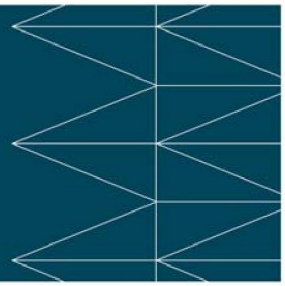
Private Capital Benchmarking Best Practices



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Hello everybody and welcome to this joint webinar given by BNY Mellon and Burgiss. BNY Mellon and Burgiss have worked together for many years to provide BNY Mellon clients with robust tools, which we use to monitor, track and manage their private assets.

So, today, we are excited to jointly present on the benchmarking of private assets. My name is Sarah McCarthy, and I am from BNY Mellon. I am a consultant in our Global Risk Solutions department, which is responsible for all the performance and analytics that our asset owners and asset managers need to run their investments.

I am joined today by Keith Crouch. He is the Director of Product Management from Burgiss. We will be the presenters today. However, we're also joined by Guy Holappa, who is a Managing Director at BNY Mellon, and Bob Goldbaum, Head of Strategic Partnerships from Burgiss.

We've asked them to join as well today because they were critical to this research, and in preparation for this webinar. They will be joining as the emcee for the Q&A portion of the webinar, so we ask that if you have any questions you put them in the Q&A section of the webinar-- the WebEx page. They will be gathering these questions. They'll interject with responses where they see appropriate, or they'll just hold until the end of the presentation. So, they will be joining us intermittently or towards the end of the presentation.

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So what are we going to cover today? Just a few agenda items on our list.

First of all, we'll talk a little bit about just typical benchmark guidelines and how those guidelines apply to private assets. We will also talk about what asset owner clients are doing in terms of benchmarking private assets and we have a glance into this information using BNY Mellon's own proprietary dataset.

Then I'll turn it over to Keith and he'll cover some new and exciting offerings that they have in the benchmark space for private assets, and then talk a little bit about how to use that data in benchmarking. And finally, we'll talk about our power partnership, which has now been extended to offer some new benchmarks from the Burgiss team into the BNY Mellon offerings.

So, with that, let's get started on Private Capital Benchmarking.

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There's been a lot of talk in the industry, and all of you are probably familiar with some of these criteria for benchmarks, but there's been a lot of talk about what makes a proper benchmark, and what specific criteria are required to be considered a valid benchmark. All these guidelines are really centered around the idea that benchmarks are an alternative to which investors can invest. So, basically our passive alternative, right? Or they choose skilled managers and attempt to outperform that chosen benchmark. So, to achieve this goal, there's been five key criteria that have been put out in the marketplace.

First, it has to be representative. So, representative of the opportunity set that it's actually designed to measure. So, at times, this is an entire asset class like the Russell 1000, perhaps, capturing the U.S. Large-Cap market equity, or representatives such as maybe the “Agg” (Bloomberg Aggregate Bond Index). It's got to be objective, so it needs to be clear why an investment or security is included or not included. That objectivity allows investors to anticipate changes to the benchmark and, again, helps to define that opportunity set very clearly. Probably the most important one here, and we'll talk about it more in detail, is that benchmarks must be replicable, and therefore investable. So, if this is an alternative to an active management, it must hold securities that you can actually buy, or the asset manager and the investor can actually buy. Of course, if it's replicable, it has to be transparent, because you have to know what's in there, and why it's in there.

And then finally, a benchmark should be valued and calculated on a predictable and regular basis in order to provide that investor with that gauge that they're looking for-- the gauge of the asset class or the markets it's designed to proxy. So, these five traits or guidelines are great for public assets. They're clear, they define a readily available benchmark and work really well in the public market space. But what happens when we move to private assets?

So, in most of these, the majority of the traditional rules can maybe get close to-- we could argue that you could get fairly close to being representative, or maybe even objective by using a decent sampling of LPs. We might even be transparent in those names that are included in the actual benchmark. However, the idea of the benchmark being replicable and investable in the private space is not achievable. So, there is no passive alternative, given that only a certain number of investors are able to invest in an LP for one. In addition, it becomes tricky and problematic, the ability to value and measure each investment at the same time and on a regular basis in the private asset space.

So, there's three of these that we can say yes, we can get pretty close, but there's a couple of them that aren't able to be achieved. So, given that you can't use the traditional guidelines to define what a proper benchmark is for private assets, the question becomes, what are asset owners doing to measure the success of their private asset strategy? And that's where BNY Mellon comes into play with some research on this topic.

