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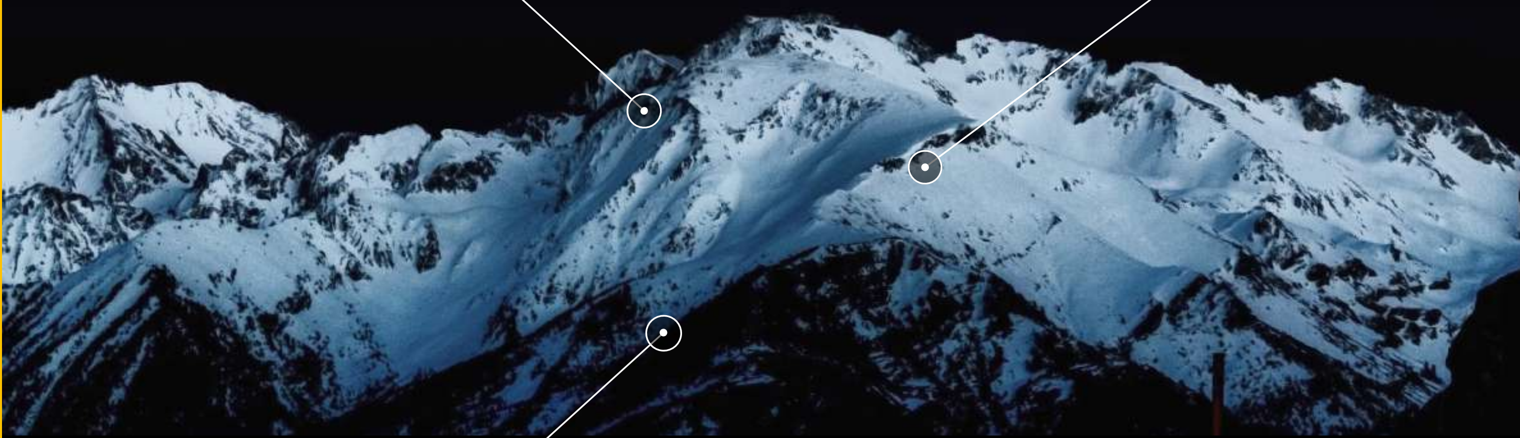

BUSINESS STRATEGY

The Challenge Of Reducing US Dependence Of Chinese Manufacturing

Volume 10

WINTER 2024 ISSUE

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Letter From the Editors

Navigating a New and Evolving Business Environment

The past few years have been marked as ones with significant economic uncertainty. As governments recovered from COVID-19, they spent an increasing amount of money to stimulate the economy. This has led to significant consequences for everyday citizens, mainly rampant inflation and high interest rates. Industries as we know them have changed significantly in order to adapt to this changing landscape, and no company is safe from the rapid adaptation which is required to stave off competition.

The Winter 2024 issue of the Waterloo Business Review seeks to understand how industry dynamics have changed in today's unique economic environment, and how the large businesses of today are being outcompeted by new, emerging business models. From global trade, to airlines, to energy markets, to financial institutions, and even to the sport of Formula One, each of our articles explore how businesses are adapting to today's economic environment, and what separates the good and the bad business models.

At the Waterloo Business Review, we seek to interpret the world around us and understand the changing landscape which we are a part of. We strive to question what we consume in the media, and to build our own thesis on how the world evolves through research and discussion. We aim to equip students with the tools to think critically and independently in an era defined by the availability of digital information and potential for misinformation.

Every business today is at a crossroads: do they continue to act as they had done to great success throughout their long operating histories, or do they adapt to outcompete new entrants? Meanwhile, it seems as though the best interest of the consumer has been left out of the conversation at times. It is in times like these where it is crucial to understand industry dynamics, and to question the motives of businesses, governments, and consumers.

On behalf of the Editorial Team, we hope the publication offers new insights on today's economic uncertainty, and provides a clearer understanding on how businesses are adapting.

Luka P

Luka Pavlesen
Editor-in-Chief

Vivian Guo

Vivian Guo
Editor-in-Chief

Our Team

Our dedicated and passionate team is focused on growing and establishing the Waterloo Business Review in the Waterloo and Kitchener business community.

Waterloo Business Review empowers our team through our emphasis on creative freedom, professional development of research and communication skills, and our culture of entrepreneurship and growth as we nurture members to adopt positions of greater responsibility and leadership.

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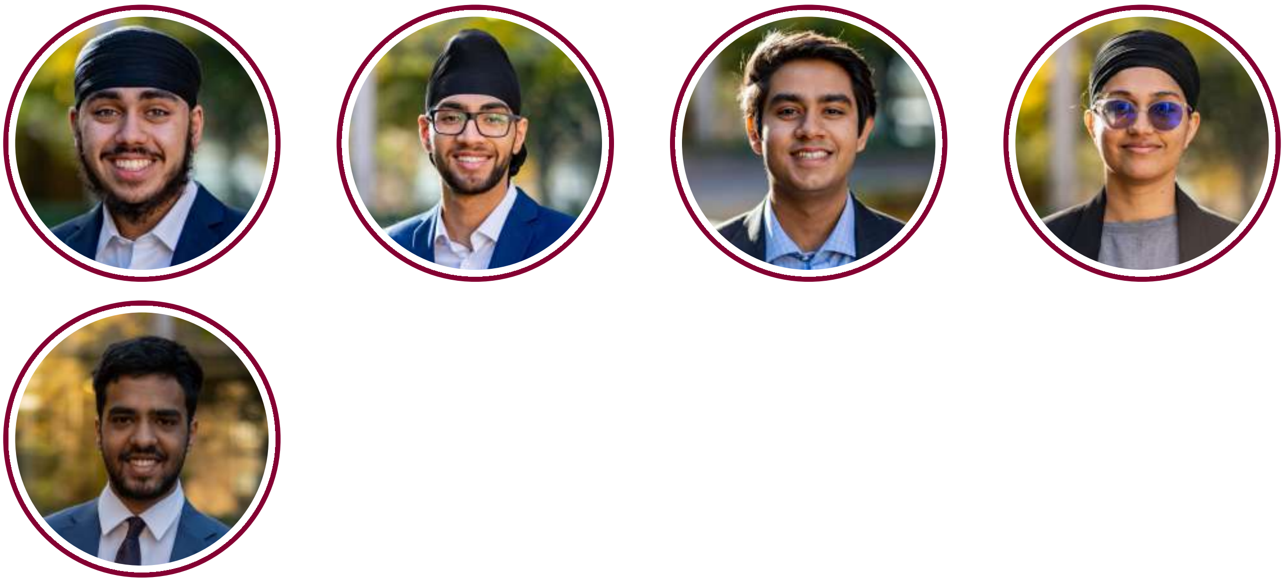

Left to right, top to bottom: Kabir Bajwa, Gurpartap Thap, Siddhant Kapur, Arpit Sandhu, and Pranav Shireen

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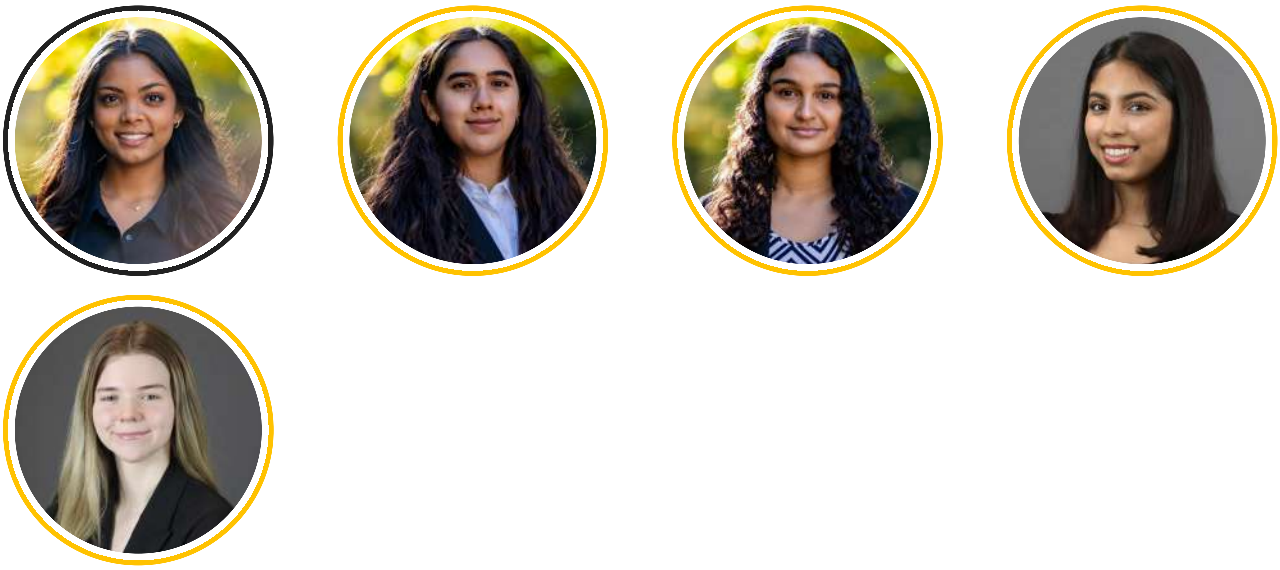


Left to right, top to bottom: Devena Mohabir, Viviana Basurto, Nirva Bharwada, Meher Aamir, and Hailey Flood. Not Pictured: Rini Lu

Business Strategy:

The Challenge of Reducing US Dependence of Chinese Manufacturing

Sophie Hsieh
Arpit Sandhu

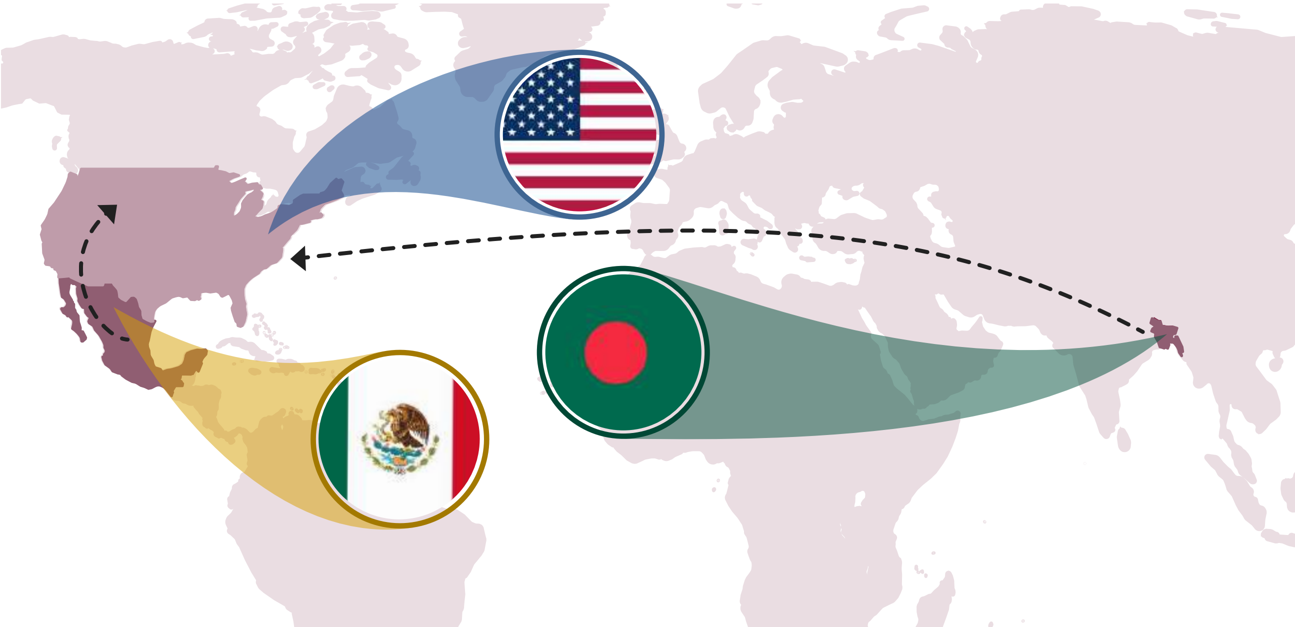
Illustrated by
Meher Amir
Nirva Bhawarda

The New Wave of Manufacturing

Despite the increasing appeal of nearshoring from countries like Mexico and Bangladesh to the United States, due to the rise in US on-shoring, these countries faces inherent limitations like poor infrastructure, a lack of skilled labour, and security uncertainties that prevent them from fully replacing the deeply interwoven relationship China has in manufacturing exports to the United States. Therefore, the United States is still reliant on China for importing a majority of its goods, particularly those with deeply established supply chains and specialized manufacturing capabilities.

Amidst escalating geopolitical dynamics between China and the United States and economic realignments, the United States manufacturing landscape has gone through a discernible shift. These two countries have a deeply interwoven trading relationship, with the United States importing machinery, mechanical appliances, furniture, et cetera. Offshoring is “the practice of basing some of a company's processes or services overseas, so as to take advantage of lower costs”. The appeal of off-shoring from China specifically stems from historically low labour costs, technologically advanced manufacturing equipment, and well-developed infrastructure. However, with the list of growing downsides to working with China, such as the imposition of tariffs, tension between political figures, and more, the United States has begun to attempt to shift away from a reliance on Chinese manufacturing.

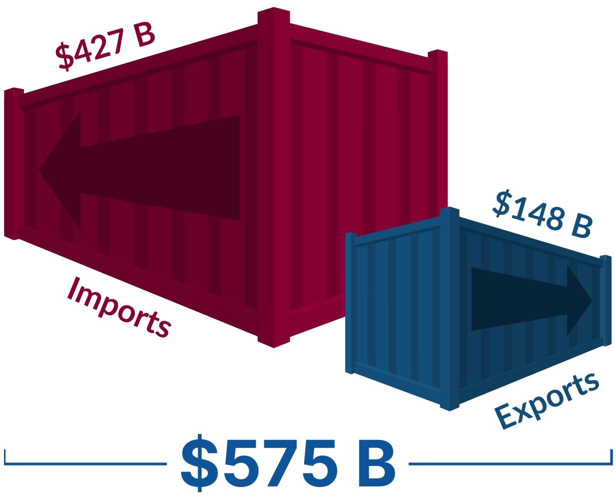
This movement has brought ideas of either the United States beginning on-shoring a majority of their manufacturing to reduce reliance on other countries like China, or looking to off-shore and near-shore from promising developing countries. Onshoring is “the practice of sourcing or relocating a business' production operations within domestic national borders”. Similarly, nearshoring is “a practice in which a company moves all or part of its production closer to the final consumer, reducing costs and avoiding logistical setbacks”. These practices allow for cost-saving practices, strengthen relationships with other countries, and create more reliable supply chains. Therefore, with the growing allure of nearshoring and on-shoring gaining popularity through government support, countries like Mexico and Bangladesh have emerged as potential contenders for the coveted role as primary manufacturing partners with the United States. This sounds like promising opportunities for both the United States and these countries, but this article will look at the reasons why off-shoring from these countries will not be able to replace China.



