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Market views and strategy

Ostrum ASSET MANAGEMENT

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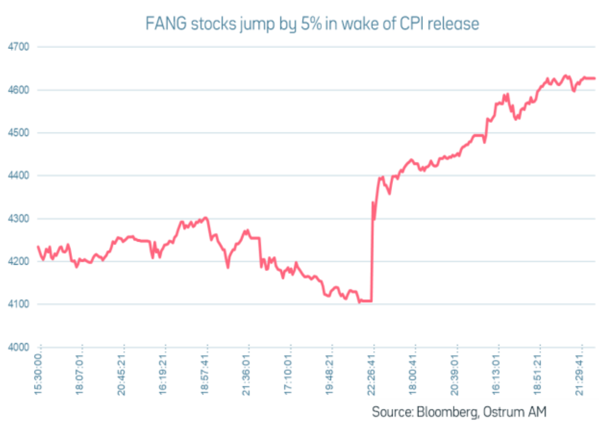
Topic of the week: A simulation of CO_2 emissions

- **As COP 27 is in full swing, we are updating our global CO_2 emissions simulation model;**
- **Gains in environmental productivity allow the most developed countries to reduce their emissions. But this reduction remains insufficient and less developed countries continue to increase theirs ;**
- **We get an overall stable emissions trajectory over the coming years. We are far, far from the desired trajectory in a 1.5°C scenario.**

Market review: Artificial paradises

- **Collapse in the cryptosphere**
- **United States: Falling inflation triggers equity market jump**
- **US 10-year yields down 40bp in 4 days to 3.81%**
- **Swap spread ease in wake of ECB measures**

Chart of the week



The lower-than-expected US CPI report sparked a sharp and broad-based rebound in risky asset markets.

The FANG index including the major US technology stocks recovered 5% upon the CPI realease. The magnitude of the stock rally over two trading sessions reached 12.7%.

This sudden change in trend, linked to interest rate sensitivity of growth stocks and short covering, is all the more surprising since US tech companies have recently made headlines with restructuring plans and cost cutting measures.

Figure of the week

130

Source : Ostrum AM

More than 130 related companies sought court protection at Delaware federal court at the end of last week.

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Topic of the week

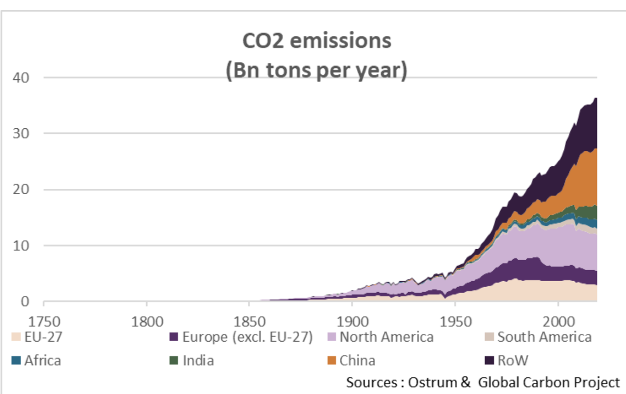
A simulation of CO_2 emissions

While COP 27 is in full swing, we are updating our CO_2 emission model. Gains in environmental productivity allow the most developed countries to reduce their emissions for the future. But this reduction remains insufficient and less developed countries continue to increase theirs . We are far, far away from the desired trajectory.

“Environmental Productivity”

While global CO_2 emissions are on the rise, an inflection point has been passed for developed countries. Emissions fell by 37% in the EU-27 between the peak of 1979 and 2020. They are down 23% in the United States since the peak of 2014, according to the Global Carbon Project.

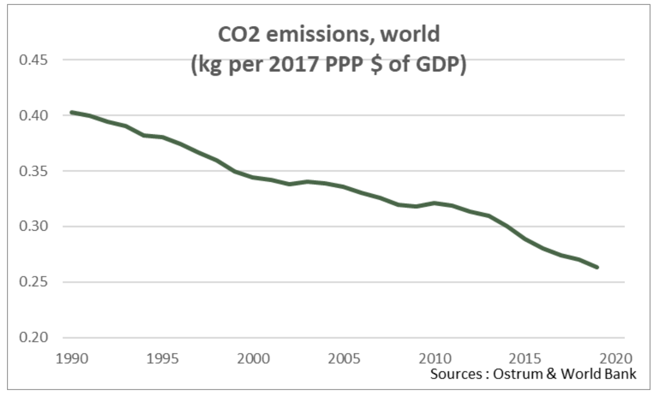
Of course, this decline was largely offset by growth in emerging markets, notably China, which accounted for half of the increase in global emissions over the past decade, and India, which accounted for a good fifth.



