MIRAE ASSET Securities

Games (Overweight/Maintain)

Investment strategy for the reopening of China's gaming market

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C O N T E N T S

I. Investment summary 3

II. Opportunities in China for domestic game companies 7
Netmarble, Nexon, and Smilegate to be among the first beneficiaries 7
Nexon Games and JoyCity: Latecomers with explosive potential 12
China's reopening to indirectly benefit overall industry and Kakao Games 14

III. China to continue issuing game licenses 16
Chinese gaming market hits the wall 16
Chinese games continuing to receive approval 19
Implications of Korean title approvals in Dec. 2022 20
Signs of easing in other content segments 24

IV. Key features of China's gaming market 25
How China's gaming market differs from Korea's 25
Mobile gaming market trends since 2014 31
Current state in 2023 34

V. Subculture and simulation game studios to increase in value 35
Subculture and simulation: Better positioned in China than other genres 35
Extended life cycles 40
Subculture sequels enjoy higher chances of success 42

Company analysis 45
Nexon Games 46
JoyCity 59
Netmarble 63
Kakao Games 67

I. Investment summary

Our top picks for the China reopening theme: Nexon Games and JoyCity

We expect China to continue to reopen its gaming market and view Nexon Games, JoyCity, Netmarble, and Kakao Games as key beneficiaries. Assuming a full reopening of the Chinese market, we believe Nexon Games and JoyCity stand to benefit the most. In our view, gaming companies with strength in diverse genres deserve attention for their potential in China.

For Nexon Games, we highlight the company's: 1) strong development capabilities across diverse genres, including subculture (games focusing on anime-style characters) and first-person shooter (FPS); and 2) potential in the Chinese market. We initiate our coverage on the stock with a Buy rating and target price of W19,000.

For JoyCity, we highlight: 1) the potential of the company's new and existing simulation titles in the Chinese market; and 2) bullish expectations on an upcoming subculture title. We maintain our Buy rating and target price of W6,500 on the stock.

For Netmarble, we highlight: 1) the beginning of new China revenue in 2H23; and 2) a lineup that includes a number of titles with potential in China. We upgrade the stock from Hold to Buy and raise our target price to W70,000.

For Kakao Games, we highlight: 1) the positive effects of the domestic gaming industry's genre diversification, which is likely to accelerate due to China's reopening; and 2) opportunities from increasing publishing demand. We maintain our Buy rating and target price of W60,000.

Why China is likely to continue to issue game licenses

Our expectation that China will continue to actively issue game publishing licenses in 2023 mainly stems from the negative growth of the country's gaming market. In 2022, the Chinese market contracted 10% YoY to CNY266bn. During this year's meetings of the National People's Congress (NPC) and the Chinese People's Political Consultative Conference (CPPCC)—the so-called "two sessions"—Chinese officials raised worries about the slowdown of the gaming market and mentioned the need for more quality content. This stands in contrast to last year's sessions, where calls for regulation were prevalent.

We see a strong possibility that China will issue more licenses in an effort to revive its gaming market. Authorities began to scale back license issuance in 2018, tempering industry growth to around 10% (2017-21 CAGR of 10%) from over 20% previously. Since 2H22, China has begun to issue game publishing licenses more frequently and in higher numbers, signaling that authorities are already making efforts to restore market growth in 2023-24.

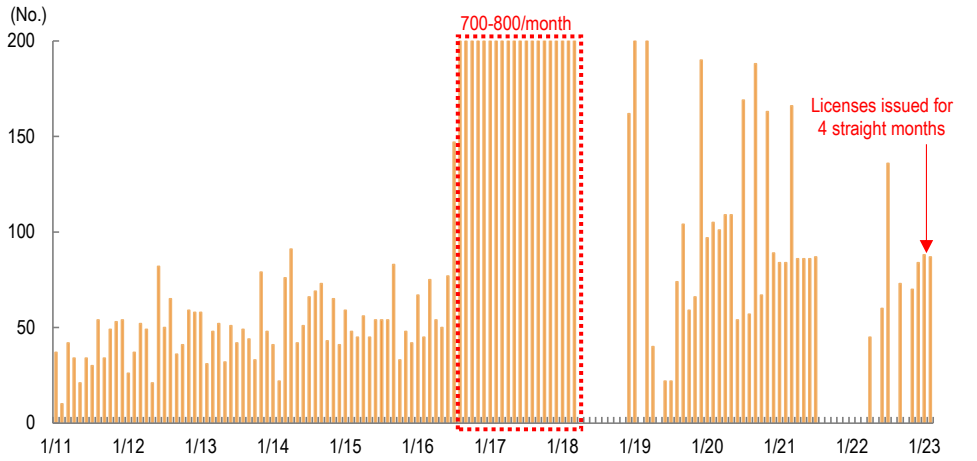
What matters are the types of games that appeal to Chinese players

For massively multiplayer online role-playing games (MMORPGs)—the main genre of many domestic gaming companies—we think the odds of success in China are low. MMORPGs were once popular in China—accounting for over 40% of revenue from 2015 to 2018—but have fallen out of favor, making up an estimated 7% of revenue in the first two months of 2023.

In contrast, collectible RPGs, simulation games, and FPS games all enjoy huge popularity in China, which should present opportunities to domestic gaming companies with strengths in these genres. In particular, we see strong potential in subculture collectible RPGs based on globally popular Korean webtoon/web novel intellectual properties (IPs). The FPS segment is currently dominated by *CrossFire* (PC) and *PUBG Mobile* (*Game for Peace*), but we believe other gaming companies could make a mark in new genres, such as looter shooters.

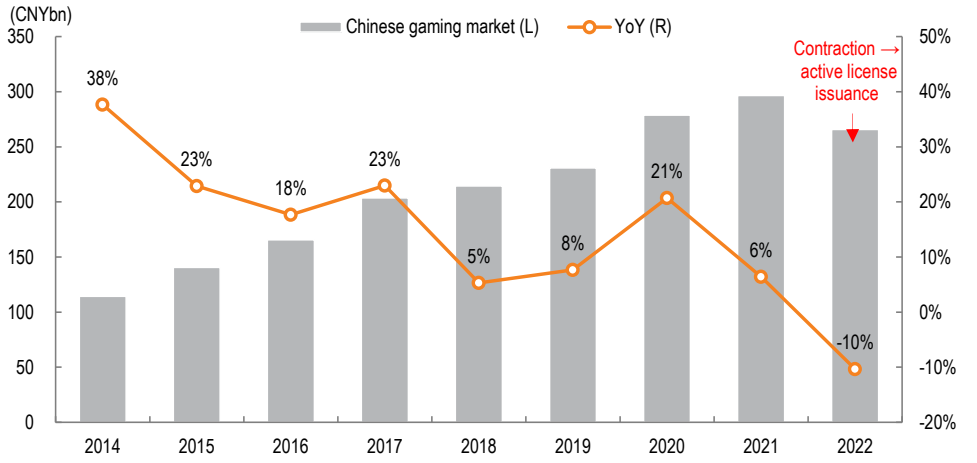
Key charts

Figure 1. No. of licenses issued in China to homegrown games



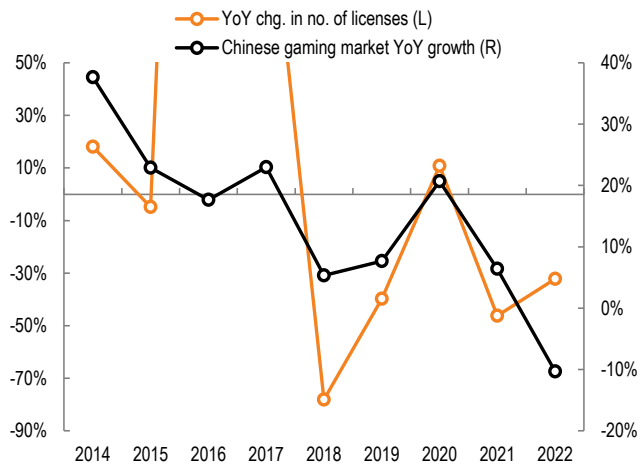
Source: National Press and Publication Administration, Mirae Asset Securities Research

Figure 2. Size of Chinese gaming market



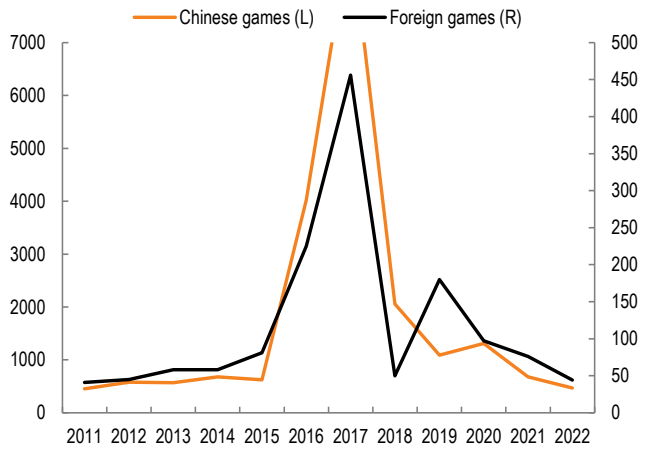
Source: "2022 China Game Industry Report," Mirae Asset Securities Research

Figure 3. Correlation between licenses issued and Chinese market size



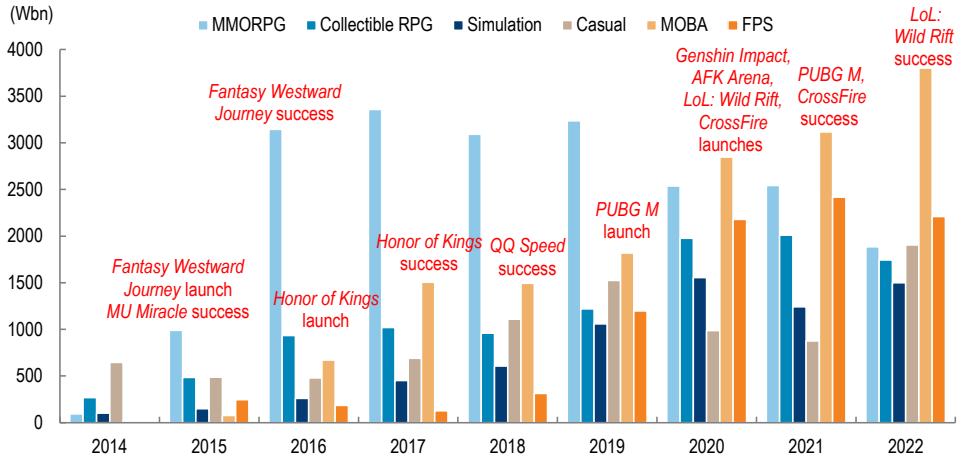
Source: National Press and Publication Administration, "2022 China Game Industry Report, Mirae Asset Securities Research estimates

Figure 4. Annual no. of licenses issued to Chinese and foreign games



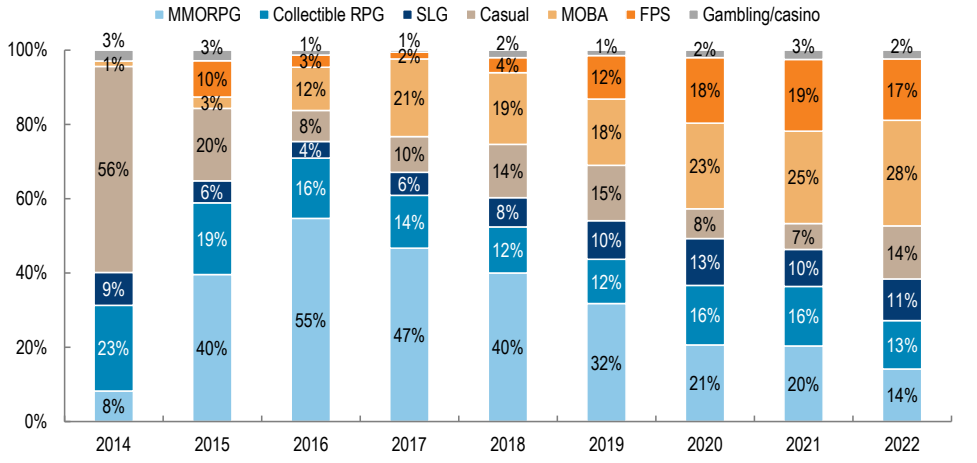
Source: National Press and Publication Administration, Mirae Asset Securities Research

