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N° 085 // October 3, 2022

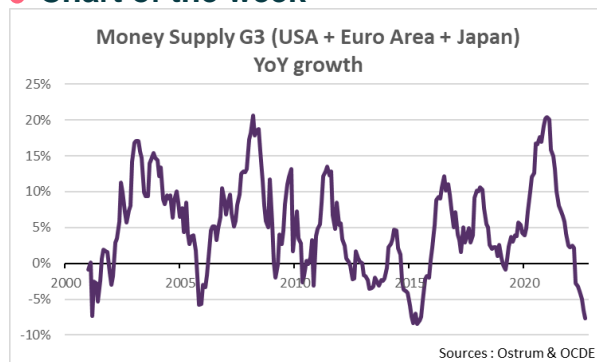
● Topic of the week: Shiller's PE: United States and Europe

- The sharp decline of the stock exchanges gave rise to a debate. While the observed PE collapsed, the question focuses on the fact that these PE are distorted by excessively high EPS and therefore advocated to be corrected downwards;
- Shiller's PE is often misplaced. Its current level is consistent with the stock market performance over the coming decade, which remains more than honorable, at around 6% per year;
- The application of the methodology to Europe gives a neutral signal.

● Market review: Panic in London

- UK mini-budget triggers financial storm;
- The BoE intervenes to stem fire sales of Gilts by pension funds;
- Renewed tensions on spreads, except for sovereign bonds;
- US stocks plunge 3%.

● Chart of the week



Rising rates are only part of the history of monetary upturn. One of the consequences is also the decline in the money supply, which is very marked for the G3, the three main countries.

This decrease in available liquidity is also one of the reasons for the difficulties of risky assets.

● Figure of the week

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Source : Ostrum AM

In basis points, the increase of the 30 years UK yield between 22 and 28 September (3.49% to 5.13% intraday).

Ms. Truss' budget was not much appreciated by the markets.



Stéphane Déo
Head of markets strategy
stephane.deo@ostrum.com



Axel Botte
Global strategist
axel.botte@ostrum.com



Zouhoure Bousbih
Emerging countries strategist
zouhoure.bousbih@ostrum.com



Aline Goupil- Raguénès
Developed countries strategist
aline.goupil-
raguenes@ostrum.com

• Topic of the week

Shiller's PE: United States and Europe

The sharp decline of the stock exchanges gave rise to a debate. While the observed PE collapsed, the question focuses on the fact that these PE are distorted by excessively high EPS and therefore advocated to be corrected downwards. If that were the case, the low level of PE observed would be nothing more than a smoke screen. Long-term valuations, such as Shiller's PE or CAPE, can provide answers.

What Shiller says

Let's start with a brief presentation. Robert Shiller is an economist at Yale University, he won the Nobel Prize in 2013.

He is known for a book published in December 2000 entitled *Irrational Exuberance*. It introduced a new form of equity valuation, which became Shiller's PE. The method is simple: instead of taking the ratio between the price of a share and profits per share (BpA), we take the ratio between the price and the average level of profits over the last ten years (adjusted for inflation). The intuition is that an average over a decade allows to evacuate extreme cyclical movements, profits abnormally high at the peak of the cycle, or abnormally low during recessions.

Shiller's PE is also known as the Cyclically Adjusted Price Earnings Ratio (CAPE).

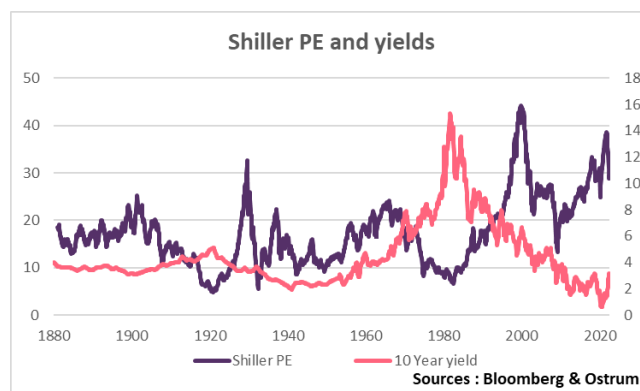
The success of this methodology is due to the fact that it was presented in the book mentioned above with the conclusion that the Internet bubble of the late 1990s was going to explode. This actually happened a few months after publication.

Current level

Shiller makes available its data on the American market, dating back to 1871 (<http://www.econ.yale.edu/~shiller/data.htm>). A century and a half of data, a dream for every economist.

