Rothschild & Co
Wealth Management

Mosaique Insights

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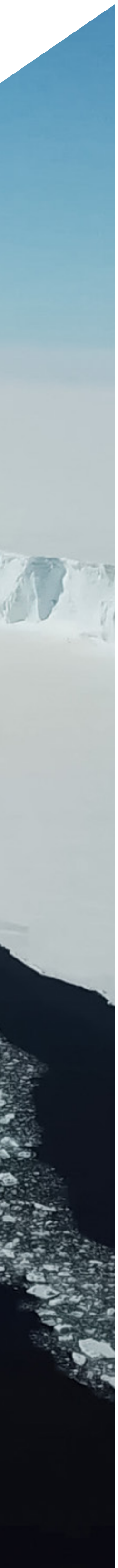


“How did it get so late so soon? It’s night before it’s afternoon. December is here before it’s June. My goodness how the time has flewn. How did it get so late so soon?”

- Dr. Seuss

Laurent Gagnebin
CEO, Rothschild & Co Bank AG

Dr. Carlos Mejia
CIO, Rothschild & Co Bank AG

As we are entering the final innings of 2022, we take some time to reflect on this past year.

A year, in which a lot happened, a year, that challenged us in different ways, not only as investors, but also as human beings. Our thoughts remain with those hurt by the dreadful conflict still raging.

In hindsight, geopolitics took centre stage once again, not only significantly impacting the global economy and financial markets, but also resetting international relations and commerce.

In this edition of Mosaique Insights, we take a look at how we’ve navigated this past year with insights from our strategy and portfolio management teams. We include an interview with the Head of our new Israel office, Gerry Livnat, we provide you with some topical insights into the world of cybersecurity and shed some light on the geopolitical events that have shaped this year so profoundly.

We hope you enjoy this edition of Mosaique Insights, we wish you a merry Christmas, frohe Weihnachten, joyeux Noël and we look forward to seeing you in 2023!

Values: data as of 30 November 2022

The key questions for 2023

Kevin Gardiner
Global Investment Strategist

The wall of worry looms larger than ever as 2022 comes to a close. Nonetheless, it can be climbed. As we see it, there are two really pressing questions for global investors:

- Does there need to be an economic slump to tackle inflation?
- Is the world becoming more dangerous?

The first addresses familiar economic risks. We have been around the business cycle course before: it's been a while since we saw such inflation, but we know roughly why it's here, and what might be done about it.

The second addresses the geopolitical risks that shook us in 2022, which are much less familiar. The established order of international relations has been disrupted, and superpowers are facing off. We must quickly relearn the daunting lexicon of Mutual Assured Destruction (MAD).

Inflation reflects a mix of post-pandemic bottlenecks and resurgent aggregate demand. Russia's invasion amplified the former, and overly-generous monetary policy predictably amplified the latter. Both threaten recession: higher energy costs hit Europe's real income; and as central banks belatedly rush to normalise interest rates, they may – accidentally or by design – overdo it.

The good news is that many bottlenecks have eased. Beyond the winter, even the energy threat looks manageable. There is no long-term global energy shortage, and a combination of adaptation and substitution could eventually see gas prices collapse. Meanwhile, European governments have been supporting vulnerable households and businesses, and headline inflation seems to be rolling over on both sides of the Atlantic.

Unfortunately, the most important supply-demand imbalance is the biggest: a shortage of labour (an intriguing change after a working lifetime worrying about high unemployment). Wages are ultimately the main driver of underlying or core inflation, and so of interest rates. The good news here is that the much-feared 'seventies-style' "wage price spiral" can be avoided. Wages now are lagging inflation, not leading it. The more flexible global labour market seems to be intact.

But nominal pay has accelerated somewhat, and Western industrial relations are strained. Does there need to be a big fall in demand – a significant rise in unemployment – to keep that spiral at bay? Or can core inflation fall back without a much wider margin of spare capacity – a bigger "output gap"?

We think slump can be avoided. Despite the predictions of imminent ruin that have been with us since the spring, global output has slowed, not reversed. A moderate downturn could be enough: economic capacity is not fixed, but grows as we collectively move up the learning curve and innovate. If output grows more slowly than capacity, slack opens up again. And we know from the fall in participation rates since the pandemic that labour may not be quite as scarce as it looks. People who have left the workforce – to retire early, or because of illness – may return.

If wage growth remains restrained, interest rates may not have to rise much further. And as the increase in energy prices fades, headline inflation will fall markedly, and at some stage in 2023 may dip back beneath pay inflation, easing the squeeze on real pay.

