FORDHAM UNIVERSITY

ALTERNATIVE INVESTMENTS CLUB

Research Report

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The Alternative Investments Club

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PRIVATE EQUITY

EDITED BY MATT FORLENZA AND JASMINE AIELLO

Contributors:

Sean Gaughan
James Byrne
Henry Feudtner
Michael Barrett
Andrew Giattino
Mickele Sivere
Theobald Dengler
Tran Le
Jack Martinez
Anagha Nair
Andrew Paternostro
Erik Ulmer
Matthew Entin
Alex Clarkin
Connor Mancuso
Jack Durkin
Kamran Chowdhury
Eileen Kim
Erwan Pal
Mohammed Hossain
Peter Zangari Jr.

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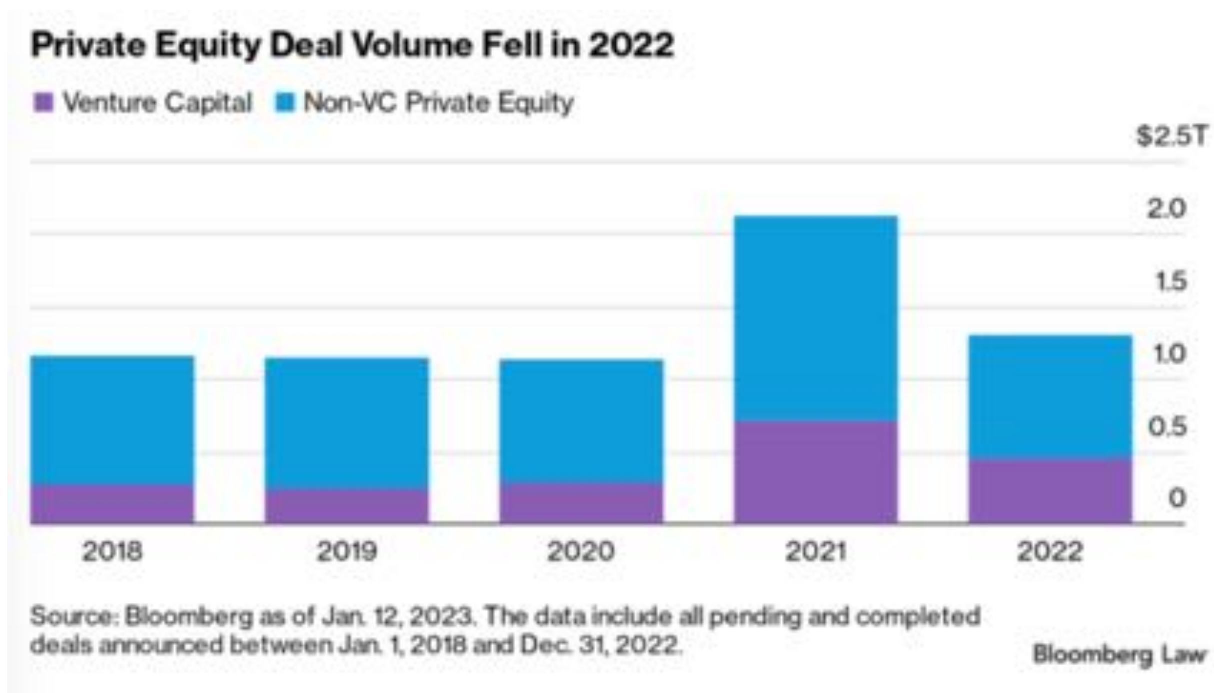
Private Equity

Private Equity is the investment process of buying and selling non-publicly traded companies. Firms are able to raise money through investors, such as institutions, endowments, pension funds, and high net worth individuals, to improve the financial performance of companies they pursue. Coming off of a record breaking 2021, deal activity in private equity slowed dramatically in 2022. Factors such as soaring inflation, spiking interest rates, and threatening geopolitical tensions had significant repercussions in the private markets. Mergers and acquisitions (M&A) activity dropped approximately by a third year-over-year and venture capital deal flow experienced a 36.6% drop (Miller). Despite the weakened economy and increased volatility, deals did not completely stop, suggesting that expectations for 2023 performance is optimistic but still unclear.



Leveraged Buyouts

By: Sean Gaughan

2022 was a slower year for Leveraged Buyouts compared to 2021, however the deal flow was still relatively strong. The largest deals include a $44 billion deal for Twitter led by Elon Musk, a $16.5 billion deal for Citrix Systems led by Vista Equity Partners and Evergreen Coast Capital, and a $17 billion deal for Anthenhealth led by Bain Capital and Hellman & Freeman. Recently, Private Equity firms have shifted their method of funding deals by taking on less debt and using more of their own equity. It is customary for Private Equity firms to finance their

purchases through a mix of debt and equity; however, due to rising interest rates, it is more expensive to take on debt, and firms are drastically shifting the percentage of their deals funded by debt from an estimated 60-80%, down to 9-50%. Deal values as of March 20th of this year are only $63.2 billion, down 40.5% from this time last year. Among these low debt financed deals was Blackstone's acquisition of Cvent Holding Corp, which borrowed only $1 billion of the $4.6 billion deal. Even more drastically was Silver Lake and the Canada Pension Plan Investment Board's purchase of Qualtrics International with less than 10% debt. Vista and Thomas Bravo also have been financing their deals with mostly equity.

Twitter LBO Acquisition

By: James Byrne, Henry Feudtner, Michael Barrett, Andrew Giattino

Elon Musk recently bought Twitter through a leveraged buyout (LBO) which has drawn attention to the unique aspects of this particular deal. Musk stated that he bought Twitter to help humanity but the opportunity for dialogue was lost due to polarized media platforms. In a public statement about the Twitter deal, Musk claimed that "[he] didn't do it to make more money…[he] did it to try to help humanity, whom [he] love." The fact that Musk did not make this investment with money as the primary motive speaks to the unusual nature of this deal.

What makes this particular LBO unique is that Musk is playing the role of the private equity firm, contributing about 72% of the $46.5 billion financing in equity, or about $33.5 billion, with the remainder coming from a debt package provided by big Wall Street banks. This is unlike most LBOs, where private equity firms try to put in as little of their own equity as possible. Of the $7.1 billion raised to assist Musk in the deal, about $5.2 billion of the funding is from 18 equity partners apart of the deal, and the other $1.9 billion will come from Saudi Prince Alwaleed bin Talal Al Saud, rolling over his current Twitter stake.

