NIC

— Nova Investment Club —

Newsletter

December 2017

NIC

Nova Investment Club

Foreword

This Month:

In our Macro Overview section, Analysts from both divisions will cover broad macro themes while review major economics news from the past month. In our Deeper Dive section, Katerina Rybarova evaluates the Saudi Arabia anti-corruption war, while Nick Dörner discusses the way Brexit is affecting the property market in Frankfurt.

Our Investment Banking Division will guide you through November's M&A overall activity. Moreover, read about Avantor's bid to acquire VWR, Marvel Technologies Group's proposal to acquire Cavium Inc. and Meredith Corp.'s offer to purchase Time Inc. backed by Koch Industries. Additionally, read a detailed overview on the what happened to Commerzbank. Lastly, get an insight on Nomura's return to its Private Equity Business after a 3-year break, written by our analyst Tiago Marques.

Our Financial Markets Division will present the monthly results of the NIC Fund, an active relative return fund investing across four different asset classes: Equities, Fixed Income, Commodities and Currencies. In addition, the analysts will provide commentary on each of the four major asset classes through analysis of the past month´s major market moves.

Lastly, Manuela Böck examines the reasons why one should worry about smart beta and ETFs, while Tomás Ambrósio provides a detailed review of "A Man for All Markets" book, by Edward Thorp, by analogously linking the first chapter of the book with Nova Investment Club's commitment to learn.

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Macro Overview

Monthly

December 4th, 2017

Deeper Dive

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Regional view

How Brexit affects the property market in Frankfurt

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Market Moves

% change

	Last Close	-1W	-3M	YTD
S&P 500	2,588	0.73%	4.68%	15.59%
DJIA	23,539	0.42%	7.83%	19.11%
Nasdaq	6,764	2.52%	6.11%	25.66%
MSCI World	2,881	0.39%	3.47%	17.02%
MSCI EM	4,233	0.42%	2.47%	22.76%
Russell 2000	1,495	-0.37%	4.59%	10.15%
Euro Stoxx 50	3,690	2.20%	6.41%	12.14%
FTSE 100	7,560	0.45%	2.61%	5.85%
Nikkei 225	22,539	3.37%	12.92%	17.92%
Hang Seng	28,604	1.59%	6.02%	30.01%
Dollar Index	94.94	1.25%	1.80%	-7.11%
EUR/USD	1.162	-1.22%	-1.13%	10.47%
GBP/ EUR	1.126	0.86%	0.72%	-4.01%
GBP/USD	1.308	-0.40%	-0.41%	6.01%
USD/JPY	114.0	0.06%	2.97%	-2.56%
USD/CHF	1.000	0.94%	3.27%	-1.83%
Brent Crude	62.07	6.41%	18.18%	9.24%
Gold	1,269	-0.45%	0.06%	10.20%

Generic bond yields

change in bps

	Last Close	-1W	-3M	YTD
US 10Y Yield	2.333%	-8.6	4.4	-11.2
GER 10Y Yield	0.364%	-11.2	-17.8	15.6
JPY 10Y Yield	0.055%	-1.4	-2.1	0.9
UK 10Y Yield	1.262%	-9.5	4.4	2.3
PT 10Y Yield	2.068%	-24.4	-85.8	-169.6

**Source: Bloomberg, as of 2017-10-31*

In Focus

November

US jobless rate at lowest level since 2001. Employers added 235,000 jobs in October, 35,000 jobs more than expected. Hence the current jobless rate is at a level of 4.1% – the lowest since 2001. Labour market participation rate dropped further to 62.7%.

US economy grows above 3% for two quarters. US GDP growth came in with a strong 3.3% readings, above the consensus of 3.2%. This marks the second quarter in a row that the US economy expands at more than 3%.

US inflation just matching FED target. US inflation is dropping to just 2%, just matching the FED target. Already in October, FED chair Janet Yellen noted that inflation is unexpectedly low this year, a trend that might continue. Low inflation amidst a strong labour market and good GDP growth creates a goldilocks environment for the US. The FED might be inclined to continue with a slow tightening cycle and might just be up for two rate hikes next year instead of 3 as some market participants are expecting.

Eurozone Inflation recovers. Inflation in the Eurozone is lagging consensus by 0.1% with a reading of 1.5% but does follow an increasing trend in the second half of the year. Strongest driver for inflation are energy prices and food inflation with an annualized rate of 4.7% and 2.2%, respectively. This compares to readings of 3.0% and 2.3% in the month of October. Services and especially industrial goods are weak with readings at 1.2% and 0.4%.

German unemployment reaches record low. Unemployment in the largest economy of the common market decreased by 0.1% to 5.4% creating 151,000 jobs in October.

Demand for labour, especially skilled, stays strong with 780,000 open positions registered with German authorities, 88,000 more than in the same period a year ago. The total number of unemployed people decreased to 2.39 m, the lowest number since German Unification.

Portugal grows on Eurozone average. Quarter-on-quarter the gross domestic product expanded by 0.5% in the third quarter lifting the year-on-year growth to 2.5%. This quarter-on-quarter expansion missed the euro average by 0.1% but the year-on-year number still matches the averages after strong growth in the first half of the year.

OPEC plans to further cut supply. After a meeting in Vienna, OPEC decided to extent its current supply cuts of 1.8 m barrel a day till the end of 2018. Brent increased in November by 3.85% to USD 63.57 a barrel after rallying 6.66% in October. Russia, which participates in the supply cuts, is evaluating whether they should continue as Russian oil companies are pushing the Kremlin to abandon supply cuts. Russian production costs are the amongst the lowest in the world and oil executives are worried about the execution of new green field projects as cash flows are delayed.

China PMI stays strong. The Markit Manufacturing PMI and the China Manufacturing PMI by the China Federation of Logistics and Purchasing both stayed strong during November with a reading of 50.8 and 51.8, respectively. This is a drop from of 0.2 for the former but an expansion of 0.2 for the later. Nevertheless, both are indicating further expansion in the second largest economy on the globe.

Julius Nimtz
Financial Markets Division

Deeper Dive

Saudi Arabia anti-corruption war

Katerina Rybarova
Investment Banking Division

On November 4th, 2017, Saudi Arabia arrested four ministers, tens of former ministers and eleven princes including Prince Alwaleed bin Talal, a billionaire investor with significant stakes in companies such as Citigroup, 21st Century Fox or Apple.

The move is one of the latest attempts for power consolidation by Crown Prince Mohammed bin Salman, the son and top adviser of King Salman, in its pursue to transform Saudi Arabia.

Saudi Arabia is in the phase of undertaking the biggest transformation of its economy since the discovery of oil in the 1930s. The Vision 2030 plan of Crown Prince Mohammed bin Salman, announced in 2016, is among others set to fight the corruption, conduct the biggest initial public offering in history valued at USD 2tn or launch a privatization program of USD 200bn.

Additionally, the aim of the restructuring is to diversify the economy, as it is highly dependent on oil. After the recent events in Venezuela, it is seen as of upmost importance to focus on variegation of resources. Such an act means a need of entrepreneurship to support the development of private business sector, as currently the state provides for most of the Saudis' needs. According to the Institute for National Security Studies the official unemployment rate of 11.6% is highly underestimated, indicating that the issue of employment has to be raised. In turn, the new plan promises to generate 6m new jobs by 2030.

Until the implementation of the plan, Saudi Arabia was ruled by the Al Saud family, which held power throughout the country. On November 4th, 2017, the Prince made an arrest of eleven princes, four ministers and tens of former ministers for corruption charges. In the meantime, the arrested are held, interrogated and their assets have been frozen. However, it is not clear what the future will hold. If there will be a trial and if they are found guilty, they will probably be imprisoned, sent into exile or punished in a away found appropriate. Such an outcome comes with several risks as the detained include countries' top businessmen and royals.

Such act shook with world-wide markets displaying week-long volatility as one of the princes, Alwaleed bin Talal, has major stakes in several international institutions. The known holdings include large stakes in Citigroup, Twitter, 21st Century Fox, JD.com and Apple.

While bond prices dropped, oil prices substantially increased to the highest level since 2015. The Saudi equity index decreased by 1.5% on 5th of November 2017. The Kingdom Holding of detained Prince Alwaleed bin Talal was down 9.9%. Twitter's shares declined by 0.6% and Citigroup's by 0.8%.