Meanwhile, there is more wiggle room in the economy than pundits like to suggest. Real pay and mortgage rates are not linked rigidly to spending, nor unemployment to inflation. The urgent imperatives – this must happen, that is inevitable, the situation has to be resolved, now – are false. The good old "muddle through" scenario may once again be the most likely.

Can the same apply to the less familiar but more profound geopolitical question? We think so. The biggest threat to world peace arguably comes not from the grim attrition in Ukraine – Russia's economy, and even its energy, may not matter that much to the wider world – but from China's ongoing claim on Taiwan, and the US' seemingly provocative response to it. China's claim is not negotiable, and the US seems unable to find a form of words to recognise political reality.

The idea that the west might impose sanctions on China without hugely damaging its own living standards is naïve; so too is the idea that Taiwan can be supported logistically like Ukraine. The risks might not be containable, and overshadow everything else (including those worries about economic slump). For the first time since Reagan and Gorbachev's "walk in the woods", and with an intensity perhaps not seen since 1962's Cuban Missile crisis, we watch transfixed as the two dominant superpowers square up.

However, because the stakes are so high, and because China – and its governing Communist Party – carefully pursues its own best interests, we think China will wait. A non-negotiable claim need not be an imminently actionable one. Again, pundits offer false imperatives: the so-called "Thucydides Trap", for example. International relations may find a new equilibrium, and a MAD world is not one in which economies necessarily stop.

Conclusion? These may be the most testing circumstances we've faced as macro analysts. But if we do get more clarity on core inflation and interest rates soon; if an economic slump is avoided; and if China remains patient, then the outlook might yet be brighter than feared.

A lot of "ifs", admittedly – but markets have priced-in a lot of risk during 2022. As we look into 2023, the key call may be not whether to cut our holdings of stocks further, but when to add to them.

Note from the CIO

Dr. Carlos Mejia
CIO, Rothschild & Co Bank AG

Markets were volatile in 2022. Inflation was already a concern going into the year, and the onset of the war in Ukraine pushed it to levels last seen in the 1980s. Central banks were initially slow to react but demonstrated their determination to bring inflation back down by significant interest rate hikes. Equity and bond markets fell sharply, and remain in negative territory at year end. The sell-off in bonds was particularly remarkable given their traditional safe haven status, and it left conservative investors with few places in which to hide: rising interest rates meant that most assets were correlated in 2022.

Our Mosaique asset allocation has been reviewed accordingly:

- We cut our equity weightings to neutral in two stages early in the year, adding to portfolio liquidity.
- As bond yields have rebounded, we used some of this liquidity to reduce our long-standing underweight positions. We finish the year with neutral positions in US portfolios, but residual underweights still in European portfolios.
- Within equities, we moved to a more defensive sector mix, and reduced positions in emerging Asia in favour of Switzerland.
- Within fixed income, we started to move towards higher-grade investment-class bonds, but (in European portfolios) also retained a preference for speculative (or "high yield") credit.

Each incremental piece that we adjust must ultimately make sense in the whole – this is the essence of the Mosaique Strategy. The events of this year remind us of the importance of maintaining a long-term wealth preservation strategy, one which gives perspective, seeks to understand the present, and moves in anticipation of the future. Alongside the tactical changes made at an asset allocation level, this has meant reinforcing our security selection process, where our equity analysts continue to work in partnership with leading Equity Research House, Redburn.

Looking ahead, as noted by our Global Investment strategist, there are a lot of "ifs" going into 2023. We are aware that these are challenging times and will review our asset allocation as frequently as is required.

Our Mosaique Views

By asset class, region and sector

→ ← Changes made to our Tactical Asset Allocation in Q3 / Q4 2022

KEY	–		Neutral		+
Material overweight					■
Benchmark weight			■		
Material underweight	■				

We cut our double (maximum) overweight in equities to neutral, in two stages: first in early January, and then on February 24th (after Russia commenced its invasion of Ukraine). The funds were allocated to cash. As bond yields have risen, we have recently used some of that cash to reduce our long-standing underweight positions in bonds – a few months ago in US portfolios, and more recently in European and Swiss portfolios (though we remain single underweight in the latter two).

US		–		Neutral		+
Money market	←			■		
Gold				■		
Fixed income	→			■		
Equities				■		

Europe		–		Neutral		+
Money market	←				■	
Gold				■		
Fixed income	→		■			
Equities				■		

Switzerland		–		Neutral		+
Money market	←				■	
Gold				■		
Fixed income	→		■			
Equities				■		

Fixed income

Longer-dated US yields have now risen far enough, we think, for us to close our long-standing underweight position on duration. In European portfolios, however, we stay underweight duration for now: rates and yields have risen by less than in the US, while European inflation dynamics arguably appear worse. We also reduced our preference for lower quality investment grade bonds in European portfolios – now neutral – but we still favour speculative (or "high yield") credit to investment grade generally.