However, this LBO still has several factors in common with other typical LBOs. It requires a thorough analysis of Twitter's financials and operations to determine the feasibility and potential success of the deal. The Twitter stock ended Thursday at $53.70, its last closing bell before Elon Musk took over. Musk paid $54.20 per share. Twitter has a current Real Value of $27.4 per share, and the company's regular price is $53.7. Their debt capacity keeps rising as Musk continues on adding more than $13 billion in debt as advertisers flee. Their capital structure, consisting of a combination of debt and equity, consists of $3.7 billion in total debt, $35.3 billion in total equity, and an overall debt-to-equity ratio of 0.10 as of 2022. Potential returns for the company are 7x price per share or equivalent to $42 billion in market capital. However, this number is subject to increase with recent questions regarding Elon's actions and leadership arising. Twitter ultimately has a significant amount of debt on its balance sheet, and the debt financing for the LBO deal is not investment grade, rather in the form of junk bonds and leveraged loans.

Moreover, the capital structure of the LBO had to balance the interests of the acquiring party, existing shareholders, and other stakeholders. Possible exit strategies could include selling

the company to another investor or taking it public through an IPO. The potential returns on the LBO of Twitter would depend on the price paid for the company, its future growth prospects, and the success of the acquiring party in executing its strategy.

In conclusion, while Elon Musk's proposed LBO of Twitter is unique in that he is taking on a larger equity stake than typical private equity firms, it still requires a comprehensive analysis of the company's financials and operations. The deal's success would depend on factors such as Twitter's debt capacity, capital structure, potential returns, and exit strategy.

Citrix Acquisition

By: Mickele Sivere

Citrix Systems Inc. is a cloud computing company that develops software allowing users to remotely access computers and other cloud services. In Q4 of 2021, Citrix saw revenue of $850.8 million, marking a 5.1% increase from the previous year. The company's earnings decreased from $112.1 million a year earlier to $102.9 million. By late January of 2022, Vista Equity Partners and Elliott Management Corp.'s private-equity arm Evergreen Coast Capital reached a deal to purchase Citrix Systems Inc. The all-cash acquisition was valued at $16.5 billion, including debt, with stockholders receiving $104 per share, according to the Wall Street Journal. Private equity firms have sought out software firms like Citrix due to the significant amounts of debt they may carry. In addition to the acquisition, Vista and Evergreen planned on merging Citrix with TIBCO Software, a business data-management software. The motive was to create a company with over 400,000 customers and 100 million users.

Recently, several Wall Street banks have shared that they are preparing to lose at least $1.3 billion due to the Citrix buyout debt. Goldman Sachs Group Inc., Bank of America Corp., and Credit Suisse Group AG alone have estimated losses of $700 million as they search for investors to take on some of the debt package, according to Bloomberg. These losses will be realized on top of the $600 million in losses suffered by underwriters the previous year. Only time will tell the severity of the losses; however, the banks are struggling to find institutional buyers to purchase the debt which funded the acquisition of Citrix by Vista and Evergreen.

Private Credit

By: Theobald Dengler, Tran Le, Jack Martinez, Anagha Nair, Andrew Paternostro, and Erik Ulmer

Private credit refers to a sector of private equity that deals with corporate lending from non-bank entities. Private lending serves as funding for businesses that are looking for alternatives to traditional bank-provided loans. Private credit is a hugely popular alternative investment asset as it provides a multitude of benefits to both lenders and borrowers. Private lending results in significantly higher yield rates compared to other asset classes and is incredibly adaptable to each individual borrower's needs. The flexibility and profitability of private loans

makes it enticing to investors and is a valuable diversifier in an investment portfolio. The amount of money invested in the private credit sector has increased dramatically over the past several years as investors look for better yields and additional income streams. In 2022, the worldwide private debt market's assets under management (AUM) reached a record $1.4 trillion, according to Preqin. Just a decade ago, the private credit business was much smaller and less developed, this number indicates tremendous gain. Numerous causes, such as the fall in traditional bank lending, the need for more adaptable financing options, and the desire from institutional investors for higher-yielding fixed-income products, have contributed to the development of private credit. Despite the COVID-19 pandemic's effects, the private credit market has held up well and has maintained a high level of demand from investors looking for alternate revenue streams.

KKR, a leading American global investment company, released a report titled *Regime Change: The Role of Private Equity in the 'Traditional' Portfolio*. In this article, KKR suggests an alternative portfolio contribution to the standard 60% in stocks and 40% in bonds to "diversify against inflation." The recommended allocation is 40%/30%/30% in equities/bonds/alternatives, respectively. Alternatives could help protect portfolios from the current high interest rates. The alternatives include 10% in private credit, infrastructure, and real estate. Private credit is a valuable investment that provides risk-adjusted returns to a diversified portfolio.

One of the biggest deals in private credit right now is the buyout of Healthcare Tech firm Cotiviti Inc. Cotiviti is a technology firm that focuses on analytics for efficiency. Taking financial and clinical data points, they work out efficient solutions for healthcare companies. Carlyle group has lined up a 5.5 billion dollar proposal, financed by many large private credit firms, including Blackstone Inc. This buyout would account for half of Cotiviti, which is currently owned by Veritas Capital. This buyout will become the record-largest buyout ever for private credit financing.

Private credit has greatly benefitted from such low-interest rates for the past decade. With liquidity being withdrawn from the banking system, it provides a harsh environment for private credit firms to fulfill business needs for funds. With these high-interest rates, private credit firms are being cautious in where they allocate what is left of their dry powder. Incoming recessions could prove deadly for many businesses' evaluations and earnings, even after surviving the pandemic. Future deals will have tighter coverage ratios and be highly regulated. With pressure from credit investors, managers must take extra steps to ensure their funds are safe.

Distressed Debt

By: Matthew Entin, Alex Clarkin, Connor Mancuso, Jack Durkin, Kamran Chowdhury

Global corporate debt in distressed has increased by around 12.5%, or around $69 billion, from the beginning of March (~$555 bln) to the end of the month (~$624 bln) as a result of the recent collapses of Silicon Valley Bank, Silvergate Bank, Signature Bank, and the collapse and

merge of Credit Suisse with UBS. If Credit Suisse had not been merged/rescued by/with UBS, it was expected that tens of billions of dollars would have been added to the global corporate debt valuation.

Recent, since the beginning of 2022, when the financial support from the government for the pandemic relief came to a halt, distressed debt has been on the rise as inflationary pressures on companies' balance sheets and staff shortages have given rise to emerging stresses on companies' finances, and thus default rates on loans are expected to rise into 2023.

After a long period of low-interest rates, accessible borrowing, and inflated company valuations, companies that thrived under these conditions from the financial support from the government during the pandemic are now realizing the dangers of their amassed debts in a high interest and slowing economy. As a result of an economy where refinancing, borrowing, and raising new capital have become difficult for companies, financial distress for companies have become increasingly high, especially those with heavy debts carried from the then low-interest economy.