Figure 5. Annual revenue of China's top 50 highest-grossing games in 2014-22 by genre (App Store)



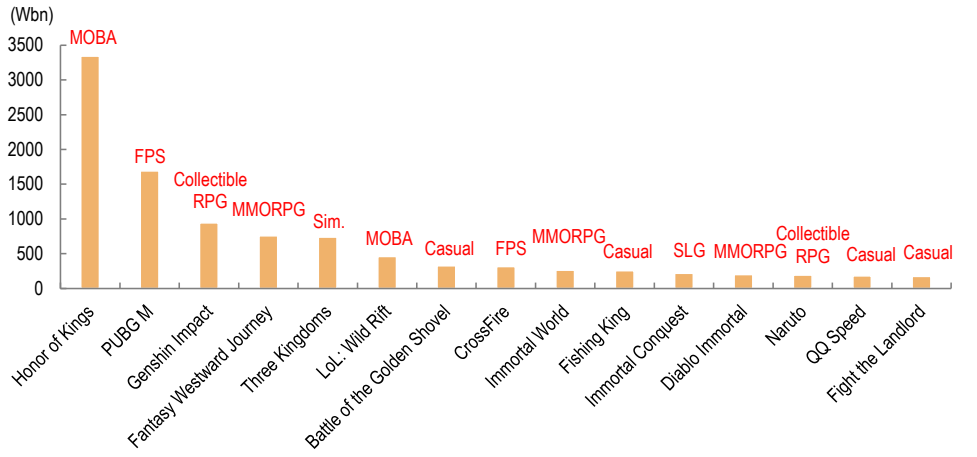
Source: Sensor Tower, Mirae Asset Securities Research estimates

Figure 6. Revenue mix of China's top 50 highest-grossing games in 2014-22 by genre (App Store)



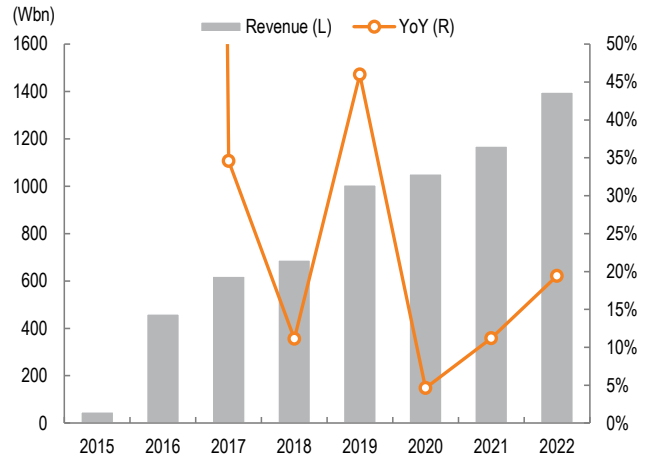
Source: Sensor Tower, Mirae Asset Securities Research estimates

Figure 7. Revenue of China's top 15 highest-grossing games in 2022 (App Store)



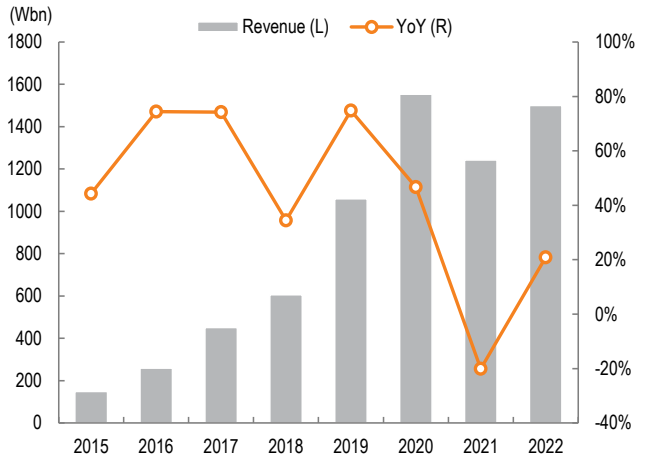
Source: Sensor Tower, Mirae Asset Securities Research

Figure 8. Annual revenue of subculture games among China's top 50 highest-grossing games (App Store)



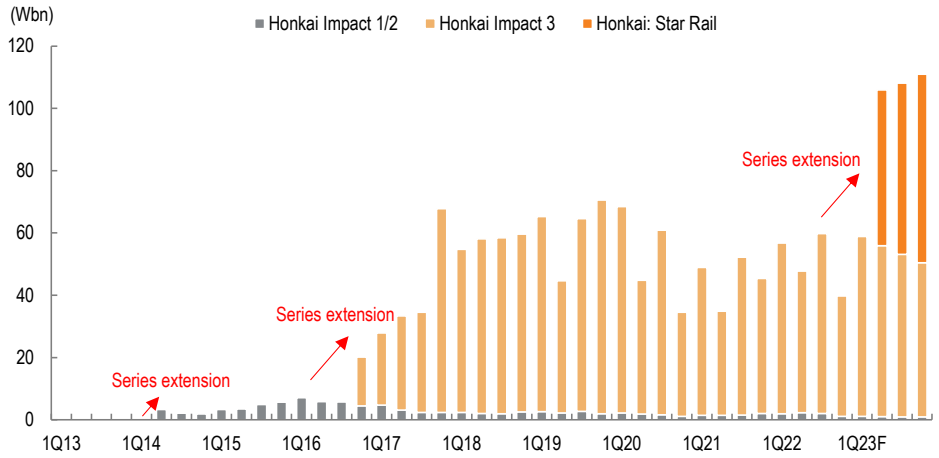
Source: Sensor Tower, Mirae Asset Securities Research estimates

Figure 9. Annual revenue of simulation games among China's top 50 highest-grossing games (App Store)



Source: Sensor Tower, Mirae Asset Securities Research estimates

Figure 10. Quarterly revenue of *Honkai* series (subculture IP has a long life cycle)



Notes: *Honkai: Star Rail* data are forecasts; second CBT has been completed, with pre-registrations surpassing 5mn
Source: Mirae Asset Securities Research estimates

II. Opportunities in China for domestic game companies

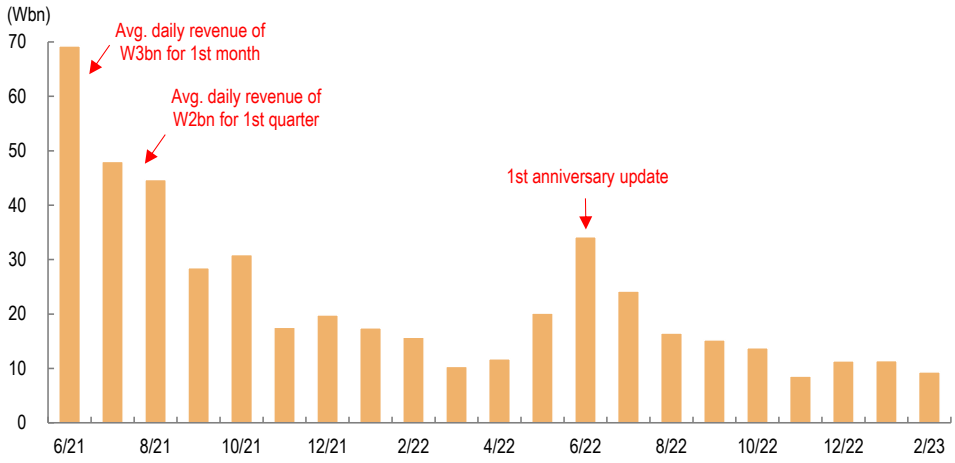
Netmarble, Nexon, and Smilegate to be among the first beneficiaries

1) Netmarble

In 2H23, Netmarble should begin to generate new sales in China through the release of four titles: *A3: Still Alive*, *Shop Titans*, *Ni no Kuni: Cross Worlds*, and *StoneAge*. Expectations are particularly high for *Ni no Kuni*, which we believe could bring in daily revenue in the mid-W1bn level, given that the game has become a global hit and is based on an anime popular in China.

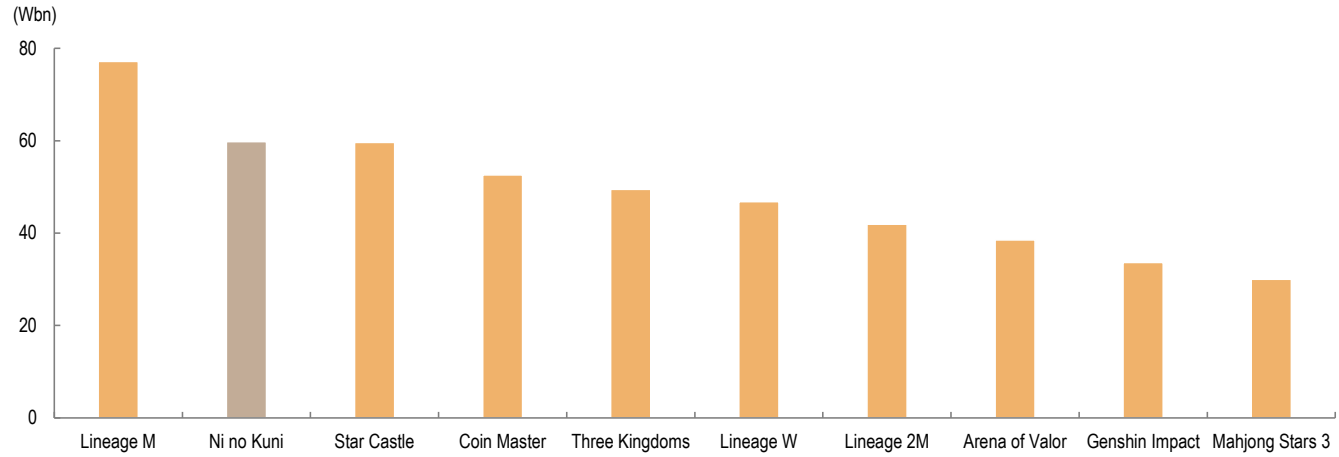
Ni no Kuni's daily revenue reached W3bn immediately after its release in Jun. 2021 and averaged W2bn during the first quarter of its release. We think the title's strong showing in Taiwan bodes especially well for its performance in China. After its release, *Ni no Kuni* instantly took the top spot on both major app stores in Taiwan. Moreover, it was Taiwan's second highest-grossing mobile game based on cumulative revenue from Jun. to Dec. 2021, demonstrating its strong IP power.

Figure 11. *Ni no Kuni*: Global monthly revenue trend



Source: Sensor Tower, Mirae Asset Securities Research estimates

Figure 12. 10 highest-grossing games on App Store and Google Play in Taiwan from Jun. to Dec. 2021 (cumulative)



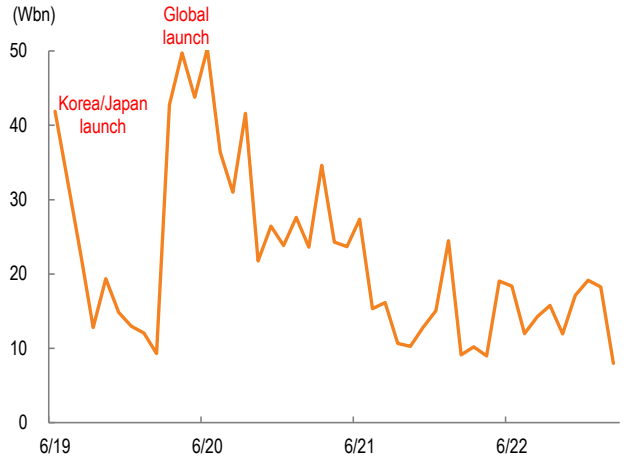
Source: Sensor Tower, Mirae Asset Securities Research estimates

We believe a number of other Netmarble titles, such as *The Seven Deadly Sins*, the Marvel series, and *Demis Re:Born*, have strong potential in China if the company secures (or extends) the relevant licenses. We think *The Seven Deadly Sins*—a collectible RPG based on a well-known Japanese manga series—has the potential to do particularly well in China.