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So, we at BNY Mellon are in a very unique position to answer that question of what asset owners are doing. We hold a unique dataset called Asset Strategy View. An Asset Strategy View is a proprietary look into the behaviors of our asset owners. So, this includes everything from asset allocation, from 14 asset classes and 38 sub-asset classes. We can go down and look at cash flow patterns. We can look at security level selection, and of course, benchmarking, which is what we're doing today. We're continually adding onto this dataset and combining it with additional data to glean even more insights into asset

owner behaviors. Currently, we're working on adding a dataset including ESG data to monitor ESG investing. So, the U.S. version of this Asset Strategy View represents about $2.4 trillion in assets. We also have a Canadian version, but for this study, we focus solely on the U.S. View. So, with $2.4 trillion in assets, the data is pretty robust and meaningful for any analysis that we might or by size.

For this analysis, we reviewed 202 asset owners, of which had assets allocated to private assets, of which 143 had benchmarks that we could identify. So, for this analysis that I'm about to review, the dataset was 143, comprised of public funds, corporates, foundations, and endowments.

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So, let's take a look at what our clients are doing. So, again, through the Asset Strategy View data, we were able to, at a high level, see three basic philosophies that our asset owners are taking to measure the success of their private asset strategy.

So, first, one group of our clients is using Universe Comparisons. So, they're assessing the asset class performance through a comparison to the mean or the average of like funds. So, in this case, it's a time-weighted quarterly mean. That is then linked together over time to represent the applicable asset class. Of course, for a true underlying manager comparison, you're going to want to use an IRR from inception-- it's more appropriate. And Keith will dive a little bit more into all the differences, but an example of this approach for using a universe of managers would be the Burgiss U.S. Private Equity Funds Index. Again, which Keith will talk about in a minute.

A second philosophy that we see our clients implementing is a Proxy to Public benchmarks. So, this is simply assessing the outperformance of a similar, but not quite equal, asset class, and in this case, the public markets. And this is measuring the opportunity cost of investing in private assets versus public assets. So, an example of this would be just a simple straight Russell 3000 versus some U.S. Private Equity allocations.

Third, very similar to the second, I call it an Adjusted Proxy, or a Proxy Plus approach. So, these asset owners are using the same philosophy as you would see with using public markets as their benchmark, but they're adjusting it just a little bit, and adding a premium for the illiquidity that they have for those private assets. So, with each of these approaches, of course, there are reasons why asset owners are choosing them and there are also challenges. I'm going to leave it to Keith to talk about the advantages of the Universe Comparison approach and give some insights into that. I'll touch just a hair here on public markets and what we hear from our clients.

So, what we first hear from our clients is that they truly do use the public markets to see that opportunity cost of making that decision-- from going away from public markets into the private market space. That's defined a few challenges. Mostly, as explained to the board, why there are wide fluctuations between the public market benchmarks that they're using and their private assets. So, that discussion can be a little tricky because there are lots of reasons for that. One of them is just purely the volatility of the public markets. They can fluctuate dramatically. Obviously, we all know that, especially over the last few years. There are also timing issues in the valuation of the private assets, which makes it not really a one-to-one or apples-to-apples comparison. Some of our clients use that opportunity to lag the public market index and that solves some of the noise and the issues, but then there are still some assets on the asset owners' side that are still valued at cost, which continue to cause discrepancies and just things that

need to be discussed and explained in detail to board members and others interested in the performance.

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So, what are our clients specifically using and how many are using which philosophy or which method? So, this next graph shows... on the left-hand side is the number of clients-- the number of asset owners. So, of that 143 I talked about that we were looking at benchmarks, that is represented on the left, and then on the right is the actual number of assets. So, if we look at asset owners in our study, using a public benchmark versus private, it's fairly close. About 38% are using some kind of public market index, and about 30% are using a private asset benchmark or the Universe Comparison approach. Sorry, I probably should have kept saying Universe Comparison, but private asset or Universe Comparison approach. If you add on those that are using that Proxy Plus approach, which is about 14% of our study, more than half are landing on using a public benchmark in some kind of form. So, whether it's straight-up or with those extra bps, we've got more than half using that approach. The rest of them, about 17%, are using some kind of other benchmark. They're getting creative. They're using maybe an economic indicator, like the CPI. They're using a true real estate index. We even have some using a hedge fund index. So, at that 17%, they're just benchmarks that we couldn't quite categorize into those top three. So, as I mentioned, we can look at it by type, so we see corporates in blue, E&Fs in orange, and the publics in gray.