US		–	Neutral	+
Duration	→			
High-grade				
IG low-grade				
High-yield				

Europe		–	Neutral	+
Duration				
High-grade	→			
IG low-grade	←			
High-yield				

Switzerland		–	Neutral	+
Duration				
High-grade	→			
IG low-grade	←			
High-yield				

Equities

At the start of the year, we cut our overweight firstly to reflect rising interest rate risk, and then on account of the disruption and economic slowdown associated with the conflict in Ukraine (the risk of slower growth has not resulted in a meaningful reduction in interest rate risk). That said, we still see equities as the asset class most likely to preserve real wealth on a long-term view.

Regions: The ongoing threat to growth from the Ukraine conflict, and general global risk aversion, leaves us underweight in (Continental) Europe. We have however now closed an underweight position in the relatively defensive Swiss market, using funds raised by reducing our long-standing overweight in emerging Asia (notably, China). The latter call has been a difficult one, as the market has already fallen a long way, but sentiment towards the region has still deteriorated.

Sectors: We were favouring a mix of cyclical and structural growth, funded by underweight positions in more defensive and bond-like sectors. However, we have recently reduced some cyclical positions and become less underweight on defensives.

REGIONS		–	Neutral	+
North America				
Eurozone				
UK				
Switzerland	→			

REGIONS		–	Neutral	+
Japan				
Pacific ex Japan				
EM ex Asia				
EM Asia	←			

SECTORS (US)		–	Neutral	+
Energy	→			
Materials	←			
Industrials				
Utilities				
Consumer discretionary				
Consumer staples				
Communications				
Healthcare				
Technology				
Financials				
Real estate				

SECTORS (EUROPE)		–	Neutral	+
Energy	→			
Materials	←←			
Industrials				
Utilities				
Consumer discretionary				
Consumer staples				
Communications				
Healthcare	→			
Technology				
Financials				
Real estate				

Note from the Manager

Patrik Eggebrecht
Portfolio Manager

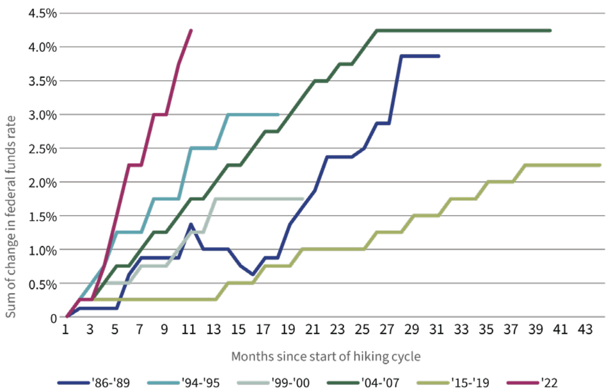
From a multi-asset manager point of view, 2022 will be remembered as a year that brought back various topics that we hadn't needed to worry about in decades: geopolitical tensions, high and persistent inflation, and consequently restrictive monetary policy by central banks. In fact, inflation numbers were so high that we are currently experiencing the most aggressive Fed tightening cycle in modern history (Figure 1). Even though central bank wording has become a bit less hawkish lately, the summary of market headwinds has triggered a bear market of historical scale across many asset classes. In terms of equity investment styles, quality and growth stocks continued to underperform the broad market, whereas the value factor outperformed its corresponding original index (Figure 2). Once more, this development can be attributed to the high inflation figures which have two negative effects on stocks – in particular on growth stocks. First, they put future growth expectations at risk as uncertainty about growth targets and margin stability against the backdrop of increasing input costs mounts. Paying high earnings multiples for high-growth companies gets harder to justify economically. Second, the technical aspect of discounting future cash flows with a high risk-free rate translates into lower present values of these future cash flows which eventually leads to lower fair values. To allocate a portfolio more towards the value or growth direction in its core is very much a philosophical decision. Shifts in portfolio allocation that affect the very basis of one's investment philosophy are not easily done.

However, as active managers we have been dynamically adjusting the portfolio allocation in order to react to the new regimes without giving up our identity as long-term quality investors. To partially protect the portfolios from falling equity markets we have been holding direct hedges that have been contributing positively to performance. We trimmed our active weights in large single positions and consequently increased the level of diversification. On a sector level, we closed the gap to energy. In September, we increased our exposure to healthcare in order to further reduce the cyclicality and give the portfolios an even more defensive stance. For the same reason we reduced our overweight in the materials sector which, given a likely recession in Europe and other parts of the world, lost its rationale.

The performance of the Mosaique balanced mandates as of November 30 is -12.9% for CHF, -9.8% for EUR and -12.4% for USD investors.