The Seven Deadly Sins was released in Korea and Japan in Jun. 2019 and rolled out globally in Mar. 2020. The title was a huge hit in Japan and also found success in other global markets; we estimate its daily revenue in the two years following its release at more than W1bn. The title also did well in Taiwan, topping the iOS chart right after its release (and remaining in the top five after the initial period).

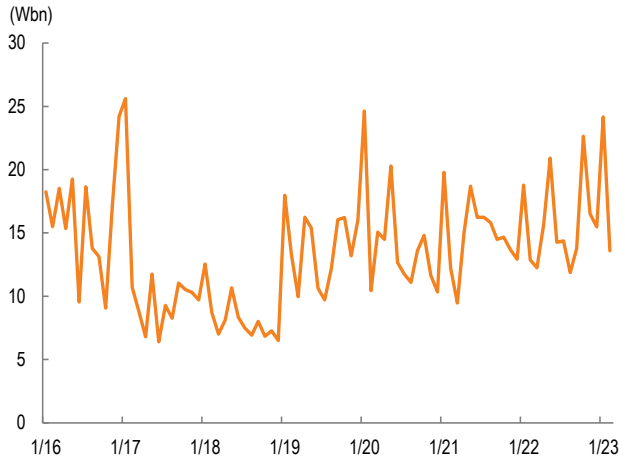
To illustrate how well games based on popular Japanese manga series can do in China, we note that *Naruto*—an RPG jointly developed by Tencent and Bandai Namco—has exhibited a steady rise in revenue and remained on the top 10 list despite being released seven years ago. In our view, the case of *Naruto* underscores the strong potential of collectible RPGs based on popular comic IPs and bodes well for *The Seven Deadly Sins*, which is adapted from a popular manga series that has sold over 30mn copies.

Figure 13. *The Seven Deadly Sins*: Monthly revenue trend



Source: Sensor Tower, Mirae Asset Securities Research estimates

Figure 14. *Naruto*: China monthly revenue trend (App Store)



Source: Sensor Tower, Mirae Asset Securities Research estimates

Figure 15. *The Seven Deadly Sins* is a collectible RPG based on a Japanese manga series



Source: Netmarble, Mirae Asset Securities Research

Figure 16. *Naruto* is a collectible RPG based on a Japanese manga series



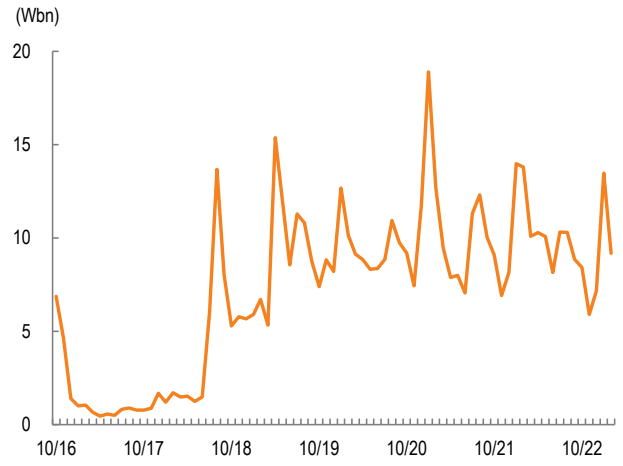
Source: Screen capture, Mirae Asset Securities Research

2) Nexon

Nexon has consistently generated robust revenue in China from its PC titles, including *Dungeon & Fighter*, *MapleStory*, and *KartRider*. Looking ahead, we expect the company to continue its growth story in China on the back of *MapleStory M* (mobile). Nexon previously serviced the PC title *MapleStory 2* in China through a publishing contract with Tencent.

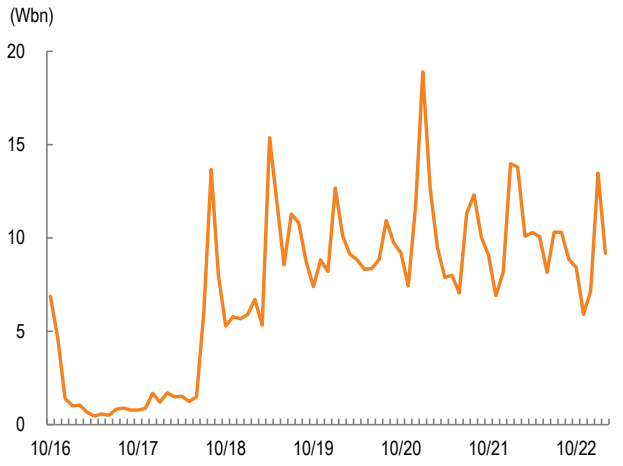
With *MapleStory 2* having ended its China service in Sep. 2022, we think the PC title's existing players are highly likely to move to the mobile version. *MapleStory M* performed solidly in Taiwan, remaining on the top 10 list for a year after its release. We believe *MapleStory M* could generate more than W1bn in daily revenue in China.

Figure 17. *MapleStory M*: Global monthly revenue trend



Source: Sensor Tower, Mirae Asset Securities Research estimates

Figure 18. *MapleStory M*: Taiwan monthly revenue trend



Source: Sensor Tower, Mirae Asset Securities Research estimates

A number of other Nexon titles have strong prospects in China, including *Dungeon & Fighter Mobile*. The title was originally set to come out in Aug. 2020, but its release was indefinitely pushed back, partly due to China's requirement that companies introduce game rules to prevent minors from becoming addicted. We believe Nexon's additional license wins in Dec. 2022 indicate there are no issues between the gaming company and local authorities and thus think the release of *Dungeon & Fighter Mobile* is likely to get back on track.

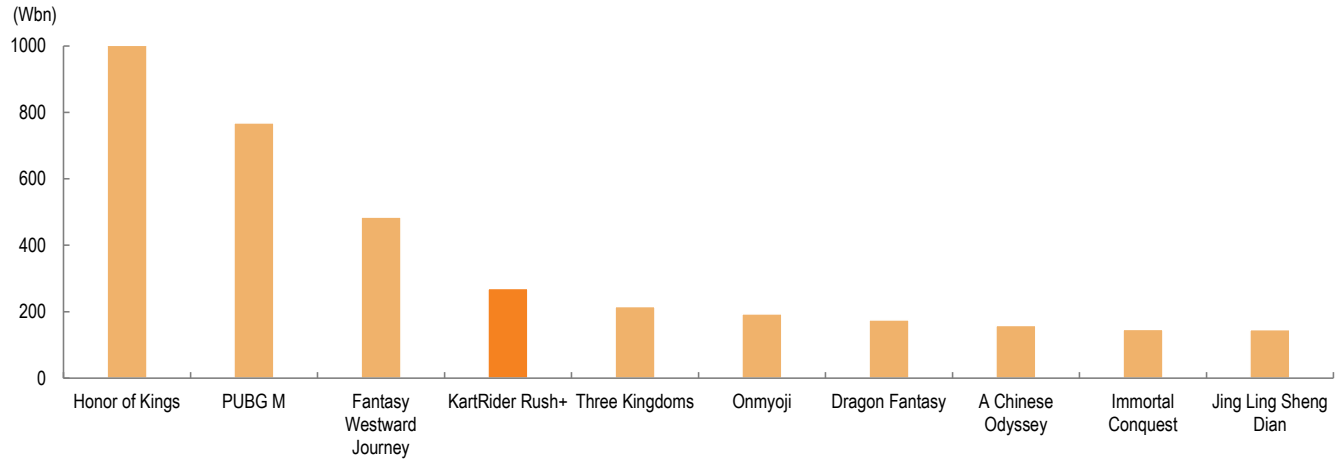
Figure 19. *Dungeon & Fighter Mobile* was originally set to be released in China in Aug. 2020 but has since been delayed



Source: Tencent, Mirae Asset Securities Research

KartRider: Drift is another game that could gain a strong following in China. The KartRider IP is already popular in the country, as demonstrated by the success of *KartRider* (PC) and *KartRider Rush+* (mobile). Launched in Jul. 2019, *KartRider Rush+* became a huge hit in China, ranking no. 4 among the top-grossing games on the App Store (iOS) in 2H19. In particular, the game made waves among *KartRider* (PC) players in China, proving the strong influence of the *KartRider* IP. We believe the new *KartRider: Drift*, which supports full cross-platform play (including on consoles), also has significant potential demand in China.

Figure 20. Top 10 highest-grossing games on China's App Store in 2H19: *KartRider Rush+* ranked no. 4



Source: Sensor Tower, Mirae Asset Securities Research estimates

Figure 21. *KartRider: Drift* will be launched on Mar. 9, 2023



Source: Nexon, Mirae Asset Securities Research

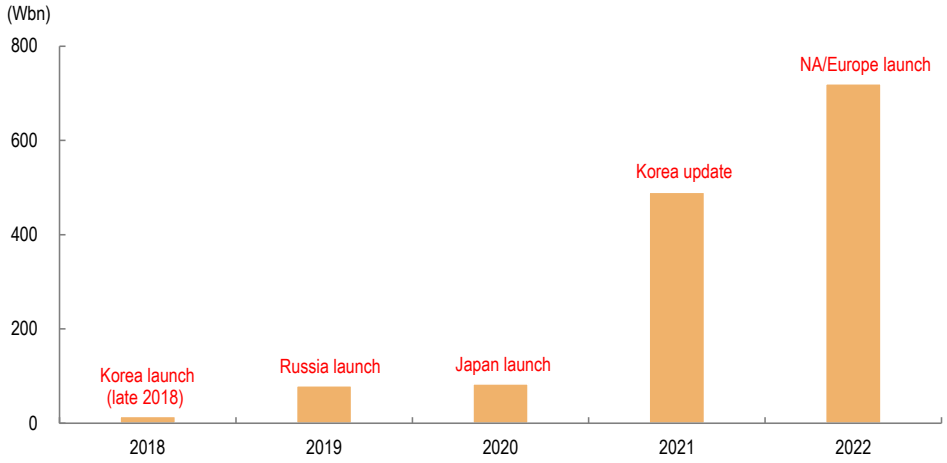
3) Smilegate

We believe Smilegate will continue *Lost Ark*'s global expansion story in 2023. *Lost Ark*, which gained massive popularity in Korea following its rollout in 2018, has successfully branched out to other markets, including Russia (2019), Japan (2020), and Western countries (2022). We believe the title's upcoming release in China will make it the first domestically developed MMORPG to find success in all major regions.

Smilegate's *Epic Seven*, which has been approved alongside *Lost Ark*, also looks well-positioned for success in China. A pioneering title in the domestic subculture gaming industry, *Epic Seven* has remained popular globally since its launch in 2018. More than four years have passed since its release, but the title still generates robust revenue. We believe the title could bring in daily revenue of W1bn in the Chinese mobile game market, where subculture games are hugely popular.

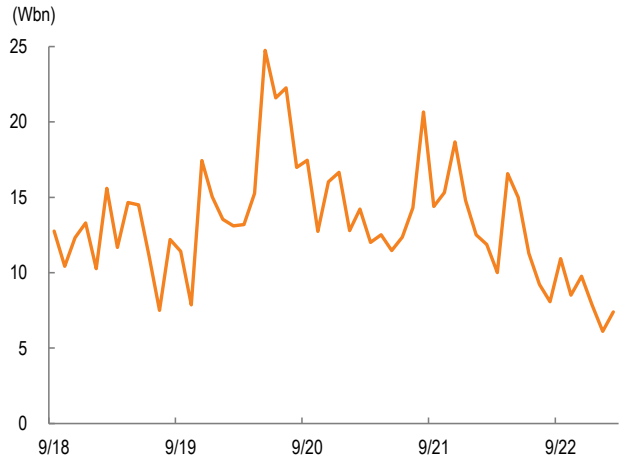
In our view, the fact that the company has obtained licenses for all of its major titles enhances visibility on its China prospects. While we do not expect any additional license wins in the near term, we believe Smilegate has a higher probability of securing licenses for future titles than other gaming companies.