Analysts now are expecting higher default rates as a result of the shift in the economy, from 1.4% from last June to around 3.5% expected by mid-2023 according to S&P Global. Higher expectations are also stated by Deutsche Bank strategists as they expect U.S. junk default rates to rise to around 5% by the end of 2023 and around 10.3% sometime around 2024. Many believe that the current economy is only in the early stage of a distressed debt cycle.

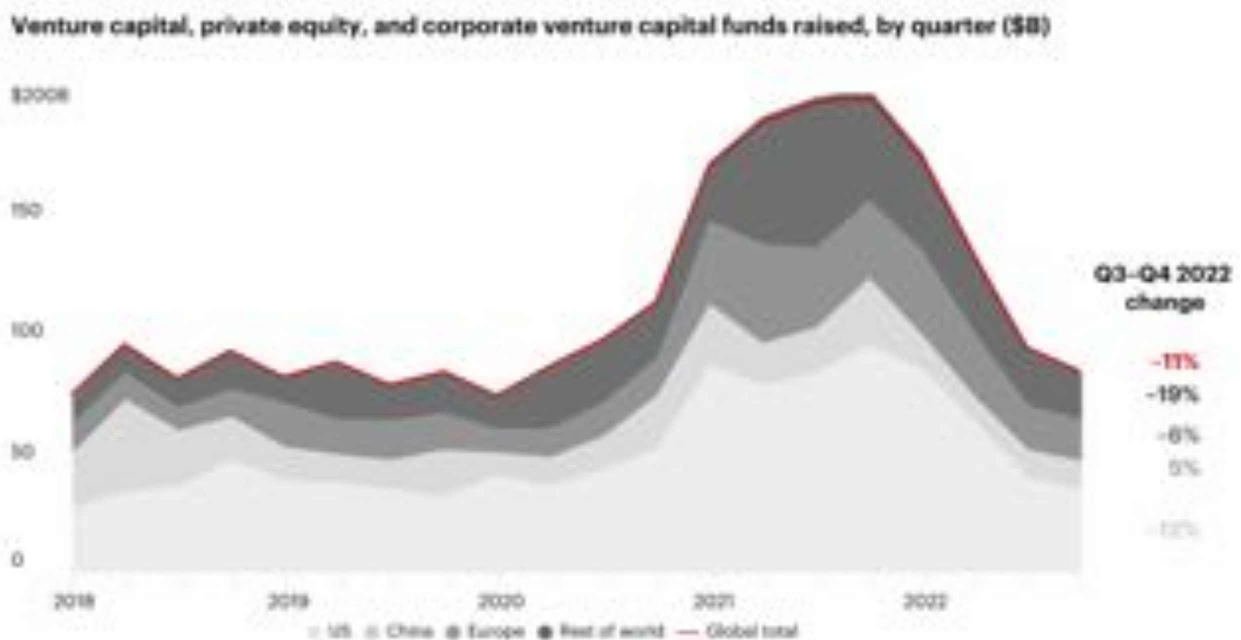
Some major Alternative Asset Managers within the alternatives space are Oaktree, Apollo, Blackstone GSE. There is a specific focus on Private Equity and Hedge Funds, as these firms are often the only source of capital for companies in distress due to the risk. In the present day, distressed debt is expected to grow throughout 2023, as a result of geopolitical instability, inflation and high interest rates. As of the latest data reported at the end of Q3 of 2021, around $95 billion or 35% of the total distressed debt AUM is dry powder. This is above the decade average of 32% of distressed debt AUM made up of dry powder. There is a lot of significance in these statistics as they show that PE firms are sitting on high amounts of dry powder. It opens the question as to where these funds will be invested and what growth strategies are expected.

To highlight specific investment strategies, one key strategy is the Active Non-Control, which is a longer holding period and greater risk tolerance meaning minimal influence in financial negotiations of companies in distress. The Active Control maximizes profitability as the fund manager takes control of liquidation or mergers of distressed funds. Restructuring buys a target company before, during or after bankruptcy and restructure. The industry requirements to employ these strategies is a comprehensive understanding of how bankrupt and distressed companies react to market fluctuations and advisory efforts.

Venture Capital & Growth Equity

By: Eileen Kim, Erwan Pal, Mohammed Hossain, Peter Zangari Jr.

Venture capital is a form of private equity financing that is provided by investors and venture capital firms to startup companies and small businesses that are believed to have high long-term growth potential. According to Preqin's Q1 2022 Venture Capital Report, venture capital AUM has experienced a growth of 20-30%+ over the last four years and has passed the $2 trillion mark in 2021. In correspondence, the proportion of private equity AUM to venture capital AUM has also increased from 14.0% in 2012 to 25.2% at the end of 2021. Following 2021's successful year of VC investments, 2022 saw the venture capital investment market plummet globally. Across the world, startups became victims of geopolitical turmoil, market instability, and continuous fears of recession. From Q3 to Q4 2022, the global venture capital market decreased by 11%, while the United States market decreased by 12% in comparison. This can be visualized in the figure below. Consequently, there are record amounts of dry powder on the sidelines, with $585 billion in 2022, which is an increase from $396 billion in 2017. With record levels of dry powder and the slowing of fund formation, existing dry powder is projected to last for some time, and venture capital firms are taking more cautious approaches when investing. As of September 2022, there are 5,048 funds in the venture capital market, targeting around $400 billion. In addition, $73.4 billion was fundraised by early-stage strategies globally from Q1 to Q3 2022, which was higher than any other venture capital strategy.



Growth equity is a similar industry to VC, which has seen the opposite returns compared to VC. Growth equity (GE) is a type of private equity investment in relatively mature companies that are looking for capital to expand or restructure operations without a change of control of the business. The difference between GE and VC is that VC firms often invest in the very beginning of a company's development without proof of positive economics or customers, but GE rounds occur after a company has a proven business model, significant customer base, and positive

economics. In 2022, VC and GE both had their second-largest fundraising year on record, accounting for more than 50% of PE fundraising for the first time. Preqin estimates that GE has more than doubled since the end of 2016 to approximately $920 billion at the end of March 2021. GE is estimated to be the fastest-expanding private capital in the world, with an annual growth rate of 21% in the past decade. This boom can be attributed to the fact that many blue-chip VC firms have limited capacity, and though they have amassed considerable commitments, they have yet to deploy money to earlier fundraising drives. Due to this, cash is spilling into growth equity, where it is easier to write bigger checks and spend more money because the companies the checks are given to are generally larger and well-established.

