

CMGE Technology (302 HK)

IP-oriented game publisher pioneer

As a leading game publisher in China, CMGE excelled itself with abundant valuable IP reserve and rich pipeline. We expect its revenue/ adj. net profit to grow at 48%/46% CAGR in FY18-21E, driven by strong momentum of key titles and rollout of new names. Initiate with BUY with TP **HK\$4.39** (30.3% upside).

- China's Top 1 independent mobile game publisher.** Backed by popular and high-quality IP-oriented game portfolio, CMGE is ranked Top 1 in terms of cumulative revenue generated from publishing games developed based on IPs, with market share of ~13.7%, from 1 Jan 2015 to 30 Jun 2019, according to Analysys. With its abundant IP reserve, diversified publishing network and strategic investment, we expect CMGE to deliver 48%/46% revenue/net profit CAGR during FY18-21E, thanks to its rich game pipeline.
- Valuable IP reserve to build high entry barriers.** Supported by deep cooperation with IP owners and IP investment, CMGE holds the largest reserve of 99 IPs (31 licensed IPs & 68 proprietary IPs) in China. We expect CMGE to leverage its existing well-known IPs to derive abundant adapted games, and attract loyal game players with longer life cycle (e.g. One Piece – the Road of the Strong <海贼王>, Fighter of Destiny <择天记>).
- Sophisticated game publishing and rich pipeline to boost growth.** Unlike most listed peers who are highly dependent on several flagships, CMGE excelled itself with strong portfolio (73 active games) and pipeline to guarantee stable performance. Leveraging its rich experience in game publishing, hot titles and valuable IPs, we expect CMGE to directly benefit from its flagship titles and strong pipeline of 29 games (19 of them have obtained ISBN registration). We estimate CMGE's game publishing to deliver 46% revenue CAGR in FY18-21E, and account for 80% of total revenue in FY19E, mainly attributable to both ramp-up of MAU and ARPU. We expect *SNK Top Battle* (<SNK 巅峰对决>), *Dynasty Warriors* (<真·三国无双>) and *One Piece: The Voyage* (<航海王热血航线>) to deliver meaningful contribution in FY20E.
- Initiate with BUY.** We set our DCF-based TP at **HK\$4.39** (implying 11.4x FY20E P/E), still below industry average of 22x P/E. Valuation is attractive. We believe CMGE's positive price drivers and catalysts originate from: 1) strong game pipeline; 2) eye-catching 1Q20E grossing benefiting from the epidemic; 3) potential annual result surprise & dividends in Mar; and 4) upcoming inclusion into HK-China stock connect.

Earnings Summary

(YE 31 Dec)	FY17A	FY18A	FY19E	FY20E	FY21E
Revenue (RMB mn)	1,013	1,596	3,385	4,323	5,140
YoY change (%)	1%	58%	112%	28%	19%
Adj. net income (RMB mn)	307	311	611	802	958
Adj. EPS (RMB)	NA	NA	0.26	0.34	0.41
YoY growth (%)	53%	1%	97%	31%	19%
P/E (x)	NA	NA	11.7	8.9	7.4
P/S (x)	7.0	4.5	2.1	1.6	1.4
Yield (%)	0.0	0.0	0.0	0.0	0.0
ROE (%)	38%	23%	22%	20%	20%
Net gearing (%)	Net cash	Net cash	Net cash	Net cash	Net cash

Source: Company data, CMBIS estimates

BUY (Initiation)

Target Price	HK\$4.39
Up/Downside	+30.3%
Current Price	HK\$3.37

China Internet Sector

Sophie Huang

(852) 3900 0889

sophiehuang@cmbi.com.hk

Stock Data

Mkt Cap (HK\$ mn)	7,853
Avg 3 mths t/o (HK\$ mn)	45.69
52w High/Low (HK\$)	4.49/2.43
Total Issued Shares (mn)	2,330

Source: Bloomberg

Shareholding Structure

Fairview Ridge Investment	29.8%
Pegasus Network	12.6%
Hotel Zhike	12.5%

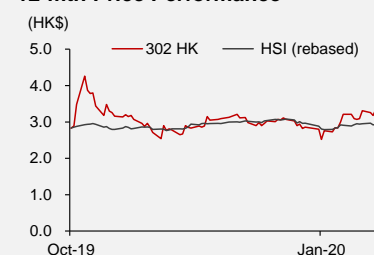
Source: Bloomberg

Share Performance

	Absolute	Relative
1-mth	9.6%	14.3%
3-mth	5.4%	2.6%
6-mth	NA	NA

Source: Bloomberg

12-mth Price Performance



Source: Bloomberg

Auditor: Ernst & Young

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Investment Thesis

China's Top 1 independent mobile game publisher.

Backed by popular and high-quality IP-oriented game portfolio, CMGE Technology Group Limited (“**CMGE**”) is ranked Top 1 in terms of cumulative revenue generated from publishing games developed based on IPs, with market share of ~13.7%, from 1 Jan 2015 to 30 Jun 2019, according to Analysys. With its abundant IP reserve, diversified publishing network and strategic investment, we expect CMGE to deliver 48%/46% revenue/net profit CAGR during FY18-21E, thanks to its rich game pipeline.

Valuable IP reserve to build high entry barriers.

Supported by deep cooperation with IP owners and IP investment, CMGE holds the largest reserve of 99 IPs (31 licensed IPs & 68 proprietary IPs) in China. We expect CMGE to leverage its existing well-known IPs to derive abundant adapted games, and attract loyal game players with longer life cycle (e.g. One Piece – the Road of the Strong <海贼王>, Fighter of Destiny <择天记>).

Sophisticated game publishing and rich pipeline to boost growth.

Unlike most listed peers who are highly dependent on several flagships, CMGE excelled itself with strong portfolio (73 active games) and pipeline to guarantee stable performance. Leveraging its rich experience in game publishing, hot titles and valuable IPs, we expect CMGE to directly benefit from its flagship titles and strong pipeline of 29 games (19 of them have obtained ISBN registration, and 1 overseas game with no need for approval). We estimate CMGE's game publishing to deliver 46% revenue CAGR in FY18-21E, and account for 80% of total revenue in FY19E, mainly attributable to both ramp-up of MAU and ARPU. We expect SNK Top Battle (SNK 巅峰对决), Dynasty Warriors (真·三國無雙) and One Piece: The Voyage (航海王熱血航線) to deliver meaningful contribution in FY20E.

Stepping up game development to maximize IP monetization.

Apart from game publishing, we expect CMGE to continuously invest in IP development and to supplement game pipeline. With investments in 12 game developers, we expect CMGE to develop more premium IP-oriented games.

Initiate with BUY.

We set our TP at HK\$4.39 (implying 11.4x FY20E P/E), still below industry average of 22x P/E. Valuation is attractive. We believe CMGE's positive price drivers and catalysts originate from: 1) strong game pipeline; 2) eye-catching 1Q20E grossing with benefit from the epidemic; 3) potential annual result surprise & dividends in Mar; and 4) upcoming inclusion into HK-China stock connect.

Focus Charts

Figure 1: Overview of CMGE's business



Source: Company data, Analysys;

Note: (1) According to Analysys, in terms of cumulative revenue generated from publishing games developed based on IPs from 1 Jan 2015 to 30 Jun 2019; (2) As of 30 Jun 2019.

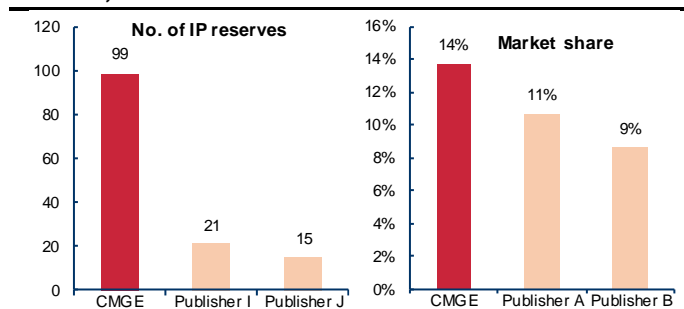
Figure 2: CMGE's key games in the pipeline

Title	Genre	Source	Source	Licensed Territory
Territory Alert (全境戒備)	Mobile application TPS	Beta testing	Licensed	Global
Zork Reborn (魔域重生)	Web MMORPG	Development	IP and in-house development	China
Hua Jiang Hu: Bei Mo Ting (畫江湖之杯莫停)	Mobile application ARPG	Beta testing	IP	Global
SNK Top Battle (SNK 巔峰對決)	Mobile application CCG	Development	IP	Greater China
Chat Group of Truth Chasers (修真聊天群)	Mobile application idle game	Development	IP	Global
Xuan Yuan Sword – Cang Zhi Yao (軒轅劍-蒼之曜)	Mobile application ARPG	Development		Global
Dynasty Warriors (真·三國無雙)	Mobile application ARPG	Development	IP	Global
SNK All Stars (SNK 全明星)	H5 CCG	Identification	IP	Greater China
One Piece: The Voyage (航海王熱血航線)	Mobile application ARPG	Development	IP	China
Reborn! (家庭教師)	Mobile application ARPG	Development	IP	China, HK, Macao and Taiwan
Legend of Sword and Fairy – the Magnificence (仙劍:九野)	Mobile application CCG	Identification	IP and in-house development	Global excluded, HK, Macao and Taiwan
Legend of Sword and Fairy – Fantasy Mirror 2 (仙劍奇俠傳-幻璃鏡 2)	Mobile application ARPG	Development	IP and in-house development	Global
Monopoly 10 (大富翁 10)	Single-player PC SLG	Development	IP and in-house development	Global

Source: Company data

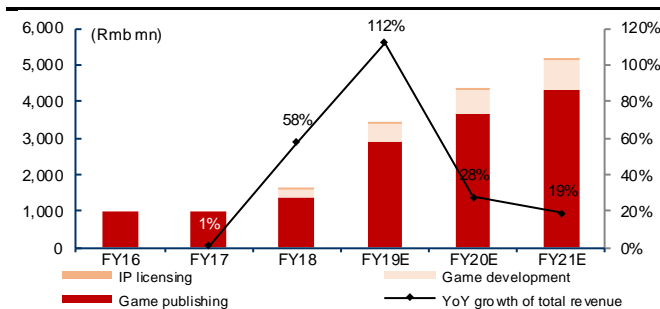
Notes: The titles of certain games in pipeline have not been determined yet and the titles listed in the above table are subject to change before launch.

Figure 3: CMGE ranked Top 1 by revenue and IP reserve, from 1 Jan 2015 to 30 Jun 2019



Source: Analysys, notes refer to figure 36

Figure 4: 48% revenue CAGR in FY18-21E



Source: Company data, CMBIS estimates

Company Overview

A game publishing boutique with valuable IPs

China's Top 1 independent mobile game publisher

Established in 2011, CMGE is the leading IP-oriented game operator and mobile game publisher in China, mainly dedicated to publish the mobile games adapted from popular IPs. According to Analysys, CMGE ranked Top 1 in terms of: 1) total number of published games developed based on IPs from 1 Jan 2015 to 30 Jun 2019; and 2) cumulative revenue generated from IP-games release from 1 Jan 2015 to 30 Jun 2019.

Leveraging valuable IPs of *Fighter of Destiny* (<择天记>) and *the Voyage* (<航海王>)...

Backed by constant investment and strong relationship with both IP owners and third-party game developers, CMGE operated 67 online active games as of 30 Jun 2019. CMGE focuses on the IPs of well-known cultural products and art works. It mainly expands IP reserve through IP licensing and acquisition of IP owners. As of 30 Jun 2019, CMGE held 31 licensed IPs and 68 proprietary IPs as a result of acquisition of 51% equity interest in Beijing Softstar. According to Analysys, CMGE had the largest IP reserve as of 30 Jun 2019.

Figure 5: Overview of CMGE's business



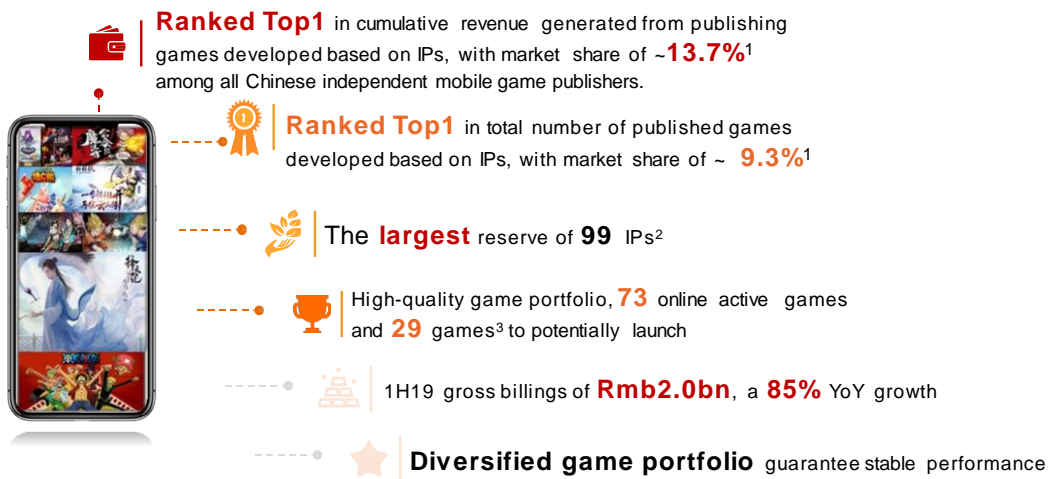
Source: Company data, Analysys

Note: (1) According to Analysys, in terms of cumulative revenue generated from publishing games developed based on IPs from 1 Jan 2015 to 30 Jun 2019; (2) As of 30 Jun 2019.

...to foster a spectrum of prevalent and superior IP-based games

CMGE has built strong and long-lasting licensing relationships with well-known game developers. Until now, CMGE has 73 online active games in concert with 103 game developers. For instance, *Fighter of Destiny* (《择天记》) and *Heaven Sword and Dragon Saber* (《倚天屠龙记》) achieved first-month gross billings of over RMB170mn and approximately RMB100mn, respectively.

