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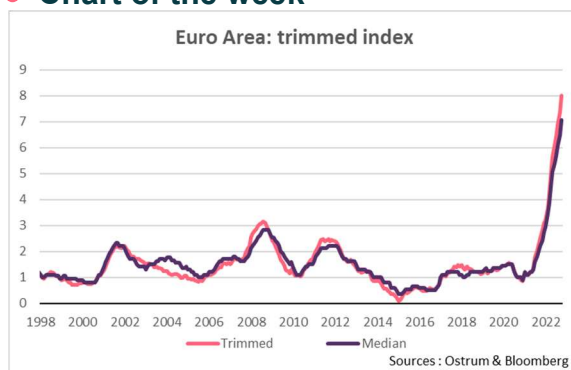
### ● Topic of the week: Credit market: what default rate?

- The economic recession that seems inevitable in the Eurozone but also the rise in rates that deteriorate debt ratios should inevitably lead to an increase in the default rate.
- Our approach leads to a moderately pessimistic view: a default rate that increases next year above its long-term average, but remains well below acute crisis levels.
- The recent move has brought spreads back to a more reasonable level. With Damocles' sword hanging over a potentially much more negative economic scenario, it is likely that much of the tightening is behind us.

### ● Market review: Global equity fund flows pick up

- Global yield curves invert further
- Sharp narrowing in sovereign and credit spreads
- UK budget well received by markets
- Significant inflows into global equity funds

### ● Chart of the week



Details of European inflation figures released last week showed no signs of slowing. On the contrary, our "trimmed" index, which uses the Cleveland Fed methodology, is at an all-time high and accelerating.

Inflation is widespread and shows no signs of running out of steam.

However, the downside is that industrial price inflation in Germany rose from 48.5% in September to 34.5% in October. Still extremely high but a first sign of slowing down. The peak of inflation may not be that far away in Europe.

### ● Figure of the week

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Source : Ostrum AM

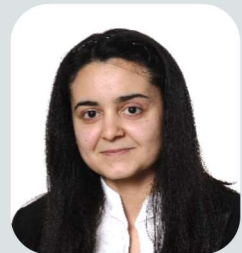
The amount of TLTRO prepayments in billions of euros. This figure is paradoxically low in view of certain expectations and especially of the more than 2 trillion excessive liquidity in the system.



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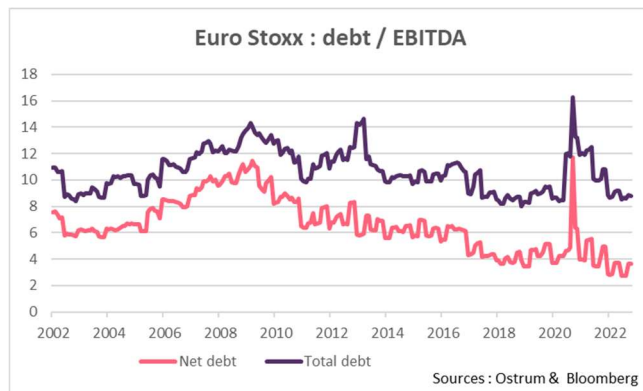
• Topic of the week

# Credit market: what default rate?

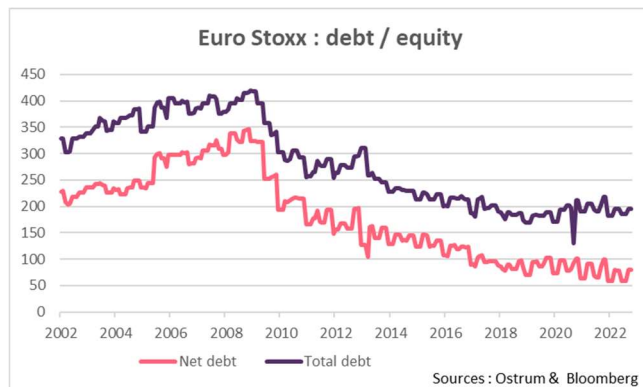
The economic recession that seems inevitable in the Eurozone but also the rise in rates that deteriorates debt ratios should inevitably lead to an increase in the default rate of companies. The question, as often, is the extent of this increase in defaults: limited or acute?