Venture Capital Activity

Polygon Technology and Yuga Labs, Inc raised the most seed-stage funding in 2022. Polygon Technology is a developer of blockchain scalability and aims to improve user interface experience. They primarily operate in the software industry, have raised $450.55 million, and are valued at $10.17 billion. Similarly, Yuga Labs, Inc develops non-fungible tokens and digital collectibles, raising $424 million and is valued at $4 billion. Despite Bitcoin dropping over 50% in 2022 from its peak of $69,000 in November 2021 and many failures of cryptocurrency companies like FTX, venture capitalists invested more than $30bn into crypto and blockchain startups in 2022, nearly matching the $31bn invested in 2021. Even though the crypto market has many uncertainties, investors are optimistic about the new opportunities and returns cryptocurrency can bring.

Aion, a Chinese electric vehicle brand of Guangzhou Automobile Corporation, raised $2.57B in Series A funding in October 2022. Shenzhen Capital Group, Guangdong Technology Financial Group, and other investors led this deal, and they achieved a post-money valuation of over $14B. This deal was the largest in the Automobile industry and the second-largest out of the 4,861 agreements made in the Series A stage. Aion reports that they would use the capital to help fund the in-house development of new models, batteries, and other vital components. The company also added that the investment would aid in maintaining a stable supply of raw materials and car chips.

DNAnexus, a California-based company that provides data analysis and management platforms for DNA sequence data, received $200M in funding in a Series I round in March 2022. Blackstone Growth led the round, but other existing investors participated, including Alphabet's venture arm GV. This growth equity deal was the largest of the 11 agreements made in the Series I stage and was one of two in the software industry. Richard Daly, the company's chief executive, stated that the funding would enable it to ramp up its product direction to meet the international demand for biomedical data technologies.

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HEDGE FUNDS

EDITED BY AIDAN CORDERO AND HARRISEN PIKE

Contributors:

Cooper Dionne
Anthony DiGiovanni
Colin Smith
Luke Sheth
Joseph Bubay
Bryan Ruland
Oskar Peloquin
Peter Zangari
Richard Fu
Aidan O'Toole
Matthew Entin
Mohammed Hossain
Jack Abajian
Eknoor Nijjar
Anita Kodali
Nils Gombas
Alexander Golyski
Michael Perchinelli
Vishal Darshan
Adil Kadirov

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Key Trends and Events of 2022

2022 was defined by high energy prices, inflation, and rising policy rates across the globe. Covid-19 fiscal stimulus, supply chain constraints, tight labor markets, and the outbreak of war in Ukraine all contributed to surging inflation both domestically and abroad. In the United States, inflation was the highest in over 30 years, peaking at 9.1% in June 2022. As a result, the Federal Reserve initiated the most aggressive rate-hike cycle in over 2 decades, raising interest rates by 425 bps in 2022. Thanks to this aggressive hiking cycle, prices across all asset classes suffered, and volatility remained well above long-run averages. The era of cheap credit was finally coming to an end after nearly 15 years of ultra-loose monetary policy. This led to a fundamental re-pricing of various securities, which particularly impacted long-duration fixed income products and high-multiple growth stocks. As the discount rate increased, the value of cash flows far in the future decreased, which led to losses among long-duration securities. These losses extended to broader hedge fund performance, which saw a yearly decline of -7.14% in 2022.

Macro strategies posted an average return of 5.52%, credit strategies posted a -2.60% loss, relative value strategies posted a 1.73% gain, event-driven strategies posted a -3.86% loss, and equity suffered the most, seeing a -10.11% loss. High volatility across currency, credit, commodity and equity markets proved bullish for macro-strategies, which capitalized on large price swings and investor uncertainty. Equity strategies suffered as a result of these same dynamics, yet still outperformed the S&P 500, which saw a loss of 19.4%.

Equity Strategies

By: Joseph Bubay, Bryan Ruland, Luke Sheth, Oskar Peloquin, and Peter Zangari

Equity strategies saw a yearly loss of -10.11% in 2022, making equity funds the worst performers among all strategies. Nonetheless, equity strategies outperformed the S&P 500, which saw a -19.4% loss on the year. As of 12-31-2022, equity strategies posted a 3 year cumulative return of 22.91%, a 3-year average Sharpe ratio of .38, and a 3-year average volatility of 13.5%.

The highest-performing equity-strategy hedge fund within the Preqin database as of 12-31-2022 is the Button Growth Fund - Class A. This fund saw an annual return of 147.8% in 2022. Button is described as a "Cayman Islands-domiciled hedge fund that employs a long/short equity strategy primarily in the US market … Its investment objective is to take long or short positions that may be leveraged and that are within the boundaries of the stated investment restrictions." Button has a total AUM of 35.5mm and is run by Hong Kong based "multi-asset management platform," OP Investment Management.

Within equity strategies, long / short performed the best while long bias performed the worst. Long / short posted a loss of -7.21% in 2022, while long bias posted a loss of -15.85%.

This performance can largely be attributed to the lower relative beta of long / short returns, which will naturally outperform higher-beta strategies in a bear market.

Credit Strategies

By: Eknoor Nijjar, Anita Kodali, and Nils Gombas

Credit strategies saw a yearly loss of -2.60% in 2022, making credit funds the middle-performer among all 5 strategies. Credit strategies outperformed the S&P US Aggregate Bond Index, which saw a -12.04% loss on the year. As of 12-31-2022, credit strategies posted a 3 year cumulative return of 9.36%, a 3-year average Sharpe ratio of .15, and a 3-year average volatility of 6.97%.

The highest-performing credit-strategy hedge fund within the Preqin database as of 12-31-2022 is the Sage Residential MSROF I LLC fund. This fund saw an annual return of 37.52% in 2022. Sage Residential Management is described as "an alternative asset manager focused on bespoke investment opportunities in the residential real estate sector… Sage utilizes a suite of advanced machine-learning and data analytics tools to seek efficient execution on each opportunity." Sage has $510mm AUM, and is based out of Morristown, NJ.

Within credit strategies, mortgage backed securities performed the best while fixed income performed the worst. MBS strategies posted a gain of 1.67% in 2022, while fixed income posted a loss of -4.12%. These returns can largely be attributed to the relative outperformance of agency MBS relative to corporate credit and other spread products.

Event Driven Strategies

By: Alexander Golyski, Michael Perchinelli, and Vishal Darshan

Event driven strategies saw a yearly loss of -3.86% in 2022, making event driven funds the second-worst performer among all 5 strategies. As of 12-31-2022, event driven strategies posted a 3 year cumulative return of 31.27%, a 3-year average Sharpe ratio of .64, and a 3-year average volatility of 11.74%.

The highest-performing event driven strategy hedge fund within the Preqin database as of 12-31-2022 is the Quinn Opportunities Master fund. This fund saw an annualized return of 29.78% in 2022. Quinn Opportunity Partners is described as "fund manager that uses event driven, long/short, and intrinsic value strategies to seek the most efficient risk/reward propositions in the public markets. It believes that its multi-strategy approach positions the fund to generate substantial long-term results in any market environment." Quinn has $307mm AUM, and is based out of Charlottesville, VA.