Regardless of the type of asset owner here in this study, the general trend is pretty much the same. They're focused more on those public markets, but again, not by a large margin. Publics might be the only exception to that. They are more heavily relied on. They're at about 58% that are using public markets. So, moving to the right, we see this in terms of dollars. Obviously, there's a high correlation between the number of asset owners and the dollars, so you see the same dynamic going there. The majority of the assets in this study are public funds, about 56% of them.

So, therefore, based off of what I just said, they tend to be more heavily focused on public markets. Obviously, we can see that the public markets assets being benched are the highest as well, with that 54.2 being public markets in that space. Corporates are a little closer-- in blue there, as far as private market benchmarking versus public market benchmarking. And then the endowments have a little bit more going on in "other".

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Again, I mentioned that another way we can kind of tried to slice and dice this data to see if there's any stories or insights that we can gain, sometimes it's by size. So, I did take this study and look at some smaller asset owners and see what that looked like.

When we go less than $5 billion, we do see a little shift in more use of the private asset benchmark or that Universe Comparison approach. So, of course, because of the size of this analysis, most of our public funds have dropped out of this analysis, which means the bulk of these asset owners in this slide are endowments and foundations. So, we do see they're using more universe type of comparison. When we get to the asset side of the graph here on the right-hand side, it still does flip back to public markets, but the private markets or the Universe Comparison approach is just neck and neck, very close in that regard.

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So, what have the trends been over time? We're pretty fortunate at BNY Mellon to have done three studies on this subject in the last two-- 20 years, excuse me, not two, 20 years, which gives us some basic trends. It should be highlighted and noted, really, that these survey-- these research projects were very different in the way we collected the data. So, in one case, we surveyed our clients, and in another case, we looked at some of their total fund benchmarks and took out the private equity or private asset portion of that.

And then, of course, I've already explained what we did in this analysis with our 143 asset owners-- really robust, down to the security level data. So even taking into consideration the noise that the studies weren't identical in their approach, we can still show that the private asset benchmarks, or that Universe Comparison approach, has been on the rise, from about 12% to about 30%. So, this increased trend could be due to a number of factors, but there are more providers in the marketplace that we've seen over the years come into this space. I think the data itself is a little more reliable; it's not surveyed data anymore, It's more of a true LP approach. So, there's lots of reasons why this may be increasing. Public markets have fallen. Well, they were down, up, and then falling a little bit, have been replaced by those private asset benchmarking, or those Universe Comparison tools. And then the "other" has bumped up a little bit- some clients may be getting a little creative and figuring out some other ways to look at their private assets.

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I'm just going to jump to a bit of a little appendix here as far as what specific indexes asset owners are using in those three philosophies. So, quickly, just the public markets, no surprises here, it's just the normal players that we see if you were benchmarking your normal public equity or public fixed type of portfolios. You've got the MSCIs, the S&Ps, and the Russells jumping on top.

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For those that are adjusting those benchmarks for that illiquidity premium, most asset owners are adding about 200 to 300 bps for a lack of liquidity. I did take a similar look at size, and the smaller ones, less than $5 billion, do tend to maybe put a little more premium. You see at 500 basis points, they're at 19%.

All right, before I turn it over to Keith, I'll just take a look at the Universe Comparison approach or the private asset approach. As of today, most asset owners in our study using this approach are using Cambridge; Burgiss is second. Historically, BNY Mellon asset owners who have wanted to use Burgiss benchmarks have had to load some kind of custom benchmark, asked us to load it for them, but now we have even more options on the BNY Mellon platform for our clients who want to use this Burgiss information. We now have 20 benchmarks available as standard for our clients.

And with that, I'm going to turn it over to Keith who will talk to you in more detail about this new Universe Comparison approach, how they work, and the benefits of using them in your process. And then he will talk a little bit more about how to get it into your BNY Mellon offering should you choose. Keith, I'll turn it over to you.

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Keith Crouch

Thank you, Sarah. Let me take over the screen presentation. Move this out of the way. So, thank you all for joining me here today, some exciting things to discuss.

Now, I will talk about the universe and the new indexes available in a moment, but I actually want to take this quick stop to make sure that everyone is familiar with Burgiss because we have changed a little bit in recent times. There are actually two main sides to the Burgiss company today. So, first, there's the Total Plan side. Six months ago, we merged with a company called Caissa, and they have a multi-asset class portfolio analytics tools. And it's really focused on institutional allocators. And like I said, it has full multi-asset class capabilities. And so, that's a kind of new part of the Burgiss ecosystem. And as part of that, we're actually tracking and providing underlying investment data for thousands of hedge funds, and so we have a very wide view of that space.