Figure 6: CMGE’s success in game publishing among Chinese independent mobile game publishers



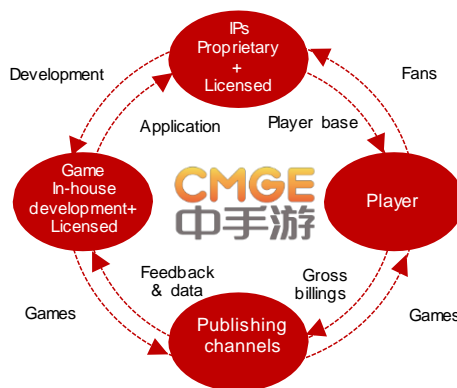
Source: Analysys.

Note: 1) Period from 1 Jan 2015 to 30 Jun 2019 for Chinese independent mobile game publishers. 2) As of 30 Jun 2019. 3) 19 of the games in the pipeline have obtained paper pre-approval ISBN, and one overseas game with no need approval.

Bridging various participants along the value chain

Mobile game value chain involves multiple players, including game developers, IP owners, publishing channels and game players. CMGE’s role in the chain is to integrate and coordinate the existing sources, such as IPs and traffic channels, with game developer’s capability to supply game players with high-quality mobile games.

Figure 7: CMGE’s business model

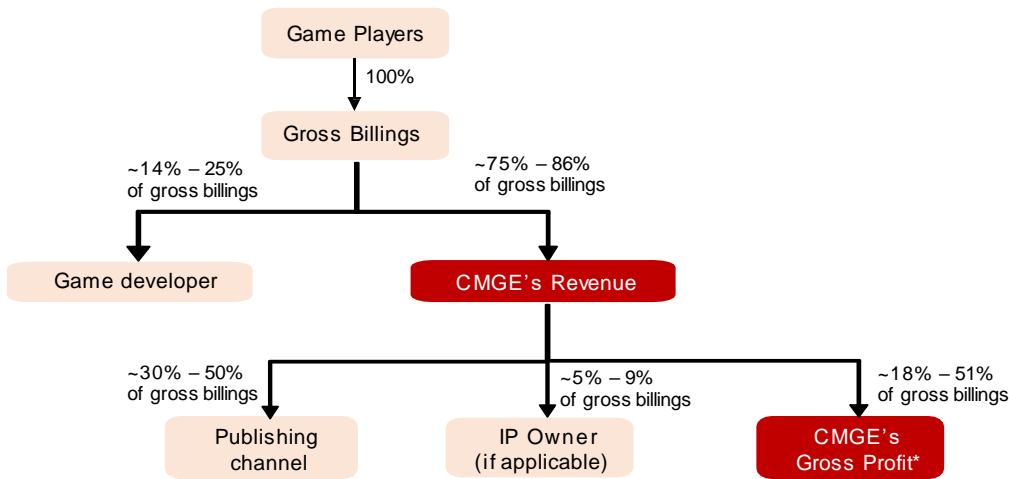


Source: Company data

CMGE primarily sources its games from two channels, namely IP licensing and game licensing, and publishes them on publishing channels. In IP licensing, CMGE licenses IPs from their owners and engages third-party game developers to develop them into games, while in game licensing, CMGE directly licences developed games.

Upon the launch of games, CMGE shares revenue with IP owners and game developers after publishing channels retain their portion of gross billings.

Figure 8: Gross billing sharing process

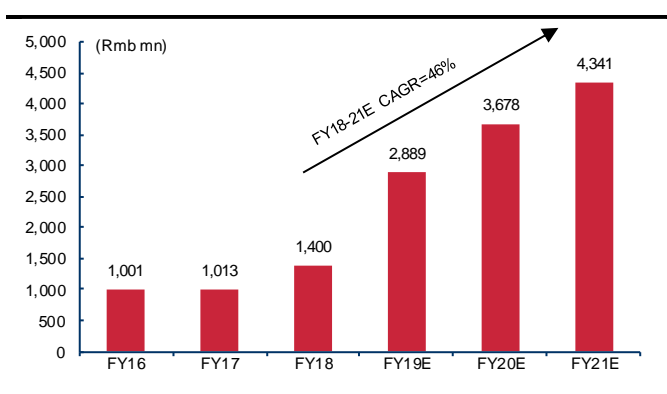


Source: Company data

Note: Not taking into consideration amortization of game royalties, amortization of IP royalties, and other costs that factor into the calculation of gross profit.

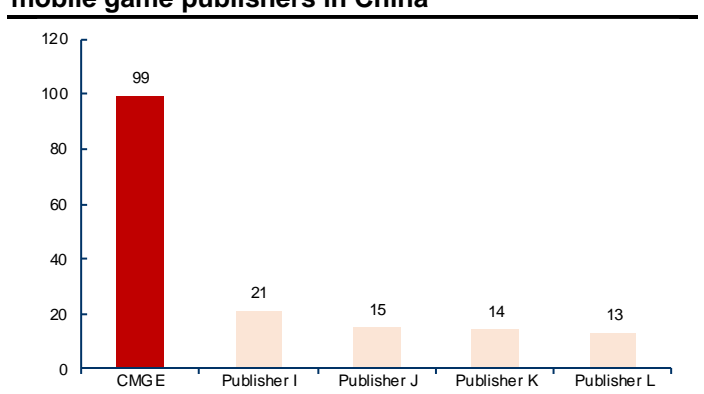
On top of licensing business, CMGE also acquired two game developers, namely Beijing Softstar (as to 51% equity interest) and Wennai Hudong (as to 100% equity interest). The investment enabled CMGE to operate game developing business which began to contribute revenue since 1H18.

Figure 9: CMGE's game publishing revenue



Source: Company data, CMBIS estimates

Figure 10: Largest IP reserve among independent mobile game publishers in China



Source: Analysys

Note: From Jan 2015 to 30 Jun 2019.

Investment Summary

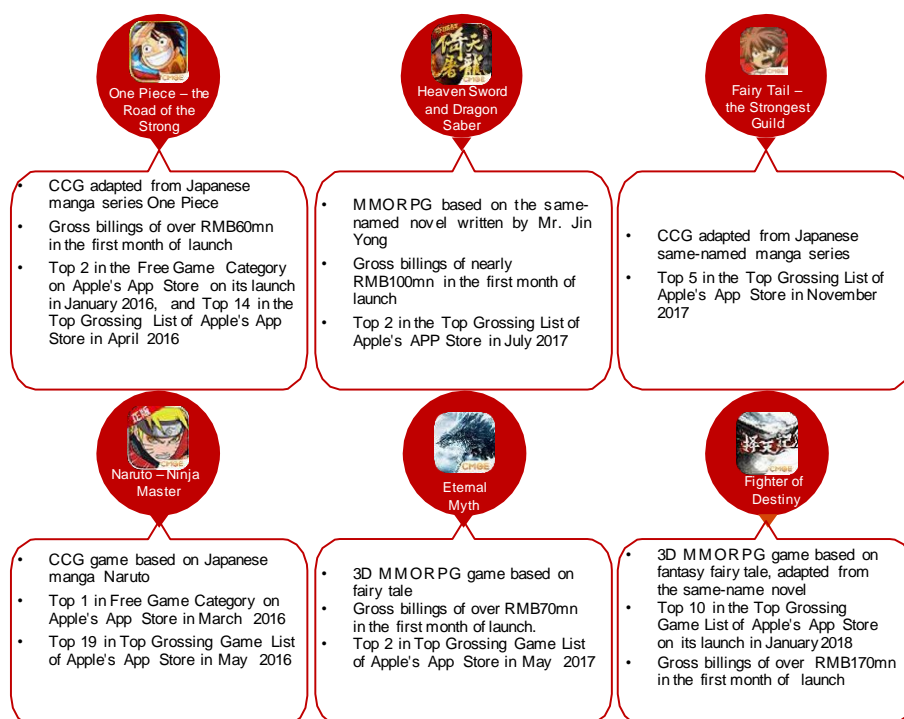
Leveraging extensive game portfolio with successful publishing to guarantee stable performance

Spectacular success in IP-based games publishing

CMGE excelled itself with deep cooperation with IP owners in fields including manga, animation, motion picture and internet literature. Licensing well-known IPs with existing stable fan base can prolong the lifecycle of the corresponding adapted games and acquire players in a cost-effective manner.

As of 30 Jun 2019, CMGE has operated 67 online active games. The majority of CMGE's sought-after games were developed based on IPs, such as *Fighter of Destiny* (《择天记》), *Heaven Sword and Dragon Saber* (《倚天屠龙记》) and *One Piece – the Road of the Strong* (《航海王强者之路》). All of the three mentioned above contributed gross billings of over RMB62mn in their first month of launch.

Figure 11: CMGE's popular and high-quality IP-based games



Source: Company data

Multi-drivers from diversified game portfolio instead of single faddish game

Unlike most listed peers who are highly dependent on several flagships, CMGE excelled itself with strong portfolio (67 active games) and pipeline to guarantee stable performance.

A mobile game typically goes through three stages in its lifecycle, namely 1) growth stage, 2) stable stage and 3) late stage. As of 30 Jun 2019, among the 89 mobile games CMGE launched, 67 remained active and 14 of the published games had lifecycle of over three years.

Figure 12: CMGE's sought-after games

Title	Genre	Launch Date	Source*	Lifecycle Stage
New Legend of Sword and Fairy	CCG	Apr 2015	IP	Late Stage
One Piece – the Road of the Strong	CCG	Jan 2016	IP	Stable Stage
Naruto – Ninja Master	CCG	Apr 2016	IP	Stable Stage
Dragon Ball – Awakening	CCG	Feb 2019	IP	Stable Stage
Fighter of Destiny	MMORPG	Jan 2018	IP	Late Stage
Candleman	Indie Game	Apr 2018	Licensed	Late Stage
The Land of the Dawn	MMORPG	Feb 2018	Licensed	Stable Stage
The Story of the Flying Mortal	H5 ARPG	May 2018	Licensed	Stable Stage
The World of Legend –Thunder Empire	MMORPG	Oct 2018	In-house development	Stable Stage
War Song – the Creation	Web MMORPG	Jun 2019	In-house development	Growth Stage

Source: Company data

Note: IP refers to games developed by third-party game developers based on licensed IPs. Licensed refers to game licensed from third-party game developers.

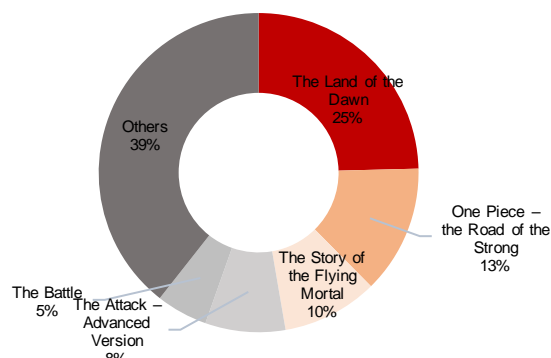
Due to game portfolio diversification, the percentage of total revenue contributed from Top 5 games decreased gradually in FY16-18. Although most of its games was in the stable stage, we expect CMGE to prolong the lifecycle of its existing active games through frequent innovations and updates.

Figure 13: Percentage of total revenue contributed from Top 5 games, FY16-18



Source: Company data

Figure 14: Percentage of total revenue contributed from Top 5 games in FY18

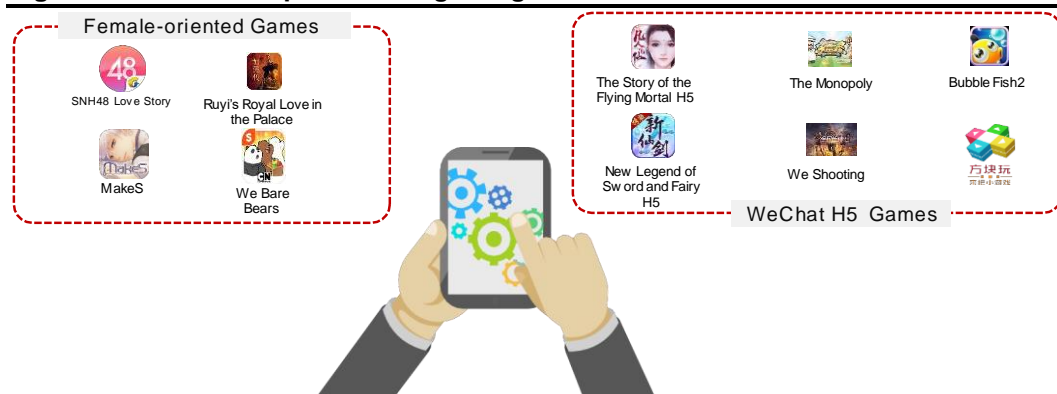


Source: Company data

Ongoing attempts on promising game genres and overseas markets

We expect CMGE to continuously tap into H5 games and female-oriented games, and expand overseas business in the long term. CMGE has been exploring new game genres to reach broader player base and improve monetization, such as H5 games and female-oriented games. As of 30 Jun 2019, CMGE has launched eight H5 games.

Figure 15: CMGE's expansion on game genres



Source: Company data

CMGE is one of the first Chinese mobile game publishers to explore overseas market and achieved outstanding performance. Seven published games were recommended on the front page of Apple's App Store globally.

Figure 16: Selected CMGE's games published in overseas market

Title	Genre	Region	Source
Candleman	Innovative game	Global	Licensed
The Land of the Dawn	MMORPG	Overseas excl. HK, Macau and Taiwan	Licensed
Legend of Dynasty	ACT	Southeast Asia	Licensed
New Legend of Sword and Fairy	CCG	Southeast Asia	IP

Source: Company data

Expecting game publishing revenue to surge at 46% CAGR in FY18-21E

We are bullish on CMGE's game publishing revenue growth in FY18-20E given its strong pipeline. Backed by close relationship with major game developers and extensive IP reserve, CMGE had 34 games in pipeline, as of 30 Jun 2019. Furthermore, the majority of the games in pipeline have already obtained paper pre-approval ISBN.