Within event driven strategies, distressed performed the best while opportunistic performed the worst. Distressed strategies posted a gain of 2.58% in 2022, while opportunistic posted a loss of -11.50%. Distressed strategies saw a significant increase in investment

opportunities as a result of tightening financial conditions and an increase in corporate bankruptcies. Opportunistic strategies were highly exposed to unfavorable corporate events such as the underperformance of IPOs and earnings reports.

Relative Value Strategies

By: Aidan O'Toole, Matthew Entin, Mohammed Hossain, and Jack Abajian

Relative value strategies posted a yearly gain of 1.73% in 2022, making relative value funds the second-best performer among all 5 strategies. As of 12-31-2022, relative value strategies posted a 3 year cumulative return of 19.12%, a 3-year average Sharpe ratio of 1.24, and a 3-year average volatility of 3.23%.

The highest-performing relative value hedge fund within the Preqin database as of 12-31-2022 is the Diversified Equity Market Neutral Fund, run by Altema Asset Management. This fund saw an annual return of 51.50% in 2022. Altema Asset Management is described as a "fund manager focused on managing alternative investment strategies while making sophisticated asset allocation strategies accessible to both individual investors and select investment advisors … [Altema] believes in the optimal portfolio to maintain a passive core exposure to asset classes and pure active investment strategies. It constructs portfolios to minimize unwanted risk exposures." Altema has $29.4mm AUM, and is based out of Winnipeg, Canda.

Within relative value strategies, relative value arbitrage performed the best while convertible arbitrage performed the worst. Relative value arbitrage strategies posted a gain of 3.15% in 2022, while convertible arbitrage posted a loss of -6.76%. High volatility in markets often leads to relative mispricing between assets, which creates opportunities for relative value arbitrageurs to step in to restore market efficiency. Convertible arbitrage funds were not able to capitalize on this volatility in 2022.

Macro Strategies

By: Adil Kadirov, Richard Fu and Peter Zangari

Macro strategies posted a yearly gain of 5.53% in 2022, making macro hedge funds the best performers among all 5 strategies. As of 12-31-2022, macro strategies posted a 3 year cumulative return of 31.14%, a 3-year average Sharpe ratio of 1.54, and a 3-year average volatility of 4.85%.

The highest-performing macro hedge fund within the Preqin database as of 12-31-2022 is the Haidar Jupiter Fund, run by Haidar Capital Management. This fund saw an annual return of 192.77% in 2022. Haidar Capital Management is described as a fund "that utilizes quantitative strategies focused on global macro investing … [Haidar] develops portfolios customized for institutions seeking opportunities to invest in niche quantitative strategies and various

combinations of currency trading and managed futures strategies" Haidar has $2.92bn AUM, and is based out of New York, NY.

Within macro strategies, managed futures / CTA performed the best while general macro performed the worst. Managed futures / CTA strategies posted a gain of 7.54% in 2022, while general macro posted a gain of 4.86%. Managed futures / CTA (commodity trading advisor) funds invest in a diversified portfolio of futures contracts across currency, interest rate, and commodity markets. These markets saw extreme volatility in 2022, which led to lucrative trading opportunities for fund managers. General macro funds were more exposed to emerging market asset classes, which underperformed in 2022 leading to lower relative performance for these funds.

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EDITED BY JOHN SULLIVAN AND JASON LEVENTHAL

Contributors:

Maximilian Dec
Christopher Webb
Joanna Li
Albert Bonardi
Elliot Tsai
Tina Chen
Christopher Chong
Jack Golden
Erik Ulmer
Erwan Pal
Mohammed Hossain
Balázs Berényi
Uday Chugh

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Multifamily

By: Maximilian Dec

Forward projections of the multifamily real estate market indicate positive growth with strong demand for housing in primarily secondary markets around the country. Whether it's rental prices, migration of the renter population across the nation, or new developments, there is a common theme of increases in each category. Take for example, commercial real estate firm CBRE expects that the US multifamily sector will perform above average in 2023 despite economic headwinds and ongoing capital markets disruptions. Furthermore, it was mentioned that strong housing fundamentals should keep occupancy rates above 95% and drive 4% rent growth, although ultimately being less than the 3% vacancy rates and double-digit rent growth in the past two years. Of these statistics, the Midwest market led the nation in percentage of rent growth, with the Sun Belt market on the other end of the spectrum as the least in terms of growth, according to Apartments.com. This may be due to people now being able to work from home, capitalizing on the attractive rental prices in cities like Cincinnati and Indianapolis. Despite some markets remaining a negative statistic, there is a general upward-sloping trend signaling a revival in the overall macro environment.

Regarding new multifamily developments around the country, the cost and availability of construction debt financing proves to be a constraint and is causing a slowdown in the completion of new projects. Commercial real estate information provider CoStar reports that by the year 2035, apartment developers will have to provide at least 4.3 million more units to keep up with demand. The majority of the new construction and apartment demand will be in secondary markets in states such as Idaho, North Carolina, and Florida to name a few. This is directly in line with the migration from urban primary markets to the rest of the country as the pandemic enabled the rise in 'work from home'. Despite high costs, demand for more housing is still abundant meaning development will not slow to a complete halt anytime soon, a good outlook for the future. Developers and investors alike understand this, and CBRE reports: "New construction deliveries of 100,300 units in Q4 brought the total for 2022 to 341,200—the highest annual amount since the 1980s. With more than 800,000 units under construction at year's end, similar annual delivery totals are expected over the next two years" (CBRE). Despite the increase in new construction, however, there was an unintended increase in negative rental absorption as many tenants were priced out of housing by landlords trying to regain lost money from the pandemic. However, there is still light at the end of the tunnel as, "Average monthly net effective rent increased by 6.7% year-over-year in Q4, down significantly from the record 15.2% year-over-year increase in Q1 but well above the pre-COVID average of 2.7%" (CBRE).

In the end, whilst the primary markets around the country seem to be stuck in cyclical and tumultuous environments, secondary markets are thriving so much that demand may soon overtake the current and insufficient supply. Furthermore, investors in all–class properties within these markets can expect to see increases in revenue concurrent with the increases in rents.

Finally, developers can continue to profit from the increasing stream of demand and strive to provide quality housing for all.

NYC Market

By: Maximilian Dec

Primary markets such as New York City remain cyclical in nature, constantly influenced by micro and macroeconomic conditions creating new problems and opportunities. From a regulation standpoint– landlords, developers, and investors alike have been forced to adjust to new changes and have been voicing predictions of a negative outlook in the near future. The elimination of New York's 421-a tax abatement policy has been the most prominent of these changes and is leading many to question the viability of new development going forward. The policy was designed to give developers a tax break by reducing property taxes for a set number of years as long as they include "income-restricted units" in the rent roll. After the pandemic, the tax abatement policy expired, and the NY state legislature never reinstated a new plan, officially eliminating this policy for good. According to a BISNOW report, "Developers have said it is impossible to build affordable housing without it; NYC's Furman Center analysis shows between 2010 and 2020, 68% of all housing developments used 421-a in some way" (Long). Without 421-a, developers predict overall new development would dry up.