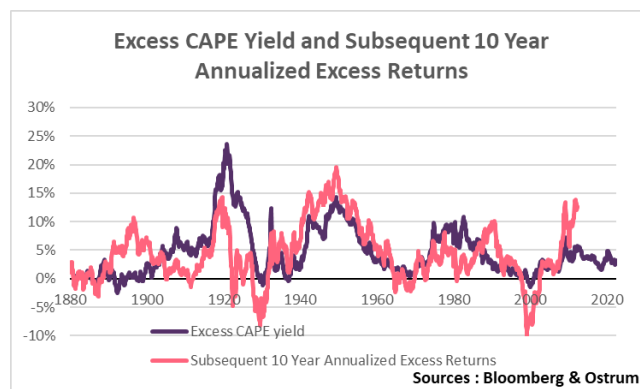
The graph below shows the evolution of Shiller's PE. The record was reached 44.2 times in December 2000, just before the dot-com bubble exploded. The index was 38.6 times in November last year, which caused many

commentators to fear that a new bubble was about to burst, and indeed, the stock market have substantially corrected. Shiller's PE is now at a slightly more reasonable level of 28.9 times. It's still very high!



PE, earning yield and equity risk premium

Except this isn't really Shiller's message. In the database it provides, you will find the above graph, amply reproduced by number of commentators. But there's also another chart, when you look carefully, that gives a very different story. It says:



Shiller's risk premium is calculated first by taking the inverse of the PE, which yields the return on profits, and then by removing the real interest rate. It is therefore the equity risk premium: the additional profitability demanded by the equity market above the risk-free rate. The Excess CAPE Yield.

What's interesting, as the same chart shows, is that this risk premium is very well correlated with the outperformance of equities over the next decade. Outperformance is the difference between the performance of equities over the next ten years minus the performance of a bond portfolio.

In January 2000, the risk premium calculated in this way was negative, -1.52%, investors were better paid on a risk-free rate than on equities. A height! And indeed a sign of massive overoverestimation. We know the rest.

If we look at the near past, the message becomes very different. Shiller's risk premium remains high. Certainly the

return on profits is low, 3.46% in July 2022, the last available date. But real rates are also very low, resulting in a 3.13% risk premium.

So the graph above suggests that over the next decade the average annual profitability of equities will be 3.46% plus the interest rate, 2.88% or a total of 6.34%. Nothing extraordinary, but not bad. Over 10 years, this represents more than 79% performance.

Shiller's PE is in fact "bullish" actions, moderately certainly, but unquestionably "bullish".

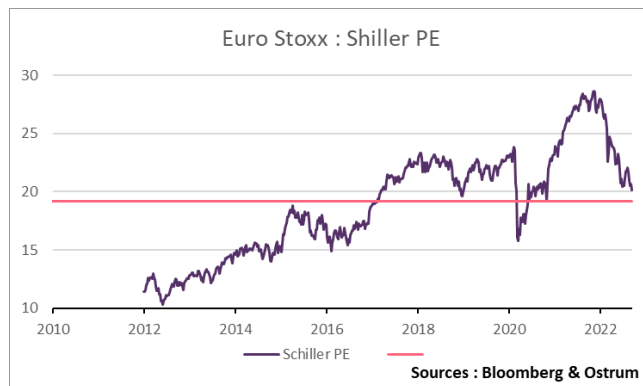
What about Europe ?

Shiller's PE

It is customary to look at Shiller's PE and conclude that the European market is expensive or not. But, of course, the value of the European market is not always that of S&P, far from it.

We therefore decided to apply the method to Euro Stoxx. Our problem is that we need the 10-year AB average, and the data we have starts in 2002, so our data on Shiller's PE doesn't start until 2012. We have a decade of results, far from Shiller's century and a half.

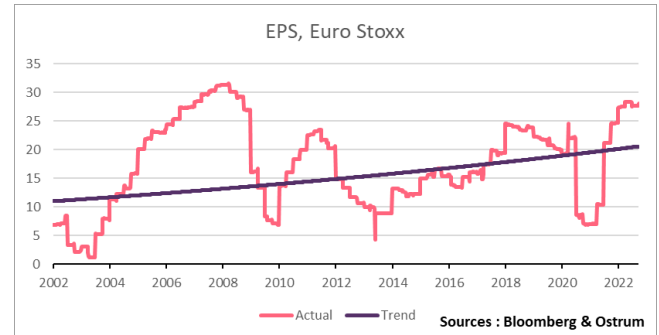
Result: we are very close to the median. No sign of overestimation from this point of view.



