ATLANTIC
FINANCIAL GROUP

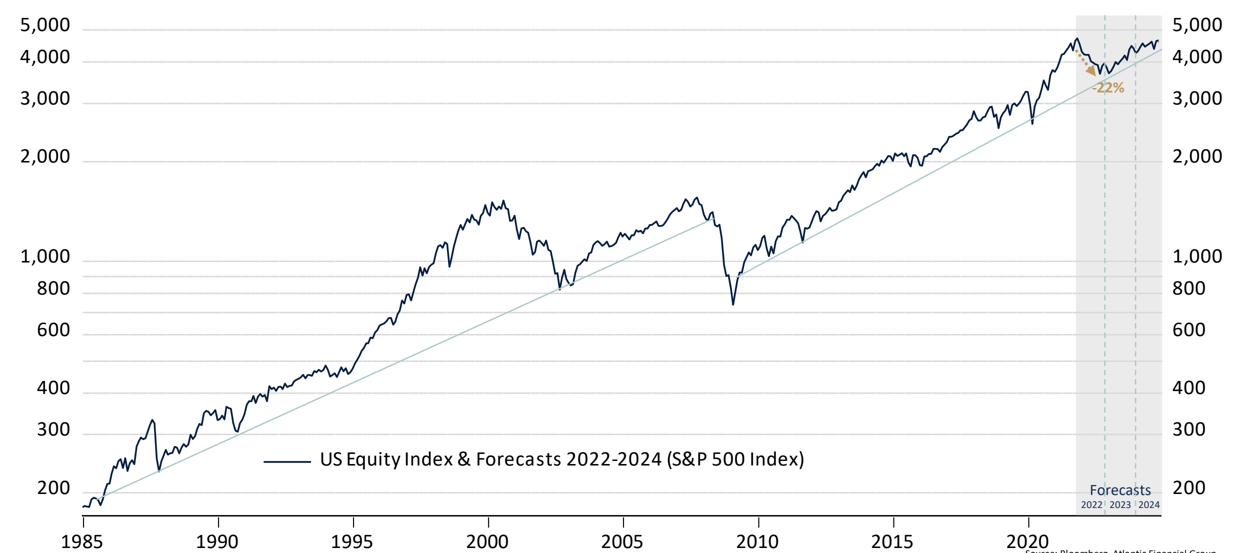
Weekly Investment Focus

29 November 2021

"OUTLOOK 2022: WE ARE ALL STATISTICIANS"

- Forecasts are always wrong!
- Perception of failure and success is asymmetrical, but anticipating is rewarding
- Our econometric modelling provides a crisis scenario for 2022
- Cancelation of tapering and bear market: two events not anticipated by investors

CHART OF THE WEEK: "22% stock market correction in 2022"



Source: Bloomberg, Atlantic Financial Group

FINANCIAL MARKET ANALYSIS

Forecasts are always wrong! Despite this popular belief, at every year-end the media is flooded with economic and financial estimates. Worse, investors read and listen to them every time. Are investors inconsistent or under the influence of what psychologists call authority bias? Studies show that in the presence of a figure of power or knowledge (a superior, but also a doctor or an economist), human beings tend to be obedient, even convinced. Yet the history of forecasting is full of major errors. The last few years have been no exception: Brexit and the election of Donald Trump in 2016, a record year for global stock markets in 2017, a rebound in volatility and an economic slowdown in 2018, China's outperformance in 2019, a pandemic in 2020, the return of inflation in 2021...None of this was correctly anticipated. Forecasts are always wrong!

Unfortunately, we are all forecasters. Scientists are clear: the human brain acts like a "statistician". In the 1970s, the brain was wrongly perceived as a "computer" that passively waited for information to be processed in a symbolic way and produce output. However, the brain rarely has complete information. Most of the time, it is not sufficient, it is ambiguous. In recent years, cognitive scientists have demonstrated that the brain relies heavily on anticipations and analogies, based on an idea formulated more than three centuries ago by the mathematician Thomas Bayes (see Fig. 2).

