Research Highlights

A weekly summary of our best ideas and developments in the companies we cover.

Morningstar Equity Research
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OTT Can Save the TV Bundle

The constantly evolving media ecosystem has put tremendous pressure on the traditional pay-television bundle model as people find new ways to consume content. Three years ago, we offered the view that the traditional pay-television bundle was broken but not dead in our December 2015 Observer The Evolution of the Television Bundle. Since then, there have been a number of new entrants that use the Internet to distribute pay television, so-called over-the-top services. However, the pace of change within the pay-television delivery marketplace remains frustratingly slow and the price of the traditional bundle is stubbornly staying much higher than it needs to be. As a result, subscribers continue to flee the traditional delivery methods from cable, satellite, and telecom firms.

While the new OTT entrants have not forced traditional platforms to lower their pricing, these newer competitors have helped stabilize the overall pay-television market by signing up 7 million subscribers over the past few years. The subscriber growth at the new platforms has been driven by smaller households and "cord shavers," who value the bundle but not at the much higher price of traditional services. However, the growth at some of the largest OTT services has slowed down.

Our report examines the changes in the pay-television market over the past three years, the growth of OTT distribution, the differences and similarities of the five major OTT platforms, and the impact on media firms. In short, we think that both traditional and OTT platforms will survive by adapting and changing the composition of bundles and price points. We expect that subscriber growth for the OTT platforms will be captured by those firms that have more to offer consumers in terms of broad technological capabilities than the traditional television distributors.

As we examine our coverage across media and cable, two firms, Walt Disney and Comcast, stand out as having both a wide moat and the ability to sustain their competitive position in the face of the ongoing changes across the pay-television landscape. Both firms are trading well under our fair value estimates.

- The traditional television bundle looks dead when viewed through the lens of the traditional television distributors, but OTT players have helped stabilize the market overall.
- OTT growth has stalled recently, allowing losses at traditional distributors to stabilize somewhat. We believe this is a lull, not a new trend, as the early OTT leaders run out of steam and a new crop of truly disruptive players gains strength.

- The traditional television bundle remains expensive in the eyes of consumers, even though television remains widely popular and inexpensive relative to other forms of entertainment. With traditional distributors still earning excess profits, we believe there is room for television pricing to decline.
- Newer OTT platforms like Hulu with TV and YouTube TV appear to be breaking even at best as content costs alone eat up well over 90% of the $40 in monthly subscription revenue. Given the additional expenses, these services are likely losing money on a per-subscriber basis.
- Additional revenue sources, such as advertising, additional channel packages, and add-on services, may not currently be able to completely make up the gap between subscription revenue and expenses. But this gap could close as the platforms gain more subscribers.
- Instead of hiking prices to deal with affiliate fee increases, we think that the OTT platforms need to work with media firms to make the bundle somewhat skinnier by removing low-value networks.
- We believe that YouTube Now is among the best-positioned OTT platforms to capture new subscribers, as Google will continue to promote the service across its own brands. We think that the current market leaders, Sling TV and DirecTV Now, will soon be surpassed by YouTube TV, Hulu, and potentially even new entrants.
- Despite their ability to break a bundle, we project that the five firms (Disney, Fox, CBS, AT&T, and Comcast) will instead continue to support bundles from both traditional and OTT distributors. We think that all five firms recognize the importance of the bundle and that their networks and revenue streams benefit from being available in the largest possible number of homes.
- We believe Disney is the best-positioned of the media firms we cover to survive and flourish in the ever-changing pay-television ecosystem with its combination of strong networks, production studios, and well-loved characters.
- At Comcast, we expect that NBCUniversal will also flourish with its combination of brands. On the distribution side, we project that Comcast will continue trading increasingly low-margin television revenue for high-margin Internet access sales.

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Allergan's Outlook Should Improve After 2019 Transition Year

Despite some less-material recent challenges, we think Allergan looks poised for steady low-single-digit growth after 2019. The aesthetics business (28% of sales) continues to perform very well and should fend off new competition from Evolus and Revance because of Botox's brand recognition and injector familiarity. The pipeline looks solid, buoyed by products like ubrogepant and atogepant for migraine and rapastinel for acute depression.

Also, asset sales from the noncore women's health and anti-infective businesses should yield $4 billion to $5 billion, allowing options for debt reduction, tuck-in acquisitions, or share buybacks. Although 2019 should be a difficult year, as Restasis likely faces generics, we still think the company can maintain over $16 in adjusted EPS (our $16.13 forecast versus management's disclosed $16.35 outlook). With the stock trading at nearly 8 times 2019 earnings, we think it looks considerably undervalued.

