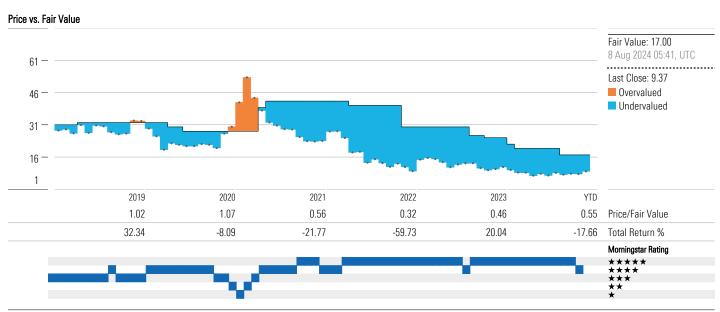
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Last Price Fair Value Estimate Price/FVE Market Cap Economic Moat™ **Equity Style Box Capital Allocation** ESG Risk Rating Assessment¹ Uncertainty 9.37 USD 22 97 USD Bil (III) None Mid Value Very High Standard **@@@@** 17.00 USD 0.55 7 Nov 2024 6 Nov 2024 06:00, UTC 7 Nov 2024 8 Aug 2024 05:41, UTC



Total Return % as of 07 Nov 2024. Last Close as of 07 Nov 2024. Fair Value as of 8 Aug 2024 05:41, UTC

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Research Methodology for Valuing Companies

Important Disclosure

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The primary analyst covering this company does not own its stock.

The ESG Risk Rating Assessment is a representation of Sustainalytics' ESG Risk Rating.

Warner Bros. Discovery Earnings: Encouraging DTC Results Outweigh Continuing Weakness Elsewhere

Analyst Note Matthew Dolgin, CFA, Senior Equity Analyst, 7 Nov 2024

Warner Bros. Discovery added an eye-popping number of streaming subscribers during the third quarter, but more important to us was the accompanying direct-to-consumer sales and profit growth. Weakness persists in the rest of the business, but management foreshadowed an upturn in its studios business. Given how depressed the stock is, we think this quarter's developments are more than adequate to make up for a declining networks business. We maintain our \$17 fair value estimate and think the stock remains significantly undervalued.

Excluding currency effects, DTC revenue was up 9% year over year, and more impressively, DTC adjusted EBITDA was \$289 million, up 175% year over year against what had previously been the highest level of DTC profit since the company formed. More encouraging, management expects DTC profit to remain strong in the fourth quarter and for the segment to "meaningfully exceed" its 2025 target for \$1 billion in adjusted EBITDA.

DTC subscriber numbers are messy, as the metric includes the legacy linear HBO subscriber base, which is declining, while Max has launched recently in numerous countries. Warner also benefited from the Olympics rights it holds in Europe. Still, 7.2 million net subscriber additions in the quarter—albeit with only 200,000 in the US—was stellar, and pricing remained firm. Average revenue per international subscriber was up 2% year over year, while average revenue per US subscriber was up 6%. We



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Economic Moat™

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Sector

Industry



Business Description

Warner Bros. Discovery was formed in 2022 through the combination of WarnerMedia and Discovery
Communications. It operates in three global business segments: studios, networks, and direct-to-consumer.
Warner Bros. Pictures is the crown jewel of the studios business, producing, distributing, and licensing movies and television shows. The networks business consists of basic cable networks, such as CNN, TNT, TBS, Discovery, HGTV, and the Food Network. Direct-to-consumer includes HBO and the firm's streaming platforms, which have now been consolidated to Max and Discovery+.
Much of the DTC content is created within the firm's other two business segments. Each segment operates with a global reach, with Max available in over 60 countries.

continue to believe Max has considerable potential as it bundles more in the US, takes better advantage of its ad-supported offering, and launches in several more international markets over the next couple of years.

Total revenue of \$9.6 billion was down 4% year over year, while adjusted EBITDA was down 18%, to \$2.4 billion. Studios weakness—specifically the absence of the Barbie movie, which provided a big boost last year—was most responsible for the downfall. EBITDA was roughly flat compared with the same period two years ago.

Business Strategy & Outlook Matthew Dolgin, CFA, Senior Equity Analyst, 8 Aug 2024
Warner Bros. Discovery faces significant uncertainty surrounding its evolution in a media landscape

defined by cord-cutting and many streaming choices. Ultimately, we think Warner's scale, distribution channels, production studios, and content portfolio will make it one of the survivors.

Like several peers whose businesses were built for traditional linear television, Warner has faced financial pressure as it tries to figure out how to compete in a world where consumers have preferred streaming to traditional television. Warner's networks business has declined amid a continually shrinking pay-TV subscriber base, while at the same time the firm faced heightened costs to build a streaming platform, attract subscribers, and populate its platforms with a robust content library. We expect these previously bifurcated segments to start working in harmony.

Warner's streaming business is now profitable and more mature, and we think the firm has the right strategy to navigate a convergence between traditional and new media. Its streaming assets are now confined exclusively to Max and Discovery+. Max is the home for nearly all Warner's on-demand entertainment content, but it has also become an outlet for live news and sports. CNN Max, which features live programming and includes some high-profile linear CNN simulcasts, is now included in all Max subscriptions. The sports add-on package includes NBA, MLB, NHL, and NCAA March Madness games to which TNT and TBS have rights.

Whether through streaming, linear, or licensing, we expect first-rate Warner content to continue to reach consumers. The firm's production studios remain top tier in terms of highest-grossing films each year and popular episodic television content. Warner may have to fine tune the traditional balance and timing for things like film exclusivity in theaters versus availability at home, or which television shows and films to license versus keeping in-house. But having a menu of distribution options and attractive content behind it should be deciding factors behind the firm's future success. Still, we expect a more subdued business that won't be able to grow profits nearly as much as in the past.

Bulls Say Matthew Dolgin, CFA, Senior Equity Analyst, 7 Nov 2024

▶ The entertainment content that Warner owns and can continue to create has value under any business



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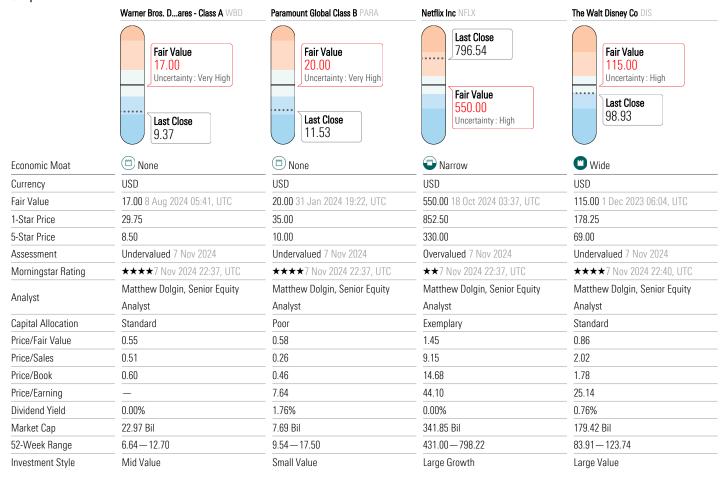
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Competitors



model. Warner's variety of distribution choices will be an asset in satisfying customers as the industry evolves further.

- ► Even if the streaming business model doesn't further evolve, Max's content and existing scale make it one of the few platforms that can stand alone and still attract and retain subscribers.
- ▶ With merger cost synergy opportunities still present and a rationalization in content spending, Warner is likely to significantly expand profits and free cash flow.

Bears Say Matthew Dolgin, CFA, Senior Equity Analyst, 7 Nov 2024

- ► Without a broadcast network or football rights, Warner Bros. linear networks aren't as critical for pay-TV distributors and will face increasing pressure as linear TV subscriptions continue to decline.
- ► Major streaming platforms have been able to successfully create hit television shows, reducing their need to license content from Warner and creating more competition for HBO and Max.
- ▶ Movie theaters and the film industry have also been permanently changed by streaming and



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consumers' preferences to view video entertainment at home, which will reduce the profitability of the film division.