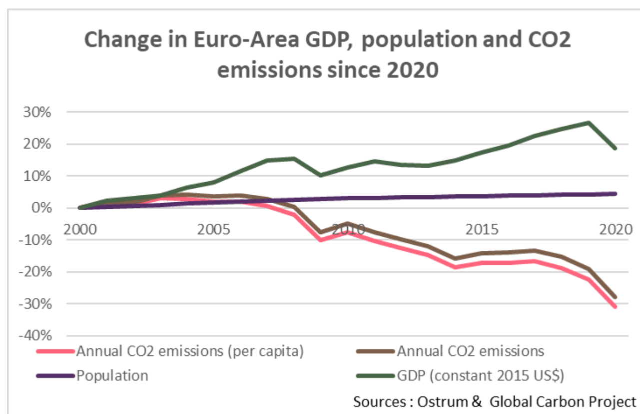
Despite the very strong upward trend in global emissions, the slowdown in developed countries, which took place over a period of economic growth, is interesting. It shows that economic growth has been more virtuous, at least in terms of greenhouse gas emissions.

We are seeing what economists call environmental productivity gains. More with Less, we can generate a higher GDP with fewer emissions.

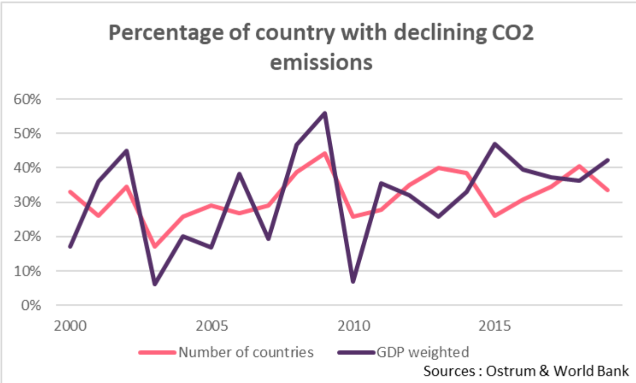
This is a global phenomenon: the graph below uses data from the World Bank and shows that the carbon intensity of global activity has dropped almost uninterruptedly and linearly over the past quarter century. The graph is also interesting because it shows that the improvement in developed countries is not only related to the relocation of the most polluting industries to emerging countries. If that were the case, there would be no overall increase in environmental productivity.



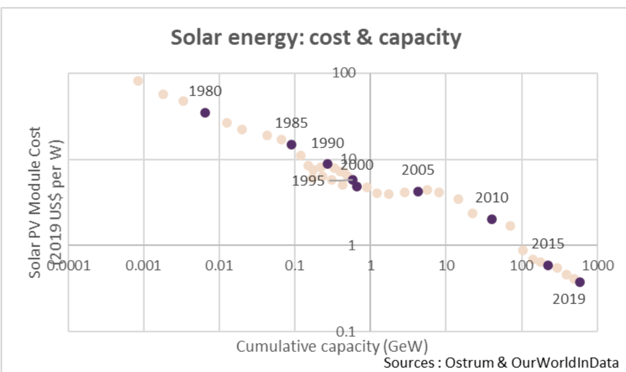
In particular, the graph below shows the evolution of carbon emissions in the eurozone since the beginning of the century. As we said earlier, emissions have been falling since 1979, that is for more than forty years. The graph illustrates this trend with a carbon intensity of activity that gradually subsides.



More generally, we are seeing an increase in the number of countries in the world that have declining emissions. This is also true in terms of the share of global GDP produced in these same emission-reducing countries. Even so, here too evolution is hopelessly slow.



In “The case for optimism on climate change”, Al Gore provides some interesting examples. In 2000, global wind capacity was forecast at 30 TWh; in 2010, it actually reached 346, or 11 times more – currently at 844 TWh. Similarly, in 2002, the forecast was that 1 GW of solar capacity would be installed in 2010: in fact, we were 17 times higher... and 58 times in 2015. The reason is simple: a collapse in the cost of these energies that makes the financial equation more viable. The graph below shows the evolution.



If technological innovation and development make it possible to do more with less, the evolution is much too slow to achieve the objectives of climate stabilization.

Our approach

In order to model CO_2 production, it is therefore necessary to take into account the carbon intensity of an economy and its evolution. The canonical approach in the field is the identity of Kaya which is written as follows:

$$CO_2 = POP \cdot \frac{GDP}{POP} \cdot \frac{E}{GDP} \cdot \frac{CO_2}{E}$$

Where:

CO_2: are CO_2 emissions;
POP: population;
GDP: GDP;
E: primary energy consumption

and therefore:

GDP/POP: GDP per capita;
E/GDP: energy intensity of GDP;
CO_2/E: CO_2 content of energy.