## An inevitable increase in defaults

The situation in terms of financial leverage and debt is not yet worrying. The chart below shows the ratio of debt level to corporate profits.

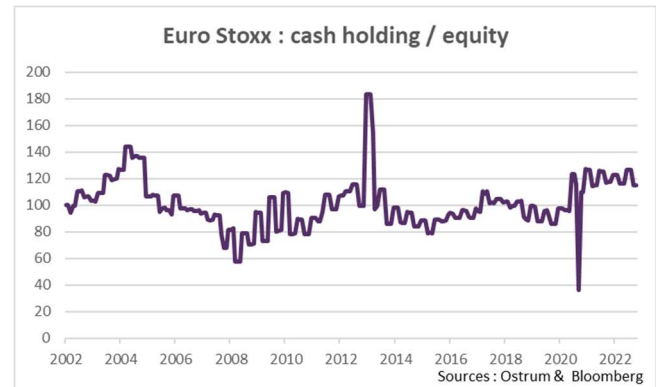


The same signal is obtained in relation to the capital of the firms, with ratios which remain very reasonable.



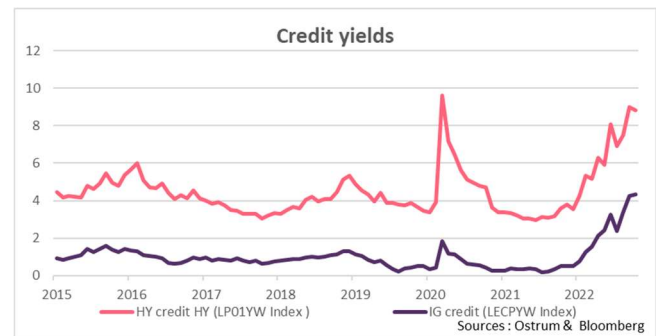
It should also be noted that net debt is clearly lower than gross debt, suggesting that companies also have a liquidity

buffer at their disposal that is comfortable and unusually high.

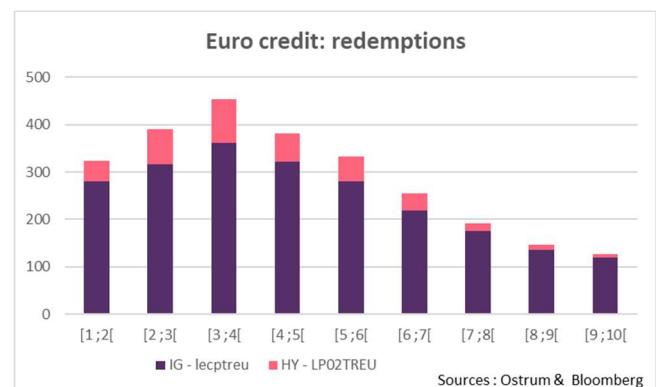


Despite this, the default rate should inevitably increase for two reasons:

- On the one hand, as we said in the introduction, a recession seems inevitable and will therefore worsen these ratios. As usual, the most fragile companies will be disproportionately affected.
- On the other hand, rising rates also create more difficult financing conditions for businesses. The chart below shows that IG rates hovered between 0% and 0.5% for the majority of 2021, currently at 4.33%.



However, it should be noted that there is no debt wall. Businesses are not desperate to refinance. Firstly, as we noted above, they have a lot of liquidity. And secondly because refinancing maturities are rather long with the bulk spread over the next three to four years.



## What the ECB says

The ECB has just published a very interesting “Working Paper Series” entitled “Chronicle of a death foretold: does higher volatility anticipate corporate default?”<sup>1</sup>.

In short, the idea is that equity volatility is a good predictor of future defaults. The conclusion: “We test whether a simple measure of corporate insolvency based on equity return volatility - and denoted as Distance to Default (DD) - delivers better predictions of corporate defaults than the widely used Expected Default Frequency (EDF) measure computed by Moody’s.”

