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**ilLUminate Blog Transcript: Ke Shen Explains ETFs**

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| ANNOUNCER: 00:02 | This podcast is brought to you by ilLUminate, the Lehigh Business blog. To learn more, please visit us at business.lehigh.edu/news. |
| STEPHANIE VETO: 00:13 | Welcome to ilLUminate, the podcast for Lehigh University's College of Business. I'm your host, Stephanie Veto. Today is July 28th, 2025, and we're talking with Dr. Ke Shen about the role of taxes in the rise of ETFs. Dr. Shen joined the Perella Department of Finance in 2017. His research focuses on asset management, institutional investors and financial intermediation, with a particular emphasis on ETFs, mutual funds and bond market investors. Hi, Ke. Welcome to the ilLUminate podcast. |
| KE SHEN: 00:47 | Hi, Stephanie. |
| VETO: 00:48 | You and your colleagues at Villanova University recently published your research in the Harvard Law School Forum on Corporate Governance. Congratulations on that. That's pretty awesome. |
| SHEN: 00:58 | Thank you. |
| VETO: 00:59 | The focus of the article is on the role of taxes in the rise of exchange-traded funds, also known as ETFs. In a nutshell, what are ETFs? |
| SHEN: 01:11 | ETFs is acronym for exchange-traded funds. So, as the name indicates, those funds are traded on the exchanges, but their main advantage is they're just traded like a common stock. |
| VETO: 01:28 | And so it's not like a specific stock or a company, right? It's kind of a broader thing like tech. |
| SHEN: 01:37 | Correct. It has its own ticker. And even though it's not like a single stock, but it tracks a broader index. So, for example, we have the S&P 500 index, and there's actually plenty of ETFs tracking the S&P 500 index. And they are traded just like common stocks on the exchange. |
| VETO: 02:02 | So, when it's tracking the index, it's sort of like keeping in line with it. If you were looking at a graph, it would sort of stay in line if it drops or rises. |
| SHEN: 02:10 | Exactly. |
| VETO: 02:13 | Okay. I watched a video about ETFs to try to better prepare for our interview. And one thing I saw was that it compared them to like ordering a combination menu or combination platter off of a food menu. And that really helped me visualize what it is. So it's like a diversified investment. Am I explaining that right? |
| SHEN: 02:35 | Correct. Just like S&P 500 index tracks about 500 companies. And you can think of those 500 companies, just like you said, like 500 different ingredients in a menu, right? And the ETF just tried to track the performance of that S&P 500 index. And even though there's some deviation at some point in time, but they try to minimize that deviation as much as possible. |

VETO: 03:05 And how do ETFs differ from mutual funds? I know we kind of just explained it, but just if you were to look at mutual funds and ETFs, how do they differ?

SHEN: 03:15 In some sense, ETFs are similar to mutual funds because both of them are defined as investment companies. So, they're actually investment companies registered with SEC. And there are also mutual funds tracking the same S&P 500 index as an example. And they are called index mutual funds. Now, the difference between ETFs and mutual funds are mainly ETFs, like I said, they are traded like stocks. So you can buy and sell ETF shares during the day when the exchange is open. But on the other hand, mutual funds, you cannot really trade them. During the day, mutual funds can only be bought and sold after the market is closed.

VETO: 04:00 And why are ETFs so attractive and efficient for investors?

SHEN: 04:06 I think the main reason is because, first of all, ETF is a very low-cost investment vehicle. So, the cost of holding ETFs on an annual basis could be lower than 10 basis points. That's 0.1% of the amount of money you invest in an ETF. That's the first cost advantage. And the second advantage is because ETFs can be traded like a stock. So, you have the liquidity benefit, which means you can buy and sell anytime during the day when the market is open. And other benefits, for example, like we already talked about the diversification benefit because it is basically tracking an index of almost 500 stocks. So that gives you the benefit of diversification versus you only invest in one single stock. Now, there comes the fourth benefit, which is actually the subject of our study is the tax benefit. And we can talk more about it later, because what we found is basically if you buy and hold ETF, not actively trading it, you can actually take advantage of the tax benefit, which means it doesn't really distribute those capital gains. And so there is no tax consequence from those capital gains.