Fig. 2 - Bayesian vs. Frequentist

In mathematical terms, there are two conceptions of probability. The "Frequentist" is only interested in the observation of reality and the occurrence of an event among a significant number of observations. On the other hand, the "Bayesian" is more subjective. He makes an a priori hypothesis based on his knowledge and seeks to validate (or not) this a priori hypothesis as he collects information. The probability of rejection of this hypothesis corresponds to the famous *p-value*, so used by economists. While frequentist and Bayesian probabilities lead to the same conclusions when there is a large amount of data, these can be very different when the information is not complete. The Bayesian approach is then very useful.

To better understand the difference between these two methods, let's take a simple example: a coin is tossed 10 times, landing on heads 6 times and tails 4 times. According to the frequentist approach, the "true" probability of getting tails from the results of this experiment is 6/10 = 0.6. According to the Bayesian approach, if the coin is balanced, then the probability of getting tails is "a priori" the same as that of getting heads, i.e. 1/2 = 0.5. The actual observed result of 0.6 is close enough that the probability of 0.5 is not considered false. If the coin had been tossed a very large number of times, then the probability calculated by the frequentist method would have converged to 0.5.

Source: Atlantic Financial Group

From birth, the baby's brain is equipped with extraordinary skills for calculating probabilities. It acts like a statistician: **it accumulates data from the environment, uses these statistics to understand the causes, creates internal models of the outside world, and forecasts what will happen.** Thus, when faced with a new event, the brain spontaneously constructs a hypothesis based on its past experiences and tests it against reality. If the hypothesis is not proved to be wrong, the solution is validated and kept in memory.

Two or three similar experiences will be enough to suggest a model. With each additional confirmation, this model will be consolidated and will become even more difficult to challenge. If, on the other hand, it is not validated by confrontations with reality, then the brain will correct the model to adapt it. This is the theory of the statistician brain (see Fig. 3).

Fig. 3 - Examples of forecasts made by the human brain

Stanislas Dehaene (cf. picture), a leading neuropsychologist, professor at the Collège de France and member of the Academy of Sciences, brilliantly explains that the brain is constantly generating forecasts. The examples he uses help us to understand the concept. Let's imagine a simple sound sequence: " beep beep beep beep beep". The brain generates a predictive model of this sequence and, for the next few seconds, will ignore these expected sounds. It will then be able to concentrate on the rest of the perceptible information in its environment.

Let's imagine now that this sequence of "beep" is interrupted by an unexpected, unpredictable signal: "beep beep beep beep toot". This surprise, the difference between the prediction (beep) and the reality (toot), will activate many brain connections.

The best proof that the brain makes predictions is to observe its reaction when there is silence: "beep beep beep beep (silence)". The brain also generates an anomaly signal when there is no sound. Silence is perceived as a surprise to the forecast.

Let's take one last example. In the field of language, the brain uses the beginning of a sentence to expect its end: "This lunchtime, I ate a steak with a knife and a (silence)". Everyone will instinctively and instantly make the same forecast: a fork.

Source: S. Dehaene, Atlantic Financial Group

Most of our forecasts are correct. If the human brain were bad at calculating statistics, it would have adapted over time and stopped making estimates. Neuroscientist, Karl Friston, generalized the concept by showing that Bayesian logic is a universal property of living things. Living organisms do not work like computers with complete information but like statisticians, mobilizing patterns of behaviour or thought from a few clues. **This reaction process is faster, cheaper and more efficient.**

Knowing how to calculate with probabilities is fundamental, both for the brain and for the investor. Both live in a world of uncertainties and incomplete data, in which they have to make decisions while minimizing risks.