Economic Moat Matthew Dolgin, CFA, Senior Equity Analyst, 8 Aug 2024

We are changing our moat rating for Warner Bros. Discovery to none from narrow, due to uncertainty surrounding the industry shift to streaming and the new competition that has created. We believe several of Warner's advantageous attributes make the firm likely to be a survivor in a new media landscape. However, we don't expect streaming to ever be as profitable for Warner as traditional linear television was, and the continuing secular decline in the traditional television business will likely dampen future financial performance, leaving us significantly less confident that Warner's returns on invested capital—specifically based on the amount of profit it will generate per dollar invested to create content—will continue to exceed its cost of capital for the next decade.

We still think Warner holds valuable intangible assets, including production studios that are topnotch in their ability to create popular content and a variety of wide-reaching distribution outlets that can reach consumers via streaming, traditional television, and movie theaters.

Though not as valuable as they once were, Warner has some of the most widely distributed cable networks and brands, such as CNN, TNT, and TBS. The networks are still among the top destinations for live news and sports, the most critical types of linear programming. The franchises these networks have created should provide an edge in retaining sports rights and in transitioning fully to streaming if and when the time comes.

As a package, we expect the linear networks—which also include popular niche lifestyle networks with loyal viewers, like HGTV and the Food Network—and Warner's deep content library to make the Max streaming platform one of the winners as the streaming industry matures and the distinction between linear and streaming television blurs. With nearly 100 million global subscribers, it has already separated itself from most peers, with only Netflix and Disney clearly having bigger subscriber bases. More generally, given Warner's major film and television studios and the franchises it owns, we don't see many competitors that will be able to replicate the quantity and quality of content Warner can offer.

The Warner Bros. studios is a critical asset that smaller and newer competitors will have difficulty replicating. Even apart from the franchises and existing content that Warner can continue to monetize and build upon, major studios have advantages in developing brand new content. Besides the financial resources that separate them from many other content creators, major studios have deep relationships with film industry talent and the widest distribution and marketing channels, giving them an advantage in attracting the premier owners and creators of content. Coupled with their relatively huge content budgets, major studios end up with the most shots on goal for major hits.

In film creation, smaller or independent studios typically partner with major studios to help with



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financing or distribution, and it's rare for them to produce commercial hits without major studio partnership. Even new competitors with tremendous financial resources, such as tech companies in recent years, haven't shown themselves to be on the same competitive playing field. Considering the 100 films that comprised the 25 highest-grossing at the box office each year from 2020-23, nearly three-quarters were distributed by one of the five major film studios, according to IMDb. Warner Bros. distributed 19 films on the lists. Netflix, Apple, and Amazon-owned MGM collectively placed two of these films. We believe the major tech companies can make further inroads if they have the desire to continue investing in film production, but we expect the pace will be slow going.

Warner Bros. has also very successfully churned out new television shows, which it either shows on its own platforms or licenses to others. Apart from the long string of HBO shows it has created, such as megahits in the past few years like Succession or Game of Thrones, it has produced current hits on other networks or platforms, such as Ted Lasso and Shrinking for Apple TV, and Young Sheldon for CBS.

In sports, Warner's advantage stems primarily from NBA basketball. Other than the NFL, the NBA was the only other sports league to rate in the top 10 most watched programming during the 2022-23 television season according to Nielsen, with both the first and second rounds of the playoffs making the list. However, the NBA contract, which currently includes television rights for TNT and ESPN, expires after the 2024-25 season. We believe the NBA values TNT and the peripheral programming it provides with its Inside the NBA talent. However, it remains possible that TNT loses the rights or, more likely in our view, the network sees a huge jump in the rights fees it has to pay. Professional sports leagues have been extracting more value for themselves in recent years and have more bargaining power if streaming platforms enter the competition and the leagues consider them viable alternatives.

Fair Value and Profit Drivers Matthew Dolgin, CFA, Senior Equity Analyst, 7 Nov 2024

We're maintaining our \$17 fair value estimate for Warner Bros. Discovery. Our forecast assumes the firm loses its NBA rights, despite its pending lawsuit against the league, and implies an enterprise value multiple of 8.0 times our projected 2025 adjusted EBITDA.

We project only about 1% average annual revenue growth from 2025-28 after a 4% decline in 2024, as continuing declines in television networks mostly offset streaming and studios growth.

We project linear networks revenue to decline roughly 10% in both 2025 and 2026 after the firm loses its NBA rights in the fall of 2025. We expect advertising revenue to take a big hit and reset at a lower baseline immediately within that first year, while we think the decline in distribution revenue, which Warner receives under contracts with pay-TV distributors will be more gradual, as the effect should happen as deals expire. Ultimately, however, we expect Warner will have to accept materially lower affiliate fees without the NBA rights, despite other sports programming the firm has now secured. Even apart from the effect of the NBA contract, we project the networks business to continue declining at 4%



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annually, as the decline in linear television viewership and subscriptions continues.

We're optimistic about Warner's streaming businesses, both with opportunities to expand to more international countries and to gain greater penetration domestically. In both cases, we expect the firm to rely heavily on bundling, which will depress growth in average revenue per subscriber but should lead to a much bigger subscriber base, reduce frequent subscription cancelations, and bring further opportunities for advertising revenue. Combined with a mix shift toward international markets, we project subscription ARPU to be lower at the end of our forecast than it is today. We project a decline in the next couple of years as more international markets come online and the domestic bundling strategy takes center stage, and then slight ARPU growth in 2027. We think advertising opportunities will drive overall average revenue per streaming subscriber, but we still expect an average of less than 1% growth annually. However, we expect a much larger subscriber base, with an annual average of about 3 million additional domestic subscribers and 8 million new international subscribers from 2025-28, to support revenue growth that averages in the high single digits throughout our five-year forecast.

We project studios revenue to bounce back from 2024 headwinds with double-digit revenue growth in 2025 followed by 3% annual growth after that. We believe attendance at movie theaters has returned to what will be long-term normalized levels following the shutdowns that occurred due to the pandemic. We also think we've reached a bottom in licensing film and television content to third parties. We generally expect Warner to retain its most popular television shows and pay-one film window rights for the Max streaming service, but we think it will become more open to licensing its less transformative and older content to other content providers.

We project cash content spending to stay in the \$14 billion-\$15 billion range throughout our forecast, with lower sports spending following the loss of NBA rights offset by growing spending elsewhere. We no longer expect much margin expansion for Warner, with the adjusted EBITDA margin remaining in the 20%-25% range. While we expect the firm still has costs to cut following the Discovery/WarnerMedia and we expect the streaming business to become materially profitable, the more rapid decline in networks, by far the firm's most profitable segment, should offset much of those other gains. We project free cash flow to remain in the \$5 billion range annually.

Risk and Uncertainty Matthew Dolgin, CFA, Senior Equity Analyst, 8 Aug 2024

Our Morningstar Uncertainty Rating for Warner Bros. Discovery is Very High. The evolution of the media industry that is currently taking place and the firm's weak financial position are the main factors behind our assessment.

WarnerMedia and Discovery historically had three main sources of revenue: fees that they received from pay-TV distributors to carry their television channels, television advertising, and licensing fees for movies and television programming distributed by third parties. Each of these sources is now under



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pressure. Cord-cutting and diminished linear television viewership have depressed carriage fees and advertising revenue. Less emphasis on movie theaters and an industry shift toward streaming services — with a byproduct of Warner keeping more of its content in-house and streaming competitors relying on their own content production — have depressed licensing revenue.

There's significant uncertainty surrounding how streaming plays out and how successful Warner's transition will be. Most notably, we see a lot of potential variability regarding how consumers ultimately purchase streaming subscriptions—whether primarily as part of a bundle of services or predominantly individually—and therefore how big Warner's streaming subscriber base can be and at what price points. We also see a range of outcomes in terms of how streaming co-exists with linear and therefore how quickly and how much further pay-TV subscribers will decline.