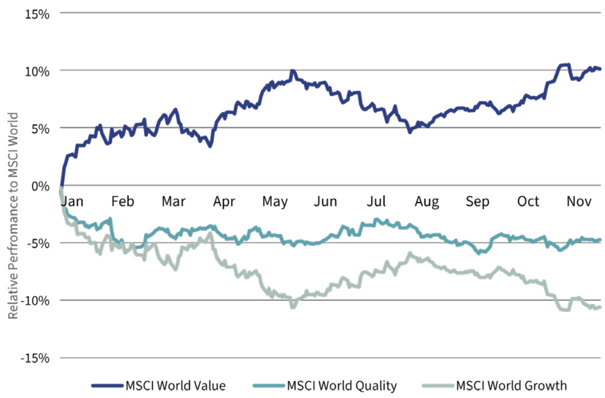
The market shifts experienced this year have clearly shaken up all market participants and have reminded us of the importance of maintaining a long-term wealth preservation strategy. However, despite all the headwinds suffered, we see reasons to look to 2023 with cautious optimism. Fixed income markets offer much more attractive yields now and the bond selection will play a substantial part in wealth preservation again. After having reached a peak in the summer, inflation has finally started to decrease. The latest CPI figures have supported a strong and broad-based market rebound which benefited the Mosaique portfolios in absolute and relative terms. We will stay focused on keeping our portfolios invested in high-quality, cash-generative businesses that are able to protect their margins during these volatile times. This strategy remains at the core of what we do daily and will prove the best way to protect your wealth over the long term.

Figure 1: Fed rate hiking cycles in modern history*



*Values: data as of 15 December 2022

Figure 2: Performance of MSCI World style indices in 2022 comparted to the MSCI World



Ukraine war: status quo and possible turning points

Nigel Gould-Davies
International Institute for Strategic Studies (IISS)

Nigel Gould-Davies is editor of Strategic Survey and a Senior Fellow for Russia and Eurasia at the International Institute for Strategic Studies (IISS) in London. From 2010 to 2014, he held senior government relations roles in the energy industry in Central and Southeast Asia. From 2000 to 2010, he served in the Foreign and Commonwealth Office, where his roles included serving as Head of the Economics department in Moscow as well as ambassador to Belarus. From 1996 to 2000, he taught politics and international relations at Oxford University. In the following interview we discuss Russia's invasion of Ukraine, possible turning points and what has surprised him the most about this war.

Interviewed by:
Laura Kuenlen
Investment Insights
25 November 2022

1. We are now nine months into the invasion of Ukraine. What's your assessment on the ground and domestically in Russia?

This is a war that is being fought on two fronts: One is the military one and the other one is the respective home fronts of all participants, including Western countries. When it comes to the situation on the ground, Russia has never been weaker since it began its invasion in late February: It has not achieved any of its initial primary goals and occupies less territory than ever. It has also suffered tremendous losses. To put this into perspective: According to US estimates, over 100,000 Russians have either been killed or wounded. This is an astonishing number after nine months, especially if you consider that during 10 years in Afghanistan, from 1979-89, the Soviet Union lost about 13,000 troops. Russia's concern about the course of the war became evident when they started the so-called partial mobilisation in September. That was also the moment the war became real for most Russians. It is one thing to watch the conflict evolve on television night after night and another to have no choice when it comes to fighting in it. As a result, many Russians fled, especially to Armenia, Kazakhstan and Georgia. It's also significant that Russia suspended mobilisation after a month, acknowledging the growing tensions between power and population. Ukraine on the other hand has never been stronger than Russia. Their troops are now battle-hardened whereas a big proportion of the Russians that have been mobilised have no experience and are much worse equipped than the Ukrainians. This has led to cases of desertion and surrender from Russian forces which explains the change of tactics that we've recently seen by Russia: they are now escalating dramatically the attacks on civilian infrastructure, especially energy and water supplies. This suggests that Russia recognises that it cannot win the war but can only try to hurt as well as destroy as much of Ukraine as possible and force Ukraine and its Western supporters to eventually agree to some compromise to stop the pain that Russia is inflicting.

2. What do you see as the next turning point in this war?

This war has been very unpredictable and each time we think it has reached a reasonably predictable phase, events suddenly disrupt it again. The next big predictable source of influence will be the winter for which Russia is very badly prepared. At the same time, Russia's attacks, particularly on the Ukrainian energy infrastructure, have become significantly more severe. How will all of that affect the morale as well as the fighting capacity of the two sides? The winter will tell.

