

12 JANUARY 2022

2021 was boom & bust. Will 2022 be bust & boom?

The recent shift from Growth to Value appears to us as just a short-term one, and we believe our portfolios are very well positioned to outperform in the following market phase.

Bottom line

We believe that inflation concerns will ease by 2H 2022 and that the FED's monetary policy will be more favorable than market players currently expect. If correct, our strategies are set for a strong rebound, as the sectors and stocks we are exposed to shall strongly benefit from a return of investors towards growth.

Such a rebound would be compounded by the stronger fundamentals of our portfolios compared to indexes (ex-mega-caps) and competitors.

Foreword

Since mid-November of 2021, we have experienced a significant sell-off in many strategies (-20% from peak to trough for the AtonRā fund, which regroups all the themes that we manage) as the market has started to discount a more hawkish tone from the FED.

It is not the first time (nor the last) that we have experienced a nasty correction, the last time in 2018. Nevertheless, we value the comfort we have in what we are doing, and even more importantly, being fully prepared and acting according to a well-defined strategy.

Throughout this document, we want to give our investors a clear view of our expectations and insights on what has driven the underperformance of our strategies vs. leading indices such as MSCI World and Nasdaq. We also provide a clear path to how our different themes should behave in 2022.

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Our Takeaway

- We keep asking a simple question: Do you think we will have less or more technology in our daily life in the next few years?
- Are we still comfortable for 2022, as stated in our year-end 2021 research note?
- What went wrong in 2021? How to be sure we do not repeat the same mistakes?
- How are the different themes we manage to perform in 2022 and longer-term?

Executive Summary

We ended 2021 and started 2022 at the exact opposite of how we ended 2020 and began 2021

At this time last year, everybody wanted to be invested in growth stocks, private equity, meme stocks, SPACs, and anything with a promise for growth and higher yields. Throughout 2020, performances of growth strategies (including ours) were stellar, well above the best performing leading indices (S&P500 up 16.3%). A massive amount of money poured into growth stocks, crypto, private equity, and risky assets.

The exact opposite happened at the end of 2021 and the beginning of 2022: in a few months, growth strategies went from boom to bust as the perceived risk in the current Macro environment is entirely different. In our opinion, reality may lie in the middle.

The market's current belief is that sectors having underperformed the market for many years are to make a strong comeback. It would need a complete paradigm shift that we currently cannot genuinely see happening.

The main driving forces for such a paradigm shift are absent today, as before the Covid-19 pandemic. They include demographics, globalization, aging, automatization, etc. An exception is reshoring, one of the few paradigms shifts we observe as actually occurring (and which started a few years ago). But will reshoring kill globalization? There is enough evidence from the past indicating this may not be the case. Will reshoring bring back inflation? Quite the opposite! New capacity addition will have to compete with capacity that is already available.

To sum up the above, the current shift from Growth to Value appears as a short-term one. We have seen this happening many times in the past years and believe investors should focus on the very long-term trends driving the economy rather than trying to catch up with every single Macro movement.

We follow a very structured investment process that has enabled us to build high-quality portfolios. Earnings growth and cash-flow generation (for past and forward estimates) exceed indices and competitors. Moreover, high revenue growth coupled with higher profitability, outstanding free cash flow generation, and solid return on capital employed further cement our portfolios as quality-growth investments. To summarize, our portfolios are very well positioned to outperform in the following market phase.

What happened

In 2021 growth themes went from boom to bust

At the beginning of 2021, with the arrival of the vaccines, many expected Covid-19 to be a short-lived story. With the amount of stimulus from 2020 and the willingness to spend, consumer demand increased massively, quickly lifting growth expectations, benefiting reopening stocks. Rising economic growth expectations are observable by a rise in real rates (nominal rates minus inflation expectations). Growth stocks tend to underperform in such an environment because growth can be harvested elsewhere. However, from May 2021, growth stocks outperformed the broader market again until the middle of November 2021, as growth expectations trended down.

The September 2021 FOMC (Federal Open Market Committee) meeting indicated no rate increases until 2023. With inflation continuing to climb at record levels, some FED members started to give more hawkish speeches until the December FOMC meeting, where three hikes were suggested, together with a faster tapering for 2022.

Since mid-November 2021, the market had anticipated such an outcome and rallied immediately after the minute's release. However, once investors realized that quantitative tightening was also vigorously discussed, they started to sell all growth stocks, the assets most negatively impacted by a tightening of monetary policy and unexpected rise in real rates. If history is any guide, after the beginning of quantitative tightening in Q1-2018, the market lost more than 10%, only to recover immediately after. The bond market reacted only recently (usually, bonds are moving first), and the past week's move in long-term bonds is also one of the worst of the past 50 years.

What is the market telling us?

The market is betting that mega-companies, notably Amazon, Apple, Alphabet, and Microsoft, will better withstand a tightening monetary policy. While large companies with proven business models and strong balance sheets tend to outperform, it does not mean that they will continue to do so.

We performed some math on Amazon, Apple, Alphabet, and Microsoft. Those companies have a combined market cap of \$8.7tn and should reach \$1.3tn in combined revenues in 2022. Compared to \$23.5tn for the U.S. economy, those four companies make up 5.5% of the U.S. GNP but a staggering 18% of the total U.S. market cap (\$47.5tn).

We did the same exercise with the Russell 2000 Growth. It has total revenues of \$1.45tn (or 6.1% of U.S. GNP) for a total market cap of \$2.4tn or merely 5% of the total U.S. market capitalization. We can easily see the huge valuation gap between smaller and large market capitalizations. Furthermore, in the Russell 2000, most companies are US-revenue-centric, while mega capitalizations derive half of their revenues from international sales. It makes the investment case towards U.S. growth stocks even more appealing should U.S. growth outpace the rest of the world.

Nevertheless, investors are shifting their allocation towards large caps and selling off most of the rest, but are they correct?

Some investors may find that exposure to indices (passive investment) is the best strategy. While valid for 2021, it was not the case in the past years, nor might it be the case in the future, given the concentration levels intrinsic to the leading indices. Besides, other investors are reassessing their asset allocation and are uncomfortable with growth exposure.

When performing such asset allocation adjustments, no one cares about valuations. Still, when we look more closely, those large caps are not trading at low valuations, quite the opposite.

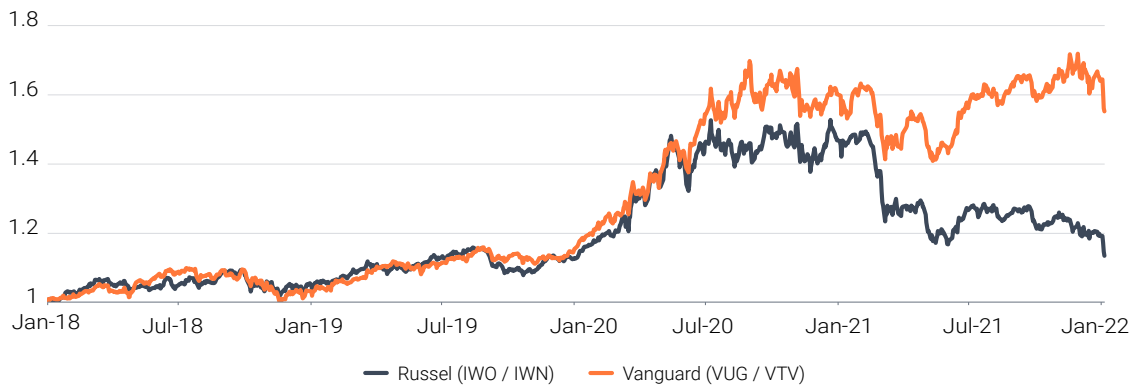
Amazon currently trades at FY2022e PE of 64X, Apple at 30X, Google at 26X, and Microsoft at 34X. Those are ratios you expect to pay for smaller companies that grow their revenues and earnings at 25% plus, not when growing at 10%. If we put it in context, the market is currently paying on average 3X (PE/G) the growth of such companies.

To better assess this asset allocation concern, we can look at the performance of the growth to value ratio. Because the definition of Growth and Value varies, we compare two different ratios: Russell 2000 Growth ETF (IWO) to Russell 2000 Value ETF (IWN); and Vanguard Growth ETF (VUG) to Vanguard Value ETF (VTV).

In general, for both ratios, Growth outperformed Value since 2009 and accelerated since the start of the Covid-19 crisis. But these ratios began to diverge in 2021. Today, the Russell 2000 ratio (blue) is at pre-Covid-19 levels, while the Vanguard ratio (orange) is higher, as shown below.

The difference lies in the makeup of these ETFs. The Vanguard indices are highly concentrated, while the Russell are not. Indeed, in the Vanguard growth ETF, mega-cap technology names such as Amazon, Apple, Alphabet, and Microsoft represent more than 35%, and the top 10 holdings account for more than 50%. In comparison, the top 10 holdings of the Russell 2000 Growth ETF represent only 5.8%.

