NIC

— Nova Investment Club —

Newsletter

April 2023

NIC

—Nova Investment Club—

Table of Contents

Macro Overview

Investment Banking Division

Financial Markets Division

Extras

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Foreword

This Month:

In our Macro Overview section, analysts from both divisions will cover broad macro themes while reviewing major economic news from the past month. In our Deeper Dive section, Marlin Egbuna reviews the impact and consequences of the banking crisis. Moreover, in our Regional View, Francisca Bombas sheds light on the pension reform and resulting strikes in France.

Our Investment Banking Division will guide you through March's overall M&A activity. Read about Pfizer Inc acquiring Seagen Inc, Silver Lake purchasing Qualtrics, and Japan Industrial Partners taking over Toshiba Corp. Additionally, get a detailed overview of what happened to Alibaba Group Holding Limited and Deutsche Bank AG, and read our opinion on the acquisition of Credit Suisse by close rival UBS.

Our Financial Markets Division will present the monthly results of the NIC Fund, an active relative return fund investing across three different asset classes: Equities, Fixed Income, and Commodities. The analysts will also provide commentary on each of the three major asset classes through an analysis of the past month's major market moves. The overall performance of the NIC Fund in March was positive, with a cumulative return of 2.88%.

On the Hot Topic of this month, Guilherme Lopes discusses and benchmarks BloombergGPT against ChatGPT. Lastly, in our ESG Review in collaboration with Nordea, Tomás Forte Vaz discusses the race to net-zero as well as its current challenges.

The following content is original and created by the Nova Investment Club, which is run by students from Nova SBE's Master's in Finance. The reports may contain inaccurate or outdated information and should not be used as an exclusive mean for investment decisions.

Macro Overview

Monthly
April 11th, 2023

Market Moves

% change

	Last Close	-1W	-3M	YTD
S&P 500	4,109	3.48%	7.03%	7.03%
DJIA	33,274	3.22%	0.38%	0.38%
Nasdaq	12,222	3.37%	16.77%	16.77%
MSCI World	3,246	3.80%	5.38%	5.38%
MSCI EM	3,822	1.13%	2.56%	2.56%
Russell 2000	1,802	3.89%	2.34%	2.34%
Euro Stoxx 50	4,315	4.46%	13.74%	13.74%
FTSE 100	7,632	3.06%	2.42%	2.42%
Nikkei 225	28,041	2.40%	7.46%	7.46%
Hang Seng	20,400	2.43%	3.13%	3.13%
Dollar Index	102.51	-0.59%	-0.98%	-0.98%
EUR/USD	1.084	0.73%	1.25%	1.25%
GBP/EUR	1.137%	0.07%	0.70%	0.70%
GBP/USD	1.234%	0.85%	2.10%	2.10%
USD/JPY	132.860	1.63%	1.33%	1.33%
USD/CHF	0.92	-0.49%	-1.00%	-1.00%
Brent Crude	79.770	6.37%	-7.15%	-7.15%
Gold	1,969.0	-0.75%	7.82%	7.82%

Generic Bond Yields

change in bps

	Last Close	-1W	-3M	YTD
US 10Y Yield	3.468%	9.1	-40.7	-40.7
GER 10Y Yield	2.292%	16.3	-27.9	-27.9
JPY 10Y Yield	0.351%	3.5	-7.1	-7.1
UK 10Y Yield	3.490%	20.7	-18.2	-18.2
PT 10Y Yield	3.124%	12.0	-46.2	-46.2

**Source: Bloomberg, as of 2023-03-31*

In Focus

March

Federal Deposit Insurance Corporation takes control over Silicon Valley Bank, America's biggest banking collapse since 2008. The US government's FDIC took control of SVB. It was the biggest banking collapse in America since 2008. The bank's downfall began already 48 hours earlier, as it suffered a multibillion-dollar loss while selling US government bonds to raise money for paying its depositors. It tried, unsuccessfully, to sell shares to shore up its finances. This triggered the panic that led to its downfall. The sudden collapse rattled global markets, exacerbating the challenges faced by vulnerable financial institutions that were already grappling with the unintended repercussions of surging interest rates and self-inflicted setbacks.

Signature Bank becomes the next casualty of banking turmoil after SVB. Signature Bank customers spooked by the sudden collapse of Silicon Valley Bank withdrew more than USD 10 bn in deposits, quickly leading to the third largest bank failure in US history. Signature was being taken over to protect its depositors and the stability of the US financial system. Like SVB, the bank relied heavily on uninsured deposits to fund its operations.

UBS announced the takeover of Credit Suisse through an emergency rescue deal. The state of emergency began with the collapse of the US-based Silicon Valley Bank and was massively worsened by the disclosure of "material weaknesses" in the bank's financial reporting. Despite a failed attempt to restore investor confidence through a loan intervention, the bank's share price plummeted about 98% from its 2007 peak. Finally, the Swiss authorities intervened and arranged the emergency sale to UBS for CHF 3 bn that weekend (about 60% less than the bank was worth when markets closed on Friday).

Layoffs have expanded outside of the tech sector. The wave of layoffs that affected dozens of US companies toward the end of 2022 shows no signs of slowing. Amazon announced it would cut 9,000 jobs on top of the 18,000 the company announced earlier this year. Amazon joins a large group of major companies that have made significant cuts amid the ongoing economic downturn and stagnant sales, including Meta, Google, Twitter, Walmart, and Goldman Sachs.

Strikes in Europe are leaving some travellers stranded. Across Europe, workers are protesting low wages, despite rising energy prices and the cost of living. As a result, travellers and commuters will face major disruptions as the strikes affect large parts of Europe from the UK to France, Spain, and Germany, impacting air and rail traffic and even everyday sanitation.

ICC judges issue arrest warrant for Putin over war crimes in Ukraine. Russian President Vladimir Putin has been issued an arrest warrant by the International Criminal Court, which accuses him of the war crime of illegally deporting hundreds of children from Ukraine to a Russian "re-education" camp last year. Although Russia does not acknowledge the court's jurisdiction, Putin's freedom of travel to the ICC's 123 member states may be restricted, further isolating him.

Denmark lifts Brexit-related deportation threat for British nationals. Due to Brexit, the Danish government has reversed its decision to deport British nationals living in the country. Instead, the government has decided to introduce new laws which will give British nationals living in Denmark before Brexit more time to apply for residency status. The laws will apply to approximately 300 to 2,000 Britons unaware they had to apply to stay in the country.

Pauline Schueller
Financial Markets Division

Deeper Dive

The Impact and Consequences of the Banking Crisis

Marlin Egbuna
Investment Banking Division

"There is a sizeable risk that the ongoing banking trouble triggers a 'sudden stop' in lending, which would then send the economy into the sort of recession which would go beyond what is strictly needed to tame inflation."

– Gilles Moec, Chief Economist, AXA Investment Managers

To delve into the consequences of the banking crisis and its impact, it is necessary to provide a brief overview of one of the key events that led to its unfolding, the collapse of Silicon Valley Bank. In March 2023, the banking industry faced a crisis that began with Silicon Valley Bank, a major lender to the tech industry, succumbing to a classic bank run. Among other problems, SVB has faced significant losses on its bond portfolios due to rising interest rates. Customers frantically withdrew their money from the California-based bank, leading US regulators to take control. The collapse of Silicon Valley Bank led to market panic, further burdening weaker financial institutions that were already grappling with high interest rates and self-inflicted problems. The following section details the impact of the collapse and the subsequent chain of events that it prompted.

The crisis spread throughout the banking industry when a week after the collapse, Signature Bank, a regional US bank, was shut down after a run on its deposits by customers who were spooked by the implosion of SVB. Concerns were raised over the bank's exposure to cryptocurrency, which led to clients withdrawing their funds causing the bank to lose approximately 20% of its deposits. This figure is equivalent to USD 16.5 bn based on its end-of-2022 total, with over USD 10 bn withdrawn in a single day. Furthermore, the collapse of SVB spilled over to First Republic Bank, which was teetering on the brink as customers withdrew their deposits. In a meeting between US Treasury Secretary Janet Yellen and Jamie Dimon, CEO of J.P. Morgan, plans were drawn up for a private sector rescue. An agreement was reached with a group of American lenders to deposit tens of billions of dollars of cash into First Republic to staunch the bleeding.

The impact of the banking crisis was not limited to the US, as its effects were also felt in Europe. Credit Suisse, a bank of global financial significance, was also under threat. Shares in Credit Suisse collapsed by as much as 30%, which led Swiss authorities to announce a backstop for the country's second-largest bank. This calmed the immediate market panic, but investors and customers were worried that Credit Suisse did not have a credible plan to reverse its long-term decline in business. To stem the financial market panic, Switzerland's biggest bank, UBS, agreed to buy its ailing rival Credit Suisse in an emergency rescue deal.