Economic and financial forecasts, like those of our brains, are usually correct and allow investors to increase their capital. When the media report that *"economists have a dismal record in forecasting"*, they are wrong. They make this untruth, on the one hand, to get the attention of readers and listeners and, on the other hand, because **forecasting errors have an excessive impact on our feelings,** on our perception of reality. According to neuropsychologist Rick Hanson, author of the book Hardwiring Happiness, *"The brain is like Velcro for negative experiences, but Teflon for positive ones"*. Being wrong once in 100 will have more negative impact than being right once in 100 will have a positive impact. **The perception of failure and success is asymmetric.**

Even so, the forecasts will never be perfect. Christophe Barraud, known for several years as the best forecaster in the world, has an average success rate of 70%. This is an excellent score, but it is still a long way from a perfect forecast.

Similarly, investors tend to forget that **exogenous shocks are inherently unpredictable.** This is the case with the spread of a virus or the occurrence of an attack, for example.

Moreover, **the timing of cycles is not perfectly predictable.** While it is easy to forecast the rise in Gross Domestic Product (GDP) and financial markets with a 99% probability over the very long term, the exercise is much more uncertain in the short term. On this subject, let's take the opportunity to bear in mind the importance of dissociating strategy, which is based on immutable relationships between assets, from tactical bets, which are influenced by analysts' forecasts.

In the short term, predicting the future is a red herring. Nevertheless, anticipating the most likely scenario is useful. It allows us to maximize profits during "normal" periods, without exogenous shocks. **As we do every year, we have carried out this exercise.** Our method of analysis is not better than any other, but it has the advantage of being based on rigorous data mining and "in-house" econometric modelling. These models are designed from start to finish by our teams, so the strengths and weaknesses of their functioning are well known. The other advantage of this quantitative approach is that it powerfully limits human bias. Conclusions are not predetermined.

Fig. 4 - US growth and inflation

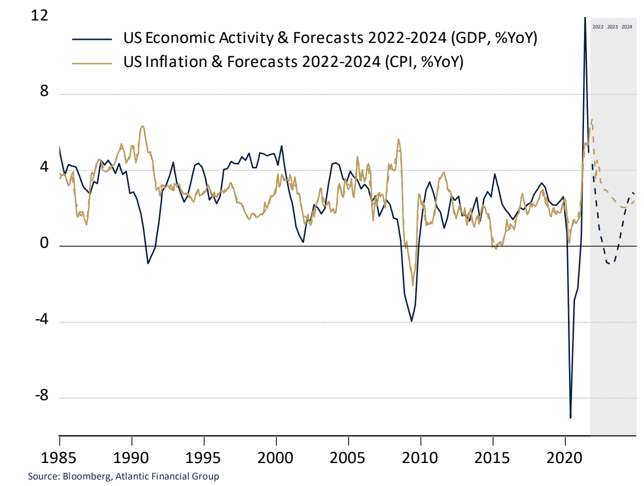
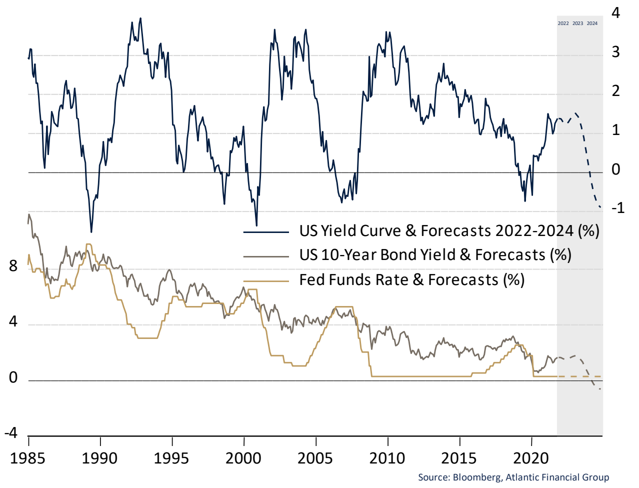


Fig. 5 - US sovereign yield curve



Our econometric modelling provides a crisis scenario for 2022 that is far from the investor consensus. This outlook may be too pessimistic, but it has the advantage of highlighting the main risks for the coming year. Here is a summary for the US, with Europe following closely behind:

- Sharp economic slowdown, driven by weak household consumption and business capex (see Fig. 4)
- New epidemic waves of Covid-19 and vaccinations
- Inflation declines but stabilizes at a high level (3.5%)
- Rebound in the unemployment rate above 5% of the active population
- **The Fed cancels its tapering decision**
- Stabilization of the yield curve slightly above 100 basis points and then flattening (see Fig. 5)
- **Equity bear market causing a -25% contraction from peak to trough** ; rebound in 2023, in line with the long-term trend (see Chart of the Week)
- Volatility spike on the various financial markets
- The dollar strengthens until it reaches 1.07, then stabilises after the Fed changes its guidance; contrary to our previous forecasts, structural weakening would only occur in 2023 (see Fig. 6)
- Appreciation of the Swiss franc against the single currency below parity (see Fig. 7)
- Weakness of the pound sterling beyond 0.90 (see Fig. 7)

Fig. 6 - EUR/USD exchange rate

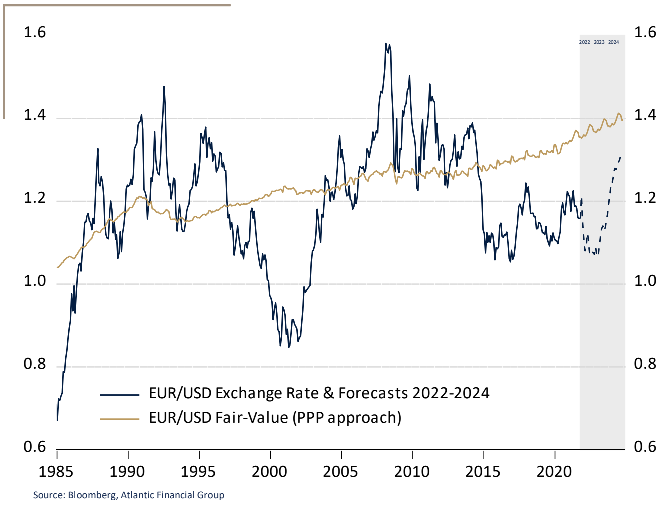
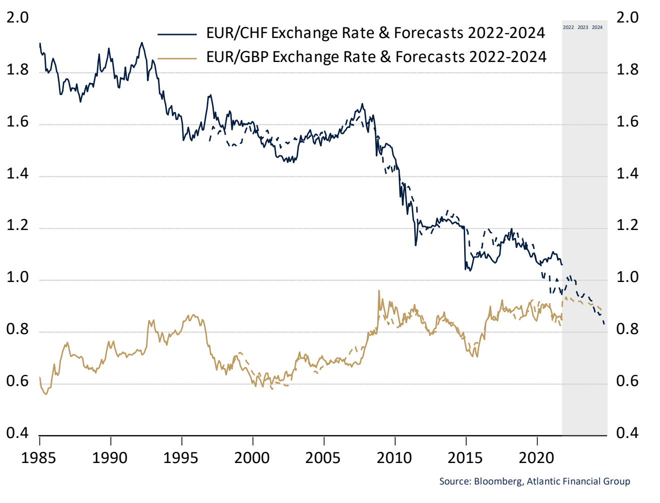


Fig. 7 - EUR/CHF & EUR/GBP exchange rates



Conclusion:

In a crisis scenario, where the risk of a wrong forecast (i.e. a good surprise) exists, should an investor reduce his allocation to risky assets? Not necessarily. It all depends on his investment horizon, confidence in the forecasting model and appetite for risk. Some investors, who have a short-term horizon or who change their asset allocation regularly, will seek to reduce their equity allocation and hedge their risks as soon as possible. Others, who invest for the long term and are not bothered by volatility spikes, will prefer to sit tight and accumulate on weaknesses throughout 2022. So it's best to know what type of investor we are.

