This transcript should be read in conjunction with the related earnings presentation, which includes important additional detail, and is provided for the convenience of investors and analysts only. For a full recording of this earnings conference call please see the 4Q20 Earnings Call webcast.

OPERATOR

Good morning and welcome to Tradeweb's fourth quarter 2020 earnings conference call. As a reminder, today's call is being recorded and will be available for playback.

To begin, I'll turn the call over to Head of U.S. Corporate Development and Investor Relations, Ashley Serrao. Please go ahead.

PART I: INTRODUCTION AND DISCLAIMER

ASHLEY SERRAO (Slide 2-3)

Thank you and good morning.

Joining me today for the call are our CEO Lee Olesky, who will review the highlights for the quarter and provide a business update, our President Billy Hult who will dive a little deeper into some growth initiatives and Bob Warshaw, our CFO who will review our financial results.

Our fourth quarter earnings release, prepared remarks and accompanying presentation are available on the Investor Relations portion of our website.

I'd like to remind you that certain statements in this presentation and during the Q&A may relate to future events and expectations, and as such, constitute forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Statements related to, among other things, our guidance, including full-year 2021 guidance, and the COVID-19 pandemic, the potential impacts of which are inherently uncertain, are forward-looking statements. Actual results may differ materially from these forward-looking statements. Information concerning factors that could cause actual results to differ from forward-looking statements is contained in our earnings release and periodic reports filed with the SEC.

In addition, on today's call we will reference certain non-GAAP measures. Information regarding these non-GAAP measures, including reconciliations to GAAP measures are in our posted earnings release and presentation.

Lastly, we provide certain market and industry data which is based on management's estimates and various industry sources. Please see our posted earnings presentation for more details.

To recap, this morning we reported GAAP earnings per diluted share of $0.28. Excluding certain non-cash stock-based compensation expense, acquisition and Refinitiv related D&A and certain FX items, and assuming an effective tax rate of 22.0%, we reported Adjusted Net Income per diluted share of $0.34. Please see the earnings release and the Form 10-K to be filed with the SEC for additional information regarding the presentation of our historical results.

Now, let me turn the call over to Lee.

PART II: OVERVIEW & FINANCIAL RESULTS

LEE OLESKY (Slide 4-9)

Thanks, Ashley. Good morning everyone, and thank you for joining our fourth quarter earnings call.

Since our inception, we have combined the creativity of our employees, power of our technology, and depth of our network to collaboratively innovate with our clients to simplify their workflows across the fixed income and equity markets. In 2020, the shockwaves created by the COVID-19 pandemic further illuminated the importance of Tradeweb as a critical marketplace, as we helped our clients seamlessly shift their workflows remotely, often to their kitchens and bedrooms, and trade more than a trillion dollars in volume on a number of a number of days--a feat that would have been unthinkable only a few years ago. We believe the acceleration of digitization that we saw in 2020 is here to stay and we remain excited about the opportunity ahead of us to drive further innovation across our markets. We believe the defining trends underpinning our growth such as technological advances, globalization of debt, growth of ETFs, focus on cost reduction, and data-driven trading have a long runway. We remain laser focused on responding to these trends as we strive to be the primary electronic price discovery and trading platform for our clients as they look to efficiently discover the best price across rates, credit, OTC equities and money markets.

Turning to slide 4, the acceleration of digitization I just described was on display as we reported the strongest fourth quarter in our history hitting new market share and volume records across a number of products. Specifically, gross revenues of $233 million during 4Q20 were up 18.1% yr/yr on a reported basis and 15.9% on a constant currency basis. The revenue growth and the resulting scale translated into improved profitability yr/yr as our fourth quarter Adjusted EBITDA margin expanded by 231 basis points to 49.2%.