The crown prince, who is 32 years old, is the leader of the military, foreign, economic and social policies. He engaged Saudi Arabia in a new alliance of Sunni states that is determined to fight Islamic terror until it completely disappears. The alliance includes 41 countries excluding Qatar due to the recent allegations of supporting terrorism in the Middle East. Next to the alliance and recent arrests a new Saudi Arabia anti-corruption committee was created, which the crown prince is in charge of. The committee is fully entitled to investigate, arrest, ban from travel or freeze the assets of potential suspects.

What will the future of Saudi Arabia be is uncertain even though several acts have been already executed. The initiative to bring the country closer to the western economy through innovations, transparency and diversification of resources is in progress. However, a clear plan showing how it will be all financed and executed has yet to be announced. Moreover, there is an uprising question focusing on whether there is an opposition that could object to the current stream of transformations. All in all, it is yet to be seen whether the plan will succeed.

Katerina Rybarova
Investment Banking Division

Regional View

How Brexit affects the property market in Frankfurt

Nick Dörner
Financial Markets Division

"If only 2 people out of 100 of those working in London's banking sector move to Frankfurt, the situation [of overly expensive rents] will get much worse"

Since the beginning of the 19th century, bankers have walked the main streets of Frankfurt's financial district. Back in the days they belonged to the Rothschilds & Co.; but soon they will come from various international investment banks. Among them is Goldman Sachs, who announced that it was taking a big office space in the Marienturm, close to the headquarters of Deutsche Bank, to house additional 800 staff.

Even though the UK has not yet left the EU, and officially no bank has moved staff to the financial hub of continental Europe, local real estate agents see the biggest increase in demand for office space in years. Although not even close the to the size of London, Frankfurt has hosted some of the biggest names in the financial world. Next to the Rothschilds, the four biggest lenders in Germany (Deutsche Bank, DZ Bank, KfW and Commerzbank), the ECB, the German stock exchange and the Bundesbank are home in Frankfurt. As a result of the UK's vote to leave the Union, investment banks from all over the world announced their plans to shift big quantities of staff to the city.

Next to Nomura from Japan, J.P. Morgan, the at the moment most successful investment bank in the world, announced its interest in shifting additional employees to the metropolis. Last week, Frankfurt's largest office building was sold for astonishing EUR 775 m. The buyers (real estate investment arm of Germany's municipally owned savings banks) said that Brexit played an important role in the companies' decision to buy the tower. Other potential candidates for the incoming companies, are the Marienturm and the Omniturm, which are both currently under construction.

Even though prices are rising, the city's commercial property remains comparably cheap. Office space is rented out at around EUR 40 per square meter, which is only 5 per cent more than in 2010. This is still 40 per cent less than what companies have to pay in Paris and even 70 per cent less than the prices in London.

Boom not limited to office space

However, the boom in real estate prices is not limited to office space but spills over into the already booming residential housing market. Problems arise for people with average income. Homes have become increasingly more expensive since 2011, which was long before anyone could anticipate Brexit. Low interest rates and a big flow of foreign investors lead to increases in prices which where comparably cheap for a city of Frankfurt's standing in Europe. Hence, there is the concern that Brexit will heat up the prices even more.

Local residents fear that they cannot afford to host the rich and wealthy; middle-class households with a net income of about EUR 2,500 a month are already struggling to find affordable flats. Felix Wiegand, an activist for the local population states that: "If only 2 people out of 100 of those working in London's banking sector move to Frankfurt, the situation [of overly expensive rents] will get much worse". The city is planning to construct additional 20 skyscrapers in the next years but most likely they will only host the wealthiest of individuals. A year prior to the Brexit vote, purchasing prices for residential property in Frankfurt were EUR 4550 per square metre on average, one year after the Brexit vote prices increased by approximately 15% to EUR 5150.

Nick Dörner
Financial Markets Division

Macro Overview

Economic Calendar

Economic and Political Events

European Council meeting

EU leaders are meeting for their bi-monthly summit from December 14th to 15th . It is a crucial summit for Brexit as EU leaders will decide whether there has been sufficient progress made to start trade negotiations. The Irish border poses the largest conflict.

German politics

After the liberal party FDP ended the sounding out talks, Angela Merkel is looking to the social democrats to form another Grand Coalition. After the worst election results since WWII, the SPD is reluctant to join and may seek high political rewards, while some in the party favour a minority government

Mueller Investigation

After Michael Flynn´s guilty plea regarding the Russia investigation, more news are expected to be released in December. He indicated, that the Trump transition team instructed him to contact the Russian ambassador to the US and talking about US sanctions against Russia.

Central Bank decisions

FED rises interest rates

The US Federal Reserve is expected to continue its tightening cycle. After increasing rates twice this year and announcing to slowly reducing the size of its balance sheet, markets are pricing in another hike in the FOMC December meeting on the 12th and 13th.

ECB meeting

On the December 14th the ECB monetary policy meeting will be hold in Frankfurt. Major changes to current policy are unexpected as the ECB is evaluating the impact of the reduced bond purchasing problem and has ruled out any rate hikes till the end of the program.

Bank of Japan

The Bank of Japan holds its last meeting for the year on December 21st. The BOJ sees the economy expanding steadily and inflation going higher towards its 2% target. However, after lowering the inflation forecast for the year ending in March 2018, further stimulus might be necessary to support the inflation goal.

Inflation and Deflation

EU inflation data

On **December 18th**, Eurostat will publish the CPI report for the Eurozone. Higher inflation readings, especially in southern Europe are necessary for the ECB to continue to reduce its stimulus program.

US Consumer Price Index

On **December 13th**, the US CPI will be published, which is the main economic indicator for inflation. US inflation has been surprisingly low this year, even surprising the FED itself. A strong reading might support the market view of future rate hikes in the US in 2018.

UK Inflation Rate

On **December 12th**, the UK CPI will be published. As inflation is going up constantly amid Brexit in the UK, further higher reading might lead the BOE to increase rates.

Labour Market

ADP employment survey

On **December 6th**, the Automated Data Processing employment survey will be published with a great amount of detailed employment situation insights. Recent readings were stronger than expected but consensus is coming down due to the already low unemployment ratio in the US.

US Employment Situation

The ultimate market mover is the employment report from the US, published on **December 8th**. Investors lay great importance on it and are helped determining in which economic sectors they intend to invest. The running rate is at 4.1% and no change is expected.

Eurostat

On December 7th, Eurostat will release preliminary GDP readings for the third quarter of 2017 for the Eurozone. Investors are looking forward to see confirmation of the continuing recovery process, especially in the periphery.

Julius Nimtz
Financial Markets Division

Investment Banking

M&A

Overall Activity

Global

The global M&A activity in November proved to be consistent with the previous quarters' performance, given that both volume and value of transactions dropped when comparing to H1 2016. As such, last month there were a total of 1,183 transactions globally, worth about USD 218.60 bn, which reflects a 52% decline in value year-on-year and 317 fewer deals.
The major reason behind this downward trend regards not only the uncertainty over Brexit negotiations in Europe but also the overall oil price volatility, hinting a lackluster overview for deal figures in Q4. Furthermore, the natural disaster in North America also fuels the abovementioned slump in transactions. Particularly, Construction has outperformed the remain sectors with an amount of almost 50 deals valued at USD 54.90 bn. As of deal fees, JP Morgan maintained its leading position year-to-date 2017, remaining the number one player in financial advisory services, with a total value of USD 4,971.44 m. On the other hand, Goldman Sachs secured the first place in M&A transactions (both in fees and value terms), with a total value of deals of USD 488,127.70 m.

Selected Regions

North America

Beholding the M&A activity plunge in North America verified since the beginning of the year, November has not been an exception from this decline. Throughout 2017 there were registered 4,832 transactions in the region, valued at USD 1.05 tn, which pronounced about 200 fewer deals in comparison to the ones recorded in 2016. Vistra Energy's USD 10.60 bn takeover of Dynergy remarked the greatest overall transaction in North America.

EMEA

Overall M&A activity in November failed to trail the growth noted in the previous month, since transactions value in Western Europe stumbled to EUR 71,325.00 m from EUR 90,446.00 m recorded in October. The most remarkable countries in terms of deals volume were Denmark and France, even though value-wise Germany has outpaced the rest of the nations, given Fortum Deutschland hostile offer for Uniper worth EUR 8,050.00 m.