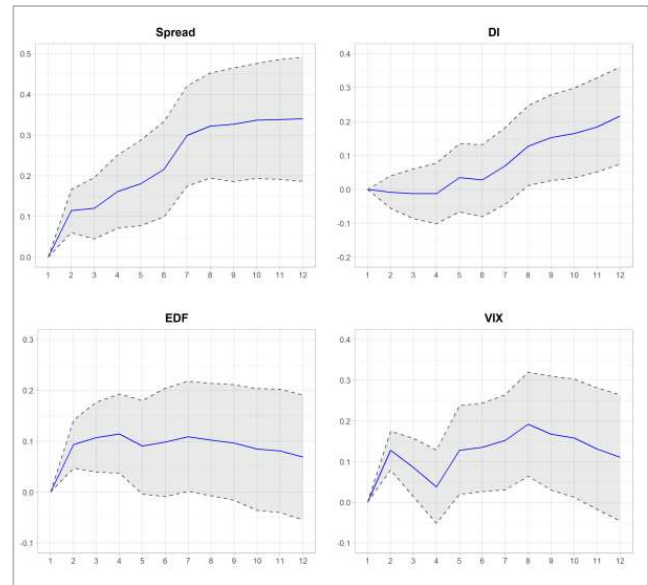
The preferred measure of volatility in the equity market is V2X, the equivalent of VIX for Euro Stoxx. But to be a little more subtle, the ECB’s paper also talks about specific risk at the level of each value. The idea is that specific volatility on a name is a sign of nervousness. It is also a sign of “debate” among investors (even if the ECB does not put it that way). And so, ultimately, the risk of a change in the trajectory. NB: this risk is potentially increasing: not all news is bad news. Thus, an increase in idiosyncratic risk is a relevant signal to identify a future default risk.

The interest of the paper is to show that this intuition is valid in the sense that the approach is very effective in predicting future movements of the deposit rate.

An additional comment is needed on the model. The idea that volatility is a predictor of “distance to default” is not new. We are thinking in particular of the famous Merton model, which compares debt to a put option on the company’s assets, whereas capital is a call option. The probability of default depends of course on the risk, and therefore on the volatility, but also on the option’s strike, which in this case is the financial leverage. The intuition is simple: a high debt-to-capital ratio corresponds to a higher “strike” and thus increases the probability of corporate default. In this respect, the discussion in the previous chapter is important: if the debt, and in particular the net debt of companies has fallen as we showed, the distance to default is higher for a given volatility. This effect is of course taken into account in the ECB study and in our approach (see below). The current situation implies, therefore, that enterprises in aggregate have increased their resilience to external shocks.

The graphs below, taken from the article, show the dynamic response of default rates of euro zone non-financial speculative companies to four shocks identified from a monthly VAR model: a bond spread shock, a VIX shock, a

EDF and DI. Shocks are identified by Choleski factorization of the VAR covariance matrix. The x-axis indicates months after the shock.



## Our view

We have built a default model for the European HY based on a number of variables:

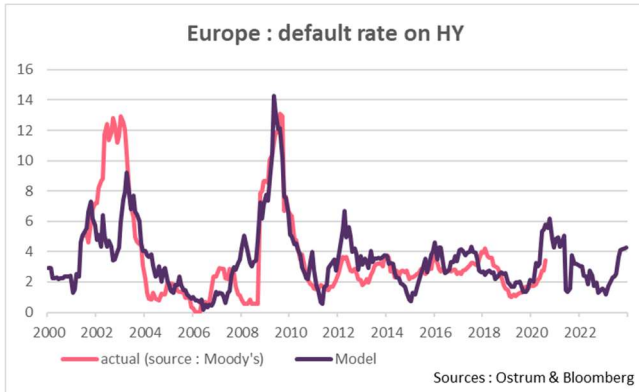
- Fundamental variables: GDP growth and unemployment
- Market variables: rate level and curve slope
- Risk variables: in the spirit of the ECB paper we take the V2X as a proxy.