Turning to slide 5, this quarter was marked by strong performance across many of our asset classes. Credit again posted record quarterly revenue growing 36.1% year-over-year and exceeding 25% of total quarterly revenue for the first time, led by record market share in U.S. high yield and investment grade. Rates revenues increased 13.2%, as cash rates posted its second highest revenue and volume quarter, as record central bank issuance continues to fuel global government bond trading and low interest rates drive higher refinancing activity, thereby boosting mortgage trading. Despite the low interest rate environment, we saw slightly increased rate volatility around the election and positive news around several COVID-19 vaccines which helped amplify the market share gains we have made in swaps. Equities grew by 28.7% with strong ETF trading and our efforts to diversify beyond ETFs are paying off. Money markets revenues were up 3.5% as organic growth in institutional repo more than offset strong rate headwinds in the retail sector. Finally, market data was up 7.8% driven by growth in both our Refinitiv re-distribution license and proprietary data products.

Turning to slide 6, our strong fourth quarter capped off a record year in 2020. Record volumes across asset classes translated into 15.1% and 14.5% revenue growth on a reported and constant currency basis, respectively. As a result, we recorded our 21st consecutive year of record revenues. The scale generated by our strong top-line results drove approximately 336 basis points of EBITDA margin expansion and 31% earnings growth. And as our growth initiatives continued to scale, we maintained our tradition of consistent and focused organic investment.

2020 was a very busy year. In rates, we launched our enhanced specified pools mortgages platform after collaborating closely with leading mortgage originators, and in IRS, we expanded our protocol offering with RFM, client base in APAC, and product offering with 5 new EM currencies. In U.S. Treasuries we continued to onboard new clients and enhance our streaming offering. In money markets, we added new repo collateral types and expanded into tri-party repo.

In credit, we continued to drive innovation as we connected our three liquidity pools by launching our latest AllTrade anonymous protocol, ReMatch. We believe this could be another potential game changing protocol, built on the success of session trading. We also continued to invest in enhancing our net spotting, portfolio trading and all-to-all functionality. And last week, we announced the roll-out of our Multi-Client Net Spotting offering, the next generation of net spotting.

Finally, in collaboration with CFETS, we marked another milestone in our relationship by becoming the first trading platform to offer foreign investors electronic RFQ trading in the Chinese onshore bond market through CIBM Direct. This new channel complements our existing BondConnect offering, which we launched in 2017. We are in early innings of building out CIBM Direct, together with our partners at CFETS, and are seeing strong interest from liquidity providers and clients.

Asia remains a key focus region for us. We hired James Sun who will be based in Shanghai and lead our Asian business. And in December, we made a small minority investment in Sumscope, a fixed income information service provider for the RMB market in China. We will be integrating additional pricing analytics into our trading offering to ultimately increase foreign participation in both BondConnect and CIBM Direct.

Additionally, we executed several partnerships, working with CBOE to support EFP trading on high-yield bond index futures, augmenting our Refinitiv data relationship by adding EM IRS, and supplying swaps pricing data to power the ICE swap rate, a key benchmark used to price swaptions and other rate-linked structured products.

These investments have not only positioned us for the future but also helped make 2020 another banner year for Tradeweb. Moving to slide 7, revenues grew by 15.1% continuing the streak of double-digit revenue growth that we have worked hard to deliver for multiple years now. Our recent revenue growth trends are very similar, and since 2016, we have averaged 14.6%. One aspect of our performance since 2016 that we are very proud of and think will become increasingly important in the coming years is the rapid growth of our international business, which continued its double-digit growth in 2020, to now comprise 36% of our revenues.

Relentless innovation has been critical to our success. Throughout our history we have prized being first, which requires constant investment. In the last 5 years, we have invested over $318 million in technology to help shape the future of electronic markets, growing those investments at an average of 11% since 2016. And as our investments bear fruit, EBITDA margins have expanded substantially given the high incremental margin nature of our business model.

It is these investments that have allowed us to not only rapidly grow our leading rates business, but also successfully diversify into a multi-asset and global electronic trading network. Today while the majority of our revenues come from rates, the vast majority of our growth actually comes from our other businesses. Credit in particular has been a highlight accounting for 43% of our revenue growth in 2020. In fact, with the exception of 2019, the majority of our growth since 2016 has been driven by the combination of our credit, equities, money market and data businesses.

Looking ahead, while our investments are heavily concentrated in rates and credit, we remain very optimistic about our growth prospects across the business, given our pipeline of innovations, the ever-increasing stock of global debt, and an improving macro backdrop. Moving onto slide 8—we wanted to spend some time on the growth drivers behind our four asset classes.