From an ESG perspective, we believe potential social issues carry the greatest risk. The entertainment industry in general has a history of bad behavior regarding issues like sexual assault and harassment and racial and gender discrimination. We doubt any individual one could create a material financial impact, but harm to the firm's image could bring consequences with consumers and employees that ultimately dent the firm's business.

Capital Allocation Matthew Dolgin, CFA, Senior Equity Analyst, 23 Feb 2024

We assign Warner Bros. Discovery a Standard Morningstar Capital Allocation Rating. Our rating considers both the likelihood that the firm is positioned to add value through its investments as well as its handling of its balance sheet and shareholder distributions.

The merger of WarnerMedia and Discovery in 2022 created a company with very high financial leverage—about 5.0 times net debt/EBITDA. We think management has managed the debt load well since that time, as it has prioritized paying down debt and reducing leverage ratios. Before the merger, Discovery paid a dividend, and the firm wisely cut it completely once the two firms came together. In the first 18 months after the merger, Warner Bros. Discovery reduced its debt by about \$7.5 billion, to end September 2023 with about \$44 billion in debt. Management expects to conclude 2023 with a net debt/EBITDA ratio lower than 4.0 and intends and to reach the 2.5-3.0 range by the end of 2024. We think prioritizing financial flexibility is smart and was worth forgoing potential share buybacks despite depressed stock levels.

We question some of the investments and strategic direction that predated the merger. However, given the decision to merge and the state of the combined firm's streaming platforms at the time of the merger, we think strategy and investments have been well measured. Management has consolidated streaming services and content to most effectively position Max as a valuable streaming platform for consumers. Management abandoned CNN+ upon concluding that the stand-alone service was not worthwhile, rather than continuing to invest in a platform it doubted. Instead, the firm has added live



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news and sports to Max and been rational with its spending—content and otherwise—as it has made its streaming segment profitable and positions itself to best make the transition from a linear-only television provider to one that can provide first-rate content over whichever distribution method its customers prefer.

Analyst Notes Archive

Warner Bros. Discovery: Carriage Deal With Charter Is Promising and Should Be an Industry

Blueprint Matthew Dolgin, CFA, Senior Equity Analyst, 12 Sep 2024

Warner Bros. Discovery and Charter Communications announced an early renewal of the affiliate agreement that allows Charter to offer Warner's family of television networks in Charter's pay-TV cable packages. The deal is most notable because Charter will include access to the ad-supported Max streaming service, including HBO programming, in its standard television subscriptions for no additional customer fee. This structure largely mirrors the deals Charter struck with Disney and Paramount to similarly include streaming services in a standard pay-TV package, but this is the first to also include what had previously been an add-on premium network in HBO. This type of evolution in the pay-TV industry supports our view that traditional media companies that historically relied on linear networks maintain value and have been overly punished in the market. We are maintaining our \$17 fair value estimate and no-moat rating for WBD.

As the television industry evolves, we believe a bundle of streaming services makes the most sense for both consumers and streaming providers, and we think pay-TV distributors are best positioned to offer this bundle. Including streaming services with linear networks results in the mechanism of consumption becoming inconsequential. Ultimately, we think consumers should be able to go to one place to choose whatever programming they watch in a seamless fashion without consideration to where a given program is housed, and bundling gives them access to the most content for the least cost. Streaming providers can gain a mass audience through bundling without the fragmentation and more-frequent cancellations that occur when consumers jump from one service to another based on current programming. In our view, what Charter has done with its content providers is very healthy for the industry, but other major distributors will need to follow for the legacy media firms to truly turn around their businesses.

Warner Bros. Discovery Earnings: Hard to Find Any Positives, but the Stock Is Still Overly Penalized

Matthew Dolgin, CFA, Senior Equity Analyst, 8 Aug 2024

The revenue decline at Warner Bros. Discovery remained severe during the second quarter. The pressure under which linear networks have been operating hasn't shown signs of abating. Studios revenue continues to struggle. Sales in the direct-to-consumer segment, critical to the firm's future, declined at a mid-single-digit rate while DTC EBITDA turned negative. Total adjusted EBITDA declined at



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nearly three times the rate of total sales. Uncertainty about the recent loss of NBA television rights causes concern that the decline in Warner's linear television business will spiral more quickly. However, while adjustments we've made to reflect the NBA decision and some near-term cost pressures led us to cut our fair value estimate to \$17 from \$20, we still think there is significant value in Warner Bros. Discovery that the current stock price doesn't adequately reflect. We don't expect major near-term improvement in operating performance and don't see obvious catalysts within the next year. However, we see value in Max and the firm's studios and agree with management's strategy. We rate Warner as a Very High Uncertainty company, but we expect the value to be unlocked eventually.

The DTC revenue decline and EBITDA loss were perhaps the most disheartening, but the results weren't as bad as they looked, and we expect this business to significantly improve. DTC revenue declined 6% year over year, but it would've been up about 5% after excluding the timing of licensing deals last year. Distribution revenue, which includes streaming subscription revenue, was up less than 1%, but some linear HBO declines held it back. The \$100 million EBITDA loss was due in part to an allocation of costs after Warner put sports content on Max, and the firm increased marketing efforts as Max has recently launched in several European and Latin American countries. Management expects a return to DTC profitability in the second half and still expects \$1 billion in DTC profits in 2025.

Warner Bros. Discovery: The NBA Finalizes Its Next TV Deal; Amount Seems High for the Partners Matthew Dolgin, CFA, Senior Equity Analyst, 25 Jul 2024

The National Basketball Association officially announced its next media partners, confirming widely disseminated reports that it had chosen Disney, NBCUniversal, and Amazon. The NBA rejected Warner Bros. Discovery's attempt to match Amazon's slice of the deal. Though we're not privy to any details, we're not yet convinced the NBA has the final word on rejecting Warner's offer. However, we believe the most likely outcome is that Disney, NBCU, and Amazon will end up with the rights, which will commence in the fall of 2025 and end in 2036.

Multiple news outlets peg the deal's total value at \$77 billion, with each partner paying roughly \$2 billion-\$3 billion annually. We generally think this is too high of a price, but the agreements should not make a material difference in our fair value estimates for Disney, Comcast, or Amazon, which all have double-digit annual content budgets and diversified businesses.

This deal will affect Warner the most. As the smallest of the potential partners and the only pure-play media firm, Warner's balance sheet would be the most stretched by the cash outlay, but the loss of the NBA rights could also have a significant impact on its operations. If Warner indeed loses NBA rights, we expect significantly more pressure in Warner's declining linear television business. We expect its package of cable networks will receive much lower affiliate fees from pay-TV distributors and that it will generate significantly lower advertising revenue, as the NBA was perhaps Warner's most important piece of linear content. Still, we think Warner will likely be better off than if it had paid closer to \$2.5



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billion for lesser rights than it had previously, which we believe it would have been in for if it tried to match the offer for the rights that NBCU secured. We are not adjusting our Warner model until we learn more details, but we don't anticipate a major change to our \$20 per share fair value estimate under any of the currently plausible scenarios.

Warner Bros. Discovery Earnings: Mostly Awful Results, but Signs of Progress and Cause for

Optimism Matthew Dolgin, CFA, Senior Equity Analyst, 9 May 2024

Warner Bros. Discovery once again shared disappointing quarterly results, with very light revenue and profits. But not only do we think the stock is pricing in an overly dire outcome, we think the poor first-quarter headline results obscure several areas of progress as the business evolves toward streaming. We expect significant improvement over the next several quarters, though the fate of Warner's expiring NBA rights is a wild card. We are maintaining our outlook and \$20 fair value estimate.

Total revenue was down 7% year over year, with weakness across all segments. Direct-to-consumer, which includes streaming services, was essentially flat, while networks was down 8% and studios down 12%. We expect networks revenue to be in long-term decline, but the rate of decline should improve from the level of recent weakness. On the other hand, we think DTC is poised to get much stronger over the next year, and the poor studios performance was driven by the Hollywood strikes and a poorly received game release.