RETURN ON FINANCIAL ASSETS

Markets Performances (local currencies)	Last Price	Momentum Indicator (RSI)	1-Week (%)	1-Month (%)	2021 Year-to-Date (%)	2020 (%)	2019 (%)
Equities							
World (MSCI)	733.5	33.64	-2.8%	-1.5%	15.5%	16.9%	27.3%
USA (S&P 500)	4,595	44.44	-2.2%	0.6%	23.9%	18.4%	31.5%
USA (Dow Jones)	34,899	34.11	-2.0%	-2.2%	15.9%	9.7%	25.3%
USA (Nasdaq)	15,492	45.49	-3.5%	1.8%	20.9%	45.1%	36.7%
Euro Area (DJ EuroStoxx)	458.5	28.85	-5.1%	-2.6%	18.1%	0.8%	27.3%
UK (FTSE 100)	7,044	32.78	-2.4%	-2.9%	12.8%	-11.4%	17.2%
Switzerland (SMI)	12,199	42.64	-2.8%	0.4%	17.2%	4.3%	30.2%
Japan (Nikkei)	28,284	41.22	-3.3%	-1.2%	6.4%	18.3%	20.7%
Emerging (MSCI)	1,223	25.95	-3.6%	-5.6%	-3.4%	18.8%	18.8%
Brasil (IBOVESPA)	102,224	39.82	-0.8%	-3.9%	-14.1%	2.9%	31.6%
Russia (MOEX)	3,881	28.02	-5.1%	-10.0%	21.5%	14.8%	38.4%
India (SENSEX)	57,481	30.96	-4.2%	-6.9%	20.8%	17.2%	15.7%
China (CSI)	4,851	46.11	-0.6%	-2.1%	-5.1%	29.9%	39.2%
Communication Serv. (MSCI Worl	110.83	29.89	-3.2%	-2.0%	11.2%	24.2%	25.1%
Consumer Discret. (MSCI World)	414.9	40.58	-4.3%	-0.4%	10.3%	37.0%	28.2%
Consumer Staples (MSCI World)	276.9	38.93	-1.2%	-0.4%	5.7%	8.8%	22.4%
Energy (MSCI World)	184.6	35.21	-1.0%	-8.8%	33.5%	-27.7%	13.9%
Financials (MSCI World)	147.4	28.94	-2.3%	-5.5%	22.4%	-3.1%	24.1%
Health Care (MSCI World)	351.9	37.62	-1.5%	-1.5%	12.3%	15.4%	23.3%
Industrials (MSCI World)	321.7	30.57	-3.3%	-2.2%	12.8%	11.8%	27.2%
Info. Tech. (MSCI World)	552.5	47.30	-3.7%	2.3%	22.6%	46.2%	47.5%
Materials (MSCI World)	347.9	32.95	-2.6%	-3.4%	9.6%	21.6%	20.8%
Real Estate (MSCI World)	223.2	40.08	-1.4%	-2.4%	17.0%	-5.7%	24.0%
Utilities (MSCI World)	153.0	43.00	-0.7%	-1.3%	4.1%	4.8%	22.3%
Bonds (FTSE)							
USA (7-10 Yr)	1.52%	58.45	0.4%	1.4%	-2.1%	9.3%	7.4%
Euro Area (7-10 Yr)	0.04%	56.73	-0.2%	1.2%	-1.6%	4.5%	6.7%
Germany (7-10 Yr)	-0.34%	62.06	0.0%	1.9%	-1.2%	3.0%	3.0%
UK (7-10 Yr)	0.83%	61.67	0.6%	2.4%	-3.6%	5.4%	4.8%
Switzerland (7-10 Yr)	-0.23%	60.80	0.4%	1.2%	-1.5%	0.4%	2.0%
Japan (5-10 Yr)	0.08%	51.83	0.0%	0.3%	0.0%	-0.1%	0.0%
Emerging (5-10 Yr)	4.90%	28.78	-1.1%	-1.7%	-3.9%	5.2%	13.3%
USA (IG Corp.)	2.31%	50.85	0.5%	-0.2%	-1.2%	9.9%	14.5%