Figure 22. *Lost Ark*: Annual revenue forecasts



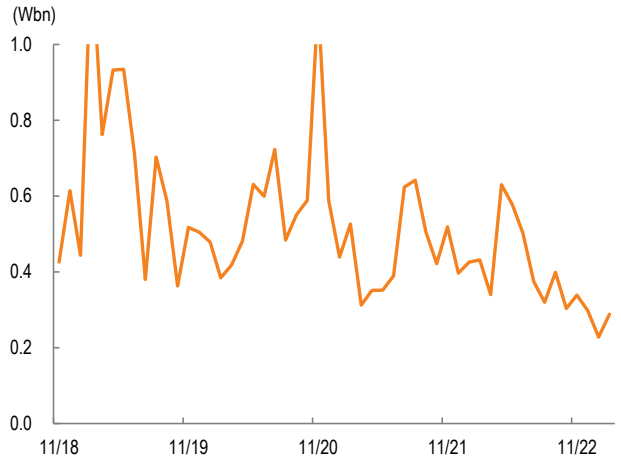
Source: Mirae Asset Securities Research estimates

Figure 23. *Epic Seven*: Global monthly revenue trend



Source: Sensor Tower, Mirae Asset Securities Research estimates

Figure 24. *Epic Seven*: Taiwan monthly revenue trend



Source: Sensor Tower, Mirae Asset Securities Research estimates

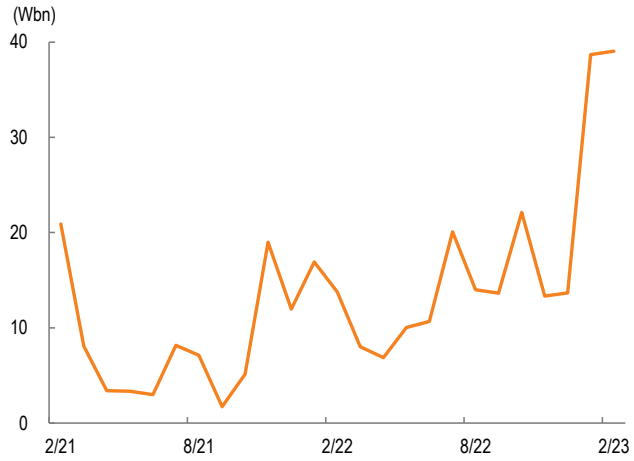
Nexon Games and JoyCity: Latecomers with explosive potential

1) Nexon Games

If China fully opens its gaming market, we believe Nexon Games will have the strongest potential among domestic gaming companies. We think the company's strength in the subculture and FPS genres and superior development capabilities make it well-positioned to release new titles that appeal to Chinese gamers.

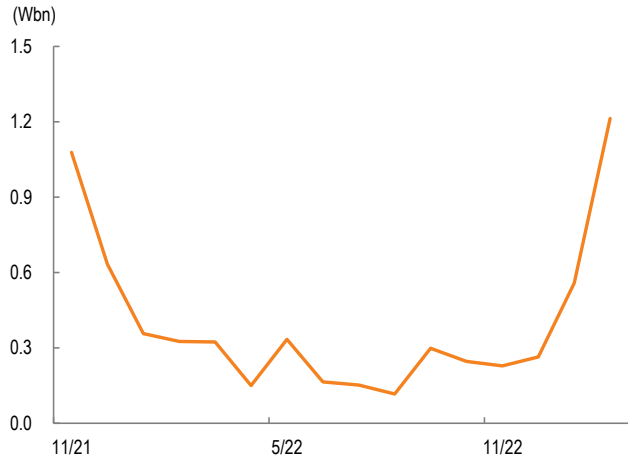
The global success of *Blue Archive* is evidence of the company's strong development capabilities in subculture games. This is worth noting, as China's mobile game market is dominated by collectible subculture games. In Japan, *Blue Archive* remains one of the top-grossing mobile games two years after its launch. We believe the game is also likely to do well in China, as it is common for subculture titles originally launched in Japan to top the app charts in both China and Japan at the same time (e.g., *Genshin Impact*, *Fate*, and *Arknights*).

Figure 25. *Blue Archive*: Global monthly revenue trend



Source: Sensor Tower, Mirae Asset Securities Research estimates

Figure 26. *Blue Archive*: Taiwan monthly revenue trend



Source: Sensor Tower, Mirae Asset Securities Research estimates

In the PC segment, we believe Nexon Games' development skills in shooting games will come into focus. Long after its release, the Nexon Games title *Sudden Attack* remains the no. 1 shooting game in Korea. Shooting games such as *PUBG: Battlegrounds* and *CrossFire* have proven popular in China, which suggests that Nexon Games' new shooting titles, such as *Veiled Experts* and *The First Descendant*, also have strong potential in the country.

Figure 27. New TPS game *Veiled Experts* (final beta test to begin on Steam on Mar. 30)



Source: Nexon Games, Mirae Asset Securities Research

Figure 28. New looter shooter title *The First Descendant*



Source: Nexon Games, Mirae Asset Securities Research

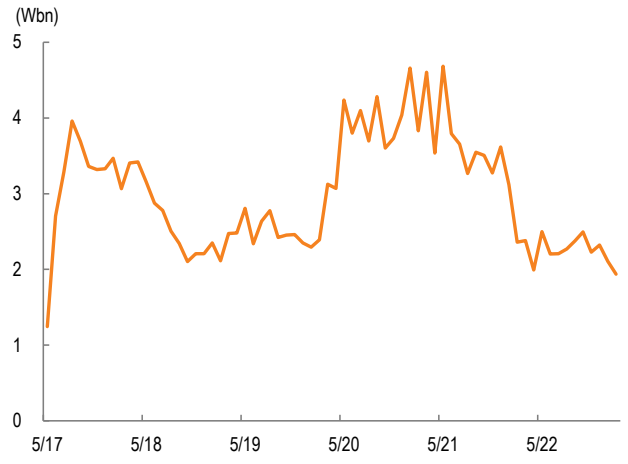
2) JoyCity

We believe JoyCity is another game developer that could be re-rated if China's gaming market fully reopens, given its strength in simulation and subculture genres. In China's mobile game market, simulation (war simulation games) and subculture genres are generally favored more than in Korea (MMORPG), Japan (subculture), and the US (casual/puzzle).

JoyCity, which is the no. 1 simulation game developer in Korea and among the top 10 in the world, looks well-positioned to take on the Chinese market. The popular simulation games *Pirates of the Caribbean* and *Gunship Battle* are the company's major moneymakers, generating solid revenue globally despite being released more than four years ago. We believe the company's simulation titles, both new (*Disney Knights Saga*) and existing, have a bright outlook in China.

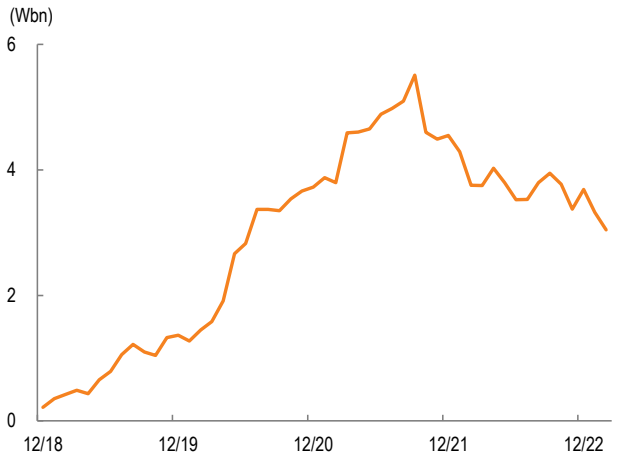
JoyCity has also built a strong track record in subculture genres through the successful release of titles such as *Game of Dice* and *Hero Ball Z*. The company's much-anticipated subculture title *Starseed* is scheduled to be launched in 2H23. Notably, Bilibili, a leading publisher of subculture games in China, will serve as the game's global publisher. Given that development is now in the final stages after more than a year of collaboration with Bilibili, we think the title will have a shorter time to release if approved by Chinese authorities.

Figure 29. *Pirates of the Caribbean*: Global monthly revenue trend



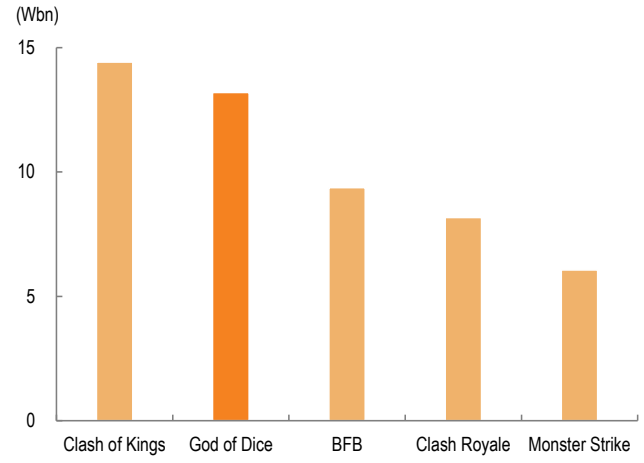
Source: Sensor Tower, Mirae Asset Securities Research estimates

Figure 30. *Gunship Battle*: Global monthly revenue trend



Source: Sensor Tower, Mirae Asset Securities Research estimates

Figure 31. Top five highest-grossing games in Hong Kong App Store/Google Play in 1H16 (cumulative)



Source: Sensor Tower, Mirae Asset Securities Research estimates

Figure 32. JoyCity's new subculture title *Starseed* (to be published by Bilibili)



Source: JoyCity, Mirae Asset Securities Research

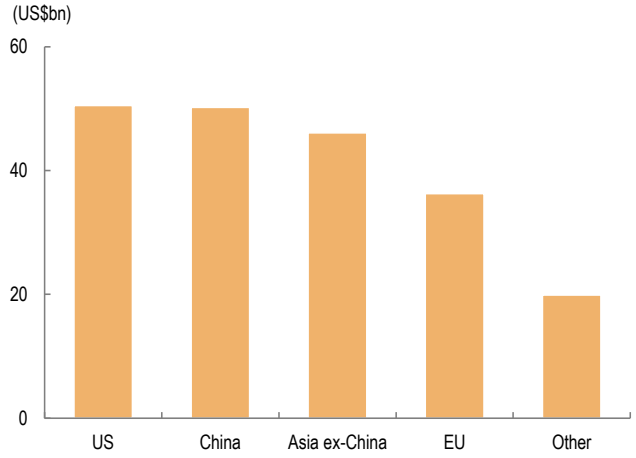
China's reopening to indirectly benefit overall industry and Kakao Games

Increase in serviceable market for overall gaming industry

If China fully opens its gaming market, we believe the effective increase in the total serviceable market will benefit the entire gaming industry. Companies working on new titles will be able to add China to their list of target markets, raising expectations on their revenue potential. China is the world's largest gaming market, accounting for one-fourth of the global total.

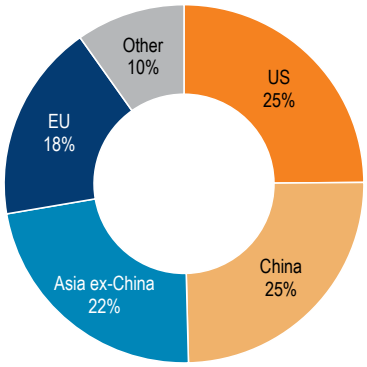
Many Korean gaming companies, faced with a slowing domestic market, have already shifted their focus to global audiences for upcoming titles. This means that they can add China to their list of target markets without sharply increasing costs.