- Despite competition from Evolus and Revance in the cosmetic market and novel CGRPs for migraine in the therapeutic market, we expect Botox to remain a resilient franchise because of high barriers to entry in the botulinum toxin market and Botox's unmatched approved indications. Recession fears represent a potential headwind, but Botox has historically performed well during pullbacks in consumer spending.
- Positive catalysts are forming on the horizon as management's past investment in early-stage clinical assets will come to fruition, including ubrogepant (acute migraine, $1 billion peak potential), abicipar (wet age-related macular degeneration, $500 million), bimatoprost SR (glaucoma, $500 million), and rapastinel (adjunctive major depressive disorder, $1 billion) filings in 2019. Safety results on a new abicipar formulation to reduce inflammation will also report in early 2019.
- Atogepant (episodic migraine, oral initiating phase 3 trials in 2019), relamorelin (diabetic gastroparesis, phase 3 results in 2020), brazikumab (Crohn's and ulcerative colitis, entering phase 3), and brimonidine (geographic atrophy, entering phase 3) represent longer-term opportunities.

Investors Seem to Be Ignoring Allergan's Pipeline

We still believe Allergan's current stock price reflects almost no value for the pipeline. Despite some of the recent setbacks on products like Esmya, we still consider Allergan's pipeline to be reasonably healthy thanks to innovative and differentiated products that address unmet medical need.

Exhibit 1 Overview of Allergan's Pipeline

Drug	Therapeutic Category	Description	Indication	Clinical Stage	Expected Launch	Probability of Approval (%)
Potential Peak Sales Over $500 M						
trastuzumab (Kanjinti)*	oncology	biosimilar Herceptin	breast cancer	CRL US, Approved EU	EU 2018	90
bevacizumab (MVASI)*	oncology	biosimilar Avastin	various cancer	Approved US & EU	2019+	100
rituximab*	oncology	biosimilar Rituxan	NHL/RA	Phase 3 (RA, NHL)	2019+	90
rapastinel	CNS	NMDA modulator (IV)	major depressive disorder	Initiating Phase 3	2021	70
atogepant (AGN 241689)	CNS	CGRP antagonist (oral)	episodic migraine	Initiating Phase 3	2022	70
cetuximab*	oncology	biosimilar Erbitux	skin cancer	Pre-clinical	2022+	90
relamorelin (RM-131)	gastroenterology	peptide ghrelin agonist	diabetic gastroparesis	Phase 3	2023	70
brazikumab (MEDI2070)	gastroenterology	anti-IL-23 mAb	Crohn's & ulcerative colitis	Ph 3 Crohn's, Ph 2 UC	2024	70
Novadur brimonidine	ophthalmology	sustained release device	geographic atrophy	Initiating Phase 3	2024	70
AGN 241751	CNS	NMDA modulator (oral)	major depressive disorder	Phase 2	2024+	0
RST-001	ophthalmology	AAV2 gene therapy	retinitis pigmentosa et al.	Phase 1/2	2024+	0
Potential Peak Sales Under $500 M						
Restasis MDPF	ophthalmology	line extension	ocular surface disease	Approved	2016	100
XEN45	ophthalmology	gelatin stent	glaucoma	Approved	2017	100
TrueTear (Oculeve)	ophthalmology	tear stimulating device	dry eye	Approved	2017	100
Esmya (ulipristal)	women's health	progesterone modulator	uterine fibroids	CRL	2019	90
ubrogepant	CNS	CGRP antagonist (oral)	acute migraine	Phase 3	2020	70
abicipar pegol	ophthalmology	Anti-VEGF DARPin	wet AMD, macular edema	Phase 3	2020	50
bimatoprost sustained release	ophthalmology	sustained release device	glaucoma	Phase 3	2020	70
cenicriviroc (CVC)	gastroenterology	dual CCR2/5 inhibitor (oral)	NASH	Phase 3	2021+	50
pilocarpine/oxymetazoline	ophthalmology	alkaloid/alpha agonist combo	presbyopia	Initiating Phase 3	2021+	30
Botox	CNS	onabotulinumtoxinA	depression	Phase 2	2022+	0

* partnered with Amgen
Source: company filings, Morningstar.

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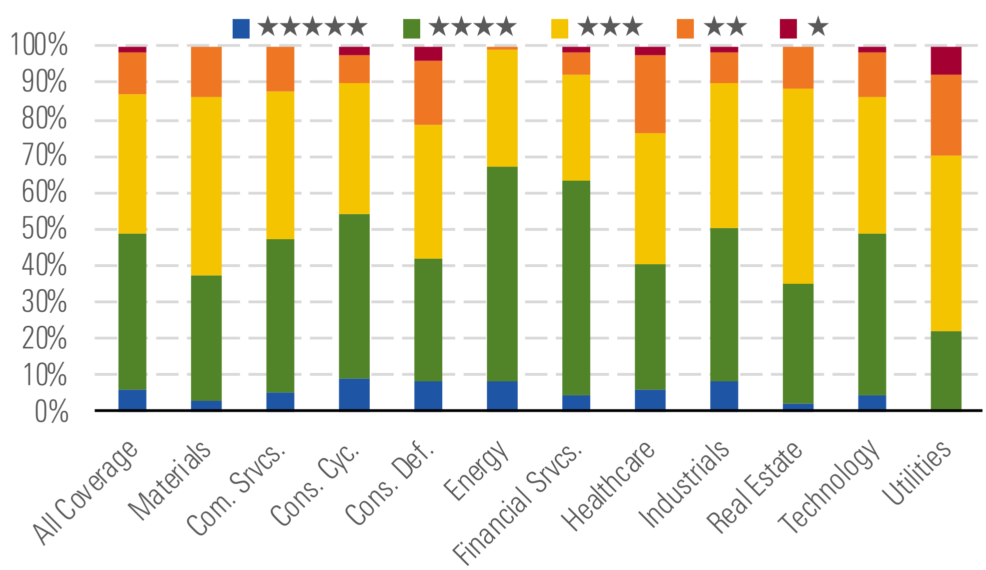
Global Equities Looking Attractive for the First Time in a While