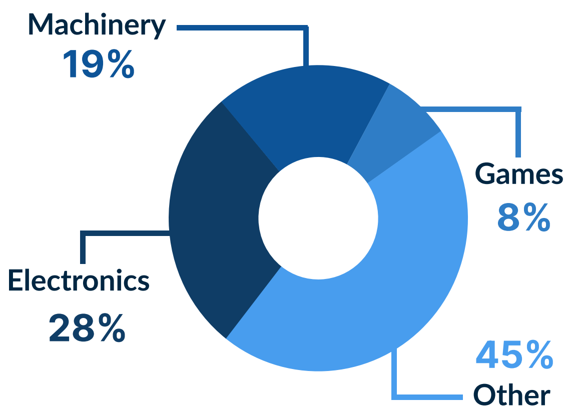
The relationship between China and the United States

The shift towards on-shoring is substantiated by several reasons like the aforementioned trade war between China and the United States, geopolitical issues, supply chain constraints due to the after-effects of COVID-19, and supply inflation.

To begin with, China and the United States have always had a strong dependence on each other as trade partners, but a contentious relationship as political powers. According to a 2023 report from Statista, the total value of the U.S. trade in goods with China amounted to around 575 billion U.S. dollars, with 147.8 billion U.S. dollars export value and a 427.2 billion U.S. dollars import value. This resulting trade deficit further emphasizes the issue of dependency that the United States has on Chinese manufacturing, relying on many of their imports like electronics, machinery, and other technological devices.



United States' Imports From China



Heavy imposition of tariffs have been set under the Trump administration back in 2019 to try and combat this over reliance. As of now, approximately $250 billion imports from China are grossly taxed at 25%, while $112 billion Chinese imports are taxed at 7.5%. This has necessitated a strategic reconsideration of manufacturing practices among global manufacturing businesses, prompting the United States to explore alternatives in response to the financial strains induced by these tariffs.

Moreover, the disruptions arising from the COVID-19 pandemic have highlighted the vulnerabilities in global supply chains, provoking businesses to prioritise reliability of their manufacturing processes. One of the main disruptions that arose during the time was factory closures and reduced capacity. Many manufacturing facilities around the world were forced to close temporarily due to lockdown measures or reduced operational capacity to maintain social distancing. China is often referred to as the "world's factory" due to its dominant role in global manufacturing. Factory closures and reduced capacity in China had widespread repercussions on global supply chains, affecting industries worldwide. The pandemic exposed the U.S.'s reliance on global supply chains, particularly those centered in China. Dependency on overseas manufacturing for essential goods highlighted vulnerabilities and prompted discussions about reshoring and diversifying supply chains, which is why the United States decided to explore on-shoring.

Additionally, the structure dynamics associated with overseas production, including transportation and labour, are steering the on-shoring trend, with businesses recognizing the potential for enhanced efficiency by bringing manufacturing operations closer to home. In summation, the convergence of factors—encompassing trade tensions, global disruptions, geopolitical uncertainties, and cost considerations—unambiguously propels the strategic imperative of on-shoring for businesses.

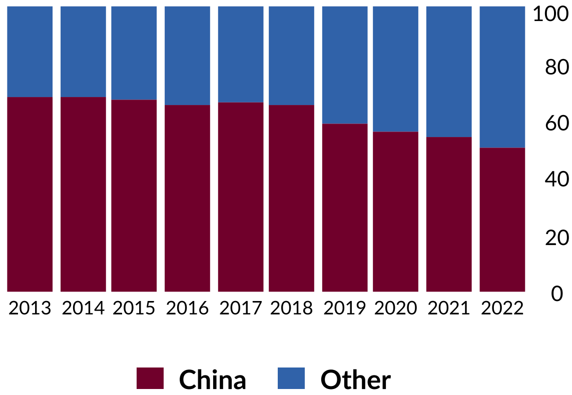
A Push for On-Shoring

In recent years, there has been a push for onshoring within the United States which has limited the countries the United States imports from. The United States has pursued strategies to encourage onshoring and nearshoring, aiming to support domestic manufacturing capabilities and reduce reliance on overseas production.

One significant initiative in this regard is the CHIPS and the Science Act, which allocated $52.7 billion in federal subsidies for chip manufacturing. This legislation seeks to address disruptions in the semiconductor supply chain and enhance the country's competitiveness in the industry. With US semiconductor manufacturing capacity declining from nearly 40% of global supply in 1990 to just 12% today, the CHIPS Act aims to reverse this trend. However, The CHIPS Act prohibits funding recipients from expanding semiconductor manufacturing in China and countries deemed national security threats to the US. It is important that companies carefully weigh the potential benefits of federal funding against the constraints imposed by these geographical limitations, especially given geopolitical uncertainties and recent market shifts.

US is importing more from other low-cost asian countries at China's Expese

Source: Kearney Reshoring Index



Why others can't replace China

Offshoring from the U.S. to China and other Asian countries has been a significant trend in the global economy for several decades, driven by factors such as cost advantages, market access, and supply chain efficiency. However, China stands out as the primary destination for offshoring due to its unique combination of factors that have propelled its dominance across multiple industries.

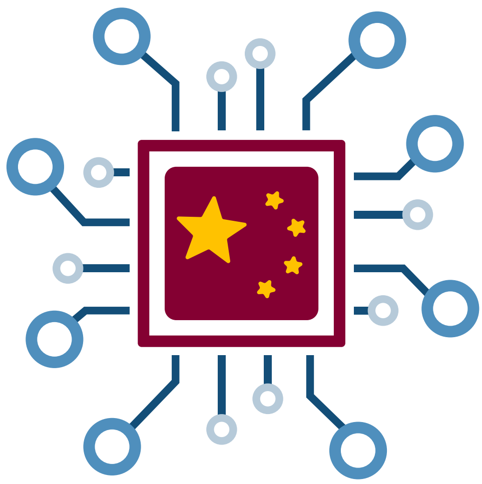
China's superior capabilities in supply chain management and manufacturing are reflected in various statistics, including turnaround time and container processing. Firstly, China boasts some of the busiest and most efficient ports in the world. For instance, Shanghai Port, the world's busiest container port, has an average turnaround time of around 24 hours for container vessels. When compared to one of its biggest competitors, the port of Rotterdam in the Netherlands, it has a turnaround time of around 6 days. Hence, the efficiency in the Shanghai Port allows for faster processing and shipping of goods, contributing to China's competitiveness in global trade. In addition, China excels in the time it takes to process containers at its ports. According to data from the World Bank, China's average time to export and import containers is relatively low compared to many other countries. For example, the average time to export a container from China is around 15 days, while the average time to import a container is around 11 days. These relatively short processing times contribute to the efficiency of China's manufacturing and export processes.

One of the biggest countries competing with replacing China to export to the United States is Bangladesh. Bangladesh, while emerging as a significant player in the global textile industry due to its low labour costs, faces structural challenges that limit its ability to compete with China in terms of manufacturing and supply chain capabilities. One of the key infrastructure-related problems in Bangladesh is its limited transportation infrastructure. Bangladesh's transportation infrastructure, including roads, ports, and railways, is often inadequate and inefficient. Poor road conditions and congestion can lead to delays in transporting goods to and from manufacturing facilities, impacting supply chain reliability and increasing costs. Hence, despite Bangladesh’s efforts to increase imports to the United States, it has a long way to go before threatening a powerful giant like China.

In recent years, a prominent contender aiming to replace China as an exporter to the United States is Mexico. Despite its strategic geographical proximity and established trade relationships, Mexico faces its own set of challenges that hinders its full potential as an alternative to China. While Mexico has emerged as a significant manufacturing hub, particularly in industries like automotive and electronics, it grapples with a critical issue of security concerns. In recent years, security challenges, including crime, violence, and organized crime activities, have posed significant obstacles to Mexico's export competitiveness. These security issues can disrupt supply chains, decrease investments in manufacturing, and affect the overall business environment. Manufacturers and exporters may face risks such as theft, extortion, and vandalism, impacting operations and increasing costs. Despite efforts by the Mexican government to address security issues through law enforcement measures and initiatives to improve public safety, persistent challenges remain. The ongoing struggle with security concerns underscores the complexity of Mexico's export landscape, hindering it from replacing China in exporting.

Taking a focus on the semiconductor industry, despite tensions, both the US and China benefit from mutual dependence in the semiconductor sector; Chinese tech giants rely on U.S. chips, while American companies profit from Chinese markets and innovations. Collaboration between American and Chinese semiconductor firms is widespread, marked by joint technology development efforts. However, the Biden administration faces the challenge of balancing economic interests with national security considerations in its semiconductor policy. Furthermore, as Chinese companies increasingly prioritize building a semiconductor ecosystem centered on domestic capabilities, there's potential for a shift in influence and market share away from U.S. companies in the Chinese technology sector.

The difficulty of replacing China in this industry lies in several factors. Firstly, both countries recognize the importance of advanced packaging in semiconductor innovation, an area less restricted than chip manufacturing. China has focused on semiconductor packaging technologies, leveraging its significant share of the assembly, testing, and packaging market to catch up with leading players. The semiconductor industry's reliance on skilled labour and large investments in machinery further compound the challenge of replacing China's position in the semiconductor race. Despite efforts to help supply chains through increased investment in packaging technology, the fundamental barriers in chip manufacturing persist, underscoring the dynamics shaping the global semiconductor landscape.



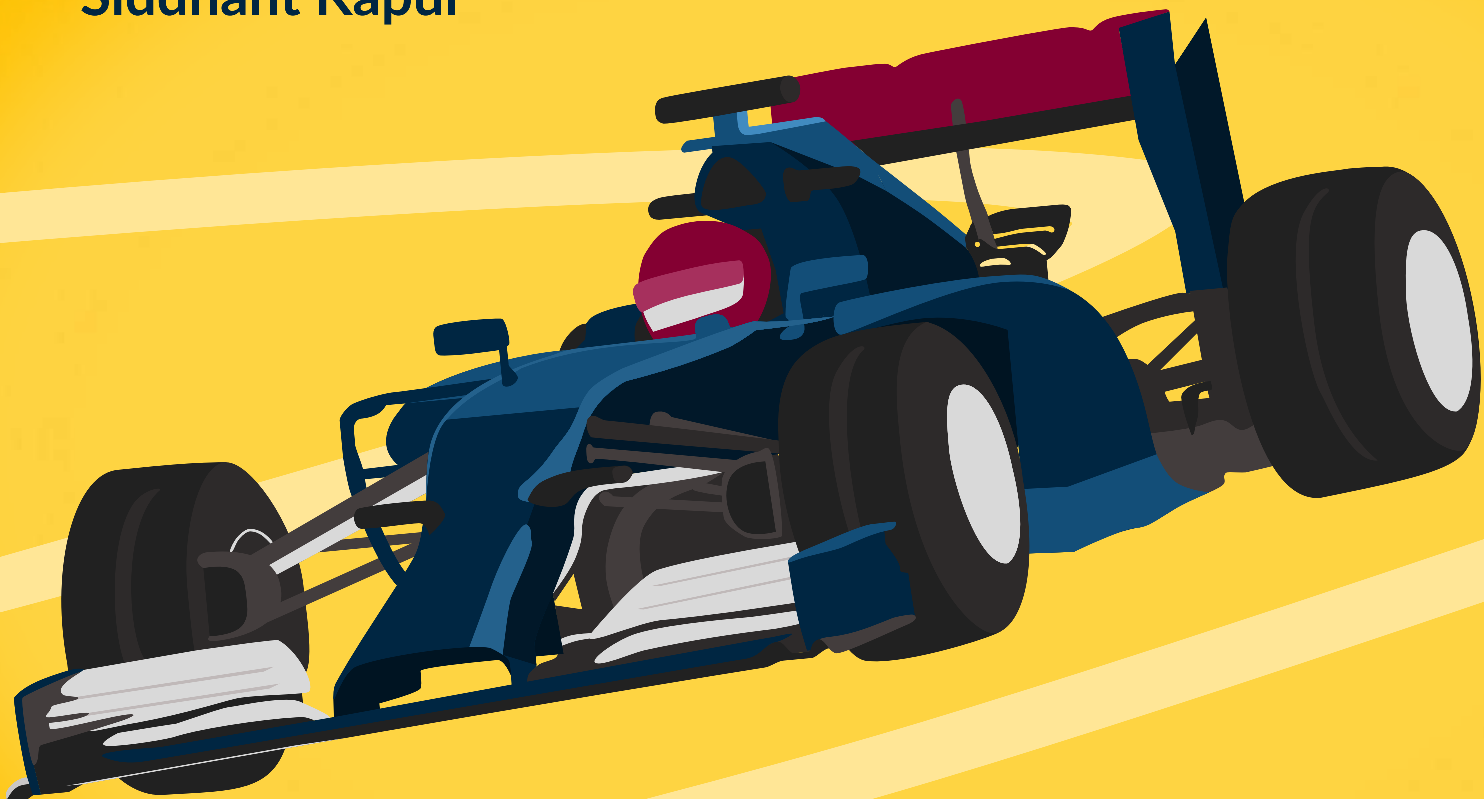
Conclusion

In conclusion, while the United States is undergoing a significant shift in its manufacturing landscape, aiming to reduce reliance on countries like China through near-shoring initiatives, replacing China's role in exporting goods, presents inherent challenges. These challenges include a lack of infrastructure, skilled labour, lack of advancements and security uncertainties. Despite efforts by countries such as Mexico and Bangladesh to emerge as viable alternatives to China, these limitations hinder their ability to fully replace China. As a result, the United States will inevitably rely on China for importing a multitude of goods, particularly those with deeply established supply chains and specialized manufacturing capabilities, even as it intensifies efforts to shift manufacturing back home. Ultimately, the journey toward reshoring and reducing reliance on China is complicated and requires careful navigation of economic, and technological factors to foster a sustainable and resilient manufacturing ecosystem.

Business Strategy:

Gridlock: The Pitfalls of F1's Failed Expansion into America

Kabir Singh Bajwa
Siddhant Kapur



Illustrated by
Hailey Flood

Introduction

Formula 1, the pinnacle of motorsport, has long been revered for its blend of speed, technology, and prestige. However, despite its global popularity and iconic status, Formula 1 has encountered numerous challenges in its quest to establish a firm foothold in the American market. From misjudging the transition from Netflix to live viewership, to grappling with a lack of competitiveness and a flawed economic model, F1's expansion efforts in America have been met with significant roadblocks, highlighting the complexities of penetrating one of the world's most diverse and competitive sports markets. Liberty Media's aggressive attempt to forcefully penetrate the American market can serve as a cautionary tale on entering new markets for other companies.