Figure 33. Global gaming market size by region (2022)



Source: Newzoo, Mirae Asset Securities Research

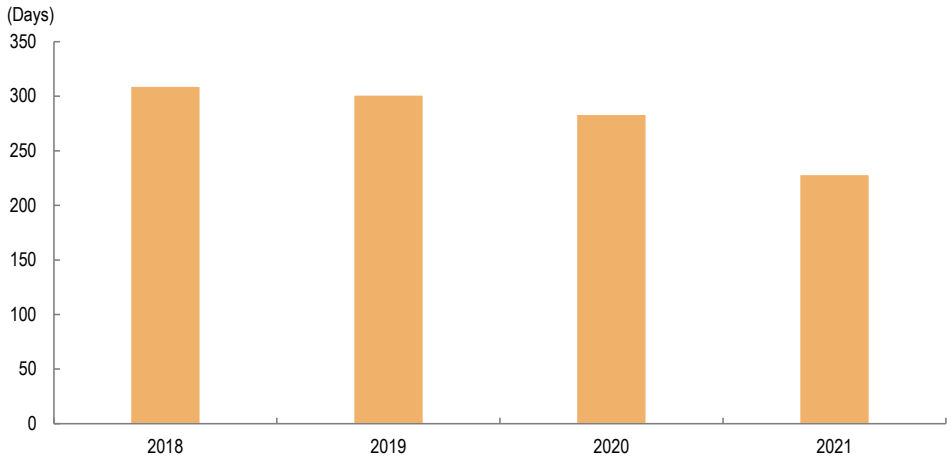
Figure 34. Global gaming market breakdown (2022)



Source: Newzoo, Mirae Asset Securities Research

For gaming companies that have yet to obtain licenses, we believe new revenue from China will begin to materialize in 2024 at the earliest. During the 2018-21 period, it took around nine to 10 months for newly licensed titles to actually hit the Chinese market. Therefore, games that are additionally approved in 1H23 are likely to become available in China in 1H24.

Figure 35. Avg. time to release of titles that received licenses in 2018-21

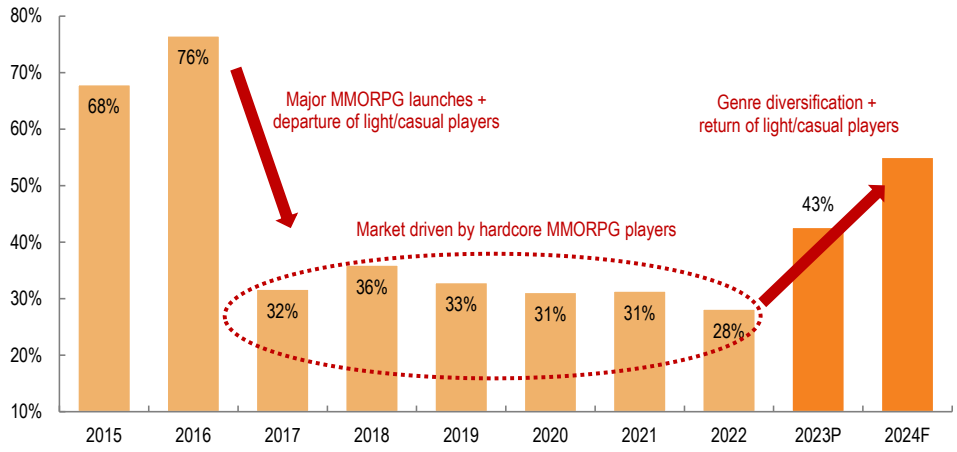


Source: Mirae Asset Securities Research estimates

Kakao Games to be biggest beneficiary of potential increase in publishing demand

The reopening of the Chinese gaming market will likely drive a full-fledged pickup in non-MMORPG genres in the domestic market. Indeed, the MMORPG-driven growth in mobile games has already fizzled out in the domestic market, prompting developers to diversify genres. Given the popularity of non-MMORPG games in China, the world's biggest gaming market, the opening of the market should encourage companies to focus more on casual, subculture, and/or simulation games.

Figure 36. Share of non-MMORPG titles in top 30 highest-grossing mobile games in the domestic market

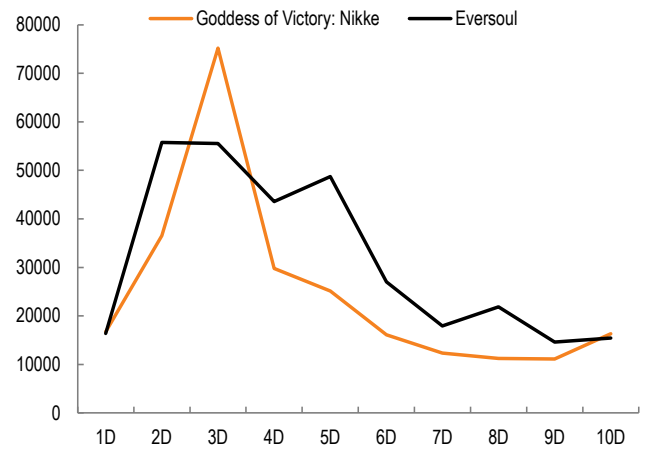


Note: 43% for 2023P is based on cumulative revenue for January-February
Source: Sensor Tower, Mirae Asset Securities Research estimates

In non-MMORPG genres, publishing capabilities are crucial due to the importance of advertising. As such, we believe demand for third-party publishing will grow across the industry, with Kakao Games set to become the biggest beneficiary given its strength in domestic game publishing. Indeed, the success of *Eversoul* is proof of the company's strong publishing capabilities in the domestic market, where it can rival or even surpass Tencent. (*Eversoul* almost matched the global hit *Goddess of Victory: Nikke* in terms of domestic preorders and initial downloads.)

These days, game companies often partner with different publishers in different regions to take full advantage of their competitive edges in specific markets. In the domestic market, we believe Kakao Games will benefit from higher publishing demand. And once its capabilities are further tested and proven in overseas markets such as Japan, North America, and Europe, demand for the firm's publishing services should expand sharply.

Figure 37. *Eversoul* vs. *Goddess of Victory: Nikke*: Comparison of initial downloads



Source: Sensor Tower, Mirae Asset Securities Research

Figure 38. Ad for Nexon's *Wars of Prasia* on Kakao Games' channel



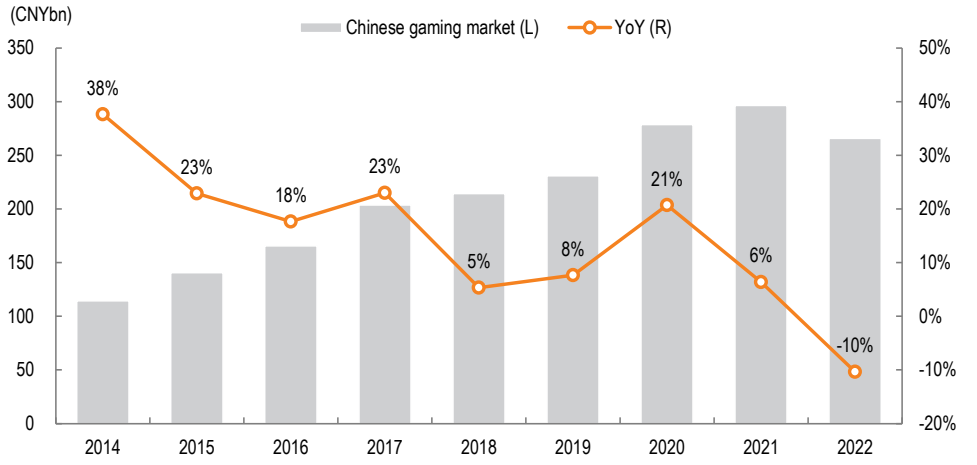
Source: Kakao Games, Mirae Asset Securities Research

III. China to continue issuing game licenses

Chinese gaming market hits the wall

We expect China to continue aggressively issuing game licenses in 2023, given the Chinese game market's contraction. In 2022, the world's biggest gaming market shrank 10% YoY to CNY266bn (W51tr), marking the first decline since mobile games started to gain ground in 2010.

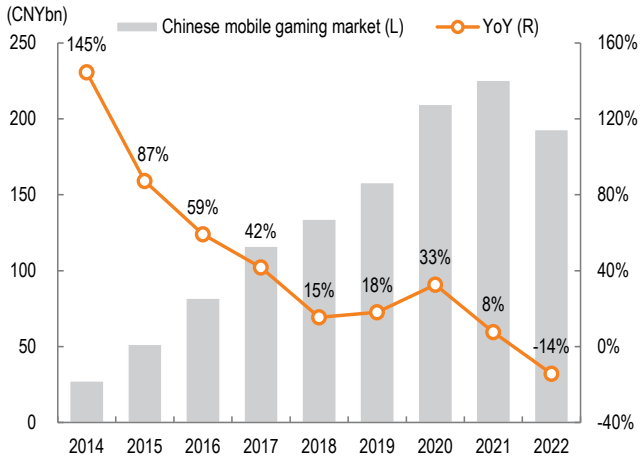
Figure 39. Chinese gaming market size



Source: "2022 China Game Industry Report," Mirae Asset Securities Research

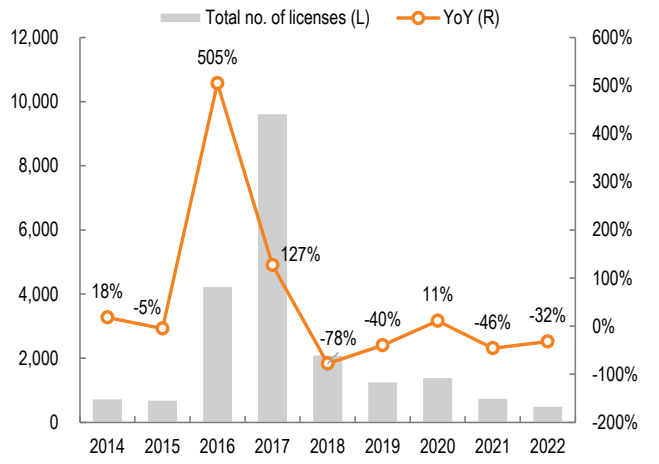
The slowdown of the Chinese gaming industry is attributable to a sharp deceleration in mobile game growth—which, in turn, has been caused by an insufficient supply of new games amid declining license issuances. The number of game licenses started to fall rapidly in 2018, slumping to 755 in 2021 and to 512 in 2022 (vs. an annual average of 3,700 between 2016 and 2020).

Figure 40. Chinese mobile gaming market size



Source: 2022 China Game Industry Report," Mirae Asset Securities Research

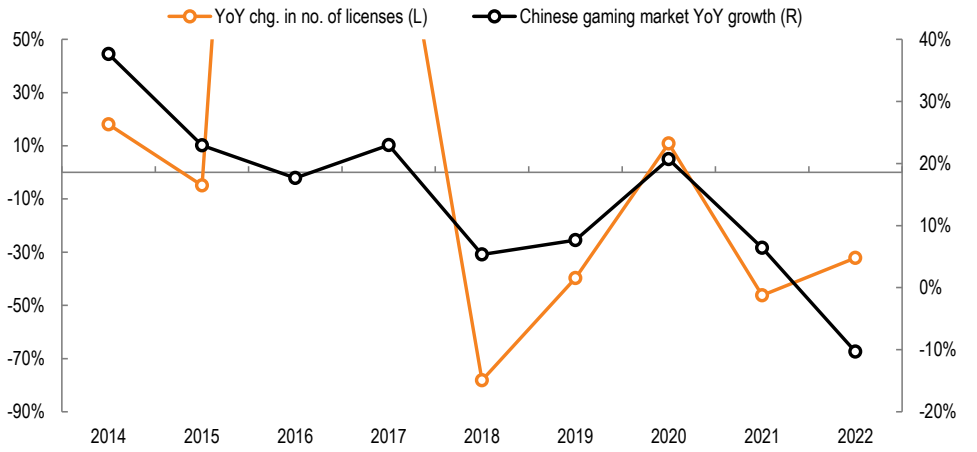
Figure 41. No. of game licenses issued in China



Source: National Press and Publication Administration, Mirae Asset Securities Research estimates

Authorities began to scale back license issuance in 2018, tempering industry growth to around 10% from over 20% previously. Since 2H22, China has begun to issue game publishing licenses more frequently and in higher numbers, indicating that authorities hope to propel a market recovery in 2023-24.

Figure 42. Correlation between game license issuance and gaming market size in China



Source: Mirae Asset Securities Research estimates

Worries about gaming industry raised during China's "two sessions" meetings

During China's 2023 "two sessions" meetings, officials raised worries about the slowdown of the gaming industry, and some argued for new policies. This marked a sharp contrast to the 2022 sessions, which featured calls for regulation.