In general, the crisis has also sparked fears of a re-ignited recession. This not only comes from the weakened state the economy has originally been in, but also from the rescue deals and collapses of major financial institutions. Especially the global economy may experience a slowdown and face deterioration as we potentially enter a credit crunch era. Investors will keep a close eye on other financial institutions and look out for potential unrealized losses at major banks. Leading bulge bracket banks like Morgan Stanley, expect tighter lending standards and financial conditions. Furthermore, the profits of regional banks might come under pressure, due to increased competition from higher-yielding treasuries and money market funds. Surprisingly, for equity capital markets, stocks, except for financial institutions, traded in a narrower range, despite the stress the economy is currently facing. On the flip side, the bond market has priced in a change with regard to the interest rate policy of the Federal Reserve. Against some expectations and the current stress in the financial sector, the Fed has responded with a 25 bps increase in interest rates. The rise observed in the current month was not as high as the previous month's increase of 50 bp. This may indicate that the Fed has acknowledged the strain on the financial industry while striving to ease inflationary pressure.

In conclusion, the banking crisis has created a climate of uncertainty regarding the economy and future strategy of central banks, with some investors concerned about the potential for a re-ignited recession.

Marlin Egbuna
Investment Banking Division

Regional View

France Strikes Again

Francisca Bombas
Financial Markets Division

"I do not underestimate the discontent (...) as well as the anxiety expressed by many French people who have concerns about never getting any pension."

– Emmanuel Macron, President, France

Of all the countries in the Organisation for Economic Co-operation and Development (OECD), France is one of the countries where its workers spend the greatest number of years retired. However, this situation can change. At the beginning of the year, France's Prime Minister, Élisabeth Borne, announced that she plans to increase the retirement age from 62 to 64 years. The reform means that people will now have to work 44 years before they get a full pension.

This possible new plan was met with controversy by the French population. Nevertheless, France's President, Emmanuel Macron, believes that the measure is essential to guarantee the viability of the pension system. Given that overall life expectancy is increasing, and France is number 14 on the list of countries with higher life expectancy, Macron fears that the pension system might crumble if the retirement age is not increased. Some economists agree with Macron and say that by 2040 no more than 1.3 workers will finance one pension, whereas, in 2000, that ratio was two to one.

Unions soon started to show their disagreement with the reform and started to organize strikes all over the country. However, the situation worsened when Macron decided to force his reform by waiving a parliamentary vote and using instead a special provision of the constitution known as Article 49.3, with fears that the reform would not pass the parliament vote. Many viewed Macron's measure as questionable. Given that, it implied he was ignoring the opposition in the legislature and public opinion. Moreover, it gave the idea that although Macron's party lost the parliamentary majority in elections last year, he could still advance his reform agenda until the end of his second term in 2027. As one can expect, the population of France was extremely dissatisfied with this. In fact, 65% of the French people said Macron is a poor President, with only 30% supporting his defence of the reforms convincing.

Like many times in the country's history, the Frenchman did not sit quietly in their homes. They took matters into their own hands and showed their discontent with the reform and Macron's actions. The protests have been happening all over France for several months, but they have intensified in the month of March due to the actions taken by Macron. Millions of people have been present in the protests. In fact, in over a decade, these protests have not seen more participants than the protests held in March. During these protests, several public buildings have been targeted. Moreover, the Louvre in Paris was blocked by striking museum workers and could not open. The CGT union has started to block petrol from leaving refineries. Almost two-thirds of primary school teachers are expected to walk out. While France's national railway cancelled three-quarters of trains, and airlines cancelled about one-third of their scheduled flights in the protests of the 6th of March 2023.

More than 1,200 people have been detained, with several French rights groups saying many arrests were unnecessary and without legal foundation. Most people were released after a night in jail with no follow-up. More protests are announced for the month of April, and the situation does not have an end in sight. It seems that the French people will not stop until Macron's government goes back on the reform, which does not seem likely based on Macron's comments. Due to the tense situation in France, some countries, like the United Kingdom, have been pushed to rethink their pension policy.

As protests against France's pension reform escalate, with widespread public dissatisfaction and disruptions to public services, President Emmanuel Macron's government has yet to show any signs of reversing the reform. The situation remains uncertain, and its outcome is eagerly anticipated.

Francisca Bombas
Financial Markets Division

Macro Overview

Economic Calendar

Economic and Political Events

Parliamentary Election Finland

Finland will hold parliamentary elections on the **2nd of April**. The current ruling coalition of five parties, led by the centre-left Social Democratic Party, is expected to be replaced by a centre-right coalition led by the National Coalition party and featuring the far-right True Finns.

G7 Ministers' Meeting on Climate, Energy and Environment

On the **15th of April**, Japan is hosting 15 in-person ministerial meetings throughout the year, starting with a two-day meeting regarding climate, energy, and environmental issues in Sapporo. The meetings will discuss Russia's war on Ukraine, energy, food supply concerns, and the global economy.

General Election Paraguay

Paraguay's general election is set to take place on the **30th of April**, with Santiago Peña from the ruling Colorado Party (ANR) and opposition leader Efraín Alegre of the Concertación alliance competing in the presidential race. Despite a united opposition, the ANR's strength increases Peña's chances. Corruption, which has affected both sides, will be a potential issue.

Central Bank Decisions

BoC Interest Rate Decision

On the **12th of April**, the Bank of Canada will announce its interest rate decision. The bank has previously announced that it will maintain the current rate if economic conditions align with the latest Monetary Policy Report, as the bank aims to prioritize growth.

TCMB Interest Rate Decision

The Central Bank of Turkey will announce its interest rate decision on the **27th of April**. The current policy stance is deemed to support post-earthquake recovery, while ensuring price and financial stability. The TCMB tries to achieve the 5% inflation target and implement a Liraization Strategy for long-term price stability.

BoJ Interest Rate Decision

The Bank of Japan will announce its interest rate decision on the **28th of April**. If necessary, the BoJ is prepared to take additional easing measures while expecting interest rates to remain at current or lower levels. The meeting will also include new growth and price forecasts for FY 2025, the first for new Governor Kazuo Ueda.

Inflation and Deflation

Brazil's Inflation

Brazil's inflation data is set to be published on the **11th of April**. In February, consumer price inflation dropped to 5.60% YoY, the lowest level in two years, still slightly above market expectations. The rate remained above this year's 3.25% official target and is expected to decline to 4.66% in March.

United States Inflation Rate

The US will announce its inflation rate on the **12th of April**. February's annual inflation rate was 6%, in line with market forecasts and the lowest since September 2021, while March's projection is expected to be slightly lower at 5.8%.

Euro Zone Unemployment Data

The Euro Area will release its inflation data on the **19th of April**. In March, the consumer price inflation rate decreased to 6.90% YoY, slightly lower than market expectations and the lowest since February 2022. The projected rate for April remains at 6.90%.

Labour Market

US Employment Readings

The US will publish its unemployment rate, non-farm payrolls, and participation rate for March on the **7th of April**. February's unemployment rate rose to 3.60%, higher than market expectations of 3.40%, while March's projection remains at 3.6%. Although there is a slight decrease in inflation, the labour market is expected to remain tight.

UK Unemployment Data

On the **18th of April**, the UK will release its unemployment rate for February. The rate for November 2022 to January 2023 was 3.70%, slightly below expectations and 0.30% lower than pre-pandemic levels. The projected rate for February is 3.80%, indicating a 1 pp increase.

German Labour Market

Germany's April unemployment data will be announced on the **28th of April**. March's unemployment rate was 5.60%, slightly higher than market expectations and the highest level since July 2021, with the number of unemployed rising by 16,000 to 2.54 m. The forecast for April remains at 5.6%.

Lars Dahle
Financial Markets Division

Investment Banking

M&A
Overall Activity

Global

Global M&A activity has witnessed a substantial decline in both deal count and deal value compared to last year's levels. This month, the market saw 2,381 deals with an overall deal value of USD 286.1 bn. While the deal count plummeted from 6,197 deals to 2,381 deals, a drop of 61.58%, the overall deal value only decreased by 34.47%. The current economic climate, characterized by the Federal Reserve's ongoing decision to raise interest rates, the collapse of Silicon Valley Bank, and the looming banking crisis, have created an uncertain environment, making it more challenging for companies to engage in M&A activities. Financial sponsors are sitting on a considerable amount of dry powder and are particularly more optimistic about their deal activity, with a flurry of notable activity from sponsors being observed this month. For instance, Silver Lake Partners purchased Qualtrics International, and Blackstone acquired Dragoneer Growth Opportunities. The most noteworthy deal, however, is the highly controversial acquisition of the embattled Credit Suisse AG by its biggest competitor, UBS AG.

Selected Regions

North America

North America is second in this month's deal activity with 33.43% of total deals originating in this region. However, North America is again leading by deal value with 7 of the 10 biggest transactions emanating from the US. In total, 53.95% of the total deal value is generated in the US. One transaction that is bound to shape the market is Pfizer's USD 46.0 bn acquisition of cancer drug developer Seagen.

EMEA

EMEA led the charge in terms of deal activity, with 37.07% of total deals. Software deals comprised the biggest group of transactions, with the healthcare sector following closely behind. The most significant transaction to take place is the acquisition of Credit Suisse by UBS. This initiative, aimed at rescuing the struggling Credit Suisse, may have far-reaching consequences for the European banking system.