The result is shown in the chart below. The default rate was extremely low, almost zero, last year. For the above reasons, higher rates and recession, our model expects de annual default rate to increase above 4 % by the end of next year. This must be compared to an average default rate of around 3 ½ %, so this is bad news, the trend is unfavorable. But this figure must also be compared with an actual default rate of more than 12% reached in 2002 or in 2009.

This is therefore a deterioration with a default rate above the long-term average but still well below periods of severe crisis.

<sup>1</sup> Papier disponible sur :  
<https://www.ecb.europa.eu/pub/pdf/scpwps/ecb.wp2749-6>

[62d83a55a.en.pdf?62aefcb6bc115842c3619018c797e07a](https://www.ecb.europa.eu/pub/pdf/scpwps/ecb.wp2749-6)

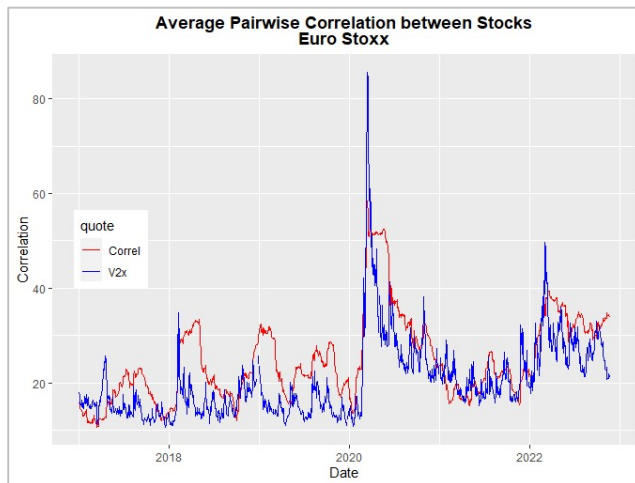


This view is consistent with the ECB paper and the implicit level of market risk.

The graph below shows the pairwise correlation between all Euro Stoxx values. If this correlation is elevated it means that the stocks move in a synchronized way, and that, in return, there are few specific movements and therefore idiosyncratic risks. This estimate is compared to the market volatility measured once again by the V2X.

The two curves are closely related:

- When the V2X is high, there is a violent shock that affects all stocks and they tend to re-corelate.
- When the V2X is low it is also that the stocks diverge in their performance, and therefore if there is no common trend, the mean of variation is low.



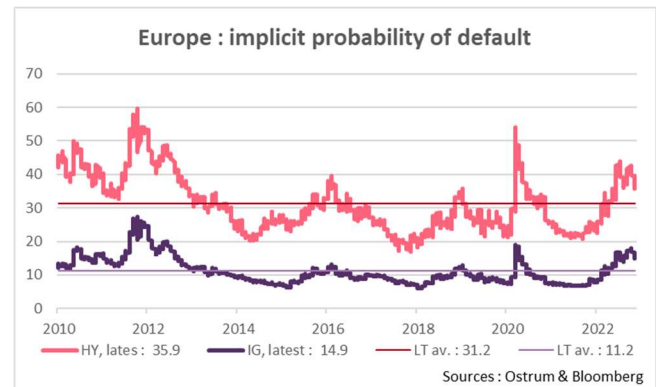
What is interesting is that the two curves have tended to diverge recently. The V2X is close to 20, which is its long-

term average. A relatively quiet market. In this case the correlation between stocks should also be close to the long-term average, but it is actually significantly higher. This tends to suggest that the different stocks move in sync and therefore that the idiosyncratic risk is much lower than normal.

## Conclusion

In summary, our approach, as well as an approach following the work of the ECB, lead to a moderately pessimistic view on credit with a default rate that starts from an extremely low level and that rises next year above its long-term average. But it remains well below the acute crisis levels.

By contrast, markets anticipate a much more adverse scenario. From the credit spreads we can calculate an implicit probability for the cumulative default rate over the next five years. The graph below summarizes the calculations. The implicit default rate has dropped significantly with the recent good performance of the markets: on the HY we have gone from 44% anticipated at the peak this year to 35% (on the IG the maximum was 18%, we are at 14%).