VETO: 05:29 That's where the tax efficiency comes in?

SHEN: 05:32 Correct.

VETO: 05:33 And does that mean that there's a tax exemption? Do investors have to pay taxes if they sell the ETF?

SHEN: 05:44 Correct. It's not really a tax exemption at all. You cannot really avoid paying taxes if you decide to sell the ETFs eventually. It is more of a tax deferral. Think of this way, if you're a long-term investor, you buy and hold those ETF shares and never intend to sell them, then because there's no capital gains distribution from those ETFs, then the investor will never need to pay capital gains taxes. Until, of course, until at the end, if the investor decides to sell the ETF shares, then there will be tax consequence. And that's the main difference from ETFs versus mutual funds because mutual fund shareholders, when they sell their shares, mutual fund will be forced to liquidate part of their portfolio. And by liquidating those portfolios, if there's any capital gains, those capital gains will have to be distributed to the remaining mutual fund shareholders. Now, if there is distribution, then there's going to be tax consequence. So that's where the advantage of the tax efficiency for ETFs kicks in compared to mutual funds.

VETO: 07:00 And that tax loophole is the primary attraction, do you think, to ETFs when it comes to investors?

SHEN: 07:09 Based on our study, that is correct. In some sense, I wouldn't really call it a tax loophole because that tax advantage is also available to mutual funds as well. But because the way ETF is designed, so it makes ETFs more advantageous to actually take advantage of those tax efficiency. On the other hand, mutual fund just simply cannot do that.

VETO: 07:38

So, let's talk about your findings in your study. Explain what you and your colleagues found. I know there's a number in there like $6.8 trillion, and my mind cannot comprehend that at all. So, explain what you and your colleagues found through your study.

SHEN: 07:52

In our study, we first explored the mechanism of ETF designs. And what we found is basically because the in-kind redemption exemption or in-kind redemption mechanism employed by ETFs-- I want to talk a little bit about in-kind redemption first. So, when ETF sell its underlying securities-- again, we're going to use the S&P 500 index as an example. So, let's say if there is an index rebalance, some stocks got dropped, some stocks got added into the S&P 500. So, the ETFs will have to rebalance its portfolio. Now, in that case, if the ETF has to sell certain stocks, right, and if there's capital gains embedded in those stocks, then in this case, the ETF will have to basically sell the stocks and realize capital gains. Through the in-kind redemption, which means the ETFs can walk with authorized participants-- let's call them APs going forward. And those authorized participants are typically large Wall Street investment bankers or brokerage, and they can basically exchange the underlying stocks with the APs. And in that process, even though the ETFs will have to realize the capital gains, they do not have to distribute them. And that's the main kick in our finding is through the in-kind redemption, those ETFs can differ those capital gains, as long as the shareholders or the ETF investors do not sell their shares. And that's where the tax advantage is coming from.

SHEN: 09:45

Now, that's the mechanism of ETF's tax advantage. And our second finding is we want to quantify, "Okay, how large is this tax efficiency?" What we find is in recent years, okay, starting from 2012 up until 2023, our calculation shows that the tax saving in terms of percentage is almost 1.05% on an annual basis. Compare an ETF to a similar style of mutual funds. So that's quite a substantial saving. I mean, we're talking about 1% every year, right, for the past 10 years or so. And that's not a trivial number. So that's the second finding. And our third finding is that we believe a lot of tax-sensitive investors-- now, tax-sensitive investors typically investors in the high-net-worth space. So, what we found is there's an increasing migration of assets from mutual funds to ETFs in recent years, especially after 2012 when there is a tax law change, which increases the tax rate. So those tax-sensitive investors, because they are sensitive to taxes, right, and they also high net worth individuals or families, and they realized the benefit of tax efficiency of ETFs, then they started moving their assets from mutual funds to ETFs. And that's our third finding. So those are the main three findings in our study.

VETO: 11:26

And so who's benefiting the most from ETFs? Those tax sensitive investors, who are they? What is a tax sensitive investor?

