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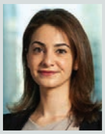
CHAIR

ANTOINE LESNÉ
Head of SPDR ETF Research and Strategy, EMEA, State Street Global Advisors
Prior to SPDR, Antoine was a fixed income portfolio strategist for State Street Global Advisors and global fixed income beta strategies. Antoine joined SSGA in 2006 from SunGard Reech where he was responsible for selling advanced pricing and risk analytics with a focus on structured fixed income derivatives. He started his career at Societe Generale.



RIMA HADDAD
Head of UK institutional – SPDR ETFs, State Street Global Advisors
Rima is a vice president at State Street Global Advisors and leads the coverage of asset managers, hedge funds, pension funds, insurance companies and consultants for the UK SPDR ETF business. She joined SSGA in January 2017. Rima previously headed up the UK institutional business at ETF Securities and also led its Swiss and Middle East distribution.

STEPHEN YEATS
Managing Director, Head of Fixed Income Beta Solutions, APAC and EMEA, State Street Global Advisors
Stephen is a managing director and head of the fixed income beta solutions team for APAC and EMEA. He heads a team of portfolio managers providing clients with a broad range of fixed income strategies including investment grade credit, global rates, high yield, convertible bonds and emerging market debt.

ATANAS CHRISTEV
Head of Investment, Direct Line Group
Atanas joined Direct Line Group in 2012 to help establish and run the investment function as the company was being prepared for separation from RBS. After graduating from the European Business School in London in 1994 he started his career in capital markets as a fixed income bond analyst for ABN AMRO Hoare Govett and later worked at S-E-Banken.

VISHAL SHAH
Head of Investment Operations, Brit Insurance
As head of investment operations, Vishal looks after the back and middle office functions at Brit Insurance with AUM of $5 billion. In total he has 11 years' experience in the insurance investment management space, seven years of which performing various investment and economic roles at XL Catlin. Vishal is also a chartered accountant.

ANKIT SHAH
Investment Manager, Antares Managing Agency
Ankit is responsible for structuring and implementing overall asset allocation of investment portfolios for Antares. In addition, Ankit has also worked with Qatar Insurance Company, Doha, Qatar (parent of Antares) as vice president – investments, overseeing the investment operations and strategic asset allocation across the QIC group.

Analysis and implementation of ETFs in the insurance space

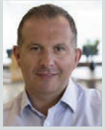
HADDAD: On the ETF front there have been some significant developments in the industry. Last year was a record year for growth, with assets reaching a record high of $4.7 trillion under management. As of the end of April we are now at $4.9 trillion under management. In addition to this, we have also seen a record amount of inflows with $664 billion coming into ETFs, and for the first time a large part of this has been in fixed income. Well publicised was the distinct shift from active to passive management; however in addition to this new investors from the institutional space have begun to utilise ETFs, some of whom manage portfolios directly - in direct equities or bonds. This institutional use of ETFs is a continuing trend we are also seeing throughout this year.

The other interesting point is that the number of products has grown considerably. In Europe alone there are over 2300 ETFs across different exchanges, not just in traditional equity or fixed income, but also in infrastructure, real estate and the hedge fund space. We have seen substantial growth in the number of insurers using ETFs as one of many vehicles they can utilise, and this has been particularly pertinent in the US. In a ten-year period, ETF assets from US insurers has grown from $4 billion to over $24 billion today. Most of this was historically in equities, but what you will see is that fixed income ETF holdings have grown three-fold over the last three years. Talking to our UK and European insurance clients, ETFs were traditionally used in growth or surplus portfolios; however because of the abundance of exposures and liquidity of fixed income ETFs, they are also being used in reserve asset portfolios.

LESNÉ: Looking at the US ETF market, we can see that the number of US owned assets by insurance companies has grown relatively quickly. Interestingly, the growth of ETFs in the US has not initially come from institutional investors but more from the retail and IFA side. If we look at Europe however it is the reverse. Today the industry estimates that between 70 and 80 per cent of total assets which are in European domiciled ETF are held by institutional investors.

So, how are investors using ETFs? We like to see ETFs as a new type of financial instrument. It is a fund that has the advantage of trading on an exchange. It is taking a basket of securities, making it into single security that trades like an equity, even if it is a packaged basket of bonds. It can be used to replace an actively managed portfolio, a complement of active management and can also be viewed as an indexed strategy. ETFs can come as a replacement of derivatives like futures or credit default swaps. ETFs can be used as either strategic or tactical asset allocation. You may be surprised to hear that the average holding period of an ETF in Europe is around two and a half years.