Amid political turmoil around the world, the Morningstar Global Markets Index dropped 14% in the fourth quarter to Dec. 20, leaving the broad measure 10% below where it had started 2018. From a bottom-up perspective, global equities are beginning to look attractive. The median stock across our 1,500-plus coverage trades at a 14% discount to our estimate of fair value.

Entering the fourth quarter, we had pegged the typical stock as fairly valued. Not surprisingly, we also see more strong buying opportunities, with 6% of our coverage trading at 5 stars, up from 2% a few months ago.

- Following a plunge in oil prices, the energy sector now ranks among the most attractive. But because U.S. shale production is likely to limit the long-term upside to oil prices, we think investors are more likely to find value in the less-price-sensitive areas of the sector, namely midstream and refining.
- Technology is another area where a sharp drop in shares has rendered a once-overpriced sector more palatable. Here, we think semiconductor stocks are the best bet. While the near-term outlook is weak after a couple years of tremendous growth, secularly growing demand for processing power, connectivity, and sensing capabilities in a wide variety of devices bodes well for the long term.

Exhibit 1 We See More Opportunities in Energy After Oil Dropped Below Our Long-Term Price Forecast
Sector valuation summary



Source: Morningstar. Data as of Dec. 20, 2018.

Energy: Drop in Oil Prices Has Made the Sector More Attractive

After outperforming the broader market for most of 2018, the Morningstar Global Energy Index dropped 22% in the fourth quarter through Dec. 20, owing to the steep drop in oil prices that began in October.

After touching $75 per barrel in early October, West Texas Intermediate crude plummeted below our unchanged midcycle price of $55 per barrel. The more than 30% drop in oil prices from the 2018 peak has coincided with a period of weakness for broader equity markets, making energy stocks look much more attractive than they did when OPEC met in June. The median price/fair value in our global energy coverage is 0.77. Roughly 8% of our energy coverage trades in 5-star territory, among the higher shares at a sector level.

OPEC and its partners announced on Dec. 7 a deal to cut crude production by 1.2 million barrels per day beginning in 2019. OPEC will account for 800,000 bpd of the cut, with its partners, led by Russia, responsible for the remaining 400,000. After briefly opening its oil spigots in the second half of this year, OPEC will cut production again, as oil prices have declined greatly from October highs.

We said in June that a shale-induced supply surge would be the likely catalyst to sink oil prices toward our midcycle price. This has largely played out, with U.S. production up 7.5% from June to September and more than 14% since the end of 2017. Other factors have contributed to the oil price decline since the last OPEC meeting, including higher-than-expected Iran production and demand worries as prices rose.

Given our bearish long-term oil outlook (we're still 15% below long-term consensus), we think investors are more likely to find value in the volume-driven areas of the sector, namely midstream and refining. Nonetheless, the recent sell-off has created buying opportunities for multiple integrateds, exploration and production companies, and services firms, too. Over the long run, we think U.S. shale well cost inflation will fall short of consensus, owing greatly to the no-moat nature of many shale services, and that wider adoption of current technologies coupled with decades of attractive drilling opportunities will contain unit break-evens.

Technology: Market Pullback Provides Investors With Opportunities in Semis and Software
Technology names took a beating in the fourth quarter, with the Morningstar Global Technology Index down 18% through Dec. 20 as concerns about a U.S.-China trade war have put pressure on tech stocks. We believe that tariffs have led to worries about both the health of the Chinese consumer and potential disruptions to a highly interwoven tech supply chain that would be quite difficult for the U.S. and China to unwind.

In general, tech looks a lot cheaper than it did a few months ago. The median technology stock trades 15% below our fair value estimate today compared with a 3% premium at the end of the third quarter. Meanwhile, the number of 5-star tech stocks has more than doubled, with 4% of our coverage now in strong buy territory. Opportunities are most plentiful in semiconductors, with the median stock trading at a 23% discount.

The near-term picture in semis is relatively weak after a couple of years of tremendous growth. New-car sales have been sluggish in recent months, while commentary from suppliers suggests a down year for Apple iPhone unit sales. Nonetheless, we foresee no slowdown in demand for more processing power,

connectivity, and sensing capabilities in a wide variety of devices, such as automotive, all of which bodes well for long-term chip demand. We generally view these cyclical downturns as the times to buy high-quality leaders, as such firms remain well-positioned to weather the storm.
Among chip equipment companies, memory chipmakers like Samsung were huge spenders in 2017 and much of 2018, but an inevitable pause appears in the cards for 2019. Yet looking at stock prices across the industry, we think the market is assuming that chip equipment revenue will never recover to 2018 levels, whereas we foresee a recovery at some point down the road as leading chip manufacturers start investing again.

