Studio Dragon Corporation
(253450 KQ)

Temporary lull

MIRAE ASSET
Building on principles

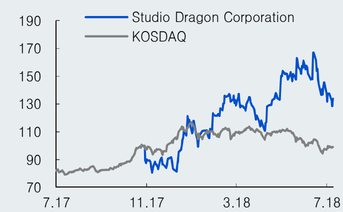
Media

Company Report
August 9, 2018

(Maintain)	**Buy**
Target Price (12M, W)	**150,000**
Share Price (08/08/18, W)	96,000
Expected Return	56%

OP (18F, Wbn)	59
Consensus OP (18F, Wbn)	66
EPS Growth (18F, %)	70.9
Market EPS Growth (18F, %)	10.1
P/E (18F, x)	53.5
Market P/E (18F, x)	9.0
KOSDAQ	783.81
Market Cap (Wbn)	2,692
Shares Outstanding (mn)	28
Free Float (%)	23.9
Foreign Ownership (%)	2.8
Beta (12M)	0.95
52-Week Low	57,800
52-Week High	119,800

(%)	1M	6M	12M
Absolute	-11.6	27.0	0.0
Relative	-8.8	39.6	0.0



Mirae Asset Daewoo Co., Ltd.

[Media]

Jeong-yeob Park
+822-3774-1652
jay.park@miraeasset.com

2Q18 review: Temporary lull due to absence of tentpoles

For 2Q18, Studio Dragon delivered consolidated revenue of W74.3bn (+19.6% YoY) and operating profit of W7.3bn (-17.6% YoY). Revenue was 8% above the consensus (W68.5bn), but operating profit missed the consensus (W9.3bn) by 21%. Licensing sales were tepid, as 2Q18 was the only quarter of the year with no tentpole titles (i.e., those with production cost of W1bn per episode). Meanwhile, production costs for regular titles increased, which was good for revenue, but bad for margins. That said, we view the 2Q18 profit figure as the minimum level of profits that can be expected, regardless of the commercial success of the company's titles.

Programming revenue was strong, growing 41.1% YoY to W34.1bn, thanks to budget increases. All of the company's six titles in 2Q18 were aired on captive channels. Following the success of *Live* and *My Mister* in March, dramas like *What's Wrong with Secretary Kim* (June) also did well, both critically and commercially (average ratings: +1.5%p). Licensing sales grew 9.5% YoY to W28.8bn. Despite the absence of tentpoles, overseas sales continued. The company also recognized some VoD sales of regular titles, sales of older titles, and part of the licensing sales for *Live* from Netflix (sold in 1Q18). Other revenue slipped 1.9% YoY to W11.4bn. Management revenue somewhat picked up (W6bn) from the weakness seen in the previous quarter.

Expectations to turn into reality in 2H18 and beyond

We expect earnings to grow significantly in 2H18. We see revenue and operating profit of W126.3bn (+63% YoY) and W25bn (+276.7% YoY), respectively, for 3Q18, and W239.9bn (+60.6% YoY) and W41bn (+305.6% YoY), respectively, for 2H18. We are bullish on both the programming (more than 13 titles) and licensing (two big-budget titles) segments. *Mr. Sunshine*, which is currently on air, has been sold to Netflix for more than 70% of the drama's production costs, while *What's Wrong with Secretary Kim* and *Familiar Wife* are also being licensed domestically and overseas. Another big-budget title, *Memories of the Alhambra*, is set to air in 4Q18. The drama's production will be completed before airing, and we see potential for both price gains and distribution channel (i.e., customer) expansion.

Studio Dragon is continuing to exhibit strong production competitiveness and content power at home and abroad and across big-budget and regular titles. *Mr. Sunshine* has been pulling in the highest ratings among cable/general programming dramas, living up to expectations. Despite the fact that the series is a historical drama, product placements and merchandise have been seamlessly integrated. Meanwhile, in 2Q18, the company's average drama rating continued to improve with regular titles alone, and VoD and short clips also attracted a large number of views. In China, searches related to *What's Wrong with Secretary Kim* on Weibo underscore the strong pent-up demand for Korean content.

Maintain Buy and TP of W150,000

We maintain our Buy rating and target price of W150,000 on Studio Dragon. Our target price corresponds to a 2019F EV/EBITDA of 23x. Backed by robust production competitiveness, Studio Dragon is continuing to expand content distribution domestically and overseas, and negotiations to produce original titles for non-captive platforms are also ongoing. We are also witnessing signs of pent-up demand for Korean dramas among Chinese OTTs.

Meanwhile, global heavyweights like Amazon and Disney are continuing to advance into the OTT market. As the customer base diversifies beyond Netflix, we expect the battle to secure exclusive content to intensify, and Studio Dragon's negotiating power to increase as a result. We thus believe the stock's recent pullback, triggered by Netflix's selloff on competition concerns, offers a good buying opportunity. In our view, competition among OTTs will be the primary driving force behind the sustained increase in price and distribution volume.