We use a simplified version of this equation that allows us to take into account economic forecasts on GDP. So we need the carbon intensity of GDP to do simulations. This part is estimated from historical data and simulated on the future using an econometric model.

$$CO_2 = GDP \cdot \frac{CO_2}{GDP}$$

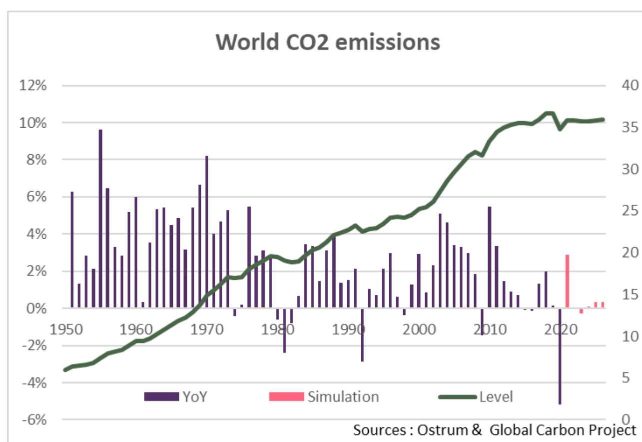
On the other hand, we are applying this approach, not in a global way, as there are strong divergences of evolution on these topics between the different geographical areas, particularly with regard to “environmental productivity”.

Results

The first point to note, which is good news, is that the statistics we have show a sharp drop in CO_2 emissions in 2020, the last year of data available. A drop of 5.2%.

Unfortunately, this drop, which would put us back on target with the Paris agreement, is, of course, linked to an exceptional effect: the widespread lockdown linked to the Covid crisis. The trend, unfortunately, is much less encouraging.

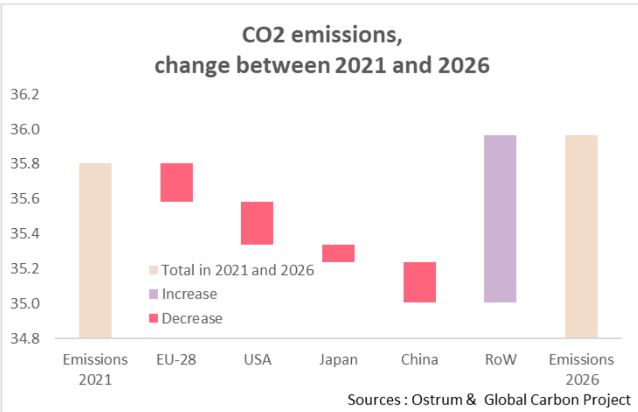
And, indeed, our simulations show a return to normal by 2021 with emissions that would gain more than 3%.



More encouraging, when we look at the years that follow, carbon emissions, if they continue to increase, slow down considerably. Over the five years leading up to 2020, the Covid year, emissions growth averaged 0.7%. In the first five years of the century, 2001-2005, growth was 3.2%. We are of course seeing a slowdown in growth. Even if it remains positive.

In short, the situation is improving, but emissions remain very high in absolute terms and remain totally incompatible with the objective of the Paris Agreement.

Our model also allows us to break down the evolution by large groups. The evolution over the next five years is interesting.



- Not surprisingly, emissions from developed countries – Europe, the United States and Japan – continue to decline, albeit slowly.

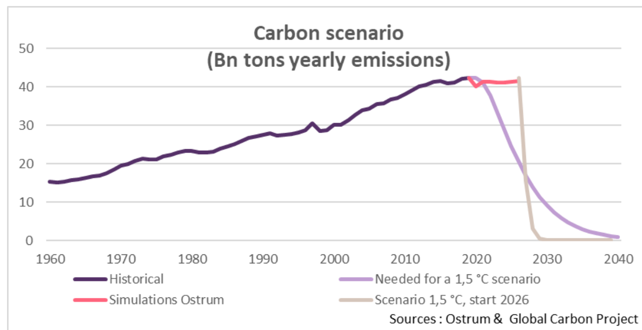
- On the other hand, the novelty is very good news: China would see its emissions fall. This is the effect of the two factors: growth is becoming much weaker than it has been in the past. But also, environmental productivity gains that would become sufficient to offset the growth in activity. Again, emissions remain very high, too high to reach a satisfactory trajectory, but at least they are no longer increasing.