Finally, the median online media name also appears about 20% undervalued to us. Data and privacy concerns have weighed on U.S. bellwethers like Alphabet (Google) and Facebook, while the health of the Chinese economy has made regional champions like Tencent and Baidu undervalued in our eyes, as well.

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Best Ideas

Company and Industry	Morningstar Rating	Fair Value Estimate	Current Price	Uncertainty Rating	Moat Rating	Price / Fair Value	Market Cap (B)	Analyst
Basic Materials								
Cameco (CCJ)	★★★★★	$19.5	$11.29	High	Narrow	0.58	4.42	Inton
Compass Minerals International (CMP)	★★★★★	$81	$39.75	High	Wide	0.49	1.35	Goldstein
James Hardie Industries (JHX)	★★★★	AUD 21.2	AUD 15.1	Medium	Narrow	0.71	6.67	Slade
Martin Marietta Materials (MLM)	★★★★	$240	$170.51	High	Narrow	0.71	10.69	Inton
Communication Services								
BT Group (BT.A)	★★★★	GBX 360	GBX 240.1	High	Narrow	0.67	23.82	C. Nichols
China Mobile (941)	★★★★	HKD 97	HKD 76.8	Medium	Narrow	0.79	1572.52	Baker
Telefonica (TEF)	★★★★★	$13	$7.62	High	Narrow	0.59	39.60	C. Nichols
Telstra (TLS)	★★★★★	AUD 4.4	AUD 2.89	Medium	Narrow	0.66	34.37	Han
Vodafone Group (VOD)	★★★★	$250	$156.06	High	Narrow	0.62	41.70	C. Nichols
Consumer Cyclical								
Alibaba Group Holding (BABA)	★★★★★	$240	$130.6	High	Wide	0.54	335.89	Hottovy
ANTA Sports Products (2020)	★★★★★	HKD 55	HKD 34.7	Medium	Narrow	0.63	93.17	Su
Bayerische Motoren Werke (BMW)	★★★★	EUR 117	EUR 69.05	High	Narrow	0.59	44.92	Hilgert
Cie Financiere Richemont (CFR)	★★★★	CHF 90	CHF 63.56	High	Wide	0.71	35.89	Sokolova
Dufry (DUFN)	★★★★	CHF 144	CHF 96.54	High	Narrow	0.67	4.87	Sokolova
Expedia Group (EXPE)	★★★★	$180	$108.52	High	Narrow	0.60	16.17	Wasiolek
General Motors (GM)	★★★★	$46	$32.25	High	None	0.70	45.52	Whiston
Hanesbrands (HBI)	★★★★★	$27	$12.52	Medium	Narrow	0.46	4.52	Swartz
InvoCare (IVC)	★★★★★	AUD 16	AUD 10.55	Medium	Wide	0.66	1.16	Ragonese
Mattel (MAT)	★★★★★	$21	$9.27	High	Narrow	0.44	3.20	Katz
Norwegian Cruise Line Holdings (NCLH)	★★★★	$69	$40.71	High	Narrow	0.59	8.96	Katz
Walt Disney (DIS)	★★★★	$130	$106.33	Medium	Wide	0.82	158.29	Macker
WPP (WPP)	★★★★★	GBX 1450	GBX 842.2	Medium	Narrow	0.58	10.63	Mogharabi
Consumer Defensive								
A2 Milk (ATM)	★★★★	AUD 13.7	AUD 10.75	High	Narrow	0.78	7.74	Fleck
Anheuser-Busch InBev (BUD)	★★★★★	$118	$66.42	Low	Wide	0.56	128.81	Gorham
G8 Education (GEM)	★★★★	AUD 3.5	AUD 2.72	High	None	0.78	1.24	James
General Mills (GIS)	★★★★★	$57	$39.03	Low	Wide	0.68	23.29	Vora
Imperial Brands (IMB)	★★★★★	GBX 3700	GBX 2413.5	Low	Wide	0.65	23.02	Gorham
Mondelez International (MDLZ)	★★★★	$52	$39.74	Medium	Wide	0.76	57.78	Lash
Energy								
Cenovus Energy (CVE)	★★★★★	$19	$9.76	Very High	None	0.51	11.99	Gemino
Diamondback Energy (FANG)	★★★★	$120	$96.16	High	Narrow	0.80	15.78	Meats
Enbridge (ENB)	★★★★★	$62	$42.9	Medium	Wide	0.69	86.74	Gemino
Enterprise Products Partners (EPD)	★★★★★	$35.5	$25.45	Low	Wide	0.72	55.55	Ellis
Royal Dutch Shell (RDS.B)	★★★★	$83	$60.76	Medium	Narrow	0.73	242.40	Good
Schlumberger (SLB)	★★★★★	$62	$37.6	High	Narrow	0.61	52.07	Caldwell
Total (TOT)	★★★★★	$77	$52.91	Medium	None	0.69	137.82	Good
Woodside Petroleum (WPL)	★★★★	AUD 46.5	AUD 31.91	High	None	0.69	29.87	Taylor
Financial Services								
Agricultural Bank of China (601288)	★★★	CNY 4.2	CNY 3.59	High	Narrow	0.85	1238.43	Tan
Altaba (AABA)	★★★★★	$98	$55.53	High	None	0.57	33.46	Mogharabi
American International Group (AIG)	★★★★★	$76	$38.75	Medium	None	0.51	34.28	Horn
BlackRock (BLK)	★★★★	$500	$377.98	Medium	Wide	0.76	59.98	Warren
Capital One Financial (COF)	★★★★★	$127	$76.16	Medium	Narrow	0.60	36.07	Plunkett