Now, additionally, we have the Private Capital side of the business. And this is through the Private i Platform. The Private i Platform is our portfolio management tool focused on private capital investing. So, all reporting, all cash flow modeling, and the transactional history, and everything that goes into managing a private capital portfolio, it's all possible through that platform. Now, additionally, we are tracking and providing information for tens of thousands of private capital funds, and this is part of that transparency data. And then most recently on that front, I think it's worth calling out, we've actually added carbon emission estimates for private companies, and this is something we've done jointly with MSCI. And of course, we have the Universe Dataset.

So, that's going to be my focus for today, but before I leave this page, I do want to highlight that all of this, everything on the screen you see here is available to you through BNY Mellon. So, please do not hesitate if you want to learn more. And so, let's get back on topic, benchmarking.

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Broadly, the benchmarking process and the analytics there, we see them as falling into two categories. The first-- and we'll call it the Asset Class Benchmarking or perhaps the Portfolio Benchmarking-- and this is where you're answering questions like, "How is my portfolio doing relative to a universe or relative to the universe?" And this could be at the top level, this could be with some type of grouping, normally asset class, but you could think about this along geography and other dimensions.

Another question is, "How has a specific asset class or really any group of funds behaved historically?" So, not just from a performance standpoint, but through other measures-- through cash flow behavior and things of that nature. Now, the analytics under this first category-- and foundational to that is pooled quarterly returns. Sarah touched upon this a little bit, and we're going to come back to these as we look at the indexes. But the pooled quarterly returns, either looked at on a one-quarter basis or perhaps compounded out to one year is really foundational to benchmarking your portfolio. But there are other things you can do with the universe. You can do public market equivalent calculations. So, this is something you can do on your own portfolio but, of course, this is something you could do in the universe.

And so, if you wanted to look at the universe as a whole relative to some public market or public index over time, these are a set of analytics that you can do. You can do Cash Flow Modeling. Now, private capital investing is a lot of work. There is no ETF that you could just put your capital into. You have to commit the funds, then you draw down capital. There's distributions coming in and really, you can't

invest a meaningful amount in private capital without having some type of modeling capability, without having some type of understanding of how the funds in your portfolio are going to behave and how new funds will behave.

So, that's an important part of the process and that's possible with a universe of funds. And then finally, we have something that we call Pooled Benchmarking. Now, this starts to get a little technical, but I'll at least say this is a methodology that we've developed at Burgiss that helps clients disentangle the allocation versus selection effects. So, I won't say anymore there, but there are a lot of interesting things you can do with the universe.

And today, as I said, I'm going to focus on time-weighted quarterly returns, as this really is the starting point of benchmarking your private capital portfolio. But on the right-hand side, there are other types of benchmarking you can do. And this is the Manager Benchmarking or the Fund Benchmarking. And this is answering questions like "How good is this particular fund relative to its peers?" Now, generally, you're defining those peers with vintage as a starting point, but you might be using other fields-- asset class, geography, perhaps fund size as you think about what were these set of funds or other funds you could have invested into. And this is critical in manager selection and in understanding the track record of a new manager in front of you. A GP could claim a 20% inception date IRR, and maybe it happened in the most recent fund, but there are certain vintage years where a 20% return is somewhat easy, and there are other vintage years where that would be an impressive feat. And so, you really have to look at their performance history and understand it relative to the funds that were its peers.

And then I referenced cash flows on the left but this is also applicable on the right-hand side. Is this fund behaving in line with its peers? How is it behaving relative to historical norms? Do those norms apply anymore? Is the J-curve effect from the subscription line of credit changing how funds behave and how might that affect my portfolio? And so, these are the types of questions you can answer with a universe if you're thinking about vintage-specific fund cohorts. So, there's a lot to be done there, but we're going to be sticking today with benchmarking the asset class with quarterly returns.

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So, allow me to present the Burgiss Private Capital Indexes. So, first, let's talk about the groups. This is a set of 20 indexes and it's available to all BNY Mellon clients today. Now, it is including all asset classes. So, we have Private Equity, you can see that top row. And we have funds; we have returns going all the way back to 1978. And that top group there, it's actually over 5,000 active funds today. So, this is quite a large peer group. Within that, there's Venture, there's Buyout, and these are the, obviously, largest and oldest asset classes. But that's not all we have. We also have Debt funds or we have Debt indexes, and then we have Real Estate funds, Natural Resource funds, and Infrastructure funds. And so, these are kind of representing the full range of asset classes within private capital.