FY (12)	12/14	12/15	12/16	12/17	12/18F	12/19F
Revenue (Wbn)	0	0	196	287	394	559
OP (Wbn)	0	0	0	33	59	103
OP Margin (%)	-	-	0.0	11.5	15.0	18.4
NP (Wbn)	0	0	0	24	50	84
EPS (W)	0	0	0	1,050	1,795	2,988
ROE (%)	0.0	0.0	0.0	9.5	12.8	18.2
P/E (x)	-	-	-	61.9	53.5	32.1
P/B (x)	-	-	-	4.9	6.4	5.4
Dividend Yield (%)	-	-	-	0.0	0.0	0.0

Note: All figures are based on consolidated K-IFRS; NP refers to net profit attributable to controlling interests
Source: Company data, Mirae Asset Daewoo Research estimates

Emergence of multiple global OTT platforms is positive for Studio Dragon

Walt Disney (DIS US/CP: US$113.98) and Netflix (NFLX US/CP: US$347.61), the US' major (old and new) media firms, announced their 2Q18 (CY) results on August 7th and July 16th, respectively. Walt Disney's revenue (US$15.2bn) and EPS (US$1.87) missed the consensus slightly, by 1.7% and 5.1%, respectively, while Netflix reported below-consensus (-0.8%) revenue of US$3.91bn and above-consensus (+7.1%) EPS of US$0.85.

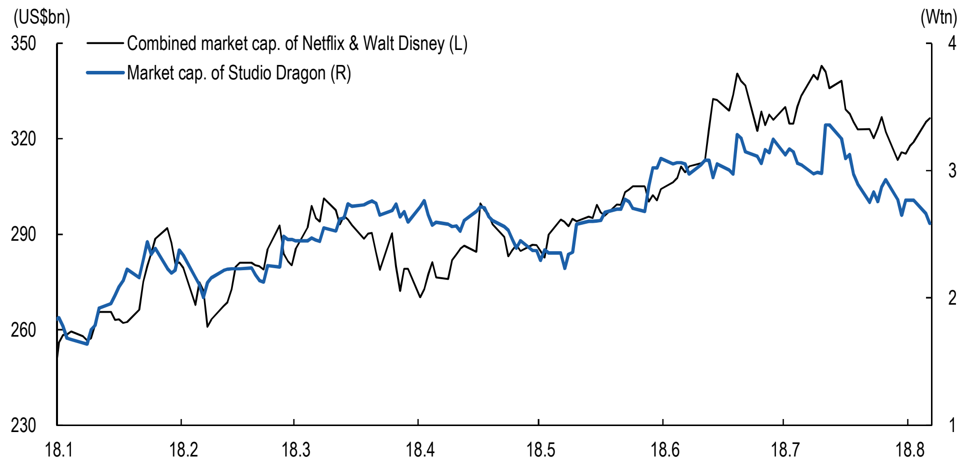
Of note, shares have moved out of sync with earnings results. Despite solid 2Q18 results, Netflix has rebounded only modestly after falling more than 20% from its previous high, due to lower-than-expected QoQ growth in net subscriber additions. The streaming company's net subscriber additions fell below expectations for the US (1.23mn) and non-US regions (5.11mn) by 17% and 19%, respectively, raising concerns over the growth potential of the US OTT market and intense competition. Meanwhile, shares of Walt Disney closed flat on August 7th, thanks to expectations for the launch of its in-house OTT platform within this year.

We believe these share performances have highlighted the shift from cable TVs to OTTs and intensifying competition among OTT platforms in the US media market. Regarding OTT competition, optimism (from Walt Disney CEO's recent earnings call comments), as well as concerns (stemming from slowdown in Netflix's net subscriber additions) will likely become major share determinants for both Netflix and Walt Disney.

From a content provider's perspective, whichever company emerges as the winner of the competition is not important. The longer and more investment-oriented competition becomes, the more content providers will benefit. On a positive note, Netflix has recently emphasized the expansion of local content investments, while Amazon has invested around W300bn in the licensing of *The Lord of the Rings* alone. In addition, Walt Disney, which had decided to stop providing its content to other platforms, announced at its 2Q18 earnings call that it would launch an in-house OTT by the end of year.

These developments suggest that global competition for subscribers and content will persist for the time being, providing sales/production opportunities for content providers, including Studio Dragon, that can appeal to global markets. We believe the encroachment of OTTs in the local traditional media market will be reflected in the combined market cap of OTT players, as well as content demand from OTTs.