From our early roots in U.S. Treasuries, we have strategically diversified the rates franchise into global government bonds, mortgages, and more recently, interest rate swaps. We believe there remains a lot of runway across both our cash and derivatives products which have grown revenues at a combined average annual rate of 11.5% since 2016 in a low rate environment. We have now successfully operated in a zero-rate environment for nearly a year and the Fed currently doesn't anticipate hiking rates until 2023. This environment is not new to us. The last rate cycle started in December 2008, and lasted significantly longer in the U.S and was more challenging. Despite seeing several of our major clients merge or restructure and Lehman declare bankruptcy, we were able to grow rates revenues at 9.7% annually on average before the Fed hiked rates in 2015. Our formula for growth has always been the same, continue to move rates markets electronic, position the firm to respond to the massive surge in stimulus given global government debt issuance and enhance our rates franchise with strategic acquisitions.

This time around, the banking system is healthy as evidenced by the Fed recently allowing buybacks and dividends, but just like the last crisis, government debt issuance continues to surge. And as we emerge from this pandemic into a higher and more volatile interest rate environment, we believe our opportunity set is greater than ever given our mix of organic growth initiatives, and more importantly, as digitization accelerates over the next few years.

Let's move onto slide 9. We saw a great opportunity to add more value to the wholesale U.S. Treasury market and announced an agreement to acquire Nasdaq's U.S. fixed income electronic trading platform. The Nasdaq platform, formerly known as eSpeed, is a fully executable central limit order book for electronic trading in on-the-run U.S. Treasuries and will become part of Dealerweb, serving the wholesale sector. We have a long track record of success when it comes to U.S. Treasuries. In fact, institutional U.S Treasuries was the first electronic market we started at Tradeweb more than 20 years ago. Since then, we have brought a lot of innovation to the space, from RFQ in the early days to AiEX and RFM more recently. In the wholesale market, we have innovated with streams which Billy will talk about in a second.

Strategically, this acquisition accelerates our efforts to grow a wholesale CLOB and significantly expands the number of market participants connected to Dealerweb, which includes primary dealers, principal traders, broker dealers and hedge funds. We are also excited to give our clients more choice with a liquid CLOB to complement their streaming activity and lower their connectivity costs. Finally, we believe we will be able to enhance our U.S. Treasuries data offering with depth of book data.

Financially, this deal comes at a good price and we believe we can improve EBITDA margins to Tradeweb's adjusted EBTDA margin or higher exiting the first year of a two-year integration period. To summarize, this acquisition will be accretive to adjusted earnings right away, accretive to our adjusted EBITDA margins, add another growth driver to our U.S Treasuries offering and also leave us with ample flexibility to pursue future transactions. Our corporate development team continues to be busy evaluating various opportunities globally.

I will now turn it over to Billy to discuss some of our organic growth initiatives in rates and credit.

BILLY HULT (Slide 10-11)

Thanks Lee, and thank you everyone for joining the call. As we think about building marketplaces, we pay a lot of attention to creating great feedback loops with our clients. And a great feedback loop to us, is centered on listening to our clients across sectors, protocols and geographies. It is this collaborative approach that has sparked innovation and allowed us to reimagine client workflows to drive organic growth. And we believe our organic growth story continues to have a strong multi-year runway.

Turning to our organic opportunity set in rates on slide 10. In U.S. Treasuries, our market share increased by 150 basis points to a record 13.8% in 2020. Looking ahead, we are focused on driving our share higher across both the institutional and wholesale market. We are investing a lot of effort in driving the adoption of early-stage streaming protocols that are becoming more impactful as technology advances. Today market makers are able to manage risk across multiple liquidity books fueling changes in client behavior. In institutional treasuries, Tradeweb+ and RFM are seeing increased client adoption complementing the great growth we are seeing in RFQ. In the wholesale market, our streaming protocol continues its strong growth as market participants increasingly use streaming protocols to complement their CLOB activity. Even with the rapid growth in streams, the CLOB today accounts for the majority of their electronic wholesale activity allowing market participants to passively rest orders in an order book to manage risk. As such, the acquisition of the former eSpeed business is another example of investing to improve our feedback loop and gain another window into client behavior. Looking ahead, we are excited about the opportunity to provide our wholesale clients with a seamless offering across both the CLOB and streaming protocols.