GROWTH OVER VALUE
(Russell 2000 vs Vanguard)



To summarize, in our opinion, the market is currently overpaying a handful of big tech companies and underpaying quality growth stocks. Those large companies have become the new Nestlé of the world, stocks that everyone wants to own for "security" and "stability" during a shift in monetary policy. In other words, those large-cap tech companies are becoming "value companies" for all but valuation metrics.

While we like those companies, they address so many end markets and become so gigantic that it has become difficult for pure-play strategies like ours to justify their inclusion in our portfolios.

Impact on our investment case

Monetary policy

Is it the end of growth strategies as easy money goes away?

Following the 2008 financial crisis, the loose monetary policy helped financial assets disproportionately, but the wealth creation was also significant, notably for China and the U.S. Other countries such as Australia, Germany, Singapore, Sweden, Switzerland, and Taiwan also saw robust GDPs growth.

How is it possible that China, the U.S., and a few others have grown so much? The answer lies in their technology sector's spectacular growth and ability to generate cash flows (and GDP) from innovation despite the high price tag for many products and services they sell.

We believe this will not change anytime soon, including for China, which is undergoing a massive shift in how the Chinese Government wants corporations to do business in the country. If investors have a vision beyond two quarters, they know that the only way to obtain higher returns is by being exposed to specific growth sectors and themes.

Are negative real interest rates here to stay despite central banks' moving stance? What does this mean for stocks?

Negative real interest rates are here to stay or hovering at or around 0% in the long term. Indeed, the "natural" rate of interest, also known as r^* , is the inflation-adjusted interest rate consistent with full use of economic resources and steady inflation near the FED's target level. In other words, r^* is the real interest rate which is neither expansionary nor contractionary when the economy is at full employment. Currently, most economists estimate the r^* to be around 0%. For the past decades, r^* has been trending down, primarily due to globalization and declining demographics. Each time the real rates are above this unobservable r^* , a market crisis has a high chance to occur, and the FED is aware of it. Thus, if r^* stays anchored around 0%, the Fed would refrain from raising interest rates to the level of potentially having damaged positive real rates.



The current situation has some similarities with summer 2018. The labor market was booming, giving confidence to the Fed to remove accommodation and become more hawkish, as one of its mandates had been filled. In October 2018, the FED raised the specter of further rate hikes (three at that time), and the markets sold off sharply. From peaks, the Nasdaq declined by 18%, the Russell 2000 Growth Index fell by 24%, and the S&P500 lost 13%.

As the markets were falling together with economic growth expectations, the FED backpedaled after the December 2018 meeting. It said they would probably only make two hikes and possibly less if warranted. Even more important, Mr. Powell explained that the Fed listened to markets and could be patient on interest rate hikes. The year after, they admitted they made a mistake by saying that the U.S. economy could sustain a low level of unemployment without troubling effects on inflation.

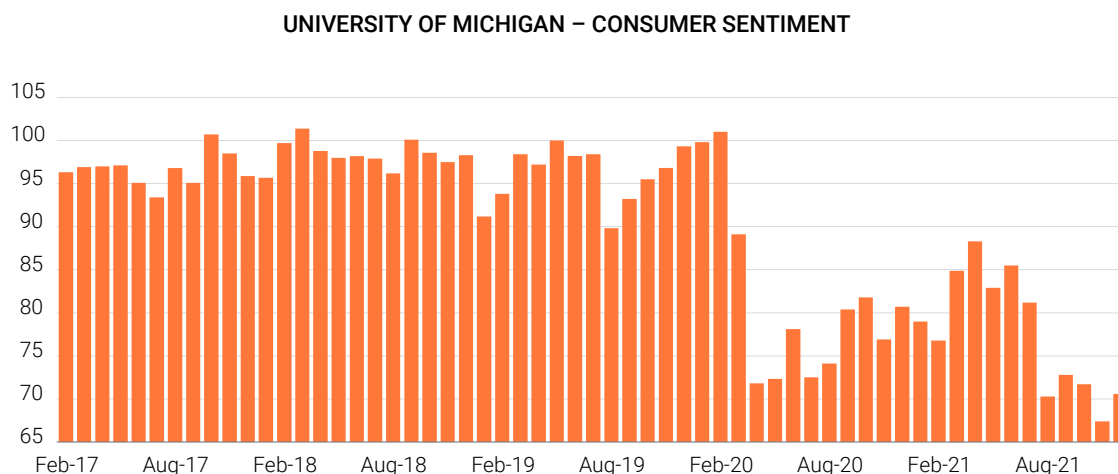
This time around is slightly different as the market only punishes growth stocks and high-flying assets, whereas, in 2018, everything was down. We think deleveraging occurs in this market segment as too much money was poured into those assets, and stop losses are triggered.

Furthermore, there is inflation nowadays, and the job market is hot as unemployment returns to pre-Covid-19 levels. We have enough evidence (explained in more detail in the following pages) that inflation is likely to come back to more reasonable levels, thus not obliging the FED to act further.

Given the current perceived extreme hawkishness of the FED, the odds are skewed towards the FED's stance becoming more dovish than more hawkish.

What are the risk factors for the FED? What if the stimulus extensions do not materialize just before a rate hike from the FED?

Many factors could derail the planned three hikes for this year, an alternative scenario that would benefit growth stocks. A significant drop in inflation would give the FED the ability to wait and see. Similarly, a rate hike with a lower-than-expected GDP growth can kill the recovery and erode consumer sentiment, already at depressed levels, as shown below. Other factors include a FED error (too early or too late), a military conflict, political issues (mid-term elections, Biden's health), etc. The probability that no adverse event will happen in 2022 is low.



The planned scaled-down \$1.75tn "build back better" bill is at risk. Democrat Senator Mr. Manchin said on December 19, 2021, that he would not support the bill in its current form because of concerns about the potential impact on inflation and the expanded child tax credit. This bill also includes climate change provisions, but Mr. Manchin suggested that an agreement would be much easier to do on this specific topic. We believe the markets might not have fully discounted the possible failure of this plan.

Risks

What are the geopolitical risks in 2022?

While some risks have been swept over the past few years, some may unfold (or not) this year.

The first risk remains Covid-19. We are starting to learn to live with it, and the likelihood that the virus will become endemic is increasing. The countries that might suffer the most are China and Russia. Should a new variant outbreak, their population is not as well protected (inactivated virus vs. mRNAs vaccines) as other countries. This would have consequences on China, and the rest of the world (supply-chain issues) would experience slower growth and the likelihood of elevated inflation levels.

For China, aside from Covid-19, the main risks are around "how far" Xi Jinping will go once the 3rd term in power is enacted during the fall of this year. Another risk is the ongoing defaults from heavily indebted property developers, which could heavily impact growth in China as real estate (including construction) represents 30% of the Chinese GDP. Finally, the tension between Taiwan and China has reached its highest levels, and a conflict in the region would resonate everywhere.

The second most important risk factor for 2022 is U.S. mid-term elections. We have already covered this point by saying that one of the main risks is the failure of the \$1.75tn “Build Back Better” plan. The odds to see a Republican win of the House and/or the Senate are high with possible volatility on the political landscape (impeachment of Biden, etc.) in the U.S. Interference (notably from Russia) in these elections could also represent a risk factor.

France is also set to elect its President in April/June when it will lead the European Union. While Mr. Macron is likely to get re-elected, the hardliners (both on the left and right) are surfing on the unvaccinated, undecided, and a low turnout which could change the vote results. Should any black-swan event come from France, it could have a profound consequence not only for France but overall for Europe.

Finally, the confrontation around Ukraine could have dire consequences should an accident happen between Russia and NATO. While it is in no one’s interest to see such a conflict escalate, the possibility to see skirmishes could negatively impact growth in Europe due to its dependence on Russian gas and the already fragile energy situation the continent is currently experiencing.

Are now all the kids out of the markets? What about stock margin levels?

We saw many inexperienced people entering the markets during the pandemic. One of the main games (aside from regular gaming) was to trade – hoping to become rich instantly. It was easy to open an account with the likes of Robinhood ([read our note: Robinhood IPO? Better watch it from a distance](#)) and make deposits with the money received from governments.

These new retail traders created a series of meme stocks that reached unsustainable levels. Behind the scenes, institutional money from hedge funds exacerbated the speculation on stocks beloved by retail investors. The same happened to other asset classes, like cryptos.