Asia

This month, the M&A activity in Asia-Pacific (excluding Japan) accounted for more than 200 deals, a drop of almost 30.00% in value year over year. The underlying months of the year also dropped 7.70% to USD 489.30 bn versus last year results. Nonetheless, in 2017 there has been reached the highest private equity buyout value of USD 96.00 bn comparing to the same period last year with a value of USD 79.80 bn.

M&A

Deals of the Month

Announnced Date	Target	Buyer	Target region	Target business	Value (USD m)	Status
3 Nov 17	Qualcomm Inc.	Broadcom Ltd.	US	Telecommunications	86,900.00	Proposed
13 Nov 17	GGP Inc.	Brookfield Property Partners	US	Commercial Services/Supplies	27,600.00	Proposed
12 Nov 17	Synchrony Financial	HSBC Holdings PLC	US	Financial Services	25,100.00	Proposed
29 Nov 17	Juniper Networks Inc.	Nokia OYJ	US	Networking Technology	16,000.00	Proposed
16 Nov 17	Santos Ltd.	Multiple Acquirers	AU	Oil and Gas	10,000.00	Proposed
22 Nov 17	Axalta Coating Systems Ltd.	Nippon Paint Holdings Co.	US	Paint/Coating manufacturing	9,000.00	Terminate
02 Nov 17	360 Technology Inc.	Sjec Corp.	CN	Infrastructure Software	8,500.00	Pending
27 Nov 17	Huaibei Mining Co. Ltd.	Anhui Leimingkehua Co. Ltd.	CN	Coal Mining Operations	7,600.00	Pending
10 Nov 17	Cavium Inc.	Marvell Technology Group Ltd.	US	Semiconductor Processors	6,000.00	Pending

Inês Patrício
Investment Banking Division

M&A: Top Deals

Avantor to acquire VWR

US-based supplier of ultra-high-purity materials Avantor acquired US-based independent provider of product and service solutions to laboratory customers VWR for USD 6.50 bn, with stockholders receiving USD 33.25 per share, representing a 17% premium.

Buyer vs Seller

Avantor is a leading global provider of integrated, tailored solutions for the life sciences and advanced technology industries and is a trusted end-to-end partner to customers and suppliers from discovery to delivery. On the other hand, VWR has long been the leading global, independent provider of product and service solutions to laboratory and production customers, enabling science for customers in the pharmaceutical, biotechnology, industrial, education, government and healthcare industries.

Industry Overview

With enhanced scale and favourable long-term industry dynamics, new Avantor is well positioned to accelerate growth, benefiting from deeper access to the high-growth biopharma, industrial, and applied research sectors. Together both companies have increased reach and direct channel access, customized logistics and product requirements, and a strong local presence in both developed and emerging markets

Peers	Currency	Market Cap (CUR m)
Bio-Techne Corp	USD	5,028.55
Bruker Corp	USD	5,440.03
Haemonetics Corp	USD	3,019.88
Abaxis Inc	USD	1,067.44
Luminex Corp	USD	931.31

Deal Rationale

The acquisition of VWR by Avantor creates a vertically integrated global competitor in manufacturing and supply chain solutions for the Life Sciences and Advanced Technology Industries. The combined company is optimally positioned to meet customers' evolving needs, from discovery through delivery. VWR will operate as a wholly-owned subsidiary of Avantor. Michael Stubblefield, Chief Executive Officer of Avantor, will lead the combined company. Goldman Sachs, Jefferies LLC, Barclays and JP Morgan acted as financial advisors to Avantor, whereas BofA Merrill Lynch acted as exclusive financial advisor to VWR.

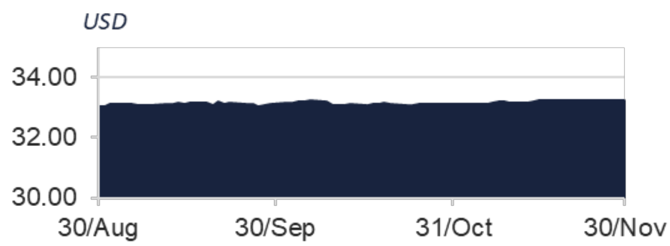
Market reaction

Avantor

Privately held company

VWR

The company's share performance in the last 3 months has been at a constant level. After the deal announcement, the price increased by EUR 0.09.



Future Challenges

Investors forced a group of banks led by Goldman Sachs to sweeten terms on a USD 7.25 bn debt sale from Avantor. Goldman Sachs was compelled to make extensive changes to the terms of both the high-yield bond and leveraged loans backing the VWR deal, according to documents seen by the Financial Times. The changes place stricter limitations on the amount of debt that Avantor can raise in the future, as well as curbing the ability of private equity owners to strip out dividends.

Hoang Nguyen
Investment Banking Division

M&A: Top Deals

Marvel Technologies Group Ltd. to acquire Cavium Inc.

The American semiconductor company Cavium is being targeted by Marvell Technologies in a USD 6,018 m bid. The completion of the deal will create an infrastructure solutions powerhouse.

Buyer vs Seller

Marvell and Cavium are both American-based semiconductor companies providing a range of products in the areas of analog, mixed-signal, digital signal-processing, and embedded ARM-based microprocessor integrated circuits. The deal will be financed by a combination of cash on hand and USD 1.75 bn of debt. Marvell was advised by Goldman Sachs & Co LLC, while Cavium was advised by Qatalyst Partners LP and J.P. Morgan Securities LLC.

Industry Overview

The semiconductor industry continues to see strong growth and 2017 revenues will most likely hit a new record high. Several emerging areas offer great opportunities which pushed industry players to consolidate and gain market share as fast as possible. However, the industry is also in time of transition with new manufacturing technologies, shifts in demand patterns and price pressures cut in the industry earnings.

Peers	Currency	Market Cap (CUR m)
Inphi Corp	USD	1,723.03
QUALCOMM Inc	USD	96,847.46
Broadcom Ltd	USD	109,830.08
Cypress Semiconductor Corp	USD	5,158.46
Synaptics Inc	USD	1,299.32

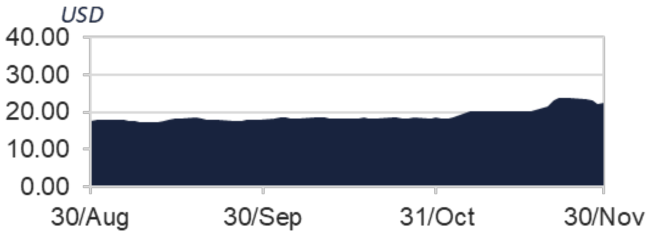
Deal Rationale

As the industry accelerates consolidation, it is becoming more and more necessary for smaller players to combine force so they can compete against semiconductor behemoth like Qualcomm. Furthermore, after years of mismanagement, the new CEO of Marvell needed to find a strategic target so the company could remain competitive in key markets. While there is some overlap between the two companies, there are enough businesses that complement each other. The acquisition is expected to significantly improve their earning power which make the combine company stronger than if they remained stand-alone businesses.

Market reaction

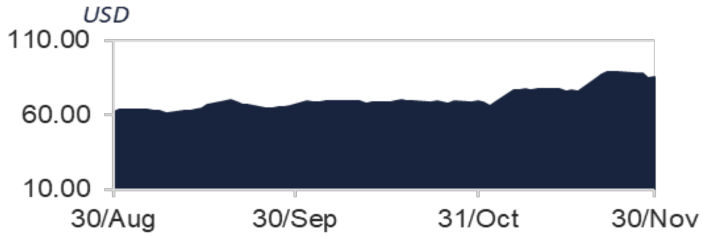
Marvell Technologies Group

Since the announcement, the stock price significantly increased. However, some of that increase was due to strong 2018 Q3 earnings.



Cavium, Inc

After the announcement, Cavium stock priced jumped 8% after the opening bell. The bid represented a 11% premium.



Future Challenges

The transactions will most likely go through. Both boards already approved the deal and since they are small players in the industry there should not have any antitrust issues. However, the optimistic cost synergies might not materialize and their combined force might not be strong enough to remain competitive. Furthermore, it will be a tall order to meet their targeted growth rate.

Mathieu Bourque
Investment Banking Division

M&A: Top Deals

Meredith Corp. to purchase Time Inc. in a deal backed by Koch Industries

Meredith Corp. announced it has purchased Time Inc. for USD 2.8bn. The deal was made possible thanks to the infusion of USD 650m by Koch Industries' private equity arm, owned by the influential Koch brothers.