Figure 1. Encroachment of OTTs in the local traditional media market to be reflected in the combined market cap



Source: Mirae Asset Daewoo Research

Table 1. Earnings and forecasts (Wbn, %, no)

	1Q17	2Q17	3Q17	4Q17	1Q18	2Q18P	3Q18F	4Q18F	2017	2018F	2019F
Revenue	75	62	77	72	80	74	126	114	287	394	559
Programming	26	24	42	39	41	34	47	50	131	172	189
Licensing	36	26	23	26	32	29	63	46	112	169	250
Other	13	12	12	7	7	11	16	17	44	52	60
Original production contracting	0	0	0	0	0	0	0	0	0	0	60
Costs	59	50	67	64	66	64	95	92	240	317	434
Production costs (excl. originals)	24	25	36	39	42	35	53	52	125	181	195
Commission fees	7	5	5	5	6	6	13	9	22	34	50
Depreciation expenses on tangible/intangible assets	8	9	10	11	12	13	14	16	38	57	77
Other	19	11	16	9	6	9	16	14	55	46	63
Production costs for originals	0	0	0	0	0	0	0	0	0	0	48
SG&A	3	3	4	4	3	3	6	6	14	18	21
EBITDA	22	18	16	14	23	21	40	33	71	116	181
Operating profit	14	9	7	3	11	7	25	16	33	59	103
OP margin	18.5	14.3	8.6	4.8	13.3	9.9	19.8	14.1	11.5	15.0	18.5
Pretax profit	13	9	6	2	11	11	26	17	30	65	107
Net profit	13	3	6	2	8	9	20	13	24	50	84
Net margin	17.8	4.5	7.3	2.8	9.8	12.0	16.1	11.7	8.3	12.8	15.0
YoY											
Revenue					6.0	19.6	63.0	58.0	46.7	37.4	41.8
Programming					54.5	41.1	12.8	29.5	49.5	31.3	9.7
Licensing					-12.0	9.5	169.6	77.7	48.3	51.5	47.3
Other					-43.4	-1.9	31.7	142.2	35.3	19.4	15.0
EBITDA					2.2	17.0	144.0	128.4	-	63.6	56.4
Operating profit					-23.7	-17.6	276.7	361.0	56.1	78.5	75.2
Net profit					-41.3	217.3	258.8	563.8	83.8	111.0	66.5
Major assumptions											
No. of titles aired	4.0	4.5	6.5	7.0	7.7	5.3	6.3	6.8	22.0	26.0	29.0
No. of titles licensed to Netflix	0.0	1.0	1.0	1.1	2.0	0.5	1.0	1.0	3.1	4.5	6.0

Source: Mirae Asset Daewoo Research

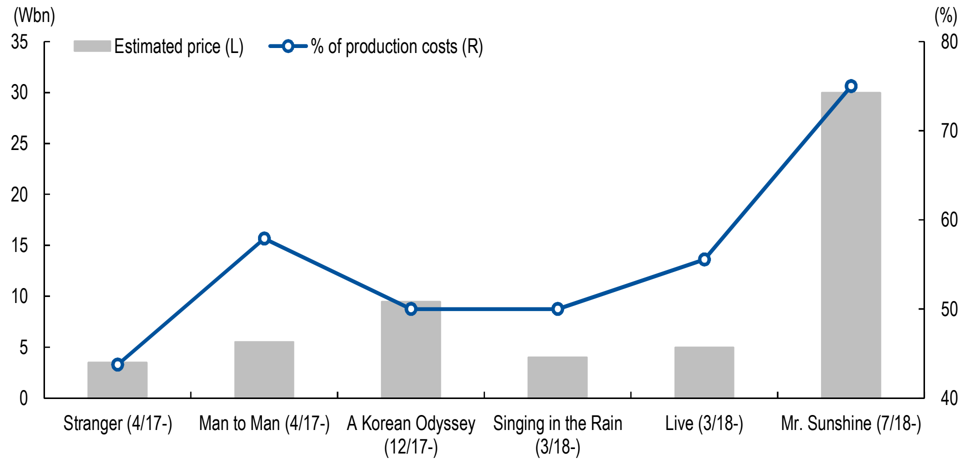
Table 2. Earnings forecast revisions (Wbn %, %p)

	Previous		Revised		Change		Notes
	18F	19F	18F	19F	18F	19F	
Revenue	380	528	394	559	3.6	5.9	- 2018F and 2019F revenue revised upward, due to higher production cost assumptions
Operating profit	67	102	59	103	-12.3	1.8	- 2018 content sales assumptions revised downward
Net profit	51	78	50	84	-1.9	7.1	
OP margin	17.7	19.3	15.0	18.5	-2.7	-0.8	
Net margin	13.5	14.8	12.8	15.0	-0.7	0.2	

Note: All figures are based on consolidated K-IFRS; NP refers to net profit attributable to controlling interests