The Rise of F1 in America

In the past, Formula 1's attempts to penetrate the American market have been marred by notable failures, leaving a trail of disappointment among American fans. One such instance occurred in 1981 with the ill-fated Caesars Palace Grand Prix. Held amidst the heat of the Caesars Palace parking lot, spectators endured both physical exhaustion and profound boredom as cars circled monotonously around the casino's parking lot. Despite a subsequent attempt in '82, the event proved a resounding disaster. Fast forward to 2005, Formula 1's venture into Indianapolis was labeled by renowned commentator Alan Henry as "the most catastrophic public relations disaster in the 56-year history of the official world championship."

> **"The most catastrophic public relations disaster in the 56-year history of the official world championship."**
>
> **~ Alan Henry**

Clearly in the past, Formula 1 had encountered formidable challenges in its quest to capture the hearts of American audiences.

In 2017, Liberty Media, an American conglomerate, acquired Formula 1, marking a significant turning point for the sport. With a vision to revitalize Formula 1's image and attract a younger, broader audience, Liberty embarked on a series of strategic initiatives. Chief among these was the creation of Drive to Survive, a groundbreaking documentary series that offered an unprecedented behind-the--scenes look at the high-stakes world of Formula 1. While the show initially struggled to gain traction, its popularity surged in 2021, coinciding with one of the most exhilarating Formula 1 seasons in recent memory.

> “Red Bull won 21 out of 22 races in 2023, and is now the most successful car in in history.”
>
> ~ Oliver Harden

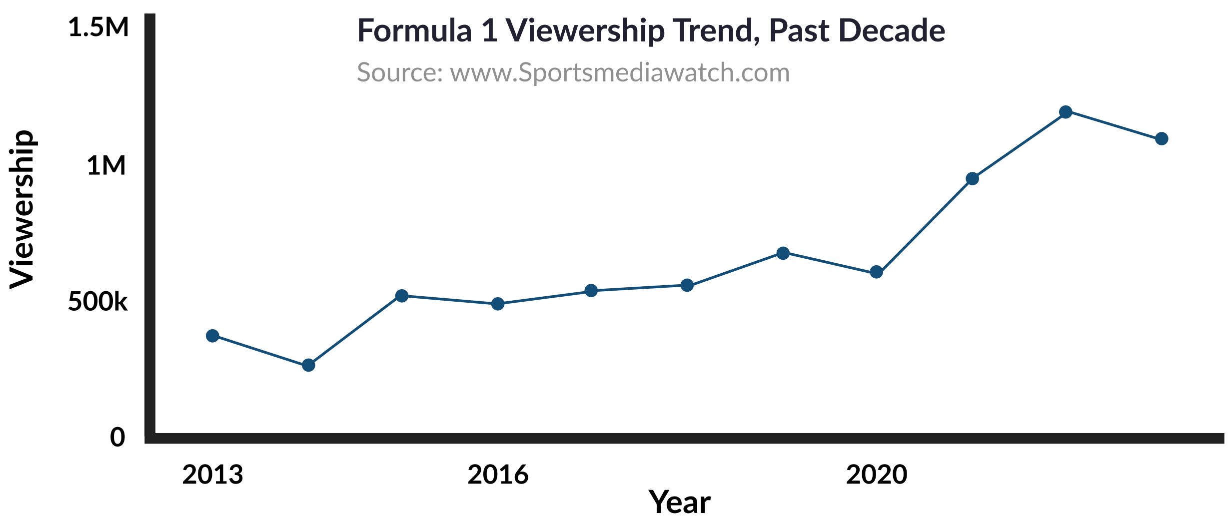
The 2021 season, characterized by a fiercely contested title battle between Red Bull driver Max Verstappen (3x World Champion) and Mercedes driver Lewis Hamilton (7x World Champion), served as a catalyst for Formula 1’s burgeoning popularity in America. The influx of new fans, drawn in by the on-track drama and off-track intrigue depicted in ‘Drive to Survive,’ contributed to record-breaking attendances at the Austin Grand Prix, TV viewership increasing by 300,000 from the previous year and injected renewed enthusiasm into the sport.

Lack of Competitiveness

Despite the initial surge in interest fueled by the excitement of the 2021 season, F1has struggled to maintain momentum in America partially due to lack of competition at the front of the grid.

While the drama and unpredictability of the 2021 championship battle captivated audiences, subsequent seasons have failed to replicate the same level of excitement. In the 2022 and 2023 seasons, the competition at the front of the grid has been very limited as Red Bull and Max Verstappen have dominated and have continued to win grand prixes, in 2023 they won all but 1 race throughout the whole season. Lewis Hamilton said, “no matter how invested fans are in the people, they still want a good sporting show. We have to continue to work on making sure we’re having close racing, because I think you’ve seen the social engagement drop a huge amount this year. It’s obviously heavily impacted (by) competition. People want to see that.” A team dominating is common in Formula 1, Lewis Hamilton won 6 titles for Mercedes between 2014 - 2020, before that Sebastion Vettel won 4 straight titles for Red Bull. In the early 2000s, Micheal Schuemacher and Ferrari won 5 consecutive championships. However, what sets apart Verstappen and Red Bull’s dominances that it shouldn’t have been possible.

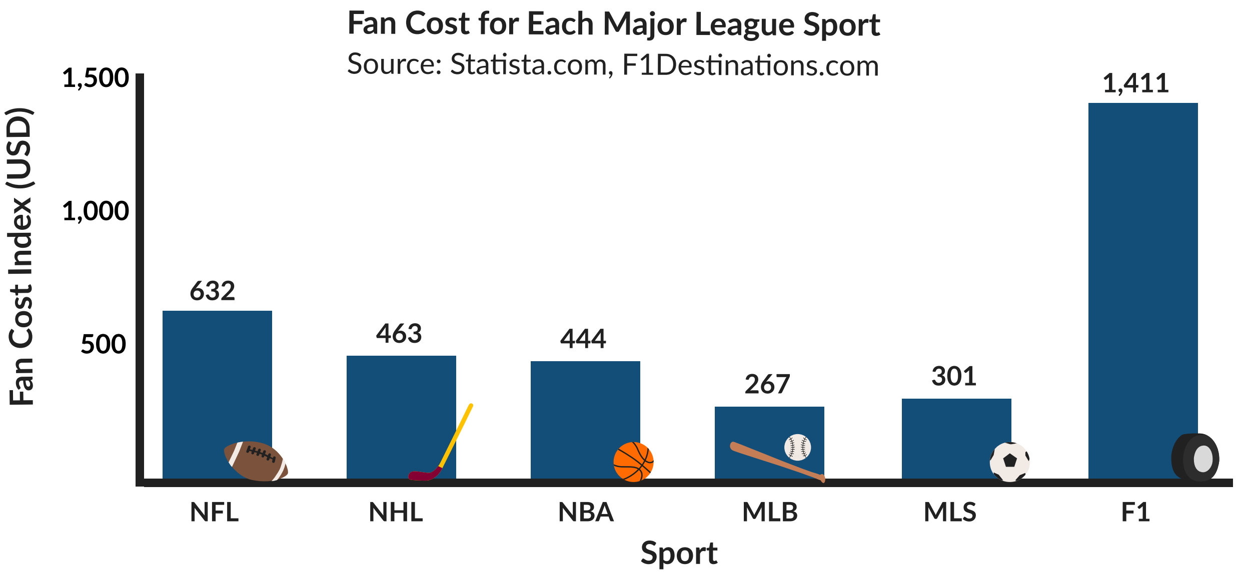
In recent years Formula 1 has attempted to make changes to its rule book to try and cultivate competition, this includes introducing a $145 million cost cap back in 2021 and car design changes in 2022. While there was intense competition throughout the rest of the grid, as 6 teams finished in the top 3, and the Mercedes vs Ferrari battle for second place went down to the last race - Verstappen and Red Bull won all but one race. Totto Wolff the team principal for Mercedes said, “If the spectacle is not good, our fans are going to follow us less, of course, there is the risk that people are going to say, ‘Well, I know the result anyway,’ like it happened to us with Lewis. We’ve just got to do a better job.” Toto was right and the harmfulness of this is being seen now as TV viewership dropped in 2023, which can be attested to the lack of competition.



Previously, the TV viewership for the sport has risen and then faced a dip like what has happened in 2023, but what is unique about F1's current predicament is the people who have stopped watching F1. Analyzing responses in surveys from many younger American fans of F1 who were introduced to the sport in 2021, the majority of survey respondents communicated that they stopped watching the sport in 2023 because of the lack of competition at the front of the grid. Many said that since they were introduced in the 2021 season when F1 was at its most competitive and interesting, subsequent seasons haven't been competitive enough to retain their interest in watching Formula 1. In comparison, many younger fans from Europe communicated the fact that they feel as though Formula 1 is a way of life and it holds strong cultural significance, so despite the lack of competition they would continue to watch grand prixes. Many of the older fans of the sports are accustomed to seeing teams dominate for stretches of time, whereas the younger, newer American fans aren't used to that and this lack of competition is driving them away from the sport. This is quite troubling for Liberty Media, as their chief initiative was to increase engagement with these younger American fans, but it seems they are now losing them just as quickly as they gained them. This ultimate lack in competition has led to a decline in TV viewership for the sport. TV ratings for the U.S. Grand Prix dropped for the third consecutive year in 2023, pulling a rating of just 0.47 and an average viewership of 882,000. In 2023, ABC saw a decline in viewership for the Miami Grand Prix drop by 26%, and social impressions from 2022 to 2023 declined by 279%. Not just that but, the average viewers per grand prix has decreased by 110,000 from 2022. This decline in viewership is indicative of the challenges facing F1 in retaining the interest of American audiences, especially those who were introduced to the sport during the electrifying 2021 season.

Failed Economic Model

Central to F1's struggles in America is its flawed economic model, which prioritizes selling events to affluent individuals and corporate entities at the expense of grassroots fan engagement. The exorbitant ticket prices for races in cities like Austin, Miami, and Las Vegas have rendered live attendance inaccessible to all but the wealthiest spectators, alienating a majority of the fan base. Over the span of the last three years, ticket prices for each Grand Prix have shown a consistent upward



trajectory. To illustrate, in 2017, the average cost of a three-day admission to the American Grand Prix stood at a modest $142. Fast forward six years to 2023, and that figure had soared to $349. Such dramatic escalations in ticket prices have rendered it increasingly challenging for the average Formula 1 enthusiast to secure tickets and relish the live spectacle of their beloved sport. Notably, when juxtaposed with other major sports leagues in America, Formula 1 emerges with the highest Fan Cost Index (FCI), encompassing ticket prices, parking fees, food expenses, and merchandise costs—a comprehensive measure of the entire fan experience. For instance, the Miami Grand Prix boasted an FCI of $2,300, dwarfing even the highest FCI among NFL teams, which was the Dallas Cowboys at $664. These exorbitant costs have effectively priced out many ardent Formula 1 followers, transforming what should be impassioned spectacles of sporting prowess into corporate affairs, predominantly attended by affluent individuals.

Chasing after the big spenders for quick cash might sound tempting, but it's putting Formula 1's bond with regular fans at risk. When Formula 1 focuses on snagging folks who just pop in for one race and aren't really into the sport, they risk ditching the loyal fans who stick around for the long haul. This whole money-first approach shows Formula 1's got its eyes on the short-term prize, forgetting that building real connections with everyday fans is what keeps the sport alive in the long run. Your average Formula 1 fan? They're the ones tuning into every Grand Prix on TV, chatting about it non-stop on social media, and purchasing up team gear. By only going after the rich crowd, Formula 1 might end

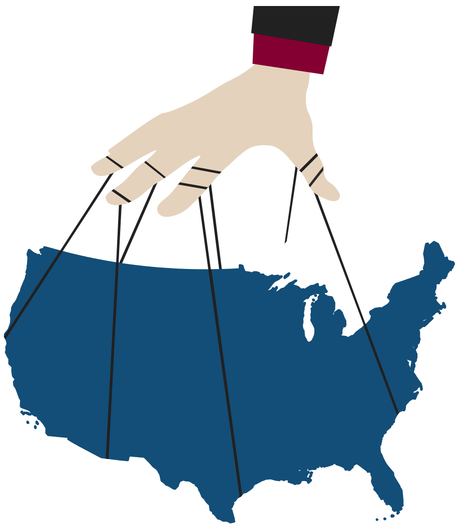
up waving goodbye to these die-hard fans while chasing those quick bucks.

Besides just missing the mark with their target crowd, Formula 1's actions have left a sour taste, painting a picture of prioritizing money over fan enjoyment. Take the Las Vegas Grand Prix, for instance. The first practice session, which set fans back around $1000 a ticket, got canceled after a measly eight minutes thanks to a dodgy manhole cover. Fans who'd been camping out for hours got the boot at 1:30 in the morning, and to add insult to injury, the compensation from F1 was nowhere near the price paid for tickets. On top of that, F1 management decided to clamp down on non-paying fans, going as far as obstructing views from bridges and buildings, chopping down trees near the Bellagio, and causing chaos on public transport during stand construction. These moves not only angered Las Vegas locals but also painted F1 as cash-hungry and more interested in lining their pockets than giving fans a good time, especially in the eyes of American audiences. It's incidents like these that chip away at the sport's reputation and drive a wedge between fans, making it harder for Formula 1 to win back trust and loyalty in the US.

Moreover, Formula 1 appears to have miscalculated the potential live audience stemming from its Netflix viewership. While someone willing to invest in a $15 Netflix subscription may not balk at the cost, shelling out $1500 for a ticket is an entirely different proposition. Compounded by the reality that the actual live experience may not match the heightened excitement portrayed in the show, it's understandable why new enthusiasts might hesitate. For middle-income fans, the financial leap to attend live races is often overwhelming. Formula 1 must acknowledge that pricing races too steeply risks alienating its genuine American fan base. Surveys among middle-income Formula 1 enthusiasts in the US consistently reveal cost as the primary barrier to attending races. Moreover, there's a pervasive sentiment that Formula 1 neglects affordability concerns, leaving many feeling marginalized by the sport. This underscores Formula 1's flawed economic strategy, which prioritizes catering to the wealthy elite over cultivating a sustainable fan base among loyal supporters from diverse financial backgrounds.