Source: Morningstar. As of Jan. 4, 2019

Best Ideas

Company and Industry	Morningstar Rating	Fair Value Estimate	Current Price	Uncertainty Rating	Moat Rating	Price / Fair Value	Market Cap (B)	Analyst
Financial Services, Continued								
Credit Suisse Group (CSGN)	★★★★★	CHF 22	CHF 11.13	High	Narrow	0.51	28.42	Scholtz
Link Administration Holdings (LNK)	★★★★	AUD 8.5	AUD 6.7	Medium	Narrow	0.79	3.55	James
Macquarie Group (MQG)	★★★★	AUD 135	AUD 109.41	Medium	Narrow	0.81	37.56	Ellis
Oversea-Chinese Banking Corp (O39)	★★★★	SGD 13.6	SGD 11.17	High	Narrow	0.82	47.47	Wu
Pendal Group (PDL)	★★★★	AUD 11	AUD 7.44	Medium	Narrow	0.68	2.37	Likos
Sumitomo Mitsui Financial Group (8316)	★★★★★	JPY 5960	JPY 3662	Medium	None	0.61	5124.61	Makdad
T. Rowe Price Group (TROW)	★★★★	$120	$88.81	Medium	Wide	0.74	21.37	Warren
Wells Fargo (WFC)	★★★★★	$67	$46.57	Medium	Wide	0.70	219.22	Compton
Westpac Banking (WBC)	★★★★	AUD 33	AUD 25.03	Medium	Wide	0.76	85.82	Ellis
Healthcare								
Allergan (AGN)	★★★★★	$240	$136.07	Medium	Wide	0.57	45.89	Waterhouse
DaVita (DVA)	★★★★★	$81	$50.98	Medium	Narrow	0.63	8.46	Strole
Medtronic (MDT)	★★★★	$110	$85.45	Medium	Wide	0.78	114.76	Wang
Roche Holding (ROG)	★★★★★	CHF 333	CHF 251	Low	Wide	0.75	214.05	Andersen
Industrials								
Anixter International (AXE)	★★★★★	$107	$52.84	Medium	Narrow	0.49	1.77	Bernard
Beijing Enterprises Holdings (392)	★★★★	HKD 58	HKD 40	Medium	Narrow	0.69	50.48	Song
CK Hutchison Holdings (1)	★★★★★	HKD 118	HKD 75.25	Medium	None	0.64	290.18	Tan
G4S (GFS)	★★★★★	GBX 337	GBX 195.25	Medium	None	0.58	3.03	Field
GEA Group (G1A)	★★★★★	EUR 45	EUR 21.98	Medium	Wide	NA	3.97	Molina
General Dynamics (GD)	★★★★	$216	$153.37	Medium	Wide	0.71	45.42	Higgins
Grupo Aeroportuario del Pacifico (GAP B)	★★★★	MXN 210	MXN 162.75	High	Wide	0.78	91.30	Higgins
Guangshen Railway (525)	★★★★★	HKD 6.3	HKD 2.93	High	None	0.47	24.84	Song
Johnson Controls International (JCI)	★★★★	$46	$30.01	High	Narrow	0.65	27.73	Bernard
Kion Group (KGX)	★★★★★	EUR 90	EUR 42.97	Medium	Narrow	0.48	5.06	Molina
Sodexo (SW)	★★★★	EUR 110	EUR 87.1	Medium	Narrow	0.79	12.69	Field
Stericycle (SRCL)	★★★★★	$83	$37.17	High	Narrow	0.45	3.37	Young
Real Estate								
Aveo Group (AOG)	★★★★★	AUD 2.3	AUD 1.54	Medium	None	0.67	0.89	Sherlock
CK Asset Holdings (1113)	★★★★	HKD 81	HKD 58.85	Medium	Narrow	0.73	217.36	Zhong
Macerich (MAC)	★★★★	$59	$43.6	High	Narrow	0.74	6.15	Brown
Sun Hung Kai Properties (16)	★★★★	HKD 153	HKD 117.4	Medium	Narrow	0.77	340.11	Zhong
Technology								
Applied Materials (AMAT)	★★★★	$49	$31.54	High	Wide	0.64	30.23	Davuluri
Intel (INTC)	★★★★	$65	$44.49	Medium	Wide	0.68	203.05	Davuluri
KLA-Tencor (KLAC)	★★★★	$128	$85.81	High	Wide	0.67	13.14	Davuluri
Lam Research (LRCX)	★★★★	$185	$131.63	High	Narrow	0.71	20.43	Davuluri
Microchip Technology (MCHP)	★★★★★	$112	$66.32	Medium	Wide	0.59	15.69	Colello
Murata Manufacturing (6981)	★★★★★	JPY 24000	JPY 13490	High	Narrow	0.56	2876.84	Ito
Skyworks Solutions (SWKS)	★★★★★	$105	$60.72	High	Narrow	0.58	10.78	Colello
Tencent Holdings (700)	★★★★	HKD 499	HKD 310.6	High	Wide	0.62	2956.98	Tam
Utilities								
Dominion Energy (D)	★★★★	$84	$70.84	Low	Wide	0.84	53.28	Fishman
Enel (ENEL)	★★★★	EUR 5.7	EUR 5.08	Medium	None	0.89	51.71	Fulop
ENN Energy Holdings (2688)	★★★★	HKD 83	HKD 70.35	Medium	Narrow	0.85	79.07	Lee