And then on the geography front, we have a wide set of global returns, so that is all regions combined together. But we do have some U.S.-only indexes in here, Latin American index, some European indexes, and of course, some from APAC. Now, let's talk about the returns for these. All of these indexes are quarterly return streams and they're calculated using the composite transaction information, so the cash flows and valuations of the underlying funds. Now, all of this is sourced in the local currency, but I'm going to expand a little bit on the data in the next , they are calculated in USD, and they're actually

calculated using the Modified Dietz Methodology. And then all classifications-- and so, what defines a buyout fund? These are all assigned by Burgiss, by us here at Burgiss according to the Burgiss Private Capital Classification System. And again, I'll touch upon that in a moment. But what is the data powering these indexes? Where does Burgiss source this data? And to answer that, let us talk about the Burgiss Manager Universe.

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So, for those who don't know well, the Burgiss Manager Universe is our research quality dataset and it includes the complete transactional history for nearly 12,000 funds and all the indexes on the previous screen are calculated using these 12,000 funds.

Now, all the transaction data in this dataset is sourced through limited partners using our platform. And so, the funds in here, they are representative of the full LP experience. And so, it is as though we had a view into a portfolio of all funds raised, 12,000 funds, and the investment experience of all the LPs in that fund, aggregated together. There's no voluntary data submissions and there's no FOIA requests. So, we do not collect data in that way. All of this is exclusively the investment experience for the hundreds of LPs who are using our various platforms. All funds in the universe have since-inception transactions and daily precision.

And so, the quarterly returns that we're showing elsewhere, these are pooled returns and they are calculated using a composite of the actual underlying transaction amounts. So, we're not just weighting together different funds based upon their size. When we're calculating a quarterly return for an index, we actually take all 5,000 active funds in that index, take its starting valuation, its ending valuation, all the interim cash flows, and from that, we're calculating a single pooled quarterly return. Now this transaction data, as I mentioned, it's further enriched using the Burgiss Private Capital Classification System, and so this is the set of taxonomies that we use to classify private capital across all levels of investing and these assignments are done by Burgiss.

We have very clear rules in place. What defines a U.S. buyout fund? And to answer that, we're actually leveraging the underlying holdings data when it's available to us. And we have that data for most funds. And so, quite literally, what countries did this fund deploy capital into? Where were those companies? Where were those properties around the world? And so, we're not relying upon the fund domicile, or the manager headquarters, or anything like that. And we're not relying upon manager disclosures, or descriptions, or web articles, or anything like that. When we're making assignments at Burgiss, the fund size, the asset class, and the geography, we have the actual financial statements and we're able to reference those. Now, it's not a focus today, but it's also, I think, worth calling out. Those underlying investments I mentioned, those are part of the universe as well.

And so, we have over 200,000 unique underlying investments within those 12,000 funds and they represent over $5 trillion in valuation today. And so, it is quite a large dataset. Now, finally, the dataset in the indexes were recently updated for the fourth quarter. Now, the dataset is unfrozen. So, what this means is sometimes we do get new funds, new historical funds. And so, when that happens, we will add that fund into the dataset, including its full history. And that has the effect of updating returns a little bit in historical periods, ultimately because of how private capital funds work with the J-curve effect and negative returns upfront. Because of how these funds behave, you can't just add a fund mid-life. And so,

if you're going to add a fund to the dataset-- and we're of the belief that the Universe Dataset should contain all funds known to us here at Burgiss, because of that it's an unfrozen dataset. And it's updated four times per year.

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Now, you can see just some top-line counts on-screen. Like I've said a few times, nearly 12,000 funds. And, of course, we have funds and fund-of-funds and those are broken out separately. The historical data goes all the way back to 1978. Now, two more things before we leave the Burgiss Manager Universe. It is the largest dataset of its kind. And what do I mean by that? Complete, since inception, daily precision for all transactions. We know that this capital was called by this fund on this day and that allows us to do really interesting calculations. That's including the pooled calculations and inception day IRR. We're not blending together or weighting together different return streams. We're calculating this from a composite, which is actually the same way you would calculate it in your own portfolio. And of course, PME calculations, if you are doing those against the universe, they're using the actual daily index values, and sometimes that can make a big difference as we've seen in recent years and recent quarters.

And the second thing I want to call out again is exclusively sourced through limited partners. So, there is no general partner survivorship bias to worry about. All edge cases are represented in the dataset, and a fund which fails or a GP which fails, it forever exists in our client portfolios, and so it is forever a part of the performance history of the universe.

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Now, who uses Burgiss Manager Universe? Well, traditionally, the main users were limited partners through a variety of platforms. These include Burgiss platforms, originally Private I, but most recently, extended to Caissa. And also, BNY Mellon clients through the NEXEN platform. But there's many other partners and systems. And previously, the Burgiss Manager Universe, for many clients, has been a critical part of their portfolio management process for different institutional investors worldwide of all types. But there are other users.

