MyStratWeekly

Market views and strategy

Ostrum ASSET MANAGEMENT

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N° 087 // **October 24, 2022**

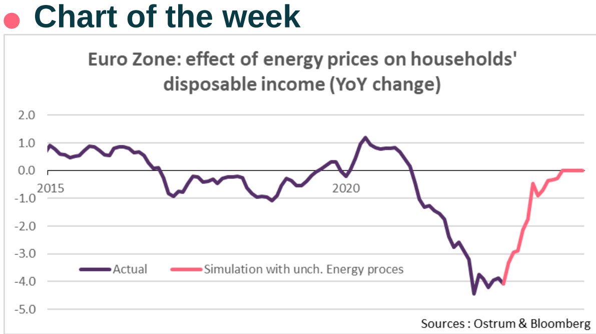
Topic of the week: Gilt madness and pension fund stress

- **Gilt volatility exploded in late September following the UK mini budget;**
- **The BoE provided a backstop to stem fire sales of gilts and launched a repo facility to ease the liquidity strain on pension funds;**
- **LDI strategies used by pension funds involve leverage through large portfolios of derivatives requiring margins to be posted in times of extreme volatility on long-term interest rates;**
- **This gilt crisis unveiled liquidity risks at pension funds. Regulatory backdrop will have to be improved to stem liquidity riks;**
- **Pension fund exposure to illiquid assets also played a role in disproportionate selling of gilts.**

Market review: The T-note at the highest since 2007

- **Truss resigns, successor named within week;**
- **The T-note near 4.30% at its highest since 2007;**
- **Swap spreads narrow amid increase in outstanding German debt;**
- **Credit spreads are tightening, the EuroStoxx up 1.5%.**

Chart of the week



Rising energy prices reduce household disposable income. On our calculations, the impact is around 4% on the purchasing power over one year in the euro zone. However, this decrease is partly offset by various government measures.

If energy prices stabilize, even at current very high levels, the impact on household disposable income over one year would be almost zero by the beginning of next year (only 0.5% loss of purchasing power by March 2023). So there would have to be significant new increases to ensure that the negative impact doesn't fade quickly.

Figure of the week

30k

Source : Ostrum AM

That's the number of statistical series China provided on its economy and beyond (Mongolia). When Xi came to power, there were over 80k.
China is becoming much less transparent about its economy.

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Topic of the week

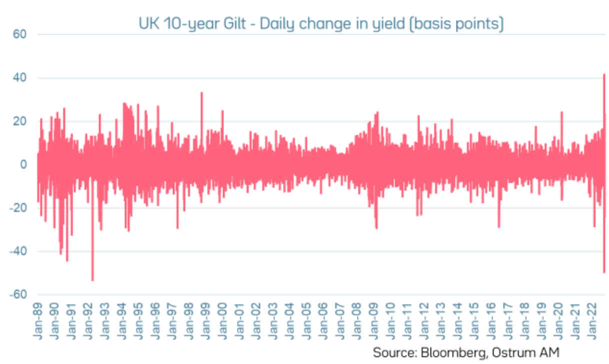
Gilt madness and pension fund stress

UK gilts are risk-free assets. They are not supposed to undergo the kind of volatility observed after the announcement of UK mini budget. Large swings in long-term bond yields forced intervention by the BoE to stop the doom loop of gilt fire sales amid rising margin calls on pension funds derivatives portfolios. The pensions' liquidity crisis will force changes in the regulatory framework and a revamp of their asset allocation.

Madness in gilt markets: a multi-sigma event

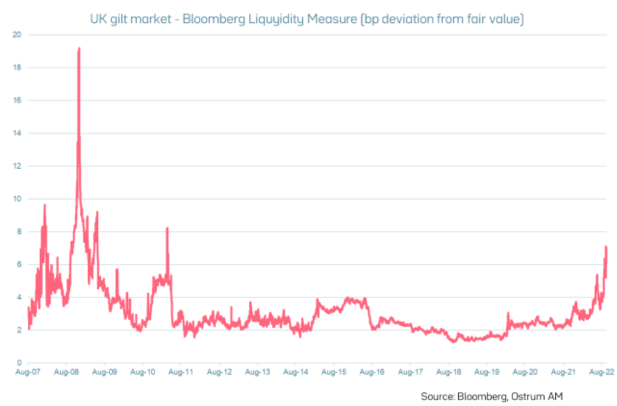
In financial panic, risk-free assets suddenly trade wildly as investors rush for liquidity.