Source: Morningstar. As of Jan. 4, 2019

Highlighted Stocks

Apple AAPL

Morningstar Rating	Sector	Moat Trend	Currency	Fair Value Estimate	Current Price	Uncertainty Rating	Moat Rating	Price/Fair Value	Market Cap (Bil)
★★★★	Technology	Stable	USD	200	147.94	High	Narrow	0.74	674.75

Source: Morningstar. As of Jan. 4, 2019

Apple's growth trajectory rests with its ability to better monetize its premium installed base, rather than grow iPhone units in a largely saturated smartphone market.

Analyst Note, Jan. 2, 2019
On Jan. 2, Apple released a letter from CEO Tim Cook with revised revenue guidance for first-quarter 2019. Specifically, revenue is now expected to be $84 billion versus $89 billion to $93 billion previously, implying a 5% year-over-year decline. The chief culprit was Greater China, as most of the firm's revenue shortfall to its guidance stemmed from the region across iPhone, Mac, and iPad. Cook cited a softer economic environment combined with rising trade tensions between China and the United States. In contrast, non-iPhone segments (services, Mac, iPad, and wearables) combined to grow nearly 19% year over year. Positively, services revenue is expected to be $10.8 billion during the December quarter, which implies 28% year-over-year growth, and was significantly above our prior estimates. Despite significantly cutting our iPhone unit forecasts for China in the near term, we are maintaining our $200 fair value estimate, thanks to stronger services and wearables expectations serving as the offset.

We believe Apple's headwinds in China and the lack of growth in other regions are consistent with our view that replacement cycles are lengthening in the face of higher-price flagships. We don't believe the weakness is due to a significant number of users switching to Android-based phones, although we believe recent events have validated our moat trend downgrade from positive to stable in mid-2018, stemming from our view that Apple's narrow moat derived from switching costs and intangible assets are intact, but no longer strengthening. With shares entrenched in 4-star territory, we see an adequate margin of safety as Apple's growth trajectory rests with its ability to better monetize its premium installed base, rather than grow iPhone units in a largely saturated smartphone market.

Macroeconomic concerns aside, we are not all that surprised to see signs of a weaker fiscal 2019 for Apple after its stellar 2018. A similar slowdown occurred in 2016, with the iPhone 6s launch that was more incremental than revolutionary. As a reminder, thanks to 10 days' worth of sales of the latest iPhone XS and XS Max (starting at $999 and $1,049, respectively) at the back end of Apple's fiscal fourth quarter, iPhone sales rose 29% year over year to $37.2 billion during that quarter. The 2017 flagship iPhone X did not contribute to Apple's top line until the first quarter of fiscal 2018, thus distorting the comparisons of iPhone product sales and artificially raising the bar for the first quarter of fiscal 2019.

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Illinois Tool Works ITW

Morningstar Rating	Sector	Moat Trend	Currency	Fair Value Estimate	Current Price	Uncertainty Rating	Moat Rating	Price/Fair Value	Market Cap (Bil)
★★★★	Industrials	Stable	USD	140	127.04	Medium	Narrow	0.91	40.96

Source: Morningstar. As of Jan. 4, 2019

While we maintain our narrow moat rating, we raise our stewardship rating to Exemplary, given the firm's record of institutionalized, proven operational excellence.