Figure 17: Selected CMGE's games in pipeline

Title	Genre	Source	Source	Licensed Territory
Territory Alert (全境戒備)	Mobile application TPS	Beta testing	Licensed	Global
Zork Reborn (魔域重生)	Web MMORPG	Development	IP and in-house development	China
Hua Jiang Hu: Bei Mo Ting (畫江湖之杯莫停)	Mobile application ARPG	Beta testing	IP	Global
SNK Top Battle (SNK 巔峰對決)	Mobile application CCG	Development	IP	Greater China
Chat Group of Truth Chasers (修真聊天群)	Mobile application idle game	Development	IP	Global
Xuan Yuan Sword – Cang Zhi Yao (軒轅劍-蒼之曜)	Mobile application ARPG	Development		Global
Dynasty Warriors (真·三國無雙)	Mobile application ARPG	Development	IP	Global
SNK All Stars (SNK 全明星)	H5 CCG	Identification	IP	Greater China
One Piece: The Voyage (航海王熱血航線)	Mobile application ARPG	Development	IP	China
Reborn! (家庭教師)	Mobile application ARPG	Development	IP	China, HK, Macao and Taiwan
Legend of Sword and Fairy – the Magnificence (仙劍:九野)	Mobile application CCG	Identification	IP and in-house development	Global excluded, HK, Macao and Taiwan
Legend of Sword and Fairy – Fantasy Mirror 2 (仙劍奇俠傳-幻璃鏡2)	Mobile application ARPG	Development	IP and in-house development	Global
Monopoly 10 (大富翁10)	Single-player PC SLG	Development	IP and in-house development	Global

Source: Company data

Note: IP refers to games developed by third-party game developers based on licensed IPs. Licensed refers to game licensed from third-party game developers. IP and in-house development refers to games developed by in-house development teams based on the proprietary IPs.

Among the new games to be launched, we are optimistic on the performance of **SNK Top Battle (SNK 巔峰對決)**, **Dynasty Warriors (真·三國無雙)** and **One Piece: The Voyage (航海王熱血航線)**. In our estimates, Top 10 games will contribute 83% of total revenue in FY19E, in which The World of Legend – Thunder Empire (傳奇世界之雷霆霸業) to devote 35% of total revenue.

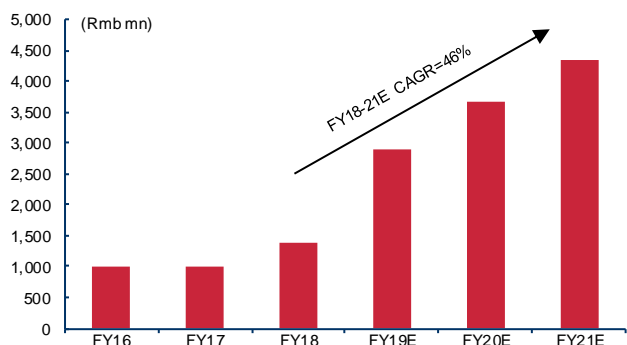
Assuming there are 34/35/35 new games to be launched in FY19/20/21E, we expect the new games will lift MAUs to 11mn/12mn/13mn in FY19/20/21E at a 5% CAGR in FY18-21E. Suppose 15% of the new games can contribute MAUs of over 1mn in the first quarter of launch, we expect ARPPU to escalate to RMB292/RMB320/RMB359 in FY19/20/21E, while monetization rate increases slightly in our estimates, with a CAGR of 4% in FY18-21E. As a result of player base expansion and ARPPU hike, CMGE's revenue generated from game publishing will ramp up at a 46% CAGR in FY18-21E.

Figure 18: Game publishing revenue breakdown

	FY16	FY17	FY18	FY19E	FY20E	FY21E	FY18-21E CAGR
MAU(mn)	13.1	7.1	11.1	11.2	12.3	12.8	5%
Monetization rate	4.6%	6.9%	7.0%	7.4%	7.8%	7.9%	4%
MPU(mn)	0.60	0.49	0.77	0.83	0.96	1.01	9%
ARPPU(RMB)	139.0	170.3	171.7	291.8	319.6	358.7	28%
Revenue(RMB mn)	1,001	1,013	1,400	2,889	3,678	4,341	46%

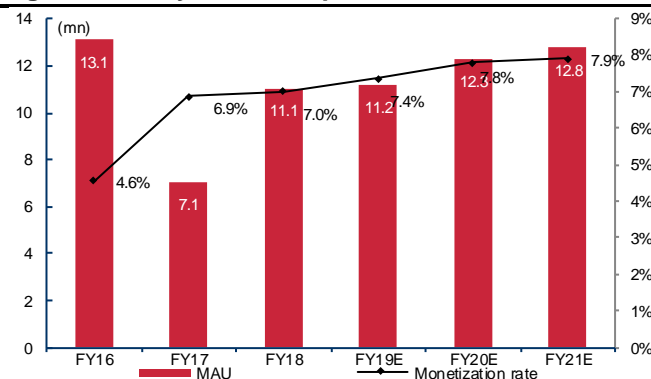
Source: Company data, CMBIS estimates

Figure 19: Game publishing revenue estimates



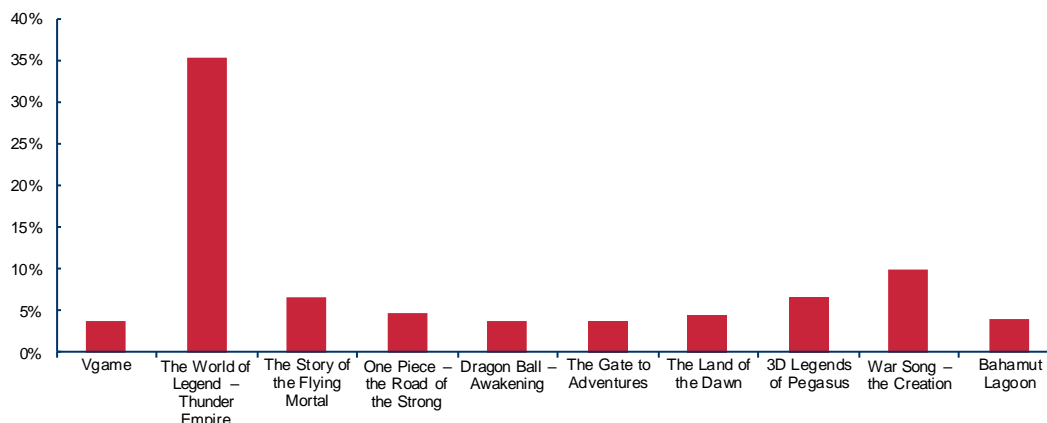
Source: Company data, CMBIS estimates

Figure 20: Player base expansion estimates



Source: Company data, CMBIS estimates

Figure 21: Revenue contribution estimates of Top 10 games in FY19E



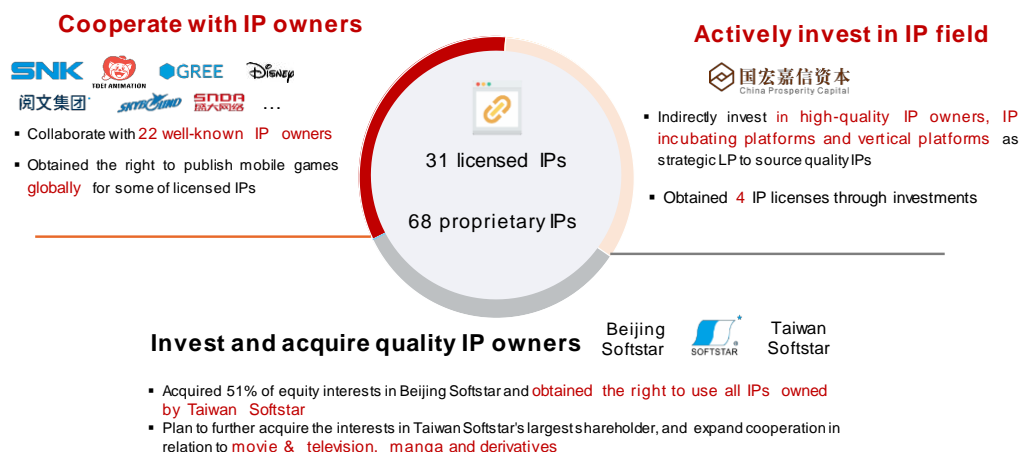
Source: CMBIS estimates

Widely-anticipated IP reserve to boost ongoing pipeline

Multiple ways to acquire high-quality IPs

As China's first mobile game operator to focus on cooperating with IP owners, CMGE is convinced of high-quality IPs' value on player attraction and retention amidst fierce competition. Hence, in the recent years, CMGE has been dedicated to discover the leading IPs with great commercial potential and establish close relationship with IP owners in multiple ways. As of 30 Jun 2019, CMGE built up collaborative relationships with 22 IP owners. Besides, CMGE also actively invests in IP field through M&A and PE.

Figure 22: CMGE's unceasing effort on IP acquisition



Source: Company data

Poised to tap the potential of existing IP reserve

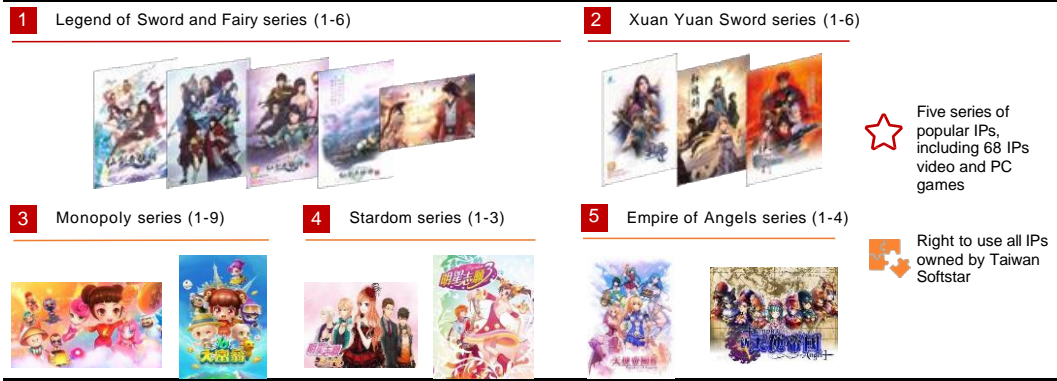
As of 30 Jun 2019, CMGE held over 31 licensed IPs and 68 proprietary IPs. The majority of CMGE's existing IPs have already built up stable and extensive fan base, and the games adapted from a few popular IPs, such as *SNK All Stars* and *SNK Top Battle* (adapted from the IP *SNK All Stars*), and *Dynasty Warriors* (adapted from *Dynasty Warriors*), are poised to be launched in FY19E or FY20E. In view of the popularity of the IPs mentioned above, we are bullish on the monetization performance of those adapted games.

Figure 23: Selected CMGE's licensed IPs

IP	Games published/in pipeline	IP	Games published/in pipeline
One Piece	One Piece – the Road of the Strong	Code Geass	Code Geass
Dragon Ball Z	Dragon Ball – Awakening	Gu Long Qun Xia Zhuan	N/A
Fighter of Destiny	Fighter of Destiny	Dragon Raja	N/A
Naruto	Naruto – Ninja Master	Zork	Zork Reborn
Walking Dead	Walking Dead	The Four – The Grand Battles	N/A
Dr. Slump	N/A	The World of Legend	N/A
SNK All Stars	SNK All Stars, SNK Top Battle	The Shaolin Temple	N/A
Reborn!	Reborn!	Dynasty Warriors	Dynasty Warriors
Fairy Tail	Fairy Tail – the Strongest Guild	Hua Jiang Hu: Bei Mo Ting	Hua Jiang Hu: Bei Mo Ting
Assassin's Creed	Assassin's Creed	Jue Zhan Sha Cheng	Jue Zhan Sha Cheng Zhi Tu Long

Source: Company data

Figure 24: CMGE’s proprietary IPs obtained through M&A

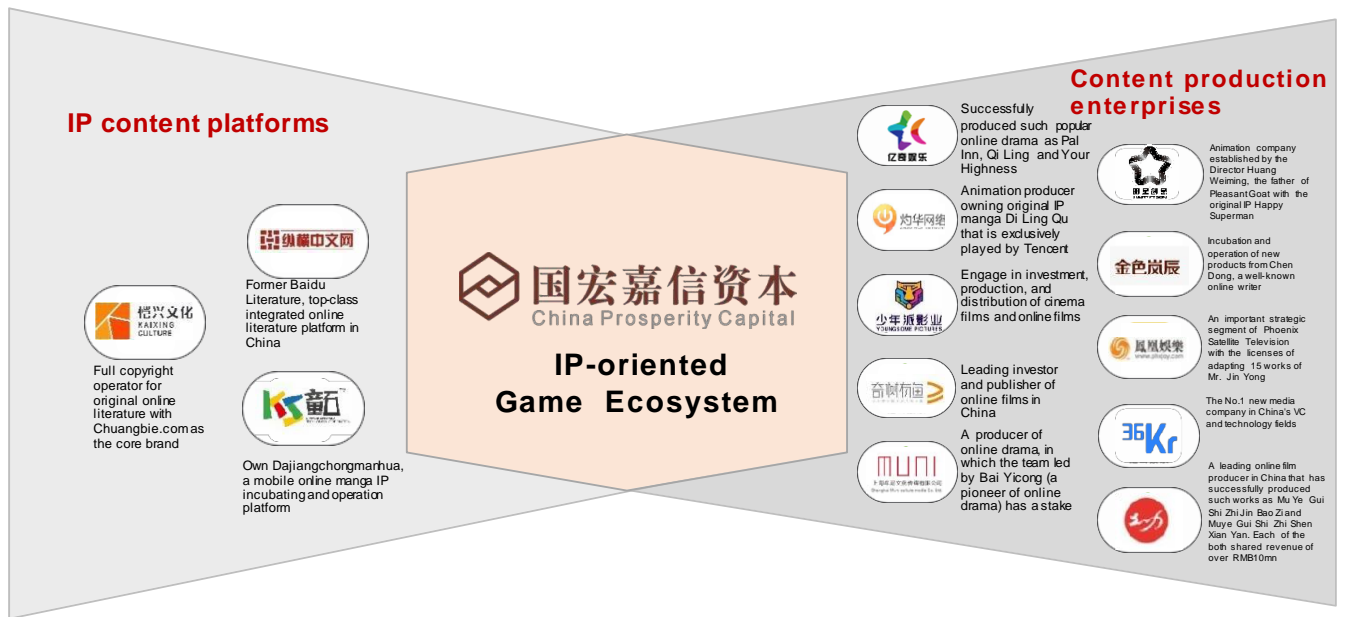


Source: Company data

Proven record of investment to incubate well-known IPs

By investing in excellent IP content platforms and IP production enterprises as a limited partner of China Prosperity Capital (“CPC”), CMGE seeks to gain access to quality IPs and strong relationship with IP owners and content providers. According to the public information on CPC’s website, CPC has invested in over 25 IP content platforms and IP production companies, including Kidstone, 36Kr, etc. We expect CMGE to proceed with investment in IP fields to realize strategic synergies and build IP-oriented game ecosystem.