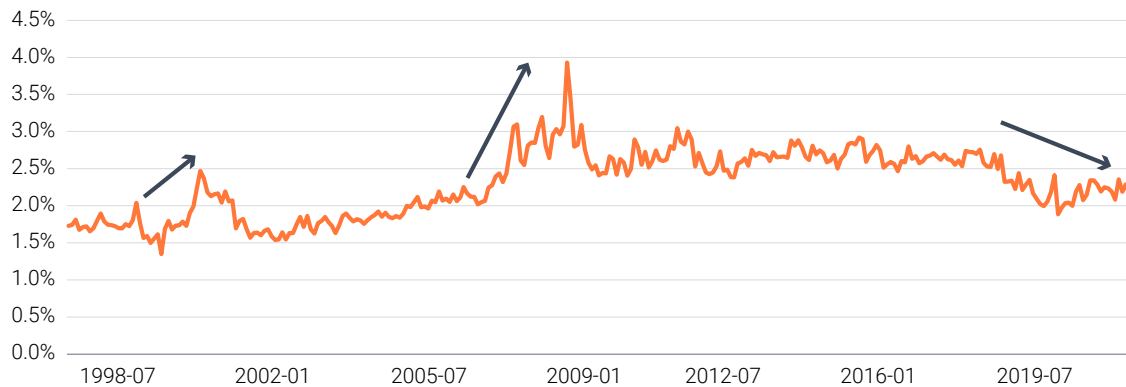
But now that government social benefits have been withdrawn and the FED has reduced the availability of money and credit, the markets have become more challenging and asset allocation more critical: these “new investors” may be in for a harsh awakening. U.S. retail investors will not be able to pour a record \$1tn in the market as they did in 2021. Furthermore, given the recent past’s easy access to margin borrowing, we might witness a margin-led contraction in some assets.

As per the below chart, absolute margin debt (amount of money borrowed to buy stocks) is at record high levels. But in relative terms, the picture is entirely different, even quite bullish.



Indeed, if we compare the margin debt with the total market capitalization of the S&P 500 (see chart below), total leverage in the market is currently not high compared to historical standards. This metric has declined since 2018 and is currently slightly lower than in the previous decade. The market is not in an overleveraged position, as could be observed ahead of the dot-com bubble and the 2008 financial crisis, lowering the odds of cascading margin calls.

MARGIN DEBT / S&P500 MARKET CAP



We always stated that rising interest rates (fast upward slope) were the leading risk factor for our strategies. Has the market already fully priced in such a scenario?

We believe the market might have already factored in a worst-case Macro scenario for growth stocks, where inflation remains high. Moreover, we believe that the market might have already anticipated some sharp negative earnings revision in many of the companies we are invested in. If that proves correct, it is to be seen in the next two quarters together with Macro and companies' guidances for FY2022/2023 that will come out from the U.S., China, and Europe.

What are the markets looking for in the next two quarters?

As is often the case during a market turmoil, investors' focus shifts towards Macro-related data. With this in mind, we believe that the release of Macro indicators, especially from the U.S., and most notably on indicators such as real interest rates, consumer prices, consumer sentiment, and employment and wages, are likely to be scrutinized by investors.

If we were to see (as is our base case) economic figures that ease current inflation concerns, bets on rising interest rates would immediately square off, favoring strategies such as ours.

The recent decades' high CPI (Consumer Price Index) number is mainly due to the goods CPI and is supply-chain related for goods such as used cars and trucks, new vehicles, household furnishing, apparel, etc. Therefore, which also constitutes the basis of our current view, we believe these issues are transitory and will ease once various Covid-19-related measures fade away. A leading indicator of the CPI direction is the ISM Manufacturing Price Paid Index.

CPI vs. MANUFACTURING ISM PRICE PAID INDEX



From the above chart, we can see that while still above 50, it is trending down and is thus suggesting the direction of the CPI should follow. If we are correct in this assessment, current jitters on growth strategies are to dissipate already over the next quarter or two as the FED would become less hawkish.

Moreover, the ease of supply chain bottleneck is starting to show up. The ISM Manufacturing Supplier Delivery Index moved down for the second month in a row showing somewhat an easing of delivery, albeit still slower than the previous months. Interestingly, Electrical Equipment, Appliances & Components reported faster supplier deliveries in December 2021 than in November of the same year. Supply chain performance is starting to move toward a more appropriate balance with demand and can help ease goods inflation.

ISM MANUFACTURING SUPPLIER DELIVERY INDEX



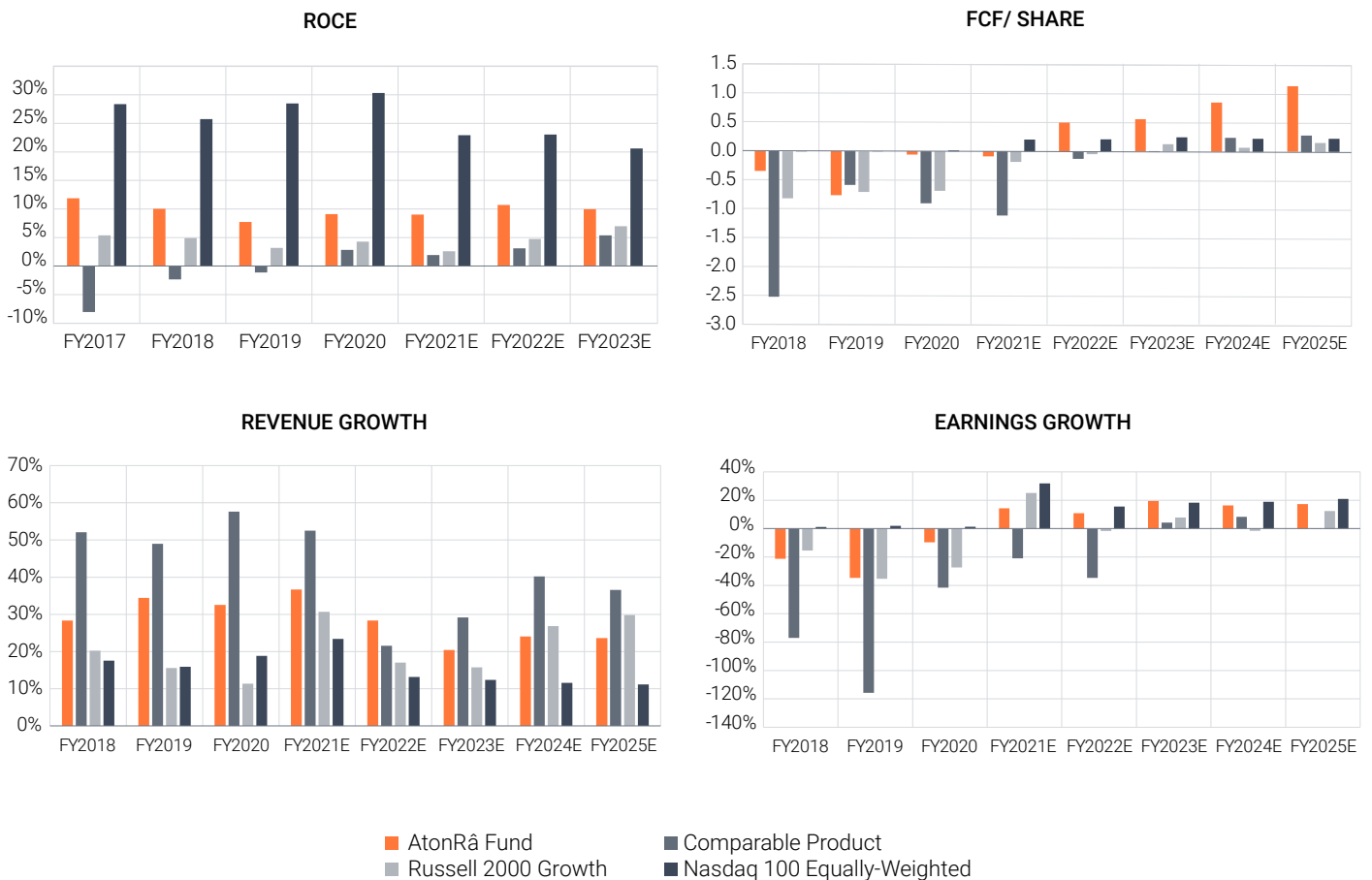
Our Portfolios

What is our definition of quality growth stocks? What are our portfolios' critical metrics?

Our definition of a quality-growth stock, as opposed to a growth-trap stock, is one where its fundamentals are sound, notably towards revenue growth and towards generating strong ROCE (return on capital employed), which can be used to grow revenues even more, as the addressable markets they are pursuing are significant and expanding. On the other hand, growth companies that constantly need to tap the markets for financing are those stocks that sell off the most in a rising interest rates environment but will not recoup their losses once the situation normalizes.

A quality-growth portfolio is also cash-flow generating and profitable. We expect 94% of our stocks (ex-Healthcare) to be at least operationally profitable (EBITDA) and 89% to be net profitable (EPS) already next year. As part of our usual portfolio construction, we tend to favor companies with positive top-line growth and limit exposure to businesses with little to no earnings. Given our focus on healthcare companies, often early-stage in their path to profitability and cash-generation, these percentages are not at 100%. Early in 2021, we have significantly expanded the scope of our Biotech theme to add R&D enablers to a portfolio that mainly prioritized therapeutic developers before. This change has further improved overall portfolio metrics, potential risk/reward. It has better positioned AtonRâ for the markets ahead, i.e., with healthcare included, we expect 85% of stocks to be operationally profitable.