In Mortgages, we see our leading position in the TBA market as an ideal foundation from which to offer electronic specified pools trading, given the similar client and dealer set. We launched our enhanced specified pools platform last year that was designed in collaboration with leading mortgage originators. The specified pools market traded $26 billion a day on average in 2020. While the specified pools market is roughly 1/10th the size of the TBA market, pricing in specified pools is higher than our existing mortgages franchise. Electronification levels today are also quite low at less than 5%. Looking ahead, we believe the frequent and spreadsheet driven nature of the specified pools market makes it well suited for automation. Our solution is resonating well and we are seeing a lot of interest from existing and new clients.

In swaps, the secular growth story hasn't changed. Swaps remains a critical component of the Tradeweb story and one with considerable room for growth and innovation. The business outperformed the overall market in 2020 again as our market share increased by 140 basis points to a record 9.3% driven primarily by gains within Core IRS. This is our main market of focus, accounting for ~80-85% of industry revenues. We continue to innovate by responding to structural changes in the swaps market, be it the growth of EM swaps clearing or the transition to alternative reference rates. We are driving adoption of new protocols like RFM, new products like electronic FRAs and packaged swaps and expanding regionally in APAC. During the fourth quarter, we facilitated the first electronic SONIA swap package trade and recorded new market share milestones in FRAs as we continue to expand the client base. We also saw dealers go live as liquidity providers for Hong Kong, Mexican, and Indian swaps.

Finally, we are investing in our leading automated trading capability, AiEX. For some of our clients the telephone is going away and being replaced by the mouse. For others, the mouse is now being replaced with algorithms—that is where AiEX comes in. We are helping our clients navigate the growing complexity involved in staging orders with rules-based trading. For years, dealers have invested in auto-quoting capabilities. AiEX allows the buy-side to interact with dealers and smartly find the other side of a trade in an automated fashion. Since 2016, the number of AiEX trades have grown by 30% annually on average across rates with growth across all products. As clients become more comfortable with automation, we believe they will increasingly automate more of their trades and focus on more complicated trades and client relationship management.

Turning to credit on slide 11. Our journey from challenger in 2016 to trailblazer in recent years powered credit to become our largest growth driver in 2020 with revenues growing by 31% to nearly $60 million in the fourth quarter. Credit is another example of a powerful feedback loop driving serial innovation. From our roots as a leading retail venue, we have successfully diversified to serve the entire corporate credit market. In fact, institutional trading now comprises the vast majority of our market share and revenue in the U.S. Our overall electronic market share reached record levels of 10.6% in investment grade and 4.5% in high yield in December as our institutional network continues to grow and wholesale solutions continue to provide an alternative to voice trading. While conditions have improved slightly of late, our retail business continues to face headwinds from the lower yield environment. This has reduced the attractiveness of bonds for financial advisors. However, our retail middle markets business which caters to institutional traders transacting in smaller sizes continues to set new records and grow.

The growth in electronic trading on our platform is being fueled by growth in both disclosed RFQ and our innovations across our All-Trade, net spotting and portfolio trading offerings. These innovations proved to be a great asset to our clients during March, when volatility exploded and in the remote working aftermath. We believe our technological innovation has permanently influenced client trading behavior. But there remains more to do as we work together with our clients to improve execution in the credit marketplace.

All-Trade, including all-to-all RFQ and a suite of anonymous protocols connecting liquidity between our three client sectors continues to see increased adoption. Clients traded a record $199 billion, or nearly $800 million daily, to optimize price discovery using All-Trade, an increase of 44% yr/yr. Our investments to grow our all-to-all network and improve functionality continue to pay-off, driving record volumes in 2020. Additionally, we integrated our AiEX rules-based trading solution into RFQ all-to-all List Trading, leading to record credit AiEX volumes over the course of the year.