Figure 25: CMGE’s active investment through CPC



Source: CPC Fund website

Multifaceted and extensive publishing network

Over 400 channels to cover substantially China’s mobile game population

CMGE structures an extensive game publishing network in a bid to reach broader player base. Its multifaceted distribution network consists of application stores (iOS App Store and Google Play), third-party open platforms and social network platforms. As of 30 Jun 2019, CMGE has established cooperation with over 400 publishing channels, which comprise one of the largest distribution networks for mobile games in China, according to Analysys.

Figure 26: Multi-channels to publish games



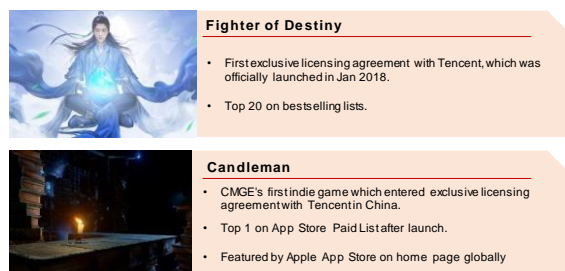
Source: Company data

Exploring deeper collaboration with Tencent to ease marketing pressure

In order to maximize publication coverage and enhance promotion efficiency, CMGE has collaborated with Tencent to publish and promote games since 2018. Currently CMGE has entered into exclusive licensing agreements with Tencent for two games, namely *Fighter of Destiny* (择天记) and *Candleman* (蜡烛人), and will extend such arrangement to additional games in the future.

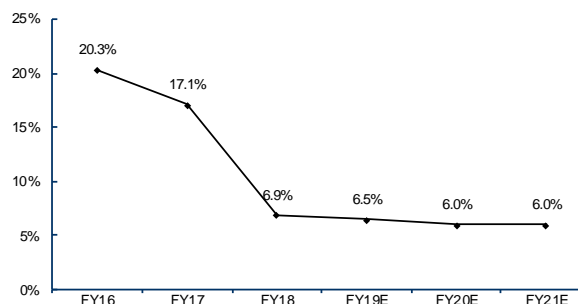
For instance, *Fighter of Destiny* is exclusively published on Tencent. Leveraging Tencent’s huge user base, CMGE promotes the game to more players in a cost-effective manner. In the first week of launch, its average daily gross billings approximately reached RMB9mn, and its first month revenue reached RMB170mn. We expect the cooperation to extend to more games and propel S&M/Rev ratio to decrease.

Figure 27: Two games in collaboration with Tencent



Source: Company data

Figure 28: Dip of S&M/Rev ratio



Source: Company data, CMBIS estimates

Stepping up game development to maximize IP monetization

Consecutive investment on well-known game developers

Apart from popularity of IP, we view that the game quality is equally significant to an IP-game's success. During the period commencing from 1 Jan 2015 to 30 Jun 2019, CMGE directly invested in 12 game developers to supplement game pipeline. We forecast that CMGE will sustain investment strategy and integrate certain functions of the acquired companies to optimize game development efficiency.

Figure 29: CMGE's direct investment portfolio

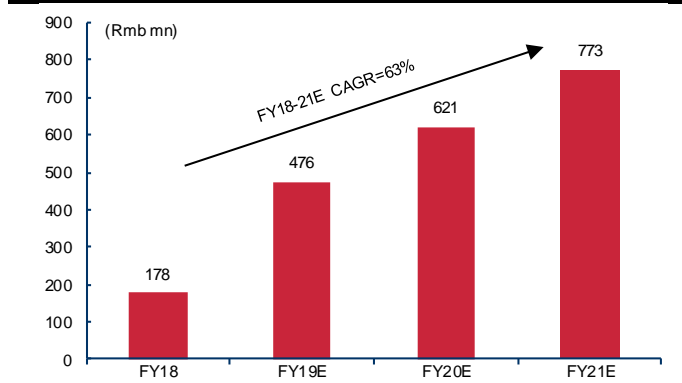
Name	Time of investment	Games in cooperation with CMGE
Tianjin Fenzhi Huyu	Jul 2016	Development of Jue Zhan Sha Cheng H5
Guangzhou Heiqi Internet Technology Co., Ltd.	Dec 2016	Development of Xuan Yuan Sword – the Origin
Zhuhai Tianlang Interactive Technology Co., Ltd.	Jun 2016	Development of Immortal Spell
Shanghai Ada Internet Technology Co., Ltd.	Jan 2017	NA
Shanghai Fengguo Network Information	Nov 2016	Development of Naruto – Ninja Master
Guangzhou Leiyu Information Technology Co., Ltd.	Mar 2017	Development of Dr. Slump
Shanghai Kucheng Internet Technology Co., Ltd.	Nov 2016	NA
Shanghai Langkun Digital Technology Co., Ltd.	Dec 2017	Development of Fighter of Destiny, SNK All Star and New One Piece
Chengdu Jumeng Tianxia Technology Co., Ltd.	Mar 2017	Development of Magical Journey to the West
Shanghai X-idea Info Tech Co., Ltd.	Dec 2017	Development of SNH48 Love Story
Shenzhen Haituo Shidai Technology Co., Ltd.	Dec 2017	Development of The Story of the Flying Mortal
Beijing Qiwen Internet Technology Co., Ltd.	Jan 2018	NA

Source: Company data

Expecting game development revenue to soar at 63% CAGR in FY18-21E

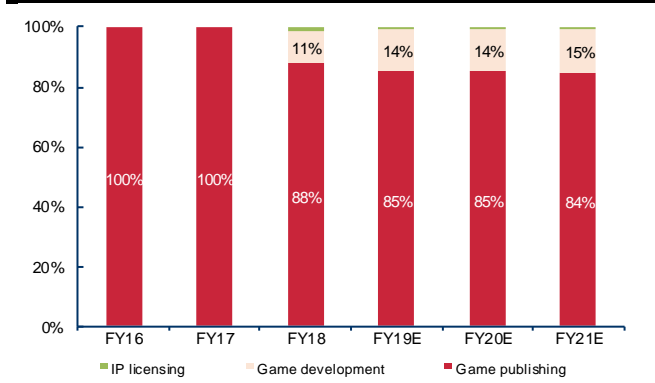
With the acquisition of Wenmai Hudong and 51% equity interest in Beijing Softstar in May 2018, CMGE possesses strong in-house development. We believe that CMGE will supplement its publishing business with in-house developed quality games, and game development can also generate revenue from both licensing. Thanks to strong development capability, we expect game development revenue to soar at a 63% CAGR in FY18-21E.

Figure 30: Game development revenue estimates



Source: Company data, CMBIS estimates

Figure 31: Revenue mix change



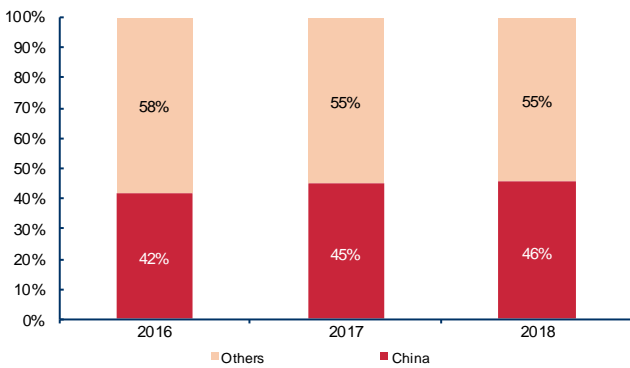
Source: Company data, CMBIS estimates

Industry Analysis

China's expanding online game industry

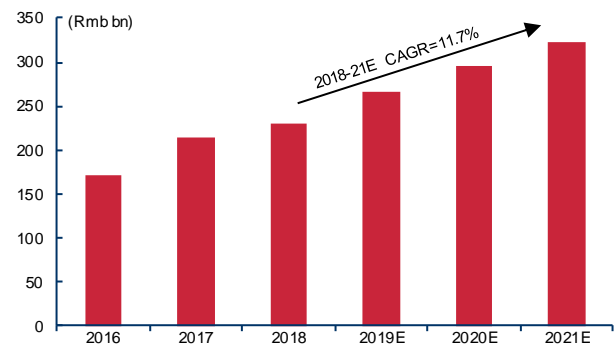
Motivated by intensified demand of entrainment, China's online game market has been expanding rapidly. According to Analysys, the market size of China's online game industry reached RMB231bn in 2018, and is expected to surge to RMB322bn in 2021, with a CAGR of 12% in 2018-21E. In addition, from the global perspective, China has become the largest market of online games worldwide in terms of gross billings generated by online games since 2015.

Figure 32: China's market share of the global online game industry, 2016-18



Source: Analysys

Figure 33: Market size of China's online game industry, 2016-21E

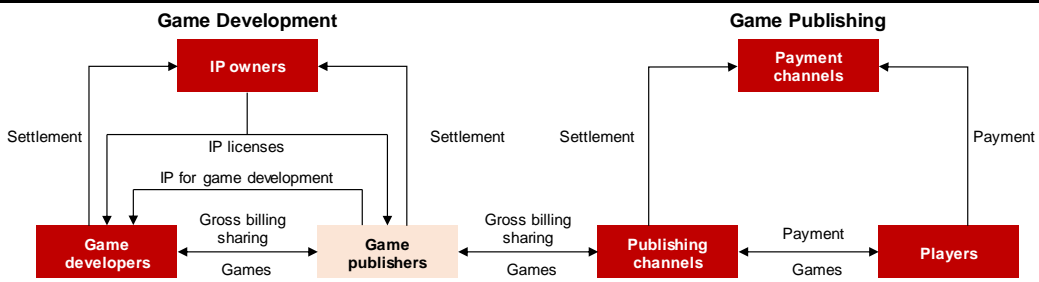


Source: Analysys

Mobile game: pivotal role in online game industry

Thanks to 1) advanced accessibility, 2) diverse game genres, and 3) popularization of smart devices, mobile games are becoming increasingly popular. In 2016, the mobile games accounted for 52.7% of China's online game market, surpassing client games. According to Analysys, the market size of mobile games in China reached RMB145bn in 2018 and is expected to reach RMB230bn in 2021, with a CAGR of 17% in 2018-21E.

Figure 34: China's mobile game industry value chain



Source: Analysys

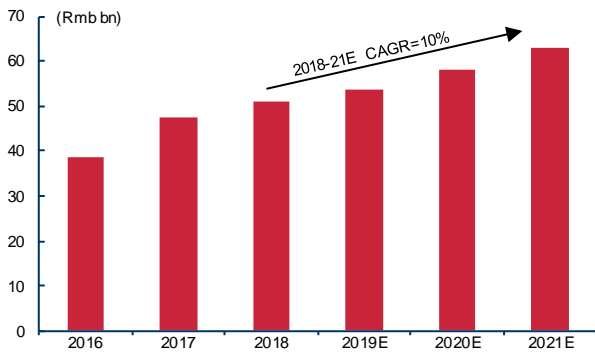
Players in mobile game industry

All the players involved in the value chain of mobile games can be categorized into six groups, namely 1) IP owners who license out IPs for adaption and game design, 2) developers responsible for game development, 3) publishers in charge of game publishing and promotion, 4) publishing channels, 5) payment channels and 6) game players.

China's mobile game publishing: a RMB51bn market with a CAGR of 10% in 2018-21E

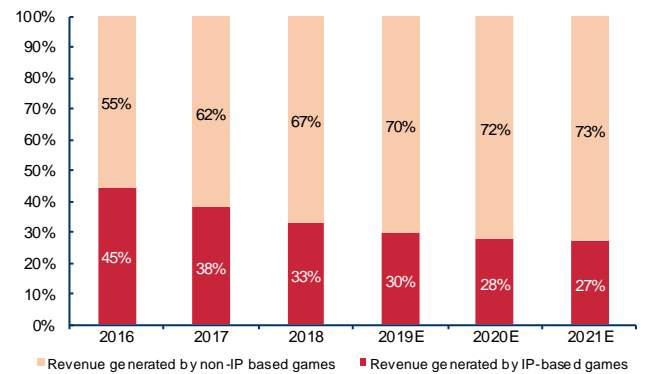
In 2018, the market size of China's mobile game publishing has grown to RMB51bn, and is expected to reach RMB63bn in 2021E, with a CAGR of 10% in 2018-21E. Limited by capital and resources, small and medium game developers rely on mobile game publishers to publish and promote their games. This kind of cooperation boosts the growth of mobile game publishing market significantly in the recent years.

Figure 35: Market size of China's mobile game publishing industry



Source: Analysys

Figure 36: Revenue breakdown of China's mobile game industry



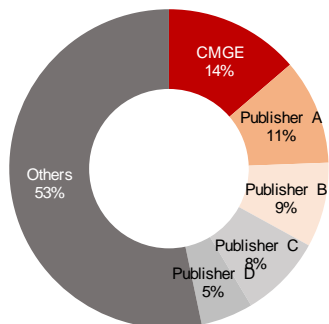
Source: Analysys

Backed by original extensive fan base, the IP-based games are more prevailing among the current industry. According to Analysys, on Apple's App Store, 71% and 5.6% of the Top 50 free games and the Top 50 paid games in terms of revenue generation, respectively, were developed based on IPs in 2018.

Top 1 independent mobile game publisher

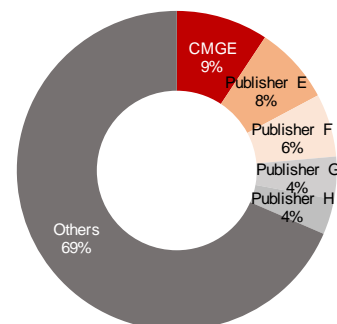
According to Analysys, CMGE ranked Top 1 among all Chinese independent mobile game publishers, in terms of the cumulative revenue generated from publishing games developed based on IPs and the total number of published games develops based on IPs, during the period commencing from 1 Jan 2015 to 30 Jun 2019.