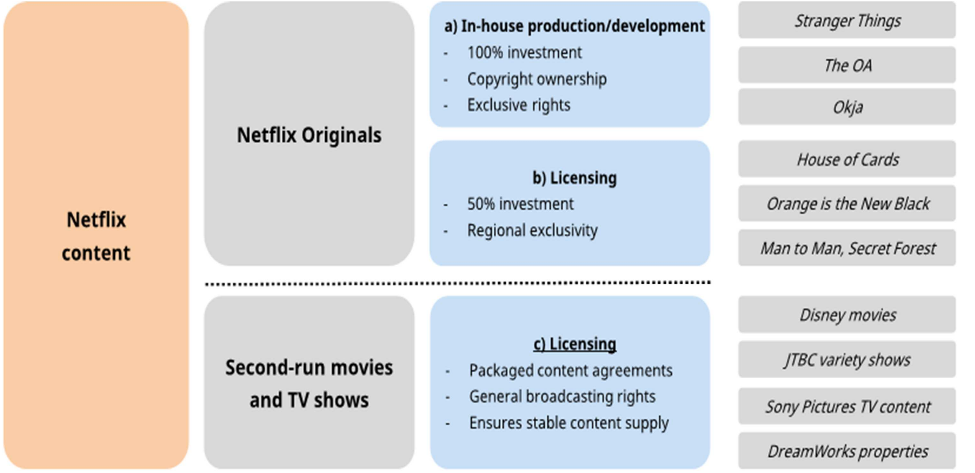
Source: Mirae Asset Daewoo Research

Figure 2. Netflix-bound content prices on the rise



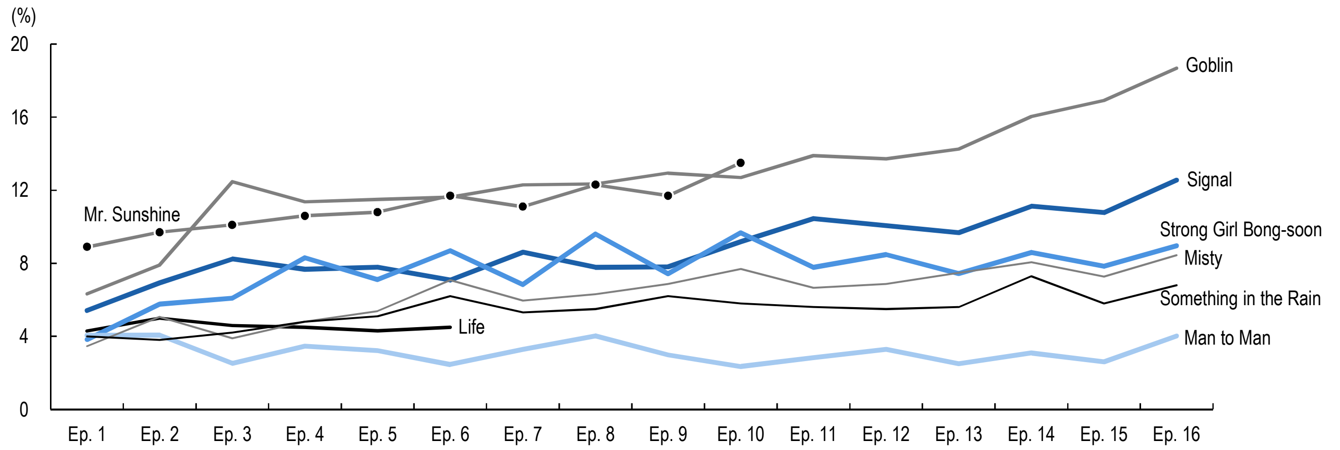
Note: The terms of licensing deals (e.g., country, exclusivity, holdback, etc.) differ by contract
Source: Mirae Asset Daewoo Research

Figure 3. Studio Dragon to expand original content production for global platforms



Source: Mirae Asset Daewoo Research

Figure 4. *Mr. Sunshine* has been pulling in the highest ratings among cable/general programming dramas



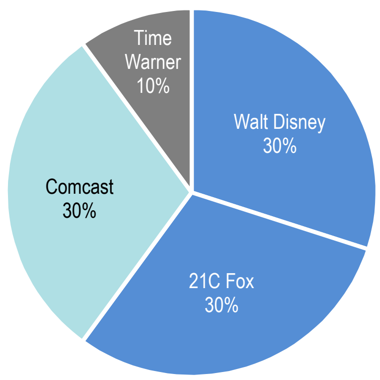
Source: Mirae Asset Daewoo Research

Table 3. Bidding war between Comcast and Disney for 21st Century Fox's assets

Date	Details
11/17	After negotiations with Disney started in August 2017, Verizon and Comcast also joined the competition; Comcast proposed a deal to acquire 21st Century Fox's assets for US$27.1bn (vs. Disney's proposed acquisition price of US$23.3bn); however, negotiations with Comcast broke down, due to concerns over monopoly regulations stemming from the Justice Department's lawsuit against the merger between AT&T and Time Warner Verizon proposed an acquisition deal at market price; negotiations fell apart
12/17	Comcast reconsidered a bid for the acquisition, but decided to withdraw from the competition
End-2017	Disney proposed an acquisition price of US$52.4bn
4/19/18	21st Century Fox decided to sell its media business to Disney, in light of monopoly regulations and a positive outlook for Disney shares
6/13/18	Comcast reconsidered the acquisition and proposed a bid price of US$65bn in cash
6/19/18	Disney announced its plan to propose a higher bid price than that of Comcast
6/20/18	Disney proposed a bid price of US$71.3bn
6/27/18	The US Justice Department approved the acquisition
7/27/18	Shareholders' meetings were held to approve the acquisition
1H19F	To be finalized