Buyer vs Seller

Meredith Corp. is an American media conglomerate which publishes mostly non-political magazines. Time Inc., an American press company founded 94 years ago, includes the eponymous magazine, but also "Fortune", "Sports Illustrated" and "People", the most profitable one. Meredith Corp. had abandoned a deal earlier in 2017 because of lack of financing. Koch industries will receive preferred shares in return for its USD 650m investment.

Industry Overview

According to Bloomberg, the publishing and broadcasting market in North America is expecting slower ad-revenue growth for the latter half of 2017. The purchase price of Time Inc. implies a 6.6x forward 2018 EBITDA multiple, 10% below the industry's average of 7.3x. The low multiple amplifies the need for publishers to seek consolidation. The media landscape in the U.S. has been distressed by the election of Donald Trump and the slump of print advertising.

Peers	Currency	Market Cap (CUR m)
Meredith Corp	USD	2,969.17
News Corp	USD	9,463.07
Scholastic Corp	USD	1,439.82
Gannett Co Inc	USD	1,280.87
Houghton Mifflin Harcourt Co	USD	1,202.49

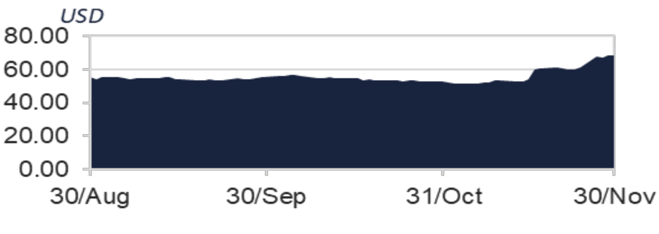
Deal Rationale

The acquisition will give Meredith the control of the legendary magazine as well as of dozens of other big titles such as 'People'. The combination of Meredith local television business with Time Inc. will create a powerful media company. Meredith expects to generate USD 400m – USD 500m synergies in the first two years. The deal is expected to close in the first quarter of 2018. Meredith borrowed USD 3.6bn to finance the acquisition and is expected to sell USD 650m worth of Time Inc. to Koch Industries, the second-largest private equity company in the U.S.

Market reaction

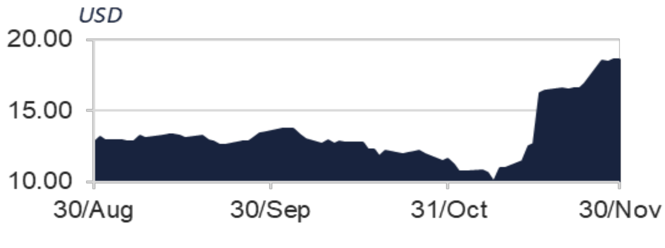
Meredith Corp.

Since the announcement, on November 27th, the stock price had an 11% increase. The total share performance on the last 3 months reached 25%.



Time Inc

The company's share performance in November has been driven by rumors concerning the deal. The share increase by 46% over the last 3 months.



Future Challenges

The investment of Koch Industries is intended to remain "passive". Meredith CEO announced that Koch Industries did not ask a seat in the board. Nevertheless, the Koch brothers are among the most influential donors to politically conservative candidates and causes. This investment stirred up concerns that the Koch brothers might have their say on the editorial content of Time Inc. magazines.

Raphaël AGBANRIN
Investment Banking Division

What happened to

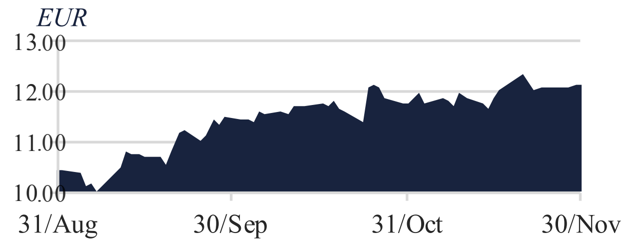
Commerzbank

Commerzbank AG is the second largest German bank. It is partially state owned with a headquarter in Frankfurt am Main. The bank has a branch network across Germany as well as representations in more than 50 countries globally. The bank offers a broad product portfolio to its clients from retail and commercial financing services, investment banking to asset management.

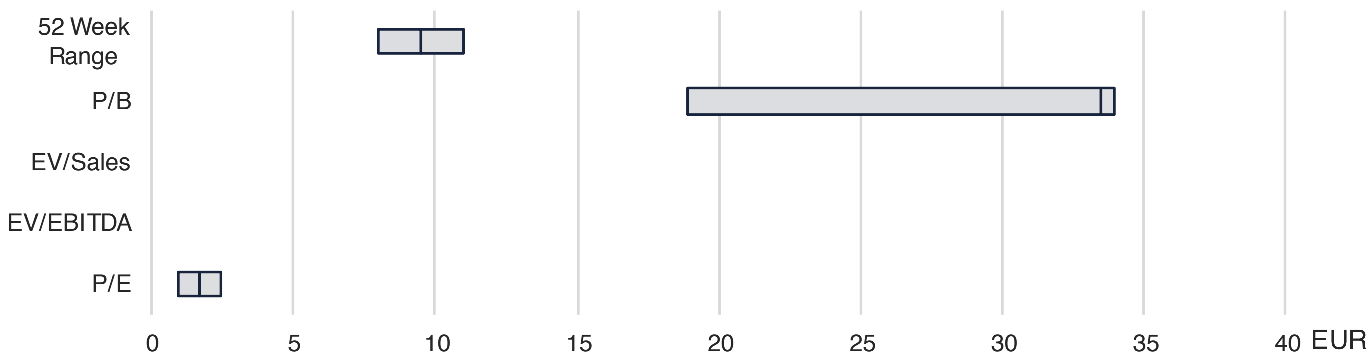
Corporate News

Takeover rumors regarding Commerzbank are frequent. However, currently it seems possible that the German government decides to sell its 15.00% share, which was acquired during the financial crisis to keep the bank from collapsing. Most recently, rumors about a takeover bid from BNP, Unicredit and UBS made headlines. The Financial Times reported that Commerzbank is working with Goldman Sachs and Rothschild in analyzing possible M&A scenarios going beyond defense strategies. These rumors combined with the move of PE group Cerberus to build a 5.00% stake in recent months, pushed the price of the company. On 1st of December 2017 the stock was up 83.00% (YTD). However, the full reprivatisation of the bank has not been a political priority, even though the Ministry of Finance stated that the government does not want to hold its stake forever and wants to realise "a good economic result" for taxpayers.

Price (30 Nov 17, EUR)	12.22
TargetPrice (EUR)	11.15
3M Performance	17.00%
Market Cap (EUR m)	15,297.55
Enterprise Value (EUR m)	-
**Target Price is for 12 months*	



Valuation Analysis



Commerzbank stock rallied for the last 3 month and is up 17.00%, this is largely due to the takeover rumours, but also due to solid results in implementing the strategy by the Commerzbank's new chief executive officer Martin Zielke. If we make a quick comparable analysis, we can immediately see that the dispersion in valuations in the banking industry is quite big (see football field above). Each of the applicable valuation methods yield different results. We see large differences especially in the P/B ratio.

After the 2008 crisis the banking sector was in turmoil with various strategies to overcome the crisis. Commerzbank's biggest competitor, Deutsche Bank, strengthened the investment banking business, whilst Commerzbank with focus on retail clients won half a million new customers. However, its profitability is still meagre and a merger which substantial cost cutting opportunities might be the most efficient way to improve profitability. Given the political dimension, exiting times lie ahead.

Peers	Currency	Market Cap (Cur m)
KBC Ancora	EUR	3,991.02
CYBG PLC	GBp	2,818.35
TCS Group Holding PLC	USD	3,433.61
Banca IFIS SpA	EUR	2,000.16
Virgin Money Holdings UK PLC	GBp	

Philipp P. Breitbach
Investment Banking Division

Private Equity | Venture Capital | DCM | ECM | Spinoff | Restructuring

NIC's view on

After a 3-year break, Nomura is back to the Private Equity Business

Tiago Marques
Investment Banking Division

Nomura Holdings Inc has announced that in addition to the cost of setting up the fund, it is investing JPY 100bn (EUR 750m) into its new private equity arm. This move comes from the need for more stable results and from the opportunity created by the sheer number of aged Japanese business owners willing to sell their companies to cash-in.