Asia

In the context of a challenging macroeconomic environment, the impact is being felt in deal generation across Asia, with an overall decline of 36.07% in deal-making compared to last year. Despite this, the financial sponsor sector has performed exceptionally well, driving the majority of deals, particularly in the TMT sector. Notably, the acquisition of Toshiba for USD 16.1 bn stands out in the current environment.

M&A
Deals of the Month

Announced Date	Target	Buyer	Target Region	Target Business	Value (USD m)	Premium (%)
13 March 23	Seagen Inc	Pfizer Inc	US	Biopharmaceutical	45,670.8	32.70%
23 March 23	Toshiba Corporation	Japan Industrial Partners Inc	Japan	Electronic Devices	16,075.8	9.70%
6 March 23	Qualtrics International Inc	Silver Lake Partners	US	Software	11,931.1	-
14 March 23	Univar Inc	Apollo Global Management	US	Chemicals	8,170.0	20.60%
6 March 23	FirstEnergy Generation LLC	Vistra Energy Corp	US	Electricity	6,763.0	-
15 March 23	Stripe Inc	Temasek Holdings Pte	US	Online Payments	6,500.0	-
3 March 23	ReNew Energy Global	Canada Pension Plan Investment Board	India	Renewable Energy	5,862.2	16.67%
14 March 23	Dragoneer Growth Opportunities Corp	Blackstone Group Inc	US	Financial Industry	4,600.3	11.86%
8 March 23	Diversey Holdings Ltd	Solenis Holdings Inc	US	Engineering	4,261.0	-
19 March 23	Credit Suisse Group AG	UBS AG	Switzerland	Banking	3,251.6	8.62%

Marie Klingsporn
Investment Banking Division

M&A: Top Deals

Pfizer Inc to Acquire Seagen Inc

On the 13th of March 2023, Pfizer Inc announced their acquisition of Seagen Inc for USD 45.7 bn, based on a cash offer price of USD 229 per share. This implies a 24% premium on Seagen's pre-rumour price. The companies expect to complete the transaction in late 2023 or early 2024.

Buyer vs Seller

Pfizer Inc. is a US-based pharmaceutical company, widely recognized as one the most influential pharmaceutical companies in the world, and has recently gained significant exposure due to its widely-used Covid-19 vaccine, the Comirnaty vaccine. Seagen Inc. develops monoclonal antibody-based therapies for the treatment of cancer and autoimmune diseases, a critical submarket for the pharmaceutical world that has been gaining traction for decades.

Industry Overview

Monoclonal antibody-based therapies for cancer and autoimmune diseases are expected to become a major market for pharmaceutical companies in the coming decade, owing to increased prevalence of these diseases amongst the population and a significant desire for accessible therapies. The global monoclonal antibody therapy market size is projected to grow at a CAGR of 7.10% and reach a value of USD 178.1 bn by 2026, from USD 109.3 bn in 2019.

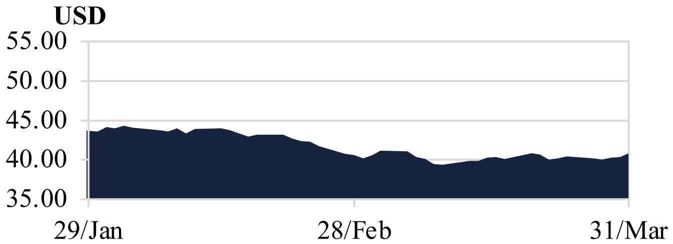
Peers	Currency	Market Cap (CUR m)
BioMarin Pharmaceutical Inc	USD	18,138.06
Incyte Corp	USD	16,113.68
Exelixis Inc	USD	6,290.54
Ionis Pharmaceuticals Inc	USD	5,109.18
Enanta Pharmaceuticals Inc	USD	844.65

Deal Rationale

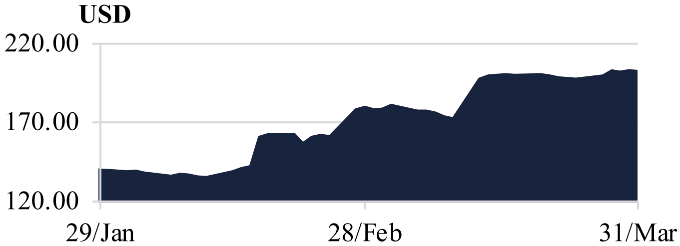
With the currently projected CAGR of 7.1% for the target's main market a major conglomerate such as Pfizer would clearly see the potential that the monoclonal antibody-based therapies market entails. It has made significant R&D efforts to keep up with its competitors in this technology, such as with the Covid-19 treatment Paxlovid. Supplementary, the acquisition of Seagen brings a specialized, lean operation into the fold, with yet-undisclosed "proprietary knowledge" that could help Pfizer gain a competitive advantage. Furthermore, production and research synergies between the two pharmaceutical entities are undeniable.

Market Reaction

Pfizer Inc.
Pfizer's stock price bounced back slightly at the news of Seagen's acquisition, although this pales in comparison to the 6.30% slip since since the end of January.



Seagen Inc.
Seagen's stock reacted positively to the news and is currently trading at USD 205, with its all-time high being USD 211 back in October 2020.



Future Challenges

This acquisition is still subject to fulfillment of customary closing conditions, including approval of Seagen's stockholders and receipt of required regulatory approvals, which always carry a higher-than-average risk in the pharmaceutical industry. Nevertheless, existing synergies between Pfizer and Seagen mean that the latter is likely to integrate without issues.

Guilherme Capinha Lopes
Investment Banking Division

M&A: Top Deals

Silver Lake to Acquire Qualtrics

Qualtrics agreed to be acquired by Silver Lake and Canada Pension Plan for an all-cash consideration of USD 11.93 bn, based on an offer of USD 18.15 per share on the 13th of March 2023. This implies a 62% premium relative to the closing price on the 25th of January 2023, before SAP's announcement to explore a sale of its majority stake held since 2018 Qualtrics' takeover.

Buyer vs Seller

Silver Lake is a private equity investment firm, holding more than USD 92 bn assets under management and committed capital as well as a team of professionals based in North America, Europe, and Asia. Founded in 1999, it is recognized as one of the top technology investors worldwide. Qualtrics is a cloud-native software provider which is the leader in the experience management category. The software, used by more than 18,750 organizations, has been owned by SAP after a USD 8 bn acquisition in 2018.

Industry Overview

In 2022, the global customer experience market was valued at USD 10.7 bn and is expected to vigorously grow at a 15.40% CAGR from 2023 to 2030 fostered by the increased attention on customers' behaviours and preferences. The market is concentrated in North America, which accounts for 43.70% of the total revenue share. The Asian Pacific region is expected to grow the fastest at a 17% CAGR, due to the necessity to map the countries' rapidly growing customer needs.

Peers	Currency	Market Cap (CUR m)
UiPath Inc	USD	9,788.4
Manhattan Associates Inc	USD	9,607.77
BILL Holdings Inc	USD	8,632.12
SS&C Technologies Holdings Inc	USD	14,158.25
Guidewire Software Inc	USD	6,692.55

Deal Rationale

SAP's sale of Qualtrics marks the failure of its ambitious project to integrate the software within its services platform. Despite the sizable premium paid by SAP in 2018, the investment has not proven to be value-adding for the firm. In this context, the high premium and very low use of leverage – approximately USD 1 bn – shows Silver Lake's confidence in extracting untapped potential from Qualtrics through a take-private investment strategy. Silver Lake's decision has also been driven by Qualtrics' 36% revenue increase in 2022, with a substantial 80% annual recurring revenue.

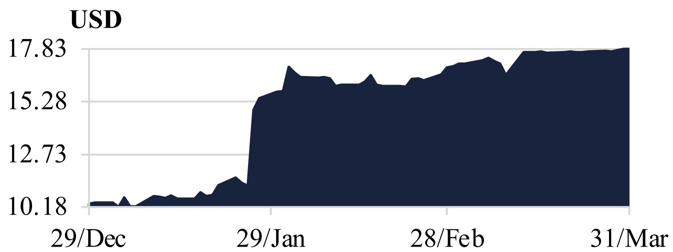
Market Reaction

Silver Lake

Qualtrics represents the potentially ideal investment opportunity for a buyout tech investor. Indeed, despite its current unprofitability and the difficult economic environment, the possibility to delist the firm and conduct operational and financial improvements was hard to miss for Silver Lake. In fact, Qualtrics' high recognition and customer retention can be leveraged through further investments and complementary acquisitions to achieve a long-term value-creating exit when economic conditions will have improved. As Qualtrics' founder Ryan Smith enthusiastically supports the deal, Silver Lake has the opportunity to replicate the buyout that made it notorious to the public: Dell's take-private acquisition.

Qualtrics

Markets have confidence in Qualtrics' spin-off from SAP and Silver Lake's take-private plan. Since SAP's announcement, Qualtrics rallied to USD 17.83, recording a 59.10% increase.