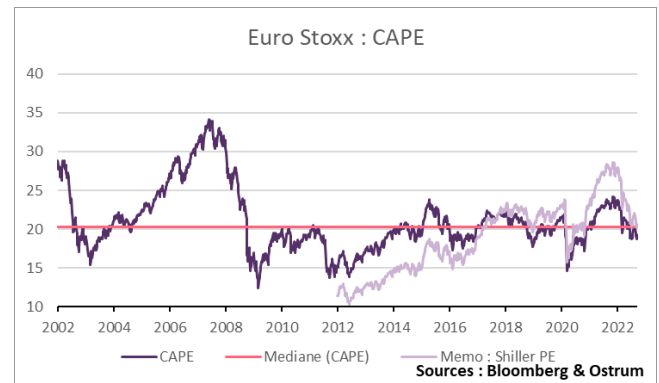
CAPE

There is another way to avoid cyclical variations in earnings.

The idea is to use, not the BpA but their long-term trend. On the graph following the evolution of BpA is in pink, their trend estimated econometrically is in purple. These are the last figures we use. The advantage is that we have data since 2002; we have gained a decade.



The result is finally quite close to Shiller's PE as shown in the graph below. And with two decades of data, our CAPE is currently below its long-term median. Again, no sign of overestimation.



Conclusion

Shiller's PE is often misplaced. Its current level is consistent with the stock market performance over the coming decade, which remains more than honorable, at around 6% per year. The application of the methodology to Europe gives a neutral signal.

Stéphane Déo

• **Market review**

Panic in London

The awakening of bond vigilantes forces an emergency intervention by the BoE

Singapore on Thames is hardly a reality as London draws comparisons to Buenos Aires. The unfunded tax cuts championed by Prime Minister Liz Truss smack of fiscal irresponsibility as UK inflation nears 10% and the country is plagued by strikes. The BoE, which had opted for a hike of only 50 bp at the last MPC, may now have to raise rates in steps of 100 bp if the government does not revise its fiscal plan. In the meantime, the BoE is forced to stabilize the Gilt market, which is rocked by extreme volatility with daily yield changes of more than 50 bp on the 30-year UK bond. The start of the balance sheet reduction has been postponed for a month and a £65bn envelope of UK Gilt purchases, available for 13 days, has been announced. The ball is now in the camp of the Truss government, caught in the crossfires of critics from the IMF, the Fed and the rating agencies. The volatility of Gilts rippled across the main bond markets (with T-notes hitting 4% at its highest, Bund at 2.3%) causing stock market indices to plunge and credit risk premiums to widen. The tentative rebound in the British Pound, at the end of last week, seems to be pricing in a solution to the crisis, but the twin deficits form an explosive cocktail for Sterling. Like the Fed, the ECB, aware of the risks to financial stability, show no intention to deviate from their monetary tightening stance. Current breakeven inflation rates bear witness to the credibility of their commitment. Indeed, 10-year inflation expectations lost 20 bp over one week.

Britain's irresponsible policy mix has therefore unleashed a financial storm. The lack of reliable public deficit forecasts, induced by tax cuts centered on the upper income brackets and the capping of electricity prices, hints at a fiscal dominance mindset that continues to prevail in the minds of governments. The shortfall could be £45 billion at the very least. The BoE's rate hike, limited to 50 bp, has apparently been interpreted as favorable to this fiscal profligacy. In turn, bond vigilantes, which appeared anesthetized by years of quantitative easing, awakened ruthlessly. The yield on UK 30-year bonds soared 150 bps in ten days. The panic on the Gilt market was fueled by sales by pension funds in need for cash to meet margin calls on their interest rate derivative positions. These deposits are estimated about hundreds of millions of pounds. Therefore, the intervention of the BoE to stabilize the bond market (£65 billion maximum) seems oversized. In fact, the Central Bank only bought back £1 billion a day instead of the planned £5 billion. If this is truly a liquidity problem, insurance in the repo market should have been enough to stabilize long-term rates (by limiting panic selling). This may thus seem counter-intuitive for markets holed on liquidity, but stability may require higher rates.

According to its latest statements, the ECB will press on with tighter policy as 10% inflation in September leaves no room for alternative policy.

Rate volatility has reverberated everywhere. The restrictive bias maintained by the speeches of the members of the Fed had stretched the T-note towards a weekly peak at 4% before the "temporary" QE by the BoE sparked a turnaround. The US 10-year yield ended the week near 3.70%. Inflation, which is still too high (4.9% on the core PCE index), requires continued tightening, which favors the flattening trend. The rise in mortgage rates (6.7% at 30 years) maintains upward pressure on MBS spreads. The Bund shows a similar pattern with a weekly high around 2.30% and a subsequent plunge below 2.10% at the end of the week. We also observe some easing in Schatz yields (below 1.80%) which seems traceable to renewed tension on swap spreads. The 10-year swap spread also approached the 100 bp threshold. The ECB has so far failed to resolve the collateral shortage phenomenon. Other measures are to be expected before quantitative tightening, which Christine Lagarde only seems to be considering after the "normalization" of rates is complete. The relative stability of sovereign spreads (Italian BTP ranging between 240 and 250 bp) probably reflects the reinvestments of the ECB's PEPP maturities. The Italian bond auctions were met with satisfactory demand.