Figure 37: Market share in terms of revenue generated from publishing games developed based on IP from 1 Jan 2015 to 30 Jun 2019



Source: Analysys

Figure 38: Market share in terms of the number of published games based on IPs from 1 Jan 2015 to 30 Jun 2019



Source: Analysys

Trends in China's mobile game publishing industry

Amidst its constant growth, China's mobile game publishing industry is undergoing the positive changes in terms of business model, operational capabilities and market segmentation.

1. **Evolving business model as a publishing ecosystem.** We expect the mobile game publishers to operate in a publishing ecosystem by both licensing mobile games and IPs, and investing in IP incubating platforms and vertical platforms.
2. **Demanding on operational capabilities.** With the increasing player demand for high-quality games, we believe that the IP owners will be selective in licensing out their IPs to game developers or publishers that have proven operational capabilities for IP-based games.
3. **Increasing segmentation.** With the plateau China's mobile game market, it is important for mobile game publishers to explore other segmentation of the mobile game market, including overseas market and other game formats such as H5 and mini program games, in our view.

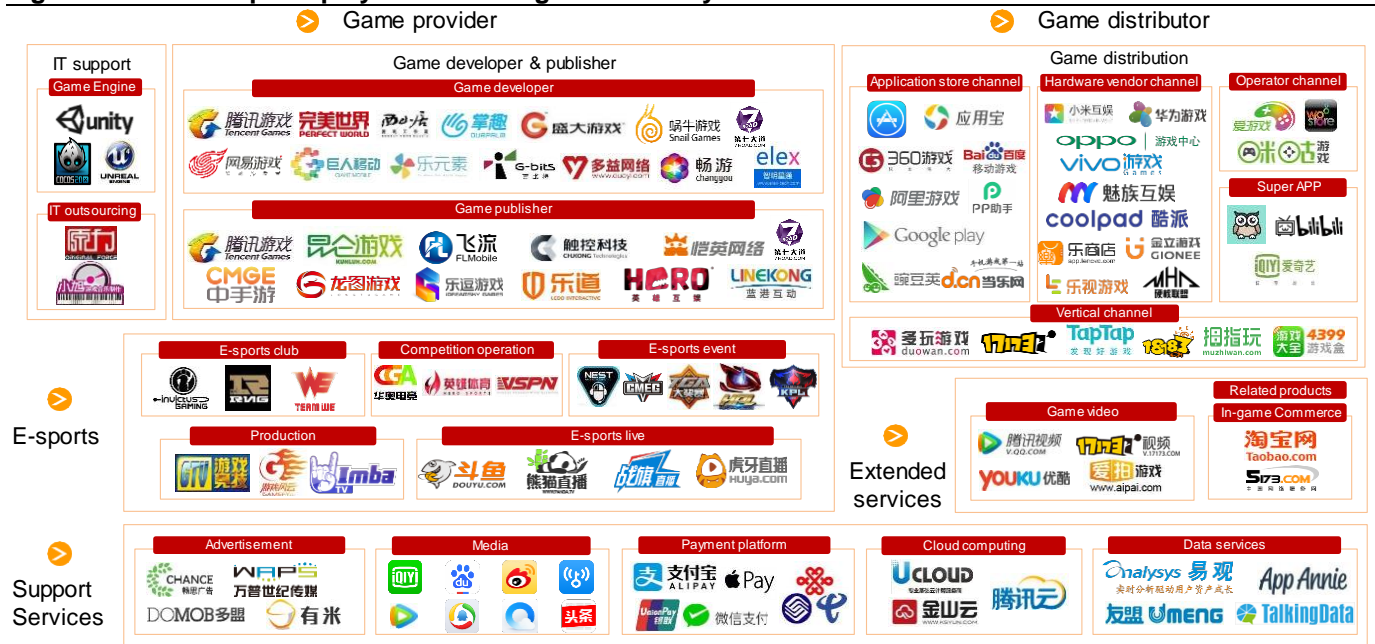
Competitive Landscape

Operating comparison

Concentrated market in China, but still standing a chance

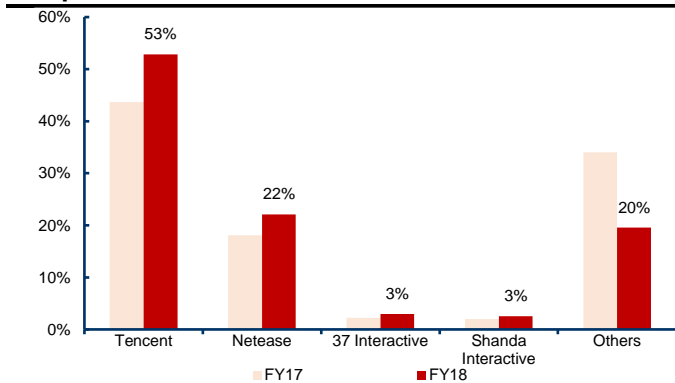
China's mobile game market is relatively concentrated, with Top 2 players accounting for 75% market share in 2018, according to Analysys. In addition, we see that Tencent is continuously gaining shares. However, we view that Tencent and NetEase are prone to distribute limited traffic to their proprietary games. Hence, there are always opportunities for game publishers to leverage their advantage on traffic aggregation with extensive network of publishing channels to serve numerous third-party games, in our view.

Figure 39: Landscape of players in China game industry



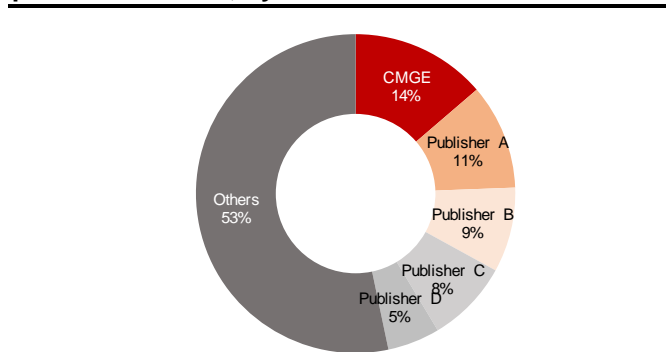
Source: Analysis, CMBIS

Figure 40: Market shares of China's mobile game companies



Source: Analysys

Figure 41: Market shares of China's mobile game publisher in 2018, by revenue



Source: Analysys

Enjoying edge in existing resources and game types

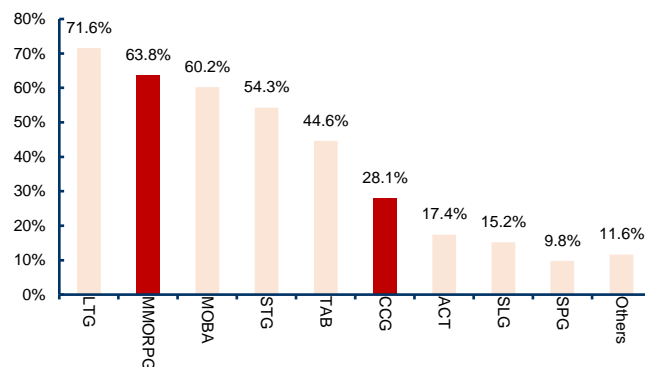
According to China's mobile game companies' competitive strength matrix in 2018 published by Analysys, we observe that compared to major peers, CMGE stands out with its rich IP reserves and abundant games in pipeline. In addition, as the majority of CMGE's games are IP-based MMORPGs and CCGs, according to Analysys, it enjoys high player penetration rates which facilitate its user acquisition in a cost-effective manner.

Figure 42: China's mobile game companies' competitive strength matrix in 2018



Source: Analysys

Figure 43: Player penetration rates of different game types in 2018



Source: Analysys

Figure 44: Peers comparison in FY18

	CMGE	Tencent	NetEase	Kingsoft	IGG	Changyou	Netdragon
Ticker	NA	700 HK	NTES US	3888 HK	799 HK	CYOU US	777 HK
Fiscal Year	FY18	FY18	FY18	FY18	FY18	FY18	FY18
Revenue(RMB mn)	1,596	312,694	67,157	5,906	4,957	3,216	5,038
Net profit(RMB mn)	311	78,719	6,152	389	1,252	558	546
Gross margin	33.4%	45%	42%	46%	70%	67%	60%
Net margin	19.5%	25%	9%	7%	25%	17%	11%

Source: Company data, Bloomberg, Financial reports from peers, CMBIS

Financial comparison

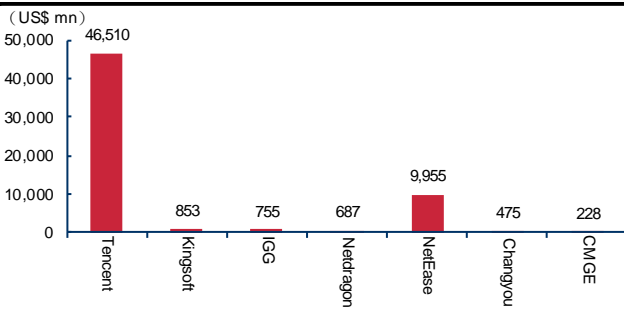
Outpacing peers in terms of revenue growth

We believe CMGE will enjoy stronger revenue growth in FY18-20E compared with its peers, backed by adequate games in pipeline. In particular, the majority of the games in pipeline have already obtained ISBN registrations, and thus the uncertainty of its growth is eliminated.

Diverse margin position among peers

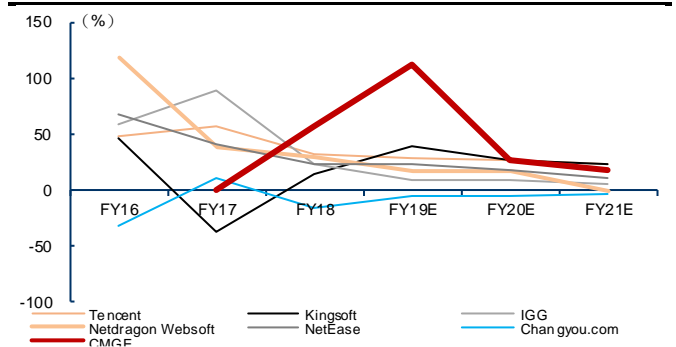
CMGE's gross margin is lower than those of the peers, dragged by high revenue proportion of game publishing business. However, given its investment income and disciplined operating expenses, CMGE delivered industrial-level net margin. We expect its net margin to keep stable in FY19/20/21E.

Figure 45: FY18 Revenue



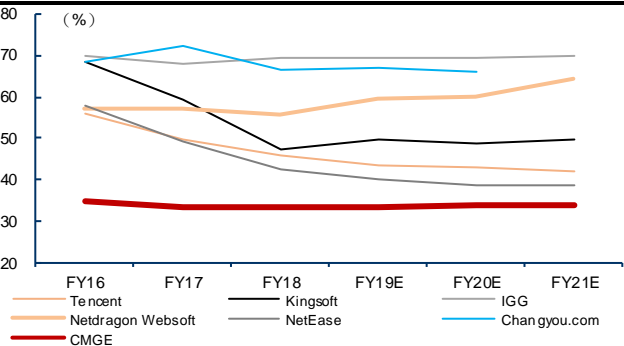
Source: Bloomberg, CMBIS

Figure 46: Revenue growth



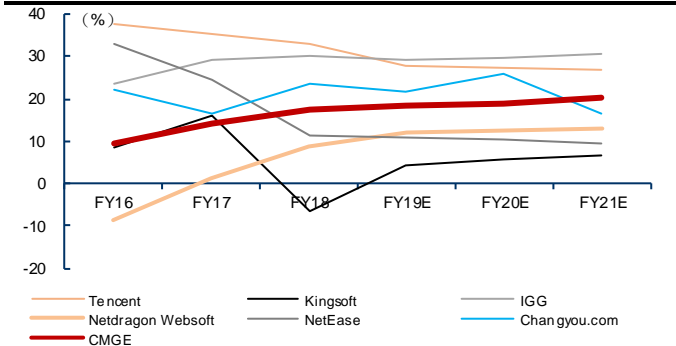
Source: Bloomberg, CMBIS estimates

Figure 47: Gross margin



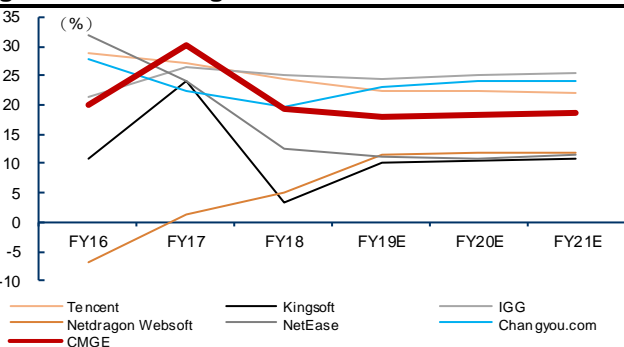
Source: Bloomberg, CMBIS estimates

Figure 48: Operating margin



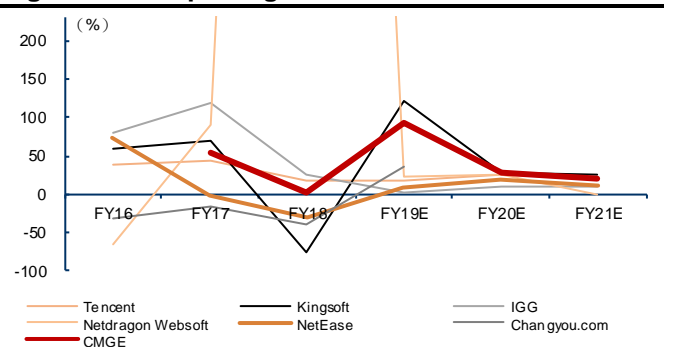
Source: Bloomberg, CMBIS estimates

Figure 49: Net margin



Source: Bloomberg, CMBIS estimates

Figure 50: Net profit growth



Source: Bloomberg, CMBIS estimates

Financial Analysis

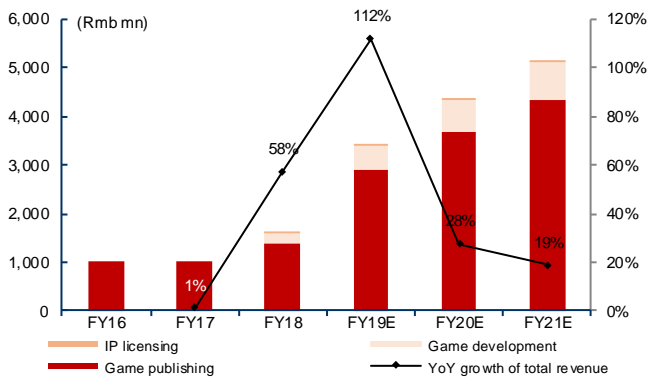
Revenue breakdown

We forecast CMGE's revenue will grow at 112%/28%/19% YoY in FY19/20/21E, in which game publishing business still devotes the majority of total revenue. We expect game publishing revenue to escalate to RMB2,889mn in FY19E with a CAGR of 46% in FY18-21E. The robust growth is mainly driven by 1) player base expansion and 2) ARPPU ramp-up. Furthermore, we expect the lifecycle extension of games and consecutive launch of sought-after games to derive the increase of both MPU and ARPPU.