The UK government's 'mini' budget announced on September 24th sparked once-in-a-generation sell-offs in long-term gilts and Pound Sterling. Financial markets reacted very negatively to proposals of unfunded tax cuts against the backdrop of runaway inflation. In the days immediately after the announcement, daily changes in bond yields recorded multi-standard deviation events.



It is fair to say that, however irresponsible fiscal measures may have been, the gilt market had gone wilder than most participants had imagined. The UK bond market was caught in a self-fulfilling cycle of deleveraging that sent yields ever higher. Kwasi Kwarteng's and Liz Truss' communication, and then lack thereof as yields spiral higher, may have made volatility worse but the event may be more telling about market structure, asset allocation of pension funds and incipient liquidity issues. Leaving aside the potentially lasting damage to the full faith and credit of the UK, this bout of extreme volatility of long-term interest rates will have far-reaching consequences for the UK pension funds industry.

Liquidity measures can help gauge the extent of the dysfunction of the UK gilt market. Liquidity is a hard concept to grasp. One way to measure liquidity is to look at pricing deviations of individual gilt securities from an interpolated yield curve (as represented by the Bloomberg Liquidity index in the next chart). The larger the deviations, the less liquid as investors are unwilling to jump in and profit from security mispricing. The absence of arbitrage can be a sign of funding difficulty or a lack of balance sheet space. In any case, recent pricing deviations coincide with market stress comparable to the euro sovereign crisis in 2010-2011 but less acute than the 2008 one.



The BoE response: emergency purchases in the short run, changes in regulatory backdrop thereafter

The Bank of England saw the doom loop brewing. In late September, the MPC announced purchases of long-maturity Gilts of maximum £5 billion per day for 13 trading days (September 28th – October 14th). The statement release collapsed 30-year yields by 100 bps. The emergency intervention aimed at lending time to the UK government to make what will go down in History as the mother of all fiscal U-turns. And it worked. Most controversial tax cut measures were effectively rolled back as announced by the new Chancellor Jeremy Hunt on October 17th.

During this period, the BoE effectively turned into a market-maker of last resort to stabilize the long end. Such operations are not QE purchases, which rather aim at raising the money supply regardless of whom is selling the bonds for cash.

Providing a backstop to pension funds

The BoE has purchased a total of £19.25 billion out of a theoretical £65 billion. The BoE set a reserve price for each auction to ensure that the backstop objective is maintained and required participating GEMMs to identify who is offering bonds into the BoE using unique identifiers. Most offers have thus been rejected to avoid windfall speculative gains. In addition, most of the BoE's buying came at the end of the temporary plan, after the Bank decided to include inflation-linked bonds and raise the maximum size of daily operations (by redistributing unused capacity of the stated £65 billion envelope). Purchases topped £4 billion on two consecutive days (October 12th and 13th).

Lessons to be learned for regulators

Lessons must be learned from the pensions crisis. The turmoil in the gilt market shared characteristics with risks to financial stability evident in the broader non-bank financial system (money market funds, open-ended funds) which is subject to fire sales of assets. The BoE said it would work with both the Pensions Regulator and the Financial Conduct Authority (FCA) "to ensure strengthened standards are put in place" in the pensions market.

The BoE's financial policy committee stressed the need for action to mitigate similar risks in other parts of the financial sector. The central bank launched a standing repo facility. The fire sales of gilts from pension funds revealed a liquidity problem that could have been avoided if pension funds had a more direct access to central bank loans. Tri-party repo with favorable collateral treatment could have help to mitigate market disruption. Market participants cannot insure against all extreme market outcomes. Nor would it be desirable. If anything, pension funds should be a counter-cyclical anchor in times of financial stress… but they cannot play that role if they face liquidity problems.

Pensions funds' asset-liability: a roller coaster ride

Defined benefit pensions are deferred payments to workers, which can be modelled as a long series of zero coupons. Regulators insist that pension funds cover their liabilities whenever there is a mismatch between assets and (the present value of) liabilities. A situation of underfunding may restrict pension funds' ability to merge, make acquisitions or pay dividends.