3. Do you think the winter could be an opportunity for a diplomatic solution?

What would one mean by diplomatic solution and what could that look like? Any war will only end through agreement if both sides conclude that it is in their interests to reach a peaceful solution rather than a violent one. I think that the Russian side would seek some sort of ceasefire that would allow them to retain control of the areas of Ukraine that it still occupies in order to reconstitute their forces and recruit more. At the same time, there is no evidence that Ukraine would want that. First, Ukrainian forces have the upper hand, and the momentum is with them. Thus, there is no reason to stop the fighting if they can continue to make gains. The last thing Ukraine wants is a Christmas truce that then leaves Russia stronger in the Spring and able to resume the war at the time of its choosing. Second, I don't think there's any appetite in Ukraine at all - having made the sacrifices that they've made - to allow Russia to hold territory that it didn't occupy before the war. Countries that are holding territory, are also controlling the people living there. This is aggravated by the horrifying crimes that Russia has committed there. And third, there are wider issues to consider such as legal ones (war crimes) and financial ones (reparations). Will Russia be held accountable? Will it have to pay reparations? It's hard for Ukraine to compromise to a peace solution, especially since they are also of international significance. At this point, I think we're far from a stable diplomatic solution for all of those reasons.

4. What has surprised you the most about Russia's course of action, also taking into consideration Russia's history?

What surprised everyone the most is how poor and incompetent the Russian military campaign has been from the start. It was a bad plan badly executed. What are the reasons? First, it was founded on completely deluded assumptions about Ukraine itself - the Russians really did seem to think that many Ukrainians would welcome them with flowers. Second, the scale of corruption in the Russian armed forces. Obviously, we have known for a very long time that Russia is extremely corrupt, but we weren't aware to what extent that had hollowed out Russia's military capacity. Russia used to be a formidable military power, but it's quite evident that a great deal of money that had been devoted into military reform in recent years has in fact been misused. This resulted in extraordinary stories about the recently mobilised forces which were asked to buy their own military equipment and Russian soldiers posting videos about rusty Kalashnikovs or being issued paintball goggles instead of visors. As a consequence, Russia's military performance has been far less effective than it could have been. Corruption is really the achilles heel of the Russian system, but the extent of it has been a true surprise.

5. What about China? Will energy ties between the two countries continue to expand?

Many thought that this war would bring Russia and China closer together. Remember - 20 days before the invasion, Putin and Xi Jinping signed the "Friendship without Limits" pact. On day two of the war, Xi Jinping phoned Putin to basically ask "what's going on"? This war has shown that Russia is unpredictable and a much weaker partner than before. This is not something China wants. At the same time, the war is sowing instability in Europe, which is a key market and investment partner for China. Politically, this war has created a USD 40 trillion coalition of Western Powers that is much stronger and more solid than anyone could have expected. That is a profoundly unwelcome precedent for China, which has its own aspirations, including its ambition to regain control over Taiwan. Seeing how strongly the West supported Ukraine implies the future use of Western Power, possibly against China. In addition to that, Western sanctions against Russia, deter China from certain business opportunities in Russia. That is, with the exception of energy, because China benefits, relatively speaking, in particular from the oil trade and now gets it at a discounted price. But even though China benefits from this, that doesn't mean that the two countries have become closer, that doesn't mean their relationship has improved and it certainly doesn't mean that China is happier with Russia. On the contrary, I think all the signs imply that China simply wants this war to end.

Tel Aviv calling!

Gerry Livnat

Country Head, Israel

Rothschild & Co,
Wealth Management

A modern city in an old world with a lot of energy from history. Traits that can also be associated with the Rothschild name. In the following interview, our Wealth Insights team discuss with country head Gerry Livnat the strategic decision to open an office in Israel and the opportunities ahead. Gerry Livnat has over 20 years of wealth management experience and has been living in the country all his life.

1. Gerry - can you tell our readers why Rothschild & Co has decided to open an office in Tel Aviv?

Our primary reason is strategic, as we as a company have taken the decision to grow our wealth management business and strengthen our offering across key markets. Why does Israel qualify as a key market?

There are a couple of reasons:

First, Israel is a country of innovation with over 6,000 start-ups, especially in the fintech space. Whereas in the past many of them were sold to American conglomerates, these days companies tend to stay in Israel. This high-tech boom has led to immense wealth creation in the last decade so that there is a big new potential client base. Second, Israel is a quite young country, and I am not referring to the state of Israel but its population age. More than a third of Israelis are under the age of 20 and with 3.1 children per family, Israel has the highest fertility rate in the OECD . And third, our global advisory business has had a presence in Israel since 2008 and with Israel's strong and resilient economy, there was a clear demand for wealth management services to follow.