Finally, we assessed our portfolio metrics to the Russell 2000 Growth, the Nasdaq, and comparable products. The results confirm our previous statements – mainly that earnings growth and cash-flow generation (for past and forward estimates) exceed indices and competitors. Moreover, high revenue growth coupled with higher profitability, outstanding free cash flow generation, and solid return on capital employed further cement our portfolios as quality-growth investments.

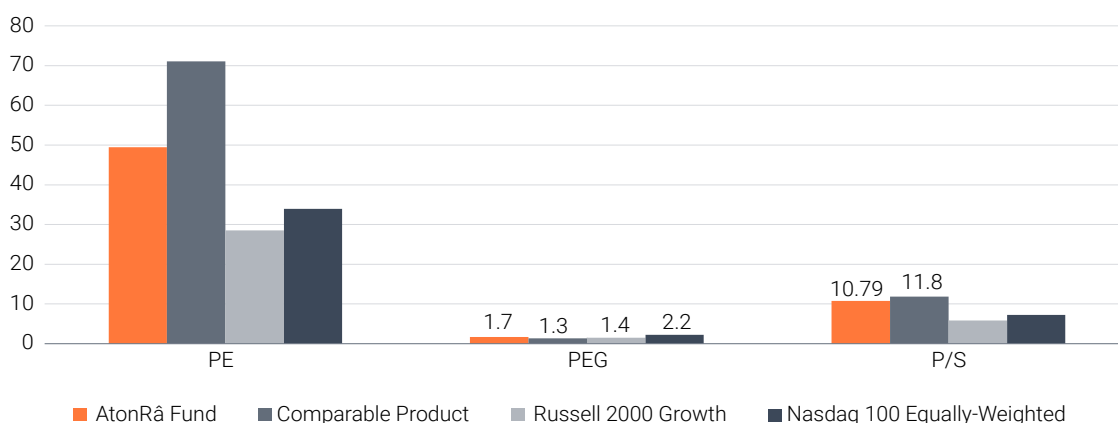


Moreover, the AtonRâ Fund, being growth in nature, has already returned to the pre-Covid-19 levels, as seen in the table below. Today's two year forward expectations are at close if not identical levels as precisely two years ago before Covid-19 shocked the markets. And while we cannot guarantee when the best entry point might be, it confirms our stance that should the markets calm down, our portfolios are very well positioned for a rebound as the quality of stocks we have in the different portfolios that we manage is very good.

	01.01.2020	01.01.2022
Atonra Fund	2020	2022
P/E FY2e	45x	49x
P/S FY2e	12x	10x
P/E/G FY2e	1.9	1.7

This stock quality also comes at very competitive valuation metrics. As seen above, the growth of the top and bottom line has been accelerating year over year and is expected to continue in the future, so the fundamental question is: how much is this growth worth? If in 2020 we were ready to pay 12x sales and PE/G 1.9x before Covid-19 accelerated digitalization, what about paying forward 2Ye 10x sales and 1.7x PE/G for ~25% top-line, ~20% EPS, and ~30% FCF growth per year? We genuinely believe it would be a missed opportunity, especially considering the quality of our portfolios, which intrinsically further increases the potential risk/reward.

SELECTED PORTFOLIO METRICS FY2E



How are we positioned with our portfolios? What are the changes expected as the year progresses?

We invest for the long-term; portfolio churning is low (usually around 35% per year). We only make changes when required, notably when we anticipate a shift in the investment phase (Capex, Services, Commercialization phases) in any thematic we manage.

We do not try to chase any change in the Macro landscape but focus instead on the longer cycles. We indeed believe that in the context of Covid-19, the Macro and economic cycles have shortened and are way more volatile as Governments, and central banks had to respond swiftly to a wholly unexpected and fast-changing environment.

We believe in the purity and concentration of a thematic rather than having a one-fits-all strategy. We are not expecting any significant changes in the portfolios this year, aside from company-specific catalysts that might unfold or some adjustments due to changes in the investment phase in any given thematic. Furthermore, we are looking at increasing our exposure towards China as the valuations of some companies on our radar are compelling. At the same time, prospects (notably for those who stand to benefit from the technology onshoring trend) are bright.

While we maintain our private equity investment style and refrain from changing our allocation frequently in the different portfolios, we are aware that some subsectors may over/underperform in the next few quarters due to shifts in monetary policy.

Below we detail our current stance on the different subsectors which reflect our year-end forecasts. Investors could see how we are positioned in the portfolios and our thoughts for the current year.

Artificial Intelligence & Robotics

On Artificial Intelligence & Robotics, our portfolio is tilted toward infrastructure, overweighting computing components, novel manufacturing, and data infrastructure. The semiconductor demand continues to rise and, with healthy balance sheets and strong pricing power, these companies can easily withstand tighter financial conditions. On the contrary, companies in the Autonomous vehicle segment, which are still in the early stage, for the most part, might suffer from the lack of availability of credit and money and, as such, should be underweighted. However, from a bottom-up analysis, we chose a company with a significant amount of cash for this sector.

Artificial Intelligence & Robotics	
Augmented Reality	UW
Autonomous vehicles	UW
Computing Components	OW
Data Infrastructure	OW
Knowledge Automation	N
NLP & Conversational AI	UW
Novel Manufacturing	OW
Process Automation	N
Robotics	N

Bionics

Many sectors within the Bionics portfolio might benefit from a potentially endemic Covid-19 as many non-life-threatening treatments have been postponed. Thus, sectors such as Mini-Invasive Treatments and Next Generation In-Vitro Diagnostics would benefit from a renewed surge in demand for treatments, should hospitals and clinics situation normalizes post the Covid-19 crisis. On the contrary, some subsectors within digital health might not continue their pandemic trend and are underweight.

Bionics	
Artificial Organs	OW
Digital Health	UW
Healthcare 3D Printing	OW
Innovative Imaging	N
Innovative Life Science Tools	N
Mini-Invasive Treatments	OW
Next Gen In Vitro Diagnostics	OW
Synthetic Biology Tools	OW
Traditional In Vitro Diagnostics	OW

Biotech 360°

With less availability of money and credit in the second semester, our Biotech portfolio has underweighted the outsourcing services providers and the small molecules players, which are the most sensitive to a decline in R&D cash availability. Conversely, the generic and biosimilar drug manufacturers are overweighted as they perform better under tighter monetary conditions. However, given that there are very few pure players in this segment and our bottom-up analysis did not allow us to single out a company, we currently have no exposure to copy-cat drugs. Besides, sectors such as in-vitro diagnostics and AI services may benefit from the transition to an endemic Covid-19 era and multiple catalysts to potentially disruptive technologies.

Biotech 360°	
AI / Analytics Services	OW
Copy cat drugs	OW
Genetic medicine	N
In vitro diagnostics	OW
Life science tools	N
Organisms-based drugs	N
Outsourcing Services	UW
Protein-based drugs	N
Small molecules	UW
Tissue and cells therapy	OW

Fintech

With more restrictive access to money and credit during the second semester, alternative lenders could greatly benefit to grow their customer base. Moreover, financial software can benefit from increased labor costs by allowing customers to lower their headcounts and heighten efficiencies. With a negligible marginal cost to attract more clients, they could outperform. Regarding our blockchain investments, on one side, they benefit from the strong growth and awareness of last year, but, on the other side, tighter monetary conditions are a headwind. We maintain thus a neutral stance.

Fintech	
Alternative Lending	OW
Blockchain	N
Diversified	N
Insuretech	UW
PropTech	N
RegTech	OW
Software	OW
WealthTech	OW
Mobile Payments: Paytech	N

Security & Space

Cybersecurity represents the major part of our investments in this portfolio. Demand for this market continues unabated, and the sector is still growing at double-digit. Moreover, some names experienced massive drawdowns, and should our thesis on a less than expected hawkish FED be correct, they will rebound the most. We overweight the space sector for similar reasons even if it currently represents less than 25% of our allocation.

Security & Space	
Equipment & Services	UW
Cybersecurity	OW
Testing, Inspection & Certification	UW
People, Buildings & Goods Security	UW
Commercial Space	OW
Space Applications	OW
Space Infrastructure	OW

Sustainable Future

If the commodity prices continue to stay elevated, it will be the year for clean transportation to show its potential. Given that energy storage is ahead in the clean transportation supply curve, we also overweight this sector. Moreover, these high energy prices should force better energy management for which our smart grid sector can also benefit. On the contrary, the wind sector is underweighted given its need for financing that might be refrained from the central banks' more restrictive monetary policy.