Future Challenges

Despite the aforementioned potentially positive aspects, doubts arise about Qualtrics' financial situation. Indeed, the firm, founded 21 years ago, is still unprofitable and has to face a dangerous current economic outlook. Furthermore, Silver Lake's low use of leverage could be a double-edged sword potentially leading to overexposure, lower returns, and limited tax benefits.

Filippo Marchesin
Investment Banking Division

M&A: Top Deals

Japan Industrial Partners to Acquire Toshiba Corp

On the 23rd of March 2023, Toshiba Corp's board accepted a buyout offer from the private equity firm Japan Industrial Partners (JIP) at a valuation of JPY 2 tn, the equivalent of USD 15.2 bn. This transaction values Toshiba at JPY 4,620 per share, ca. 10% above the previous week's closing price of JPY 4,213 per share, making it the country's largest-ever take-private deal.

Buyer vs Seller

Toshiba Corp is a 147-year-old conglomerate, which will be taken private by a consortium backed by 17 domestic companies and six financial institutions. The group includes financial services group Orix, power provider Chubu, and chipmaker Rohm. JIP has previously acquired assets from groups such as Sony and Olympus, but it has no record of buying an entire company of Toshiba's size. The special committee composed of outside directors concluded that the offer would enhance Toshiba's corporate value.

Industry Overview

The Global Active Electronic Components market size in 2022 stood at USD 320.7 bn and is set to reach USD 666.2 bn by 2032, growing at a CAGR of 8.7%. This growth will be mostly driven by rising demand, the adoption of new technologies in various industries, and the development of new materials like graphene and carbon nanotubes. Increasing M&A activity in the industry aims at strengthening the foothold in the market, capturing market share, and improving overall profitability.

Peers	Currency	Market Cap (CUR m)
Fuji Electric Co Ltd	JYP	791,274.05
Rorze Corp	JYP	201,096.00
Sanken Electric Co Ltd	JYP	265,788.46
Shinko Electric Industries Co	JYP	541,363.63
INFRONEER Holdings Inc	JYP	283,365.22

Deal Rationale

This buyout sets an end to Toshiba's eight-year-long difficulties, including an accounting scandal, a brush with delisting, and the fire-sale of the company's most valuable asset, the flash memory business now known as Kioxia. In 2017, Toshiba almost faced bankruptcy, forcing the company to an emergency issuance of USD 5.4 bn of new equity in a deal executed by Goldman Sachs. At this point, aggressive activist funds appear looking for ways to unlock untapped value. After some other bids, JIP comes in as a domestic player of strategic importance for Toshiba's nuclear technology and other business segments.

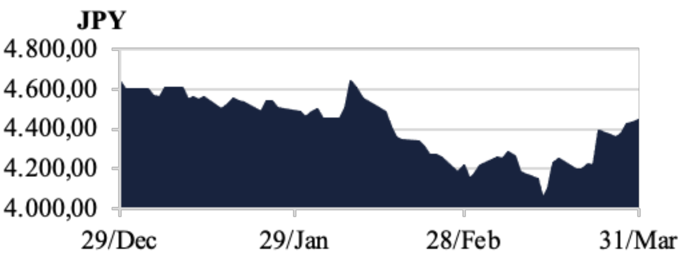
Market Reaction

Japan Industrial Partners

The firm specializes in carve-outs and contributes to corporate restructurings of Japanese companies. Four bidders proceeded to a second round of this deal, including the private equity firms Bain Capital, CVC Capital Partners, and Brookfield Asset Management. At its peak last year, when higher bids were expected from the mentioned private equity funds, Toshiba was valued at JPY 2.5 tn. Shares soared after the USD 20 bn offer from CVC in April 2021 collapsed. According to Toshiba Corp, the JIP bid is "the only complete proposal" that has been submitted during a 1-year auction process. JIP struggled to acquire its financing of USD 10.6 bn from banks due to the current macro, which delayed the timeline.

Toshiba Corp

The share price of Japan's best-known conglomerate plunged as a result of the deal announcement and worse than expected quarterly figures, with operating profit falling 90% YoY.



Future Challenges

Bankers and lawyers expect that Toshiba Corp will undergo a significant and potentially rapid restructuring, and is likely to put a number of non-core units up for sale. Having a single owner hopefully improves decision-making at a company where business strategy was less concrete due to the composition of the board, including outside directors drawn from the activist funds.

Karolin Kolarik
Investment Banking Division

What Happened To

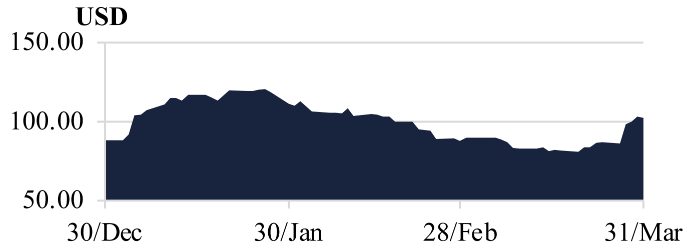
Alibaba Group Holding Limited

Alibaba Group is a Chinese multinational technology company that provides a diverse range of products and services, including e-commerce platforms, online payment systems, cloud computing, digital media, and entertainment. The company was founded in 1999 by Jack Ma and is considered one of the largest and most successful e-commerce companies in the world.

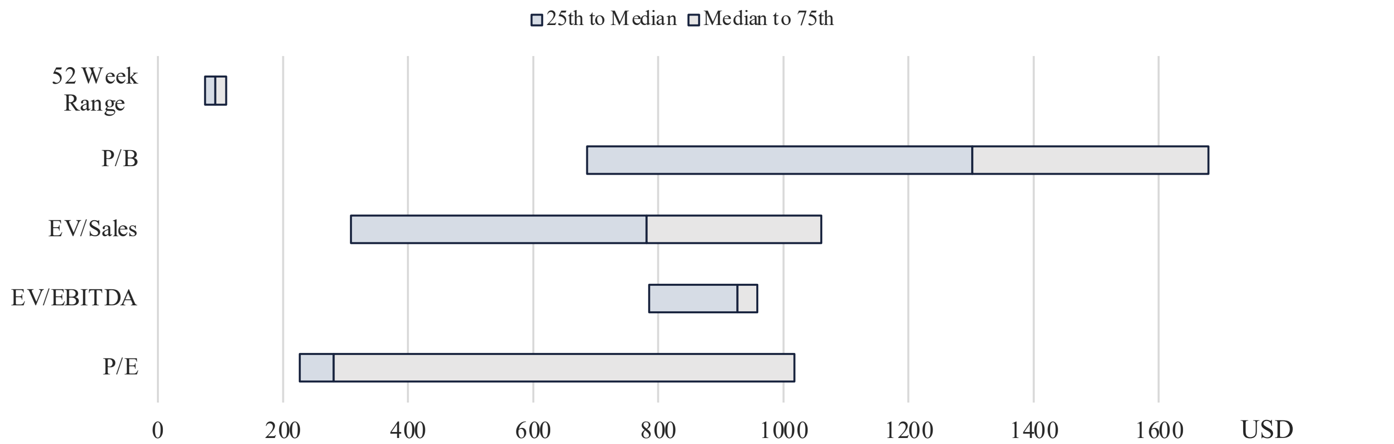
Corporate News

On Tuesday, 28th of March, China's Alibaba Group said that it would become a holding company with six different business groups. This major reshuffle signaled the potential breakup of the country's biggest e-commerce firm. Alibaba described the restructuring as the "most significant" organizational overhaul in its 24-year history. It said each unit would have its own chief executive and board of directors to allow for quicker decision-making. The restructuring allows the independent units to seek outside capital with an eye toward eventual initial public offerings. Only its China e-commerce unit, Taobao Tmall Commerce Group, will remain a wholly owned Alibaba entity. The units include Cloud Intelligence Group, Taobao Tmall Commerce Group, Local Services Group, Cainiao Smart Logistics, and Global Digital Commerce Group. Alibaba's US-listed shares jumped more than 14% after the announcement on Tuesday.

Price (31 Mar 23, USD)	**102.74**
Target Price (USD)	143.39
3M Performance	16.63%
Market Cap (USD m)	265,839.75
Enterprise Value (USD m)	1,374,038.60
**Target Price is for 12 months*	



Valuation Analysis



Around USD 600 bn of market value has been wiped out since Alibaba's share price peak in October 2020. Since then, the Chinese government has cracked down on private technology businesses, introducing a slew of regulations and increasing scrutiny on the practices of domestic giants. Alibaba's fintech affiliate Ant Group was forced by regulators to cancel its mega public listing in November 2020. Additionally, in 2021, Alibaba was fined USD 2.6 bn as part of an antitrust probe.

Alibaba is now looking to reinvigorate growth. The company has grown into a giant that encompasses businesses from e-commerce to cloud computing to streaming and logistics. The reorganization also comes at a time when there are signs that Beijing is warming up to technology businesses again, as the government seeks to revive economic growth in the world's second-largest economy.