So, the market used to price a much higher risk premium than what would be justified by our approach and our models. The recent move has brought spreads back to a more reasonable level. With the Damocles' sword of a potentially much more negative economic scenario, it is likely that much of the tightening is behind us.

**Stéphane Déo**



• Market review

## Global equity fund flows pick up

### Inversion of global yield curves, large drop in oil prices and improvement in risky assets

While the FTX saga evokes a massive fraud comparable to the Enron bankruptcy of 2001, relative calm prevails in the equity markets after a rebound of 10% on the S&P 500. Buybacks of short positions on the grounds of an inflection in the policy of zero covid in China and a less aggressive monetary policy are today relayed by significant investment flows. The improvement concerns all risky assets, including European sovereign debt and credit where issues are attracting strong demand. Spreads are trending down. The UK budget was well received by the markets. The inversion of the yield curves, however, reminds us of the fragility of this rebound in equities, still comparable to a jump in a bear market. The US 2s10s spread is heading sharply lower towards -70 bp. The Fed is not done with monetary tightening, according to James Bullard who talks about an extension of the monetary cycle towards 7% rates now. The dollar is adjusting lower, however, as another example of a reduction in consensus positioning as the long stance on the greenback gained this year, as we approach the end of the fourth quarter.

The autumn statement was highly anticipated in the UK. Jeremy Hunt has succeeded in his balancing act, sparing part of his electorate in view of the next elections while reassuring the financial markets. The Chancellor of the Exchequer has announced a two-step £55bn fiscal consolidation plan with tax increases in the short run and spending cuts after 2025. The energy bill is estimated at £100 Bn over time. The expected increase in income tax proceeds will come from the lowering of the income threshold subject to the highest marginal rate of 45%. Transfers to households are planned as well as the indexation of pensions to inflation. The public-sector borrowing needs will amount to 7.1% of GDP over the fiscal year 2022-23 before falling below 3% from 2025. The amount of Gilts to be issued next year is indeed lower than expected (£170bn) by market participants. In the euro area, inflation stood at 10.6% in October and around three-quarters of the price categories are accelerating. Wage negotiations (+8.5% over two years for IG Metall in Germany) will contribute to an environment of persistently high inflation. Against this backdrop, the ECB's monetary policy will have to be tightened further. Early TLTRO repayments were limited to €296bn (i.e. just 14% of the total TLTRO amount outstanding).

Since the release of US CPI inflation down to 7.7%y in October, the Fed is faced with a premature easing of financial conditions, in view of the latest economic data (including strong retail sales). Interest rates may need to rise further to 7% according to James Bullard. This guidance contributed to a sharper inversion of the yield curve so that the 2s10s spread reached -70 bp towards the end of the week. Speculative accounts are less inclined to sell the long-term Treasury bonds, which tend to be less sensitive to Fed rate decisions. The yield on US 10-year notes briefly traded below 3.70% before rebounding 10bp after the St Louis Fed President's comments. This statement fueled the drop in breakeven inflation rates initiated by the sharp decline in crude prices (-\$10 this week). Turkey indeed seems to support the cap on process of Russian crude transiting through the Bosphorus Strait.

In the euro area, the German yield curve is also inverted, with the 30-year now trading below the 2% threshold. The 50bp hike expected in December may not be enough to raise the floor on long-term bond yields. A 75 bp rate hike or early quantitative tightening may be needed to push inflation lower. Swap spreads tightened to the benefit of agency or supranational debt. European union bond issues thus were met strong investor demand this week given attractive valuations (basically in line with swap rates). Sovereign spreads are also trending tighter, including Italian BTPs, which seem to ignore additional fiscal easing worth €30 billion promised by the new government. The French OATs, trading within the 50 bp threshold, appear expensive. The reinvestment of PSPP maturities will be a determining factor for euro area sovereign spreads in 2023.