Sustainable Future	
Clean Transportation	OW
Energy Storage	OW
Food & Agriculture	N
Hydrogen	UW
Smart Building	N
Smart Grid	OW
Solar	N
Water	N
Wind	UW

Our thoughts on the U.S. dollar and commodities – What's the impact on our strategies?

The U.S. dollar has a negligible impact on the strategies we manage except for Sustainable Future and some exposure we have here and there on some specific companies, notably in Brazil, China, and Japan. It is not surprising to see the U.S. dollar strengthening vs. other currencies within the current Macro context. We believe that the difference in monetary and fiscal policies between the U.S. and Europe should continue to favor the U.S. dollar currency. If the U.S. dollar were to appreciate too strongly, it would be positive for U.S. inflation but negative for U.S. export companies as an unfavorable exchange rate would curtail their (imported) revenues and earnings.

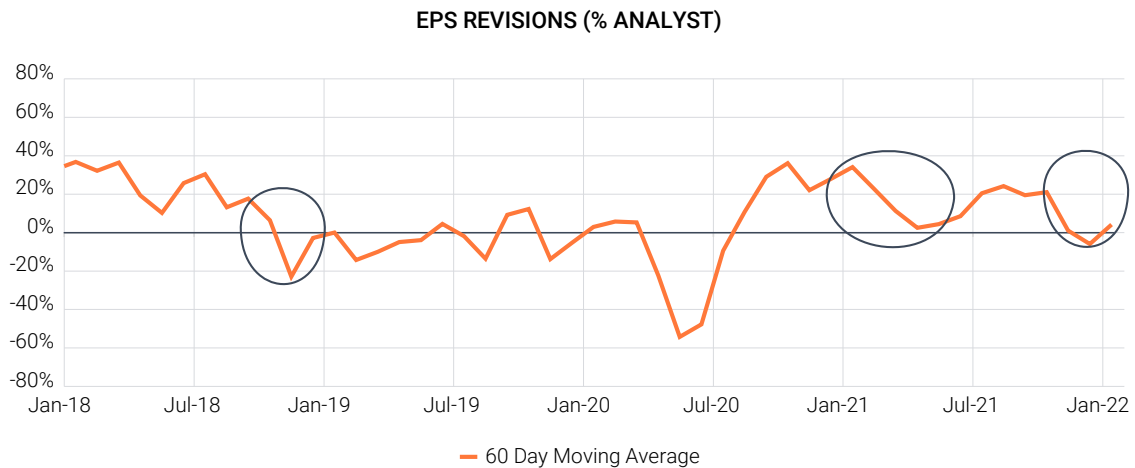
On the commodities front, the CRB Index more than doubled since its lowest levels of April 2020 and now trades at levels not seen since 2014/2015. Higher commodities prices impact a company's profitability if they cannot pass the increased costs to end consumers. Today, we have not seen any negative earnings revision from companies (aside from specific cases such as wind) in the Sustainable Future thematic.

While the topic of higher lithium prices (up more than 6-fold) might raise some alarm bells for some companies manufacturing batteries, we believe they can pass the price increase to final customers as the end-market demand remains strong. Furthermore, the price of Lithium accounts only for a small portion of the battery price. More critical are advancements in chemistry and material science followed by economies of scale, according to a study performed by MIT at the end of 2021.

Here again, we believe normalization of the demand/supply imbalance shall occur by 2H 2022; however, we don't think that commodities prices will fall off a cliff due to the strong demand and recovery of the economy and a "normalization" post-pandemic. For oil & gas (and all the energy segments), we expect volatility to remain elevated due to geopolitics and demand/supply imbalances. The more volatility in energy prices, the better for cleaner alternatives even in a rising interest rate environment.

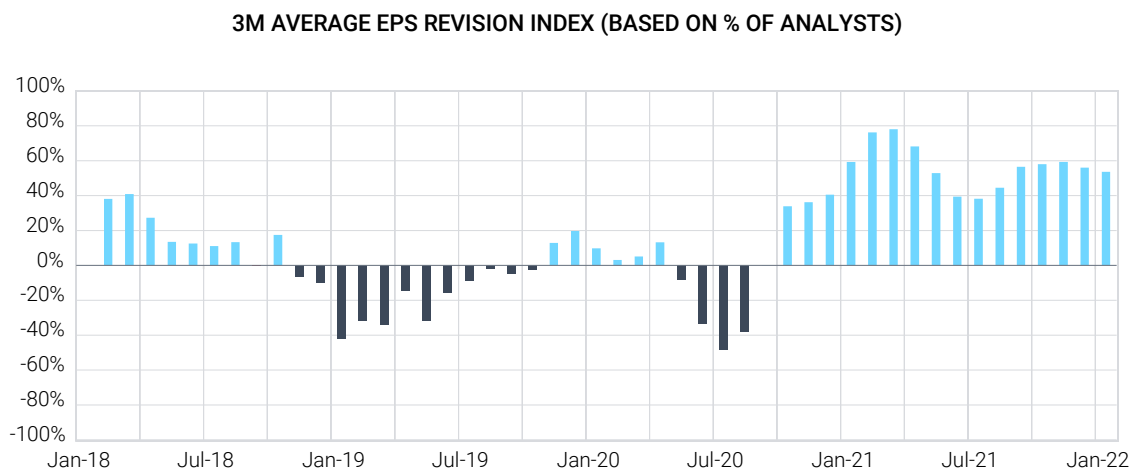
What about sales and earnings growth rates in 2022 for our portfolios?

We expect normalization in the overall market sentiment represented partly by analyst revisions. By looking at the earnings revision diffusion index (% of analysts that upgrade the stock penalized by the % of analysts that downgrade the stock in relation to the total number of analysts), we observe that after a severe wave of downgrades, the sentiment is already reverting to the upside. If the history of the past four years repeats itself, the recent wave has similarities with the 2018 downgrade – rapid and equally-fast mean-reverting - one more reason to expect a market normalization moving into the 2H 2022.



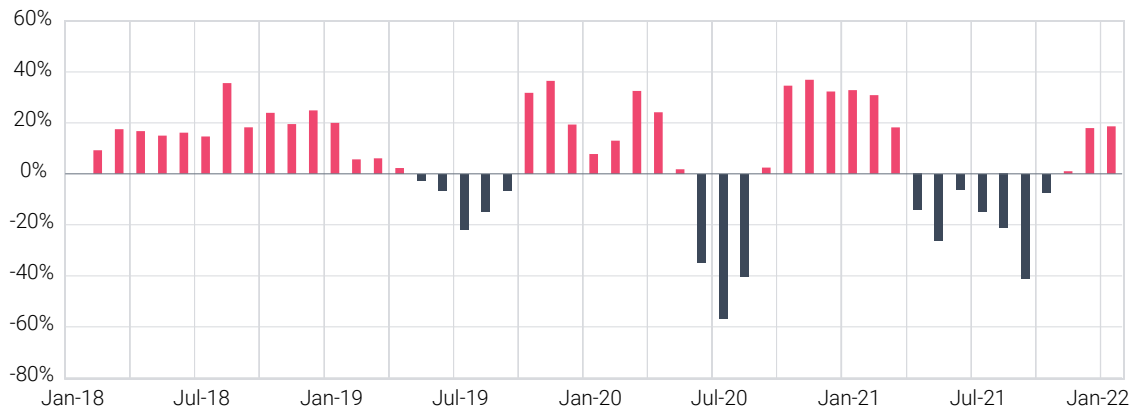
Looking closely at each of our themes separately, we show here below how earnings expectations have adjusted over the last few quarters. Additionally, for each theme, we summarize our thoughts about what happened and where the sentiment is as we enter 2022.

Artificial Intelligence & Robotics earnings revisions have remained consistently in the positive territory since 2H20. Computing components are fueled by structurally increasing demand in data centers, cloud, and robotics, therefore benefiting companies' growth and profitability and mechanically translating into upward EPS revisions. Semiconductor players also benefited from a favorable pricing environment induced by the ongoing chip shortage. We expect the current trend to continue in the immediate future.



Bionics upside earnings revisions are in the making after a terrible 2021 due to the Covid-19 crisis and higher R&D investments. Indeed, the theme experienced the most extended downward revision wave among our themes as the companies had heavily indebted themselves pre-pandemic. During the pandemic crisis, companies increased capital raising efforts while most elective procedures had to be postponed, significantly hurting any potential for earnings. The industry was pushed to explore new business models and invest in technology. However, with more vaccinated people and a possible return to normality, companies' earnings are starting to increase again, and the investments will concurrently begin to pay off. We believe this theme will be one of the primary beneficiaries of improving markets if we don't get another variant that forces hospitals to delay elective procedures again.