Peers	**Currency**	**Market Cap** (Cur m)
eBay Inc	USD	23,590.52
Amazon.com Inc	USD	1,050,036.71
Allegro.eu SA	PLN	32,098.20
Vipshop Holdings Ltd	USD	8,806.20
MOBLY SA	BRL	185.29

Yutong Wang
Investment Banking Division

What Happened To

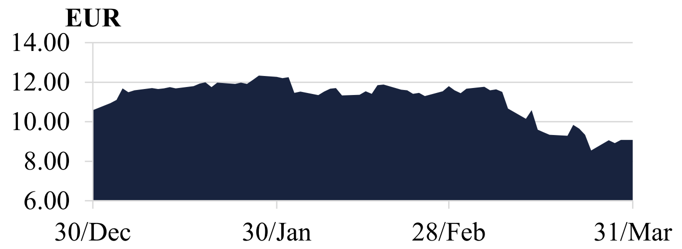
Deutsche Bank AG

Deutsche Bank AG is a leading Germany-based financial institution providing investment banking, corporate and private banking, asset management, as well as retail banking solutions. Founded in 1870, Deutsche Bank has since then grown to become one of Europe's largest banks with a market capitalization of EUR 18.3 bn and assets under management of EUR 1.3 tn.

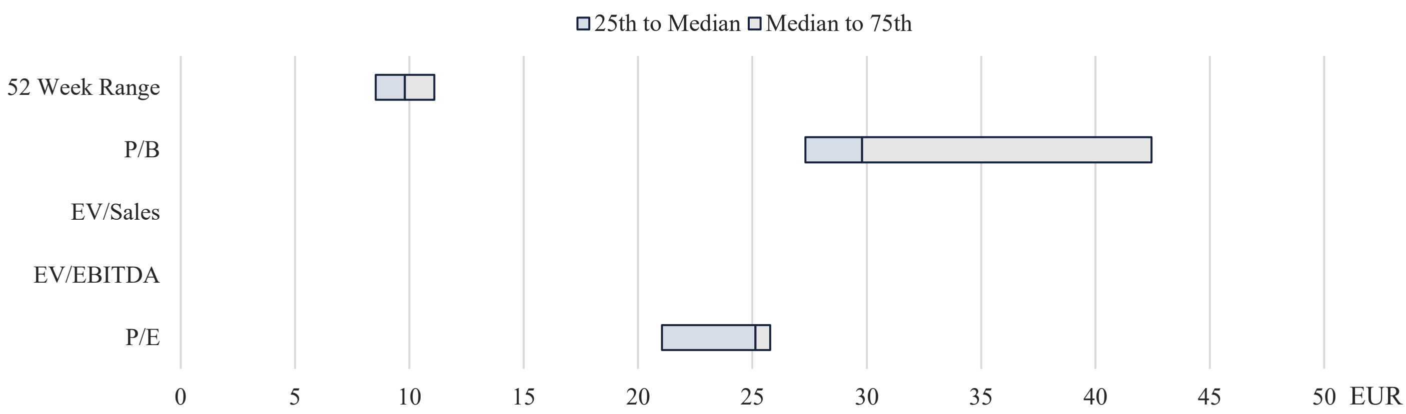
Corporate News

On Friday the 24th of March, Deutsche Bank shares fell following a spike in credit default swaps (CDS), as concerns about the stability of European banks persisted. More precisely, its stock plunged 14% at one point during the session but trimmed losses to close 8.6% lower at the end of the day. The dip in market value was the result of investors holding Deutsche Bank-issued debt securities panicking after Deutsche Bank's five-year CDS hit its highest level since 2019. Amid an unprecedented turmoil in the banking industry, characterized by fragile investor confidence – especially due to UBS's recent rescue of Credit Suisse and the collapse of US-based Silicon Valley Bank – governments and financial regulators are trying to allay investors' concerns about global spillover effects. The latter was further deepened by additional monetary policy tightening from the US Federal Reserve on Wednesday the 22nd of April.

Price (31 Mar 23, EUR)	**9.08**
Target Price (EUR)	13.75
3M Performance	-14.28%
Market Cap (EUR m)	18,517.25
Enterprise Value (EUR m)	-
**Target Price is for 12 months*	



Valuation Analysis



Deutsche Bank shares are down 16.7% YTD amid rate-hike worries, record-level inflation, and overall pessimism in the industry. After the 52-week low of EUR 7.6 in September 2022, Deutsche Bank managed to recover over 50% of its market value, before plunging 22.5% since the CDS widening. The current target price of EUR 13.7 represents a 51.5% premium to the March 28th closing price and is primarily based on P/E and P/B multiples, as EV multiples are irrelevant in the banking industry.

As CDS serve as a proxy for bond holders' belief in the health of the issuing institutions, investors feared that Deutsche Bank could be the next Credit Suisse. However, after its restructuring plan in 2019, Deutsche Bank reported 10 straight quarters of profits across all core divisions, as well as healthy liquidity reserves, loan-to-deposit ratios, and CET1 ratios. Being a top 5 FICC player globally, Deutsche Bank's fundamentals indicate no real cause for concerns despite negative market sentiment.

Peers	**Currency**	**Market Cap** (Cur m)
Goldman Sachs Group Inc/The	USD	110,943.30
Morgan Stanley	USD	142,763.08
Citigroup Inc	USD	88,019.13
Bank of America Corp	USD	225,067.96
JPMorgan Chase & Co	USD	379,339.65

Ignacio Klimowitz Gumpert
Investment Banking Division

NIC's View On

UBS' Acquisition of Credit Suisse

Charlotte Mayr
Investment Banking Division

"Switzerland's standing as a financial centre is shattered. The country will now be viewed as a financial banana republic."

– Octavio Marenzi, CEO, Opimas

It is no secret that Credit Suisse's long history as one of Switzerland's two flagship banks was not only marked by transparency and success but also by scandals, frequent changes in the C-Suite, and multi-billion-dollar losses, that peaked in 2022 with a value of CHF 7.3 bn – the bank's biggest loss since 2008. The firm's most recent discovery of "material weakness" in its accounting procedures, however, seems to have been the final straw for the majority of Credit Suisse's yet skeptical clients. In mid-March, the once-worth more than CHF 100 bn bank is the fifth bank to collapse in March after SVB, Signature Bank, Silvergate Bank, and First Republic Bank.

In an attempt to mitigate the shock waves sent through financial markets by the Credit Swiss fiasco, on the weekend of the 19th of March, the Swiss Federal Department of Finance, the Swiss National Bank, and FINMA encouraged UBS to acquire precarious Credit Swiss for CHF 3 bn in an all-stock deal. This aimed to prevent the worst case – a bankruptcy that according to Swiss finance minister Karin Keller-Sutter "would have had huge collateral damage on the Swiss financial market and with a risk of contagion internationally" might have triggered a threatening 2008 market sentiment – from happening. Whether this solution was the best possible one in the current situation is a matter of debate as well as future developments leaving experts with the question "Does the end justify the means?". In fact, to reach this emergency takeover agreement, Swiss institutions had to grant UBS a number of concessions. Not only did the Swiss government offer UBS CHF 9 bn of loss insurance but it also agreed to change the law to get rid of the shareholder consent requirement to move forward with the deal. On top of that, the Swiss national bank provides UBS with CHF 100 bn of additional liquidity. Another peculiarity of this tailor-made transaction is the treatment of Credit Suisse's additional Tier 1 (AT1) bonds totaling CHF 16 bn: Instead of being converted into equity (as originally intended with their introduction following the 2008 financial crisis) to reinforce the capitalization of a distressed bank while reducing its debt, they will be fully written down. This ranks the bank's AT1 bondholders on the one hand as expected behind conventional bondholders but counterintuitively also behind its shareholders regarding the pecking order for any recoveries payable and thereby stirred additional turmoil in the market. Both the ECB as well as the Bank of England distanced themselves from FINMA's decision, which could be a catalyst for legal intervention by stakeholders in the context of the controversial deal.

Given the recent plunge in Deutsche Bank's share price, it remains to be seen whether the commercial bailout has prevented a global banking crisis contagion. Apart from that, the successful execution of the transaction remains subject to significant risks. What is certain is that Switzerland has suffered a significant loss of reputation and finds itself in a questionable relationship with its now only systemically important bank, whose post-merger balance sheet will be four times as large as the country's GDP. This raises reasonable concerns about potential new and unpredictable problems in the future. The emerging Swiss mega-bank might not only be "too big to fail" but also "too big to bail".