The week turned out to be very difficult in the credit markets. European investment grade spreads widened by more than 20 bps to 224 bps against Bunds. These are the widest levels of 2022. The iTraxx IG is trading around 135bp. The return to a precarious calm on the fixed income markets nevertheless allowed an easing of spreads at the end of the week. Elevated new issue premiums in September mitigated the price fall in the secondary corporate credit market. About three-quarters of new issues of non-financial debt have tightened since their launch in September. The proportion of tightening is much less in the financial sector as financial subordinated bonds suffer from the broad-based widening pressure. A few worrying signals emerge from the bank loan and CLO markets, both in the United States and in Europe. The high yield market is also struggling amid very low activity in primary markets. Bond repayment flows mitigate the impact from high yield fund outflows, but renewed protection buying on iTraxx Crossover is weighing on spreads.

Equities remain very sensitive to rates, which continue to dictate the global market trend. US stock indices plunged 3% last week as investors await the start of the earnings season. Margins, which proved resilient so far in the United States, could start to decline due to the strong dollar and cost pressures. In Europe, the euro's rebound concomitant with that of stock indices hints at improving sentiment towards European equities. Selling flows have slowed in September but capitulation could still be around the corner.

Axel Botte
Global strategist

● Main market indicators

G4 Government Bonds	03-Oct-22	1w k (bp)	1m (bp)	2022 (bp)
EUR Bunds 2y	1.62%	-33	+52	+224
EUR Bunds 10y	1.92%	-19	+40	+210
EUR Bunds 2s10s	29.3bp	+14	-12	-14
USD Treasuries 2y	4.06%	-28	+67	+333
USD Treasuries 10y	3.61%	-31	+42	+210
USD Treasuries 2s10s	-45.3bp	-2	-25	-123
GBP Gilt 10y	3.92%	-32	+100	+295
JPY JGB 10y	0.25%	-1	+11	-3
€ Sovereign Spreads (10y)	03-Oct-22	1w k (bp)	1m (bp)	2022 (bp)
France	59.98bp	+0	-1	+22
Italy	233.04bp	-11	-7	+98
Spain	116.52bp	-1	-1	+42
Inflation Break-evens (10y)	03-Oct-22	1w k (bp)	1m (bp)	2022 (bp)
EUR 10y Inflation Swap	2.28%	-30	-23	+22
USD 10y Inflation Swap	2.37%	-17	-35	-41
GBP 10y Inflation Swap	4.33%	+14	-15	+15
EUR Credit Indices	03-Oct-22	1w k (bp)	1m (bp)	2022 (bp)
EUR Corporate Credit OAS	225bp	+21	+27	+130
EUR Agencies OAS	92bp	+6	+4	+43
EUR Securitized - Covered OAS	111bp	+6	+2	+65
EUR Pan-European High Yield OAS	631bp	+63	+82	+313
EUR/USD CDS Indices 5y	03-Oct-22	1w k (bp)	1m (bp)	2022 (bp)
iTraxx IG	133bp	0	+15	+85
iTraxx Crossover	630bp	-21	+50	+388
CDX IG	104bp	-3	+12	+55
CDX High Yield	591bp	+12	+62	+298
Emerging Markets	03-Oct-22	1w k (bp)	1m (bp)	2022 (bp)
JPM EMBI Global Div. Spread	559bp	+42	+59	+191
Currencies	03-Oct-22	1w k (%)	1m (%)	2022 (%)
EUR/USD	\$0.981	2.113	-1.178	-13.7
GBP/USD	\$1.127	5.417	-2.162	-16.7
USD/JPY	JPY 145	0.159	-2.712	-20.4
Commodity Futures	03-Oct-22	-1w k (\$)	-1m (\$)	2022 (%)
Crude Brent	\$88.8	\$5.9	-\$3.1	21.00
Gold	\$1 686.8	\$64.5	-\$23.6	-7.78
Equity Market Indices	03-Oct-22	-1w k (%)	-1m (%)	2022 (%)
S&P 500	3 659	0.12	-6.75	-23.2
EuroStoxx 50	3 340	-0.07	-5.76	-22.3
CAC 40	5 785	0.27	-6.21	-19.1
Nikkei 225	26 216	-0.82	-5.19	-8.9
Shanghai Composite	3 024	-2.07	-5.09	-16.9
VIX - Implied Volatility Index	30.04	-6.88	17.94	74.4

Source: Bloomberg, Ostrum AM

Additional notes

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Final version dated 03/10/2022

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