2. How can you leverage the presence onshore now and build on the firm's existing Israeli heritage?

There is an Israeli saying which goes "if you want to reach someone, you either have his contact details already or you need to speak to one person to get them". So, the clear advantage of finally being onshore is the immediacy of seeing clients locally. In addition to our well-connected onshore team, we can also resort to our investment team in Switzerland. With a good team already in place in Israel providing advisory services to corporate clients, it has therefore been relatively easy to open our wealth management office to meet the need of existing clients and attract new ones. When it comes to the heritage of the Rothschild family in Israel, the family has obviously played an important role in building Israel and the name is perceived accordingly. Israel's wealth is relatively young, so people appreciate the consistency that comes with a name like Rothschild & Co, and we want our clients to participate in this story.

Interviewed by:
Laura Kuenlen
Investment Insights
7 November 2022

3. What are the challenges that Israeli clients face in seeking long-term wealth preservation in your opinion?

Tel Aviv is one of the most expensive cities in the world where an average apartment costs around EUR 1 million. Therefore, real estate is and has always been a big topic and an important asset class. We take a long-term approach to investing and it is our objective to preserve and grow our clients' wealth. However, Israelis don't tend to have a lot of patience. This is the reason why they start so many start-ups - they are fast and creative outside of the box thinkers with a hunger to change things. One of our biggest challenges is therefore to convince clients in Israel of our investment approach which at times requires patience and resilience. Our office opening coincided with the general capital markets volatility in which the valuations of many start-ups suffered and put things into perspective. This helped support our investment approach and made pitches easier.

Israel in numbers

Population	9.5m people
GDP per capita	USD 55,300, ranked 14th in the world (higher than Germany, UK and France)
Number of start-ups exits (2021)	259; 77 of which were valued higher than USD 100m
Exits in USD (2021)	25.6 billion, almost a quarter of entire European exits
Unicorn start-ups in Israel	92, more than all of Europe
Wealth in Israel	1 out of 10 Tel Aviv residents is a millionaire 107,000 millionaires (562 new ones in 2021) and 25 billionaires in the country

Souce: IVC Research Center

4. Can you elaborate a bit on the growth ambitions for the office for the next 5 years?

We currently have 4 people on the ground and would like to grow that number over the next 5 years. Our clear objective is to connect better to the Israeli business community, establish a franchise on the ground and provide a real value proposition to everyone. In short, we want to be one of the leading players in the market.

5. Finally, a personal question. How has Israel changed over the last couple of years?

As mentioned previously, Israel is a relatively new country with only some old money. Throughout the first few decades, the country was quite poor with lots of immigration from many different countries. Wealth then grew quite quickly. These days you see a well-established country with a very entrepreneurial approach. Less and less Israeli companies are being sold to foreign investors and Israel now acts as a hub to many, e.g. American companies such as Apple, Microsoft and IBM which hire local people. These investments drive the economy and make it more stable. Furthermore, we recently discovered gas in the Mediterranean Sea off the coast of Israel. This was big news because whereas in the past people were the only resource the country had, we now have a powerful natural resource that will change the economy dramatically and could add around EUR 28bn (est.) to it.

Israel & the Rothschilds

The Rothschild family's philanthropic interests have extended to the region since the founding days of their business partnership over two centuries ago. By supporting hospitals, schools, universities, creating companies for dance and the visual arts - to name just a few examples - the Rothschild family has demonstrated its commitment to the well-being of the nation.

Out of this space

William Therlin
Investment and Portfolio Adviser

Stefan Gerstner
Investment and Portfolio Adviser

Spending on cybersecurity continues to grow

Cybersecurity, the practice of keeping computers, networks, data, and programs protected from unauthorised access is not new. Many point to its birth in the 1970s when Ray Tomlinson (crowned the inventor of email) developed the first known antivirus software.

Fast forward some 50 years and cybersecurity – or conversely cybercrime – has grown in scope with far-reaching implications for many parts of society.

From accessing private information to disrupting business processes, and extorting money, cybercrime is an increasingly growing threat to the global economy. At the current rate, costs linked to cyberattacks are estimated to reach over USD 17.6 trillion per year by 2025.[1]

More viruses targeting more online users

Among the underlying factors driving this development lies a simple relationship: growth in the digital economy goes hand in hand with increases in cybercrime. More connected devices[2] – the core of Internet of Things (IoT) – and the ongoing migration of data, from offline to online, represent potential vulnerabilities for new attacks. The latter is associated with the growing importance of the cloud (a topic we cover separately here). Based on our research, lockdowns during the height of the pandemic, social distancing and remote working all contribute to accelerated cloud adoption across large organisations by several years.

Understanding the lingo

Malware, or malicious software, is a code or file often used to (1) give the attacker access to a machine or system or (2) steal sensitive data.