Date	Recent News
05 Apr 23	UBS chair warns of 'significant execution risks' in Credit Suisse deal ***Source:*** *Financial Times*
04 Apr 23	Is UBS the new Swiss government (bond)? ***Source:*** *Financial Times*
02 Apr 23	Swiss prosecutor opens probe into Credit Suisse takeover ***Source:*** *Financial Times*

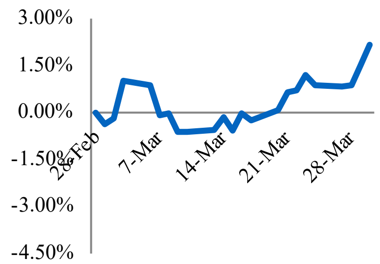
Charlotte Mayr
Investment Banking Division

NIC Fund

NIC Fund

Portfolio Overview

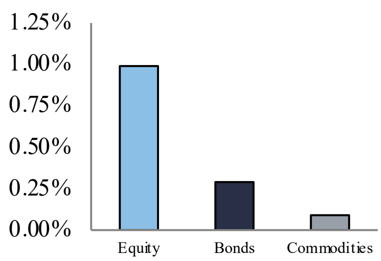
NIC Fund Cumulative Return



Portfolio Statistics	
Cumulative Return	2.88%
Annualized Return	34.53%
Daily St. Dev	0.50%
Period St. Dev	2.29%
Annualized St. Dev	7.94%
Info Sharpe	4.35%
Skew (Daily)	0.04
Kurtosis (Daily)	0.44

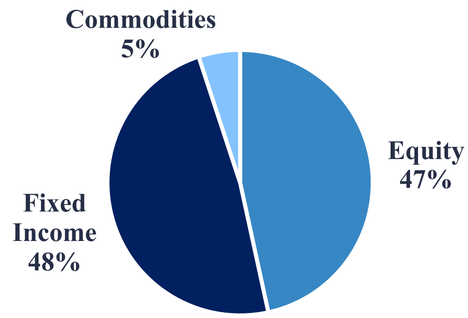
Benchmark	
iShares 3-7 Year Treasury Bonds	60%
SPDR S&P 500 ETF Trust	30%
Powershares DB Commodity Index	10%

Individual VaR



Portfolio Snapshot

During the last month, the NIC Fund remained invested in Equities, Fixed Income, and Commodities. Overall, nearly 47% of our fund remained devoted to Equities, 48% to Fixed Income, and 5% to Commodities. Yet, much as 75% of the Equities were allocated to different funds, while the remaining were allocated to specific stocks, using an equally weighted strategy.



Return Metrics

The total portfolio performance in March 2023 has been positive, with a cumulative return of 2.88%. Commodities and equities were the best performers, contributing with returns of 1.12% and 0.87%, respectively. Also, bonds did achieve a positive return this month of 0.26%. On the equity side, the portfolio was not only invested in the S&P 500 index fund and other ETFs but also in MercadoLibre S.A. (MELI US), Nvidia Corp. (NVDA US), Goldman Sachs Group, Inc. (GS US), Amazon.com, Inc. (AMZN FP) and 23 other individual stocks. The best performers were Nvidia Corp, and Advanced Micro Devices, with a performance of 19.67% and 24.73%, respectively. BNP Paribas, on the other hand, was the worst performer, with a return of -14.50%. The best-performing ETF was the Goldman Sachs Physical Gold ETF, with a positive performance of 7.89%.

Risk Metrics

In terms of risk, our portfolio registered a relatively high daily VaR of 1.20%, taking into consideration the high volatility caused by the banking crisis. As a result, this metric remained significantly below the maximum established threshold of 2.5%. Equities were the asset class with the highest individual VaR, which was around 0.99%. On the other hand, Bonds and Commodities have slightly lower VaRs of 0.29% and 0.09%, respectively.

David Biewald
Financial Markets Division

NIC Fund
Assets in Brief

Asset Class	Symbol	Comments
Commodity	**AAAU EETF**	Our portfolio includes a commodity investment in the Goldman Sachs Physical Gold ETF, a trust that primarily holds London Bars and Physical Gold of other specifications without numismatic value. Our long position in this index resulted in a positive monthly return of 7.89% due to uncertainty caused by bank defaults.
Fixed Income	**3-7Y**	US Treasuries showed the largest yield decline in March within three days since 1987. As fears about a coming banking crisis spiked, many investors invested in government bonds to benefit from the safe assets. The decline in the yield led to a gain of 2.92% in our i-Shares 3-7-year Treasury Bond position.
US Equity	**NVDA**	Among our most successful investments last month was the long position in NVIDIA. Despite facing significant losses last year amidst concerns about the global economy, this year has seen the stock recover remarkably, skyrocketing with gains of over 19.67% in March.
US Equity	**AMD**	Advanced Micro Devices showed the best performance of all equity positions in our portfolio in March after a new strong buy rating at the beginning of the month based on the importance of the semiconductor industry for the development of AI. The speculations on AMD stocks led to a return of 24.73% in March.
FR Equity	**BNP.PA**	After BNP Paribas's well performance until February, the stock lost 14.50% in March and appeared to be our worst-performing stock last month. Due to the default of Silicon Valley Bank and the acquisition of Credit Suisse by UBS, the banking sector generated losses in March. We see opportunities in the sector since many banks show cheaper valuations. However, we are not able to tell if the circumstances will cause a systematic banking crisis and therefore, stay cautious regarding banks.
US Equity	**LVMH**	Louis Vuitton Moët Hennessy has gained 26.49% so far this year. The luxury goods industry is still soaring since the typical customers are not as strongly affected by inflation as low-income individuals. Additionally, many people use luxury goods as an inflation hedge since hard assets tend to perform well in times of uncertainty. As such, LVMH rose by 9.63% in March.
ARG Equity	**AMZN**	The biggest e-commerce retailer Amazon continued to perform very well in March. Amazon showed strength, with a gain of 9.61% in the previous month. We are maintaining our investment in Amazon stock as we believe the current valuation is reasonable, and we see significant growth potential across all of Amazon's business segments. In particular, we anticipate the cloud business to exhibit the strongest growth trajectory.
US Equity	**Chipotle**	Over the past month, shares of Chipotle Mexican Grill Inc. increased by 14.57% with a YTD performance of 23.12%. Analysts project that Chipotle Mexican Grill Inc. is poised to surpass EPS expectations, which positions the stock with an appealing valuation. Furthermore, the company's strong pricing power adds to its overall attractiveness as an investment option..
US Equity	**GS**	We hold a long position in Goldman Sachs shares. The investment bank's shares had lost 6.31% over the past month. In comparison to European bank stocks, American bank stocks showed strength during the bank run. We remain invested in the stock, hoping for a recovery from Goldman Sachs as it approaches its next earnings release.
US Equity	**BAY**	Bayer's shares demonstrated robust growth in March, with an impressive increase of 6.86%. Year-to-date, the stock has surged by 23.76%. This development is mainly driven by falling energy prices and the potential for avoiding a European recession due to declining headline inflation, which bodes well for the company's performance.

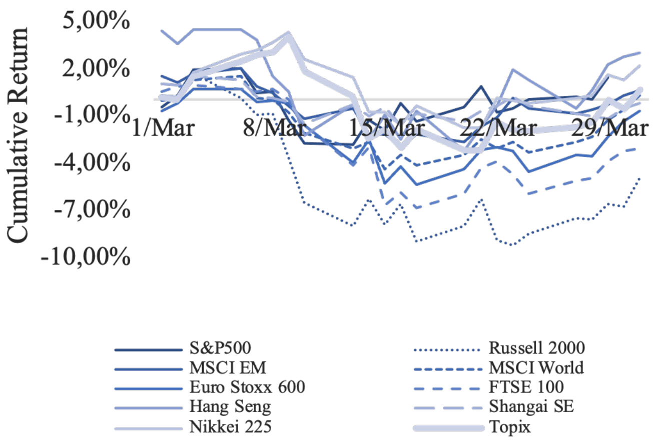
David Biewald
Financial Markets Division

NIC Fund

Equities

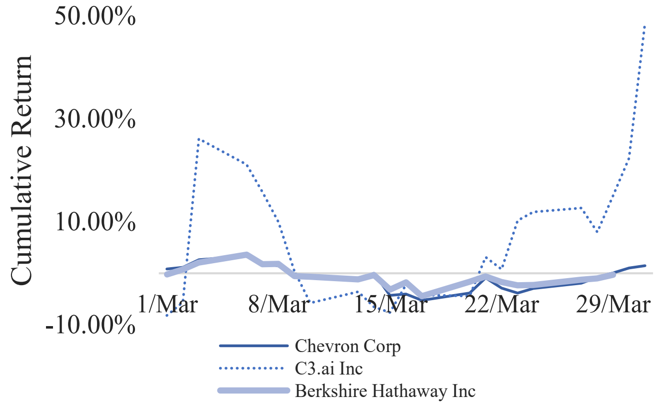
World Equities

Global equities recorded upward trajectory in March 2023, with the MSCI ACWI (All Country World Index) posting a monthly return of 3.14%. The US benchmarks showed strength as the Federal Reserve maintained its hawkish stance. The S&P 500 rose by 3.68% over the month to close at 4,109.32 points. The Dow Jones Industrial Average also posted gains of 1.89% ending the month at 33,274.15 points, while the tech-heavy NASDAQ Composite climbed 6.76%, surpassing the 12,200 points mark. In the Asian markets, Japan's NIKKEI 225 continued its upward trend, gaining 2.48% in March to close at 28,041.48 buoyed by strong earnings from major exporters. In Europe, the STOXX Europe 600 Index gained 1.98% for the month, led by strong performances from the technology and healthcare sectors.