Weak DTC revenue was mostly a result of fewer US subscribers relative to last year following over 3 million subscriber losses during the final three quarters of 2023, which was caused, in part, by folding Discovery+ into the Max streaming service and a decline in HBO linear subscribers. However, Warner added 700,000 domestic and 1.3 million international DTC subscribers this quarter and has other initiatives that we think will keep the subscriber base expanding. Notably, after launching Max in many Latin American countries during the first quarter, Warner is set to launch in several European countries during the second quarter. Warner is doing this while keeping the DTC segment profitable, with \$86 million in adjusted EBITDA this quarter, up from \$50 million a year ago. We're also pleased to see the firm more firmly embrace bundling, as it did with its May 8, 2024, announcement of a bundled offering with Disney's streaming services.

Warner Bros. Discovery Earnings: Cash Flow Continues Improving Despite Ugly Revenue Trends

Matthew Dolgin, CFA, Senior Equity Analyst, 23 Feb 2024

Warner Bros. Discovery's fourth-quarter results were disappointing, as the Max streaming platform is yet to show any renewed momentum. Sales results in the networks and studios segments were also much worse than we anticipated, which we attribute in part to the actors and writers strikes during the second half of 2023. The top-line malaise makes it easy to write off the company's future, but we think that overlooks the cash the firm is increasingly generating and the opportunities it has to significantly



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improve profitability even without much sales growth. With those components in mind, we're reducing our fair value estimate from \$22 to \$20.

Direct-to-consumer, or DTC, revenue, which includes the streaming platforms, grew only 3% year over year. The global subscriber base was virtually flat sequentially, and the firm shed another 600,000 subscribers in the US, which is disappointing considering Max now has live news and sports available. We expect Max to modestly add domestic subscribers in the near term, as it should benefit from newer content following a weak slate of recent releases in part due to the strikes. Longer term, we think Max will need to be included in some type of bundle in the US to achieve significantly more penetration. However, the firm should have international subscriber tailwinds over the next few years, as it is set to bring Max to several new international markets.

DTC adjusted EBITDA was negative \$55 million in the fourth quarter but achieved profitability for the full year, at \$103 million. Despite the new market rollouts, management is targeting \$1 billion in DTC adjusted EBITDA in 2025.

WBD has made substantial progress to improve efficiency and cost synergies following the Discovery-Warner merger. In 2023, consolidated adjusted EBITDA grew 11% despite a 4% decline in total revenue (nearly 350 basis points of margin expansion), and free cash flow was over \$6 billion.

Disney, Warner Bros. Discovery, and Fox: Coming Together With a Sports Streaming Platform

Matthew Dolgin, CFA, Senior Equity Analyst, 7 Feb 2024

Disney, Warner Bros. Discovery, and Fox announced a joint venture to create a streaming platform that will include all of the linear sports content that the firms broadcast. The platform should launch in the fall of 2024 and will include programming from 14 linear networks and a variety of sports leagues. The move doesn't change our fair value estimates—\$115 for Disney, \$20 for Warner Bros. Discovery, and \$43 for Fox. We've expected a streaming bundle and linear sports programming moving increasingly to streaming, and we don't believe this move changes the total monetization pie for sports content.

Few specifics about the sports streaming platform have been disclosed apart from the programming that it will include, but generally we believe greater streaming success will lead to more linear television pressure, and vice versa. In comments on its earnings call, Fox's management stressed that this streaming platform is targeted to the half of U.S. households that do not have pay-TV subscriptions rather than as an alternative to those that do. Whether that proves true, in our view depends on the service's price point, and we think the content contributors will have to thread a needle to triangulate between price points of pay-TV subscriptions and standalone streaming platforms. Pricing too low will more likely lead to a swifter decline of pay-TV subscribers and significantly reduce the fees pay-TV distributors are willing to pay. Pricing on the higher end to avoid that fate, which we think is likely, would moderate uptake while still leading to some concessions to pay-TV distributors due to the lack of



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Last Price 9.37 USD 7 Nov 2024 Fair Value Estimate 17.00 USD 8 Aug 2024 05:41, UTC Price/FVE 0.55 Market Cap 22.97 USD Bil 7 Nov 2024 Economic Moat™

Mone

Equity Style Box
Mid Value

Uncertainty Very High Capital Allocation Standard ESG Risk Rating Assessment¹

6 Nov 2024 06:00, UTC

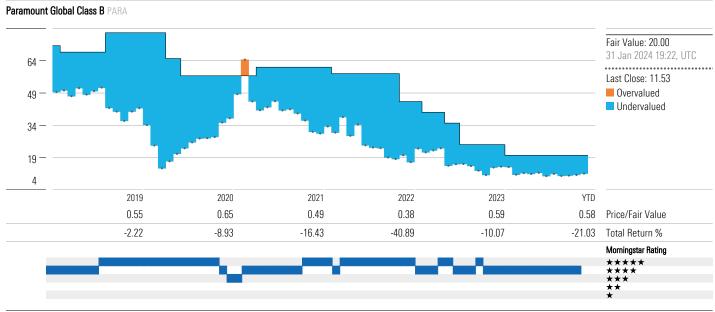
exclusivity.

We also don't yet know the incremental costs each firm will need to undertake to build and market the platform, but because the platform shouldn't require additional content costs, as other nascent streaming services have, we don't expect them to be overly significant. Fox's management said it expected for the platform to be accretive pretty quickly.

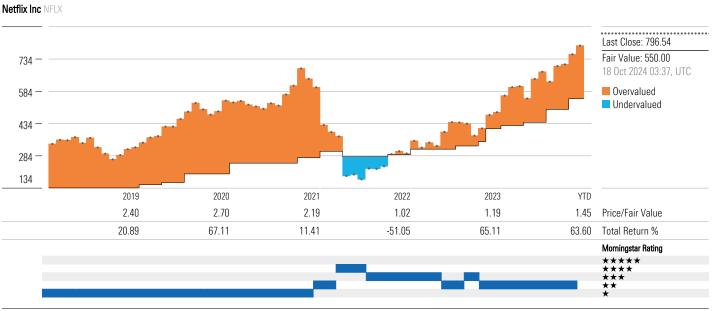


WBD ★★★★ 7 Nov 2024 22:37. UTC

Competitors Price vs. Fair Value



Total Return % as of 07 Nov 2024. Last Close as of 07 Nov 2024. Fair Value as of 31 Jan 2024 19:22, UTC.

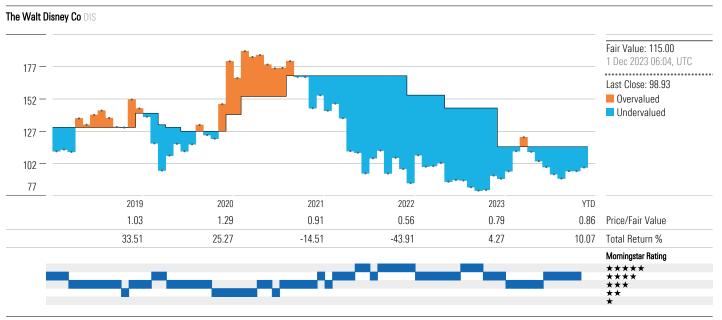


Total Return % as of 07 Nov 2024. Last Close as of 07 Nov 2024. Fair Value as of 18 Oct 2024 03:37, UTC.



WBD ★★★★ 7 Nov 2024 22:37. UTC

Competitors Price vs. Fair Value



Total Return % as of 07 Nov 2024. Last Close as of 07 Nov 2024. Fair Value as of 1 Dec 2023 06:04, UTC.