Private equity funds emerge as a liquidity relief in a time of a high need to sell and Nomura is ready to take advantage of that. The bank, however, is hoping not to repeat its disastrous acquisitions such as the Asian and European Lehman Brothers' business in 2008.

Nomura is part of a group of banks that generates a big chunk of its revenue from securities trading. The biggest Japanese investment bank is, however, looking forward to moving away from financial markets volatility. Its executive board has agreed to re-open the private equity business to widen the range of services that the institution can offer to its clients. To succeed, the bank should, at least at this stage, establish modest goals and have targeted takeovers. It should also avoid politically-driven deals and potential conflicts of interest between the advisory division and the PE arm.

The firm has not yet identified any specific investment targets, but this return to private equity, which happens three years after its shutdown, seems to be much safer now than what it was ten years ago when a series of ruinous investments were made in a changing regulatory environment. Back in 2008, faced with inexistent domestic growth, Japanese merchant banks were in an acquisition trend and Nomura saw the opportunity coming from the market turmoil to buy up assets at a great discount. Nomura's acquisition of Lehman's European equities and investment banking operations proved, however, to be a truly dramatic arrangement. Back then, the bank was known for its reluctance to take big risks and this big gamble showed how incredibly unlucky Nomura was.

Things are different now. The current demographic situation in Japan is proving to be a tremendous opportunity for PE firms as business owners' urge to sell their firms is at an all-time high. On the one hand, numerous Japanese companies hold large profitable but non-core subsidiaries and their managers are under pressure to sell them in the current prosperous economic cycle. On the other hand, small business owners are struggling to find successors either because they do not have heirs or because their children, for whatever reason, are not interested in replacing their parents. Moreover, with a bond market with historically low-interest rates, the timing for leveraged buyouts could not be better.

An increasing number of small and medium enterprises is, therefore, looking to sell themselves to strategic buyers or private equity funds. Nomura is willing to look for such businesses to either acquire them itself or to introduce them to customers in their large base.

The new merchant bank is well positioned to take advantage of the sale of non-core businesses and of adjustments in investment portfolios of firms in Japan. Nevertheless, it should also look to service domestic, small and medium-sized enterprises with M&A opportunities and business succession. In fact, if avoidance of conflict of interests is taken into account, this situation in Japan could be a boost to Nomura's investment banking business, as it sees more opportunities in Europe and in the U.S. where companies are looking to expand abroad.

Japan is facing a big ageing population problem. The consequences of this problematic demographics in the economy of the country will be seen much sooner than previously thought.

Date	Recent News
29 Nov 17	Nomura reopens private equity business ***Source:*** *ft.com*
29 Nov 17	Matter of principal ***Source:*** *breakingviews.com (Thomson Reuters,*
29 Nov 17	Nomura Creates Private Equity Business ***Source:*** *finews.asia*
29 Nov 17	Seeking stable income, Japan's Nomura returns to private equity ***Source:*** *reuters.com*

Tiago Marques
Investment Banking Division

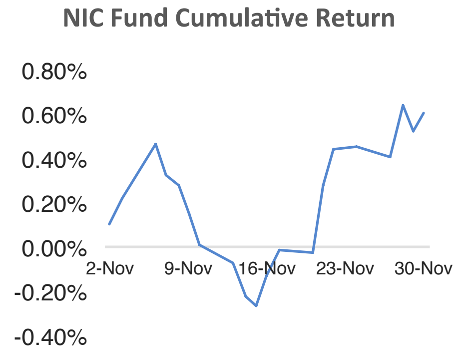
NIC

Nova Investment Club

NIC Fund

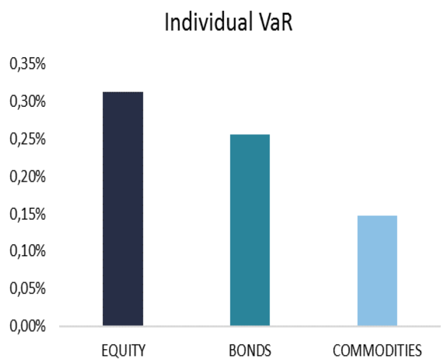
NIC Fund

Portfolio Overview



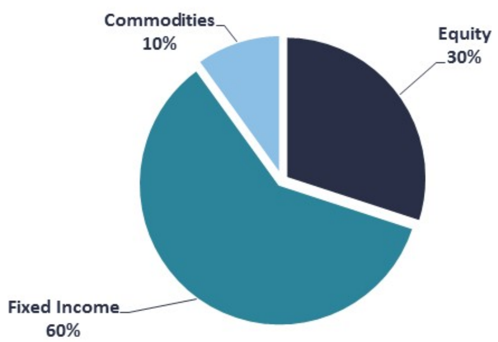
Portfolio Statistics	
Cumulative Return	0.61%
Annualized Return	7.61%
Daily St. Dev	0.14%
Period St. Dev	0.63%
Annualized St. Dev	2.23%
Info Sharpe	3.41
Skew (Daily)	0.32
Kurtosis (Daily)	-1.09

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



Portfolio Snapshot

During the last month, the NIC Fund remained invested in Equities, Fixed Income and Commodities. Overall, 30% of the fund remained devoted to Equities, 60% to Fixed Income and 10% to Commodities. Yet, 4% of the Equities were allocated to four specific stocks across the US, Hong Kong and Europe, using an equally weighted strategy. Regarding Fixed Income and commodities, both were allocated exactly as the benchmark. We reduced our exposure to Gold of 5% of the previous months.



Return Metrics

The overall performance of the portfolio was positive, with a cumulative return of 0.61%. Equities had the best performance, contributing with a positive return of 0.72%. In the same way, Commodities contributed positively to the portfolio, with a gain of 0.087%. Fixed Income was the worst performer, with a negative contribution of -0.23%.

In terms of equities, besides being invested in the S&P500, the portfolio was also invested in Tencent Holdings Ltd (700:HK), Adidas AG (ADS GR), Bank of America Corporation (BAC US), Air France KLM (AF FP). The best performers were Tencent Holdings Ltd and Bank of America Corporation with a performance of 10.56% and 2.76% respectively, which translated in a contribution to the portfolio of 0.096% and 0.134%. On the other hand, Air France KLM and Adidas AG were the worst performers, returning -15.04% and -6.09%, which translated in a a negative contribution to the portfolio of -0.163% and -0,098% respectively. Finally, the S&P500 yielded a return of 2.92%, boosting the Fund's returns by 0.748%.

Risk Metrics

In terms of risk, our portfolio registered a relatively low daily VaR of 0.36%, taking into consideration the benefits of diversification. On the other hand, also during the same period under analysis, the non-diversified VaR was at 0.72%, significantly below the maximum established threshold of 2.5%.

Equities were the asset class with the highest individual VaR, which was around 0.31%. On the other hand, Bonds and Commodities slightly lower VaRs of 0.26% and 0.15% respectively.

Tomás Ambrósio
Financial Markets Division

NIC Fund

Assets in brief

Asset Class	Symbol	Comments
US Equity	**SPY**	Our benchmark equities index, which tracks the S&P 500, returned 2.92% in November, as the North American index closed above 2,600 for the first time. This bull market keeps on going higher and higher as hopes for tax reform powered a rally on Wall Street.
HK Equity	**700:HK**	Our long position in Tencent Holdings, taken in the beginning of November, has returned us with a return of nearly 10.56%. This month, the company became the first Chinese firm to be worth more than USD 500 bn, surpassing Facebook to be the world's fifth-most valuable company. After Q3 strong earnings results, we believe that the company will be capable of further monetizing its impressive user base.
US Equity	**BAC**	Bank of America's stock went up by 1.08% last month. As we expect US rates to rise, the bank can further benefit from the largest checking account base in the United States, which does not reprice as fast as loans. Besides this expected increase in the NIM, Bank of America's ROE is below peers leaving room for improvement, thus valuations are attractive.
EU Equity	**ADS**	The German footwear and apparel brand had a bad performance in November, as the stock lost 6.19% of its value. Despite the strong top-line performance in the third quarter of the year, the company's football and basketball divisions declined and revenues at the adidas-owned Reebok brand grew by only 1%.
EU Equity	**AF**	Air France shares declined in value by 6.44% in the last month. Despite the third quarter announcement of operating results standing at one billion euros (up 38.7% compared to Q3 2016), the global context remanins highly uncertain regarding the geopolitical environment in which the firm operates as well as regarding fuel prices. Nevertheless, the group is reducing unit costs and improving its financial structures.
US Treasury Bonds	**IEI ETF**	Our benchmark bond index, IEI invests in treasuries with maturities from 3-7 years. Over the month, we have seen an increase in yields, especially in short and medium term treasuries, as the FED is expected to keeping its tightening policy. The unwinding of the FED balance sheet and another expected rate hike in December are pushing yields up.
Commodity	**GLD ETF**	Our "Safe Haven" asset, the GLD ETF had a weak performance in November as market volatility remains low. The ETF had a negative performance of -0.01% considering a relatively flat performance of the underlying commodity. We closed the position and relocated the funds to the commodities benchmark.
Commodity	**DBC ETF**	Our primary commodities index, DBC tracks a basket of 14 commodities. The ETF gained 87 basis points over the last month, supported by Brent and West Texas Intermediate oil gains. In the aftermath of Saudi Arabia political regime crackdown and investors expectations of further supply cuts, as agreed by OPEC oil producers and Russia in Vienna, these two commodities were the month's best performers.