The second most pressing issue for investors in New York City is the new statutes surrounding Local Law 97. With the passing of the climate mobilization act including Local Law 97, landlords will have to comply with emissions caps by 2024 or else face massive fines. This is aimed to reduce NYCs carbon output by 80% by 2050, however, a study projected 13,500 properties will not comply by the year 2030, with a cumulative fine of $900 million. Investors and owners of older properties are the first to deal with this as refitting these properties with compliant technology and systems are too expensive, and they feel they are being unfairly forced to comply or risk their property.

These issues aside, there may be a bright future for New York City's real estate professionals with the aid of Mayor Eric Adams's plan to 'Get Stuff Built'. With the recent low volumes in new development, this new program plans to streamline the entire process by up to 50%. Lower-class properties and smaller affordable housing multifamily properties will be exempt from Environment assessment statements (EAS), cutting roughly 6-8 months off of the pre-development process for new projects. This is a very attractive policy for new investors as less time is spent on a project, less money is spent on taxes simply waiting for the project to begin, etc.

There are numerous issues facing the New York City market not directly related to the affairs of the Albany Legislature. As a result of low rents and concessions seen during the COVID-19 Pandemic, landlords have been forced to exorbitantly increase rents with the most recent average market rent reaching $5200 per month. According to CNBC Wealth editor Robert Frank, in Q4 2022 Manhattan rents increased 2% to the surprise of many people hoping the

extremely hot summer rental market would cool down. This is a result of landlords re-leasing covid priced rental units with an increase to 20% and the goal to regain lost revenue post-pandemic. Property owners and investors are in a good position however as the overall vacancy is low relative to the rest of the United States, although as time progresses rents will have to be reduced to meet tenants at a lower level.

Secondly, the office real estate market is dwindling post-pandemic, and many investors are turning to multifamily conversions as a result. Financial district office vacancies according to BISNOW have reached 20% this month, with many obsolete office spaces being perfect candidates for alleviating the low supply of housing in the city. Furthermore, as long as certain conditions are met, the Office Adaptive Reuse Task Force offers many incentives to encourage these conversions. Furthermore, as property owners seek financing for these conversions, new opportunities arise for investors with the possibility of rather substantial returns.

On a positive note, despite rising materials costs, NYC construction is not slowing down in the future according to CRE professionals. Real estate professional Peter Canty Mentioned "The first half of 2022 brought a 24% overall increase in construction starts in the nation's top markets compared to the year prior, signaling that the industry remains agile in the face of uncertainty" (Canty). Furthermore, the New York Building Congress mentioned that a possible $86 billion was spent on construction this past year, proving investors are hungry to hit the ground running even during uncertain times.

In conclusion, it is difficult to make a concrete judgment on the state of the New York City market at the current moment. With the constant struggle to balance the idealistic regulations from the local governments with the wants and needs of local investors, many are questioning the health of NYC real estate while fearing a 'looming' recession. Conversely, those interested in rentals currently with skin in the game have a positive outlook whereas a few years ago were hanging on by a thread. Nevertheless, there is still faith in the nation's largest city to continue progressing with its positive growth.

Capital Markets

By: Christopher Webb

Since the back half of 2022, market volatility due to interest rate hikes has caused many lenders to ease their financing practices until the markets show signs of recovery. As interest rates increase, cap rates tend to expand, meaning that the real estate itself becomes less expensive with respect to the cash flows that the property produces through rental payments. The CBRE Capital Markets 2023 Outlook Report states, "Since bottoming in early 2022, cap rates are up approximately 100 basis points (bps) across all property types, translating to a 10% to 15% decline in values through the first three quarters of 2022" (Capital Markets, CBRE).

Additionally, the recent issues of Silicon Valley Bank, Credit Suisse, and First Republic Bank have revealed the instability of banks and has caused lenders to be very selective in providing loans, in turn making it more difficult for borrowers to receive financing for projects.

While the Fed Funds Rate has continued to rise in recent months and correctly sits between 4.75%-5.00%, the Fed is expected to cease rate hikes around 5.25% which means more stable markets are foreseeable.

With stabilizing rates on the horizon, lending practices should pick back up over the course of the next twelve months as long as lenders, investors, and real estate developers are able to regain their confidence despite the recent events within the banking industry.

Home values are down from their peak in June 2022. According to Redfin, the total value of US homes was 45.3 trillion in 2022, down 4.9% from the record high of 47.7 trillion in June. This decline is the largest June to December-percentage difference since 2008. Chen Zhao, who leads the RedFin economic research team, said “The total value of U.S. homes remains roughly $13 trillion higher than it was in February 2020, the month before the coronavirus was declared a pandemic,” and added “unfortunately, a lot of people were left behind. Many Americans couldn’t afford to buy homes even when mortgage rates hit rock bottom in 2021, which means they missed out on a significant wealth-building opportunity.”

Curious about where in the US will face the steepest price declines? According to Goldman Sachs, by late 2024 home prices will fall 19% in Austin, 12% in Seattle, 16% in Phoenix, and 15% in San Francisco when compared to late 2022 levels.

How are investors perceiving the decline in home prices? According to Newmark in their Q4 US capital markets overview, PE dry powder is still near record levels. They estimate that over half of the 424 billion in leveraged purchasing power is aimed toward residential real estate. Investors continue to favor multi-family, which made up 38% of asset allocation at the time of the report.

Retail

By: Joanna Li

Restrictions implemented during the pandemic led to the closure of many retail businesses, amplifying the growth of e-commerce which was already gaining rapid traction pre-pandemic. In 2021, record-breaking annual growth in online sales of over 14% was achieved, accumulating over $870 billion in total sales (Dolhyj). The increase in e-commerce has caused a reduction in the use of numerous retail spaces, resulting in an ongoing surplus of unoccupied properties in the aftermath of the pandemic.

Retail properties experienced an average vacancy rate of 4.9% between 2020 and 2021 (Dolhyj). Despite brick-and-mortar retailers reopening after the lockdown, they were significantly impacted. Several companies were unable to operate at pre-pandemic levels, while some closed down permanently. However, as the pandemic subsides, landlords with vacancies strategize plans to occupy the vacant spaces. As a result, the outlook for retail real estate investment in New York City appears optimistic.