SHEN: 11:38

Tax sensitive investors as the literature defined is mostly a high-net-worth individual or family. So, you can think of those investors as with a lot of assets they can invest in the stock market or in the bond market. And they are relatively long-term. So, and I believe not just for high-net-worth individuals, I think for regular investors, if they are long-term investors, they can also benefit from the tax efficiency of ETFs. So, for those high-net-worth individuals or families, they can benefit the most from the tax efficiency of ETFs, simply because they can afford to buy and hold an asset for a very long time. There is an inheritance law called a step-up in basis, which means one, the old generation pass their wealth to their new generation, those assets will adjust the cost basis to the market value at a time of inheritance.

SHEN: 12:47 So, imagine if you buy and hold an asset or basket of assets for almost 50 years, there are a lot of capital gains, right, during that 50 years. And if anyone sell those assets, there's going to be huge capital gain realization, which means there's also tax, right, consequence for those capital gains. But because the step-up in basis, those assets could be passed to the next generation tax-free, simply because the cost basis will be readjusted at a time of inheritance. So that's a huge benefit. And I think especially for those high-net-worth individuals or families, they can benefit the most from holding ETF assets simply because even though they accumulate a huge chunk of capital gains, but when they pass the wealth or the assets to the next generation, there's really no tax consequence.

VETO: 13:44 That's incredible. And not only that, but they're buying and holding large sums of money. It's not like the average person investing or having stocks in their retirement where it’s a meager sum compared to what they're buying and holding. Is that right?

SHEN: 14:03 That's correct. That's why our conclusion is basically, we think the high-net-worth individuals or families is the most beneficiary of this tax advantage of ETFs. And our data shows it that their financial advisors, which we call them tax-sensitive advisors, their ETF allocations in recent years have been increasing significantly. And our study basically concludes that the tax advantage of ETFs is the main contributor or the driver behind those increasing allocations.

VETO: 14:41 And how does this affect the overall market?

SHEN: 14:45 For the market, first of all, I think ETF, as an investment product, is a great innovation because it provides many benefits, not just tax advantage. It provides low cost and liquidity and also diversification benefit. So, it is beneficial for all the investors in the marketplace, not just for high-net-worth individuals or families. But at the same time, it kind of created an unfair playing field compared to mutual funds because mutual funds as an investment vehicle has been there for a very long time. Definitely a lot longer than ETFs. So now given the emergence of ETFs and all of those advantages, especially the in-kind redemption exemption enjoyed by ETFs. So, it's a bit of, I want to say, an unfair play field when you compare ETF to mutual funds simply because the mutual fund cannot take advantage of those in-kind redemption as effectively as ETFs.

SHEN: 15:59 So that's why we've seen a big asset migration from mutual funds to ETFs. I think that's the biggest impact on the market right now, especially now given more and more people realize the benefit of ETFs. We think this trend is going to continue. And at the same time, I believe the mutual fund industry also realized the advantage enjoyed by ETFs. And they started also trying to cope with this competition by adding a ETF share class to their mutual funds. Or some mutual funds actually started converting their mutual funds into a pure ETF play just to grab the market share as much as possible.

VETO: 16:51 ETFs became popular, or they came to the US in the early '90s, right?

SHEN: 16:57 Correct.

VETO: 16:57 They started around then. Why do you think it took 30 years for them to become so popular, for everyone to catch on? I can't imagine that when they first came, billionaires were like, "Perfect." This loophole took a while-- not loophole, but this tax efficiency took a while for it to catch on, I feel like. Is there any reason why now it has this boom?

SHEN: 17:24 I think it's a learning process by the investors. And also for any new financial product, it always takes time for investors to learn, to acquire information about a product and get familiar with it. And eventually, once they find the advantage of those products, you will see more and more assets moving into this financial product. And also, I think, like you said, the first ETF started around 1990s, we believe in the-- I believe in the early '90s, and that's the first one is SPY, the S&P 500 ETF. During that time period, the market is mostly dominated by mutual funds. So, most investors, when they think about diversified investment, if they want to invest in a fund, the first part that they're going to go to is always going to be mutual funds, especially for retail investors.