Insurance companies are now also using ETFs first as a tool for cash/ liquidity management, sometimes focused on short duration fixed income. Each insurer will certainly be able to find an ETF that can match their strategy benchmark thanks to the wide variety on offer. It also fits in well with the return portfolio for insurers'. What is interesting is the sheer increase in the diversity of ETFs. Indeed in 2002, the first fixed income ETF was focused on government bonds and generally narrowly defined benchmarks. It is fair to point out that before the financial crisis in 2007/2008, there were not a lot of tools on offer in the ETF market and often the authorised participants were generally equity desks rather than fixed income desks. As we have



MICHAEL LEONARD
Head of Insurance Solutions Group, LV=
Mike has led a multi-award winning team for the past seven years. He has a multi-disciplinary background with over 23 years of experience. He has an actuarial background but the vast majority of his career has been in investments both as a credit portfolio manager and trader. His specialisms include ALM, illiquid assets and multi-asset derivatives.

ELLIE SIVA
Strategic Investments Manager, Phoenix Group
Ellie Siva is in investment strategy at Phoenix Group, the UK's largest specialist consolidator of closed life assurance funds. She sources assets for annuity funds, with a focus on equity release mortgages. She has been at Phoenix since 2016 and prior to that worked in investment banking in residential mortgage-backed securities structuring at Citigroup.

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gradually moved into a low yield environment, we have seen investors going heavily into fixed income markets – today the global fixed income ETF market surpasses $850 billion. This is not insignificant, but certainly not big enough to be the cause for alarm that some has sometimes been portrayed in the press. There is nothing more transparent than an ETF which is one of the main advantages. The exposure is also key. You can focus on the asset allocation or you can focus on selecting the right active manager or reshaping the portfolio by putting your efforts on the allocation.

YEATS: One of the issues that runs through many peoples' heads is the liquidity of fixed income. Anyone involved in fixed income knows that the bond market is not perfect in many ways. There are too many bonds. We have a very big fixed income book, about $350 billion, which is index related investments. Our clients are typically looking for us to give remove and gain market exposure efficiently for them. Market structure is something we care a lot about, we understand the market liquidity from both ends – we manage an ETF book but we also trade cash bonds. At a very basic level, ETFs are one of those asset classes which can attract quite strong views on both sides. An ETF takes a basket of bonds and concentrates liquidity of those bonds, but if you have a single equity trading on an exchange and there a lot of different investors trading that equity, at a very basic mathematical level, if someone holds that ETF they are more likely to find liquidity in that security than if they were trying to trade the entire basket of underlying bonds. An ETF is a wrapper and you really have to think about what is in it. As a provider we are very careful about what sort of exposures we would put in an ETF wrapper.

I'd also like to outline the 'multi-billion dollar plumbing problem'. There is a huge amount of fixed income out there, but the problem is that there are way too many bonds. There is also a regulatory drive to greater transparency and this is a challenge. However, there is still a lot of bond market trading going on and there is a lot of money being made out of this. There is a motivation that draws other players into this space. ETFs are now part of this landscape. Historically you have ETFs running off an equity desk at a bank and then you would have a bond trading desk and they didn't speak to each other. If you have an equity trading desk which is trading fixed income ETFs, why wouldn't they when making a price on their equity ETFs, why wouldn't they take into account what the bond desk was holding. Banks are now addressing this as well as institutional clients.

The final aspect is technology. Technology is changing the way that financial markets work. That helps, because there are too many bonds, and matching buyers with sellers is difficult. Large data sets can now be handled with technology, and this helps to improve the transparency of data so market participants can consume that data and match buyers with sellers. For many broker dealers in bonds who are also active in the fixed income ETF market, they understand what bonds go in on an ETF basket and they understand what their balance sheet holds, so whenever you go in for a price on a cash bond it takes into account the liquidity elsewhere and this is same with the ETF.

Bonds that are in ETFs that are liquid tend to be more liquid. Bonds that are not, tend not to be and there may be an illiquidity premium attached to these – if investors don't require liquidity then buying off the run bonds may work well, but for those who do ETFs can make sense. ETFs are becoming part of the eco system among banks and institutional investors.

LESNÉ: Let's now talk about the macro-economic environment. We are now coming gradually towards the end of the economic cycle and from a fixed income standpoint we are also living in a gradually normalised monetary policy environment. Trade wars are an unexpected element from the Trump administration and have had a clear impact on currencies and assets across regions. So how do you manage these developments in your portfolios?

V. SHAH: At the moment, we are trying to see whether there is anything concrete surrounding trade wars as it may well be just bluster. We believe we are well hedged on currency on an ALM basis.

LEONARD: We have a general insurance portfolio which we use to have a reasonable holding in UK equities. We have now reduced this and have a capital hedge in place for the remaining holdings. This allows us to clip the dividend which is yielding far higher than any credit bonds. We

remain concerned about complacency in the market and this goes back to 2006 where we could see structural change in the market, but the desire for assets and the chase for assets meant that people were not paying attention to the structural changes. As a result, we saw a massive unwind of leverage of the markets. Again, we are seeing similar trends with increased leverage in certain parts of the market. I think there is a large element of stagnation through procrastination in the market where people are not sure what will

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happen so think it is easier to not make a decision than make a decision.