Assets and liabilities of UK pension schemes £ billion		Q3 2019	Q4 2021	Q1 2022
Gross assets excluding derivatives		£2 470	£2 788	£2 761
Gross liabilities other than pension liabilities, excluding derivatives		£193	£218	£227
Derivatives contracts with a positive (asset) value	..		£277	£296
Derivatives contracts with a negative (liability) value	..		£269	£298
Net assets excluding derivatives or 'market value of pension funds'		£2 275	£2 570	£2 534
Gross assets including derivatives contracts with a positive (asset) value		£2 470	£3 065	£3 057

Source: Financial Survey of Pension Schemes (FSPS), Office for National Statistics (ONS)

When interest rates increase, both assets and liabilities fall in value. Assets have embedded duration risk and likewise the larger discount factor of liabilities reduces their present value. Thus, pension fund assets and liabilities rise and fall in synch and so does their swap overlay portfolio. If the duration of assets is shorter than the duration of liabilities, the pension scheme may benefit from an environment of rising interest rates. To be underhedged can therefore be a positive in terms of funding in this situation.

Pension funds' gilt holdings still tilted to the back end

Since March 2020, in private sector defined benefit and hybrid schemes, there has been a 32% decrease in conventional gilts with 25 years and over maturity, but a corresponding increase in index-linked gilts; these gilts are considered less risky for the investor as they are protected against inflation.

Direct investment index-linked gilt holdings for defined benefit and hybrid UK funded pension schemes stood at £385 billion as of 31 March 2022, representing 71% of all direct investment gilt holdings.

Short gilt positions are sizeable up to 7-year maturities.

Private sector defined benefit and hybrid conventional gilts by maturity
£ million

	0 up to 7 years maturity	7 up to 15 years maturity	15 up to 25 years maturity	25 years and over maturity
31-Mar-20	-£4 964	£15 302	£66 444	£136 406
30-Jun-20	-£5 122	£15 172	£65 718	£131 951
30-Sep-20	-£4 659	£15 509	£60 726	£127 120
31-Dec-20	-£2 842	£15 462	£66 130	£111 770
31-Mar-21	-£6 908	£11 986	£48 470	£101 770
30-Jun-21	-£5 604	£11 838	£52 620	£108 934
30-Sep-21	-£5 329	£13 291	£53 618	£108 212
31-Dec-21	-£7 025	£15 673	£60 477	£109 963
31-Mar-22	-£7 597	£12 369	£56 984	£92 574

Source: PSFS, BoE

The development of LDI strategies

In a defined benefit scheme, pension funds bear the risk of future payments. One way to avoid accumulating liabilities is to shut the scheme to new entrants and manage investments according to liabilities. Pension funds can run a book of liabilities-driven investments (LDI) and a growth portfolio invested in a broad range of assets. The objective is to outmatch liabilities.

Typically, the LDI part would be a matching portfolio of long-term Gilts representing say 25% of total assets. The remainder 75% of assets would be invested in a (funded) growth portfolio and a duration overlay strategy using interest rate swaps and repo bond purchases to generate leverage. Matching assets may have duration in the order of 25 years. Not every pension fund can afford, monitor, and manage a derivatives portfolio and that is where the banks and asset managers LDI offering come into play. Many pension funds outsource their entire portfolios, including LDI trades, to those managers, while others might just use LDI funds offered by asset managers.

The amount of liabilities held by UK pension funds that have been hedged with LDI strategies has more than tripled in size to £1.5 trillion in the 10 years through 2020, according to the UK's Investment Association. The entire UK government debt market is £2.3 trillion.

Pensions must always ensure that beneficiaries get secure streams of retirement income. The swap overlay portfolio works fine most of the time. However, in times of high interest rate volatility, it does not. The swap overlay requires collateral. Pension funds must post collateral, the dreaded margin calls, as losses on the receiving positions grow or duration hedges will fall apart. In other words, raise cash or unwind swaps. LDI managers therefore ask pension funds to wire cash. To do so, pension funds may sell their most liquid assets, which include long-term Gilts. Such sales of UK Gilts exacerbate the upward pressure on long-term interest rates. In this context, the pro-cyclicality of margin calls only makes matters worse for pension funds.