No True American Team

Another key factor hindering F1's expansion in America is the absence of authentic American representation within the sport. Some teams like the Haas F1 Team have sought to promote an American presence in F1 by being owned by an American company and having an American owner. However, the team's predominantly European operations and a lack of on-track success have contributed to a failure to resonate with American audiences. The biggest issue as of late was Formula 1's decision to reject Andretti Autosport from joining the grid. Andretti Autosports is an American racing team that has a rich history when it comes to racing. They competed in series such as the IndyCar and Formula E, and have been incredibly successful as they won numerous world championships in these different series. Andretti Autosport had partnered with Cadillac and General Motors to make a bid to join Formula 1 in the 2025 season, but were rejected by Formula 1 in early March with a contentious decision that shocked the racing world. Formula 1 justified the rejection saying that adding a 11th team to the grid would make it more difficult logistically for race event planning and physically would take up space from other teams. Furthermore, Formula 1 felt that the team would not be competitive in 2025 and the new set of regulations in 2026 would further disrupt the team's ability to compete. While it is true that joining the grid in 2025 may make Andretti Autosport uncompetitive as they would be a very new team, a new set of regulations the following year combined with a cost cap applicable to all teams will change the grid as every team will be in the same position of trying to understand the new cars. Any concerns due to physical space constraints and logistics issues aren't relevant as Formula 1 approved 13 teams for the grid back in 2010.



The explanations offered by Formula 1 failed to appease the racing community, prompting questions into the rejection of Andretti Autosport and casting doubt on

Formula 1's genuine commitment to involving America in the sport. Andretti Autosport, renowned for its extensive years in racing and the loyalty of its fan-base, held the potential to attract a substantial following of American enthusiasts, which could have enriched the sport's fan base. Rejecting Andretti Autosport's bid to join the sport represents a missed opportunity to cultivate a genuine American presence and tap into the rich heritage of American motorsport. This exclusionary approach only serves to alienate fans and reinforces the perception that F1 prioritizes profit over inclusivity. These actions give the appearance that F1 is interested in the money and facilities America provides, but have no interest in letting America be a part of the sport.

Navigating the Gridlock

Formula 1's struggles to expand its presence in America underscore the importance of understanding local markets and catering to the preferences of diverse fan bases. While the allure of high-profile events and glamorous locations may yield short-term gains, the long-term sustainability of Formula 1's presence in America hinges on fostering competitiveness, affordability, and inclusivity. By addressing these key challenges and prioritizing fan engagement over financial gain, Formula 1 can unlock the full potential of the American market and secure its position as a leading force in global motorsport. As the sport continues to evolve, it is imperative that Formula 1 remains attuned to the needs and desires of its American fan base, cultivating a lasting legacy that transcends borders and celebrates the rich tapestry of motorsport culture.

Business Strategy:

Changing Skies: The Importance of Maintaining Our Budget Airlines

Sofia Suleman, Gurpartap Thap

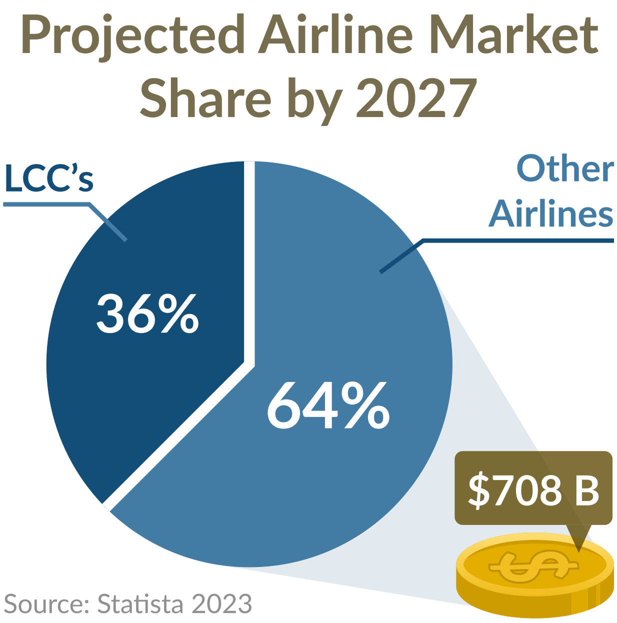
Illustrated By Rini Lu, Viviana Basurto

Introduction

In January 2024, US federal courts ruled against the proposed merger of JetBlue and Spirit Airlines, leaving Spirit in shaky financial territory, unable to compete with larger airlines. The primary rationale for rejecting this merger was to preserve competition in space, the court fearing that further joint ventures of airlines would have consumers at the mercy of predatory pricing practices. One month later, Lynx Air, a Canadian low-cost airline carrier (LCC), announced bankruptcy and closure only two years after its launch, citing financial difficulties and inability to compete with market giants Air Canada and WestJet. Flair Airlines, a slightly more well-known LCC, also sits in deep debt as they cut flights to eastern Canada. Such activity, though seemingly insignificant on its own, signals a trend in airline markets that consumers should pay attention to, especially regarding personal low-budget travel options. By exploring the changes in the airline industry and the most powerful entities involved in setting consumer choices, the importance of these budget-style airlines becomes more obvious as the risk of them leaving the market increases. That being said, it is paramount to ensure the survival of LCCs in the North American market through partnerships, as the benefit of their continued presence outweighs the costs of mergers with larger players.

Why is the presence of LCCs important?

In 1978, US airspace was officially deregulated, allowing airlines to expand their networks and set their fares and routes for the very first time. Immediately, competition spiked, bringing down fares and allowing passengers both the economic and practical freedom to take to the skies. As small carriers grew by nearly 74% post-deregulation and new ones broke into the industry, fares dropped and widespread infrastructure was developed. But as these airlines established themselves, they also merged into mega-airlines and consolidated their resources in the name of efficiency and market dominance. Most notably, these structures emerged as legacy carriers such as Delta, American Airlines, and Southwest Airlines, as well as the business models that these full-service carriers (FSCs) operate to this day. This is where concerns in competition are most prevalent: partnerships between these legacy carriers further cement their status as the primary suppliers of commercial airfare. It is fair to say that further consolidating these legacy options limits consumer choice: by outlining specifically which airlines lay claim to routes, airports, and services, they no longer compete with each other.

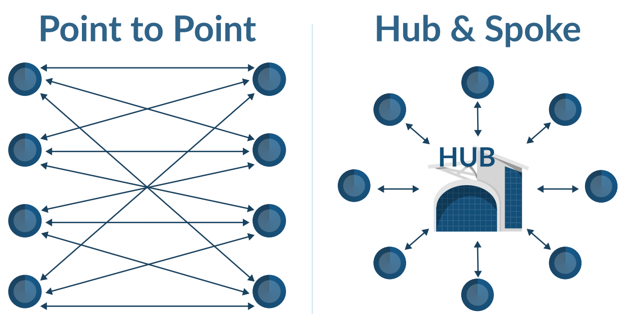


Source: Statista 2023

On the other hand, budget airlines exist as options with significantly less supplier power - they rely on making sure that their flights are as full as possible and they are flexible enough to be able to respond to greater consumer demand for flight paths and activity. In practice, this results in low-cost carriers operating very similar short-haul routes as legacy carriers for much lower prices, increasing consumer's options and allowing them greater choice in how they want to travel. The airline industry is expected to be worth $708 billion by 2027, and 36% ($254 billion) of that market share, is expected to be taken by LCCs, having been expanding for the last seven years. In addition, LCCs compete purely on price, with no ticketing class differences, lounge access, baggage options, or many of the perks that are associated with major carriers; they simply operate in the business of moving passengers from one location to the other. For the goal of passengers to get to their desired location, the presence of LCCs and their options create significantly more choice for consumers who may not be able or willing to pay the convenience premium built into legacy carrier models.

Given the creation of greater choice through the presence of budget airlines, it is also important to recognize that these two models do not directly compete. FSCs and LCCs have different business propositions, and they offer their passengers different experiences beyond their flight paths.

The legacy carrier model uses a hub and spoke model, centralizing their operations around specific airports, which allows more complex infrastructure to be built for operations as well as consumer convenience. The sense that certain airlines "own" an airport emerged from the hub model that large legacy carriers have built in airports. Here, tickets tend to be more expensive - both due to the lack of other options, as well as deals that these dominating airlines have made with the airports. These deals include gate and priority status perks that edge out other airlines for convenience. Because budget carriers only offer base services and use a point-to-point model, they are able to respond to consumer demand much more rapidly than full-service carriers as they allow flexibility of flight paths based on where the market falls short. This strategy keeps flights as full as possible but also prevents meaningful cost savings without permanent infrastructure - a significant barrier when these entities compete purely on cost. These different models and pricing points draw in different demographics of passengers: business travel, long-haul international travel, and frequent flyers and leisure customers who value non-financial benefits over their potential cost savings tend to rely on legacy carriers. In contrast, LCCs appeal to younger passengers, regional flyers and cost-conscious adventurers. This contrast in passenger priorities ensures that LCCs create more



options for all consumers, as they draw in an underserved market without poaching from established brands. By recognizing that budget carriers do not compete directly with legacy carriers, the opportunities presented by allowing partnerships between the types of carriers become much more apparent; far from removing options, LCC carriers provide a different set of services and create greater options in the airline space as a whole.

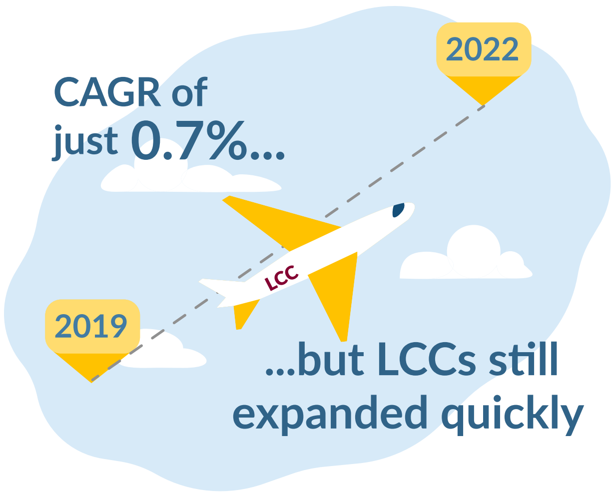
Why are partnerships important?

As mentioned, LCCs are dependent on price competition to operate, but under current models, there is limited space to cut costs any further, and therefore limited opportunity to continue to compete on lower consumer ticket prices without taking losses. Based on the priority of flexibility and adjusting to demand, as well as lower overall margins, LCCs have had fewer opportunities to build infrastructure that can aid in spreading out their costs, stemming from rising fuel costs, aircraft maintenance, labour, and airport fees. LCCs compete on price; they have to keep ticket fares as low as possible while dealing with these high expenses, leaving little room for profit as they jockey for sales. Despite record high revenues of USD 964 billion, LCC's profit margins are expected to be just

2.6% in 2024. As demand shifts away from budget flights and the remaining carriers race to the bottom, this profit is further eroded, leaving LCCs to step out of the market, as Lynx has done.

On the other hand, legacy carriers depend on the existing infrastructure that many airlines have established efficient systems already in place in their hub airports. For instance, Delta built a prominent hub at Hartsfield Jackson Airport, allowing them to efficiently inspect and repair their fleet by pooling resources, including maintenance facilities and staffing requirements. In addition, Delta has made investments in building lounges and obtaining terminal space, which has allowed them to have a substantial presence on airport property, and bring in customers on convenience and price without having to cut fares to the same extent as LCCs. This unified infrastructure allows the company to spread its costs more effectively and improves the overall Delta passenger experience. Though both systems experience the same costs, this resource base is unavailable to most LCCs, so they lose out on both the efficiency of the systems, the cost savings and spreading involved, and margin expansion in the long run. Partnerships between established airlines provide a two-fold benefit in sharing resources, allowing acquiring airlines to maintain their existing operations and capitalize on a market they currently do not appeal to, while supplementing the LCC model with their existing infrastructure to further cost savings, allowing a greater competitive edge in that market.

This cost-saving model is particularly important to note in the recovery of the airline industry after COVID. Without backing from powerful airlines and their existing infrastructure, these budget models struggle and may cease to exist - placing consumers in a much tighter position than the potential risks of absorption of LCC into legacy airline models. Through COVID, the airline industry changed rapidly and consumers saw huge trends sweep the market as countries regulated their borders, airspace, and travel policies in the name of public health. Commercial airlines felt the pressure, with half-capacity flights and unpredictable airport lockdowns in addition to mandated refunds to passengers. Planes flew empty in order to maintain flight plans, causing significant losses for carriers. From 2019-2022, the airline industry grew at a compound annual growth rate (CAGR) of just 0.7%. In the aftermath of the sweeping global lockdowns, LCCs found their niche and expanded quickly, taking advantage of the economic climate and consumer preferences that formed strong demand for short-haul, regional flights.

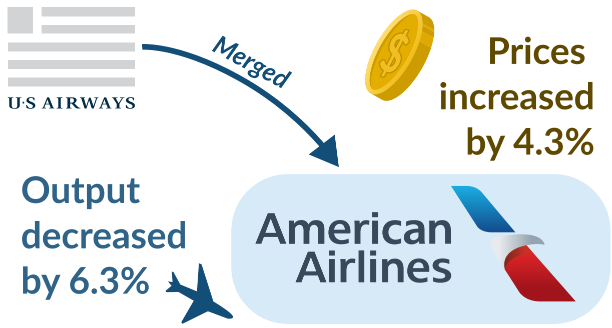


The slimmed-down and streamlined offerings of budget carriers were appealing on the cost side, and their ability to respond to demand allowed them full flights to secondary airports, bolstering their financials and operations as they cut administrative costs and sold seats to casual travellers - any budget carrier's primary demographic. As airline activity normalized and consumer interest recovered in international travel, LCCs are learning that their business model of the bare base flight offering is less applicable for a long-haul flight environment. By diving deeper into the closure of Lynx Air just two years after its launch, the fundamental challenges of running a budget airline are apparent. Lynx fell victim to unstable finances, fierce competition from other LCCs and established carriers, and operational difficulties - all of which were exacerbated by the COVID-19 pandemic's lasting effects. These barriers have caused them to see no way out other than closing their doors, leaving Lynx to join the ranks of numerous LCCs that could not continue to operate. Additionally, LCCs are particularly vulnerable to risks after the pandemic, including changing consumer preferences for travel, thin profit margins, and resource and infrastructural limitations. Support for LCCs is imperative at this point to protect competition and promote economic growth while upholding vital air connectivity.

Recognizing the risks of partnerships

While the benefits of partnerships between FSCs and LCCs are evident, it's crucial to acknowledge the associated risks. The most prominent concern is the potential for FSCs to absorb LCCs offerings into their own, reducing consumer choice and competition while facing the risk of higher prices due to the increase in supplier power of airlines. In this situation, consumers would lose access to their independent legacy carriers, and FSCs would have only more resources and more power in their strong-hold airports and flight routes.