Today, landlords utilize innovative tactics to increase their occupancy and returns by capitalizing on the retail industry’s strengths in the post-pandemic economy. Some property

owners leveraged their vacant space by transforming previous shops and showrooms into fulfillment centers and delivery hubs (Williams). Due to the decrease in physical shoppers, several landlords and retailers have reduced the size of showrooms in their properties. The reduced size in leased space is more affordable and frees extra square footage to accommodate the increasing number of orders for shipping and returns (Williams). This strategy results in the spaces becoming more attractive to contemporary retailers.

Industrial

By: Albert Bonardi and Elliot Tsai

The Covid-19 Pandemic caused rapid growth for certain areas of the Industrial Real Estate Industry. Due to the accelerated adoption of e-commerce caused by lockdowns, a transition that would have taken about five years was done in a couple of months to keep up with unexpected demand. This caused a frenzy for Industrial Real Estate facilities to allow for faster distribution of products.

Experts say that the trend towards e-commerce will act as a major tailwind for growth of industrial properties. As same or next-day delivery becomes more normalized and expected by consumers, this will require more built out distribution facilities and supply chain infrastructure. This will therefore likely lead to continued stable demand going forward for industrial real estate facilities.

Even though demand has slowed since the initial spike over the Pandemic, vacancy levels are still at lows of 4%, and rents have risen in some locations as high as 12% to keep pace with inflation. Low vacancy levels and large pricing power even despite a broader economic slowdown is a good sign for the future of the industrial real estate market.

As for industrial properties unrelated to e-commerce, the Covid-19 Pandemic did not have a strong impact. Because most industrial jobs can’t be performed remotely, commercial properties have not been severely impacted by work-from-home trends in a post-Covid world (Dolhyj, 2023).

REITs

By: Tina Chen and Christopher Chong

Higher interest rates generally create difficulty in the real estate market. However, research has shown that REITs are more likely to remain resilient than other major asset classes, such as stocks, bonds, and commodities, due to strict regulations and risk management. Debt-to-market assets have remained below 40% since 2011; as of the 3rd quarter of 2022, leverage is at a comfortable 34.5% (Funari). Many REITs took advantage of low fixed-rate debt in 2021 to lock in favorable rates for the long term, minimizing the impact of recent FED rate hikes. In 2021, the total annual return of the S&P 500 was 28.7%, compared to the FTSE Nareit

All Equity REITs Index generated a total annual return of 39.9% (DiLallo). In the current period of high inflation and slower economic growth, REIT regulations and well-managed balance sheets provide an advantage against other investors, enabling REITs to produce strong returns.

Reputation and track record are highly important in this space, as there have been many recent scams in which REITs make false promises of low-risk and high return. Examples of these failed REITS include New York City REIT, which lost 20% of its original value and stopped cash distributions to investors, and Hospitality Investors Trust REIT, which conducted its IPO at $25 per share but dropped to $9.21 later on.

Office

By: Jack Golden

New York City Office buildings are still experiencing record vacancy rates due to the pandemic and the normalization of remote work. Cushman & Wakefield estimate that the vacancy rate for office buildings in Manhattan is 22.2%, landing much higher than their prediction one year ago. Due to the large amount of vacancies, building owners are looking for ways to utilize the space in other ways. One of the most common ways this is achieved is by converting offices into apartments. While this process is both difficult and expensive, some office building owners in suitable locations are repurposing their offices into residential space. New York City Mayor Eric Adams has been supportive of these transitions as he attempts to figure out a solution to the office vacancies. Building owners have found that companies have recently been choosing newer and more modern spaces to lease. The older, more cramped offices have been more likely to experience vacancies, and therefore, this type of building has been subject to being repurposed.

Residential

By: Erik Ulmer

The National Association of Realtors published that in January of 2023, the median existing-home price was up 1.3% to $359,000 compared to the year prior. Supply for residential housing remains near historic lows in 2023, causing the market to remain propped up despite interest rate increases and broader market uncertainty. The catalyst for this supply shock is largely due to homeowners who were able to lock in record-low interest rates being highly unmotivated to sell, and with 70% of homeowners having mortgage rates under 4%, it is unlikely to see a significant addition of homes to the market soon.

A slowdown in new construction of single-family homes in 2023 has exacerbated the supply shock; according to data from the U.S. Department of housing, construction starts in January were down 4.3% from December, and building permit applications were down 1.8% from the previous month. As Rick Sharga, a VP at ATTOM Data puts it, there is no likely

scenario where inventory levels will return to normal in 2023. It is currently a sellers' market which will prove difficult for prospective home buyers in the residential space.

Developing U.S. Markets

By: Erwan Pal

After a slow housing market and mortgage rates almost doubling since the beginning of 2022, the housing market seems poised to make a comeback, with home sales, in the top ten emerging markets expected to grow by 5.2% in 2023.

Hartford, Connecticut, was said to be the number one housing market for 2023, with forecasted home sales increasing 6.5% and projected home prices rising 8.5%. Harford is the 4th largest city in Connecticut and the 260th largest city in the United States, but because of socio-economic disparities between the city and the suburbs, high poverty rates, and the city's financial problems, the city's population has dwindled in the past few years. Despite this, today, Hartford has thriving art scenes and is home to many festivals alongside prestigious higher education institutions, and the city has cemented itself as a major manufacturing city, providing jobs and various attractions for visitors and residents to engage with. Harford is expected to see a combined growth rate of 15%, higher than any other city in the United States, which is due to the affordable housing present in the city. The city had a median home price in 2022 of $372,000, which was 11.7% less than the national average of $415,750.

In addition to affordable housing, Hartford presents a solid mix of economic and pleasure activities, with proximity to significant employment opportunities, which are crucial factors for an emerging market. Because mortgage rates doubled in 2022, it was hard for first-time home buyers to justify a home purchase due to the magnitude of spending they would incur. Hartford remained insulated from the dramatic rise in mortgage rates, with the fourth highest rate of FHA loans, governed-backed mortgages insured by the Federal Housing Administration, at 15.4%. Not only this, but because Hartford didn't experience intense growth during the pandemic like other cities did, it remains affordable and is destined to have an economic boom because of the employment opportunities present. In addition, with companies continuing with remote work, consumers are more attracted to cities where their cost of living is lower because there is no constraint of having to travel to work, making Hartford perfect. With affordable housing prices, employment opportunities, and visitor attractiveness, the city is likely to become a real estate hotbed within the coming years.