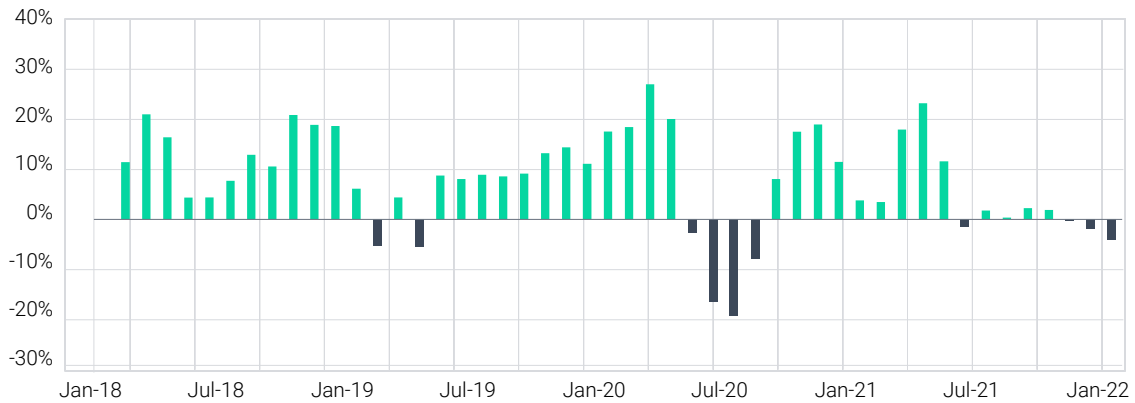
3M AVERAGE EPS REVISIONS (% ANALYST)



Biotech 360°

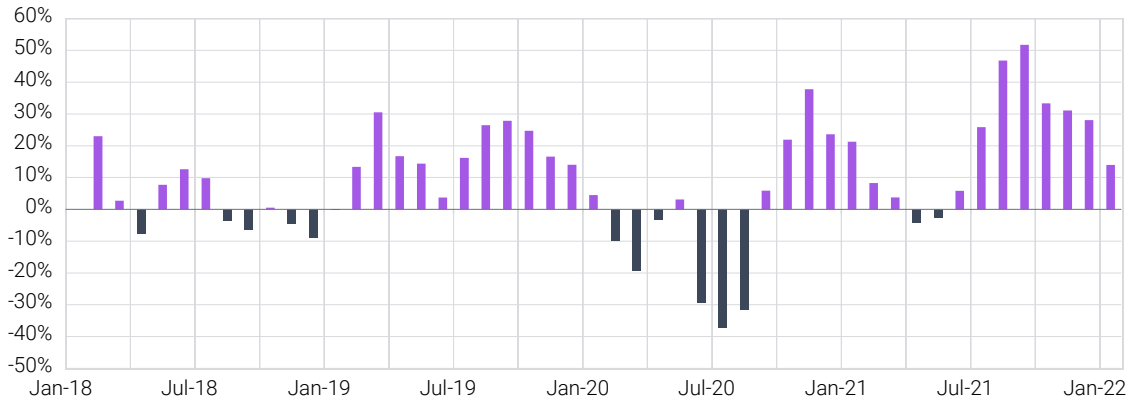
Before 2021 the biotech has enjoyed uptrends in EPS revisions in our portfolio, a trend that has flattened over the last seven quarters. If biotech opened a breach to end the Covid-19 pandemic, the 2020 uptrend was not as fast as expected to maintain momentum either. The lack of a strong uptrend is linked to the arrival of Covid-19 variants, an unpredictable FDA, drug pricing uncertainties, and new Chinese drug regulators rules. What avoided a substantial downward revision is an increasing number of catalysts for 2022/2023, driven by new tech, which is enough to sustain the expected growth.

3M AVERAGE EPS REVISIONS (% ANALYST)



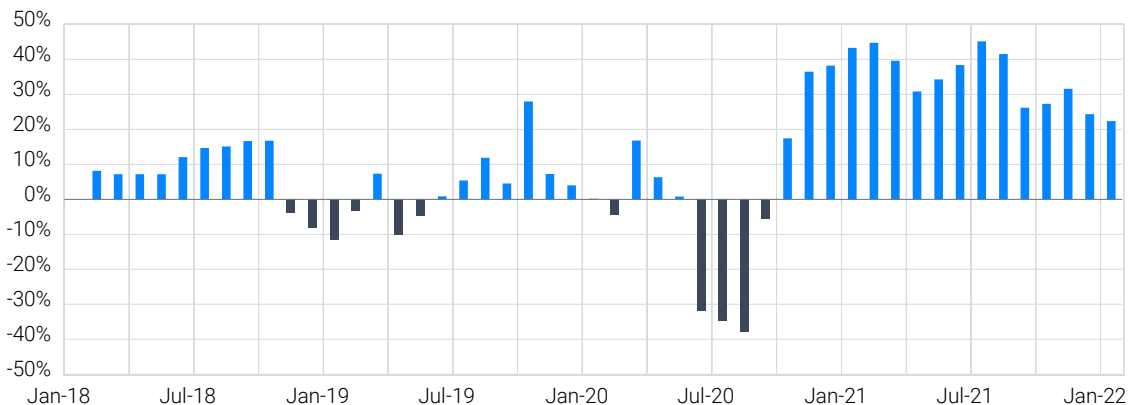
Mobile Payments was impacted by global supply chain problems and fears of low inventory levels at the end of 2021. It forced several leading payment companies to review their end-of-year guidance, yielding to a change in trend in EPS revision. Consumer sentiment stopped its journey towards pre-pandemic levels, impacting the volumes processed. Investors sold all payment companies, making no difference between legacy players and challengers. Legacy players keep losing market share and are threatened by new innovative payment methods. Challengers, who remain our central allocation, exhibited conservatism in their guidance and will likely be the first ones to rebound strongly.

3M AVERAGE EPS REVISIONS (% ANALYST)



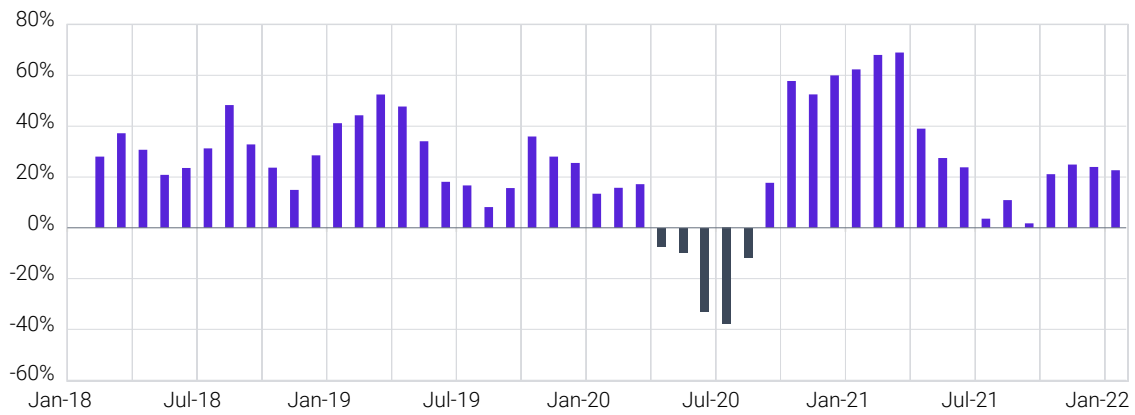
Our **Fintech** portfolio is geared towards "new fintech" companies, i.e., recently created companies whose business model is maturing. The fundamentals of the companies have been solid in 2021, as outlined by consistent upward EPS revisions. The portfolio behaved well until the beginning of November 2021, when the macro pressure from the FED strongly impacted several high-growth names in the portfolio. A more dovish tone will have the opposite effect. Moreover, EPS revisions are likely to increase, as many of our fintech companies are becoming profitable and ready to experience margin expansion.

3M AVERAGE EPS REVISIONS (% ANALYST)



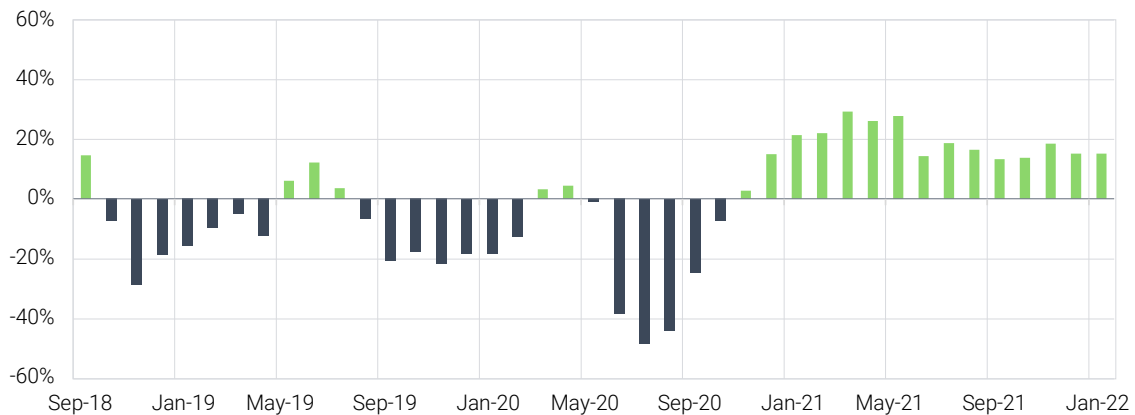
Security & Space's portfolio is primarily exposed to cybersecurity. The segment has benefited from the pandemic-induced "work from home" effect and has entered a super-cycle in the wake of a string of high-profile cyberattacks since 2020. These acted as wake-up calls and initiated substantial investment plans to fully unfold in the coming years, leading to solid growth expectations. In the meantime, the space sector's revolution is showing ever-expanding commercial potential, which, combined with progressive maturation, will only boost earnings expectations.