We are proud to support academic research. So, we at Burgiss, have a relationship with PERC, the Private Equity Research Consortium, and this relationship goes back over a decade. So, there have been dozens of research papers written using the Burgiss Manager Universe as the foundational dataset. These are presented at conferences all over the world, including an Oxford conference next week, if you happen to be in the area. And of course, we work with many data and risk solutions providers but, of course, MSCI is a key partner here. And so, we work closely with them as they use this data to build analytics for their clients. And most recently, really, our strongest interest has actually been from general partners. They've heard our name from their limited partners enough times that I think they've come to us to learn more about the dataset, such that they can see some of these returns themselves. So, all that was a crash course in the dataset, the Burgiss Manager Universe, but let us come back to the indexes again.

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So, here they are. As a reminder, these are the 20 indexes available to all BNY Mellon clients. Now, on the next slide, I'm actually going to explore the Burgiss Global Buyout Funds Index a little bit. This Index goes back to 1980, so there's quite a bit of historical data here, but we're actually going to be looking at returns for the most recent few quarters, or most recent years and how that has compared to the public

universe.

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So, this is a pretty complicated slide, but let me walk through each of the components one by one. So, the indexes are quarterly returns, like I said, but I've actually compounded them out to be rolling 12-month returns here so the picture was clear. So, the time horizon that you see on the bottom here, this is calendar year, and it's one year of returns through each calendar date.

Now, Burgiss Global Buyout Funds Index, those are these blue bars along the top here, and so you can see they've actually had a standout last few years here. And so, for the year ending 2021 as a return-- if you look across, something like 35% has been the annual return.

Now, I'm also showing the MSCI ACWI, the All Country World Index, and this is in green. This is the line here that's-- well, sometimes it's above the blue bars, and sometimes it's below the blue bars. Now, again, this is the one-year return here. And you could graph other indexes-- you could graph the S&P 500, one of the FTSE Russell Indexes, and you're going to get the same relative shape as what I'm about to show you. And the point of this page, it's not to measure or comment on the specific outperformance or underperformance of a private capital index to a public index. I actually want to point out its volatility, and some of the challenges of comparing the private capital world to public indexes. And the best way to see that quickly is along the bottom here.

Now, the difference between these two return streams above is shown as the gray bars here. And so, a positive bar like you see in the last few quarters here, that means that the Buyout Funds Index has outperformed the public index. And then negative returns, on the other hand, means the Buyout Funds have underperformed the public index. And so, what are we seeing here? I really want to highlight two different time periods.

First, we're going to talk about the most recent periods. Or really, we can just look at even the most recent return here. Now, these blue bars are the universe, but your buyout funds probably returned something similar to this.

And so, your portfolio returns probably look great if you were simply comparing your buyout funds to a public index, to the MSCI ACWI Index here. But the whole buyout asset class is outperforming listed equities right now. And it's actually by a somewhat significant margin over the past year. It's been great for private capital funds. And so, saying it more directly, if your portfolio hasn't outperformed the index here, the MSCI ACWI by 15%, you're actually underperforming a peer universe of funds. And so, from an opportunity cost standpoint, you may have done well, but that is to say, you could have done better, perhaps, with a selection of different funds and different managers.

But there's a second time period, I think, worth calling out, and that is the beginning of COVID. So, there's a little bit of a zigzag here that's going on. So, let's see what happened here. At the end of the fourth quarter 2019-- and remember, these are rolling one-year returns, and so the quarterly volatility is actually a little bit more extreme. But what you would say is the universe for the year ended 2019 underperformed the benchmark here by 10%. Okay, it happens. But if you go just one quarter ahead to Q1 2020, we can all remember the beginning of COVID and the market chaos, the listed equities had a pretty negative quarter. And buyout funds, on the other hand, it was actually somewhat of a flat quarter there. Well, actually, that's incorrect, they went down a little bit, but looking on a rolling one-year basis, they

ended up about flat.

And so, this has the effect of taking that difference where, previously, there was a 10% underperformance. Now, it's actually a 10% outperformance. In the span of one quarter, you've gone from underperforming your benchmark by 10% to now outperforming your benchmark by 10%. And if you go just one quarter ahead from that, you can see the gray bar here, it goes back down to just about 2%. And so, in a three-quarter span, you were underperforming, outperforming, and then just about even again. These are real challenges and real volatility. This is outperformance and underperformance that you have to explain to your investment board, as they may not understand what exactly is going on here with private capital funds having lagged valuations and different effects going on here.