For instance, while major routes like New York to California boast 10,000+ annual flights, less-travelled routes such as North Carolina to Oregon see significantly fewer flights at just 1,500 on an annual basis. By consolidating airlines, the new entities may find that splitting routes up between their budget brand and the full carriers would be more profitable than offering both options. Attempting to monopolize such routes through partnerships would have distinct negative effects on consumers, driving prices higher and limiting alternatives within air travel. The reduced demand for flights on these routes could also strain LCC's finances, potentially worsening the current situation by leading to additional operational challenges and increased costs. Thus, while partnerships between FSCs and LCCs offer potential benefits, careful consideration of the implications for competition and consumer choice is extremely important to avoid monopolistic outcomes. Additionally, the aviation space is already concentrated, as the Herfindahl–Hirschman Index (HHI), a common market concentration metric, shows when applied to the airline industry. A high HHI implies higher industry concentration and higher fares. This can be seen in the merger between US Airways and American Airlines. After the merger, the prices increased by 4.3% while output decreased by 6.3%; the overall merger resulted in a less competitive market.



Source: Review of Economic Analysis 11 (2019)

Despite the multitude of risk factors, partnerships between LCCs and legacy carriers still carry many advantageous factors that bring mutual benefit to airlines and customers, provided that partnerships are monitored and flight paths are kept independent. An area of partnership synergy comes in the form of ticketing: a 7.5% excise tax is levied on base airline tickets. This tax is not imposed on add-on costs which constitute much of the revenues earned by LCCs, incentivizing partnerships to maintain the LCC pricing model to keep this revenue stream constant. Additionally, partnerships such as Korean Air and existing LCCs such as Supernal Air have worked without an impact on consumer choices and mutual benefit for airlines. In this partnership, Korean Air provided insights into the Korean market requirements and AAM aircraft specifications, helping Supernal improve its product and market development strategies. On the other hand, Supernal provided more business for Korean Air which goes to show that risks of monopolies can be mitigated through incentives and mutually beneficial partnerships, creating a final competitive environment that benefits consumers and business entities alike.

Conclusion

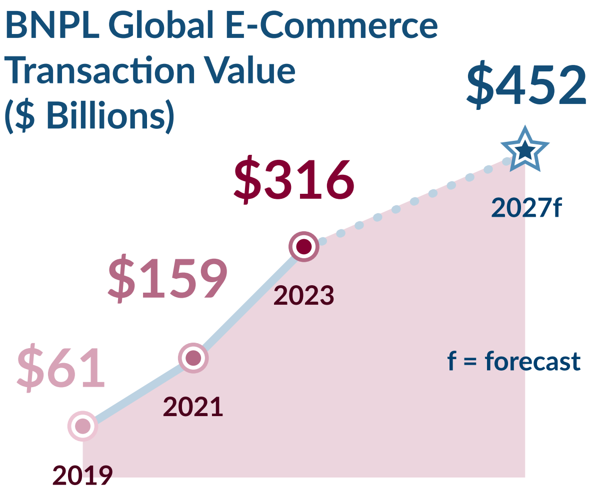
It remains of paramount importance that competition is upheld and consumers are offered as much choice as possible. As it stands, the presence of the different offerings of both budget and full-service carriers maintain this variety, encapsulating different ways to travel that appeal to the widest possible range of consumers - from business travellers, college students, non-profit travellers, and family vacationers. Legacy carriers form the foundation of this system, but budget carriers are the options that respond and offer flexibility, and their contributions to upholding variety in aviation cannot be overlooked. Given their importance and the issues they face on their own as flight demand moves away from regional activity, the risk of allowing these airlines to go under compared to allowing partnerships should be more deeply examined. By allowing monitored joint activity, it is possible to extract the best of both worlds - operational efficiency for the airlines without infringing on the availability of choice for consumers.

Business Strategy:

Buy Now, Securitize Later: BNPL's Growing Risks in an Unregulated World

Chiranjeev Beniwal
Luka Pavlesen

Illustrated by
Devena Mohabir



Source: Worldpay Global Payments Report, 2024

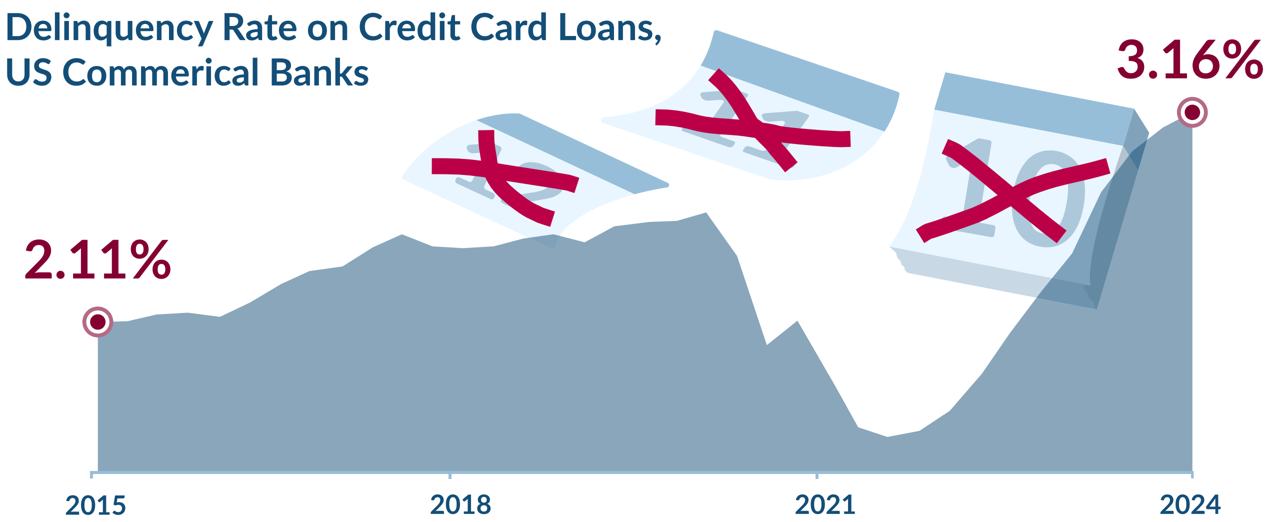
Introduction

Buy Now Pay Later, better known as BNPL, has taken the world by storm. While BNPL companies have been growing and raising meaningful capital for over a decade, it is only in the last couple years that the term has really entered mainstream parlance. That should come as no surprise, considering that the BNPL market is a nascent market that is growing at a rapid pace, with transaction value doubling from $159B in 2021 to $316B in 2023, and an expected increase of more than 40% to $452B in 2027.

The growth of BNPL makes sense when considering all that it has to offer to customers. Instead of having to pay fully upfront to purchase goods, customers can instead essentially take a loan from these BNPL providers, and pay back the installments with no fees, which can stretch out for up to three months. For example, you could either purchase a good for $300 upfront, or three $100 payments spread out over 3 months.

Sounds familiar? That's because it's actually not all that different from credit cards. The main difference is that BNPL tends to be easier for subprime borrowers to get access to, due to a relative lack of hard credit checks compared to credit cards, as well as it being cheaper to spread payments out over time with no interest accrued on that unless you pay late. It is also an extremely important tool, as the middle class has become more strained with increasing inflation, and credit card defaults have soared above pre-COVID levels.

Even at first glance, there are several red flags regarding the BNPL industry. Offering unsecured loans to subprime borrowers is very risky. After all, the 2008 financial crisis was started off by defaults among subprime borrowers, but at least those mortgages were secured via property; in this situation, the BNPL loans are not even secured. On top of that, due to the nascency of the market, there isn't stringent regulatory oversight as of 2024, nor a strong regimen of consumer protections for BNPL debt.



Source: Board of Governorts of the Federal Reserve System (US)

Keeping these aforementioned issues in mind, it becomes important to explore how this market needs to evolve in order to ensure that this doesn't become yet another debt bubble to burst as the total volume of BNPL debt continues to increase. The BNPL market is still nascent and not too complex yet; however, it is crucial to understand potential red flags as the market deepens. This article aims to explore how the lessons of the mortgage crisis can help inform how to proactively stabilize the rapidly growing BNPL market.

The Current Situation of BNPL

There are a number of prominent BNPL providers, with some of the biggest being Klarna, Affirm, and Afterpay, which is owned by the large fintech Stripe. There are also BNPL arms of existing payments players, such as Visa, Mastercard, PayPal, and Chase. Apple is a company which recently entered into the market with its Apple Pay Later solution releasing in April 2023.

As previously mentioned, one of the main draws of BNPL is that there isn't any interest paid by customers. Instead, merchants pay the fees, which are around 2% to 7% of order value. If a borrower is late on their payment, there are interest charges or late fees that are usually instituted.

In this regard, there is a lot of similarity between credit cards and BNPL. In most cases, interest or late fees are only an issue if one does not pay on time. However, a major difference is that when making a large purchase that one cannot pay off by the end of the month, credit cards will accrue more interest whereas BNPL allows consumers to pay it off even over a 12 month period. This is particularly important - it's no secret that consumers are being squeezed through inflation. To make it even easier for consumers, BNPL options are easier to qualify for unlike credit cards, which may cause the customer base for BNPL to become more subprime borrowers.

These BNPL providers are issuing huge volumes of loans - for example, Affirm issued $7.5B in loans in Q2 2024 with 14.7 million customers, which comes out at around $1.9B lent every single month. This is a 32% growth from the $5.7B loan volume earned in the same quarter a year ago. If the growth forecast for BNPL market size ends up being accurate and Affirm retains its market position, they would be lending an astonishing $2.7B every month in 2027, or around $32B every year. With such large loan volumes already, it becomes crucial to take a deeper dive into funding sources. A large portion of BNPL providers fund themselves with debt, Klarna makes use of customer deposits. Affirm also has a significant portion (~30%) of its funding coming from securitizations.

The securitization of BNPL debt is a significant cause for concern, and companies such as Affirm are doing it continuously. It raised $500M in 2021 from an asset-backed securitization, and raised an additional $400M securitization in 2023. After this issuance, Affirm noted that there was strong investor demand for their products and that they have seen a "healthier tone" in the securitization market. As total loan volume increases, there is likely to be an increase in the complexity of financial processes within the industry, such as securitizations and derivatives.

To understand why this will be a concern, we need to understand the leadup and ultimate downfall caused by the 2008 financial crisis.

The Origins of the Mortgage Crisis

After the economy started to recover from the Dot Com Bubble post 2001, the economy of the US and several other countries saw sustained and bombastic growth, particularly within real estate. Incomes were going up across the board, and these good times resulted in home prices going up for Americans. Total mortgage debt in fact increased from $7.5 trillion in 2001 to $14.6 trillion in 2007.

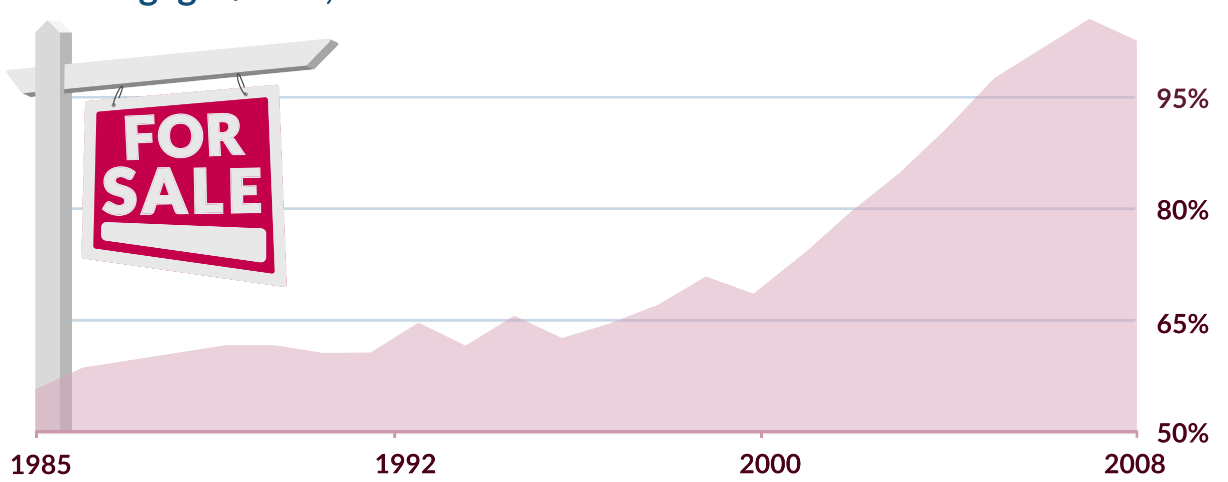
A large reason for such a rapid increase in total mortgage debt was due to the rise in subprime mortgages. Subprime borrowers are those who have lower credit quality and are riskier to lend to than prime borrowers. Lenders were then compensated for taking on such risk via higher interest rates. While there was always risk of these borrowers not being able to make their payments, as long as the value of the underlying real estate held up, these mortgages were sufficiently collateralized for the lender to recover their principal amount through foreclosure.

Most notably, oftentimes those who originated these mortgages didn't actually have skin in the game. By securitizing mortgages, a large number of these loans would be pooled together and then sold to other investors. This divorced these originators from the risk of the products themselves, since they would just sell them to someone else. As such, there was less incentive for originators to be very disciplined with underwriting, and instead a focus on loan volume was more profitable as they were just taking fees while risk was taken on by actual investors. However, it is important to note that risk retention rules now typically require the originator to hold a 5% economic interest (as defined by NPV of cash flows to the residual tranche holder divided by total notes issued) in the securitization.

The Increasing Complexity

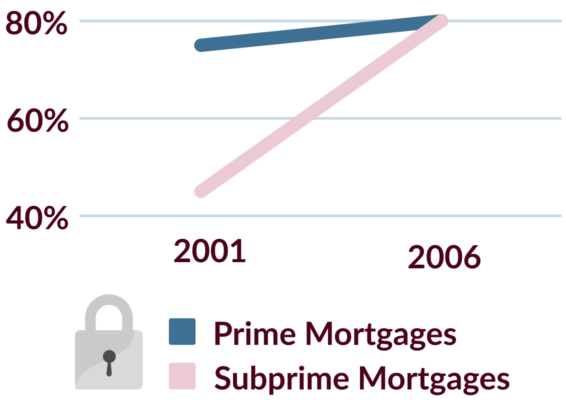
The excesses of the mortgage market were not just confined to originating too many risky mortgages. As bundled up mortgages, called mortgage backed securities, were

US Mortgages/GDP, 1985-2008



Source: Seeking Alpha

Subprime Securitization Skyrocketed between 2001-2006



sold to investors, these same MBS were bundled up into specialized investment vehicles called collateralized mortgage obligations, or collateralized debt obligations (CDO). The CDO essentially held these mortgages, receiving principal and interest payments, and then paid these funds to holders of CDO debt. CDO debt was split up into different tranches - the senior tranches were more secure and low-yield than the underlying mortgages, while the junior tranches could get higher yield at the cost of taking losses before the senior tranche. Securitization was already widespread for more prime mortgages - the securitization rate of these mortgages saw a slight increase from just under 75% in 2001 to a bit over 80% in 2006. However, subprime mortgage securitizations increased from around 45% to 80% over the same time period, according to data from Brookings Institute.