Enriching revenue mix

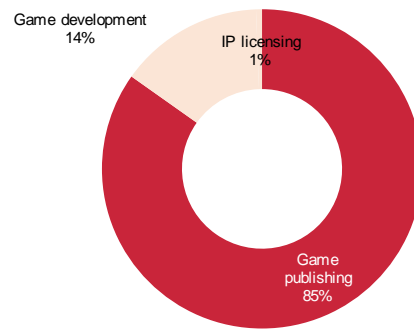
CMGE possessed game development capability through M&A in May 2018. Thanks to CMGE's adequate IP reserve and synergy with its mature game publishing business, we expect game development revenue to grow at 63% CAGR in FY18-21E, with revenue mix up to 14% in FY19E.

Figure 51: Revenue growth estimates



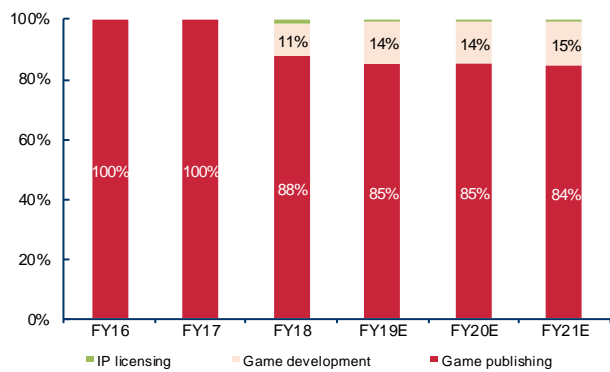
Source: Company data, CMBIS estimates

Figure 52: FY19E revenue breakdown



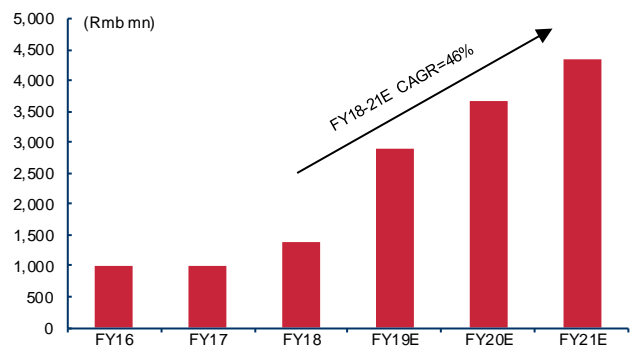
Source: CMBIS estimates

Figure 53: Revenue mix change



Source: Company data, CMBIS estimates

Figure 54: Revenue estimates of game publishing



Source: Company data, CMBIS estimates

Income Statement

We expect 46% net profit CAGR of CMGE in FY18-21E, mainly driven by 48% revenue CAGR and operating leverage.

We expect gross margin stable at 33-34% in FY19-21E. Meanwhile, we expect opex ratio to decrease by 3ppts in FY19E driven by decrease of S&M/Rev ratio and G&A/Rev ratio, for scale effect. We expect adj. net margin to be 18-19% in FY19-21E.

As a result, we forecast net profit will surge to RMB611mn/RMB802mn/RMB958mn in FY19/20/21E, respectively.

Figure 55: Income statement

RMB mn, Dec-YE	FY16	FY17	FY18	FY19E	FY20E	FY21E
Revenue	1,001	1,013	1,596	3,385	4,323	5,140
Cost of sales	(652)	(672)	(1,064)	(2,255)	(2,868)	(3,407)
Gross profit	349	340	532	1,130	1,454	1,733
Selling and distribution expenses	(226)	(189)	(148)	(288)	(346)	(386)
Administrative expenses	(51)	(40)	(149)	(231)	(297)	(360)
Other expenses	(19)	(16)	(8)	(17)	(22)	(26)
Operating profit	54	95	228	595	790	962
Other income and gains	157	168	124	125	154	166
Finance costs	-	(1)	(9)	-	-	-
Share of profits and losses of JV	-	-	(4)	-	-	-
Share of profits and losses of associates	(3)	2	18	-	-	-
Pre-tax profit	208	265	356	719	944	1,128
Tax	(20)	(0)	(40)	(108)	(142)	(169)
Profit for the period from continuing operations	188	265	316	611	802	958
Profit for the period from a discontinued operation	12	42	-	-	-	-
Profit for the period	201	307	316	611	802	958
MI	0	0	5	0	0	0
Net profit attributable to ordinary shareholders	201	307	311	611	802	958
Margin Analysis						
Gross margin	35%	34%	33%	33%	34%	34%
Operating margin	5%	9%	14%	18%	18%	19%
Net margin	20%	30%	19%	18%	19%	19%
Growth Analysis						
Revenue	NA	1%	58%	112%	28%	19%
Gross profit	NA	-3%	56%	112%	29%	19%
Operating profit	NA	75%	139%	161%	33%	22%
Net profit	NA	53%	1%	97%	31%	19%

Source: Company data, CMBIS estimates

Balance Sheet

Healthy balance sheet with net cash position in FY19/20/21E

According to our estimates, CMGE will have strong operating cash inflow in supporting CAPEX in the next three years. Therefore, we believe CMGE can stay in net cash position in FY19/20/21E. We expect CMGE to hold RMB1,918mn/RMB2,711mn cash and cash equivalent as of 31 Dec of 2019E and 2020E.

CAPEX for platform maintenance and equipment purchase

According to our estimates, we forecast its FY19/20/21E CAPEX will be RMB35mn/RMB30mn/RMB30mn respectively, mainly for capitalization of exclusive agreement with third-party game developers and IP acquisition. Dividend payout is factored in our model at the moment.

Figure 56: Balance Sheet

RMB mn, Dec-YE	FY16	FY17	FY18	FY19E	FY20E	FY21E
Non-current assets	624	557	2,032	2,006	2,068	2,126
Property and equipment	8	5	6	4	2	(0)
Goodwill	325	325	1,119	1,023	1,023	1,023
Other intangible assets	29	35	118	109	134	159
Investments in a joint venture	0	0	4	4	4	4
Investments in associates	33	58	168	168	168	168
Financial assets at fair value through profit or loss	203	80	539	539	539	539
Deferred tax assets	5	6	11	11	11	11
Prepayments	22	47	68	149	188	223
Current assets	650	540	960	2,447	3,332	4,283
Trade receivables	282	164	472	346	406	487
Prepayments, deposits and other receivables	53	128	333	172	204	234
Due from related parties	194	2	11	11	11	11
Cash and cash equivalents	120	246	144	1,918	2,711	3,552
Current liabilities	586	203	755	480	655	739
Trade payables	71	101	111	299	474	558
Other payables and accruals	83	45	464	69	69	69
Interest-bearing bank borrowings	0	10	51	0	0	0
Tax payable	21	18	41	41	41	41
Due to related parties	406	12	71	71	71	71
Lease liabilities	6	17	16	0	0	0
Non-current liabilities	14	5	395	298	298	298
Deferred tax liabilities	4	3	30	30	30	30
Contingent consideration for business combination	0	0	268	268	268	268
Others	10	2	97	0	0	0
Total equity	690	908	1,863	3,675	4,447	5,371
Debt Analysis						
Total Debt	0	10	51	0	0	0
Total Equity	690	908	1,863	3,675	4,447	5,371
D/E ratio	0%	1%	3%	0%	0%	0%
D/A ratio	0%	1%	2%	0%	0%	0%
Current ratio (x)	1.1	2.7	1.3	5.1	5.1	5.8
Gearing ratio				Net cash	Net cash	Net cash

Source: Company data, CMBIS estimates

Cash Flow and Working Capital

Strong operating cash flow

CMGE recorded net operating cash inflow of RMB26mn, RMB164mn and RMB60mn in FY16, FY17 and FY18 respectively. Driven by profitability improvement, we expect CMGE to record operating cash flow of RMB660mn/ RMB823mn/ RMB870mn in FY19/20/21E. The slip in F19E is mainly attributable to one-off payables settlement related to previous M&A.

Figure 57: Cash flow and working capital analysis

RMB mn, Dec-YE	FY16	FY17	FY18	FY19E	FY20E	FY21E
Cash Flow						
Profit before taxation	220	308	356	719	944	1,128
Depreciation and amortization	42	26	36	22	7	8
Change in working capital	(104)	(20)	(245)	80	83	(27)
Others	(133)	(150)	(87)	(161)	(211)	(239)
Operating cash flow	26	164	60	660	823	870
Investing cash flow						
CAPEX	(34)	(31)	(103)	(35)	(30)	(30)
Others	12	160	(325)	0	0	0
Investing cash flow	(22)	129	(428)	(35)	(30)	(30)
Financing cash flow						
Proceeds from share issuance	(1)	(1)	(1)	1,200	-	-
Others	28	128	(102)	574	793	840
Financing cash flow	28	127	(104)	1,774	793	840
Cash at period end	120	246	144	1,918	2,711	3,552
Working Capital Turnover						
Inventory days	NA	NA	NA	NA	NA	NA
Trade receivables days	102	80	73	44	32	32
Trade payables days	72	47	36	33	49	55
Cash conversion cycle	29	34	36	11	(17)	(24)

Source: Company data, CMBIS estimates

Valuation

Investment Thesis

We initiate BUY with TP of HK\$4.39, implying 11.4x FY20E P/E. We believe CMGE's positive price drivers and catalysts originate from: 1) strong game pipeline; 2) eye-catching 1Q20E grossing benefiting from the epidemic; 3) potential positive annual result surprise in Mar; and 4) upcoming inclusion into HK-China stock connect.

Initiate with BUY at HK\$4.39 (30.3% upside)

(1) DCF Valuation

We use DCF valuation as our primary method since it is suitable to apply DCF valuation to game companies with healthy cash flows in the long run. Assuming a WACC of 15.3% and a terminal growth rate of 2%, our estimated TP is **HK\$4.39**, representing 11.4x FY20E P/E in FY20E, respectively, still below industry average of 22x FY20E P/E.

Figure 58: DCF valuation

DCF Valuation (Rmb mn)										
	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E
EBIT	944	1,066	1,152	1,225	1,288	1,341	1,385	1,421	1,451	1,475
Tax	(142)	(160)	(196)	(213)	(224)	(233)	(241)	(247)	(252)	(257)
D&A	7	7	7	7	7	7	7	7	7	7
Change in working capital	83	84	84	84	85	85	86	86	87	87
CAPEX	(30)	(38)	(47)	(59)	(73)	(92)	(114)	(132)	(145)	(156)
FCF	862	959	1,000	1,045	1,083	1,109	1,122	1,136	1,148	1,157
PV	748	722	653	592	532	473	415	365	320	2,429
Terminal Value										8,896

Assumptions	
WACC	15.3%
Tax rate	-15.0%
Risk free rate	3.95%
Cost of debt	5.0%
Beta	1.3
Market risk return	13.0%
Cost of equity	15.3%
Debt/Assets	0.0%
Long term growth	2.0%
Debt	0

		WACC					
		~	13%	14%	15%	16%	17%
Terminal growth rate	0.5%	11,589	10,846	9,944	9,656	9,172	
	1.0%	11,739	10,965	10,029	9,732	9,234	
	1.5%	11,902	11,093	10,121	9,814	9,300	
	2.0%	12,081	11,231	10,219	9,901	9,370	
	2.5%	12,277	11,383	10,325	9,995	9,446	
	3.0%	12,493	11,548	10,440	10,096	9,526	
	3.5%	12,733	11,729	10,564	10,205	9,613	

Equity Value	
PV	7,248
minus: Net debt (Rmb mn)	(1,918)
minus: Minority interest (Rmb mn)	0
Equity Value(Rmb mn)	9,167
FX	0.90
Equity Value(HK\$ mn)	10,219
TP (HK\$)	4.39

Source: Company, Bloomberg, CMBIS estimates

(2) Peers comparison

To comprehensively compare with CMGE, we pick comparable peers from Chinese game companies listed in China and overseas, respectively.

Game peers are trading at 22.2x FY20E P/E on average. Given CMGE's game development business is still at early stage and revenue contribution may be volatile significantly, market might prefer to value CMGE with a multiple at a discount of major game players. However, CMGE is now trading at 8.9x FY20E P/E, with attractive valuation. And we think our TP is not demanding for CMGE, since CMGE exceeded itself with: 1) strong game pipeline, with 29 games to be launched (vs. ~10 games for industrial average); and 2) solid earnings growth, backed by Tencent & Toutiao cooperation and Chuanqi-themed games.