WBD ★★★★ 7 Nov 2024 22:37, UTC

Last Price 9.37 USD 7 Nov 2024	Fair Value Estimate Price/FVE Market Cap 17.00 USD 0.55 22.97 USD Bil 8 Aug 2024 05:41, UTC 7 Nov 2024		il	Economic Moat ¹ Mone			UncertaintyCapital AllocationVery HighStandard		(1)	ESG Risk Rating Assessment ¹ (I) (I) (I) (I) (I) 6 Nov 2024 06:00, UTC			
Morningstar I	Historical Summary												
Financials as of 3	30 Sep 2024												
Fiscal Year, ends 3	1 Dec	2014	2015	2016	2017	2018	2019	2020	202	1 2022	2023	YTD	TTM
Revenue (USD Bi	1)	6.27	6.39	6.50	6.87	10.55	11.14	10.67	12.19	9 33.82	41.32	29.29	39.58
Revenue Growth	%	13.2	2.1	1.6	5.8	53.5	5.6	-4.2	14.2	2 177	22.2	-5.6	-5.9
EBITDA (USD Bil)		3.96	3.93	4.12	2.58	6.44	7.17	6.69	7.1	5 14.17	22.37	6.77	12.16
EBITDA Margin %	6	63.2	61.4	63.4	37.5	61.0	64.4	62.7	58.0	6 41.9	54.1	23.1	30.7
Operating Income	e (USD Mil)	2,120	2,052	2,053	2,119	2,600	3,190	2,730	1,97	3 -3,496	-886	-621	-712
Operating Margin	1 %	33.8	32.1	31.6	30.8	24.6	28.6	25.6	16.2	2 -10.3	-2.1	-2.1	-1.8
Net Income (USD	Mil)	1,139	1,034	1,194	-337	594	2,069	1,219	1,000	6 -7,371	-3,126	-10,817	-11,217
Net Margin %		18.2	16.2	12.1	-3.3	5.6	18.6	10.2	7.5	5 -21.9	-7.6	-36.9	-28.3
Diluted Shares Ou	utstanding (Mil)	687	656	610	576	688	711	672	664	4 1,940	2,436	2,449	2,446
Diluted Earnings	Per Share (USD)	1.66	1.58	1.96	-0.59	0.86	2.88	1.81	1.54	4 -3.82	-1.28	-4.42	-4.58
Dividends Per Share (USD)		_	_	_	_	_	_	_	_		_	_	_
Valuation as of 3	31 Oct 2024												
Price/Sales Price/Earnings		2014 3.8 21.7	2015 2.7 16.5	2016 2.6 15.4	2017 2.0 11.7	2018 1.7 -16.3	2019 2.1 12.6	2020 1.9 14.5	202 1.0 1.0 12.0	3 0.5	2023 0.7 -5.9	0.5 -1.7	TTM 0.5 -1.7
Price/Cash Flow		18.5	16.4	11.8	7.7	7.6	7.6	6.0	6.3		4.1	2.5	2.5
Dividend Yield %		_	_	_	_	_	_	_	_		_	_	_
Price/Book		2.6	2.0	2.1	1.5	1.6	1.8	1.5	1.0		0.6	0.6	0.6
EV/EBITDA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Operating Perfor	rmance / Profitability as o	of 30 Sep 2024											
Fiscal Year, ends 3	1 Dec	2014	2015	2016	2017	2018	2019	2020	202	1 2022	2023	YTD	TTM
ROA %		7.4	6.5	5.0	-1.2	2.2	6.2	3.2	2.		-2.4	_	-9.8
ROE %		19.3 10.7	18.7 9.7	14.9	-4.6	9.1	22.6	10.7	8.3		-6.8	_	-28.1
Asset Turnover				8.0 0.4	0.3 0.4	4.8 0.4	10.7 0.3	6.2 0.3	5.t 0.4		-1.6 0.3	_	-11.5 0.3
		0.4	0.4	0.4	0.4	0.4	0.0	0.0	0	- 0.4	0.0		
Financial Leverage Fiscal Year, ends 31 Dec		2014	2015	2016	2017	2018	2019	2020	202	1 2022	2023	Recent Otr	ΤТМ
Debt/Capital %	•	51.7	58.3	60.3	76.2	64.1	60.0	59.0	55.4		48.1	51.4	_
Equity/Assets %		35.1	34.3	33.0	20.4	25.8	29.3	30.7	33.		36.8	33.0	_
Total Debt/EBITD		1.8	2.0	1.9	5.7	2.6	2.2	2.3	2.		2.0	5.9	
EBITDA/Interest E	Expense	12.1	11.9	11.7	5.4	8.8	10.6	10.3	11.3	3 8.0	10.1	4.4	6.0
Morningstar A	Analyst Historical/Fo	recast Summ	nary as of 07 N	lov 2024									
Financials	=		Estimates			Forw	ard Valuatio	on		Est	imates		

Financials		E	stimates		
Fiscal Year, ends 31 Dec 2023	2022	2023	2024	2025	2026
Revenue (USD Mil)	33,817	41,321	39,482	39,597	38,429
Revenue Growth %	177.4	22.2	-4.5	0.3	-2.9
EBITDA (USD Mil)	9,174	10,200	8,760	9,753	9,940
EBITDA Margin %	27.1	24.7	22.2	24.6	25.9
Operating Income (USD Mil)	-3,496	-886	-511	638	1,094
Operating Margin %	-10.3	-2.1	-1.3	1.6	2.9
Net Income (USD Mil)	-7,371	-3,126	-11,123	-1,283	-352
Net Margin %	-21.8	-7.6	-28.2	-3.2	-0.9
Diluted Shares Outstanding (Mil)	1,940	2,436	2,459	2,459	2,459
Diluted Earnings Per Share(USD)	0.00	0.00	-4.52	-0.52	-0.14
Dividends Per Share(USD)	0.00	0.00	0.00	0.00	0.00

Forward Valuation	Estimates							
	2022	2023	2024	2025	2026			
Price/Sales	0.7	0.7	0.6	0.6	0.6			
Price/Earnings	_	_	-2.1	-18.0	-66.9			
Price/Cash Flow	_	_	_	_	_			
Dividend Yield %	_		_	_	_			
Price/Book	0.4	0.6	0.7	0.7	0.7			
EV/EBITDA	7.7	6.9	6.8	6.1	6.0			

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WBD ★★★ 7 Nov 2024 22:37 LITC

Last Price Fair Value Estimate Price/FVE Market Cap Economic Moat™ **Equity Style Box Capital Allocation** ESG Risk Rating Assessment¹ Uncertainty 22.97 USD Bil (III) None Mid Value Very High Standard **@@@@** 9.37 USD 17.00 USD 0.55 7 Nov 2024 6 Nov 2024 06:00, UTC 7 Nov 2024 8 Aug 2024 05:41, UTC

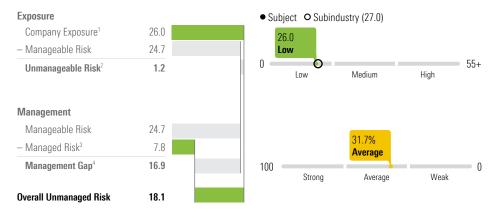
ESG Risk Rating Breakdown

ESG Risk Rating

Negligible

18.12 Low

Low



- ► Exposure represents a company's vulnerability to ESG risks driven by their business model
- ► Exposure is assessed at the Subindustry level and then specified at the company level
- ► Scoring ranges from 0-55+ with categories of low, medium, and high-risk exposure
- ▶ Management measures a company's ability to manage ESG risks through its commitments and actions
- ► Management assesses a company's efficiency on ESG programs, practices, and policies
- ► Management score ranges from 0-100% showing how much manageable risk a company is managing

ESG Risk Rating Assessment⁵







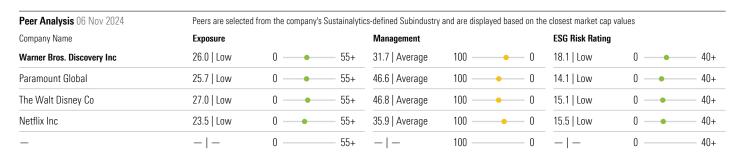




Medium ESG Risk Ratings measure the degree to which a company's value is impacted by environmental, social, and governance risks, by evaluating the company's ability to manage the ESG risks it faces.