Guo Yuanyuan (CPPCC National Committee member and associate dean of the School of Culture and Communication at Capital University of Economics and Business) asserted that the gaming industry also needs to advance in quality. With foreign governments continuing to increase support for their gaming industries, she argued that the Chinese gaming industry needs to be able to compete on the global stage.

Her three suggestions are as follows:

The government should: 1) establish detailed policies and guidelines for the qualitative growth of the gaming industry and support the industry's healthy development in terms of content review, license approval, safety, and protection of minors; 2) make official industry technology standards to facilitate the deep integration of gaming technology with the real economy; and 3) encourage the release of quality games and overseas expansion, promote international competition by domestic gaming companies and their continued participation in the development of overseas game IP, and strengthen gaming companies' capabilities to ensure global competitiveness.

Figure 43. CPPCC member Guo Yuanyuan argued that the gaming industry needs to pursue qualitative growth

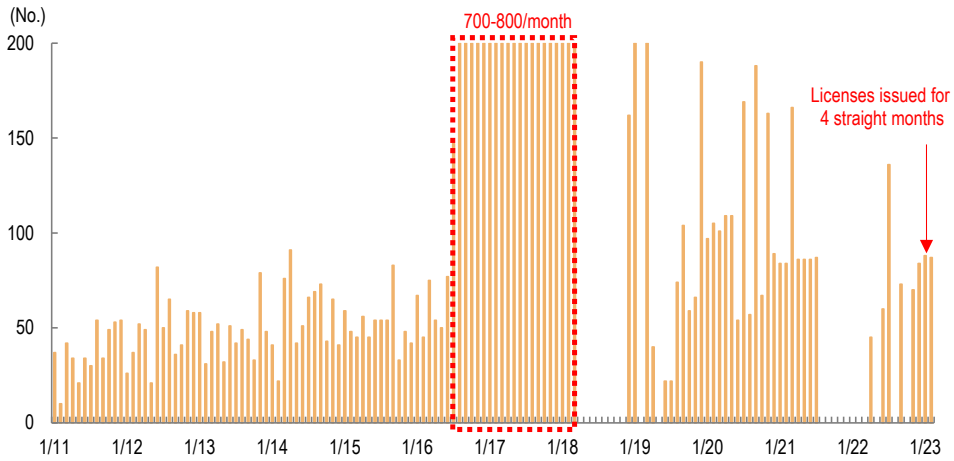


Source: People's Daily Online, Mirae Asset Securities Research

Chinese games continuing to receive approval

Chinese regulators have granted licenses for homegrown titles for four straight months, which suggests that restrictions on the gaming industry are essentially coming to an end. In Nov. 2022, 70 Chinese titles were approved; the following month, 84 were approved. The trend has continued in 2023, with China approving 88 homegrown titles in January and 87 in February—collectively more than one-third of the 2022 total (468). It is also notable that the number of licenses issued per month is over 80, close to the 2020 (pre-crackdown) level.

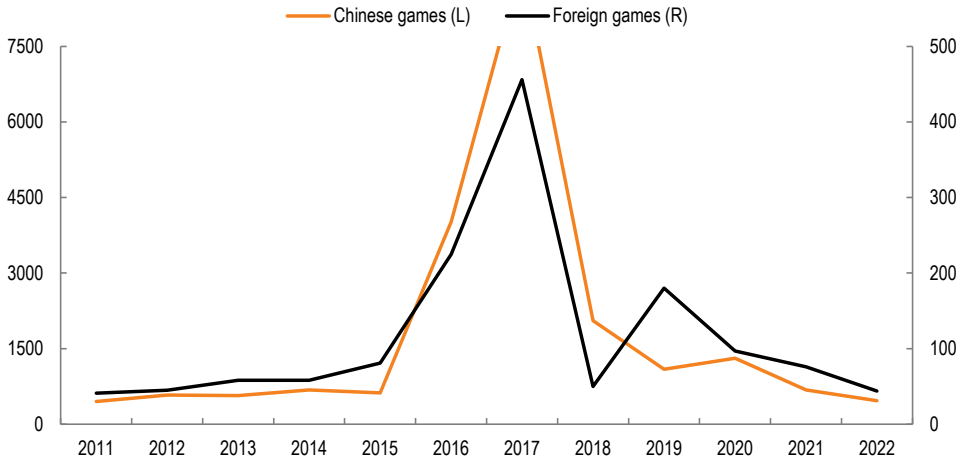
Figure 44. Monthly no. of licenses issued for Chinese games since 2011



Source: National Press and Publication Administration, Mirae Asset Securities Research

The continued licensing of homegrown titles suggests that more foreign titles are likely to be approved as well. Indeed, over the past decade, approvals of Chinese titles and foreign titles have mostly moved in the same direction. With China having resumed license approvals for domestic titles, we believe a key precondition for the normalization of foreign title approvals has been met.

Figure 45. Annual no. of Chinese title approvals since 2011



Source: National Press and Publication Administration, Mirae Asset Securities Research

Implications of Korean title approvals in Dec. 2022

Korean titles gain licenses for the first time in 18 months

In Dec. 2022, Chinese regulators issued licenses to foreign games made by Korean companies for the first time in 18 months. This was also the first time since the 2017 THAAD dispute that multiple Korean titles were approved at once. A total of eight Korean titles were greenlit: Netmarble's *Ni no Kuni*, *A3: Still Alive*, and *Shop Titans*, Smilegate's *Lost Ark* and *Epic Seven*, Nexon's *MapleStory M*, Npixel's *Gran Saga*, and Valofe's *MU Legend*.

Significantly, regulators granted licenses to multiple foreign companies at once, which marks a departure from the more sporadic approvals of the past. Furthermore, they approved titles that were released relatively recently and have done well globally—a sign that China is confident in its gaming ecosystem and is likely to continue issuing licenses to foreign titles.

Figure 46. Korean titles approved in Dec. 2022

2022年进口网络游戏审批信息

2022-12-28 字体 [大 中 小]

序号	名称	申报类别	出版单位	运营单位	文号	出版物号	时间
1	厨神小当家	移动	杭州哲信信息技术有限公司	北京巅峰盛世科技有限公司	国新出审[2022]1676号	ISBN 978-7-498-09846-7	2022年12月10日
2	帝国与谜题	移动	江苏凤凰电子音像出版社有限公司	北京唯我乐园信息技术有限公司	国新出审[2022]1675号	ISBN 978-7-498-09847-4	2022年12月10日
3	双点医院	客户端	合肥完美世界网络技术有限公司	合肥完美世界网络技术有限公司	国新出审[2022]1674号	ISBN 978-7-498-09848-1	2022年12月10日
4	*MU Legend*	客户端	深圳中青宝互动网络股份有限公司	北京喜游戏科技有限公司	国新出审[2022]1673号	ISBN 978-7-498-09849-8	2022年12月10日
7	*Lost Ark*	客户端	广东音像出版社有限公司	广州迅影网络科技有限公司	国新出审[2022]1670号	ISBN 978-7-498-09852-8	2022年12月10日
17	*Ni no Kuni*	移动	深圳市创梦天地科技有限公司	深圳市创梦天地科技有限公司	国新出审[2022]1660号	ISBN 978-7-498-09862-7	2022年12月10日
21	*Gran Saga*	移动	广州市动景计算机科技有限公司	广州灵犀互动娱乐有限公司	国新出审[2022]1656号	ISBN 978-7-498-09866-5	2022年12月10日
22	*Shop Titans*	移动	天津电子出版社有限公司	北京银河聚阵网络技术有限公司	国新出审[2022]1655号	ISBN 978-7-498-09867-2	2022年12月10日
23	*MapleStory M*	移动	上海邮通科技有限公司	上海邮通科技有限公司	国新出审[2022]1654号	ISBN 978-7-498-09868-9	2022年12月10日
29	*Epic Seven*	移动	上海触控科技发展有限公司	上海紫舜信息技术有限公司	国新出审[2022]1648号	ISBN 978-7-498-09874-0	2022年12月10日
39	*A3: Still Alive*	移动	华东师范大学电子音像出版社有限公司	明日世界（上海）网络科技有限公司	国新出审[2022]1638号	ISBN 978-7-498-09884-9	2022年12月10日

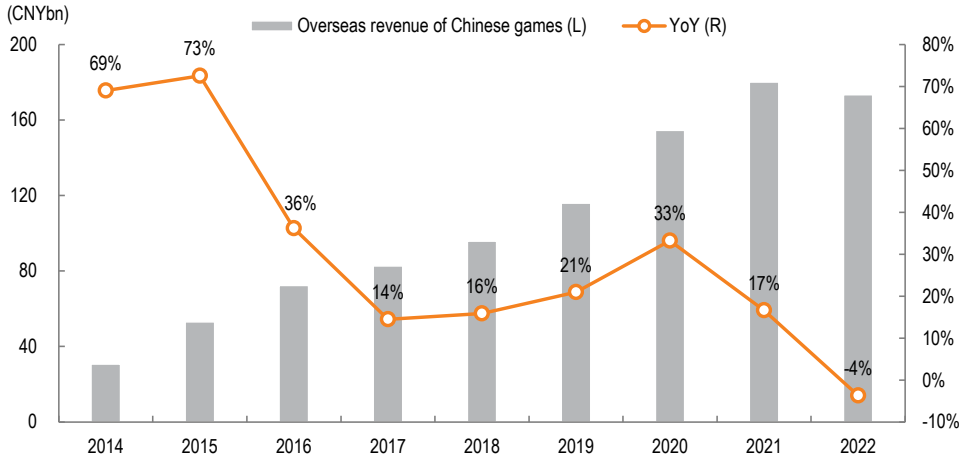
Source: China's National Press and Public Administration, Mirae Asset Securities Research

1) Multiple licenses issued to large gaming companies

A key difference between the licenses issued in Dec. 2022 and those issued in 2020 (Com2uS) and 2021(Pearl Abyss) is that the recent round of approvals included five Korean companies. Three of them (Nexon, Smilegate, and Netmarble) are among the top five domestic gaming companies by revenue. In our view, this signifies that China is confident that its gaming ecosystem is strong enough to not be threatened by the entry of foreign competition.

We believe such confidence stems from the success that Chinese companies have found in overseas markets. In particular, Tencent and NetEase have become two of the largest global gaming companies, having made successful advances into Korea, Japan, and the US. From 2017 to 2021, Chinese gaming companies recorded overseas revenue growth of around 20%, far outpacing the growth of the global gaming market (less than 10%).

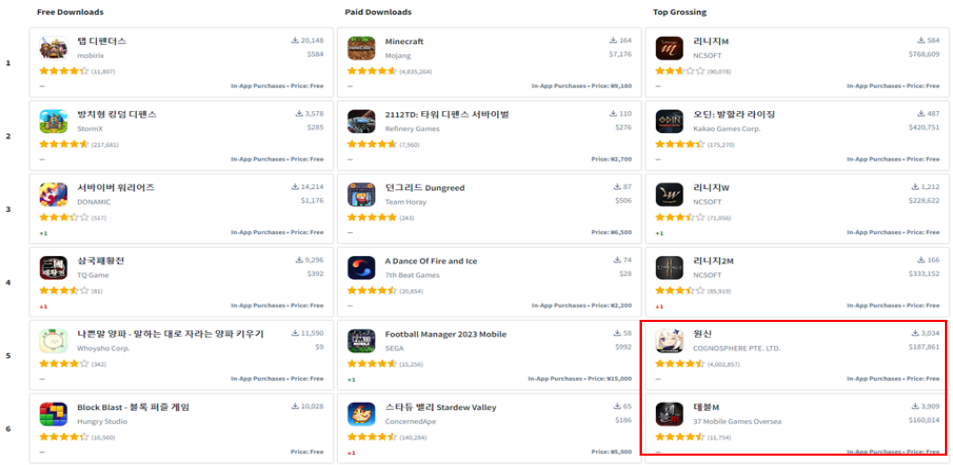
Figure 47. Overseas revenue of Chinese games



Source: "2022 China Game Industry Report," Mirae Asset Securities Research

Although the domestic market is geared more toward MMORPGs, Chinese gaming companies have already proven to be solid adversaries, with Chinese titles now commonly appearing on the list of top-grossing apps in Korea. In particular, *Genshin Impact* has ranked no. 1 in daily revenue on several occasions.