3M AVERAGE EPS REVISIONS (% ANALYST)



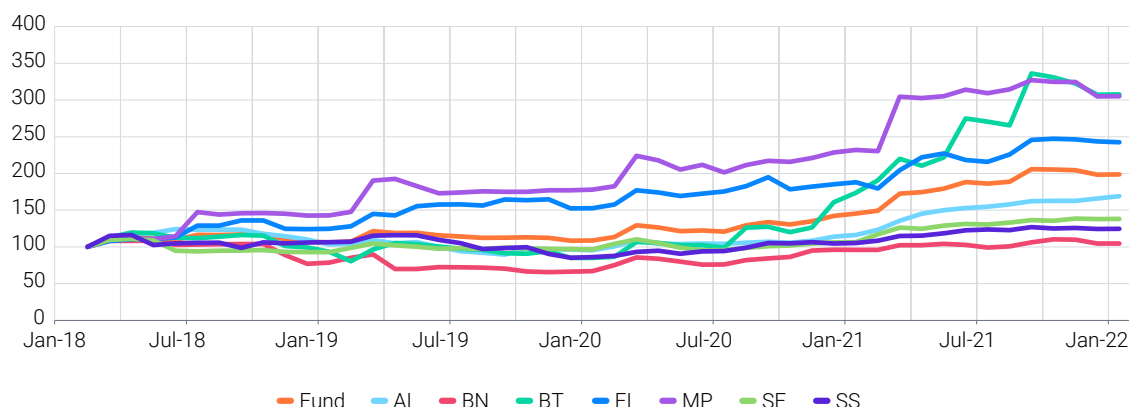
Our **Sustainable Future** strategy is primarily exposed to clean transport (mostly electric vehicles), energy storage, and renewables (solar and wind). While 2021 was challenged by raw material prices inflation, rising logistic costs, and tight supply (significantly impacting the wind power sector), demand remained strong. With more aggressive climate commitments (90% of the world's CO2 emissions covered by net-zero goals vs. only 30% before the COP26) and a strong industry push towards transport electrification, we believe that 2022 will be boosted by even-stronger demand and supply capacity expansion (notably in lithium-ion batteries).

3M AVERAGE EPS REVISIONS (% ANALYST)



All themes, including Biotech, which experienced a highly positive forward earnings revision in 2021 mainly thanks to the impact of Moderna and BioNtech, show positive and consistent forward earnings growth. In the chart below, we plot the cumulative FY+2 earnings revisions for each of our portfolios. If there is underlying growth, cumulative revisions will plot an upward slope. As all lines on the graph remain on a positive trend and have been so since the pandemic, we can see that the market continues to expect positive growth in our themes. The only exception would be Mobile Payments, where earnings expectations over most of the past year remained substantially flat, a sign of little expectations about growth ahead.

FORWARD EPS FY+2



What is our exposure to SPACs?

SPACs or Special Purpose Acquisitions Companies were at the same time last year the high-flying stocks everyone wanted to be invested in. It did not last that long as the bubble burst with many stocks trading at their initial offering price, usually \$10/share. In our investment process, we generally refrain from buying IPOs (and the same is true for SPACs) for at least six months following their listing. This allows for the usual lock-up periods to end and to enter a stock when the initial excitement phase is behind us.

We thought it would have been interesting for our clients to know our total exposure to IPOs and SPACs that we have built over the last two years. Some SPACs and recent IPOs have unsustainable business models in such a Macro environment. They need to tap the financial markets with follow-on offerings, thus diluting shareholders at lower prices. Others, such as SoFi, Rocket Lab, and a few others we have in different portfolios, offer an excellent opportunity for a substantial rebound if the market's fears dissipate. Their business models are sound, and they address huge markets.

The overall exposure to SPACs into the AtonRâ fund is below 3%. Among the different themes, the highest exposure is in the Security & Space (space notably as many companies in the space industry are entering the market through SPACs). Among the 156 holdings we currently have in the AtonRâ fund, the exposure towards IPOs and SPACs incurred during the last two years is 22 companies.

Our takeaway

We keep asking a simple question: Do you think we will have less or more technology in our daily life in the next few years?

This is a question we often ask investors and ourselves when markets, and our strategies, sell off sharply. The key to conviction-driven investment is to have an unclouded vision of the driving forces behind a specific thematic. Our conviction has been the same since AtonRâ was founded in 2004 and reinforced throughout the years. Many things have changed since Covid-19 first erupted. Some of these changes will have long-lasting impacts, all of them supporting our strong convictions of a world where technologies become ubiquitous in almost everything we do at a personal and professional level.

Working from home or remote control is most evident because the new generation that enters the workforce requires flexibility. Eating and consumer habits are also changing where prepared meals are delivered to home cooking or restaurants. Online grocery shopping and delivery surged and are here to stay as very convenient. Here again, technology plays a significant role.

Electric vehicles are displacing fuel-engine vehicles. Guess what the most important (and costly) element of an electric vehicle is? Semiconductors. The same is true for the entire healthcare sector and the transition from a world running on fossil fuels to a world with renewables.

But the most critical point in our view, which happened during the pandemic crisis, is the shortage experienced in many items (from chips to about everything).

It will impact many sectors we are following and investing in for the next few years. The reshoring thesis has never been stronger as companies started (Covid-19 acted as a further catalyst) to see the merits of investments in capacity expansion close to where end customers are located at the expense of outsourcing. The Covid-19 crisis proved that supply-chain risks outweigh outsourced cheaper labor costs.

Companies that benefit the most are companies that cope with solid demand and adapt quickly or companies with a strong pricing power that can offset lower volumes through higher prices when the market slows down.

We reiterate our conviction that automation (and robotization) is a secular growth thematic. Reshoring is set to impact sectors, from collaborative robots to robot process automation (RPA) to 3D printing, big data (and analytics), virtual reality, artificial intelligence, etc.

As outlined at the beginning of this document, reshoring is deflationary as new capacity additions will compete with capacity already available in the market, thus providing arbitrage opportunities.

Are we still comfortable for 2022, as stated in our year-end 2021 research note?

In our year-end review, we wrote that a gradual recovery, with a demand shift from goods to services, allows inflation to slow down and gives central banks more time and less pressure to assess the best time and pace for hiking.

We also stated that cash was the riskiest asset to own even in the case of a short-term increase of interest rates as real rates (short-term nominal interest rates minus the rate of inflation) were to stay in deeply negative territory. In the last few years, the market has been so addicted to cheap money that any minor changes in monetary expectations immediately affect the real economy. Today is no different in our view, aside from Covid-19 related volatility.

We believe that some form of tightening has already occurred with a stronger USD, higher interest rates, tapering, and hawkish talk dot plot from the FED. Compound that with an end in stimulus checks (the last round of payments was due on December 15, 2021), and we could face a situation where demand slows down, and at the same time, the supply chain turmoil normalizes.

Hence, the FED has more chances to turn more dovish than more hawkish from its current stance. Thus, more clarity from investors on the FED's future actions and a potentially more dovish FED can fuel an equities rally, most notably in quality growth stocks.

What went wrong in 2021? How to be sure we do not repeat the same mistakes?

One difficult job to perform is looking backward and acknowledging what went wrong, especially after a great year like 2020. It is an exercise we constantly do and is a crucial part of the AtonRâ culture. While we have many processes in place, they need to be updated continuously. More importantly, any error needs to be carefully analyzed, reported, and further integrated into our investment process.

At the heights of the Covid-19 pandemic, in 2020, we wrote: "The market may be scared, but you should not, and that economic recovery is underway and keeps surprising on the upside, notably in the U.S., boosted by the strong fiscal and monetary support. Unprecedented cash levels could transmit into the real economy and drive inflation and growth higher, a bullish scenario for equities." Back then, everybody thought we were crazy to write such a statement as the bond markets were shut-down, equities were in free fall, and the main talks in the Street were about global economic depression.