1. A company's Exposure to material ESG issues 2. Unmanageable Risk refers to risks that are inherent to a particular business model that cannot be managed by programs or initiatives 3. Managed Risk = Manageable Risk multiplied by a Management score of 31.7% 4. Management Gap assesses risks that are not managed, but are considered manageable 5. ESG Risk Rating Assessment = Overall Unmanaged Risk = Management Gap plus Unmanageable Risk

ESG Risk Rating is of Nov 06, 2024. Highest Controversy Level is as of Oct 08, 2024. Sustainalytics Subindustry: Cable and Satellite. Sustainalytics provides Morningstar with company ESG ratings and metrics on a monthly basis and as such, the ratings in Morningstar may not necessarily reflect current Sustainalytics' scores for the company. For the most up to date rating and more information, please visit: sustainalytics.com/esq-ratings/



High

Severe

Appendix

Historical Morningstar Rating

Dec 2024	Nov 2024	Oct 2024	Sep 2024	Aug 2024	Jul 2024	Jun 2024	May 2024	Apr 2024	Mar 2024	Feb 2024	Jan 2024
_	***	****	****	****	****	****	****	****	****	****	****
Dec 2023	Nov 2023	Oct 2023	Sep 2023	Aug 2023	Jul 2023	Jun 2023	May 2023	Apr 2023	Mar 2023	Feb 2023	Jan 2023
****	****	****	****	***	****	****	****	****	****	****	****
Dec 2022 ★★★★★	Nov 2022 ★★★★	0ct 2022 ★★★★	Sep 2022 ★★★★	Aug 2022 ★★★★	Jul 2022 ★★★★	Jun 2022 ★★★★	May 2022 ★★★★	Apr 2022 ★★★★★	Mar 2022 ★★★★	Feb 2022 ★★★★	Jan 2022 ★★★★
Dec 2021	Nov 2021	Oct 2021	Sep 2021	Aug 2021	Jul 2021	Jun 2021	May 2021	Apr 2021	Mar 2021	Feb 2021	Jan 2021
****	****	****	****	****	****	****	****	***	**	*	**
Dec 2020 ★★★	Nov 2020 ★★★	0ct 2020 ★★★★	Sep 2020 ★★★★	Aug 2020 ★★★★	Jul 2020 ★★★★	Jun 2020 ★★★★	May 2020 ★★★★	Apr 2020 ★★★★	Mar 2020 ★★★★	Feb 2020 ★★★★	Jan 2020 ★★★
Dec 2019	Nov 2019	Oct 2019	Sep 2019	Aug 2019	Jul 2019	Jun 2019	May 2019	Apr 2019	Mar 2019	Feb 2019	Jan 2019
***	***	***	****	***	***	***	***	***	***	***	***
aramount (Global Class B	PARA 7 Nov 202	24 22:37, UTC								
Dec 2024	Nov 2024	Oct 2024	Sep 2024	Aug 2024	Jul 2024	Jun 2024	May 2024	Apr 2024	Mar 2024	Feb 2024	Jan 2024
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Dec 2023 ★★★★	Nov 2023 ★★★★	0ct 2023 ★★★★	Sep 2023 ★★★	Aug 2023 ★★★★	Jul 2023 ★★★★	Jun 2023 ★★★★	May 2023 ★★★★	Apr 2023 ★★★★	Mar 2023 ★★★★	Feb 2023 ★★★★	Jan 2023 ★★★★
Dec 2022 ★★★★	Nov 2022 ★★★★	0ct 2022 ★★★★	Sep 2022 ★★★★	Aug 2022 ★★★★	Jul 2022 ★★★★	Jun 2022 ★★★★	May 2022 ★★★★	Apr 2022 ★★★★	Mar 2022 ★★★	Feb 2022 ★★★★	Jan 2022 ★★★★
Dec 2021	Nov 2021	Oct 2021	Sep 2021	Aug 2021	Jul 2021	Jun 2021	May 2021	Apr 2021	Mar 2021	Feb 2021	Jan 2021
****	****	****	****	****	****	****	****	****	****	***	***
Dec 2020 ★★★★	Nov 2020 ★★★★★	0ct 2020 ★★★★	Sep 2020 ★★★★	Aug 2020 ★★★★	Jul 2020 ★★★★	Jun 2020 ★★★★	May 2020 ★★★★★	Apr 2020 ★★★★★	Mar 2020 ★★★★	Feb 2020 ★★★★	Jan 2020 ★★★★
Dec 2019	Nov 2019	Oct 2019	Sep 2019	Aug 2019	Jul 2019	Jun 2019	May 2019	Apr 2019	Mar 2019	Feb 2019	Jan 2019
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Dec 2023 ★★	Nov 2023 ★★	0ct 2023 ★★★	Sep 2023 ★★★	Aug 2023 ★★	Jul 2023 ★★	Jun 2023 ★★	May 2023 ★★★	Apr 2023 ★★★	Mar 2023 ★★★	Feb 2023 ★★★	Jan 2023 ★★★
Dec 2022	Nov 2022	Oct 2022	Sep 2022	Aug 2022	Jul 2022	Jun 2022	May 2022	Apr 2022	Mar 2022	Feb 2022	Jan 2022
***	***	***	***	***	****	***	***	***	**	**	**
Dec 2021 ★	Nov 2021 ★	0ct 2021 ★	Sep 2021 ★	Aug 2021 ★	Jul 2021 ★	Jun 2021 ★	May 2021 ★	Apr 2021 ★	Mar 2021 ★	Feb 2021 ★	Jan 2021 ★
Dec 2020	Nov 2020	Oct 2020	Sep 2020	Aug 2020	Jul 2020	Jun 2020	May 2020	Apr 2020	Mar 2020	Feb 2020	Jan 2020
*	*	*	*	*	*	*	*	*	*	*	*
				Aug 2019							