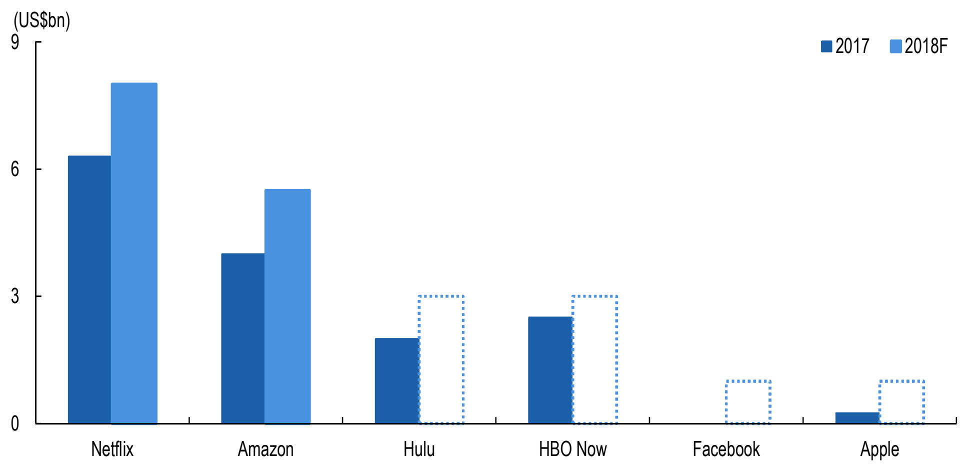
Source: Mirae Asset Daewoo Research

Figure 5. Hulu ownership breakdown: Walt Disney to beef up Hulu



Source: Company data, Mirae Asset Daewoo Research

Figure 6. Global OTT content players are expanding content investments



Source: Company data, Mirae Asset Daewoo Research

Studio Dragon Corporation (253450 KQ/Buy/TP: W150,000)

Comprehensive Income Statement (Summarized)

(Wbn)	12/16	12/17	12/18F	12/19F
Revenue	**196**	**287**	**394**	**559**
Cost of Sales	**100**	**240**	**317**	**434**
Gross Profit	**96**	**47**	**77**	**125**
SG&A Expenses	**0**	**14**	**18**	**21**
Operating Profit (Adj)	**0**	**33**	**59**	**103**
Operating Profit	**0**	**33**	**59**	**103**
Non-Operating Profit	**-36**	**-3**	**6**	**4**
Net Financial Income	-1	-1	4	4
Net Gain from Inv in Associates	0	0	0	0
Pretax Profit	-36	30	65	107
Income Tax	0	6	15	24
Profit from Continuing Operations	8	24	50	84
Profit from Discontinued Operations	0	0	0	0
Net Profit	0	24	50	84
Controlling Interests	0	24	50	84
Non-Controlling Interests	0	0	0	0
Total Comprehensive Profit	**8**	**24**	**50**	**84**
Controlling Interests	8	24	50	84
Non-Controlling Interests	0	0	0	0
EBITDA	22	74	116	181
FCF (Free Cash Flow)	-13	-7	88	150
EBITDA Margin (%)	11.2	25.8	29.4	32.4
Operating Profit Margin (%)	0.0	11.5	15.0	18.4
Net Profit Margin (%)	0.0	8.4	12.7	15.0

Statement of Financial Condition (Summarized)

(Wbn)	12/16	12/17	12/18F	12/19F
Current Assets	**81**	**290**	**304**	**409**
Cash and Cash Equivalents	12	51	49	113
AR & Other Receivables	39	55	55	79
Inventories	0	1	1	2
Other Current Assets	30	183	199	215
Non-Current Assets	**161**	**170**	**196**	**210**
Investments in Associates	0	0	0	0
Property, Plant and Equipment	1	1	1	1
Intangible Assets	124	128	151	163
Total Assets	**242**	**459**	**500**	**619**
Current Liabilities	**84**	**91**	**81**	**115**
AP & Other Payables	20	32	32	45
Short-Term Financial Liabilities	8	10	0	0
Other Current Liabilities	56	49	49	70
Non-Current Liabilities	**21**	**0**	**0**	**0**
Long-Term Financial Liabilities	20	0	0	0
Other Non-Current Liabilities	1	0	0	0
Total Liabilities	**106**	**91**	**81**	**116**
Controlling Interests	**136**	**368**	**419**	**503**
Capital Stock	11	14	14	14
Capital Surplus	115	320	320	320
Retained Earnings	8	32	82	166
Non-Controlling Interests	**0**	**0**	**0**	**0**
Stockholders' Equity	**136**	**368**	**419**	**503**