Tomás Ambrósio
Financial Markets Division

NIC Fund

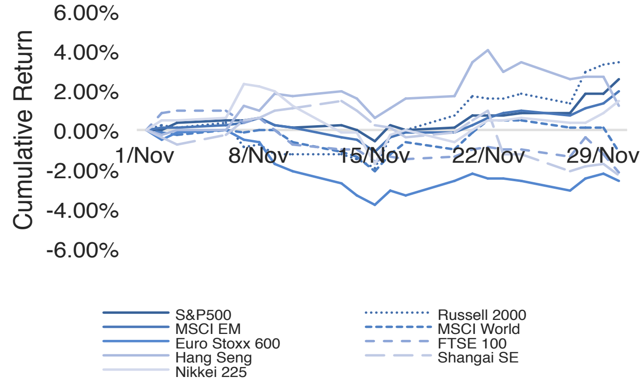
Equities

World Equities

The Global equities performed well in November, with a positive monthly return of 1.91% for the MSCI World.

US equity rose remarkably at the end of the month which did not happened since September 11. Indeed, on the 28th of November the S&P500 rose by 1% to 2'627.04 while the Dow Jones Industrial average gained 1.1% and Russell 2000 rose by 1.5%. This was mostly driven by the Republican Senator John McCain who affirmed that he would support the tax legislation. Moreover, the financial stocks were also boost by the Fed chair nominee Jerome Powell – a member of the chair board since 2012 – who announced that the Fed would consider easing up on bank regulations. At the same time, positive companies earnings and new deals were released for this last quarter.

China's equity continues to fall (-2.3% in November) due to the new regulations targeting corporate debt while major stock indexes in Europe rose.

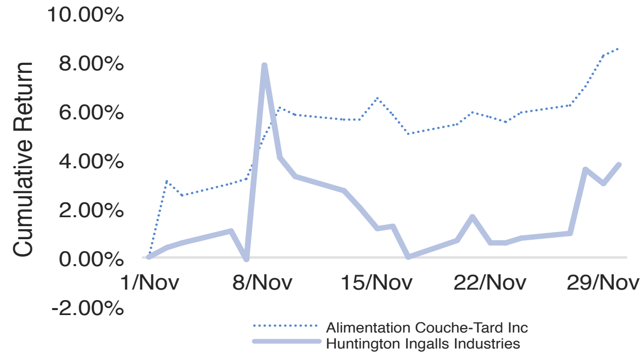


In depth

The DAX and the CAC 40 gained respectively 0.5% and 0.6% while EURO STOXX 600 experienced a negative cumulative return for November of -2.55%. This occurred in response to the US tax reform delays which pushed investors to invest in safer European government bonds. In addition to that, while the gains by the financial sector were a result of Credit Suisse announcing to provide a large dividend to its shareholders, oil prices continued to rise and helped the oil and gas industry in this index.

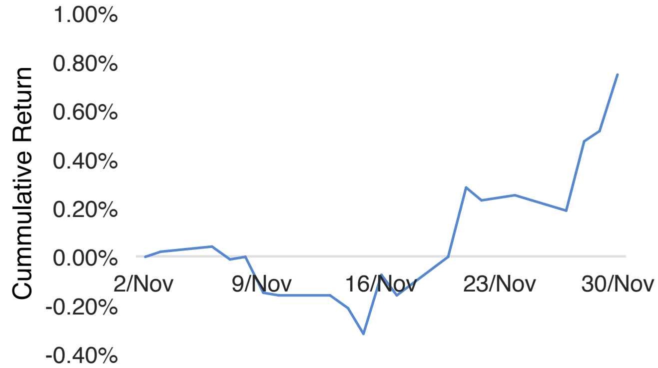
As in the previous month, we keep Huntington Ingalls Industries (HII US equity) as an investment opportunity in November with 3.82% cumulative return owing to a positive Q4 earnings release. The second investment opportunity is Alimentation Couche-Tard (ATD/B CN equity). This company is the largest gas station and convenience store operators in the world and experienced noticeable growth performance mostly due to some recent acquisitions. The stock rose by 8.83% in November to hit 65.79 dollars per shares and seems very appealing for conservative investors.

In December, investors should keep an eye on the US tax hike, after Senate Republicans delayed voting on their tax bill. This upcoming announcement promise to generate some movement in the global equity market.



Our performance

During the month of November, the equity contribution was positive with a cumulative return of 0.92%. This was mainly driven by Tencent Holdings Ltd with a cumulative return of 15.99% due to the release of its best revenue growth in 7 years. Air France with its cost cutting target announced at the begin of the month, negatively contributed to our portfolio return with 16.20% loss.



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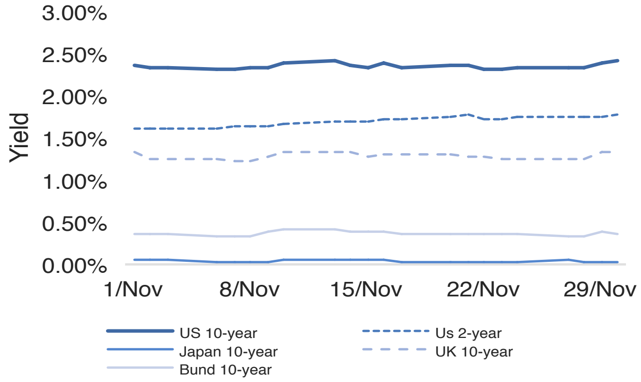
Financial Markets Division

NIC Fund

Fixed Income

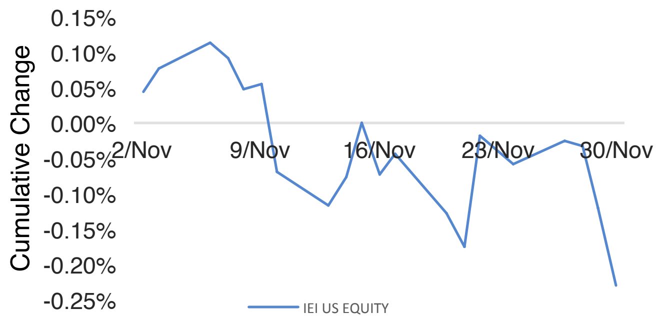
World Yields

Driven by uncertainty around the US tax reform, 10-year Treasury yield rose to 2.4% in the first half of the month, reaching five-week high (2.4347%) on December 1, after the voting on the tax bill was postponed. The sentiment is supported by expectations of a further FED rate hike in December, with markets pricing in a 25 bps increase with 93% confidence. Towards the end of November, the 2-10 year Treasury spread narrowed to a decade low of 58 bps, raising concerns about a flattening of the US yield curve. The UK government bond yields fell shortly after the Bank of England raised its key overnight borrowing rate to 0.5-0.75%, with policy-sensitive 2-year gilt settling at 0.39% and a 10-year bond yield falling as low as 1.26%. Closer to the end of November, German 10-year Bund rose to 0.366% (a moderate 1 bp increase), as the coalition talks have failed to reach an agreement. In turn, Japan 10-year government bond held stable during the month: 0.0034% December 1 close.