Session trading, another key All-Trade protocol continued to grow as well. We capitalized on the success of session trading to launch our latest innovation ReMatch, a protocol which enables unmatched inquiries at the end of a wholesale session to be matched by our institutional all-to-all platform as well **as** by offsetting retail liquidity. Currently, less than 5% of total session trading inquiries are filled on our platform creating a tremendous opportunity for us to help our clients find the other side of the trade. ReMatch is still very early in its rollout, but early progress has been encouraging.

Another light bulb solution for Tradeweb has been our electronic spotting and net spotting offerings. The ability for clients to electronically link corporate bond spots with underlying treasury hedges emerged as a critical tool in the dispersed working environment of 2020. As you can imagine, clients wanted to avoid dealing with manual errors, price slippage and delays. As a result, our advanced net spotting offering saw another record year with over $325 billion or $1.3 billion daily, up substantially from 2019 as clients increasingly eliminate the inefficiencies of manual processes. As Lee mentioned, we recently rolled out Multi-Client Net Spotting. This will greatly advance our existing offering—clients will now be able to net their hedging activity across not only dealers but also other clients at the same time, enhancing trading and operational efficiency. This is the next generation of net spotting which we believe will extend our lead against competitors today with basic spotting functionality.

Moving to the bottom half of the slide, portfolio trading and CDS trading which is primarily comprised of index CDS are two ways in which we are participating in the explosion of passive investing. Portfolio trading in particular continues to attract more clients. Client behavior is changing as they increasingly embrace the protocol's ability to provide price discovery for numerous bonds quickly. This allows them to execute large, complex trades at a competitive cost with pricing analytics and audit trails built into the process. Tradeweb facilitated $146B single and multi-dealer portfolio trades in 2020, with ADV up 240% yr/yr. Adoption is accelerating, and our October in-comp volumes were higher than all of 2019 combined. As comfort with the protocol grows, we are seeing growth accelerating globally across European and EM credit. Clients are increasingly putting dealers in competition and increasing the size of their trades. As a result, the number of line items in portfolios on our platform also hit a new record.

Finally, our Credit Default Swap business posted its strongest year on record with volumes up 59% as we continued to gain more market share globally and benefited from higher levels of volatility in the first half of 2020. We remain focused on driving our share higher by expanding our product set. Today, 99% of our volume is comprised of index CDS, but we are seeing growing adoption of electronic single-name CDS trading with volumes up 40%. We are also seeing a rise in EM sovereign CDS, with volumes up 350% from 2019.

With that, I'll turn it back to Lee to talk about our equities and repo business.

LEE OLESKY (Slide 12)

Thanks Billy. Moving onto slide 12—we wanted to provide you with some color on these smaller but rapidly growing and important areas of our business. These are all great examples of how we connect the dots at Tradeweb and maximize the power of our multi-asset class network.

Billy talked about how we are responding to market structure changes in credit driven by the growth of ETFs. We are also directly capitalizing on the secular growth in passive investing globally with our RFQ ETF platform. Tradeweb's global ETF volumes have increased by 42% annually on average since 2016 led by both equity and fixed income ETFs. Together with portfolio trading and index CDS, our passive trading electronic solution allows clients to take macro views in an efficient manner across asset classes and products. And while the shift towards passive investing is more than 20 years in the making, fixed income ETFs today only comprise approximately 20% of the $7 trillion outstanding and according to Blackrock are set to grow by more than 30% and exceed $2 trillion by 2024.

Sophistication is increasing--today fixed income specialists oversee fixed income ETF trading. This stands in stark contrast to the days when they were traded by equity specialists. Simultaneously, non-bank market makers have also become increasingly important as liquidity providers to ETF RFQs on our platform. ETFs have also become an important instrument for both equity and fixed income traders looking to manage beta exposure or equitize cash. In fact, fixed income ETFs functioned as a strategic tool for institutional investors during the most crisis given their reliable liquidity – particularly in credit markets – with broker dealers and market makers routinely using fixed income ETFs to manage inventory, facilitate large client trades and hedge risk.