Figure 59: Valuation Table

Company	Ticker	Mkt.Cap (USD mn)	Rating	TP	Currency	Price	P/E			P/S			EV/EBITDA			FY19-21	FY19-21
							FY19E	FY20E	FY21E	FY19E	FY20E	FY21E	FY19E	FY20E	FY21E	EPS CAGR	PEG
Leaders																	
Tencent	700 HK	491,869	BUY	Under review	HKD	401	36.6	29.7	24.4	9.2	7.4	6.1	26.1	21.5	18.1	21%	1.43
Alibaba	BABA US	584,941	BUY	Under review	USD	218	31.2	25.7	20.4	8.1	6.2	5.0	24.8	19.2	15.5	21%	1.22
Baidu	BIDU US	45,897	BUY	157	USD	132	23.8	18.6	14.4	3.0	2.7	2.4	18.0	12.3	9.4	28%	0.67
JD	JD US	60,567	NR	NA	USD	41	41.0	30.6	22.2	0.7	0.6	0.5	27.7	20.1	15.0	35%	0.88
Meituan	3690 HK	77,071	NR	NA	HKD	103	321.3	92.2	36.7	5.7	4.3	3.4	108.5	57.8	26.6	203%	NA
Pinduoduo	PDD US	42,217	BUY	Under review	USD	36	NA	NA	41.2	9.7	5.8	4.2	NA	NA	151.9	NA	NA
NetEase	NTES US	44,765	NR	NA	USD	350	21.8	21.3	18.9	5.0	4.7	4.2	16.8	14.8	13.0	8%	2.66
Average							30.9	25.2	20.1	5.9	4.5	3.7	37.0	24.3	35.6	53%	1.37
Ecommerce																	
Alibaba	BABA US	584,941	BUY	Under review	USD	218	31.2	25.7	20.4	8.1	6.2	5.0	24.8	19.2	15.5	21%	1.22
JD	JD US	60,567	NR	NA	USD	41	41.0	30.6	22.2	0.7	0.6	0.5	27.7	20.1	15.0	35%	0.88
Pinduoduo	PDD US	42,217	BUY	Under review	USD	36	NA	NA	41.2	9.7	5.8	4.2	NA	NA	151.9	NA	NA
Vipshop	VIPS US	9,179	NR	NA	USD	14	14.7	11.8	10.7	0.7	0.7	0.6	10.4	8.2	7.3	16%	0.76
Babytree	1761 HK	343	NR	NA	HKD	2	NA	NA	208.0	4.9	4.1	3.2	NA	NA	NA	NA	NA
Average							28.9	22.7	23.6	4.8	3.5	2.7	21.0	15.8	47.4	24%	0.95
OTA																	
Ctrip	TCOM US	19,924	NR	NA	USD	34	25.7	24.4	18.4	3.9	3.5	3.1	25.2	23.0	16.5	22%	1.11
Tongcheng-elong	780 HK	3,204	BUY	17	HKD	12	14.7	13.1	10.1	3.0	2.5	2.1	9.4	7.6	5.6	24%	0.54
Tuniu	TOUR US	244	NR	NA	USD	2	NA	18.9	10.2	0.8	0.7	0.7	NA	NA	NA	NA	NA
Average							20.2	18.8	12.9	2.6	2.3	1.9	17.3	15.3	11.1	3%	0.82
Game																	
Tencent	700 HK	491,869	BUY	Under review	HKD	401	36.6	29.7	24.4	9.2	7.4	6.1	26.1	21.5	18.1	21%	1.42
NetEase	NTES US	44,765	NR	NA	USD	350	21.8	21.3	18.9	5.0	4.7	4.2	16.8	14.8	13.0	7%	3.20
Kingsoft	3888 HK	4,733	NR	NA	HKD	27	538.7	83.9	47.7	4.2	3.2	2.5	156.6	37.8	22.3	NA	NA
IGG	799 HK	959	HOLD	Under review	HKD	6	6.6	6.2	5.6	1.3	1.3	1.3	4.1	3.8	3.5	9%	0.68
CMGE	302 HK	1,035	BUY	4.4	HKD	3	11.7	8.9	7.4	2.1	1.6	1.6	10.9	7.6	7.6	17%	0.52
Perfect World	002624 CH	9,192	BUY	Under review	CNY	50	35.4	26.8	23.3	7.7	6.4	5.6	27.5	21.5	19.0	15%	1.77
Sanqi Interactive	002555 CH	11,201	BUY	Under review	CNY	37	37.4	32.3	28.8	6.3	5.4	4.8	30.4	25.8	22.5	14%	2.26
Giant Interactive	002558 CH	5,671	NR	NA	CNY	20	35.5	30.1	28.1	9.5	8.5	7.6	NA	NA	NA	12%	2.44
Average							26.4	22.2	19.5	5.9	5.0	4.5	19.3	15.8	13.9	17%	1.76
Live streaming																	
MOMO	MOMO US	6,428	BUY	45	USD	31	11.1	9.4	8.1	2.7	2.3	2.0	9.2	6.6	5.4	19%	0.48
YY	YY US	4,943	BUY	82	USD	61	15.4	11.5	8.1	1.4	1.1	0.9	11.3	7.6	4.4	38%	0.30
Inke	3700 HK	369	NR	NA	HKD	1	6.1	3.2	3.2	NA	NA	NA	NA	NA	NA	38%	0.08
Huya	HUYA US	4,582	NR	NA	USD	21	46.5	27.6	18.6	3.9	2.8	2.3	52.5	21.4	13.0	65%	0.42
Average							19.8	12.9	9.5	2.6	2.1	1.7	24.3	11.8	7.6	39%	0.32
Entertainment																	
Tencent Music	TME US	21,044	NR	NA	USD	12.9	31.8	28.8	21.5	5.9	4.7	3.8	28.2	22.7	16.8	28%	1.03
iQiyi	IQ US	17,972	NR	NA	USD	24.7	NA	NA	NA	4.4	3.8	3.1	NA	NA	NA	-48%	NA
China Literature	772 HK	4,920	NR	NA	HKD	37.9	33.9	27.3	23.2	4.9	4.3	3.8	20.6	15.7	14.2	21%	1.32
Bilibili	BILI US	9,112	NR	NA	USD	27.9	NA	NA	441.5	9.5	6.4	4.7	NA	NA	67.9	NA	NA
Average							32.9	28.0	162.1	6.2	4.8	3.9	24.4	19.2	33.0	0%	1.18
Ads																	
Baidu	BIDU US	45,897	BUY	157	USD	132.5	23.8	18.6	14.4	3.0	2.7	2.4	18.0	12.3	9.4	30%	0.62
Weibo	WB US	9,841	NR	NA	USD	43.7	16.1	16.1	14.0	5.6	5.2	4.7	13.7	13.3	11.5	10%	1.59
Sina	SINA US	2,631	NR	NA	USD	37.9	13.0	13.8	10.6	1.2	1.2	1.1	5.3	5.2	4.1	14%	1.02
Mobvista	1860 HK	709	BUY	5	HKD	3.6	16.5	10.0	7.0	1.3	1.0	0.8	16.5	8.6	5.9	46%	0.22
Duiba	1753 HK	537	BUY	6	HKD	3.9	10.4	7.4	5.2	2.0	1.4	1.0	13.1	4.1	2.7	232%	0.03
58.com	WUBA US	8,794	NR	NA	USD	58.8	15.5	17.6	15.8	4.0	3.5	3.1	15.9	13.7	11.4	0%	NA
Average							15.9	13.9	11.2	2.8	2.5	2.2	13.7	9.5	7.5	33%	0.70
Total Average							23.0	18.8	15.3	4.3	3.6	3.1	19.0	13.8	13.5	28.3%	1.04

Source: Bloomberg

Note: Data updated by 21 Feb 2020

Key Investment Risks

Possible failure on licensing IPs and games

Although CMGE possesses proprietary IPs and in-house development capabilities as a result of its acquisitions of Wenmai Hudong and 51% equity interest in Beijing Softstar in May 2018, we expect the majority of CMGE's revenue to continue deriving from licensed games and games developed based on licensed IPs. Failure to license games and IPs will negatively impact CMGE's game portfolio and pipeline, and consequently the results of operations.

Uncertainty in commercial success of new games

As CMGE launches and operates new games or introduces updates to its existing games, CMGE closely monitors game players' tastes and preferences, and may work with the game developers to introduce or change certain game features or game-play styles to make the games more attractive. However, it cannot be assured that these changes or adjustments will be well received by game players, who may decide not to play the new games or cease playing existing games. As a result, any changes or adjustments CMGE makes to existing or new games in cooperation with game developers may adversely impact CMGE's revenues and business prospects. If it fails to launch new games according to the timetable or at all, or if the new games are not commercially successful, the business prospects and results of operations would be materially and adversely affected. CMGE thus may not be able to recover game licensing, IP licensing or operating costs, which can be significant.

Disturbance to growth if it fails to maintain player base

In order to achieve the sustainable growth of business, CMGE must retain its existing players, attract new players, and ultimately improve monetization. This requires CMGE to consistently launch popular games and release updates on the existing games to keep its players engaged. In order to deliver a better game-playing experience and deepen its understanding of the players, CMGE needs to invest in technology and research and development, including computing infrastructure, data analysis engine and its technology related to SDK. If CMGE is unable to consistently deliver a satisfying player experience, it may lose players. If CMGE is unable to anticipate player preferences or behaviors or industry changes in order to market and promote new games, or extend the lifecycle of the games that CMGE currently operates, or provide sufficient social connectivity to players as part of their game playing experience, the player base may not increase at the rate we anticipate, or at all, and it may even decrease.

Potential loss of cooperation with game developers and publishing channels

CMGE works with game developers to provide games to its players. CMGE may not be able to maintain a good and mutually beneficial commercial relationship with game developer partners. Any failure on CMGE's part to properly optimize, operate, effectively market or monetize their games, safeguard their intellectual property, including the source code of their games, or perform its obligations under game licensing agreements with them may cause substantial harm to the business relationships with game developers. As a result, they may choose to partner with CMGE's competitors, allowing competitors to enhance their game portfolio and better compete against CMGE. Any loss or deterioration of relationship with any of game developer partners may result in a loss of revenues and materially and adversely affect CMGE's business and results of operations.

Uncertainty on reputation due to potential flaws in games

CMGE's games are subject to frequent improvement and updates, and may contain bugs or flaws that may become apparent only after the updated applications are accessed by players, particularly as it launches new updates under tight time constraints. From time to time, players may inform CMGE of programming bugs affecting their gaming experience, and CMGE is generally able to resolve such flaws promptly. However, if for any reason, programming bugs or flaws are not resolved in a timely fashion, CMGE may lose some of the players and the revenues will be affected negatively, and CMGE's reputation and market acceptance of its games may also be harmed. In addition, the PRC government has promulgated rules and regulations targeting mobile service providers that charge for applications and other content without user consent. If a programming error or flaw in its games inadvertently charges players without consent, CMGE may be subject to administrative penalties and fines.

Potential disruption due to fierce competition

The mobile game industry in China is highly competitive with low barriers to entry. The industry is characterized by short game lifecycles, evolving industry standards, regulatory uncertainty, rapid adoption of technological and game advancements, as well as price sensitivity on the part of players. Some of CMGE's existing and potential competitors have significantly greater financial, technological and marketing resources and stronger relationships with industry participants than CMGE does. Some of the competitors or potential competitors have greater mobile game publishing experience and resources than CMGE does. If there are new entrants in the market or intensified competition among existing competitors, CMGE may have to provide more incentives to industry participants, such as publishing channels, which could adversely affect profitability.

Appendix 1: Regulations

Regulations on online game industry in China

Foreign investment regulation

The Administrative Measures on Internet Information Services (《互联网信息服务管理办法》) amended on 8 Jan 2011, which applies to internet information services, classified internet information services into commercial internet information services and non-commercial internet information services. Commercial internet information services refer to the provision of information to online users through the internet for consideration, the provision of which is required to obtain an operation license for internet information services and ICP License from the MIIT or its provincial-level bureau.

The Circular of the General Administration of Press and Publication, the National Copyright Administration and the National Office of Working Group Against Pornographic and Illegal Publications Regarding the Consistent Implementation of the “Stipulations on ‘Three Provisions’” of the State Council and the Relevant Interpretations of the State Commission Office for Public Sector Reform and the Further Strengthening of the Administration of Pre-examination and Approval of Online Games and the Examination and Approval of Imported Online Games (Xin Chu Lian [2009] No. 13) (《新闻出版总署、国家版权局、全国「扫黄打非」工作小组办公室关于贯彻落实国务院<「三定」规定>和中央编办有关解释，进一步加强网络游戏前置审批和进口网络游戏审批管理的通知》(新出联[2009]13号))(the “GAPP Circular”) issued and took effect on September 28, 2009 provides that, foreign investors are prohibited from investing or engaging in online game operations and services in the PRC through wholly-owned subsidiaries, equity joint ventures or cooperative joint ventures. Foreign investors are also prohibited from gaining effective control over or participating in the online game operation business of domestic enterprises indirectly by establishing other joint ventures, entering into relevant agreements or providing technical support.

Online games operation

Pursuant to the Interim Measures on Administration of Online Games (《网络游戏管理暂行办法》) (the “Online Games Interim Measures”) that were issued by the MCT and took effect on 1 Aug 2010, any entity engaging in online game operations must obtain an internet culture operation license, and the content of an imported online game must be examined and approved by the MCT prior to its launch. Domestically-developed online games must be filed with the MOC within 30 days of its launch.

The Circular regarding the Administration of Mobile Games Publishing Services (《关于移动游戏出版服务管理的通知》), which took effect from 1 Jul 2016, provides that game publishing services providers shall be responsible for examining the contents of their games and applying for game publication numbers. To apply for publication of domestically-developed mobile games in the leisure and puzzle category that are not related to political, military, national or religious Topics or contents and have no or simple story lines, entities, the service providers shall submit the required documents to competent provincial publishing administrative departments where it is located at least 20 working days prior to the expected date of online publication (open beta testing). Service providers applying for publication of domestically-developed mobile games that are not included in the above mentioned category and mobiles games that are authorized by foreign copyright owners shall go through more stringent procedures, including submitting management accounts for content review and testing account for game anti-indulgence system. The game publishing services providers must set up a specific page to display the information

approved by the SART, setting out the copyright owner of the game, publishing service provider, approval number, publication number and others, and shall be responsible for examining and recording daily updates of the game.

Pursuant to the Notice of the State Commission Office for Public Sector Reform on Interpretation of the State Commission Office for Public Sector Reform on Several Provisions relating to Animation, Online Game and Comprehensive Law Enforcement in Culture Market in the 'Three Provisions' jointly promulgated by the MOC, SART and the GAPP (Zhong Yang Bian Ban Fa [2009] No. 35) (《中央机构编制委员会办公室关于印发<中央编办对文化部、广电总局、新闻出版总署<「三定」规定>中有关动漫、网络游戏和文化市场综合执法的部分条文的解释>的通知》) issued on 7 Sep 2009, under the centralized management of the MCT, the GAPP is responsible for the examination and approval process of online games prior to online publication. After such publication, the online games will only be administered by the MCT. Moreover, if an online game is launched on the internet without the prior approval of the GAPP, the MCT will be responsible for guiding the cultural market law enforcement team to conduct investigation and punishment, while the GAPP will not directly take actions against the online game already published online.