Figure 48. Two Chinese games are among six highest-grossing games in Korea (Google Play; as of Mar. 5)



Source: Sensor Tower, Mirae Asset Securities Research

2) Shorter lag between initial release and approval

Another key difference in the recent round of foreign game approvals was the much shorter lag between initial release and approval. In 2020, Com2uS's *Summoners War: Sky Arena* obtained a license more than six years after its initial release. In 2021, Pearl Abyss's *Black Desert M* was approved three years after its first release.

The longer the lag between a title's initial release and its China release, the less likely it is to do well in the country. One important reason for this is that many gamers in China use VPNs to access foreign games, meaning games that have been around for a while generate less interest when they are eventually released in the country. We believe *Black Desert M* was a flop in China mainly because of the four-year gap between its original release and its China release in Apr. 2022.

Table 1. Chinese publishing licenses issued to domestic games since Apr. 2017

Issuance	Company	Game	Genre	Domestic release
Dec. 2022	Netmarble	*Ni no Kuni*	MMORPG (subculture)	Jun. 2021
		A3: Still Alive	MMORPG	Mar. 2020
		Shop Titans	Casual RPG	May 2020
	Smilegate	*Lost Ark*	MMORPG	Nov. 2018
		Epic Seven	Collectible RPG (subculture)	Aug. 2018
	Nexon	*MapleStory M*	MMORPG	Oct. 2016
	NPIXEL	*Gran Saga*	Collectible RPG (subculture)	Jan. 2021
	Valofe	*MU Legend*	MMORPG	Mar. 2017
Jun. 2021	Pearl Abyss	*Black Desert M*	MMORPG	Feb. 2018
Dec. 2020	Com2uS	*Summoners War: Sky Arena*	RPG	Apr. 2014

Source: Mirae Asset Securities Research

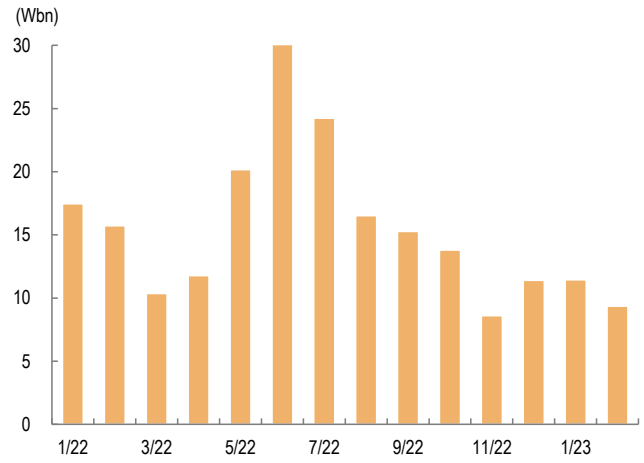
In contrast, *Ni no Kuni* and *Gran Saga* were both released in 2021, only a year before their Chinese approval. For *A3: Still Alive* and *Shop Titans*, the lag was two years—also relatively short. If the time lag between initial release and approval continues to shorten, China could begin to approve foreign titles in the same year they are released.

3) Approval of globally successful titles

It is also notable that the list of approved titles in Dec. 2022 included Korean games that are continuing to enjoy global success. *Ni no Kuni*, *MapleStory M*, and *Epic Seven* all generate revenue of over W100bn annually, while *Lost Ark* is estimated to bring in revenue of over W700bn per year. Games that are still doing well globally stand a better chance of doing well in China than titles whose popularity has dwindled. In our view, the approval of such titles is a further indication that authorities do not feel threatened by imported games and their potential success in the country.

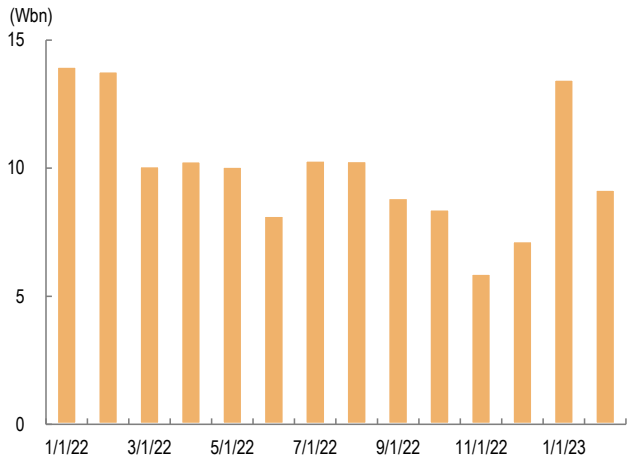
Indeed, under the current structure, Chinese companies also profit whenever an imported title becomes a massive hit in China. This is because: 1) foreign companies are not allowed to publish their own games and instead must find a publishing partner; and 2) Chinese publishers are involved in development to some extent. As such, we think there is almost zero chance of domestic companies taking a bigger cut than Chinese publishers.

Figure 49. *Ni no Kuni*: Global monthly revenue trend



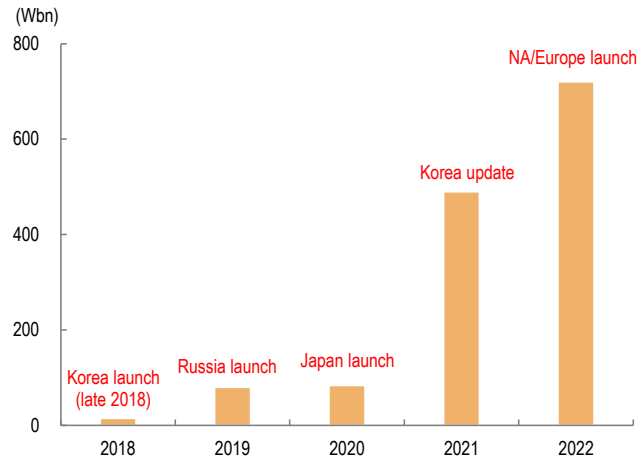
Source: Sensor Tower, Mirae Asset Securities Research estimates

Figure 50. *MapleStory M*: Global monthly revenue trend



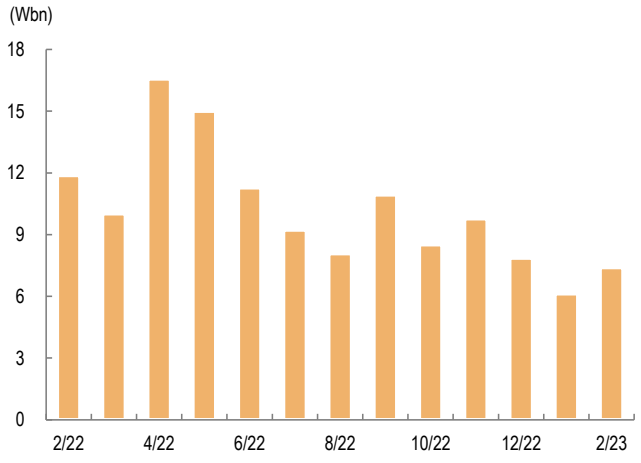
Source: Sensor Tower, Mirae Asset Securities Research estimates

Figure 51. *Lost Ark*: Annual revenue trend



Source: Mirae Asset Securities Research estimates

Figure 52. *Epic Seven*: Global monthly revenue trend



Source: Sensor Tower, Mirae Asset Securities Research estimates

Signs of easing in other content segments

Video content market also showing signs of reopening

Encouragingly, China is continuing to show signs of reopening other content segments, including dramas. The K-drama *Hometown Cha-Cha-Cha* began streaming on China's OTT platform Bilibili in January, while *My Liberation Notes* was released on Youku, one of China's largest OTT platforms, the following month. We believe the continued easing of China's stance toward Korean video content is a positive sign for the full reopening of the gaming market.

Figure 53. *Hometown Cha-Cha-Cha* began streaming on Bilibili in Jan. 2023



Source: Bilibili, Mirae Asset Securities Research

Figure 54. *My Liberation Notes* began streaming on Youku in Feb. 2023

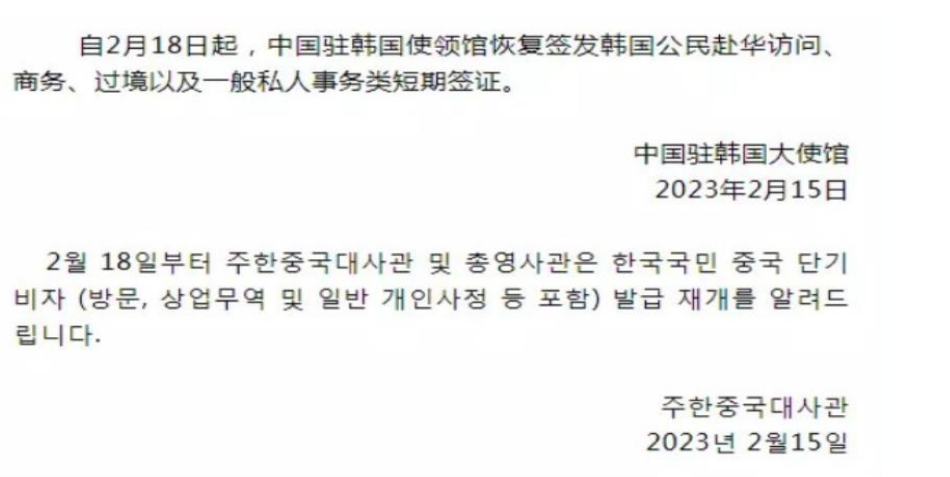


Source: Youku, Mirae Asset Securities Research

Resumption of China's visa issuance

In another positive development, China resumed short-term visa issuance for Korean travelers on Feb. 18. On Jan. 2, the Korean government had suspended issuing short-term visas to Chinese travelers due to a sharp rise in COVID-19 infections among Chinese arrivals. The Chinese government retaliated by halting the issuance of short-term visas to Koreans, heightening diplomatic tensions between the two countries. Now that the matter has been resolved, we believe China's move to reopen its content sector will continue without issue.

Figure 55. China resumes visa issuance for Korean travelers on Feb. 18



自2月18日起，中国驻韩国使领馆恢复签发韩国公民赴华访问、商务、过境以及一般私人事务类短期签证。

中国驻韩国大使馆
2023年2月15日

2월 18일부터 주한중국대사관 및 총영사관은 한국국민 중국 단기 비자 (방문, 상업무역 및 일반 개인사정 등 포함) 발급 재개를 알려드립니다.

주한중국대사관
2023년 2월15일

Source: Chinese Embassy (Korea), Mirae Asset Securities Research

IV. Key features of China's gaming market

How China's gaming market differs from Korea's

Overview of business models

1) VIP system

Most Chinese games have a "VIP" system that primarily targets low/medium spenders. Users are ranked based on their spending levels and receive tiered benefits depending on their ranking. Major perks include greater experience points, more in-game items, and larger discounts for store purchases.

The segmented VIP system encourages low/medium-level players to spend as much as possible within their limits. Because most games in China use the system, it meets little resistance from gamers.

Figure 56. VIP system of Chinese subculture game *Girl Wars* (1)



Source: Screen capture, Mirae Asset Securities Research

Figure 57. VIP system of Chinese subculture game *Girl Wars* (2)



Source: Screen capture, Mirae Asset Securities Research

2) Monthly subscriptions and passes

Chinese games also have a variety of monthly subscription/pass models. Each game typically has at least four or five such models, which mostly cost around W10,000-20,000 and target low/medium-spending players. Domestic and global games also have pass-type models, but they typically have only two at most.

Figure 58. *Girl Wars*' "Enlistment" subscription plan



Source: Screen capture, Mirae Asset Securities Research

Figure 59. *Girl Wars*' "Underground Search" subscription plan



Source: Screen capture, Mirae Asset Securities Research

3) User-customized monetization models

Chinese games feature monetization models that are customized to each player, where items for purchase become available after players reach a certain level, stage, or character grade. Prices range from W10,000 to W50,000-60,000, and players can make purchases only in certain time windows. Such models are more common in collectible RPGs and are thus often found in domestic titles.