And while we believe we are well positioned to cater to changes in market structure driven by the growth in fixed income ETFs, our solution is designed to trade any ETF. During the fourth quarter, equity ETFs comprised 61% of our global volume with fixed income contributing 36%. Clients continue to increasingly leverage our intelligent pre-trade liquidity provider selection, robust electronic audit trails, and deep integration with OMS providers. Moreover, similar to rates and credit, AiEX has also resonated strongly with European and U.S. ETF clients who traded 74% and 44% of their trades automatically, respectively during the quarter.

We have come a long way from as recently as six years ago when Tradeweb was a relatively unknown name on equity trading desks. Today, we are expanding our collaboration with clients and leveraging our leadership position in ETFs to selectively expand into other areas with manual flows. There are lots of trades that are still done over chat or phone. Areas of focus include block trading for equity options, especially options on ETFs, Delta 1 and U.S. convertible bonds. In sum, our equity offering remains dynamic with a lot of room for future growth as we benefit from the secular tailwinds in the ETF industry and targeted expansion across the equity ecosystem.

Turning to repos, as the industry's leading multi-dealer-to-client repo trading platform, we've brought much-needed speed and efficiency to the repo market. The repo platform is another example of how we connect the dots at Tradeweb as trades are primarily collateralized by U.S. Treasuries and mortgages. Repos posted its strongest volume year on record as clients show increasing interest in automating manual workflows in a post COVID world. We believe electronification of the repo market to be about 20-25% with the U.S. actually being lower than Europe. We continue to invest to build out a full-scale institutional electronic repo offering in US and Europe. We recently launched Canadian, Agency and FICC sponsored repo and upgraded the user experience for our tri-party offering. Looking ahead, we are excited about future collateral rollouts and product enhancements. We are also investing to grow our electronic wholesale repo platform by adding functionality and both growing and onboarding our pipeline of clients.

At the of the day, it all comes down to the pursuit of efficiency. The definition of efficiency changes as technology advances, regulation changes and market structure evolves. At Tradeweb, we are laser focused on identifying inefficiencies challenging our client base and being first to respond to them where it makes financial sense. The wheels of innovation then continue to turn as we focus on maintaining our thought leadership by continuously streamlining workflows to make it easier for market participants to trade. Multi-client net spotting is just the latest example of our serial innovation.

As you can hopefully tell, we have a number of initiatives under way across our asset classes and especially in rates and credit, our two biggest growth drivers that we believe positions us well for the future. And we hope to add to this by continuing to announce many more firsts for Tradeweb and electronic trading in 2021 and in the coming years.

And with that, let me turn it over to Bob to discuss our quarterly financials in more detail.

BOB WARSHAW (Slide 13-18)

Thanks Lee and good morning.

As I go through the numbers, all comparisons will be to the prior year period, unless otherwise noted. Let me begin with an overview of our volumes on Slide 13.

We reported quarterly total ADV of nearly $898 billion, up 30.9% and up 29.7% when you exclude short tenor swaps. Areas of notable growth include US and European government bonds, mortgages, U.S. corporate credit, Chinese bonds, ETFs, equity derivatives and bilateral repo.

Slide 14 provides a summary of our quarterly earnings performance.

- The record 4Q volumes translated into gross revenues increasing by 18.1% on a reported and 15.9% on a constant currency basis. We derived ~37% of our revenues from international customers and recall that ~30% of our revenue base is denominated in currencies other than dollars, predominantly in Euros.
- Our variable revenues increased by 27.0% and our total trading revenue increased by 19.3%.
- Total fixed revenues related to our 4 major asset classes continued to grow, up 6.5% yr/yr and 3.7% on a constant currency basis. Credit fixed revenue growth was primarily driven by the addition of new dealers in U.S. credit and additional clients in Chinese bonds. Equities fixed revenues growth was driven by the addition of new dealers and the impact of FX. Other trading revenues, the vast majority of which are tied to our retail business was up 4% driven in part by periodic revenues tied to technology enhancements performed for our clients.
- Market data increased by 7.8% yr/yr led by Refinitiv, APA and proprietary data products.
- Adjusted EBITDA margin came in at 49.2%, and expanded nicely by 231 basis points relative to 4Q19 as we continued to benefit from scale.
- All in, we reported Adjusted Net Income per diluted share of $0.34.