The BoE backstop helped to contain margin calls… but lower yields may come as a disadvantage to pension funds in the longer run.

Pension funds' asset allocation and liquidity risk

The gilt market is small. Do not misunderstand me, the UK is not out of government debt. Far from it. But in relation to the defined benefit pension system, it is indeed small. The duration needs of pension funds are too large for the available amount of gilts. Besides pension funds, insurance companies also have significant gilt holdings, albeit centered on shorter maturities. To be fair, the UK DMO does what it can to address the duration needs. The debt agency issues bonds with much longer maturities than any other country, but there is simply not enough gilts to get duration exposure. Corporate credit denominated in £ offers no market depth either. Thus, as stated above, pension funds need to incur basis risk, via swaps and repo and other investments to close their duration gap to liabilities.

Meanwhile, quantitative easing since 2008 has lowered global bond yields for a prolonged period as LDI and pension assets grew. Low bond yields forced institutional investors into alternative assets offering higher risk premia. Given pension funds investment horizon, capturing liquidity premia made a lot of sense. Illiquid investments include, for instance, infrastructure debt, private equity, bank loan funds, private credit, property and stakes in buyout vehicles and structured credit (CLOs).

According to the OECD pensions survey (see chart on next page), UK pension funds hold 31% of bills and bonds issued by public or private entities and 10% direct holdings of equities. Mutual funds holdings make up 45% of assets, of which 40% are invested in illiquid assets such as property and other private credit funds. Loans, private equity funds, structured products and other items account for the remainder (14%). In total, about a third of the balance sheet is invested in hard-to-sell assets.

The ONS data, which aggregate the balance sheets of insurance companies and pension funds (ICPF), show a significant decline in aggregate gilt holdings so far this year. ICPF holdings of UK government bonds fell from £710 billion in the fourth quarter of 2021 to £583 billion in the second quarter of 2022. Meanwhile, foreign bonds holdings declined by 61 billion, hence the global spillovers from the UK pensions crisis. Their derivative portfolio had not been unwound at then of the second quarter, for now.

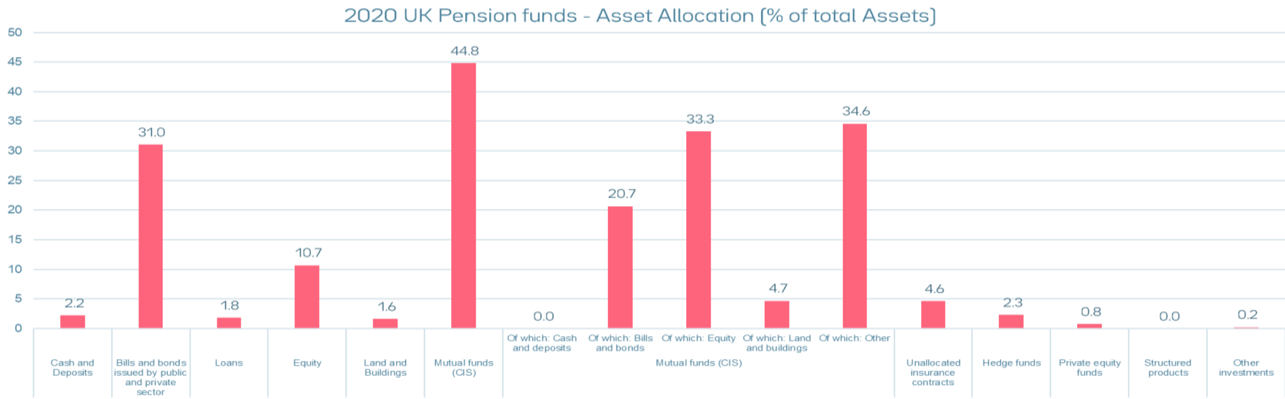
The combination of illiquid asset holdings and a leveraged duration overlay requiring margins exposed pension funds to a major liquidity crunch. For this reason, a major overhaul of pensions funds asset allocation should be envisaged. Liquidity stress tests and risk modelling for pension funds must also be enhanced to include the current crisis.