In addition to emerging residential real estate markets, it is valuable to view emerging industrial markets such as Laredo, Texas, and South Central Valley, California. Laredo is home to one of the busiest U.S./Mexico land ports, facilitating nearly 60% of all annual trade between the two countries. The region has a bustling industrial market because of its proximity to Mexican markets and manufacturing operations in Monterrey. The city continues to see record demand, with many developers buying warehouses in bulk to support increased demand. The warehouse and distribution labor force is expected to grow by 11% over the next ten years, and

with its convenient location and access to Mexico, companies are increasing their workforce because of the attractive supply chain efficiencies. Laredo's industrial real estate supply has grown 10% in five years, and the city possesses a meager vacancy rate of 1.5% for the industrial asset class. Because of the increased demand, an additional eight facilities are being constructed with a total of 2.6 million square feet, and industrial asking rent is forecasted to grow by 10% in 2023. With the increased demand for trade with Mexico and the increase in the supply of industrial spaces, Laredo continues to be attractive to industrial investors and companies.

Another emerging industrial market is South Central Valley (SCV), California. SCV is located in the center of California, allowing access to California's large consumer population, and the region has become one of California's fastest-growing industrial corridors. SCV's warehouse labor force is expected to grow by nearly 22% in the next ten years because of tax credits available for businesses that create new jobs in the region. Because of the region's proximity to transportation, metro areas, and strong demand for industrial space, SCV is positioned for growth. It is more attractive than the Bay Area or Southern California because of its location, labor pool, and land availability, and with expected increased demand, the region is expected to grow and stay stable in 2023.

International - China

By: Mohammed Hossain

China's property sector, which constitutes approximately 30% of the country's GDP, has been highly unstable in recent years, attracting increased scrutiny from government officials. New restrictions on the industry, including crack downs on developer borrowing and increased down payment requirements, have been made in an effort to create a more affordable housing market for buyers, decrease leverage, and increase confidence in the debt markets.

This effort by the Chinese government initially began in August 2020, with the People's Bank of China and the Ministry introducing the Three Red Lines Policy to improve the financial health of the real estate sector by reducing developers' leverage, improving debt coverage, and increasing liquidity. The Three Red Line policy criteria were: (1) liability to asset ratio must be less than 70%, (2) net gearing ratio of less than 100%, and (3) cash to short-term debt ratio of at least one. There were massive improvements and several rating upgrades for real estate developers.

Evergrande Real Estate, the second largest real estate developer in Mainland China, is a prime example of the over-leveraged Chinese real estate market. In recent years, the firm used leverage and pre-sold apartments to aggressively amass land and develop projects, with research firm Capital Economics estimating that Evergrande sold about 1.4 million unfinished apartments worth a combined $200 billion. Moreover, throughout the pandemic and 2021, property sales dropped significantly, and many homes were underdeveloped because of the rise in commodity prices and a limited number of workers. The company had limited cash and could not take on new debt to progress its projects. In 2021, Evergrande had nearly $300 billion in liabilities and

could not afford to pay the interest on loans and bond repayments, which eventually led to some defaults. As a result, properties were unfinished, and homeowners were raging. All these problems trickled into 2022.

In 2022, ANZ reported that up to 1.5 trillion yuan ($220 billion) of mortgage loans are linked to unfinished residential projects, of which one-third come from Evergrande. Homebuyers with unfinished projects could not live in or rent out their property for a return on investment. They felt robbed, and big corporations were getting away with it. Therefore, many protested by refusing to pay their mortgages, which troubled banks, the government, and real estate developers, including Evergrande. Suppliers, developers, investors, banks, and individuals have suffered greatly in 2022. Bloomberg reported that China lost $1.3 trillion from all the problems, with little to no improvement. Even though the demand for real estate has decreased and caused prices to fall, the ratio of median home prices to income reached 25. China's housing market could see only a sluggish recovery in 2023 with new-home sales growing at a low single-digit rate or slower, driven by a weak economy, falling housing prices, and the sector's liquidity crunch.

International - Europe

By: Balázs Berényi

The war between Russia and Ukraine is affecting European countries not only politically but also economically. In the past, Europe relied heavily on Russian gas and oil, which the EU stopped buying after the world's largest country started the invasion of Ukraine. This led to an energy crisis across the continent, creating chaos across many economic segments, including real estate.

One of the countries most affected by the energy crisis in the EU is Hungary. During the first three quarters of 2022, the average price of a house increased by 21,1% (Pénzcentrum), although the demand fell by 30% (Növekedés.hu). The energy crisis can explain this. The market sank as most people had to spend their savings on other things; however, the price of energy-efficient houses skyrocketed at the same time dragging up the prices. The new trend shows that people are desperate to sell their old family houses or flats with anachronistic heating systems (Növekedés.hu) as the maintenance of these properties has increased significantly. Data suggests that because of this trend, the county seats have experienced the most significant growth in real estate prices as across the 19 Hungarian counties, it ranged between 43% and 12%. Budapest, the capital of Hungary, by far the most developed part of the country, experienced a "milder" 20% price growth compared to most of the counties. Experts predict that the low demand will bring balance to the prices of the market in 2023 (Növekedés.hu). This will have a positive effect on the housing market as energy-efficient houses will become more affordable to people, which can also bring a solution to the current energy crisis.

International - Canada

By: Uday Chugh

The Canadian real estate market has recently been met with its fair set of challenges driven by factors such as immigration, an aging population and foreign investment. According to Randall Bartlett, the senior director of Canadian economics at Desjardins Economics Studies, Canada's aging population will now require the country to ramp up on immigration and build housing at a much faster rate to accommodate for the influx of immigrants entering the country.

In recent news, a new Canadian law that was passed on January 1, 2023, has banned foreigners from buying Canadian real estate; foreigners can no longer buy residential properties as investments for a period of two years. This law was enacted simply due to a spike in Canadian home prices since the start of the Pandemic, with some politicians attributing the spike in prices to foreign investors attempting to garner Canadian real estate. According to Prime Minister Justin Trudeau, Canadian homes attracting foreign investors lead to a much bigger problem, that being underused/ vacant housing and increased prices.

Despite the challenge of foreign investors hiking up Canadian real estate prices, downtown Vancouver continues to maintain the lowest vacancy rates in North America. There has been a recent rise in office vacancy rates, reaching 9.8% by the end of 2022. This increase can be mainly attributed to Vancouver being at the conclusion of its largest supply cycle ever. Until Q2 of 2022, Vancouver had a vacancy rate of less than 3%, which spurred demand and interest in new construction, and since some of these construction projects are now completed, this has resulted in an increase in vacancy rates.

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For information about the Alternative Investments Club or concentration, please contact:

Kevin R. Mirabile
D.P.S., Associate Professor of Finance and Business Economics, Director of Alternative Investments Program
mirabile@fordham.edu

Aidan Youngs '23
Co-President of the Alternative Investments Club
ayoungs@fordham.edu

Emme Simning '23
Co-President of the Alternative Investments Club
esimning@fordham.edu

If you would like to make a gift to the Alternative Investments program, please contact Senior Director of Development Rose McSween at rmcsween@fordham.edu.