Analyst Note, Jan. 2, 2019
After taking a fresh look at Illinois Tool Works, we slightly lower our fair value estimate by about 5% to $140 from $148, primarily due to a more conservative midcycle margin assumption. That said, our long-term views on valuation remain relatively unchanged, particularly as it concerns ITW's fundamental growth and margin drivers. Our current valuation represents about 17 times our 2019 GAAP EPS estimates, or about 12 times our 2019 EBITDA estimates (about the midpoint of analysts' current estimates). Furthermore, while we maintain our narrow moat rating, we raise our stewardship rating to Exemplary, given the firm's record of institutionalized, proven operational excellence, which we predict will result in an increasing ROIC profile relative to historical experience. We also maintain our stable moat trend and medium uncertainty ratings.

We view ITW as a well-run collection of moaty businesses. The firm's operating model emphasizes its most important customers where it can offer the maximum amount of differentiation through its products and services. The firm has also fostered a decentralized, entrepreneurial culture but maximizes efficiency through techniques like product line simplification. These principles have allowed ITW to expand GAAP operating margins by 370 basis points to 23.7% in 2017 in just three years, as well as contribute to high returns on invested capital, including goodwill, of about 24.3% in 2017.

While it's admittedly hard to separate out its sources of competitive advantage from its proven 80/20 operating model, we think ITW's primary moat sources include switching costs, followed by some intangible assets and, to a lesser extent, scale-based cost advantage. The company focuses on niche markets, with most of its activities centered on resolving its most important customers' pain points. ITW's products and services are designed to reduce customers' costs, either through ease of use, which cuts down on training costs; ensuring compliance with environmental and safety standards through quality products; or eliminating steps in a manufacturing process or parts in an assembly. In our view, these factors create powerful switching costs.

ITW also has a rich patent portfolio; long-term customer relationships, which inform its product development pipeline; a history and reputation for incremental but effective innovation; and deep technical expertise in specialized niches— all evidence of attractive intangible assets.

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American Express AXP

Morningstar Rating	Industry	Moat Trend	Currency	Fair Value Estimate	Current Price	Uncertainty Rating	Moat Rating	Price/Fair Value	Market Cap (Bil)
★★★★	Financial Services	Negative	USD	110	97.71	High	Wide	0.89	79.81

Source: Morningstar. As of Jan. 4, 2019

Much is made of the American Express brand as a valuable intangible asset, and that's probably still true of older consumers and business travelers. However, we believe the brand is no longer relevant for millennials.

Analyst Note, Jan. 3, 2019
After performing a deep dive on credit card issuer American Express, we are maintaining its moat rating at wide, largely the result of the heated rewards environment coupled with the scale advantage afforded to larger financial institutions that can more easily cross-sell additional services to consumers and businesses. Despite the downgrade in trend ratings, we are making only minor changes to our fair values estimate, lowering it to $110 per share from $112. We believe that broad declines in markets have created an opportunity and regard shares as cheap. However, near-term results are likely to be pressured.

Much is made of the American Express brand as a valuable intangible asset, and that's probably still true of older consumers and business travelers. However, we believe the brand is no longer relevant for millennial consumers, who are more focused on universal acceptance and rewards. In addition, we believe retailers will increasingly use mobile technology to try to circumvent payment networks. Though closed-loop networks facilitated by mobile is still in its infancy, we anticipate that investors will begin hearing more about this.

We believe American Express' greatest challenge over the next decade will be adapting to the changing technological landscape within payments while targeting a new generation of consumer who doesn't place as much importance on AmEx's brand when selecting a credit card. We feel millennials place much more emphasis on rewards and merchant acceptance when deciding how to pay. American Express has always rationalized that it can charge merchants the highest rates because its cardholders spend the most, but we question what factor that will play as AmEx's brand slowly loses relevance and the company targets consumers outside its core segment, the high-spending, low-risk business traveler.

Colin Plunkett, CFA | colin.plunkett@morningstar.com

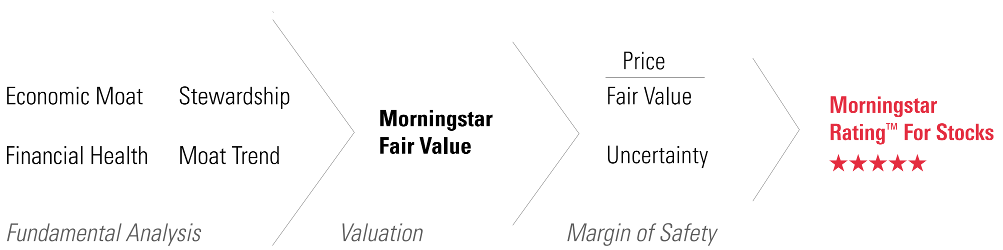
Research Methodology for Valuing Companies

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, in-depth 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 short-term market price movements), but we believe these negatives are mitigated by deep analysis and our long-term 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.

Morningstar Research Methodology



Source: Morningstar.

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 single-point star rating.

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 returns on invested capital (ROIC) over and above our estimate of a firm's cost of capital, or weighted average cost of capital (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 their cost of capital more quickly than companies with moats.

To assess the sustainability of excess profits, analysts perform ongoing assessments of the moat trend. A firm's moat trend is positive in cases where we think its sources of competitive advantage are growing stronger, stable where we don't anticipate changes to competitive advantages over the next several years, or negative where we see signs of deterioration.