- Finally, the rest of the world, mainly emerging countries, continues to see its emissions increase. Unfortunately, this more than offsets declines in other parts of the world and leads to an increase in emissions.

Conclusion: better but not good

The conclusion is a glass half empty. The growth of CO_2 emissions is slowing down and the number of countries reducing their emissions is increasing. However, the goal is not to stabilize these emissions, but rather to reduce them. That is far from it.

The following graph shows the evolution of global carbon emissions since 1960. The light purple curve is the trajectory we need to achieve to achieve a 1.5°C global warming, the stated goal (Source: Robbie Andrews (2019), based on “Global Carbon Project” & IPPC SR15”). Our simulation shows that we are not at all on this trajectory, the situation amounts, at the risk of oversimplifying, to stabilize emissions when they must be reduced.



The fundamental point, which is often misunderstood, is that it is not the emissions but the total stock of CO_2 in the atmosphere that counts. If we do not cut our emissions now, we will have to emit much less in the future to compensate, and therefore reduce emissions much more abruptly. The beige curve shows a simulation if the world begins to reduce its emissions in 2026 (our forecast horizon). Basically, all emissions must be stopped almost immediately. A highly unlikely scenario: if, despite all efforts, we can only stabilize emissions in the coming years, it is impossible to have such a sudden drop.

Stéphane Déo

Market review

Artificial paradises

Cryptocurrency collapse whilst stock market jump on lower US Inflation

The contrast is stark between the collapse of the artificial paradises of cryptocurrencies and the outsized jump on all risky assets after the publication of consumer price inflation in the United States 0.2pp below expectations (7.7% in October). The extent of the equity market rebound appears traceable to existing large speculative short positions on the S&P 500 and the concomitant plunge in Treasury bond yields. The T-note yield (3.81%) is down fully 40 bps since the November 7 close. German Bunds (2.16% at close) initially followed the US Treasury market but low trading volumes on Friday (Veterans' Day, November 11) favored profit taking. Credit spreads participated in the upturn in risky assets, barely held back by solid bond issuance. High yield has tightened by 101 bp over the past month. The greenback, the ultimate barometer of risk aversion, fell 4% (DXY), in keeping with the changes in market expectations for Fed funds hikes. The euro-dollar ($1.035) is back trading at its highest since the start of the summer.

The collapse of FTX, which Binance refused to bail out after a “24-hour due diligence”, is the latest example of the fragility of these “black holes” of the financial galaxy born from the indigence of the quantitative monetary policies of the 2010s The monetary transmission channel then was a leaky pipe. Excess liquidity fleeing negative yields and excessive equity valuations has found its way into illiquid assets (resulting in recent turmoil in the UK pension fund industry) and, as a last resort, financial innovation represented by cryptocurrencies and NFTs. The shortage of profitable and investable assets has given rise to kinds of madness. The extreme sensitivity of financial markets to inflation and the obsession with the “Fed pivot” are also potential symptoms of instability. Short-term options, the playground of individual investors last year, are increasingly used by institutional accounts, to the point of dictating the trend of the underlying indices. The tail is wagging the dog these days. Consensus long positioning on the US dollar also favors binary movements common to all assets.

The release of the CPI undoubtedly was the major market mover of the week overshadowing even the surprising resilience of the Democratic Party at the midterm elections. US inflation thus came out 0.2pp below consensus forecasts at 7.7% in October (+0.4% over the month as in September). The monthly rise in energy (+1.8%m) and food (+0.6%m) prices was in line with expectations. The housing component (+0.8%) will not reflect the current downturn in housing until next spring essentially for methodological reasons. The downside surprise comes from health prices (-0.5%m) and, specifically, health insurance prices estimated by the Bureau of Labor Statistics, just once a year, through insurers' retained earnings. The average monthly rise of 2% over the past year will shift down to -4% each month until September 2023 and will subtract around 0.5pp from the CPI over this period.

The financial markets quickly revised the path of Fed funds, erasing the additional rate hike justified by Jerome Powell's hawkish speech at the last FOMC. The Fed funds peak is now projected at 4.75-5% in mid-2023. The 10-year yield tumbled 40bps to 3.81% as short buybacks ahead of the long Veterans' Day weekend. The inversion of the yield curve reached 52 bp on the 2s10s segment. Conversely, the 10s30s spread increased by 12 bp over the week. In the euro area, the Bund ended the week down 14 bp but Friday's rise (+15bp) cast some doubt on further decline. The ECB's decision to raise the ceiling for securities lending against cash to €250 billion triggered tightening in swap spreads to 79 bp on the Bund (-10 bp in the past week). This easing of swap spreads benefited sovereign bonds. The 10-year OAT is trading around 52 bp against the Bund and the Italian debt at 205 bp.