Cash Flows (Summarized)

(Wbn)	12/16	12/17	12/18F	12/19F
Cash Flows from Op Activities	-12	-7	89	150
Net Profit	0	24	50	84
Non-Cash Income and Expense	25	46	69	97
Depreciation	0	0	0	0
Amortization	22	41	57	78
Others	3	5	12	19
Chg in Working Capital	-46	-73	-17	-7
Chg in AR & Other Receivables	-27	-14	0	-24
Chg in Inventories	0	-2	0	-1
Chg in AP & Other Payables	11	9	-2	3
Income Tax Paid	**-2**	**-10**	**-14**	**-24**
Cash Flows from Inv Activities	-70	-141	-81	-87
Chg in PP&E	-1	0	0	0
Chg in Intangible Assets	0	0	-68	-90
Chg in Financial Assets	-2	-142	-16	-2
Others	**-67**	**1**	**3**	**5**
Cash Flows from Fin Activities	93	188	-10	0
Chg in Financial Liabilities	28	-18	-10	0
Chg in Equity	126	208	0	0
Dividends Paid	0	0	0	0
Others	**-61**	**-2**	**0**	**0**
Increase (Decrease) in Cash	12	40	-2	63
Beginning Balance	0	12	51	49
Ending Balance	**12**	**51**	**49**	**113**

Forecasts/Valuations (Summarized)

	12/16	12/17	12/18F	12/19F
P/E (x)	-	61.9	53.5	32.1
P/CF (x)	-	21.2	22.5	14.9
P/B (x)	-	4.9	6.4	5.4
EV/EBITDA (x)	-	22.1	21.4	13.3
EPS (W)	0	1,050	1,795	2,988
CFPS (W)	1,735	3,068	4,266	6,459
BPS (W)	6,176	13,141	14,942	17,930
DPS (W)	0	0	0	0
Payout ratio (%)	0.0	0.0	0.0	0.0
Dividend Yield (%)	-	0.0	0.0	0.0
Revenue Growth (%)	-	46.4	37.3	41.9
EBITDA Growth (%)	-	236.4	56.8	56.0
Operating Profit Growth (%)	-	-	78.8	74.6
EPS Growth (%)	-	-	71.0	66.5
Accounts Receivable Turnover (x)	5.3	6.2	7.2	8.4
Inventory Turnover (x)	0.0	443.0	304.3	355.3
Accounts Payable Turnover (x)	17.3	40.5	52.3	58.9
ROA (%)	0.0	6.8	10.5	15.0
ROE (%)	0.0	9.5	12.8	18.2
ROIC (%)	0.0	15.6	23.3	37.1
Liability to Equity Ratio (%)	77.8	24.7	19.3	23.0
Current Ratio (%)	96.4	319.6	376.4	354.6
Net Debt to Equity Ratio (%)	12.1	-49.4	-49.2	-53.6
Interest Coverage Ratio (x)	0.0	19.0	1,206.1	9,964.6

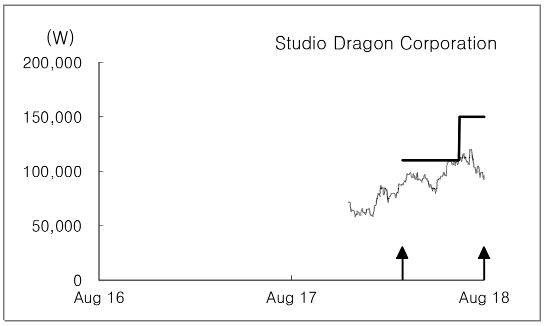
Source: Company data, Mirae Asset Daewoo Research estimates

APPENDIX 1

Important Disclosures & Disclaimers

2-Year Rating and Target Price History

Company (Code)	Date	Rating	Target Price
Studio Dragon Corporation (253450)	06/22/2018	Buy	150,000
	03/06/2018	Buy	110,000



Stock Ratings	
Buy	: Relative performance of 20% or greater
Trading Buy	: Relative performance of 10% or greater, but with volatility
Hold	: Relative performance of -10% and 10%
Sell	: Relative performance of -10%

Industry Ratings	
Overweight	: Fundamentals are favorable or improving
Neutral	: Fundamentals are steady without any material changes
Underweight	: Fundamentals are unfavorable or worsening

Ratings and Target Price History (Share price (─), Target price (▬), Not covered (■), Buy (▲), Trading Buy (■), Hold (●), Sell (◆))
* Our investment rating is a guide to the relative return of the stock versus the market over the next 12 months.
* Although it is not part of the official ratings at Mirae Asset Daewoo Co., Ltd., we may call a trading opportunity in case there is a technical or short-term material development.
* The target price was determined by the research analyst through valuation methods discussed in this report, in part based on the analyst's estimate of future earnings.
* The achievement of the target price may be impeded by risks related to the subject securities and companies, as well as general market and economic conditions.