Ransomware is a form of malicious software which blocks access (to a computer/certain data) and requests money in exchange for access.

3.6

Every person will on average have 3.6 connected devices by 2023 and the number of connected devices will be 3x the global population by 2023.

Cybersecurity solutions are more sophisticated, but so are the attacks

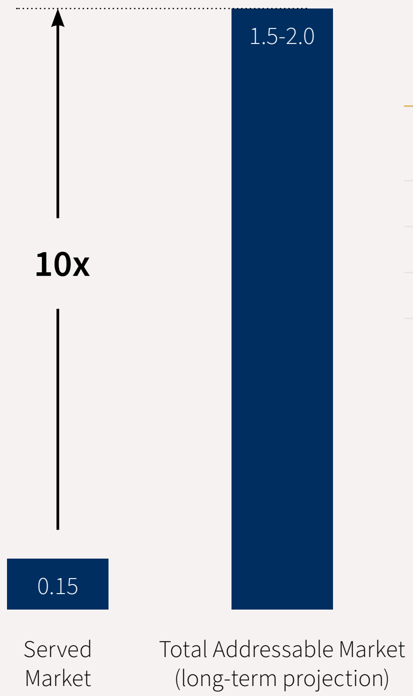
Cybercrime, such as malware and ransomware, has become more complex, and attackers are using artificial intelligence and machine learning to be more effective. Targeted attacks rose by twofold and tailored attacks increased fourfold during the pandemic.[3]

Such attacks are increasingly sophisticated and pose a serious threat to private and public sectors alike. The costs – direct and indirect – from these attacks will, as noted, substantially rise and organisations must invest in more advanced systems to counter more intelligent infringements.

It is, therefore, no surprise that expected spending on cybersecurity services is set to increase substantially. Having spent USD 150 billion on cybersecurity in 2021 (at a compounded annual growth of 12%[4]), organisations are set to invest much more. The total addressable cybersecurity market could in the long-run top USD 2 trillion, approximately ten times the size of the market as we write (see Figure 1).

Figure 1: Long- term projected global cybersecurity market size

in USD trillion



Key segments have significant room to grow

Segment	Total addressable market, USD billion	Current penetration, %
IoT / OT*	100-200	1-5
Cloud security	50-100	1-5
Data protection	50-100	30-35
Email security and awareness	50-100	10-15

* Internet of Things/Operational technology
Source: McKinsey Cyber Market Map 2022

Organisations are not adequately prepared and must invest more

While cybersecurity awareness has increased and companies are investing in technology such as cloud, remote work capabilities and data storage, there are still many gaps in organisations' IT infrastructure. Also, the frequency of attacks is rising. A recent survey of 4,000 companies suggests a company with 1,000 employees faced up to 80,000 attacks in the past year.[5] The same survey also noted cybersecurity threats almost doubled between 2021 and 2022.[6]

Another issue for organisations is centered around regulation. With the introduction of GDPR and other data protection regulation, companies are under increased scrutiny in how they handle (private) data. Companies that do not manage to protect data against cyberattacks may face significant fines, in addition to damages to a company's brand equity. While harder to quantify, the latter can be even more detrimental in the long term.

How to invest in the cybersecurity sector

Investors can gain access to the growing cybersecurity market in several different ways. Depending on an investor's overall portfolio allocation, direct exposure through single line equities might be preferred by some. For others, a broader and more diversified vehicle such as a sectoral ETF, may be more appropriate.

With our **Investment & Portfolio Advisory** team at Rothschild & Co Wealth Management, we can advise on the most appropriate ways of gaining access to the cybersecurity sector, as a long-term investment theme.

1. Statista
2. Cisco Annual Internet Report (2018–2023) White Paper
3. https://go.coro.net/cyberthreats2022
4. New survey reveals $2 trillion market opportunity for cybersecurity technology and service providers, October 27, 2022 | Article by Bharath Aiyer, Jeffrey Caso, Peter Russell an Marc Sorel, McKinsey & Company
5. https://go.coro.net/cyberthreats2022
6. https://go.coro.net/cyberthreats2022

Real Estate Markets – where are we heading to?

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In the past few years, the Real Estate Markets in Western economies have boomed. In 2022, the uncertain economic environment suddenly cast a dark light. Inflation, higher costs of financing and rising construction costs are weighting on the outlook for real estate. Considering the multiple sources of turbulence, can investors still find value in this asset class?

Current market environment and uncertainties

In recent years, real estate values were driven significantly up by low or negative interest rates. The advent of Covid and the immediate shift in investors' preferences, for example from retail to logistics, reinforced the underlying trends of rising prices and highly demanded subsectors, making the asset class look rock solid and safe. Now, it is facing many challenges, in particular the tighter monetary policy of central banks aimed at fighting inflation which is not expected to change in the short term.