UK pension funds that have been scrambling for cash lately may now be forced to sell illiquid assets at deep discounts. Market rumors already hint at deep discounts of up to 30 per cent. This represents the current price of liquidity. Asset managers, investment banks are all lined up to snap up pension assets though such transactions may take months to close.

Conclusion

Investor confidence comes and goes. The sharp sell-off in gilts following the UK mini budget unveiled liquidity risks at pension funds using LDI strategies. Forced selling of gilts to meet margin calls on derivatives portfolio sparked a doom loop in gilts. The BoE's emergency purchases helped to stabilize the market but major regulatory changes to monitor liquidity risks at pension funds and exposure to illiquid asset classes now appear overdue.

Axel Botte



Source: OECD Pensions survey, Ostrum AM

Market review

The T-note at the highest since 2007

The British saga continues, long rates rise as pressure increases on the yen

The British soap opera continues with the resignation of Liz Truss. His successor should be named within the week. The market seems to have priced in political uncertainty so volatility remains elevated on gilt. The upward pressure on rates resumed. The 10-year American tangent 4.30% at its highest since 2007. The German debt agency has taken the measure of the scarcity of collateral, which pushes the Bund towards 2.50%. Inflation breakevens barely deviate in this 15bp move in the Bund. Emerging central banks are seeking to rein in dollar appreciation with limited success so far. The Japanese yen breaks through the threshold of 150 against the greenback. The market is watching for a new intervention on the Japanese currency. Sovereign spreads are ignoring rate volatility and credit (-6bp), including high yield (-25bp), finally seems to be stabilizing. Stocks are up slightly over the past week as the quarterly release schedule accelerates. The New York stock market is trading sideways.

On the economic front, the US economy is showing new signs of a slowdown through the New York and Philadelphia Fed manufacturing surveys. Existing home sales continue their downward trend to 4.7mn units in September at an annualized rate. However, the labor market indicators still appear to be well oriented. Rising gasoline prices are bad news for the Democratic camp ahead of the midterm elections. The House will undoubtedly pass under a Republican majority, though Democrats may retain a precarious majority in the Senate. In the euro area, inflation was revised down slightly to 9.9% in September, but the underlying trend (4.8%) keeps trending higher. However, a consensus is emerging within the EU to regulate gas prices. In the UK, political chaos continues. Rishi Sunak seems to be the favorite for Prime Minister now, even if the possibility of a return of Boris Johnson resurfaces.

The bullish trend on long-term bond yields is intensifying. The yield on 10-year notes is approaching 4.30%. The inversion of the US yield curve is fading to a degree as the 2-10 year spread increased by around 15 bp last week. The Fed's hawkish stance bias is magnified by Treasury bond sales by foreign central banks. This aims at both curbing the depreciation of local currencies against the greenback and reducing the sensitivity of foreign exchange reserves to US interest rate risk. Like US financial institutions, official international institutions have access to a reverse repo facility with the Fed. The outstanding amount of cash deposits by foreign official institutions has swelled by $100 billion in six months to $333 billion currently. Bond market liquidity has deteriorated significantly such that sharp security-level valuation discrepancies have appeared. The US Treasury department could remedy this by buying off-the-run government bonds (which do not trade 'special' in the repo market).

The scarcity of German collateral persists in the euro area. The German Finanzagentur reacted by increasing the outstanding amount of 18 Bund securities by €3 billion in order to lend out securities in the euro repo market. This decision, which helps to pre-fund the €200 billion plan announced at the end of September, has significantly narrowed swap spreads. The Schatz is trading at 96bp, down fully 11bp over the past week. The Bund is trading around 2.50% yield but, unlike Treasuries, the flattening trend continues. Sovereign bond spreads tightened as Bund yields rose. The spread on Italian BTPs thus shrank back below the 240 bp threshold. The Italian government is long overdue, but investors' attention is indeed captured by the British political situation. The BoE signaled QT will start in early November (£6bn worth of gilt sales by the end of the year) by avoiding the long end of the UK yield curve due to the precarious situation of pension funds. The liquidity of the gilt market remains problematic and the fall in long-term yields (4.10% on the 10-year maturity) seems exaggerated in the context of high inflation and monetary tightening. In Japan, the BoJ's monetary policy seems unsustainable given the weakness in the Japanese yen. Pressure is mounting on the Bank of Japan. It remains to be seen whether the BoJ will change its long-term interest rate target or simply keep intervening in the foreign exchange market, with no guarantee of success.