Another major proliferation of this pre-2008 era was the credit default swaps. Contrary to what some people who watched the famous movie The Big Short may think, the CDS was not pioneered by Micheal Burry just before the financial crisis, but had existed for quite some time already, with the first major use being by the bank JP Morgan in the 1990s. In essence, a credit default swap is like insurance on a debt instrument - premiums are paid to the seller of the CDS by the buyer, and the seller makes up for any loss in case of a default on the underlying credit. However, the crucial difference between CDS and actual insurance is that the buyer of the CDS doesn't actually need to own the underlying credit they are buying protection for - they can thus speculate on debt that they don't even have using these naked CDS.

This became crucial to the subprime mortgage market by completely amplifying its size in an artificial manner - it was now possible to create synthetic CDOs. In a regular CDO, buyers put up money to buy certain tranches, and receive interest payments and principal payments over the life of their bond. A synthetic CDO pretty much offers the same function without the buyer owning the actual mortgages. In this case, the buyer actually sells CDS on existing CDOs. Instead of receiving interest payments, they receive premiums from whoever took the other side of the trade, and if the underlying CDO tranche defaults, they need to cough up the money to pay for the loss.

Theoretically, of course, this is not too functionally different from a regular CDO investment. However, what this means is that on $100 of mortgage debt, there could be even $500 or more betting on whether the debt is paid back or not. This poses very obvious risks - ISDA data shows that in 2007, credit default swaps were insuring an astound $62 trillion of underlying credit. There is no doubt that even if only a modest portion of this number was insuring mortgage backed securities, or MBS-backed CDOs, this is still multiple times higher than the actual total amount of mortgage debt outstanding. Suddenly, the mortgage market went from $14.6 trillion to at least double that value by even the most conservative estimate, all in a synthetic manner.

The mortgage market went belly-up from 2007-2008, resulting in widespread defaults across the US and subsequently the entire global economic system. The scale of the default crisis resulted in MBS holders incurring huge losses, with even holders of senior tranches in CDOs making losses. Perhaps the market could have withstood this - the major sellers of CDS insurance such as AIG would have taken on very heavy losses, but the world might have gone on after an incredibly bad financial year. However, the synthetic debt referencing mortgages meant that this was a cataclysmic event for the entire financial services industry. AIG, whose executives boasted that there's no way they could even lose a dollar in CDS contracts, alongside other sellers of CDS collapsed trying to pay off all claims, being forced to sell off all the financial assets they held in order to repay claimants. Investment banks, who weren't subject to stringent capital requirements and thus incurred maximum leverage while trading these mortgage backed securities, saw both demand for the products they were holding on their books and the ability to roll over and refinance the leverage they had completely dissipate, leading to the collapse of major institutions like Bear Stearns and Lehman Brothers. The sheer interconnectedness of all these parties led to a broader contagion effect, with this collapse rippling throughout the entire financial services sector and consequently the entire economy, taking years for the economy to fully recover.

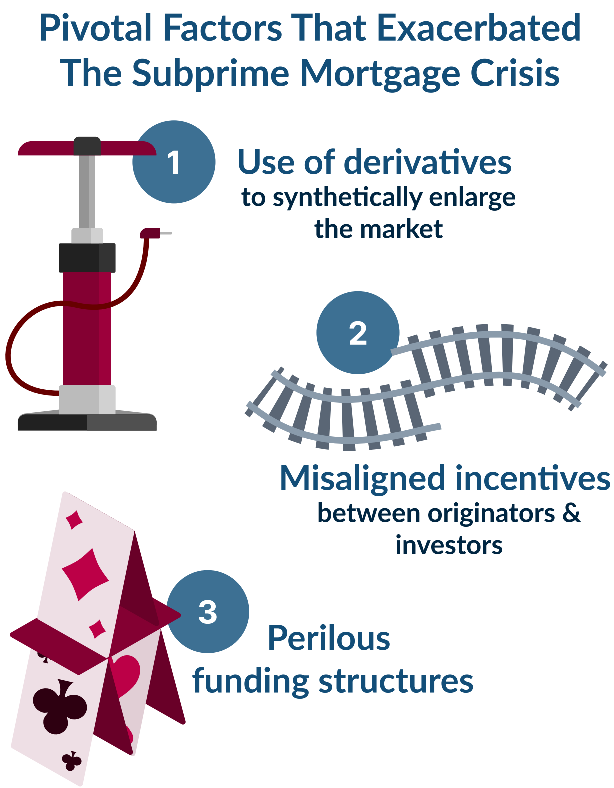
The Connection to BNPL

The previous two sections on the debt crisis are not some sort of revelation - all that information is quite well known. However, it is important to tie those learnings to the BNPL market. When comparing the BNPL to subprime mortgage market, it is as if we are in a pre-2004 stage right now. BNPL volumes aren't anywhere big enough to have very widespread effects on the economy, but the rapid growth means that total BNPL debt will increase by a lot over the next few years. Economic statistics may be all over the place, but middle class people on the ground are all feeling the chokehold of prices going up year over year, while wages are nowhere near able to cover this inflation, completely eroding purchasing power for the average person.

There were several key factors that made the subprime mortgage crisis so much worse than it could have otherwise been:

1. Use of derivatives to synthetically enlarge the market
2. Misaligned incentives between originators and investors
3. Perilous funding structures

These all run a very real risk of potentially being repeated in a few years.



For example, there is nothing inherently wrong with writing CDS on BNPL debt. It is a useful way for investors in the asset class to adjust their exposure to default risk, and this flexibility can allow more investors to be comfortable with the risks inherent to the space. However, if naked CDS proliferate within this space, that is a huge cause for concern. While both BNPL debt and subprime mortgages targeted risky consumers, BNPL doesn't have any collateral per se, and is therefore even riskier. Additionally, BNPL borrowers are mostly less-wealthy consumers - if a large scale crisis does occur, the government is unlikely to allow BNPL creditors to squeeze every penny in recovery off these borrowers through the different types of recourse available in personal insolvency cases. Artificially amplifying the total referenced debt would be a ticking time bomb, especially coupled with rapidly ballooning loan volumes.

Additionally, the use of further non-equity funding sources, such as securitization, layers on an additional level of risk. Unlike the use of customer deposits, where there is a certain degree of further regulation, in a securitization, there is merely a requirement of 5% risk retention - assuming a wide enough excess spread in the securitization structure, it's possible to hit this number with relatively little overcollateralization, which reduces the level of interest the originator would have in ensuring tighter underwriting standards. Right now, securitization in the BNPL space is quite low. However, there is nothing stopping BNPL vendors from tapping into securitizations as a form of selling their loans, which could loosen the underwriting that the vendors do, causing an enormous pile of very bad loans to enter the markets, highly sensitive to macroeconomic factors.

There is a lot of incentive to do this too. In the past few years, public valuations of BNPL companies has decreased substantially, decreasing the likelihood for BNPL companies to raise funding from equity issuances. Affirm, Block and PayPal, all very large BNPL providers, have seen their stocks drop by more than 50% in the past three years each. This decrease in investor sentiment, paired with the amount of competition in the space, may push these players to find new ways to compete for fundraising dollars. Furthermore, Klarna, which was once Europe's most valuable startup, has rumored to be considering an IPO in late 2024 at a $20B valuation according to Bloomberg. This is something that investors are already hesitant of, as there are few investors in today's market looking to invest in a company that is barely profitable, with Klarna reporting its first quarterly operating profit in November 2023. If their IPO does not go according to plan, they too will look for new ways to outcompete others and raise additional funds to keep themselves afloat.

Finally, there was excessive leverage used by debt investors and traders, as well as an untenable volume of unfunded CDS written by counterparties. While stronger regulatory capital restraints have worked to keep banks in check, this same regulation has not been put in place for BNPL providers. As of 2024, the United States has yet to impose widespread regulations on BNPL providers, simply issuing a report in 2023 stating that they plan on increasing regulation in the future. The same vagueness applies to Canada, where the FCAC is currently monitoring the evolution of the BNPL market. The United Kingdom, however, has taken a stronger stance on BNPL. In February 2023, they drafted legislation which would give the Financial Conduct Authority (FCA) power to regulate firms offering BNPL services, and protect consumers from easy-access lending. This shows that there is precedence set with regulating BNPL providers, and sets the stage for regulation by giants such as the United States.

Conclusion

Buy Now Pay Later financing solutions offer a convenient credit option for consumers which benefit businesses and ultimately benefit investors through their securitization. While there are obvious connections between BNPL and the subprime mortgage backed securities market, the BNPL industry is a mere $316B versus the $685B mortgage backed securities market that crashed the global financial system, whereas the vast majority of this $316B is not securitized. However, as it is forecasted to grow 40% by 2027 and with increasing reasons to pursue securitization as a method of fundraising, BNPL companies possess increasing responsibility in a financial environment that appears unstable and uncertain.

If we look at the positives, BNPL can benefit consumers and businesses if properly regulated. A Bain survey stated that 40% of consumers mentioned that the ability to spread out the cost of a purchase was a top three reason to use BNPL services. Among financially struggling individuals, 81% of them stated that BNPL has made it easier for them to buy things that they need and only 44% of them stated that BNPL has made them more likely to buy things that they don't need. This signals that a flexible payment option with relatively low downside for consumers is beneficial to many people that struggle with their needs, not their wants.

A similar survey by Bain found that the average revenue per order using BNPL solutions is $114, which is much higher than the average revenue per order of $98.50 from credit card users. This, alongside new customer acquisition and higher basket conversion rates, indicates strong reasons for businesses to offer BNPL solutions, which is leading the industry to grow further and increases the risk of BNPL providers choosing to securitize these loans.

There is clearly a place in the market for customers and businesses to benefit from BNPL services, but the rising number of users, rapidly growing market share and option for subprime securitization leads to concerns eminent of the 2008 financial crisis. BNPL companies must be forced to disclose the credit situation of their customers and limit loans based on prior obligations, or else a rapid decline in the global economy could follow the monumental rise in BNPL.

Technology:

Digital Banking: A Game of Thrones For The New Age

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Illustrated by
Devena Mohabir
Vivian Guo

The battle for banking supremacy begins anew.

Introduction

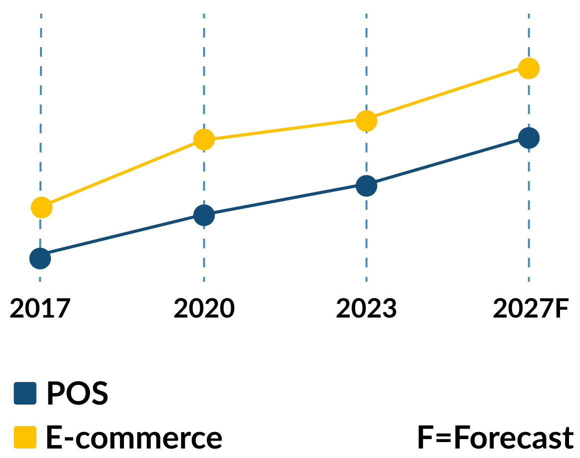
Unbeknownst to most people, digital banking is not exactly a new concept. Back in 1988, Dutch bank ING established one of the world's first relatively comprehensive digital infrastructures and began a process to integrate digital within their larger hierarchy of services. For almost 40 years, digital banking has been nothing but a facet of a larger, more diversified omnichannel approach. While one can argue that increasing dependence on technology over the past decade has inflated its importance, the directive from most banks has always remained directly opposed to a digital-only infrastructure. The idea of putting all your eggs in one basket has rarely ever worked out. However, that was before the pandemic arrived and changed everything. It was before digital banking shifted from being just another cog in the machine to something far bigger. The current powers of the financial world find themselves in the calm of a storm, beginning to brace themselves for a shakeup that will redefine banking and how consumers interact with the economy.

What is Digital Banking?

Digital banking refers to using online and/or mobile tools to access various financial services and activities that were historically only available through physical bank branches. Driven largely by individual consumers (mobile banking apps, personalized financial planning, contactless payments, voice banking, or on-demand loans), banks have expanded their digital offering to large and small corporations (cash flow forecast, working capital, artificial intelligence). Even though the needs of consumers and corporations are not exactly the same, they both have one thing in common that is now the new normal for our society: the need for real-time digital banking.

The acceptance of digital wallets by corporates and the use of digital wallets by consumers grew rapidly in 2020. They were used in 44.5% of the e-commerce transaction volume, up 6.5% from 2019 according to FIS from their annual global payment report. This growth was not just a product of the pandemic however, as in 2023 this percentage grew to 50%. This makes digital wallets the fastest growing payment method in global e-commerce and POS. Cards have also seen a rise in attraction, but in the context of digital wallets such as Apple Pay, Google Pay and PayPal. This shows the shifting consumer behavior towards a more digitalized world.

Digital Wallets Share of Global Transaction Value



Source: Worldpay Global Payments Report, 2024

With each new release of digital payment data, it becomes clear that payments technology is the future, and a festering worry of becoming obsolete has left many institutions scrambling to adapt. In other words, a new-age fight for banking supremacy has begun.

The Shifting Landscape of Banking

Over the past few years, digital banking has become increasingly popular, and that isnot exactly controversial to say. There have been heightened consumer demands for more efficient ways to access banking records and complete financial transactions outside of local branches which have led to the emergence of digital banking. Nearly all banks, large and small, have seen a spike in digital banking usage. For instance, Wells Fargo saw a 35% increase in remote check deposits and a 50% growth in online wire transfers compared to a year ago. The pandemic even pushed many customers to use mobile banking for the first time, especially in older cohorts. Alongside the pandemic, ease of use, lower fees, no overhead costs, and increased reliance on technology have all been seen as driving factors towards its particular rise in popularity.

Digital banking was also made easier to access. After COVID allowed regulators to relax restrictions on KYC (know your customer), barriers to entry became easier to bypass. Not only was it easier to attract customers through a shorter sign-up process, but it was easier to attract customers simply because people were losing trust in traditional banks. According to the 2022 Edelman Trust Barometer, which surveyed 36,000 people in 28 countries, trust in banks has now fallen below trust in digital payments, with 60% of respondents trusting digital payments and only 58% trusting banks. The stage was set for a new type of institution to take on traditional banks.