Whilst stock and bond markets have corrected sharply over the last twelve months, real estate valuations are lagging behind and and are quite stable until now. Even though some deals are closing at substantially lower values and transaction activity has slumped, ‚there is not yet broadbased evidence that real estate valuations have adjusted yet. Nevertheless, most investors remain cautious as banks face more challenges in structuring credit making financing conditions costly and loans more difficult to obtain. This has often forced transactions to be closed with discounts of significant scale or simply do not take place.

Uncertainties are magnified by two additional factors: A looming wave of redemptions could trigger fire sales by **open-ended** real estate funds, meaning that properties have to be sold with significant reductions to make sure that the fund remains liquid. Furthermore, some listed **REITs** could be forced to do the same due to troubles of refinancing their debt.

An **open-end fund** is an investment vehicle in which assets are pooled so that ongoing new deposits and withdrawals are made possible by investors in the pool.

REITs: A real estate investment trust (REIT) is a company that owns, operates, or finances income-producing properties.

Impact or rising interest rates on different real estate strategies

Rising interest rates lead to tighter financing conditions that require higher **cap rates**, generating a decrease in real estate prices. This valuation impact is particularly high for **Core** and **Core+** real estate strategies focusing mainly on existing rental yields. In contrast, value-add investors who improve the operational property efficiency by reducing vacancies and increase rental prices, suffer less.

In our opinion the next 18 months will be very attractive for value-add investors who have cash available and a conservative leverage ratio, as they are mainly focusing on a later stage of the real estate cycle and can use upcoming investment opportunities at lower entry prices.

Outlook for different real estate segments

Given the many challenges ahead, such as the fear of a recession or a longer period of higher inflation as well as rising energy costs or more geopolitical instability, it is important to focus on the underlying fundamentals. Over the mid to longer term, the key drivers for real estate returns will remain demographics, urbanisation and the decarbonization trend.

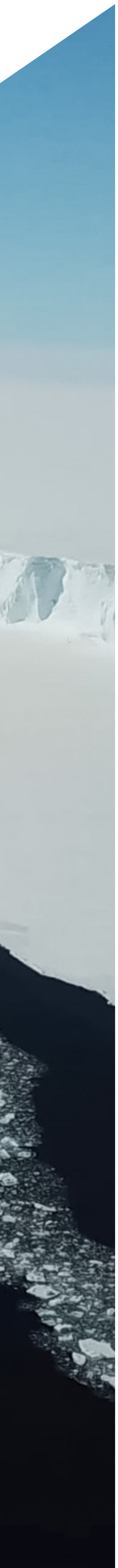
For Core and Core+ strategies, the focus is clearly shifting away from capital growth and refocusing on reliable cash flows: Most commercial real estate contracts are inflation linked and offer landlords, up to a certain extent, an inflation hedge. Demand for residential properties remains high and vacancy levels are low due to lower levels of construction volumes during Covid as well as a positive influx of people to metropolitan areas. However, government interventions such as restrictions for maximum rent prices could have an impact on the extent of possible rental growth. Equally, current high prices and the rising cost of financing have made the owner-occupied residential market unattainable for many buyers and made rental residential more attractive for tenants and investors. For offices, the demand for high-quality properties in prime locations remains stable. However, the gap to B-locations and older structures is widening dramatically. Especially outdated offices that do not satisfy demand from tenants and investors alike with respect to ESG-criteria, are expected to lose value. Whilst retail has been dropping out of investors' favours, the logistics sector and the last-mile logistics, which is the final step of the delivery process from distribution hubs to the end-user, continues to see solid market demand. Equally, more niche parts of the market, such as self-storage, residential properties with service as well as student housing or tailored products focusing on senior tenants continue to thrive.

Cap rate: The capitalization rate is calculated by dividing a property's net operating income by the purchase price (which might differ from a valuation price, especially in these markets).

Core holdings: Central business districts with long term leases with high-quality tenants and high occupancy, focus on income.

Core+ holdings: Mostly stabilized buildings, generating steady current income, with potential for rental growth and higher occupancy through property renovation and asset management, focus on income improvement and equally capital appreciation.

The market dislocation offers a significant repricing potential for investors. The average age of buildings and the decarbonization requirements are expected to create attractive entry prices and opportunities for real estate funds with a value-add or opportunistic strategy. However, this requires a thought through and consistent strategy, covering multiple regions and combining different asset types to allocate risk. Real estate remains a capital-intensive asset class for which a long-term strategy and the ability to quickly adapt to market changes is essential.



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