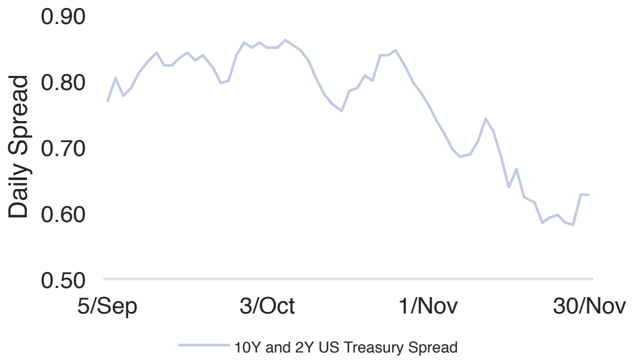
US rate hike in depth

A highly anticipated macroeconomic event of December, the FOMC meeting, comes shorty after the US Commerce Department has published Q3 GDP growth figures. With the economy expanding at a 3.3% annual rate in the Q3, adjusted for inflation and seasonality, the US GDP experiences the strongest quarter in 3 years. According to the report, actual GDP exceeded potential GDP (corresponding to full employment and efficient use of resources) for the first time since the Q4 2007. This, coupled with corporate after-tax profits increasing 10.0% and unemployment rate, dropping to the 17-year low over the Q2, raises concerns among economists, suggesting that US economy might be overheated. As such, the strong economic data, even in the absence of an inflation pick-up, adds confidence to the FED's anticipated decision to raise interest rates in order to keep the economy from overheating and inflation from getting out of hand. Typically, positive output gap signals the ultimate stage of the economic expansion, however, according to Ellen Zentner, chief U.S. economist at Morgan Stanley, there's every reason to believe that this stage can last for several years if FED responsiveness is well timed.



Our performance

The fixed income part of the NIC Fund portfolio, represented by our investment in the IEI ETF, tracking 3-7 year US Treasury Bonds, earned a return of -0.38% in November. Under the 60/40 allocation (60% in fixed income instruments), IEI ETF contributed to the total return of our portfolio by negative 0.23% this month.



Anna Averina
Financial Markets Division

NIC Fund

Commodities

November Round-up

For the month of November, the S&P GSCI Total return index, which tracks 24 commodities, has increased 1.44% mainly driven by the price of Brent and WTI oil.

These two commodities were the top gainers of the month. Both struggled in the begging of November with the release of data from the International Energy Agency report forecasting higher US crude output in coming years, and amid concerns regarding the prospects of lower economic growth in China at the middle of the month. In the end, both West Texas Intermediate and Brent finished yielding positive monthly returns of 5.74% and 5.13%, respectively. The widen of a corruption crackdown in Saudi Arabia, which led oil to achieve a two year high in oil price, and increasing expectations towards an agreement between the OPEC, Russia and other top oil producers, on the extension of a cut in oil production of 1.8m barrels a day, contributed to positive performance of these commodities. To be noticed that the agreement mentioned was settled on the last day of the month during OPEC's meeting in Vienna.

Gold stayed relatively flat, this month, achieving slightly negative returns MTD of -0.3%. The top losers of the month were grains, livestock and industrial metals.

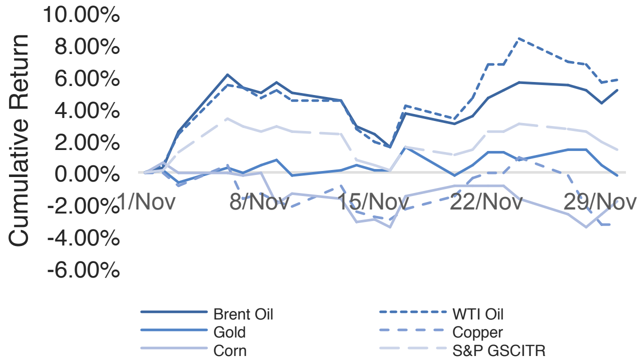
Outlook for December

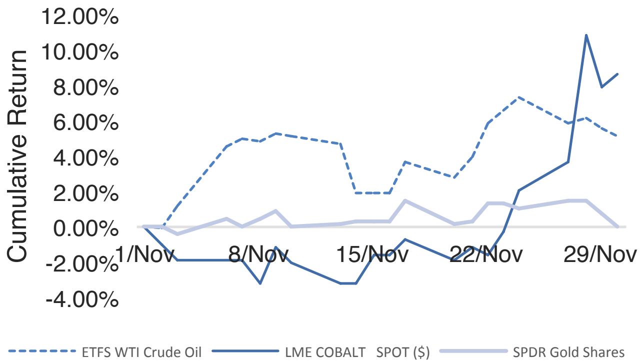
Next month investors should look out for Gold. This metal has had a historic of rallying in times of uncertainty. With a widely expected rate hike by the FED on the 13th of December but signs of sluggish inflation in the end of November, the economic data released regarding the CPI and wage growth will be extremely important for the performance of the precious metal next month. The possibility of prolonged periods of weak macro economic data comes with lower prospects of further rate hikes, plus increasing geopolitical risks coming from the Middle East may mean that it is a good time to invest in the direction of the golden one.

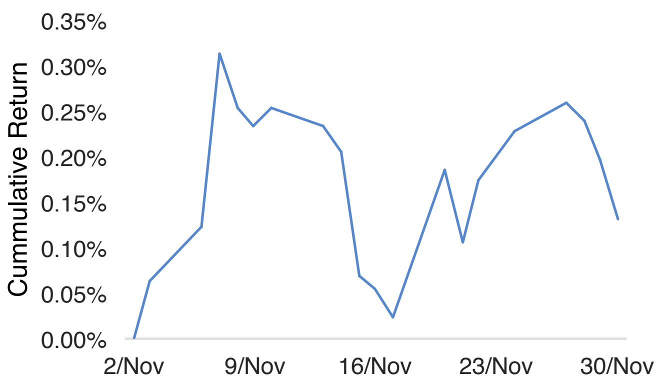
Additionally, the increase in demand for metals such as cobalt and lithium, as the electrical cars industry and demand for energy efficient technologies grows, coupled with the shortage of supply, implies that we should keep seeing increasing returns from this spectrum of investments. Lithium and cobalt based battery recycling cannot sufficiently solve this shortage in the short run.

Our performance

During the month of November, commodities have yielded 0.087%. This return was mainly achieved because of PowerShares DB Commodity index.







Sofia dos Santos Nunes
Financial Markets Division

NIC Fund

Currencies

World Currencies

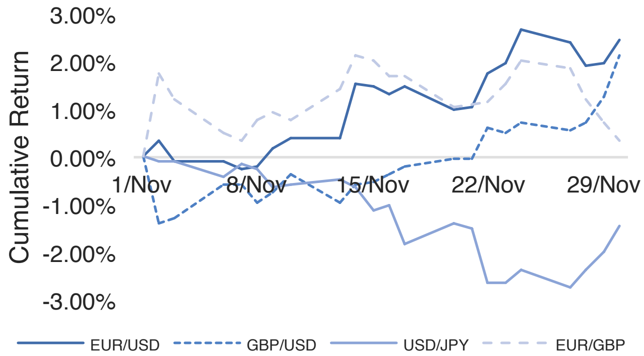
November saw the **Bank of England** (BoE) lift interest rates by 25bp to 50bp, the first interest rate increase since the financial crisis start 10 years ago. As markets had already priced in this increase, the omission of the previous guidance that the bank rate may rise more than markets expect caused GBP to fall 1.4% against the USD.

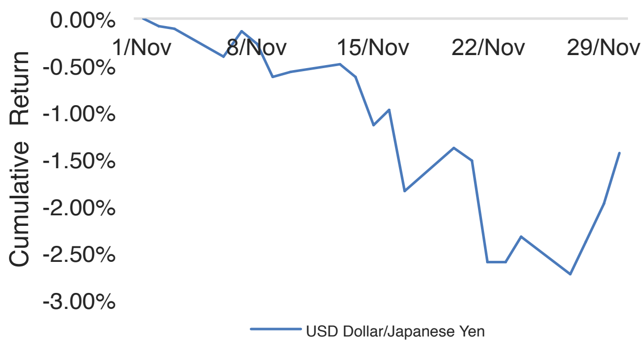
In the **US**, minutes of the last FOMC meeting showed there is still a large split on whether or not lower-than-expected inflation is a temporary or more permanent phenomenon. However, there is an average consensus about interest rates increase in December, with the USD strengthening as a result.