This is all to say, comparisons to public indexes, they are useful, but it's really about understanding the opportunity cost. What if we had invested in buyouts, or venture, or credit, particularly over some long period of time? If we invested over 10 years in privates versus publics, what would our outperformance/underperformance have been? But if you really want to understand your managers and whether they are performing relative to the opportunity set in front of them-- the private companies that they could be acquiring as a buyout, the startups that they could be investing into as a venture capital firm, the real estate funds and so on-- it has to be a universe of private capital funds. Because ultimately, that is the opportunity set and these are the choices that you're making as you choose managers for your portfolio.

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Now, before I leave you and I hand it over to Sarah, I do want to summarize some of what we touched upon here. So, the previous 20 slides, they were introducing a set of 20 indexes that are available to all BNY Mellon clients. And these are available today. And Sarah will actually show you where in just a moment.

Now, that core set is actually a subset of a wider family that we have of 132 indexes. And anyone who licenses a Burgiss product today actually has access to those, that wider set. And so, it's an even wider view, to say it again, of the private capital universe by asset class and geography. And it has some more specific peer groups in a few different areas.

But then finally, and it's worth making clear, anyone who subscribes to Burgiss Universe Analytics gets the above and more. And in that, you can create your own peer groups. You can filter by fund size, by asset class, you can filter for top quartile, or bottom quartile, and many different other attributes. And there's a lot more measures. The indexes are quarterly returns. These are most important to benchmarking your portfolio and the asset classes and understanding how your selection of funds has done relative to the universe. But there are other measures you want to look at, inception-to-date IRRs, multiples, cash flows to see the behavior of the universe on a cash flow perspective relative to your portfolio.

And we are building out a lot of holding-level analytics. I touched upon it earlier, those 200,000 unique underlying investments: What does their performance look like? What is the geographic composition of those companies, those properties? And there's a lot we're really starting to build out in that space. But if we're talking about the fund indexes, and if you take all the different filters that we have available, it's well over 1 million unique indexes you could actually create if you so choose. And so, with that, I'm

actually going to invite Sarah back to touch upon where these indexes can be found, and then I think we'd be happy to take any questions that you have.

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Sarah McCarthy

Great, thanks, Keith. So, on your screen now is just a simple BNY Mellon performance report, our Interactive Performance Report. These indexes, the new Burgiss Indexes, are available to you that can be displayed on any NEXEN report that you currently do-- MSCI Indexes or FTSE Russell Indexes-- anywhere that you see your indexes today, these Burgiss indexes are also available. They can also be used as part of a composite, so if you want to put them as part of your total fund representing the private asset portion, we can certainly do that.

Or they can be held individually as you see here. So, again, available on any NEXEN reporting that we have offered today. You do need to request them from your GRS consultant. So, if this is something that you're interested in seeing, please reach out to your GRS consultant and they can certainly add those to your profile, so they will be easily selected within your NEXEN reporting. So, as easy as that just, again, reach out to your consultant and let them know you'd like to have access.

So, with that, I'm going to ask Guy to talk about any of the questions that are coming through and maybe filter them over to Keith or myself, or you can take them.

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Guy Holappa

Thank you, Sarah. We do have a few questions that have come in. So, the first one is, "For a given Burgiss benchmark, Private Market benchmark, if there are 10 LPs in the covered fund and only five of those LPs are using Burgiss services, would the Burgiss Private Market benchmark include data from only the five LPs or 10 of the LPs?" Keith, do you want to take that one?

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Keith Crouch

Yes, I'm glad actually you asked that because it's an important point to make clear. Simply, I would say, it will reflect the 10, but it's actually a little bit more complicated than that. And so, how it works is, and we often have multiple contributors as we say it, or limited partners, in the same fund. And our universe creation methodology actually selects the contributor source, which is deemed as being the most representative and so, there's a preference for the contributor from the first close, as well as that one which is kind of in the median of the different limited partners. And the transactional history for that single LP is actually scaled up to be representative of the full fund. And to be very clear then, all funds in the universe are from the perspective of all LPs in the fund, and where we have selected one of the LPs and scaled up those transaction amounts such that it is that full LP experience.

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Guy Holappa

Thank you. Another question was "Time-weighted returns may work at the aggregate level, and this could

be great for modeling pacing purposes. However, for measuring the performance of individual PE fund investments, time-weighted returns may not be appropriate because time-weighted rate of return for each investment may be influenced by the cash flows. Are there ways to bridge that gap?"