The credit market has recovered, thanks in part to the fall in risk-free bond yields. The average level of spreads on European investment grade (192 bp against Bund) now hovers almost 50 bp below 2022 highs. The flow balance in ETF markets has also improved in recent weeks. In turn, the European high yield market is benefiting from this buoyant environment. The market has tightened by around 20bp over the past week. The deterioration in default rates envisaged next year seems absorbable given the current level of spreads.

On the global equity markets, the rebound in stock indices since October primarily reflects the reduction in bearish bets. Asset allocators have, however, resumed buying in US equity markets. Global equity funds indeed raised \$22bn this week, the best total for 35 weeks, with a slight outflow in Europe, however.

**Axel Botte**  
Global strategist

## ● Main market indicators

<b>G4 Government Bonds</b>	21-Nov-22	1w k (bp)	1m (bp)	2022 (bp)
EUR Bunds 2y	2.1%	-12	+6	+272
EUR Bunds 10y	2.02%	-13	-40	+220
EUR Bunds 2s10s	-8.1bp	-1	-45	-51
USD Treasuries 2y	4.54%	+15	+6	+380
USD Treasuries 10y	3.83%	-3	-39	+232
USD Treasuries 2s10s	-71.3bp	-17	-45	-149
GBP Gilt 10y	3.25%	-12	-81	+228
JPY JGB 10y	0.25%	+0	+9	+5
<b>€ Sovereign Spreads (10y)</b>	21-Nov-22	1w k (bp)	1m (bp)	2022 (bp)
France	46.3bp	-5	-7	+9
Italy	191.36bp	-12	-24	+56
Spain	99.01bp	-6	-9	+25
<b>Inflation Break-evens (10y)</b>	21-Nov-22	1w k (bp)	1m (bp)	2022 (bp)
EUR 10y Inflation Swap	2.6%	-4	+7	+54
USD 10y Inflation Swap	2.53%	-14	-10	-25
GBP 10y Inflation Swap	4.12%	-16	-8	-6
<b>EUR Credit Indices</b>	21-Nov-22	1w k (bp)	1m (bp)	2022 (bp)
EUR Corporate Credit OAS	192bp	-5	-36	+97
EUR Agencies OAS	81bp	+0	-13	+32
EUR Securitized - Covered OAS	88bp	+3	-20	+42
EUR Pan-European High Yield OAS	551bp	+16	-79	+233
<b>EUR/USD CDS Indices 5y</b>	21-Nov-22	1w k (bp)	1m (bp)	2022 (bp)
iTraxx IG	96bp	-1	-30	+48
iTraxx Crossover	477bp	0	-125	+235
CDX IG	82bp	-1	-14	+32
CDX High Yield	481bp	-4	-68	+189
<b>Emerging Markets</b>	21-Nov-22	1w k (bp)	1m (bp)	2022 (bp)
JPM EMBI Global Div. Spread	487bp	-24	-78	+119
<b>Currencies</b>	21-Nov-22	1w k (%)	1m (%)	2022 (%)
EUR/USD	\$1.024	-0.843	3.833	-9.9
GBP/USD	\$1.182	0.553	4.583	-12.6
USD/JPY	JPY 142	-1.305	4.170	-18.8
<b>Commodity Futures</b>	21-Nov-22	-1w k (\$)	-1m (\$)	2022 (%)
Crude Brent	\$87.0	-\$6.1	-\$4.3	19.43
Gold	\$1 740.7	-\$30.7	\$83.0	-4.84
<b>Equity Market Indices</b>	21-Nov-22	-1w k (%)	-1m (%)	2022 (%)
S&P 500	3 965	-0.69	5.66	-16.8
EuroStoxx 50	3 907	0.50	12.38	-9.1
CAC 40	6 632	0.35	9.89	-7.3
Nikkei 225	27 945	-0.07	3.92	-2.9
Shanghai Composite	3 085	0.05	1.52	-15.2
VIX - Implied Volatility Index	23.94	0.88	-19.37	39.0

Source: Bloomberg, Ostrum AM

## Additional notes

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