The corporate earnings season has started in the United States and in Europe. Looking at the first 100 releases from companies in the S&P 500 index, corporate profits surprised on the upside by 4.5% on average, through growth is negative over one year (-1.8%). Sales growth increased by 7%, a level lower than expected due in part to the strong dollar. In Europe, earnings releases are uneven. Exposure to the dollar sales is also a discriminating factor. The Euro Stoxx 50 gained 1.5% thanks to interest rate sensitive banks, deep value cyclicals (automobiles) but also growth sectors including technology.

Credit spreads finally eased in the wake of narrowing swap spreads. Primary bond activity is more limited during this earnings season. Property spreads are still under pressure. As for high yield, spreads tightened by 25bp in one week's time but the volatility of the iTraxx crossover spread makes the continuation of the improvement uncertain. However, flows into high-yield ETFs in the United States picked up in October.

Axel Botte
Global strategist

Main market indicators

G4 Government Bonds	24-Oct-22	1wk (bp)	1m (bp)	2022 (bp)
EUR Bunds 2y	1.99%	+4	+7	+261
EUR Bunds 10y	2.33%	+6	+31	+251
EUR Bunds 2s10s	33bp	+2	+23	-10
USD Treasuries 2y	4.47%	+2	+27	+373
USD Treasuries 10y	4.16%	+15	+48	+265
USD Treasuries 2s10s	-30.6bp	+13	+22	-108
GBP Gilt 10y	3.83%	-15	+0	+286
JPY JGB 10y	0.26%	+0	+4	-6
€ Sovereign Spreads (10y)	24-Oct-22	1wk (bp)	1m (bp)	2022 (bp)
France	55.09bp	-3	-6	+18
Italy	227.51bp	-11	-13	+92
Spain	110.93bp	-5	-7	+36
Inflation Break-evens (10y)	24-Oct-22	1wk (bp)	1m (bp)	2022 (bp)
EUR 10y Inflation Swap	2.53%	+7	-5	+47
USD 10y Inflation Swap	2.77%	+14	+15	-1
GBP 10y Inflation Swap	4.18%	+18	+0	+1
EUR Credit Indices	24-Oct-22	1wk (bp)	1m (bp)	2022 (bp)
EUR Corporate Credit OAS	228bp	-3	+25	+133
EUR Agencies OAS	90bp	-5	+6	+41
EUR Securitized - Covered OAS	99bp	-12	-3	+53
EUR Pan-European High Yield OAS	633bp	-7	+69	+315
EUR/USD CDS Indices 5y	24-Oct-22	1wk (bp)	1m (bp)	2022 (bp)
iTraxx IG	123bp	-4	-10	+75
iTraxx Crossover	594bp	-15	-57	+351
CDX IG	94bp	-6	-13	+45
CDX High Yield	543bp	-28	-36	+250
Emerging Markets	24-Oct-22	1wk (bp)	1m (bp)	2022 (bp)
JPM EMBI Global Div. Spread	578bp	+9	+70	+209
Currencies	24-Oct-22	1wk (%)	1m (%)	2022 (%)
EUR/USD	$0.982	-0.173	2.238	-13.6
GBP/USD	$1.132	-0.343	5.894	-16.4
USD/JPY	JPY 149	-0.201	-3.074	-22.9
Commodity Futures	24-Oct-22	-1wk ($)	-1m ($)	2022 (%)
Crude Brent	$92.7	$1.1	$7.7	26.35
Gold	$1 649.2	-$0.9	$26.8	-9.84
Equity Market Indices	24-Oct-22	-1wk (%)	-1m (%)	2022 (%)
S&P 500	3 753	4.74	1.61	-21.3
EuroStoxx 50	3 518	2.21	5.05	-18.2
CAC 40	6 118	1.28	5.79	-14.5
Nikkei 225	26 975	0.74	-0.66	-6.3
Shanghai Composite	2 978	-3.48	-3.59	-18.2
VIX - Implied Volatility Index	30.44	-2.96	1.74	76.8

Source: Bloomberg, Ostrum AM

Additional notes

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