Moving on to fees per million on Slide 15. The trends I am about to describe are driven by a mix of the various products within our four asset classes.

- In sum, our blended fees per million decreased 3% yr/yr; primarily as a result of continued growth in T-Bills and Institutional Repos. Excluding lower fees per million short tenor swaps and futures, our blended fees per million was down 2% yr/yr.
- Let’s review the underlying trends by asset class—all trends will be discussed on a year over year basis.
- Starting with rates
    - Average fees per million for rates was up 1% yr/yr overall.
    - For cash rates products, which include government bonds and TBAs, fees per million decreased 10% primarily due to growth in Institutional T-Bills, which carries a lower FPM than the cash rates average.
    - For long tenor swaps, fees per million was up 32% yr/yr due to primarily an increase in

    - average maturity, as well as, less compression activity.
    - In other rates derivatives, which includes rates futures and short tenor swaps, average fees per million decreased 7% yr/yr due to growth in OIS which carries lower fees per million than FRAs.

- Continuing to credit
    - Average fees per million for credit increased 3% yr/yr overall.
    - Drilling down on Cash Credit, average fees per million decreased 4% due to a record quarter for Chinese Bonds, which carry a significantly lower fee per million than the cash credit average.
    - Looking at the Credit Derivatives and electronically processed US Cash Credit category, FPM increased 3% driven by increased volumes in single name CDS which carry a higher fee per million than the credit derivatives average.
- Continuing with equities
    - Average fees per million for equities was down 5% yr/yr overall.
    - For cash equities, average fees per million decreased 10% due to growth in wholesale ETFs which carry lower fees per million than institutional ETFs.
    - Equity derivatives average fees per million decreased 6% due to mix shift towards U.S. options and futures which carry lower fees per million than the equity derivatives average.
- Finally, within money markets
    - Fees per million decreased 35%.
    - This was primarily driven by mix shift away from high fee per million retail CDs given the low interest rate environment and towards bilateral repo, which reached record levels and continues to grow rapidly. Institutional repo carries a lower fee per million than other money market products.

Slide 16 details our expenses

- At a high level, we continue to invest for growth—there has been no change to our philosophy here.
- In the last two years, we have grown our adjusted EBITDA margins by 810 bps all the while growing our expense base as we invest for the future.
- As a reminder, Adjusted Expenses excludes non-cash stock-based compensation expense related to options issued primarily as a result of the IPO, Acquisition and Refinitiv related D&A and certain FX related gains and losses.
- Adjusted Expenses for 4Q increased 11.8%. Recall ~15% of our expense base is denominated in currencies other than dollars, predominantly in Sterling.
- 4Q20 operating expenses were higher as compared to 4Q19 due to increased employee compensation costs and technology and communication expenses partially offset by lower T&E.
- Compensation costs were higher year on year due to higher headcount, as well as higher performance related compensation.
- Adjusted non-comp expense increased 9.4% on a reported basis and increased 8.3% on a constant currency basis.
- Specifically, technology and communication costs increased primarily due to higher clearing and data fees as a result of higher All-Trade volumes in credit and streaming U.S. Treasury volumes which continue to grow. In addition, this quarter also saw the continued impact of our previously communicated investments in data strategy and cyber security.
- General and administrative declined primarily due to less travel and entertainment expense but came in slightly higher than our guidance given unfavorable movements in FX and an opportunistic increase in marketing spend to drive higher client engagement.

Slide 17 details capital management and our guidance

- First, on our cash position and dividend policy
  - We ended 4Q in a strong position, holding $791 million in cash and cash equivalents and free cash flow reached $400 million for the trailing twelve months. As mentioned earlier, we will be spending $190 million of our excess cash balance to acquire Nasdaq's U.S. fixed income electronic trading platform. Our primary preference for investing excess cash remains strategic M&A.
  - With this quarter's earnings, the Board declared a quarterly dividend of $0.08 per Class A and Class B share and authorized a $150 million share repurchase program which we plan to use primarily to offset annual equity grants.
  - We have access to a $500 million revolver, that remains undrawn as of quarter-end.
  - Capex and capitalized software development for the year was $42 million, a decrease of 4% year over year, below our expectations due to timing of investment spend and COVID-19 related delays by vendors.