Equity Ratings Distribution & Investment Banking Services

	Buy	Trading Buy	Hold	Sell
Equity Ratings Distribution	73.40%	14.78%	11.82%	0.00%
Investment Banking Services	77.42%	9.68%	12.90%	0.00%

* Based on recommendations in the last 12-months (as of June 30, 2018)

Disclosures

We managed the IPO of Studio Dragon Corporation with one year.

Analyst Certification

The research analysts who prepared this report (the "Analysts") are registered with the Korea Financial Investment Association and are subject to Korean securities regulations. They are neither registered as research analysts in any other jurisdiction nor subject to the laws or regulations thereof. Each Analyst responsible for the preparation of this report certifies that (i) all views expressed in this report accurately reflect the personal views of the Analyst about any and all of the issuers and securities named in this report and (ii) no part of the compensation of the Analyst was, is, or will be directly or indirectly related to the specific recommendations or views contained in this report. Mirae Asset Daewoo Co., Ltd. ("Mirae Asset Daewoo") policy prohibits its Analysts and members of their households from owning securities of any company in the Analyst's area of coverage, and the Analysts do not serve as an officer, director or advisory board member of the subject companies. Except as otherwise specified herein, the Analysts have not received any compensation or any other benefits from the subject companies in the past 12 months and have not been promised the same in connection with this report. Like all employees of Mirae Asset Daewoo, the Analysts receive compensation that is determined by overall firm profitability, which includes revenues from, among other business units, the institutional equities, investment banking, proprietary trading and private client division. At the time of publication of this report, the Analysts do not know or have reason to know of any actual, material conflict of interest of the Analyst or Mirae Asset Daewoo except as otherwise stated herein.

Disclaimers

This report was prepared by Mirae Asset Daewoo, a broker-dealer registered in the Republic of Korea and a member of the Korea Exchange. Information and opinions contained herein have been compiled in good faith and from sources believed to be reliable, but such information has not been independently verified and Mirae Asset Daewoo makes no guarantee, representation or warranty, express or implied, as to the fairness, accuracy, completeness or correctness of the information and opinions contained herein or of any translation into English from the Korean language. In case of an English translation of a report prepared in the Korean language, the original Korean language report may have been made available to investors in advance of this report.
The intended recipients of this report are sophisticated institutional investors who have substantial knowledge of the local business environment, its common practices, laws and accounting principles and no person whose receipt or use of this report would violate any laws or regulations or subject Mirae Asset Daewoo or any of its affiliates to registration or licensing requirements in any jurisdiction shall receive or make any use hereof.
This report is for general information purposes only and it is not and shall not be construed as an offer or a solicitation of an offer to effect transactions in any securities or other financial instruments. The report does not constitute investment advice to any person and such person shall not be treated as a client of Mirae Asset Daewoo by virtue of receiving this report. This report does not take into account the particular investment objectives, financial situations, or needs of individual clients. The report is not to be relied upon in substitution for the exercise of independent judgment. Information and

opinions contained herein are as of the date hereof and are subject to change without notice. The price and value of the investments referred to in this report and the income from them may depreciate or appreciate, and investors may incur losses on investments. Past performance is not a guide to future performance. Future returns are not guaranteed, and a loss of original capital may occur. Mirae Asset Daewoo, its affiliates and their directors, officers, employees and agents do not accept any liability for any loss arising out of the use hereof.

Mirae Asset Daewoo may have issued other reports that are inconsistent with, and reach different conclusions from, the opinions presented in this report. The reports may reflect different assumptions, views and analytical methods of the analysts who prepared them. Mirae Asset Daewoo may make investment decisions that are inconsistent with the opinions and views expressed in this research report. Mirae Asset Daewoo, its affiliates and their directors, officers, employees and agents may have long or short positions in any of the subject securities at any time and may make a purchase or sale, or offer to make a purchase or sale, of any such securities or other financial instruments from time to time in the open market or otherwise, in each case either as principals or agents. Mirae Asset Daewoo and its affiliates may have had, or may be expecting to enter into, business relationships with the subject companies to provide investment banking, market-making or other financial services as are permitted under applicable laws and regulations.

Distribution

United Kingdom: This report is being distributed by Mirae Asset Securities (UK) Ltd. in the United Kingdom only to (i) investment professionals falling within Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (the "Order"), and (ii) high net worth companies and other persons to whom it may lawfully be communicated, falling within Article 49(2)(A) to (E) of the Order (all such persons together being referred to as "Relevant Persons"). This report is directed only at Relevant Persons. Any person who is not a Relevant Person should not act or rely on this report or any of its contents.