The Rise of Neobanks

Neobanks are fintech firms that offer apps, software, and other technologies to streamline mobile and online banking. These fintechs generally specialize in particular financial products, like checking and savings accounts. They also tend to be more simple and transparent than their megabank counterparts, even though many of them partner with such institutions to insure their financial products. The key differences where neobanks and traditional banks differ are first, that they aren't chartered with state or federal regulators as banks, and second, they provide a streamlined process designed mainly for mobile devices. They partner with traditional banks to federally insure customer deposits and to guarantee that they don't extend credit, such as overdrafts.

With the introduction of these new banks, legacy institutions are now being forced to adapt. Existing core banking systems and applications— due to years of underinvestment — haven't been optimized to take advantage of new technologies and application management approaches. They aren't capable of supporting the market's rising expectations and could soon expose traditional banks to additional risk and liability. The transition is no easy feat, but banks (and their service providers, such as IBM) can make the transition happen by doing two things well: Deploying a platform that can accommodate the old methods while providing and migrating to the new, as well as working with the service provider to integrate fintech capabilities into the platform's ecosystem. As such, the financial institutions have lower barriers to adoption without the pain of integration.

Replacing fintech services is not the only model for success. Banks and fintech have already been successful in directly filling gaps that the bank cannot fill on its own in methods that don't rely on a platform shift. However, the ability to integrate more often and quickly does mean that flexible banking, payments platform, and ecosystem will likely be more successful in the long run.

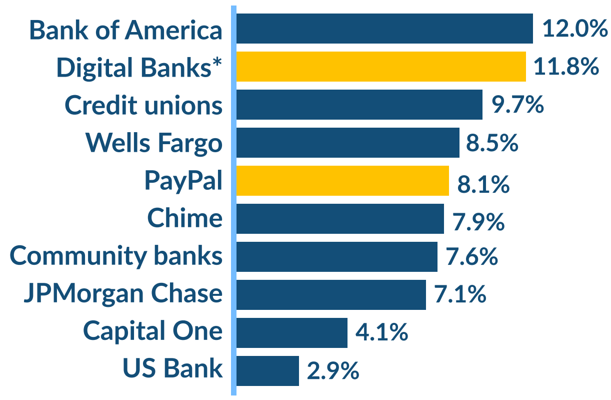
Another player now involved is the crypto firms. Current private digital currencies don't work well for making payments or saving for the future. Very few merchants accept them because of their fluctuating values and slow clearing times. It is possible future digital currencies could at least partially solve these problems, leading to greater adoption. However, widespread adoption of private digital currencies would carry important risks, to both the economy and the financial system. The issuer could go out of business, or fall victim to cyber theft. If these situations happened, it would lead to a loss of confidence in the payment system. Private digital currencies could potentially hurt the ability of a central bank to control inflation and act as the lender of last resort. Our policy tools, like the overnight interest rate and lending facilities, only work in fiat dollars. As a result of these concerns, the main threats to traditional banks have been neobanks, and they have been growing in their potential to transform the entire banking ecosystem.

A Completely New Economic Infrastructure

The digital banking space is expected to radically change, and has already been experiencing tailwinds pointing to growth. Margins of traditional banks have been shrinking, as McKinsey estimates that margins shrank more than 25% in the past 15 years. They also expect a further 20% shrinkage in the next decade. Though regulation and competition among traditional banks remains a threat, the larger concern is the rise of digital payment products and neobanks.

Primary Checking Account Market Share

% of Americans that consider firm to be their primary checking account provider



*Excludes Chime and PayPal

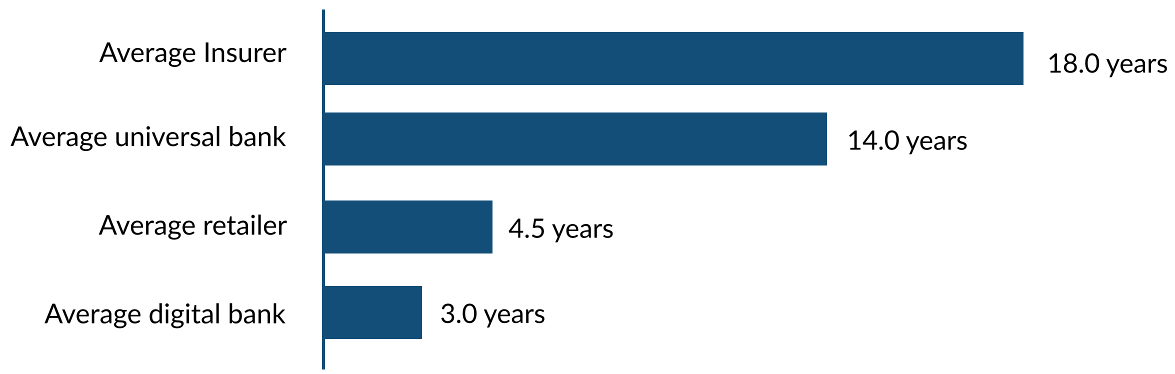
Source: Cornerstone Advisors

Take Chime for example. Chime is widely regarded as the US's largest neobank, with an astounding growth of 7.4 million users in 2019 to an estimated 38 million users in 2024 according to a Cornerstone survey. Stunningly, over 60% of Chime's customers use Chime as their primary bank, even though it is not backed by physical branches. Consumers are becoming increasingly drawn to Chime's fee-free business model, while still offering solutions that typical banks provide such as debit, credit and savings accounts, access to over 60,000 ATMs for free, and a credit building service. This shows that consumers are increasingly comfortable with digital banking systems; they no longer need a physical branch or physical cash to feel comfortable with their banking institution, and they enjoy the convenience of mobile banking.

Furthermore, traditional banks have estimated that digitalization is the key to their own success. In 2019, Citi estimated that digitalization could cut banks' operating costs by 30-50%, as there will be a need for fewer branches and employees. The desire to accelerate this transformation was emphasized by Citi in 2021 when they exited consumer banking in 13 markets across Asia, Europe and the Middle East, perhaps due to their expanding digital banking capabilities. On the contrary, it is estimated that bank revenues would decrease 10-30% in the near future due to higher transparency and increasing competition. Banks must fight to keep their market share, and digitalization is the key to maintaining a competitive advantage over peers such as Chime.

This digitalization trend has been working for banks that are able to implement it. A survey by Accenture has suggested that digital maturity is associated with increased profitability. Financial institutions that were "digitally focused" carried a ~20% higher valuation than non-digital peers, while a separate 2019 report outlined that digitally focused banks have seen a ROE increase of 0.9% over 10 years while their non-digital counterparts saw a decline of 1.1%. In a

The average age of bank IT applications is among the highest across industries.



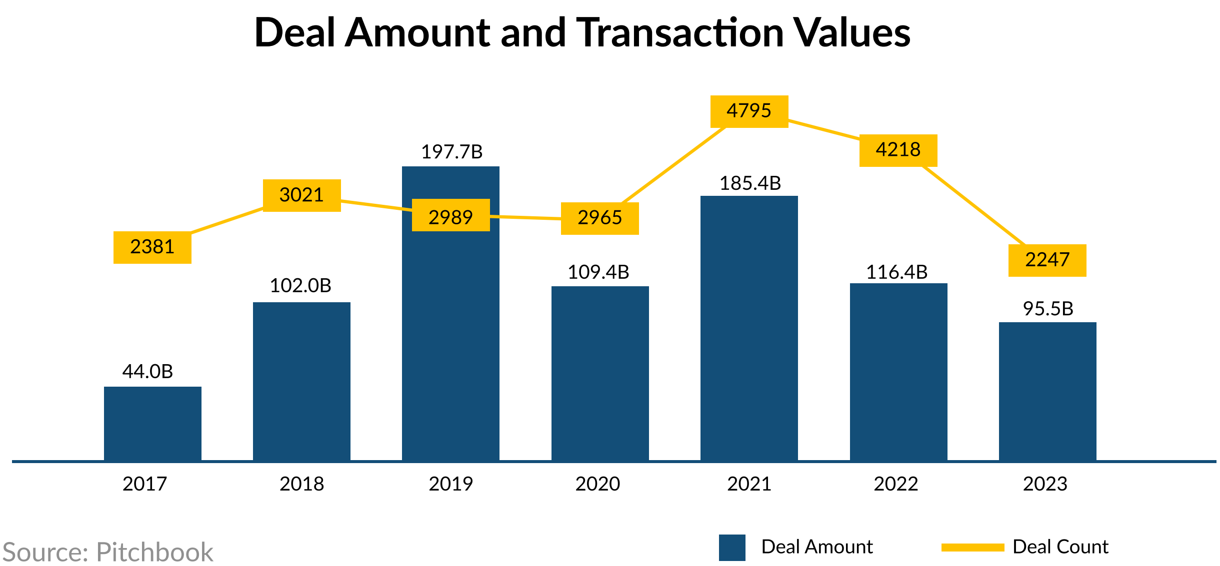
Source: McKinsey

more recent article, McKinsey estimated that the digital transformation is becoming increasingly more challenging as the average age of IT applications in banks continues to increase, rewarding those traditional banks that are able to digitize over peers that are stuck in the past.

Current Environment of Digital Banking

Digital banking today is not the same as it was in 2021. Valuations have declined significantly, and overall deal activity has slowed as interest rates have remained elevated. A great example of this is Chime, which was noted for its strength earlier in this article. Despite its fast growing customer base and its efficiency in capturing the US banking market, its 2021 valuation of $25 billion has dropped to around $8 billion according to 2023 secondary market activity, and to around $6.5 billion today according to Caplight. This decline in valuation is seen across the board by companies in the fintech space, and the overall hesitancy to invest in these companies has halted investment.

Though valuations have been dropping, we see a much brighter outlook when it comes to the user expansion of digital banks. Openbank, operated by Santander, announced recently that it would expand into the US. Its deposit base of $13B is the highest in Europe by any neobank, which brings a strong potential to disrupt the US market, and it proves that the digital transformation of traditional banks is still very popular. This growth in popularity is



Source: Pitchbook

not exclusive to Openbank either, as data according to App Radar revealed that in 2023, digital banks had 18M more app downloads than their legacy counterparts. This all reveals the compelling shift towards digital banking from a consumer standpoint, which has not slowed down despite valuations dropping.

An additional catalyst to the space will be potential IPOs. Chime, which was discussed earlier for seeing a declining valuation, is rumored to be exploring an IPO despite it likely not being able to receive the same amount of cash injection as it would have in 2021. Forbes reported that this IPO is likely to come in 2025. The other large fintech company that is expected to IPO soon is Stripe, which is a payments infrastructure company. Though not the same as a digital bank, the IPO of Stripe would be a catalyst for investment in the digital banking space if done correctly, as it would revive investor confidence after the sharp valuation declines in 2023. It would also encourage more digital banks to pursue an IPO if it is successful, bringing more cash into the space and increasing the number of eyes on digital banking technology, potentially bringing new consumers.

What does the future hold?

Financial technology and digital banking has been growing at multiple fronts. Neobanks and digital wallets are significant sources of growth, while other topics left undiscussed in this article such as the rise of A2A payments and the rise of BNPL should not be ignored. It is also important to consider that global e-commerce growth is rapidly expanding, with an expected CAGR between 2023-2027 expected to be 9% (more than double the CAGR of POS transactions).

The digital transformation of our everyday banking is clearly not just a COVID trend, despite what deal activity and valuations may tell you. Banks are rapidly expanding their digital capabilities, and the increasing market share of digital banks cannot be ignored. McKinsey reported in 2023 that only 30% of banks that had undergone a digital transformation successfully implemented their digital strategy. This failure will separate the banks which will be able to weather the digital age, and the ones which will be lost in the past.

Business Strategy:

Revisiting European Energy: Mending a Fractured Market

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Vivian Guo

Illustrated by
Viviana Basurto
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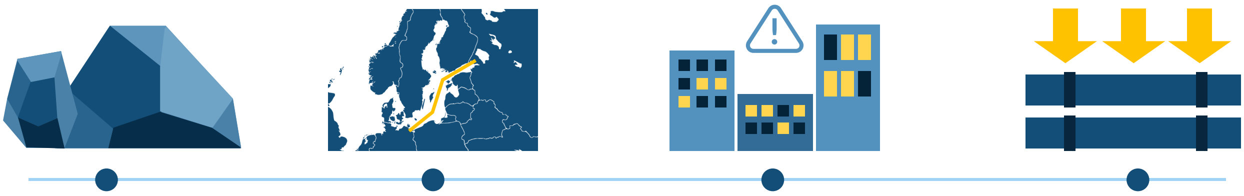
Introduction

In 2021, Europe prospered in a favourable macroeconomic environment, with the public equities market up around 18% at its max. Private equity transaction activity had reached new highs as the world began to recover from the economic and health-related fears instilled by the pandemic. However, markets had little time for relief before escalations of the Russian-Ukraine war sparked a historical energy crisis. The EU scrambled to meet energy demand. Withstanding global pressure on their impacts on the climate crisis, parts of the EU fell back on non-renewable sources and signed long-term Liquid Natural Gas (LNG) contracts, an oil alternative, to cover the shortage. Emerging out of the peak of the crisis, Europe faces mounting pressures to stay in alignment with the global energy transition. Decisions and policies during the crisis created pivotal shifts in the EU's investment landscape and a slew of new considerations. With the public sector forced to prioritise short-term energy issues, the private sector has a profitable opportunity to lead the European transition to renewable energy.

A Brief History of European Energy

Before attempting to project the future of European energy, it helps to gain clarity of the past, particularly of how Europe fostered a dependence on Russia for its energy supply. Back in the 1950's, the continent dominantly used coal for energy generation. During the late 20th century, natural gas became an increasingly promising solution for its lower cost and cleaner nature than coal. The EU wanted in on this new-age energy, but quickly depleted their resources, such as those found in the U.K and Netherlands' north sea gas fields. Consequently, Europe turned to Russia, who had cheap and easily



1950
The EU relied heavily on coal for energy generation prior to international concerns on its climate impacts.

2011
The Nord Stream 1 completed construction, fueling EU's dependence on Russian gas.

2022
The EU adopts emergency regulation in response to the energy crisis, seeking to bring down energy prices & improve gas security.

2023
The EU heavily decreased natural gas dependence on Russia, from 155bcm* of imports in 2021 down to ~40-45bcm in 2023.

