustainable supply chains, and the overconsumption of scarce resources. Despite the advantages of leveraging economies of scale for price-sensitive demand, these industries fail to internalize the full societal costs associated with its production and distribution (Caro & Corbett, 2015).

World-renowned brands in the fast fashion industry such as Shein, H&M, and Zara, heavily prioritizes cost reductions through outsourcing, relocating their production plants to countries that lack labor protection laws (D'Aveni, 2016). Consequently, this has resulted in a race to the bottom, in which developing nations deliberately alleviate environmental and labor restrictions in order to attract foreign investments (Caniato et al., 2012). The Rana Plaza disaster in Bangladesh exemplifies the faulty regulatory supervision of the fast fashion industry as the collapse of a garment factory left 1134 fatalities. Post-accident investigations revealed that the building suffered from critical structural issues, highlighting the failure of global supply chains, particularly of the fast fashion industry, to enforce ethical labor practices and thereby account for the negative externalities of production (Bick et al., 2018).

Furthermore, the fast fashion industry is responsible for a substantial environmental footprint, accounting for 10% of global carbon emissions and the consumption of 79 billion cubic meters of water yearly. Accompanying such grave statistics, the industry produces a further 92 million tons of textile waste annually, with only 15% being recycled (Caro & Corbett, 2015).

Fig 1. Deadweight Loss Caused by Negative Externalities of Production

Global e-commerce markets have recently been dominated by the drop-shipping model, whichallows retailers to sell products without having to hold inventory. Since drop-shipping companies such as Amazon, Temu and AliExpress rely on comparative advantage, production is primarily centered in low-cost hubs in China and Southeast Asia (Chopra, 2019). Nevertheless, market inefficiencies burgeon within such circumstances due to inadequate labor conditions and environmental footprints. Drop-shipping is alleged to account for 3% of global carbon emissions, with emissions from air freight being 12 times higher per unit than that caused by sea transport. As consumers progressively emphasize delivery time as a pivotal product-centric element for drop-shipping, just-in-time shipping further increases carbon footprints. Moreover, excessive plastic packaging vigorously contributes to landfill overflows, as industry monopolies such as Amazon single-handedly generated nearly 300 million kilograms of plastic waste in 2021 (Melacini et al., 2021).

Addressing global sustainability efforts, ESG frameworks have been established to internalize negative externalities through the explicit integration of environmental, social, and governance factors in corporate decision-making (Khan et al., 2016). The notion of stakeholder capitalism, which prioritizes the interests of all stakeholders over solely maximizing shareholder profits, epitomizes the objective of ESG considerations, contrasting to conventional profit maximization suggested by Milton Friedman's shareholder theory (Porter & Kramer, 2011). In the modern technological world where consumers are complemented by widespread awareness through transparency, product quality in itself is insufficient. Instead, consumers readily align themselves with corporations that share the very ethical values that they espouse. Hence, fundamentally ESG-propelled companies experience reputational advantages alongside regulatory preparedness (Eccles et al., 2014). For example, Patagonia has successfully wielded strong consumer loyalty through its emphasis on ethical sourcing of sustainable materials Although such stances can hinder short-term profits, especially in an industry where comparative advantage is crucial, companies are willingly adopting ESG considerations in order to capture long-term profits (Caro & Corbett, 2015).

Nonetheless, ESG adoption is strictly subjective, depending on the status of various economies. Within developed economies like the US and E.U, ESG regulatories thoroughly ensure corporate oversight. Likewise, investors have developed a preference for corporations that demonstrate ESG adherence, further incentivizing sustainable practices (Khan et al., 2016). On the other hand, however, developing economies of that of India and Southeast Asian countries have shown reluctance towards adopting ESG deliberations, prioritizing economic growth over sustainability. This is complemented by weak regulatory measures, tacitly encouraging continued unsustainable production schemes and the bypassing of ESG standards (Caniato et al., 2012).

Externalized environmental and social costs effectively portrays the systematic market failure of fast fashion and drop-shipping industries. While the development of ESG standards aim to internalize such externalities, the efficacy is equivocal in the status quo, necessitating multilateral cooperation beyond traditional frontiers. ■

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