Let me take that one. From our perspective, it is industry practice to look at individual evaluation of LPs using IRRs and IRRs from inception and multiples. What we're talking about from a benchmarking perspective is more at the asset class level. And in theory, if you're looking at a program, the difference between an IRR and a time-weighted is really only influenced by cash flows. So, at the aggregate level, we expect that the influence of cash flows is fairly limited. So, using time-weighted rate of return in conjunction with the rest of the assets that are being evaluated at time-weighted rate of return makes sense at the asset class level. But certainly, from our perspective, if you're looking at individual performance of individual partnerships, you should definitely look at an IRR and evaluate it in that way.

Another question that came in is "Does it require a license to get those 20 benchmarks that we were talking about?" No, there's no license requirement. If you are a GRS client and getting performance, we can add those Burgiss top levels without any license or documentation. As Keith stated, greater depth and capabilities are a subscription that you would need to either get through us or through Burgiss.

Another question is "How is vintage year reflected in the various indices?" Keith, do you want to take that one?

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Keith Crouch

Yes, that is actually an important point to make clear. So, each of the indexes I would say, we are not filtering for vintage. And so, what does that mean? And so, if you're looking at the returns for any given quarter, that return for the fourth quarter 2021 is including all active funds within the Burgiss Buyout Funds Index. And so, what ends up happening, though-- because obviously, there's going to be young funds in there, there's going to be old funds in there, there's going to be funds in the middle of their life-- the index returns are going to be mostly driven by funds in the middle of their life. Again, remember, that we're combining the actual transaction amounts. And so, funds in the middle of their life and larger funds have larger cash flows, larger valuations, and so they have a larger effect on the quarterly return. But we're not filtering for vintage specifically as part of the returns. And said differently, the Burgiss Index, you could think of it as if you could go out to the market and buy every buyout fund that currently exists in the secondary market, just buy all those commitments that are outstanding and aggregate them into a single portfolio-- large valuations, small valuations, and everything in between-- what would the return of that portfolio be over one quarter? So, that's probably the best way to think about it. It is a portfolio of the universe of funds.

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Guy Holappa

Another question. "Which entity receives the data first, BNY Mellon or Burgiss? How is the information shared?" I can answer that one in the sense that Burgiss, once they finalize the benchmarks, the data is transmitted to us and it's uploaded that and transmitting that data to us, and we will reload the entire history each time we receive a new update.

Another question. “What do most of your clients do in terms of monthly reporting for PE benchmarks? Do they roll zeroes until quarterly benchmarks come in, or do they roll based on previous quarter, one-third of the previous quarter, for example, understanding that there is a one-quarter lag?”

Our clients do a lot of different things. I would say the vast majority do actually put zeroes in the non-quarter ends. And this makes a lot of sense from the perspective of trying to match up your benchmark with the valuations that your portfolio is having. So, the vast majority of your portfolios will actually be updated in that third quarter anyway.

So, putting zero-zero and then the benchmark return probably aligns pretty closely to actually how your portfolio is valued to get a more comparable month-by-month look between the benchmark and your portfolio values. So, I would say that’s what most of our clients do.

“Are open-ended funds a part of the universe?” Keith, do you want to answer that question?

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Keith Crouch

Yes, they are not. So, the universe is exclusively closed-end funds, so nearly 12,000 of them. You can ask the question, “But why are open-ended funds specifically excluded?” It’s because if you're looking at their performance stream, especially from the perspective of an individual contributor in an open-ended fund, a lot of that return is actually going to be driven by when the limited partner chose to invest into the fund and then redeem partially or fully their investment. And so, our private capital universe is exclusively closed-end funds, since those represent the actual drawdown style. The manager has full discretion over cash flow’s universe of funds.

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Guy Holappa

One last question, and this is probably for you, Keith.

“Under what scenarios does a previously included LP in a benchmark would be excluded prospectively or retroactively from the benchmark?”

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Keith Crouch

So, we do sometimes have to remove a fund from the dataset. And when we add a fund, we add historical data in every time period, we also remove the historical data in every time period. And the most common case for this is a limited partner or contributor sells the fund investment in the secondary market, and in those cases where they were our only source of transaction data for that fund, we no longer have the full transaction history, and that’s an important requirement of the universe.

And so, we actually end up having to drop that fund. It doesn’t happen terribly often, because for most funds, we have many contributors. It’s not unusual for us to have five, 10, 15 contributors in any given fund, especially the largest funds, but it does happen from time to time.

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Guy Holappa

That is all the questions. So, at this time, I think I'd just like to thank Sarah and Keith for a great presentation, and thank you all for participating. And perfect on the hour.

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Sarah McCarthy

If you need any more information or want access, again, contact your GRS consultant.

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Guy Holappa

Thank you all.

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Sarah McCarthy

Thank you everyone.

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Keith Crouch

Take care.

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