At the end of February 2021, we wrote, "Corporate earnings are poised to recover along with the economy, as pent-up spending by consumers is finally unleashed. The inflationary forces that could result are positive, as purchasing power would improve". We also wrote the following " we observe that the current focus on a very narrow segment of the market (namely high-growth tech-related stocks), compounded by high leverage and newcomer investors, distorts the pricing mechanism and that a correction that washes away this frothiness would be very welcomed and offer a much sounder basis for investors."

This was when we decided to sell some of the large-cap names we had in our portfolios and increase beta as our base thesis was that, while normalizing, earnings' growth from fast-growing companies would have outpaced those of larger ones. We could not have chosen any worst timing to perform this asset allocation shift (to the tune of 25% of the portfolios on average, impacting the AtonRâ Fund by construction) as the rest of 2021 and the beginning of 2022 proved this was not the best decision. Doing nothing at that time would undoubtedly have been the best thing to do, but it would not have yielded opposite results, just better-looking ones.

As already outlined a few times throughout this document, our Macro thoughts for this year are very explicit: inflation should normalize at lower levels by the middle of this year. The market is always forward-looking by 6 to 9 months so that the current shakeout might represent a great entry point. We remind investors that initial conditions that led to past episodes of high inflation, such as solid demographics or low debt-to-GDP, are currently lacking. Moreover, structural forces remain deflationary, notably technological innovation.

If you think (beyond two quarters) that inflation will stay rampant and interest rates shall go up swiftly, selling all equities growth strategies (including ours) might be the best thing to do, along with getting rid of long-duration bonds. Similarly, you might want to consider selling any non-listed private equity stuff in the secondary market if there is one.

If you believe that inflation is rising rapidly and global growth could slow down (stagflation), sell everything except cryptos, gold, and real estate.

Suppose you believe that inflation is temporary regardless of economic growth. You might want to consider investing in our strategies because they will likely outperform significantly towards the 2nd semester of 2022 and after that.

How are the different themes we manage set to perform in 2022 and longer-term?

All the themes we manage are impacted by Macro and monetary policy but do have specific drivers that are way more important.

Below, we provide a synthesis of the key drivers for 2022 in every theme.

Artificial Intelligence & Robotics is, paradoxically, deeply entrenched in the infrastructure phase and remains at a relatively early stage. Although data centers and industrial robots are nothing new, the sector is currently experiencing a significant acceleration with game-changing advances in computing power through dedicated chips (such as GPUs and DPUs), which enable more and more complex AI algorithms to be finally usable in a real-world context and delivering increasingly differentiating value. In 2022, the theme is, therefore, to be mainly driven by investments in this very infrastructure required to enable AI applications, be it hardware (e.g., data centers, high-performance computing, 5G infrastructure) or software (e.g., cloud computing, required to organize the data and distribute the computing power used to train advanced AI models, or virtualized training environments for real-world devices such as collaborative robots). Further down the chain, thanks to this infrastructure coming of age, we expect the first advanced AI applications to start delivering on their market potential, notably in Natural Language Processing (NLP), decision-making applications (knowledge and process automation), and Autonomous Driving.

Bionics is driven by the aging population, leading to a rising prevalence of chronic conditions and, consequently, a growing need for prevention, early diagnostics, and mini-invasive procedures. The industry is in the midst of sweeping changes as the pandemic pushes companies to rethink their business models and portfolios. Technological improvements are propelling the industry forward, as medical devices are becoming more sophisticated, less expensive, and consumer-oriented. Investments in digitalization, software solutions, remote monitoring, artificial intelligence, etc., are bearing fruit leading to better patients outcomes and lower costs. Going into 2022, increased Medicare coverage, important clinical updates, new product launches, the built-up backlog, and a possible return to normality will help Bionics bounce back from the Covid-19 doldrums. We keep favoring companies whose technologies enable value-based care, as they have better chances to gain reimbursement coverage, one of the main drivers for medical devices adoption.

Biotech 360° has three main drivers: Regulatory, Tech, Business model. On the regulatory side, the FDA drafted four guidelines in 2021 to facilitate innovative drug approval and approved an all-time high of 60 new drugs, supporting more innovation in biotech for 2022 and beyond. On the tech side, AI-designed drugs will have their first clinical data in 2022. A milestone that could change drug design for the decades to come. Furthermore, pipeline expansion in genetic medicine received support from the gene-editing breakthrough in 2021 and the effectiveness of mRNA vaccines.

Additionally, cell therapies with exceptional early results on cancer in 2021 are poised to grow future approvals in the space. Even the small molecules, the backbone of the pharma industry, is living a revolution with a new modality (Protein degraders) expected to demonstrate efficacy in clinical trials in 2022. Lastly, on the business model part, drug pricing is becoming more market-driven rather than politically driven. Portfolio model for emerging biotech and Chinese innovation signals that R&D cost for new drug developments may have hit the ceiling and will be trending down, meaning more efficiency from now on and better R&D ROI in the years to come.

Mobile Payments benefitted from a significant adoption boost from the Covid-19 crisis. Digital payments gained substantial market share over cash, as the use of cash went globally down from 30% to 20% in a single year. This trend will continue, but it will likely take another 3–4 years to experience the same percentage point decline in the use of cash. Industry-wise, future growth rates will not be as attractive as past growth rates as we are getting close to mass adoption. This was possible thanks to government policies in favor of cashless societies worldwide and the change in shopping habits from brick-and-mortar shops to e-commerce.

In 2022, innovation in the payment industry is moving to segments that are still heavily relying on traditional wire transfers, like cross-border payments or B2B payments. The metaverse development will also be an opportunity for innovative companies to guarantee financial interoperability between the virtual and real worlds. This could be the killer use case that blockchain has been looking for.

It is no secret that we intend to close this theme. The recent drawdown in the payment industry has delayed our plans, as this industry could be among the first to rebound should our macro scenario materialize. A follow-up note describing our intentions on the theme is being prepared.

Fintech companies are at the core of the digitization of the financial industry, a key pillar of our societies. Changes in banking behavior caused by smartphones and embraced by the younger generations have created a disruption opportunity for this ecosystem. Open banking allows customers to regain control over their data, an apparent paradigm change for the financial world. Fintech simplifies financial services and democratizes them – services that were once accessible to a happy few are now available for the masses. Finally, it plays a key inclusion role by providing essential financial services to >1.7bn people still lacking proper access to financial services.

In 2022, fintech will be among the first industries to have a broad use case of artificial intelligence. These companies can rely on the computing power available in the cloud and lever the tons of personal and financial data they have accumulated on their customers. We are talking about the automation of repetitive tasks and the ability to make smart decisions, especially in alternative lending and investment decisions. Moreover, the fintech universe is expanding with a record number of private companies (>200), reaching a valuation of >\$1bn. No other industry benefits from such innovation potential. These companies are maturing and will keep gaining market shares over incumbents. Blockchain developments will also be monitored. This technology has the potential to redefine how our financial system works, starting with the plumbing behind transactions. We believe such change may happen sooner than later.

Security & Space's drivers closely trail those of Cybersecurity, which accounts for most of the theme's exposure. In this regard, the main drivers for the foreseeable future are the ones that have emerged in the past few quarters: transition towards a new breed of cybersecurity, driven by cloud and mobility and accelerated by pandemic-induced effects such as work-from-home, and long-overdue large-scale investments in cybersecurity infrastructures (such as the ones initiated by the Biden Executive Order in May 2021), made necessary by the increasing frequency and scale of cyberattacks, themselves compounded by the explosion in the number of connected devices. The reopening of economies, and the resulting increased circulation of people, will also drive the need for general security, such as video surveillance, which is undergoing a significant technological transition. Finally, the Space sector's development is expected to continue at a considerable pace, with an increasing number of private players transitioning from the development phase to the infrastructure deployment and operational phases, cementing the sector's applications (such as data analytics from observation) as inescapable, nurturing a growing ecosystem and fueling a virtuous cycle generator of sustained growth.

Sustainable Future focuses on crucial sectors to the energy transition and global decarbonization. Technological progress over the past years has enabled a handful of clean technologies to reach price parity with their fossil-based alternatives (e.g., solar photovoltaic and wind energy), supporting a fast adoption for the foreseeable future. The transport and power sectors are the low-hanging fruits of the energy transition and are expected to withstand the steepest decarbonization over the next few years.

In 2022, the adoption of electric vehicles will continue to accelerate, and more significant share of renewables (solar and wind) will be added to the grid. To sustain a higher percentage of intermittent renewables, we expect governments to intensify investments in power grid modernization and long-duration energy storage. While raw material prices remain a wildcard, we believe logistic costs shall likely normalize, and supply/demand tightness ease up. Firm climate commitments made during the COP26 are likely to materialize with countries adopting more aggressive short-term action plans.

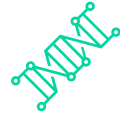
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