Euro Area (IG Corp.)	0.51%	40.25	-0.5%	0.1%	-0.9%	2.8%	6.2%
Emerging (IG Corp.)	5.28%	37.49	-0.5%	-0.6%	-2.9%	8.1%	13.1%
USA (HY Corp.)	4.86%	20.07	-1.1%	-1.2%	3.1%	7.1%	14.3%
Euro Area (HY Corp.)	3.55%	23.37	-0.8%	-0.5%	2.6%	2.3%	11.3%
Emerging (HY Corp.)	7.79%	18.09	-1.7%	-2.4%	-4.4%	4.3%	11.5%
World (Convertibles)	443.3	30.97	-2.3%	-2.4%	3.6%	38.8%	17.3%
USA (Convertibles)	601.9	31.95	-2.6%	-3.0%	4.6%	54.5%	22.8%
Euro Area (Convertibles)	4,105	36.43	-2.0%	-0.7%	-0.3%	6.1%	7.6%
Switzerland (Convertibles)	186.4	56.67	0.0%	0.3%	-0.2%	0.5%	2.4%
Japan (Convertibles)	200.5	43.71	-0.6%	-0.2%	3.2%	2.8%	2.6%
Hedge Funds (Crédit Suisse)							
Hedge Funds Indus.	719.9	49.67	n.a.	1.3%	8.6%	2.5%	9.3%
Distressed	956.7	77.49	n.a.	1.1%	12.6%	1.5%	1.4%
Event Driven	811.6	80.21	n.a.	1.7%	14.7%	3.1%	8.2%
Fixed Income	391.5	76.41	n.a.	-0.3%	4.3%	2.2%	6.1%
Global Macro	1,197.3	74.68	n.a.	0.4%	9.3%	2.0%	10.4%
Long/Short	908.3	69.50	n.a.	0.6%	8.4%	3.6%	12.2%
CTA's	341.7	74.56	n.a.	3.9%	12.4%	-3.2%	9.0%
Market Neutral	284.6	61.98	n.a.	0.5%	4.7%	-0.1%	1.6%
Multi-Strategy	689.7	77.07	n.a.	0.4%	6.2%	1.4%	7.3%
Volatility							
VIX	28.62	78.78	59.8%	79.1%	25.8%	65.1%	-45.8%
VSTOXX	32.31	82.26	69.0%	100.1%	38.3%	67.5%	-41.5%
Commodities							
Commodities (CRB)	568.8	n.a.	-0.1%	0.0%	28.2%	10.5%	-1.9%
Gold (Troy Ounce)	1,796	44.84	-0.5%	0.7%	-5.4%	24.9%	18.3%
Oil (WTI, Barrel)	78.39	45.15	2.1%	-7.4%	61.6%	-20.5%	34.5%
Oil (Brent, Barrel)	74.32	35.54	-9.7%	-16.4%	39.8%	-23.0%	24.9%
Currencies (vs USD)							
USD (Dollar Index)	96.289	62.80	0.3%	2.3%	7.1%	-6.7%	0.2%
EUR	1.1269	36.94	0.3%	-2.5%	-7.8%	9.7%	-2.2%
JPY	113.38	54.86	1.3%	0.5%	-8.9%	5.3%	0.9%
GBP	1.3324	33.66	-0.5%	-2.6%	-2.5%	2.8%	3.9%
AUD	0.7145	29.74	-1.1%	-5.0%	-7.1%	9.5%	-0.4%
CAD	1.2737	35.28	-0.3%	-2.7%	-0.1%	1.8%	5.0%
CHF	0.9266	47.53	0.7%	-1.1%	-4.5%	9.8%	1.4%
CNY	6.3829	57.71	0.0%	0.4%	2.3%	6.7%	-1.2%
MXN	21.773	26.32	-3.5%	-5.6%	-8.5%	-4.9%	3.8%
EM (Emerging Index)	1,719.6	32.69	-0.6%	-1.0%	0.0%	3.3%	3.1%

Source: Bloomberg, Atlantic Financial Group

Total Return by asset class (Negative \ Positive Performance)

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