Moving away from the USA, the governor of the Reserve Bank of **Australia** made dovish noises over the likely level of future earnings growth, which hurt the Australia dollar until the impact of the FOMC minutes kicked in. In **Turkey**, the central bank continues to struggle with political pressures that appear to be preventing interest rates from rising at an appropriate rate. Bank borrowing limits were cut last week in an attempt to raise borrowing costs, but markets quickly signalled this was not a viable alternative. The Turkish lira weakened as a result.

Markets still think the central bank of **Sweden** needs to cut rates due to the weakness of inflation and the housing market. The central bank tried to reassure markets this week, but this was largely ignored, with the Swedish krona weaker ahead of the FOMC.

Regarding **Bitcoin**, it has been a volatile month for the biggest and best-known cryptocurrency. On November's last week, bitcoin smashed through USD 10,000 before rocketing past USD 11,000 less than 12 hours later to an all-time-high of USD 11,395, and then plunging around 20 percent in the hours that followed.





In depth

Forex investors should have their eyes on the **USD/JPY** pair next month.

The sharp strengthening of the euro so far this year highlights how building expectations over tighter monetary policy can quickly help to reverse domestic currency weakness, especially when it is significantly undervalued. And lately the yen is benefiting from tentative signals that the Bank of Japan could tighten monetary policy further in 2018, making the yen one of the most undervalued G10 currencies.

The first week of December will get off to a packed start with a number of key indicators and central bank meetings set to keep traders busy. Among the highlights are Australian GDP figures for the third quarter and European industrial output figures. Also in focus are central bank meetings in Australia and Canada.

Our performance

We currently hold no currency related assets in our portfolio.

Mahomed Vali
Financial Markets Division

Extras

Hot Topic

Why You Should Worry About Smart Beta & ETFs

Manuela Böck
Investment Banking Division

The elusive term that started out as a marketing strategy now goes by a variety of names. Call it what you want but smart betas strategies and ETFs are ballooning and for now there is no end in sight. Since 2008, the inflow of smart beta assets increased from USD 103 bn to USD 616 bn. Meanwhile, ETF managers broke all records, with a year-to-date inflow of over USD 423.3 bn after a solid November. With the increase in demand, comes an increase in complexity. While a lack of regulations and benchmarks for testing fuel concerns that smart betas add to the obscurity of new financial products.

Smart beta is an attractive solution for investors who are fed up with active management funds but still want to keep a bit of skin in the game by not giving in to ETFs. With the promise to beat markets while offering low fee service, the strategy combines elements of active and passive investment. This is achieved by modifying passive strategies according to one or more factors e.g. only holding a sample of index components which are expected to generate above average performance.

A combination of ETFs with smart beta strategy may seem like a sagacious way to outperform the market while enjoying the low fees. Yet, concerns have been growing around concentration of capital around few market players, unsophisticated investment decisions and dodgy backtests. The biggest winners of the rise of the smart beta have been the leading ETF providers such as Vanguard or Blackrock, which can leverage their decade-long experience in ETFs and factor based investment. Thereby, smart beta strategies amplify the already high concentration of capital caused by increasing ETF capital inflow. Leaving well-established fund managers such as Deutsche Bank and UBS with an ever-decreasing market share behind.

The biggest worry around smart betas is that they are analyzed based on the results of self-styled backtests. With no established benchmarks in place, managers can be easily tempted to twist the data until it fits the desired outcome. Lurking investors into false return promises. Contrary to that, traditional funds are tested against recognized benchmarks. In the past, ETFs have proven to be less liquid than many investors assume. During a market downturn in 2015, ETFs based on S&P500 stopped trading for a day. This implies, that ETFs tend to make assets less liquid while reducing the correlation between its price and fundamental value. Indicating that markets are turning careless.

For stocks, this is less dangerous since it is obvious which one is performing poorly. If ETFs consist of complex, heterogeneous assets like derivatives we face a different story. Just like securitization made investors misinterpret the value of individual mortgages, ETFs and smart betas run against arbitrary backtests can give a false impression of the true value of individual stocks. Hence, one ETF might be worthless compared to another that is doing well. Investors blinded by the promised returns may not realize this until it is too late.

Rob Arnott, one of the founding fathers of smart betas recently warned that one should not forget investing fundamentally instead of solely chasing higher earnings. Others pointed out that there is nothing smart nor beta about buying something simply because it is going up. It rather is buying in on top of a bubble with the danger of ending up disappointed. With the US market trading at a historical record high, we need to remember that the maximum is often reached just before tides are about to turn.

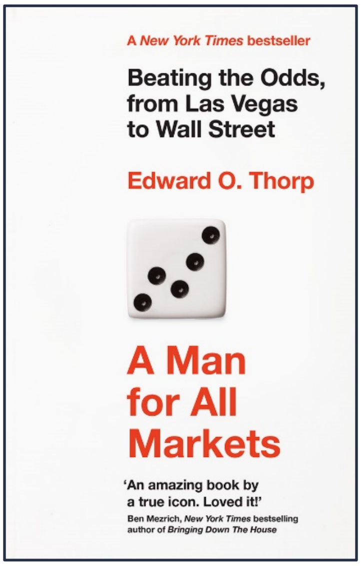
If there is one thing one should have learned from the crisis of 2007/08 is that it is better to worry sooner than later about new financial products. They may not impose an immediate threat, but it is important to establish benchmarks and common market wide regulations. Thereby, the positive effects can be leveraged since the true values of smart betas and ETFs will become more meaningful.

Manuela Böck
Investment Banking Division

Book Suggestion

A Man for All Markets

Tomás Ambrósio
Financial Markets Division



In the 17th century, Chevalier de Méré, a mathematician with a taste for gambling, challenged the French compatriot Blaise Pascal to solve a mathematical puzzle that no one had solved in two centuries. Pascal teamed up with Pierre de Fermat, a brilliant mathematician, and ultimately discovered the theory of probability. From then onwards, the concept of risk would never be the same.

More than three centuries later, the American Edward Oakley Thorp pioneered the modern applications of the probability theory. After receiving his Ph.D. in mathematics from the University of California, Edward Thorp became a mathematics professor, hedge fund manager, blackjack player, and best-seller author.

In *A Man for All Markets*, Thorp describes how he grew from humble roots in the Depression era to become a professor at the MIT as well as the man who wrote both *Beat the Dealer* (1962), the first book to mathematically prove that the casino advantage in blackjack could be overcome by card-counting, and *Beat the Market* (1967), in which he revealed his quant trading strategies years before people used the term.

Nowadays, he is also known as the creator of the first wearable computer, a device he built in collaboration with the father of information theory Claude Shannon when they were trying to beat the casino roulette.

In Wall Street, "the biggest casino in the World" as Thorp called it, it is widely recognized that he derived the same options pricing formula that won a Nobel Prize as the "Black-Scholes Model", except Thorp had done it years before Fisher Black and Myron Scholes published their paper on it, keeping his secret to make millions as the very first quantitative trader. In *Beat the Market*, he claimed that his hedging system "averaged over 25% a year from 1946 to 1966 and could have doubled the investment from September 1929 to June 1930, during the great crash".

As a hedge fund heavyweight, he revolutionized Wall Street by using his knowledge of probability and statistics in the stock market since the 1960s. By discovering and exploiting several pricing anomalies in the securities markets, he made a significant fortune in the process.
Thorp's hedge fund, Princeton Newport Partners, never had a losing year in 20 years of activity.

In this autobiography, Edward Thorp invites the reader to join him in an "odyssey through the worlds of science, gambling, and the securities markets". Nevertheless, he not only teaches important lessons about the functioning of markets, but he also delightfully recounts his self-taught approach, how he thinks for himself and his personal life. On the way, he talks about Nobel prize winners, playing bridge with Warren Buffet, passive investment, asset allocation, and his warnings on Bernard Madoff's Ponzi scheme 20 years before the investment scandal.

This jargon-free book is full of valuable information and gives the reader a firsthand lesson on how being curious about the world can lead to a very fulfilling and fun life. Indeed, Chapter one's title "Loving to Learn" represents the message that Nova Investment Club wants to share with this very first book suggestion.

Tomás Ambrósio
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Thank you!

Visit www.**novainvestmentclub.com** for more updates.

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