Virtual currency and virtual items

The Notice on Strengthening the Administration of Online Game Virtual Currency (《关于加强网络游戏虚拟货币管理工作的通知》) (the "Virtual Currency Notice") jointly issued by the MCT and the MOFCOM on 4 Jun 2009, defines the meaning of the term "virtual currency" and places a set of restrictions on the trading and issuance of virtual currency. The Virtual Currency Notice also states that online game operators are also not allowed to give out virtual items or virtual currency through lottery-base activities, such as lucky draws, betting or random computer sampling, in exchange for players' cash or virtual money.

Minors protection

Pursuant to the Implementation Plan of Project for Parental Monitoring of Minors in Online Games (《“网络游戏未成年人家长监护工程”实施方案》) which was issued by various departments such as the MCT, the Ministry of Education, the MIIT and the Ministry of Public Security on 15 Jan 2011, online game operators shall implement the Project for Parental Monitoring of Minors in Online Games (网络游戏未成年人家长监护工程) which is detailed as follows: (i) online game operators shall launch dedicated service webpage, set up special enquiry hotlines, open customised acceptance channels and introduce acceptance methods; (ii) parents who desire to understand, guide and control their children's in-game activities may provide relevant information to online game operators such as legal guardian testimonial, in-game or account username and restrictive measures, and restrictive measures may include: setting a limit on the daily or weekly playing time, the period of playing time, or prohibit playing games at all; (iii) online game operators shall impose the restrictive measures on the account of minors as required by their parents, and shall provide necessary assistance to the parents by performing continuous follow-up observation and timely reporting the activities of such account, in order to curb or prohibit improper in-game behavior of minors.

Appendix 2: Company background

CMGE is a leading IP-oriented game operator. According to Analysys, it is the Top 1 Chinese independent mobile game publisher in terms of both cumulative revenue generated from publishing games developed based on IPs and the total number of published games developed based on IPs from 1 Jan 2015 to 30 Jun 2019.

By cooperating with owners of prevailing IPs, CMGE mainly derives revenue from providing game publishing services to game developers, and shares a portion of the gross billings paid by game players with game developers, publishing channels and IP owners.

Figure 60: Key milestones

Year	Event
2011	Mr. Xiao, Mr. Sin and other senior management of V1 Group co-founded CMGE Group as a subsidiary and a separate business arm of V1 Group focusing on mobile game business.
2012	CMGE Group was spun off from V1 Group and successfully listed its ADSs on Nasdaq under the symbol "CMGE", and became China's first listed mobile game company in a U.S. stock exchange.
2013	CMGE Group started publishing mobile game developed by third parties. CMGE launched two popular collectible card games, WuXia Q Chuan (武侠Q传) and Three Kingdoms' Power Advanced Version (三国威力加强版).
2015	CMGE Group was taken private by a consortium of passive financial investors and was delisted from Nasdaq. CMGE launched New Legend of Sword and Fairy (新仙剑奇侠传) and achieved gross billings of more than RMB10mn on the first day of launch.
2016	CMGE launched One Piece – the Road of the Strong (航海王强者之路) and Heaven Sword and Dragon Saber (倚天屠龙记) and achieved gross billings of RMB62.5mn and more than RMB98mn, respectively, in their respective first month after launch.
2017	CMGE launched Eternal Myth (神话永恒) and achieved gross billings of RMB8.18mn and RMB70mn on its first day of launch and in the first month after launch. CMGE Mobile Tech was named a Global Top 50 Publisher by Apple.
2018	CMGE acquired two game developers, namely Beijing Softstar (as to 51% equity interest) and Wenmai Hudong (as to 100% equity interest), both of which have proven track records of successful mobile game development.

Source: Company data

Figure 61: Awards and recognition

Year	Award/Recognition	Awarding Institution/Authority
2016-18	"Golden Plume Award" as Most Influential Mobile Game Publisher	Hanwei Xinheng Exhibition Co., Ltd
2016-18	"Tian Fu Award" as Best Mobile Game Publisher of the Year	GMGC Global Mobile Game Association
2015	China Top 10 Game Award as Top 10 Mobile Game Publisher	China Audio-video and Digital Publishing Association
2017	China Top 10 Game Award as Top 10 Branded Game Enterprise	China Audio-video and Digital Publishing Association
2015	China Game Awards as Mobile Game Publisher of the Year	Tencent Game Channel
2017	China Game Awards as Top Ten Mobile Game Company	Tencent Game Channel
2016	Rising Star Award	Tencent Global Partner Conference
2016,17	"Tian Fu Award" as Best Mobile Game Publisher	GMGC Global Mobile Game Association
2016	China Top 10 Game Award as Top 10 Mobile Game Operation Platform of the Year	China Audio-video and Digital Publishing Association
2017	Best Cooperation Partner Award	Tencent Global Partner Conference
2017	Global Top 50 Publisher	Apple Inc.

Source: Company data

Figure 62: Management profile

Name	Age	Position	Roles and Responsibilities	Date of joining the Group	Date of appointment as Director	Relationship with other Directors or senior management members
Mr. XIAO Jian (肖健)	39	Executive Director, Chairman and Chief Executive Officer	Overall business operation, management and strategic planning of the Group	Jan 2011	Apr 2018	None
Mr. Hendrick SIN (洗汉迪)	44	Executive Director and Vice Chairman	Overall business operation, management and strategic planning of the Group	Jan 2011	Apr 2018	None
Mr. MA Yuntao (马云涛)	44	Non-executive Director	Provide professional advice to the Board	Oct 2015	Jun 2018	None
Mr. TANG Yanwen (唐彦文)	37	Non-executive Director	Provide professional advice to the Board	Aug 2018	Aug 2018	None
Ms. NG Yi Kum (伍绮琴)	62	Independent Non-executive Director	Provide independent professional advice to the Board	[●]	[●]	None
Mr. TANG Liang (唐亮)	41	Independent Non-executive Director	Provide independent professional advice to the Board	[●]	[●]	None
Mr. HO Orlando Yau Kai (何猷启)	28	Independent Non-executive Director	Provide independent professional advice to the Board	[●]	[●]	None

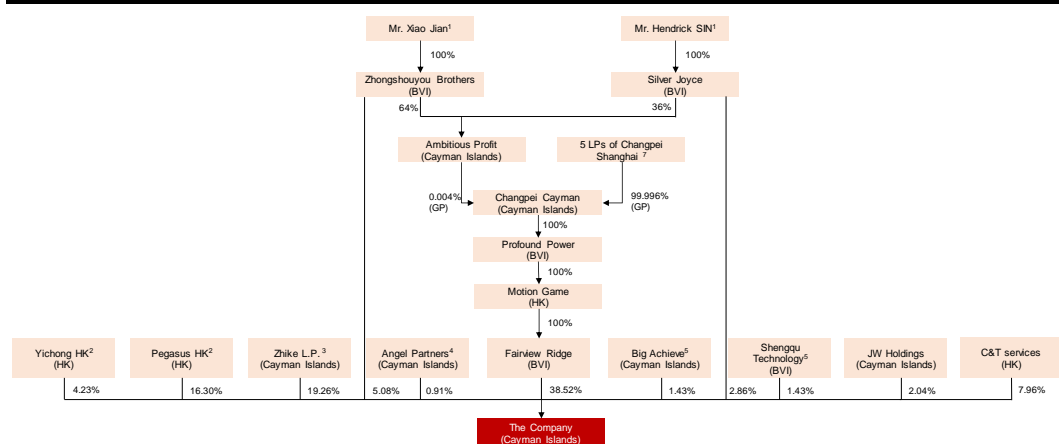
Source: Company data

Figure 63: Employees breakdown

Function	Number of employees	% of total
General administration	88	12.1
Operations	135	18.6
Sales and marketing	105	14.4
Research and development	399	54.9
Total	727	100.0

Source: Company data, data as of 1H19

Figure 64: Corporate structure



Source: Company data

Note: 1) Mr. Xiao Jian is CMGE's co-founder, executive director, chairman and CEO; Mr. Hendrick SIN is CMGE's co-founder, executive director and vice chairman; 2) Both Yichong HK and Pegasus HK are ultimately held by Zhongrong International Trust; 3) Zhike L.P. is a limited partnership incorporated in the Cayman Islands and is controlled by its general partner Hontai Zhike Cayman Limited ("Hontai Zhike"), which is an exempted company incorporated in the Cayman Islands. Hontai Zhike is wholly-owned by Orient Zhike Limited ("Orient BVI", a limited company incorporated in the BVI), which is in turn wholly-owned by Beijing Orient L.P., a limited partnership established in the PRC which is ultimately controlled by its general partner Oriental Securities. Under the SFO, Oriental Securities, Beijing Orient L.P., Orient BVI and Hontai Zhike are deemed to be interested in the Shares held by Zhike L.P. 4) Angle Partners holds a 25% stake in Angle Fund, the largest shareholder of Taiwan-based Softstar International. 5) Big Achieve and Shengqu Technology, each of whom acquired 1.43% stake in CMGE on 31 May 2018; 6) JW Holdings is wholly owned by the trustee of our RSU Scheme and is a platform for employee stock ownership plan. 7) 5 LPs of Changpei Shanghai are five independent third parties, each of whom, as LPs, holds 19.9992% interest in Changpei Cayman. Mr. Xiao and Mr. SIN, as GPs hold 0.004% interest in total. Mr. Xiao, Mr. SIN, Zhongshouyou Brothers, Silver Joyce, Ambitious Profit, Fairview Ridge and Motion HK are CMGE's controlling shareholders.

Appendix 3: Snapshot of CMGE's games

Figure 65: CMGE's sought-after games



Source: Company data

Figure 66: CMGE's latest games



Source: Company data

Financial Summary

Income statement

YE 31 Dec (RMB mn)	FY17A	FY18A	FY19E	FY20E	FY21E
Revenue	1,013	1,596	3,385	4,323	5,140
Game publishing	1,013	1,400	2,889	3,678	4,341
Game development	-	178	476	621	773
IP licensing	-	18	20	24	27
COGS	(672)	(1,064)	(2,255)	(2,868)	(3,407)
Gross profit	340	532	1,130	1,454	1,733
S&M	(189)	(148)	(288)	(346)	(386)
R&D	(40)	(149)	(231)	(297)	(360)
Other expenses	(16)	(8)	(17)	(22)	(26)
Operating profit	95	228	595	790	962
Other income	168	124	125	154	166
Finance costs	(1)	(9)	-	-	-
Associates	2	14	-	-	-
Pre-tax Income	265	356	719	944	1,128
Income Tax	(0)	(40)	(108)	(142)	(169)
MI	-	5	-	-	-
Net profit	307	311	611	802	958

Cash flow summary

YE 31 Dec (RMB mn)	FY17A	FY18A	FY19E	FY20E	FY21E
Pre-tax Income	308	356	719	944	1,128
D&A	26	36	22	7	8
Change in WC	(20)	(245)	80	83	(27)
Others	(150)	(87)	(161)	(211)	(239)
Operating CF	164	60	660	823	870
Capex	(31)	(103)	(35)	(30)	(30)
Others	160	(325)	0	0	0
Investing CF	129	(428)	(35)	(30)	(30)
Equity raised	(1)	(1)	1,200	-	-
Others	128	(102)	574	793	840
Financing CF	127	(104)	1,774	793	840
Net change in cash	127	(104)	1,774	793	840
Cash (beg of yr)	120	246	144	1,918	2,711
FX	(1)	3	-	-	-
Cash (end of yr)	246	144	1,918	2,711	3,552

Balance sheet

YE 31 Dec (RMB mn)	FY17A	FY18A	FY19E	FY20E	FY21E
Non-current assets	557	2,032	2,006	2,068	2,126
Fixed asset	5	6	4	2	(0)
Goodwill	325	1,119	1,023	1,023	1,023
Intangible assets	35	118	109	134	159
Others	227	947	1,087	1,185	1,272
Current assets	540	960	2,447	3,332	4,283
Cash	246	144	1,918	2,711	3,552
Trade receivables	164	472	346	406	487
Other current assets	130	343	182	215	244
Current liabilities	203	755	480	655	739
Bank loans	10	51	-	-	-
Trade and other payables	147	575	368	542	627
Tax payable	18	41	41	41	41
Other current liabilities	28	88	71	71	71
Non-current liabilities	5	395	298	298	298
Deferred tax liabilities	3	30	30	30	30
Contingent consideration	-	268	268	268	268
Others	2	97	-	-	-
Total Equity	908	1,863	3,675	4,447	5,371

Key ratios

YE 31 Dec	FY17A	FY18A	FY19E	FY20E	FY21E
Sales mix (%)					
Game publishing	100.0	87.7	85.3	85.1	84.4
Game development	0.0	11.1	14.1	14.4	15.0
IP licensing	0.0	1.1	0.6	0.5	0.5
Total	100.0	100.0	100.0	100.0	100.0
Growth rate (%)					
Revenue	1.2	57.6	112.1	27.7	18.9
Gross profit	(2.6)	56.4	112.2	28.7	19.2
EBIT	75.2	139.2	161.0	32.8	21.8
Net profit	53.3	2.8	93.5	31.2	19.5
P&L ratios (%)					
Gross Margin	33.6	33.4	33.4	33.6	33.7
Pre-tax margin	26.2	22.3	21.2	21.8	21.9
Adj. net margin	30.4	19.5	18.1	18.6	18.6
Effective tax rate	(0.0)	(11.3)	(15.0)	(15.0)	(15.0)
Returns (%)					
ROE	38.5	22.8	22.1	19.8	19.5
ROA	25.6	15.3	16.4	16.3	16.2

Source: Company data, CMBIS estimates

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CMB International Securities Limited

Address: 45/F, Champion Tower, 3 Garden Road, Hong Kong, Tel: (852) 3900 0888 Fax: (852) 3900 0800

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