United States: Mirae Asset Daewoo is not a registered broker-dealer in the United States and, therefore, is not subject to U.S. rules regarding the preparation of research reports and the independence of research analysts. This report is distributed in the U.S. by Mirae Asset Securities (USA) Inc., a member of FINRA/SIPC, to "major U.S. institutional investors" in reliance on the exemption from registration provided by Rule 15a-6(b)(4) under the U.S. Securities Exchange Act of 1934, as amended. All U.S. persons that receive this document by their acceptance hereof represent and warrant that they are a major U.S. institutional investor and have not received this report under any express or implied understanding that they will direct commission income to Mirae Asset Daewoo or its affiliates. Any U.S. recipient of this document wishing to effect a transaction in any securities discussed herein should contact and place orders with Mirae Asset Securities (USA) Inc. Mirae Asset Securities (USA) Inc. accepts responsibility for the contents of this report in the U.S., subject to the terms hereof, to the extent that it is delivered to a U.S. person other than a major U.S. institutional investor. Under no circumstances should any recipient of this research report effect any transaction to buy or sell securities or related financial instruments through Mirae Asset Daewoo. The securities described in this report may not have been registered under the U.S. Securities Act of 1933, as amended, and, in such case, may not be offered or sold in the U.S. or to U.S. persons absent registration or an applicable exemption from the registration requirements.

Hong Kong: This report is distributed in Hong Kong by Mirae Asset Securities (HK) Limited, which is regulated by the Hong Kong Securities and Futures Commission. The contents of this report have not been reviewed by any regulatory authority in Hong Kong. This report is for distribution only to professional investors within the meaning of Part I of Schedule 1 to the Securities and Futures Ordinance of Hong Kong (Cap. 571, Laws of Hong Kong) and any rules made thereunder and may not be redistributed in whole or in part in Hong Kong to any person.

All Other Jurisdictions: Customers in all other countries who wish to effect a transaction in any securities referenced in this report should contact Mirae Asset Daewoo or its affiliates only if distribution to or use by such customer of this report would not violate applicable laws and regulations and not subject Mirae Asset Daewoo and its affiliates to any registration or licensing requirement within such jurisdiction.

Mirae Asset Daewoo International Network

Mirae Asset Daewoo Co., Ltd. (Seoul)
Global Equity Sales Team
Mirae Asset Center 1 Building
26 Eulji-ro 5-gil, Jung-gu, Seoul 04539
Korea

Tel: 82-2-3774-2124

Mirae Asset Securities (HK) Ltd.
Suites 1109-1114, 11th Floor
Two International Finance Centre
8 Finance Street, Central
Hong Kong
China
Tel: 852-2845-6332

Mirae Asset Securities (UK) Ltd.
41st Floor, Tower 42
25 Old Broad Street,
London EC2N 1HQ
United Kingdom

Tel: 44-20-7982-8000

Mirae Asset Securities (USA) Inc.
810 Seventh Avenue, 37th Floor
New York, NY 10019
USA

Tel: 1-212-407-1000

Mirae Asset Wealth Management (USA) Inc.
555 S. Flower Street, Suite 4410,
Los Angeles, California 90071
USA

Tel: 1-213-262-3807

Mirae Asset Wealth Management (Brazil) CCTVM
Rua Funchal, 418, 18th Floor, E-Tower Building Vila Olimpia
Sao Paulo - SP
04551-060
Brasil
Tel: 55-11-2789-2100

PT. Mirae Asset Sekuritas Indonesia
Equity Tower Building Lt. 50
Sudirman Central Business District
Jl. Jend. Sudirman, Kav. 52-53 Jakarta Selatan 12190
Indonesia
Tel: 62-21-515-3281

Mirae Asset Securities (Singapore) Pte. Ltd.
6 Battery Road, #11-01
Singapore 049909
Republic of Singapore

Tel: 65-6671-9845

Mirae Asset Securities (Vietnam) LLC
7F, Saigon Royal Building
91 Pasteur St.
District 1, Ben Nghe Ward, Ho Chi Minh City
Vietnam

Tel: 84-8-3911-0633 (ext.110)

Mirae Asset Securities Mongolia UTsK LLC
#406, Blue Sky Tower, Peace Avenue 17
1 Khoroo, Sukhbaatar District
Ulaanbaatar 14240
Mongolia

Tel: 976-7011-0806

Mirae Asset Investment Advisory (Beijing) Co., Ltd
2401B, 24th Floor, East Tower, Twin Towers
B12 Jianguomenwai Avenue, Chaoyang District
Beijing 100022
China

Tel: 86-10-6567-9699

Beijing Representative Office
2401A, 24th Floor, East Tower, Twin Towers
B12 Jianguomenwai Avenue, Chaoyang District
Beijing 100022
China

Tel: 86-10-6567-9699 (ext. 3300)

Shanghai Representative Office
38T31, 38F, Shanghai World Financial Center
100 Century Avenue, Pudong New Area Shanghai 200120
China

Tel: 86-21-5013-6392

Ho Chi Minh Representative Office
7F, Saigon Royal Building
91 Pasteur St.
District 1, Ben Nghe Ward, Ho Chi Minh City
Vietnam

Tel: 84-8-3910-7715