The downside surprise on US inflation sparked a sharp jump in equity indices. The Nasdaq futures contract immediately shot up by 5% and then another 5% in Thursday and Friday trading sessions. The context is however challenging for the US technology stocks given current restructurings. The US Q3 reporting season was better than expected overall, with revenue up 12% offsetting margin pressures. That said, the accretive effect of buybacks improves per-share metrics. We forecast up to $1 trillion in share buybacks in 2022. In Europe, the weakness in the euro exchange rate boosts sales growth (+25%) and the average profitability (+21%) of the Stoxx Europe index.

Credit continued to outperform risk-free sovereign bonds. Corporate bond spreads narrowed by 28bp against Bund over the past month. However, this mostly reflect the swap spread tightening, but the balance of fund flows has indeed turned more favorable in the past few weeks. Issuers use the last windows of this year to sell new debt securities, although investors may require sometimes high yield premiums, particularly on financial sector debt. The market environment is also more upbeat in high yield space. The average spread in the euro area has narrowed by 101bp over the past month.

Finally in currency markets, the dollar dropped by as much as 4%. The yen finally takes a breather gaining back fully 6% to 138 yen per dollar.

Axel Botte
Global strategist

Main market indicators

G4 Government Bonds	14-Nov-22	1wk (bp)	1m (bp)	2022 (bp)
EUR Bunds 2y	2.16%	-5	+20	+278
EUR Bunds 10y	2.13%	-22	-22	+230
EUR Bunds 2s10s	-3.9bp	-17	-42	-47
USD Treasuries 2y	4.39%	-33	-10	+366
USD Treasuries 10y	3.89%	-32	-13	+238
USD Treasuries 2s10s	-50.8bp	+1	-3	-128
GBP Gilt 10y	3.31%	-33	-103	+234
JPY JGB 10y	0.24%	-1	+14	+6
€ Sovereign Spreads (10y)	**14-Nov-22**	**1wk (bp)**	**1m (bp)**	**2022 (bp)**
France	50.78bp	-1	-3	+13
Italy	204.15bp	-10	-11	+69
Spain	104.25bp	+0	-4	+30
Inflation Break-evens (10y)	**14-Nov-22**	**1wk (bp)**	**1m (bp)**	**2022 (bp)**
EUR 10y Inflation Swap	2.67%	-4	+22	+60
USD 10y Inflation Swap	2.67%	-11	+5	-10
GBP 10y Inflation Swap	4.25%	+3	+37	+8
EUR Credit Indices	**14-Nov-22**	**1wk (bp)**	**1m (bp)**	**2022 (bp)**
EUR Corporate Credit OAS	197bp	-17	-28	+102
EUR Agencies OAS	81bp	-9	-14	+32
EUR Securitized - Covered OAS	85bp	-15	-31	+40
EUR Pan-European High Yield OAS	535bp	-67	-101	+217
EUR/USD CDS Indices 5y	**14-Nov-22**	**1wk (bp)**	**1m (bp)**	**2022 (bp)**
iTraxx IG	96bp	-13	-35	+48
iTraxx Crossover	475bp	-47	-150	+232
CDX IG	82bp	-7	-20	+33
CDX High Yield	480bp	-38	-107	+187
Emerging Markets	**14-Nov-22**	**1wk (bp)**	**1m (bp)**	**2022 (bp)**
JPM EMBI Global Div. Spread	511bp	-25	-35	+143
Currencies	**14-Nov-22**	**1wk (%)**	**1m (%)**	**2022 (%)**
EUR/USD	$1.032	2.984	6.141	-9.2
GBP/USD	$1.179	2.406	5.541	-12.9
USD/JPY	JPY 140	4.452	5.905	-18.0
Commodity Futures	**14-Nov-22**	**-1wk ($)**	**-1m ($)**	**2022 (%)**
Crude Brent	$94.9	-$3.0	$4.8	30.26
Gold	$1 758.9	$83.3	$114.4	-3.84
Equity Market Indices	**14-Nov-22**	**-1wk (%)**	**-1m (%)**	**2022 (%)**
S&P 500	3 993	5.90	11.44	-16.2
EuroStoxx 50	3 885	4.75	14.88	-9.6
CAC 40	6 616	3.11	11.54	-7.5
Nikkei 225	27 963	1.58	3.22	-2.9
Shanghai Composite	3 083	0.18	0.37	-15.3
VIX - Implied Volatility Index	23.99	-1.48	-25.08	39.3

Source: Bloomberg, Ostrum AM

Additional notes

Ostrum Asset Management

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