SIVA: As long term investors we are more concerned with the implications, if any, of political events on the fundamentals of the economy, rather than day to day market sentiment. Rate normalisation could indicate strong underlying economic growth, which could be positive for credit. Rising rates though can impact businesses with unsustainable levels of leverage, which would be at increased risk of downgrade and default. Good individual credit selection is therefore key.

A.SHAH: We are watching this, but it is not impacting actions. On the fixed income side we try to stay as short a portfolio as possible to mitigate some of the volatility risk.

CHRISTEV: We have already seen some retaliation to the imposition of US tariffs and the threat of further escalation. However, I am relatively optimistic: while certain credits will suffer, I don't expect a material negative impact on the credit markets. The major problem around US exposure currently is the hedging cost which is putting into doubt the whole idea of being in US credit. That is something that we are looking to address. At the same time, as a UK-based insurer we have a relatively high concentration in sterling credit and would be reluctant to simply add more exposure in a relatively small market. Another issue is the direction of UK rates. It is still far from clear how Brexit will turn out and the risks to the economy are not negligible. In terms of longer term issues, I wouldn't be as worried about trade wars as about the secular trend of which Trump, Brexit or the result of the recent Italian elections are the manifestation. More protectionism is one thing, but could there be some sort of bigger political 'revolution'?

YEATS: To me, inflation is the biggest question out there. It is always the thing that you are not pricing that comes up to bite you. Inflation is one of those things that hasn't happened for a long time, but now, if it materialises it could be a massive disruptor.

LEONARD: We do not take any interest rate or inflation risk as we don't think it is rewarded. Predominantly we have sterling liabilities. With the introduction of Solvency II, especially for an annuity provider, we have seen a huge increase in our interest rate and inflation exposures and that is typically through the risk margin, so the longevity aspect of the market bringing in greater exposure to interest rates. That creates a big problem for the life business because you get a recalculation every two years or you get a recalculation if the ten year interest rates drop by 50 basis points or increase by 50basis points but have to have sufficient free assets to manage this interest rate volatility.

CHRISTEV: Our approach in dealing with the periodic payment orders (PPOs) which are linked to a specific type of wage inflation, is based on macro-economic reasoning as duration calculations would be of little use in this case. The broader question is what other investments would give us broad protection against inflation. We are backing those liabilities with two types of assets – infrastructure loans and commercial property. The former pay Libor plus, while a large chunk of the property portfolio tenancies are RPI-linked. In addition, these two asset classes provide diversification to what is predominantly a corporate bond portfolio.

LESNÉ: In this low yield environment, how are you trying to find additional sources of return?

SIVA – We are focusing on diversifying through accessing private debt and the illiquid markets, where we look for complexity and illiquidity premium in addition to compensation for credit risk. Firms are seeking diversification in terms of both geography and asset classes. Given we are in the second longest credit cycle in history, we are not willing to compromise on credit quality for yield. We are quite cautious in our credit exposure, particularly to long dated 'BBB' credit.

V.SHAH – As part of the Fairfax group the philosophy is to be value investors. That is where we see more opportunity in private placements. In terms of the credit cycle, we have been very short duration for a long time now and now we are taking the opportunity to increase our duration.

LESNÉ: Looking at Solvency II, did this force you to change the type of instrument you are using to invest in fixed income?

LEONARD: In our GI business, we never discounted our liabilities prior to Solvency II and now we do. That means we have a curve exposure. So we use swaps to hedge this in line with the EIOPA discount curve. If we use gilts we introduce swap spread risk , which is less volatile than interest rate movements but still can cause material movements in your balance sheet.

CHRISTEV: The punitive treatment of some asset classes forced us to reconsider our investment in securitised credit. In a more indirect manner, insurers are now using models which can have deficiencies, for example not always reflecting the full diversification benefits of investing in new asset classes, and that could affect the final investment decision.

HADDAD: We have been talking to a number of insurers who wanted that equity exposure but didn't want the punitive capital charges associated with it. They looked at convertible bonds are a solution to that. Looking at just the SII calculations on convertible bonds, it tends to carry half the capital charge of developed equity markets. In our convertible bond strategies, our assets have over doubled in the last 12 months from insurance investors wanting to get exposure to equities but through a less volatile instrument.

LESNÉ: Have any of you used ETFs or think about using them as a result of these regulatory changes?

LEONARD: For me the interest around an ETF would be from a hedging perspective and being able to short. Credit hedging is a real problem for the market.

A.SHAH: We have just inherited a book and there are some ETF exposures in that and that kind of forced us to have a look at what is happening in this space, and see if we can adopt that in our larger portfolios as well.

HADDAD: There is shorting taking place in European ETFs. We see that quite strongly from the hedge fund space, both in US and European listed products. ETFs are lendable as well and there is quite a large premium to be earned if you are able to lend out. There is also a really active options market on ETFs in the US.

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