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 5 to 10 years, analysts make full financial statement forecasts, including items such as revenue, profit margins, tax rates, changes in working capital accounts, and capital spending. Based on these projections, we calculate earnings before interest, after taxes (EBI) and net new investment (NNI) to derive 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.

Uncertainty Around That Fair Value Estimate

Morningstar's uncertainty rating captures a range of likely potential intrinsic values for a company and uses it to assign the margin of safety required before investing, which in turn explicitly drives our stock star rating system. The uncertainty rating represents the analysts' ability to bound the estimated value of the shares in a company around the fair value estimate, based on the characteristics of the business underlying the stock, including operating and financial leverage, sales sensitivity to the overall economy, product concentration, pricing power, and other company-specific factors.

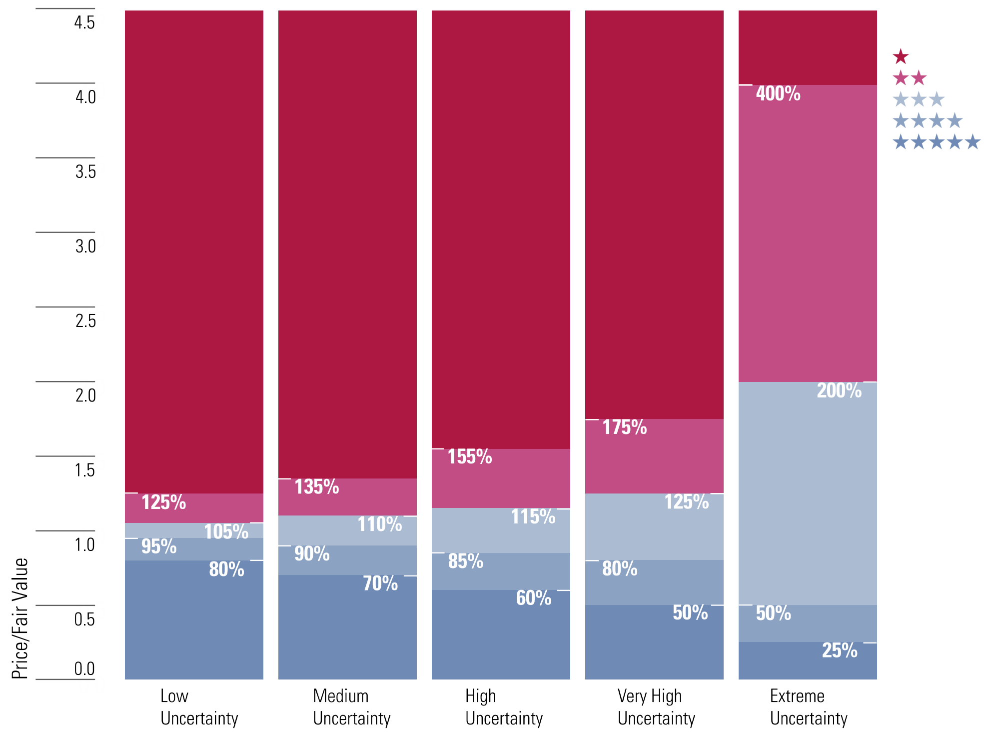
Analysts consider at least two scenarios in addition to their base case: a bull case and a bear case. Assumptions are chosen such that the analyst believes there is a 25% probability that the company will perform better than the bull case and a 25% probability that the company will perform worse than the bear case. The distance between the bull and bear cases is an important indicator of the uncertainty underlying the fair value estimate.

Our recommended margin of safety widens as our uncertainty regarding the estimated value of the equity increases. The more uncertain we are about the estimated value of the equity, 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 for our qualitative analysis are low, medium, high, very high, and extreme.

- Low: Margin of safety for 5-star rating is a 20% discount and for 1-star rating is a 25% premium.
- Medium: Margin of safety for 5-star rating is a 30% discount and for 1-star rating is a 35% premium.
- High: Margin of safety for 5-star rating is a 40% discount and for 1-star rating is a 55% premium.
- Very high: Margin of safety for 5-star rating is a 50% discount and for 1-star rating is a 75% premium.
- Extreme: Margin of safety for 5-star rating is a 75% discount and for 1-star rating is a 300% premium.

Morningstar Equity Research Star Rating Methodology



Market Price

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

For more details about our methodology, please go to http://global.morningstar.com/equitydisclosures.

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 recalculated 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-adjusted 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.

★★★ 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.

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Please note that investments in securities are subject to market and other risks, and there is no assurance or guarantee that the intended investment objectives will be achieved. Past performance of a security may or may not be sustained in the future and is no indication of future performance. A security investment return and an investor's principal value will fluctuate so that, when redeemed, an investor's shares may be worth more or less than their original cost. A security's current investment performance may be lower or higher than the investment performance noted within the report. Morningstar's uncertainty rating serves as a useful data point with respect to sensitivity analysis of the assumptions used in our determining a fair value price.

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