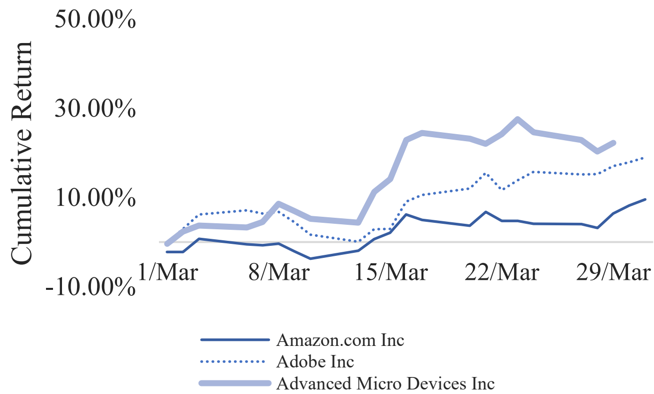
In Depth: AI and Oil Companies Poised for Success

AI companies have recently gotten a huge lift. One example is C3.ai Inc., a software company that develops AI applications for a host of sectors, enjoying a gain of 132% so far this year. Unlike other innovative technologies that have had relatively short hype cycles in recent years, AI may stay for longer. This is due to it already being an essential technology for businesses across multiple industries, and its growth potential is still immense. As a result, AI's adoption and development are likely to continue in the long term, providing opportunities for companies and investors to capitalize on this trend. Nonetheless, investors should exercise caution and conduct thorough research before investing in any AI-related stock to avoid potential risks associated with a market bubble. A less spectacular but stable growth can be expected from stocks giving exposure to the energy sector. These are likely to benefit from OPEC+ reduction in Oil supply. A good example is Chevron (CVX), but also Berkshire Hathaway Inc. (BRK/A). Warren Buffet's company holds a diversified basket of companies in dependable industries. Aside from Chevron, in 2022 Berkshire acquired 91.2 million shares in the oil giant Occidental Petroleum.



Our Performance

In March, several of our equity investments delivered strong returns. Amazon returned 10.70%, driven by robust growth in its e-commerce and cloud computing businesses. Adobe also performed well, with a return of 17.60%. Adobe's ongoing investments in new products and services, as well as its focus on enhancing user experiences, have helped it maintain its competitive edge in the software industry. Advanced Micro Devices (AMD) also gave a solid return of 23.10%. The company's strong performance was driven by robust demand for its microprocessors and graphics cards, particularly in the gaming and data center markets.



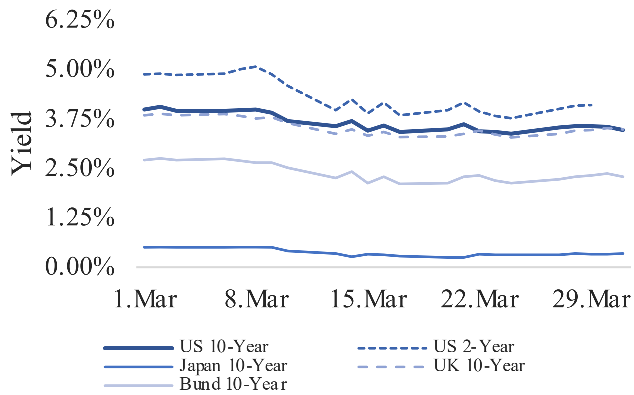
Jakub Nasilowski
Financial Markets Division

NIC Fund

Fixed Income

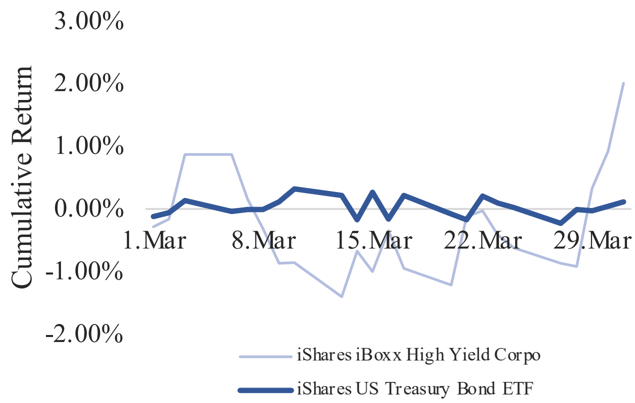
World Yields

March 2023 was a month of heightened tension in the bond markets, as the collapse of Silicon Valley Bank (SVB) triggered a wave of uncertainties that rippled across the sector. The root cause of the SVB debacle was traced back to the Fed's renewed interest rate hikes, which, in turn, sparked concerns about the possibility of a new banking crisis. As the market grappled with the fallout from the SVB collapse, other mid-sized US banks also came under pressure, compounding fears of a systemic crisis. Against this backdrop, the yields of all major government bond issues plummeted, with the US 10-Year rates recording an overall change of -11.54% MoM, slipping from over 4% at the start of the month to below 3.50% by the end. The market turmoil was also reflected in soaring daily trading volumes, as many investors rushed to the safety of treasuries. In Europe, a similar pattern emerged, with German 10-Year bonds dropping by -13.54% MoM to 2.29%, and UK 10-Year bonds falling by -8.78% MoM to 3.49%.



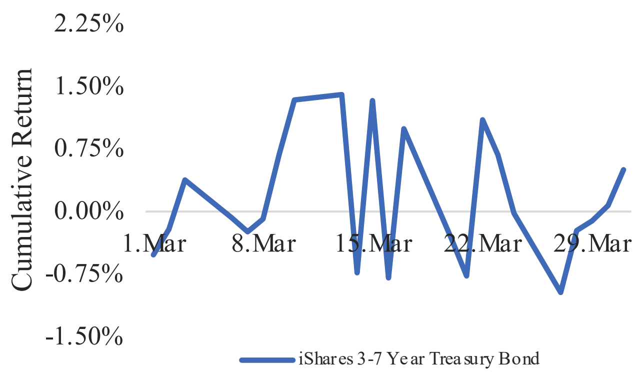
In Depth: Japanese Markets

Japan's sovereign bonds have been swept up in the intense market volatility that has gripped the global financial system. Specifically, the yields on Japanese 10-Year Treasury bonds plummeted by a staggering -30.50% MoM, leading to a relatively low yield of 0.35%. This sharp decline was accelerated by BoJ Governor Haruhiko Kuroda, who announced at a press conference that the BoJ would maintain its target band for 10-Year Japanese government bonds within a range of plus or minus 0.50%. This decision surprised many analysts, as they had expected the central bank to tighten its monetary policy. Some BoJ board members said the central bank must maintain its massive stimulus measures to support the economy and ensure that Japan sustainably meets the central bank's 2% inflation target. The BoJ's move to maintain its policy stance has also had ripple effects throughout the global currency markets, prompting investors to initiate a sell-off of the yen and increase their dollar holdings. This shift in investor sentiment can be attributed to the realization that the interest rate differential between Japan and the US is set to widen further, making dollar-denominated assets more appealing in comparison to their yen-denominated counterparts. In this context, the BoJ's decision can be seen as a contributing factor to the ongoing divergence between the two currencies.



Our Performance

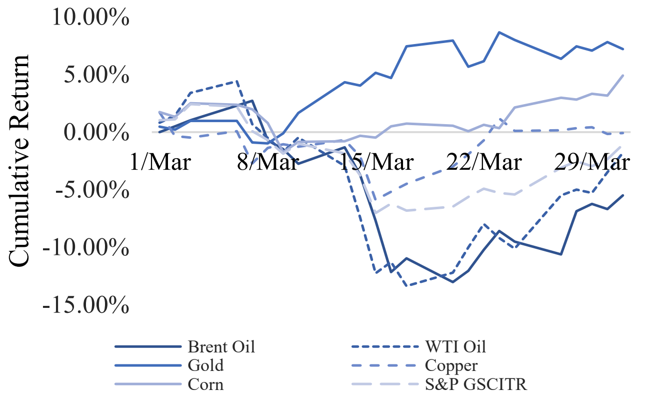
Our benchmark fund for fixed income, the IEI ETF, performed quite well during the month of March, earning a cumulative return of 0.50%, which contributed to a return of 0.26% in our portfolio.