The Walt Disney Co DIS 7 Nov 2024 22:40, UTC

Nov 2024	0ct 2024	Sep 2024	Aug 2024	Jul 2024	Jun 2024	May 2024	Apr 2024	Mar 2024	Feb 2024	Jan 2024
★★★★	★★★★	★★★★	★★★★	★★★★	★★★	★★★	★★★	★★★	★★★	★★★★
Nov 2023	Oct 2023	Sep 2023	Aug 2023	Jul 2023	Jun 2023	May 2023	Apr 2023	Mar 2023	Feb 2023	Jan 2023
****	****	****	****	****	****	****	****	****	****	****
Nov 2022	0ct 2022	Sep 2022	Aug 2022	Jul 2022	Jun 2022	May 2022	Apr 2022	Mar 2022	Feb 2022	Jan 2022
★★★★	★★★★	★★★★	★★★	★★★★	★★★★	★★★	★★★★	★★★★	★★★	★★★★
Nov 2021	0ct 2021	Sep 2021	Aug 2021	Jul 2021	Jun 2021	May 2021	Apr 2021	Mar 2021	Feb 2021	Jan 2021
★★★	★★★	★★★	★★★	★★	★★★	★★★	★★	★★	★★	★★
Nov 2020	Oct 2020	Sep 2020	Aug 2020	Jul 2020	Jun 2020	May 2020	Apr 2020	Mar 2020	Feb 2020	Jan 2020
★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★★	★★★★	★★★	★★★
Nov 2019	Oct 2019	Sep 2019	Aug 2019	Jul 2019	Jun 2019	May 2019	Apr 2019	Mar 2019	Feb 2019	Jan 2019
★★	★★★	★★★	★★★		★★★	★★★	★★★	★★★★	★★★★	★★★★
	Nov 2023 *** Nov 2022 *** Nov 2021 ** Nov 2020 ** Nov 2020 ** Nov 2019	Nov 2023	**** **** Nov 2023 Oct 2023 Sep 2023 **** ***** ***** Nov 2022 Oct 2022 Sep 2022 **** **** **** Nov 2021 Oct 2021 Sep 2021 *** *** *** Nov 2020 Oct 2020 Sep 2020 ** *** *** Nov 2019 Oct 2019 Sep 2019	**** **** **** Nov 2023 Oct 2023 Sep 2023 Aug 2023 **** ***** ***** Nov 2022 Oct 2022 Sep 2022 Aug 2022 **** **** **** Nov 2021 Oct 2021 Sep 2021 Aug 2021 *** *** *** Nov 2020 Oct 2020 Sep 2020 Aug 2020 ** *** *** Nov 2019 Oct 2019 Sep 2019 Aug 2019	**** **** **** **** Nov 2023 Oct 2023 Sep 2023 Aug 2023 Jul 2023 **** ***** ***** ***** Nov 2022 Oct 2022 Sep 2022 Aug 2022 Jul 2022 **** ***** ***** ***** Nov 2021 Oct 2021 Sep 2021 Aug 2021 Jul 2021 *** *** *** *** *** Nov 2020 Oct 2020 Sep 2020 Aug 2020 Jul 2020 ** *** *** *** Nov 2019 Oct 2019 Sep 2019 Aug 2019 Jul 2019	**** **** **** **** **** Nov 2023 Oct 2023 Sep 2023 Aug 2023 Jul 2023 Jun 2023 **** **** **** **** **** Nov 2022 Oct 2022 Sep 2022 Aug 2022 Jul 2022 Jun 2022 **** **** **** **** **** **** Nov 2021 Oct 2021 Sep 2021 Aug 2021 Jul 2021 Jun 2021 *** *** *** *** *** Nov 2020 Oct 2020 Sep 2020 Aug 2020 Jul 2020 Jun 2020 ** *** *** *** *** Nov 2019 Oct 2019 Sep 2019 Aug 2019 Jul 2019 Jun 2019	Nov 2023 Oct 2023 Sep 2023 Aug 2023 Jul 2023 Jun 2023 May 2023 **** **** **** **** **** **** Nov 2022 Oct 2022 Sep 2022 Aug 2022 Jul 2022 Jun 2022 May 2022 **** **** **** **** **** **** **** Nov 2021 Oct 2021 Sep 2021 Aug 2021 Jul 2021 Jun 2021 May 2021 *** *** *** *** *** *** Nov 2020 Oct 2020 Sep 2020 Aug 2020 Jul 2020 Jun 2020 May 2020 ** *** *** *** *** *** Nov 2019 Oct 2019 Sep 2019 Aug 2019 Jul 2019 Jun 2019 May 2019	**** *** **** <	Nov 2023 Oct 2023 Sep 2023 Aug 2023 Jul 2023 Jun 2023 May 2023 Apr 2023 Mar 2023 **** **** **** **** **** **** **** **** Nov 2022 Oct 2022 Sep 2022 Aug 2022 Jul 2022 Jun 2022 May 2022 Apr 2022 Mar 2022 **** **** **** **** **** **** **** **** Nov 2021 Oct 2021 Sep 2021 Aug 2021 Jul 2021 Jun 2021 May 2021 Apr 2021 Mar 2021 *** *** *** *** *** *** *** *** Nov 2020 Oct 2020 Sep 2020 Aug 2020 Jul 2020 Jun 2020 May 2020 Apr 2020 Mar 2020 ** *** *** *** *** *** *** *** Nov 2019 Oct 2019 Sep 2019 Aug 2019 Jul 2019 Jun 2019 May 2019 Apr 2019 Mar 2019	**** ****



Overview

At the heart of our valuation system is a detailed projection of a company's future cash flows, resulting from our analysts' research. Analysts create custom industry and company assumptions to feed income statement, balance sheet, and capital investment assumptions into our globally standardized, proprietary discounted cash flow, or DCF, modeling templates. We use scenario analysis, indepth competitive advantage analysis, and a variety of other analytical tools to augment this process. Moreover, we think analyzing valuation through discounted cash flows presents a better lens for viewing cyclical companies, high-growth firms, businesses with finite lives (e.g., mines), or companies expected to generate negative earnings over the next few years. That said, we don't dismiss multiples altogether but rather use them as supporting cross-checks for our DCF-based fair value estimates. We also acknowledge that DCF models offer their own challenges (including a potential proliferation of estimated inputs and the possibility that the method may miss shortterm market-price movements), but we believe these negatives are mitigated by deep analysis and our longterm approach.

Morningstar's equity research group ("we," "our") believes that a company's intrinsic worth results from the future cash flows it can generate. The Morningstar Rating for stocks identifies stocks trading at a discount or premium to their intrinsic worth—or fair value estimate, in Morningstar terminology. Five-star stocks sell for the biggest risk adjusted discount to their fair values, whereas 1-star stocks trade at premiums to their intrinsic worth.

Four key components drive the Morningstar rating: (1) our assessment of the firm's economic moat, (2) our estimate of the stock's fair value, (3) our uncertainty around that fair value estimate and (4) the current market price. This process ultimately culminates in our singlepoint star rating.

1. Economic Moat

The concept of an economic moat plays a vital role not only in our qualitative assessment of a firm's long-term investment potential, but also in the actual calculation of our fair value estimates. An economic moat is a structural feature that allows a firm to sustain excess profits over a long period of time. We define economic profits as re-

turns on invested capital (or ROIC) over and above our estimate of a firm's cost of capital, or weighted average cost of capital (or WACC). Without a moat, profits are more susceptible to competition. We have identified five sources of economic moats: intangible assets, switching costs, network effect, cost advantage, and efficient scale.

Companies with a narrow moat are those we believe are more likely than not to achieve normalized excess returns for at least the next 10 years. Wide-moat companies are those in which we have very high confidence that excess returns will remain for 10 years, with excess returns more likely than not to remain for at least 20 years. The longer a firm generates economic profits, the higher its intrinsic value. We believe low-quality, no-moat companies will see their normalized returns gravitate toward the firm's cost of capital more quickly than companies with moats.

When considering a company's moat, we also assess whether there is a substantial threat of value destruction, stemming from risks related to ESG, industry disruption, financial health, or other idiosyncratic issues. In this context, a risk is considered potentially value destructive if its occurrence would eliminate a firm's economic profit on a cumulative or midcycle basis. If we deem the probability of occurrence sufficiently high, we would not characterize the company as possessing an economic moat.

2. Estimated Fair Value

Combining our analysts' financial forecasts with the firm's economic moat helps us assess how long returns on invested capital are likely to exceed the firm's cost of capital. Returns of firms with a wide economic moat rating are assumed to fade to the perpetuity period over a longer period of time than the returns of narrow-moat firms, and both will fade slower than no-moat firms, increasing our estimate of their intrinsic value.

Our model is divided into three distinct stages:

Stage I: Explicit Forecast

In this stage, which can last five to 10 years, analysts make full financial statement forecasts, including items such as revenue, profit margins, tax rates, changes in workingcapital accounts, and capital spending. Based on these projections, we calculate earnings before interest, after taxes (EBI) and the net new investment (NNI) to de-

rive our annual free cash flow forecast.

Stage II: Fade

The second stage of our model is the period it will take the company's return on new invested capital - the return on capital of the next dollar invested ("RONIC")—to decline (or rise) to its cost of capital. During the Stage II period, we use a formula to approximate cash flows in lieu of explicitly modeling the income statement, balance sheet, and cash flow statement as we do in Stage I. The length of the second stage depends on the strength of the company's economic moat. We forecast this period to last anywhere from one year (for companies with no economic moat) to 10-15 years or more (for wide-moat companies). During this period, cash flows are forecast using four assumptions: an average growth rate for EBI over the period, a normalized investment rate, average return on new invested capital (RONIC), and the number of years until perpetuity, when excess returns cease. The investment rate and return on new invested capital decline until a perpetuity value is calculated. In the case of firms that do not earn their cost of capital, we assume marginal ROICs rise to the firm's cost of capital (usually attributable to less reinvestment), and we may truncate the second stage.

Stage III: Perpetuity

Once a company's marginal ROIC hits its cost of capital, we calculate a continuing value, using a standard perpetuity formula. At perpetuity, we assume that any growth or decline or investment in the business neither creates nor destroys value and that any new investment provides a return in line with estimated WACC.