- Turning to guidance for 2021
  - We will continue to invest in 2021, and are expecting Adjusted Expenses to range from $530M - $560M.
  - Our guidance does not include any expenses tied to our recently announced acquisition. We will update our guidance following the closing of the deal.
  - The midpoint of this range would represent an approximate 9% increase which is in-line with our average expense growth from 2016 of 9%. We believe we can drive EBITDA and operating margin expansion compared to 2020 at either end of this range.
  - As Lee and Billy described, we continue to invest for the future with credit and rates being key focus areas with a long runway for growth. We are investing in introducing and driving new protocol adoption, launching new products and expanding our geographic reach. Some of these investments will take some time to scale but we continue to prize innovation leadership and have a technology pipeline that continues to grow.
  - We expect G&A expenses to ramp through the course of the year to 2019 levels with a resumption of T&E in the back half of 2021 and additional targeted marketing expenditure to drive higher client engagement.
  - We expect technology and communications expenses to grow from 4Q20 levels driven in part by $3 million in additional investments in data strategy and infrastructure. Additionally, we expect continued growth of Credit All-Trade and our UST streaming platform.
  - Our guidance incorporates FX movements, for example the recent depreciation in the U.S. dollar.
  - For forecasting purposes, we continue to use an assumed non-GAAP tax rate of 22% for the year.
  - We expect capex and capitalized software development to be about $45 to $50 million.
  - Acquisition and Refinitiv Transaction related D&A, which we adjust out due to the increase associated with pushdown accounting, is expected to be $120 million.
- Finally, on slide 18, we have updated our quarterly share count sensitivity for 2021 to help you calibrate your models for fluctuations in our share price.

Now I'll turn it back to Lee for concluding remarks.

LEE OLESKY

Thanks, Bob. As many of you will attest to, 2020 was a very challenging year with a devastating health pandemic, coupled with numerous political, climate, and social challenges. That being said, we are thankful to those on the frontline and scientists behind the vaccines who have worked tirelessly to get us through the pandemic.

I have never been prouder of the Tradeweb team which thrived while working remotely. 2020 was another record year marked by numerous milestones for the company and our products. We continued to expand our opportunity set across all of our businesses and we are very excited by the potential we see for Tradeweb over the few years. We are extremely focused on capitalizing on the various growth opportunities ahead of us and continuing to strike the right balance between investing for the future and driving margin expansion to create long-term value for our shareholders.

The markets that we operate in are fundamentally changing as we speak, and this current pandemic further demonstrates the importance of Tradeweb as a critical marketplace for our clients to transfer risk. We believe the digitization of fixed income is accelerating, and as we have seen numerous times in the past, behavioral change is very sticky. There remains plenty of room for digitization to increase and this technology fueled transition will continue to play out for years to come. Our network continues to deepen as we innovate and connect the dots between different asset classes, sectors, protocols and regions. We believe it is this diversity that positions us well to both participate in and lead the next generation of progress.

The momentum from 2020 has carried over into 2021. We have made several investments in our future to start the year, investing in Asia, launching multi-client net spotting and announcing the acquisition of Nasdaq's U.S electronic fixed income business. Our existing organic growth initiatives continue to pay off with January volumes reaching a new record. Specifically our volumes increased by 29% yr/yr with broad-based growth across our four asset classes and new volume records in U.S. Treasuries, Mortgages, U.S. High Grade, High Yield Credit, European Credit, and Chinese bonds. Additionally, we captured a record 20.5% of U.S. High Grade TRACE.

I would like to conclude my remarks by thanking our clients for their business and partnership in the quarter and I want to thank my colleagues for their efforts that contributed to our strongest fourth quarter in history and a record year for Tradeweb.

With that, I will turn it back to Ashley for your questions.

ASHLEY SERRAO

Thanks Lee. As a reminder, please limit yourself to one question only. Feel free to hop back in the queue and ask additional questions at the end. Q&A will end at 10:40 am Eastern time. Operator, you can now take our first question.

THANK YOU

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