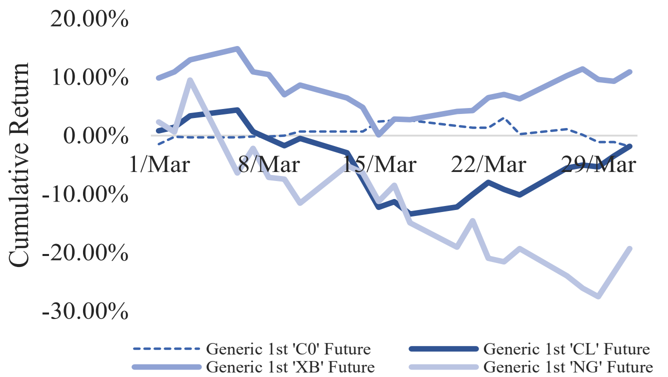
Philipp Hauswurz
Financial Markets Division

NIC Fund
Commodities

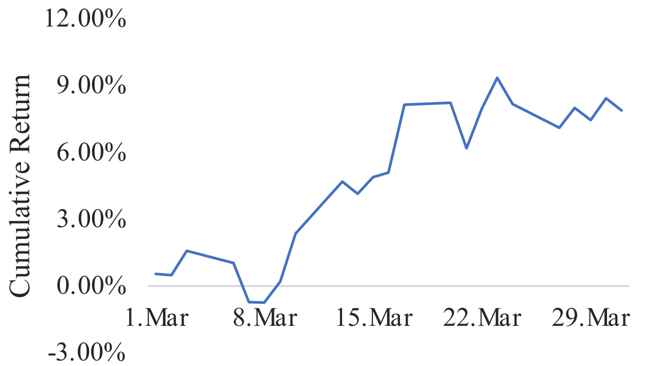
March Round-Up
During the month of March, the S&P GSCI Total Return Index, which tracks a diverse basket of commodities such as energy, metal, and agriculture, among others, added to February losses with a -1.07% return. However, unlike the month of February, where a general decline in commodities was witnessed, more significant divergences were recorded. Fears of the rippling effect within the banking sector, currently most prominently associated with Silicon Valley Bank and Credit Suisse, revived alarm regarding recessionary pressures. This in turn led to a jump in gold prices, given its historic track record as a hedge, of 8.36% in the last month. This further confirms the negative correlation between the USD and gold. In juxtaposition, Brent Oil and WTI Oil saw sharp declines as the Fed persisted with an interest rate hike of 25 bps, as expectations of demand slowdown grow. Volatility within commodities has risen in light of the conflicting inflationary and recessionary pressures and the subsequent uncertain policy stance.



Outlook for April
The outlook for commodities in the coming month remains rather blurry, hindered mainly by the evolution of the macroeconomic environment. In terms of gold, depending on the speed at which the Fed will stop interest rate hikes, the overall consensus is that the remaining developed economies will decrease the interest rate gap with the US. This will place downward pressure on the USD, coupled with the potential materialisation of a slowdown, and the general view is that gold will rise in the coming months. Crude prices are expected to follow a similar trend, as OPEC+ nations announced voluntary production cuts until the end of the year. Saudi Arabia, for example, stated it would implement a 5% reduction in output with the goal of increasing prices amid the fears of weakening demand. Goldman Sachs rose its forecast for Brent Oil to $95 by the end of 2023. If volatility in commodities persists, this may have consequences towards inflation, which for the most part, has been stabilising despite remaining at historically high values.



Our Performance
As an investment in our portfolio, the Goldman Sachs Physical ETF experienced a significant 7.89% increase in March, largely attributed to the rise in gold prices. Overall, commodities also made a favorable contribution, adding 1.12% to our overall portfolio return.



Tomás Forte Vaz
Financial Markets Division

Extras

Hot Topic

BloombergGPT vs ChatGPT: Specialists or Generalists?

Guilherme Capinha Lopes
Investment Banking Division

"It's still very early. You wouldn't put immediately all your most important workloads there, but the imperative is to really to try to understand the potential. I've been in technology probably almost four decades or so, and this is one of the biggest disruptions I've ever seen. Probably comparable to the internet, apps, the cloud — it's that order of magnitude."

– Marco Argenti, CIO, Goldman Sachs

If one had to bet on the most likely candidate for TIME's person of the year 2023, OpenAI's mainframe that runs ChatGPT would be a pretty good bet. Back in May 2020, while the world was deeply worried about Covid-19 and just starting to grasp the immensity of the challenge ahead to overcome it, OpenAI's presentation of GPT-3 was slowly taking over the world in just the right circles.

This new natural language model was not only capable of several magnitudes more complexity than its predecessor GPT-2. Its training routine could be adapted to specialized data that would create AI chatbots meant for different purposes. At the time, OpenAI's team believed that a generalist chatbot was needed first to both prove the concept in the eyes of the public and also iron out the kinks before moving on to more specialized applications. But while OpenAI has been training and refining the hottest commodity in the AI world right now, ChatGPT, other researchers have not been sitting idly by, and some of these do not agree that a generalist chatbot is the way to go. Enter, BloombergGPT.

BloombergGPT is a new AI Chatbot by the finance tech giant that has been specifically trained on financial data to assist with common tasks within the finance industry that a natural language model could help with. What differentiates BloombergGPT and makes it particularly interesting is that it has been purpose-built from scratch for finance: They have achieved this by taking an innovative approach of training the model on not only specialized data from the world of finance, taken from the decades of rich history that Bloomberg has to offer, but also by feeding the model more generic articles with the intent of developing a hybrid specialized-generic model. This means that BloombergGPT is capable of relatively accurate financial analysis and data parsing, to the point where one can actually start to trust the information it outputs at first glance. Like any GPT chatbot it is still likely to make errors without realizing, but the researchers boast of significantly increased accuracy versus a generic natural language model.

So, is that it? Are most finance jobs that require relatively simple valuation and analysis work going to be taken over by a bot built specifically for the task? Well, not quite. BloombergGPT is especially good at a very limited type of tasks, like finding a trend in a datapoint, but like other bots it falls flat when it comes to finding nuance in said dataset.

For example, let us say we are trying to analyse the free cash flow trend of a company in the last fifteen years – An analyst would clearly look at a sudden drop in a year with concern. What happened here, was the company repaying debt? Was there a significant unexpected outflow? As part of his or her trend analysis, it would be obvious to include a mention of this sudden dip, even if the overall trend is positive and shows continued growth. Per BloombergGPT's reseachers, the bot would simply comment on the overall trend and consider this sudden "hiccup" as an outlier, which could lead to a serious mistake in the field.

Like all other AI chatbots this one is still in its infancy, but it does prove a point that specialized chatbots are more effective for specific workflows than a generic bot like ChatGPT. It is likely that we will be using these chatbots in the field in the next 10 years - perhaps even 5 years – but how much can we actually trust their output? It is hard to imagine that they will be a complete substitute for human intuition and critical thinking, but the jury is still out on this one.

Guilherme Capinha Lopes
Investment Banking Division

Extras

ESG Review

The Race To Net-Zero: A Sprint or a Marathon?

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"The US and Europe have very different approaches to guiding the transition. Europe has focused on frameworks and regulations – the 'stick' – while the US on creating an incentive based system – the 'carrot'."

– Marco Kisic, Head of ESG Research, Nordea

The Paris Agreement, adopted by 196 Parties in December 2015, set a precedent by recognizing the threat climate poses to our society and the urgency of collective action to help mitigate this impact. But with the countdown to 2050 already set, the question lies in how countries will position themselves to get there. Will they focus on ambitious short-term goals and hope to continue the momentum or maintain a more conservative long-term approach? And maybe an even more important question, are countries in a relay race against time or in a race against themselves?

This race is best represented by the contrasting policy stances taken by the United States and the European Union to achieve the same end goal: net zero by 2050. The EU, which has long been recognized as a pioneer in the fight against emissions, has resorted to developing a strong regulatory framework to serve as a basis to guide companies toward this objective. After President Biden reversed the decision made by ex-President Trump to withdraw from the Paris Agreement, the US re-entered the accord. The country has chosen an incentive-based model to encourage the transition to clean energy, offering tax breaks and large spending bills to help companies reach the finish line. This distinction in policy stance will mostly stem from the heterogeneity in their organisational structure, but more specifically, in the degree of a common fiscal policy.

The Inflation Reduction Act, a commitment made by the US to invest north of USD 369 bn in Energy Security and Climate Change over the next 10 years, is a further testament to the belief in this incentive-driven policy. However, whilst this policy has been seen as a "game-changer" from the perspective of the US, from the EU's perspective, it has raised some concerns over whether the measure is a form of protectionism. The European Commissioner for Trade, Valdis Dombrovskis, has claimed that such policy was "discriminating against EU Companies" given that it favoured tax incentives primarily for US-based companies.

However, given the current context, the EU has yet to present a formal solution to this conflict. On one side, its fragmented fiscal nature impedes large financing measures beyond a local level, but on another, initiating a potential trade war with the US at a time when political tensions are high is more likely to be counterproductive that the contrary. Furthermore, Europe remains dependent on oil and gas from Russia (expected to terminate dependence by 2027), whilst the US has systematically reduced its energy dependence on third-party sources primarily driven by the exploration of domestic resources. They have yet to establish a formal policy reaction to the IRA, with Thierry Breton, Internal Market Commissioner, declaring the EU's stance has been "necessary but far from sufficient".

But the issue lies not exclusively on how the EU can respond to the US, but rather, what it will mean for the race along the road. Will competition leave countries falling behind the pack or help drive innovative and constructive policy frameworks? Because like all races, there will be winners and losers, but if countries resort to accelerating their pace at the cost of others, the losers will be us. The IRA whilst well-intentioned, has shined a light on the importance of collective action, beyond the aggregation of individual efforts, the need to align incentives, and the faulty nature of a global objective to help everyone cross the line, that is the key question at hand.

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