Because a dollar earned today is worth more than a dollar earned tomorrow, we discount our projections of cash flows in stages I, II, and III to arrive at a total present value of expected future cash flows. Because we are modeling free cash flow to the firm—representing cash available to provide a return to all capital providers—we discount future cash flows using the WACC, which is a weighted average of the costs of equity, debt, and preferred stock (and any other funding sources), using expected future proportionate long-term, market-value weights.

3. Uncertainty Around That Fair Value Estimate

Morningstar's Uncertainty Rating is designed to capture the range of potential outcomes for a company's intrinsic value. This rating is used to assign the margin of safety required before investing, which in turn explicitly drives our stock star rating system. The Uncertainty Rating is aimed at identifying the confidence we should have in assigning a fair value estimate for a given stock.

Our Uncertainty Rating is meant to take into account anything that can increase the potential dispersion of future outcomes for the intrinsic value of a company, and any-

Morningstar Equity Research Star Rating Methodology





thing that can affect our ability to accurately predict these outcomes. The rating begins with a suggested rating produced by a quantitative process based on the trailing 12-month standard deviation of daily stock returns. An analyst overlay is then applied, with analysts using the suggested rating, historical rating data, and their own knowledge of the company to inform them as they make the final Uncertainty Rating decision. Ultimately, the rating decision rests with the analyst. Analysts take into account many characteristics when making their final decision, including cyclical factors, operational and financial factors such as leverage, company-specific events, ESG risks, and anything else that might increase the potential dispersion of future outcomes and our ability to estimate those outcomes.

Our recommended margin of safety — the discount to fair value demanded before we'd recommend buying or selling the stock — widens as our uncertainty of the estimated value of the equity increases. The more uncertain we are about the potential dispersion of outcomes, the greater the discount we require relative to our estimate of the value of the firm before we would recommend the purchase of the shares. In addition, the Uncertainty Rating provides guidance in portfolio construction based on risk tolerance.

Our Uncertainty Ratings are: Low, Medium, High, Very High, and Extreme.

	Margin of Safety	
Qualitative Analysis Uncertainty Ratings	★★★★ Rating	★Rating
Low	20% Discount	25% Premium
Medium	30% Discount	35% Premium
High	40% Discount	55% Premium
Very High	50% Discount	75% Premium
Extreme	75% Discount	300% Premium

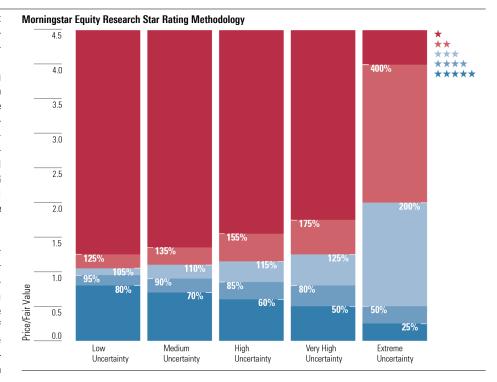
Our uncertainty rating is based on the interquartile range, or the middle 50% of potential outcomes, covering the 25th percentile–75th percentile. This means that when a stock hits 5 stars, we expect there is a 75% chance that the intrinsic value of that stock lies above the current market price. Similarly, when a stock hits 1 star, we expect there is a 75% chance that the intrinsic value of that stock lies below the current market price.

4. Market Price

The market prices used in this analysis and noted in the report come from exchange on which the stock is listed which we believe is a reliable source.

For more details about our methodology, please go to https://shareholders.morningstar.com

Morningstar Star Rating for Stocks



Once we determine the fair value estimate of a stock, we compare it with the stock's current market price on a daily basis, and the star rating is automatically re-calculated at the market close on every day the market on which the stock is listed is open. Our analysts keep close tabs on the companies they follow, and, based on thorough and ongoing analysis, raise or lower their fair value estimates as warranted.

Please note, there is no predefined distribution of stars. That is, the percentage of stocks that earn 5 stars can fluctuate daily, so the star ratings, in the aggregate, can serve as a gauge of the broader market's valuation. When there are many 5-star stocks, the stock market as a whole is more undervalued, in our opinion, than when very few companies garner our highest rating.

We expect that if our base-case assumptions are true the market price will converge on our fair value estimate over time generally within three years (although it is impossible to predict the exact time frame in which market prices may adjust).

Our star ratings are guideposts to a broad audience and individuals must consider their own specific investment goals, risk tolerance, tax situation, time horizon, income needs, and complete investment portfolio, among other factors

The Morningstar Star Ratings for stocks are defined below:

**** We believe appreciation beyond a fair risk ad-

justed return is highly likely over a multiyear time frame. Scenario analysis developed by our analysts indicates that the current market price represents an excessively pessimistic outlook, limiting downside risk and maximizing upside potential.

- ★★★★ We believe appreciation beyond a fair risk-adjusted return is likely.
- $\star\star\star$ Indicates our belief that investors are likely to receive a fair risk-adjusted return (approximately cost of equity).
- ★★ We believe investors are likely to receive a less than fair risk-adjusted return.
- ★ Indicates a high probability of undesirable risk-adjusted returns from the current market price over a multiyear time frame, based on our analysis. Scenario analysis by our analysts indicates that the market is pricing in an excessively optimistic outlook, limiting upside potential and leaving the investor exposed to Capital loss.

Other Definitions

Last Price: Price of the stock as of the close of the market of the last trading day before date of the report.

Capital Allocation Rating: Our Capital Allocation (or Stewardship) Rating represents our assessment of the quality of management's capital allocation, with particular emphasis on the firm's balance sheet, investments, and shareholder distributions. Analysts consider compan-



ies' investment strategy and valuation, balance sheet management, and dividend and share buyback policies. Corporate governance factors are only considered if they are likely to materially impact shareholder value, though either the balance sheet, investment, or shareholder distributions. Analysts assign one of three ratings: "Exemplary", "Standard", or "Poor". Analysts judge Capital Allocation from an equity holder's perspective. Ratings are determined on a forward looking and absolute basis. The Standard rating is most common as most managers will exhibit neither exceptionally strong nor poor capital allocation.

Capital Allocation (or Stewardship) analysis published prior to Dec. 9, 2020, was determined using a different process. Beyond investment strategy, financial leverage, and dividend and share buyback policies, analysts also considered execution, compensation, related party transactions, and accounting practices in the rating.

Capital Allocation Rating: Our Capital Allocation (or Stewardship) Rating represents our assessment of the quality of management's capital allocation, with particular emphasis on the firm's balance sheet, investments, and shareholder distributions. Analysts consider companies' investment strategy and valuation, balance sheet management, and dividend and share buyback policies. Corporate governance factors are only considered if they are likely to materially impact shareholder value, though either the balance sheet, investment, or shareholder distributions. Analysts assign one of three ratings: "Exemplary", "Standard", or "Poor". Analysts judge Capital Allocation from an equity holder's perspective. Ratings are determined on a forward looking and absolute basis. The Standard rating is most common as most managers will exhibit neither exceptionally strong nor poor capital allocation.

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Sustainalytics' ESG Risk Ratings measure the degree to which company's economic value at risk is driven by environment, social and governance (ESG) factors.

Sustainalytics analyzes over 1,300 data points to assess a company's exposure to and management of ESG risks. In other words, ESG Risk Ratings measures a company's unmanaged ESG Risks represented as a quantitative score. Unmanaged Risk is measured on an open-ended scale

starting at zero (no risk) with lower scores representing less unmanaged risk and, for 95% of cases, the unmanaged ESG Risk score is below 50.

Based on their quantitative scores, companies are grouped into one of five Risk Categories (negligible, low, medium, high, severe). These risk categories are absolute, meaning that a 'high risk' assessment reflects a comparable degree of unmanaged ESG risk across all subindustries covered.

The ESG Risk Rating Assessment is a visual representation of Sustainalytics ESG Risk Categories on a 1 to 5 scale. Companies with Negligible Risk = 5 Globes, Low Risk = 4, Medium Risk = 3 Globes, High Risk = 2 Globes, Severe Risk = 1 Globe. For more information, please visit sustainalytics.com/esg-ratings/

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