SHEN: 18:24 And starting from early 2000s up until the Great Recession, the 2008, 2009, that's a major downturn in the stock market. And I think only after that, starting from 2010, we've actually witnessed almost a 15-year bull market starting from 2010. And that's when the ETF space really started taking off. And more and more investors realized the advantages of the ETFs, the cost, the low cost, liquidity, diversification, as well as tax advantage. And then starting from 2012, when the Jobs Act signed into law, increased the tax rates. And then you have more and more investors, okay, try to take advantage of the tax efficiency of ETFs. So, it really takes time for a finished product to take off. And also, I think it also takes time for investors to learn about a product, right, and eventually embrace it.

VETO: 19:31 Say I want to start investing-- I mean, I'm terrible at investing. I don't do it. I'm a hide-your-money-under-the-mattress kind of old lady. But good thing, we have, with retirement and everything, some investments. But say I want to start investing more, are ETFs a good path for the average person?

SHEN: 19:52 Absolutely. We think ETFs is definitely a very good investment product for average retail investors simply because not just a tax advantage is we think the main attractive benefit is the diversification. And there are so many ETFs nowadays. I think we have almost more than 2,000 different ETFs an investor can choose from. But really, for an average investors, we think the best strategy is to stick with a broad market index ETF, which means you should probably just pick an ETF tracking S&P 500 or the broader market, the entire market. So, to achieve the benefit of diversification. And also because the cost is so low nowadays to own an ETF due to the fierce competition, right, among all those ETFs and mutual funds, and also give you the liquidity to buy and sell ETFs.

SHEN: 21:00 So, I think, yes, for an average investor, ETFs is definitely a good starting point. Once you get used to ETFs, and if you feel more comfortable with investing in the stock market, you can probably venture into more niche products. There are also ETFs tracking indexes of different industry sectors. For example, right, if you feel comfortable taking more risk in the technology space, you can venture into an ETF that tracks NASDAQ index, for example. And the ticker for that is QQQ. So, it's a triple Q. It's also a very popular ETF for those investors comfortable with concentrate their portfolio more in a tech space. I mean, there are across many other spaces or sectors that ETF invest in as well. But I think for an average investor that just start investing, I think the best strategy is just to follow a market-wide index, like S&P 500.

VETO: 22:06 I'm taking notes. I'm going to have to call you later. Is there anything else that you're working on right now that you want to talk about?

SHEN: 22:14 Yeah, sure. My main research area is in investments. And I started off with mutual funds. Actually, my thesis is on mutual funds. And then gradually, I started digging into ETF. And that's what actually result in this study. And going forward, I'm going to continue exploring different aspects of ETFs. For example, we can look at the fixed income ETF. And that's a popular area to study right now simply because for any research I believe in-- for any research in science, some fields tend to get saturated very quickly because they have more and more researchers, right, going into this area. So now we kind of focus on fixed income ETFs. And fixed income ETFs is a bit different from equity ETFs because fixed income products tend to be more illiquid compared to equity, meaning that it's not easy to buy and sell those fixed income securities. You think of corporate bonds or treasury bonds and those tend to be less liquid compared to stocks.

SHEN: 23:27 So, we want to study the mechanism of ETFs, investing in fixing securities because if you invest in an ETF, any ETFs, regardless of fixed income or equity ETFs, it is always traded like a stock. So, there's kind of what we call a liquidity mismatch between the ETF versus its underlying portfolio. So, think about it this way. You can buy and sell a fixed income ETF very easy on the market. But at the same time, when ETF wants to rebalance its underlying portfolio of those fixed income security, it is not as easy as buying and selling ETFs. So, there's always this kind of mismatch between the trading of ETF versus the trading of its underlying fixed income securities. And that's going to have an impact on those underlying security and potentially also on the pricing of those ETF shares. And that's something we're looking at right now.

VETO: 24:29 Thank you so much for your time. It was great having you on the show today.

SHEN: 24:33 Absolutely my pleasure, Stephanie.

VETO: 24:36 That was Dr. Ke Shen speaking with us about Exchange Traded Funds, or ETFs. This podcast is brought to you by ilLUminate, the Lehigh Business blog. To hear more podcasts featuring Lehigh Business Thought Leaders or to follow us on social media, please visit business.lehigh.edu/news. This is Stephanie Veto, host of the ilLUminate podcast. Thanks for listening.