Source: European Commission

**bcm = billion cubic metres*

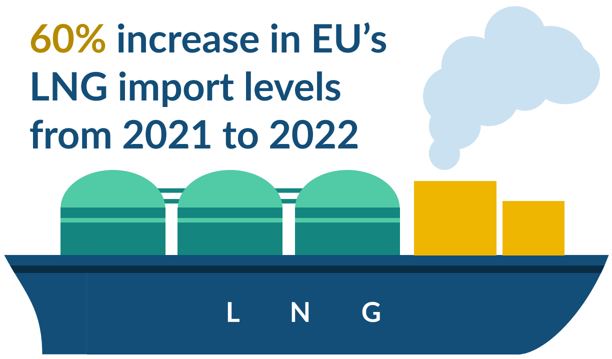
accessible natural gas supplies. Energy trade helped foster the two nation's relationship. Since Russia provided a steady source of affordable energy supplies, Europe sought to diversify pipelines from Russia as opposed to diversify suppliers.

The Energy Crisis

These historical choices paved the way for the 2022 energy crisis, when the continent received an ultimatum resulting from the confluence of climate, short-term energy shortage, and macro headwinds. As Russia escalated the conflict with Ukraine, NATO-allies implemented sanctions to coerce Russia into peace. In retaliation, Russia severed trade with countries par-taking in the sanctions, which included those in the EU. Due to Europe's unique energy dependence on Russia, the continent fell into an energy crisis. Parts of Europe were in states of emergency as many feared a winter without heat. At the time, an immediate solution to relieve the energy shortage was to enter into long-term LNG import contracts with participating regions. As power demand is expected to double by 2050, these contracts would go a long way in providing the continent with much needed energy security. The European Commission had several concerns about locking into long-term contracts, such as a hindrance of free flow of gas in Europe and set-backs to emissions targets.

However, homes without heating were much more pressing and immediate of an issue than economic and climate concerns that can be mitigated with other policies. In July 2022, the EU updated their sustainable finance taxonomy to include gas and nuclear energy, with stringent conditions. This decision came with contention for the fact that gas infrastructure development is not sustainable by definition, and that nuclear energy has set precedence for brewing catastrophic disasters if poorly managed. However, it did give Europe a much needed flexibility to leverage non-renewables for mitigating the shortage. Europe's LNG import levels increased by 60% from 2021 to 2022. 2023 followed a similar trajectory, with numerous energy companies signing LNG contracts with QatarEnergy that may deliver LNG up to 2053. Renewable energy production also

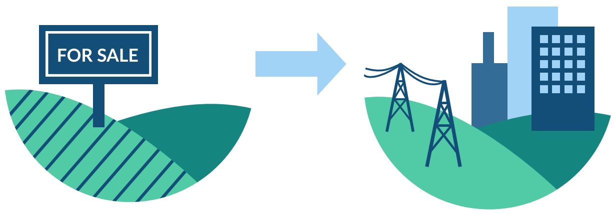
60% increase in EU's LNG import levels from 2021 to 2022



ramped up significantly since the onset of the crisis. Solar and wind power surpassed gas to generate a fifth of Europe's electricity in 2022. These efforts, coupled with a fortunate warm winter, led Europe through the peak of the crisis. Though initially a scramble to meet demands, the crisis had one key silver lining: an accelerated shift towards renewable energy and putting sustainable energy security at the top of the EU's agenda.

Towards Sustainable Energy Security

The Russian-Ukrainian War compelled the EU to replace Russian imported energy resource demands with internal solutions. New investment opportunities within the private energy sector would reduce the EU's exposure to global energy market volatility and encourage self-reliance. Infrastructure development may be a key part to achieving decarbonized energy and reducing the price gap between renewable and non-renewable sources. Contrary to non-renewable energy, renewables have higher upfront expenditures but lower operating costs per unit of generated energy. Although the optimal choice, renewable plants also face challenges from delays, regulatory issues, and macro-headwind pressure. Many foreign investors participate in these development projects through greenfield investments. In greenfield investing, foreign businesses set up subsidiaries in the target country to construct a project starting from undeveloped land. Both foreign and domestically funded investment projects will push the EU towards a more sustainable energy generation.



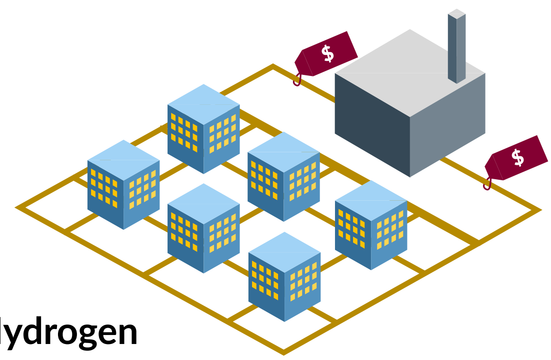
Energy providers are typically undifferentiated due to the commoditized nature of utilities. Energy prices tend to be alike from companies with the same generation method, shifting value creation strategies toward reducing costs instead of adjusting prices. Specifically, there is a lack of green energy infrastructure support for consumers. According to research conducted by Goldman Sachs, providing one unit of energy output through a green source will require 2 to 3 times the amount of capital expenditure on the infrastructure than through grey energy. Fortunately, research and development has significantly reduced renewable energy costs in the past decade. For instance, the global weighted average levelized cost of electricity (LCOE) for onshore wind projects was around 30%

lower than the natural gas, the least expensive fossil-fuel solutions in 2023, a stark contrast to 2010 when it was 95% higher than its fossil fuel counterparts. These advancements promote the economic viability of renewable energies in today's market. There are numerous directions for renewable investment, and it may help to explore some of the options at hand.

Utility-Scale Batteries

A solution that will likely play a massive role in the energy transition and promote energy security is Utility-Scale Batteries. Utility-Scale Batteries are a form of storage technology that allows power systems to store generated power. This technology gives energy generators the flexibility to stockpile electricity when it is abundant and release as needed. Batteries mitigate the instability of energy outputs levels inherent to the intermittent nature of renewable energy. For example, batteries help deliver stable solar power by building up reserves during times of the day or year with more abundant sunlight, and releasing them when there is little sunlight.

Though the EU had little direction for battery investments for much of the decade, 2023 appeared to be a turning point with notable increases in grid-scale battery investing. The UK leads the charge in expanding utility-scale battery infrastructure and is expected to quintuple energy storage capacity by 2030. These investments will help address missing infrastructure and promote cost-saving innovation, though more efforts are needed. In particular, legislation must adapt to maintain a favourable environment for cultivating green investments. The EU Agency for the Cooperation of Energy Regulators (ACER) notes that the vagueness of lesligation leads to excessive costs and an uncertain investment environment. Germany exemplified this when prior to legislation changes in 2023, companies servicing batteries paid twice to connect to the power grid as they were considered both a producer and consumer of energy. Well-formed regulation is a key part of effective battery investments.



Hydrogen

Another promising area of renewable investment is Hydrogen. Hydrogen power is split into green (renewable) and blue (non-renewable) hydrogen, categorised by the energy production means and emissions of the process. Green hydrogen is produced via electrolysis of water using electricity generated from other renewable sources, whereas blue hydrogen requires fossil fuels in its generation. Hydrogen produces power by reacting with oxygen in electrochemical cells that resemble batteries. This energy source is advantageous in its potential to aid a seamless transition away from natural gas, as existing gas infrastructure can be adapted to hydrogen. Several areas, such as production, distribution, storage, and more require further investment to bridge infrastructure gaps. Transportation of hydrogen is especially difficult as converting hydrogen to liquid form or ammonia is costly and requires complex technologies. Despite these hurdles, the European Union (EU) anticipates that hydrogen could comprise up to 20% of its renewable energy mix by 2050. In particular, industries such as steel production that rely on natural gas can move closer to net zero emissions with hydrogen power. In the short term, blue hydrogen will likely remain in use as improving technology lowers the cost of green hydrogen. Eventually, the hope is that all blue hydrogen is phased out, promoting a cleaner, more sustainable energy landscape that aligns with global climate goals.

Renewable Investment Outlook

According to Bloomberg, global investment in the energy transition stands at record levels. $1.8 trillion in global investment flowed into the energy transition in 2023, which was a 17% increase from the previous year. The continuous development of all kinds of renewable infrastructure will support green energy security in the long-term. However, there are many challenges and considerations in the short to medium horizon.

$1.8 trillion in global investment flowed into the energy transition in 2023

For one, FDI in essential utilities such as energy creates risk and thus involves scrutiny by the EU, which seeks to balance economic benefits with national security concerns. This is particularly pertinent in greenfield investments, where foreign investors might hold substantial operational control over critical infrastructure. Such control could, in efforts to meet the EU's 2050 energy transition goals, lead to the renegotiation of infrastructure security policies to accelerate development that may risk national security. Therefore, while FDI can accelerate the energy transition targets, the EU must be alert and prudent on enacting FDI related regulations.

Moreover, while Europe was a frontier in the renewables build-out, this was under an eased economic environment, unlike what the world is presently facing. On top of rising rates, currency parity, and more, there is also the uncertainty of how the European Central Bank (ECB) will proceed with its efforts to tame inflation. Even after the peak of the energy crisis, the macroeconomic environment remained restrictive for a while, posing continued challenges for any investment endeavours. Though Europe currently maintains high interest rates, many anticipate the ECB to cut rates in the latter half of 2024.

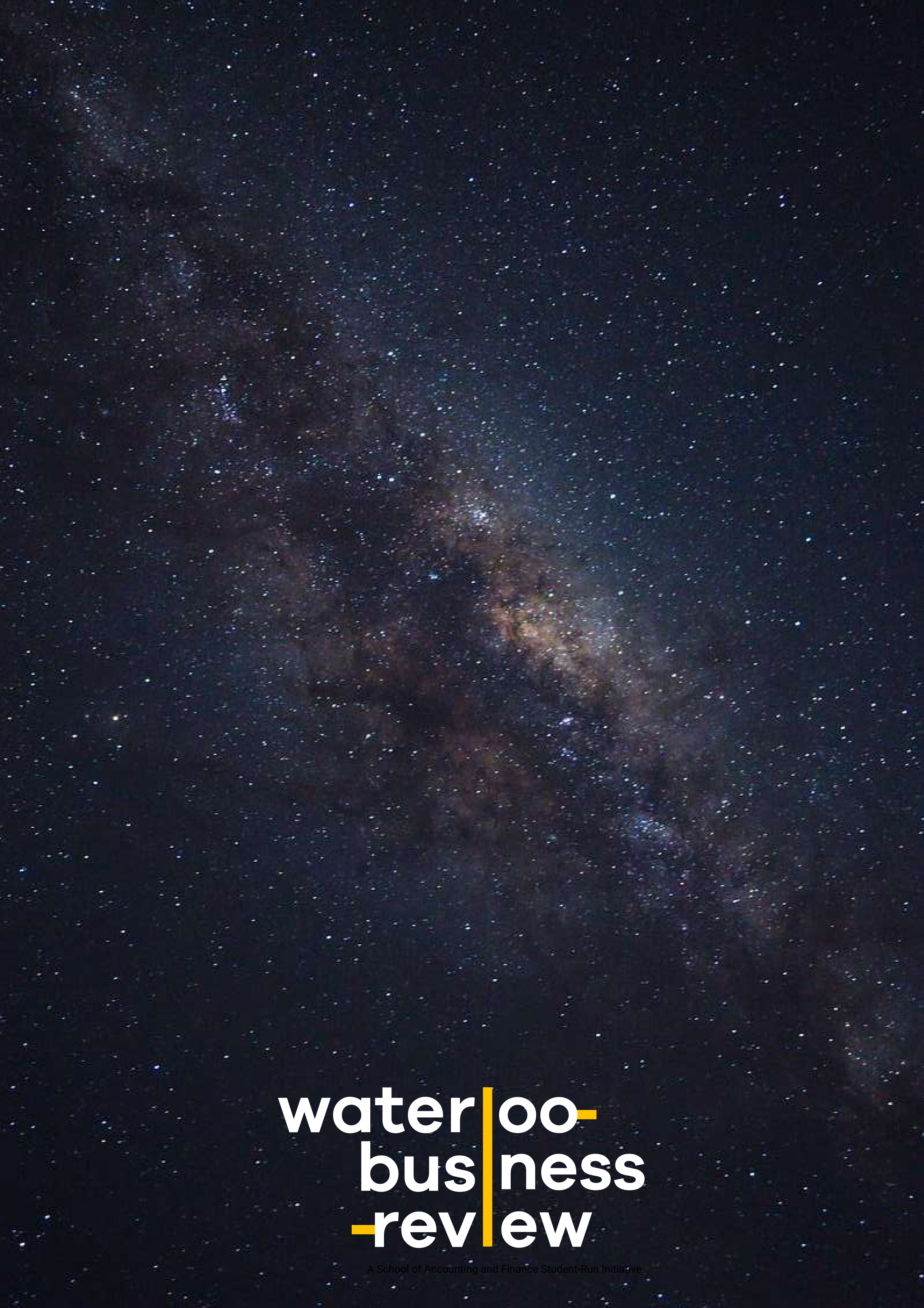
The energy crisis also brought upon a new wave of complications to the energy investment landscape in near decades via LNG contracts. LNG suppliers such as the US require additional storage infrastructure to keep up with demand. Building out LNG infrastructure is time-consuming and costly; developers often do not see returns until several years into operations. Contractors were hesitant to start projects due to the heavy uncertainty around how LNGs will fit into the long-term energy transition puzzle. However, the industry is now seeing record influx of investment as it anticipates significant demand from two key players, Europe and China. Europe relies on LNG for achieving energy security, and China needs LNGs to transition away from coal. With more and more long term contracts locked in, LNG investments are at record levels with a 70% export capacity expected for the US by 2030. LNG appears to be locked in the global energy mix past 2050, which is past the deadline for the net zero target set in the Paris Agreement. The expansion of LNG infrastructure could crowd-out renewable investments and poses another risk for investors.

Conclusion

Europe has quite a ways to go to achieve energy security as dependence on Russia lingers. Since 2022, LNG import quantities from Russia have increased in lieu of piped gas supplies, while Russian gas also remains a sizable portion of Europe’s energy reserves. Europe is in talk to impose sanctions on Russia LNG that are expected to take effect later in 2024. Moreover, a newfound reliance on global LNG contracts subjects Europe to risks in the LNG market.

On the macro scale, there is a general trend of deglobalization and trade fragmentation that complicates investment endeavours. Pertaining to the EU, there were 750 liberalizing trade policies announced in 2023 against almost 2,900 harmful policies up to November of the year.

Through the aftermath of the crisis, renewable energy sources have become significantly more affordable. This improvement represents good progress in the energy transition, however turbulent the transition has been. The private sector's flexibility to undertake investment projects can be a crucial driver for Europe to achieve energy security and reduce reliance on unpredictable LNG markets, while also capitalizing on economic opportunities. As Europe moves forward, private and public markets will need to collaboratively navigate these challenges to ensure a stable and sustainable energy future.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