Figure 60. *Girl Wars*' user-customized monetization model



Source: Screen capture, Mirae Asset Securities Research

Figure 61. *Eversoul*'s user-customized monetization model



Source: Screen capture, Mirae Asset Securities Research

Emphasis on community features

1) Unwavering popularity of social games

Games that can be played on China's leading messaging app WeChat still enjoy huge popularity. In addition to being highly accessible (no separate app installation required), WeChat games are appealing because they allow users to play with their friends on the messaging app. Because these games mainly target light/casual users, advertising is their primary business model.

In Korea, by contrast, social games have all but disappeared. Games linked to messaging apps (*Anipang*, *Dragon Flight*, etc.) were all the rage in Korea in the early 2010s, but they quickly lost their luster amid player fatigue/dissatisfaction.

Figure 62. Popular WeChat game *Subway Surfers*



Source: Screen capture, Mirae Asset Securities Research

Figure 63. Popular WeChat game *Sheep a Sheep*



Source: Screen capture, Mirae Asset Securities Research

Figure 64. *Subway Surfers* utilizes an ad-based business model



Source: Screen capture, Mirae Asset Securities Research

Figure 65. *Sheep a Sheep* utilizes an ad-based business model

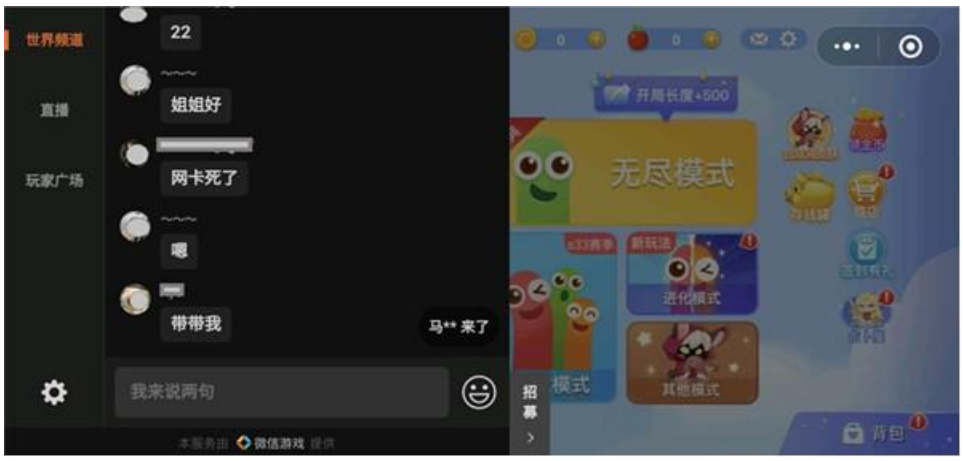


Source: Screen capture, Mirae Asset Securities Research

2) Strong social elements

In-game server chatting is a widely used feature in China, where gamers tend to prefer interacting with other gamers. Indeed, Chinese users are accustomed to games that emphasize community features. Some of the earliest Chinese mobile games were started by developers of messaging programs, such as QQ, and community elements are therefore naturally built into many Chinese games.

Figure 66. Social games: In-game server chatting is a widely used (*Merge Snake!)*



Source: Screen capture, Mirae Asset Securities Research

It is also relatively common for non-social mobile and PC games to incorporate social elements. For example, certain events may be accessible only if players log on with their friends at a certain time. In addition, some in-game systems exist to build connections (between mentors and mentees, couples, etc.). For instance, Chinese games often include a marriage system, but this is rarely found in domestic games.

Figure 67. Chinese games often include a marriage system



Source: Bilibili, Mirae Asset Securities Research

Idle games

Idle games—i.e., games that require little or player engagement—are also popular in China. Such games allow players to earn rewards (in-game currency, experience, etc.) by logging in only once or twice a day. The rewards can be used to improve game characters and advance to the next stage. The idle feature is different from auto-hunting, which is activated only when the player is in the game.

In the Chinese gaming market, where casual games are dominant, idle games appeal to users who want a low-pressure gaming experience that does not require constant engagement. This feature tends to increase a game's player retention and life cycle.

Figure 68. Auto-hunting scene from *Girl Wars*



Source: Screen capture, Mirae Asset Securities Research

Figure 69. *AFK Arena*, a popular idle game in China



Source: App Store, Mirae Asset Securities Research

Different settings

While Korean games are often set against medieval backgrounds, many Chinese games feature Asian settings and themes (martial arts, etc.). *Fantasy Westward Journey*, inspired by the Chinese novel *Journey to the West*, remains one of China's highest-grossing mobile games eight years after its release. Likewise, games inspired by China's Three Kingdoms era are hugely popular in the country.

However, as Chinese games increasingly go global, they are adopting more diversified settings. For instance, *Age of Z* and *Dawn Awakening* are set in post-apocalyptic worlds, catering to the Western preference for such settings. Games with completely unique settings are also hitting the shelves, including *Genshin Impact* and *Honkai Impact 3*.

Figure 70. ***Fantasy Westward Journey***



Source: App Store, Mirae Asset Securities Research

Figure 71. ***Three Kingdoms Tactics***



Source: App Store, Mirae Asset Securities Research

Figure 72. ***Dawn Awakening***



Source: App Store, Mirae Asset Securities Research

Figure 73. ***Honkai Impact 3***



Source: App Store, Mirae Asset Securities Research

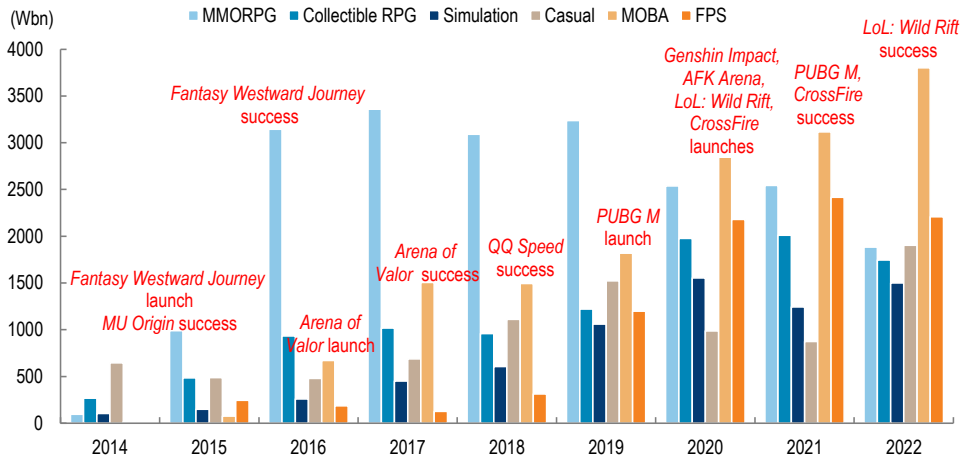
Mobile gaming market trends since 2014

Shift from casual games to MMORPGs

Until the early 2010s, casual games dominated China's mobile gaming market. In 2015, however, MMORPGs started to gain momentum with the releases of *Fantasy Westward Journey* and *MU Origin*. In 2015, the mobile game revenue share of casual games slumped to 22% (from 55% in 2014), while that of MMORPGs surged to 40% (from 8% in 2014).

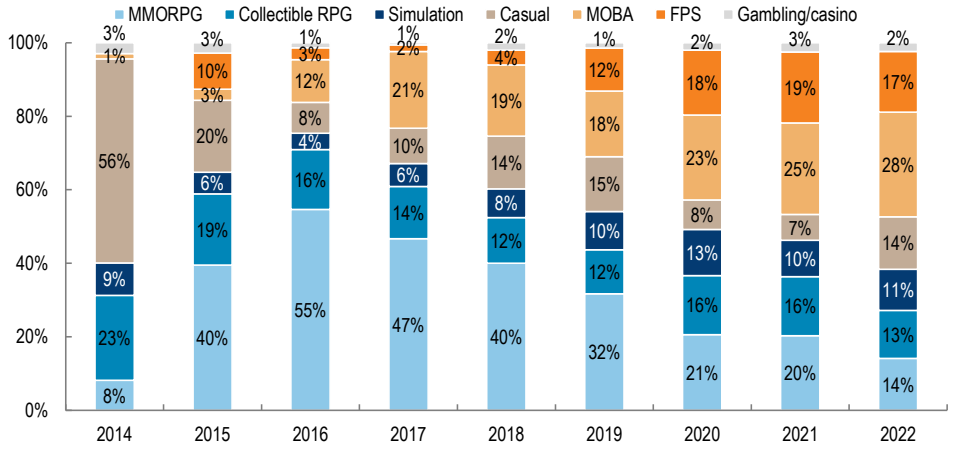
In 2016, MMORPGs' share climbed further to 55%, led by *Fantasy Westward Journey*. In comparison, MMORPGs had only a 30% revenue share in Korea in 2015-16.

Figure 74. Annual revenue trend in China by genre (App Store)



Source: Sensor Tower, Mirae Asset Securities Research estimates

Figure 75. Mobile game revenue breakdown by genre (top 50 games on iOS)



Source: Sensor Tower, Mirae Asset Securities Research estimates

Figure 76. ***MU Origin***



Source: App Store, Mirae Asset Securities Research

Figure 77. ***The Legend of Mir***



Source: App Store, Mirae Asset Securities Research

Honor of Kings and the rise of the MOBA genre

MMORPGs remained the most-played genre in China until the multiplayer online battle arena (MOBA) genre suddenly surged in popularity with the 2016 release of *Honor of Kings*—a mobile MOBA game with features similar to *League of Legends*. *Honor of Kings* was the top-grossing mobile game in 2017, driving the revenue share of MOBA games to over 20% that year (based on Sensor Tower estimates).

In 2020, the MOBA genre gained further ground with the release of *League of Legends: Wild Rift*. Despite similarities between the two titles, *Honor of Kings* has continued to generate solid revenue even as *League of Legends: Wild Rift* has enjoyed rapid growth, dispelling cannibalization concerns. As of 2022, we estimate the revenue mix of the MOBA segment at 28%.

Figure 78. ***Honor of Kings***



Source: App Store, Mirae Asset Securities Research

Figure 79. ***League of Legends: Wild Rift***



Source: App Store, Mirae Asset Securities Research

Mobile FPS games gain prominence with the release of *Game for Peace*

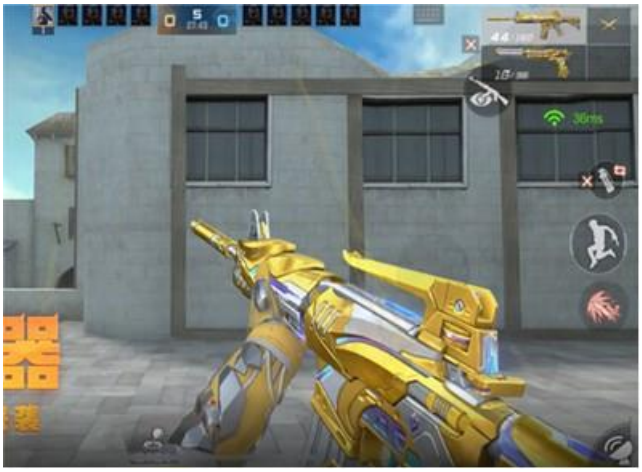
The 2019 release of *Game for Peace* (*PUBG Mobile*), jointly developed by Krafton and Tencent, boosted the popularity of mobile FPS games in China. The mobile game revenue share of the FPS segment tripled from 4% in 2018 to 12% in 2019, the year of the title's release. FPS games gained further ground in 2020 with the success of *CrossFire*. As of 2021, the FPS genre is estimated to have a revenue mix of 17%, the second largest after MOBA games.

Figure 80. *Game for Peace*



Source: App Store, Mirae Asset Securities Research

Figure 81. *CrossFire*



Source: App Store, Mirae Asset Securities Research

Collectible RPGs (subculture) go mainstream

Only 15 years ago, subculture games accounted for a mere 1-2% of total gaming revenue. However, the number spiked to 8% in 2016 after the release of *Onmyoji*. The title remained one of the five highest-grossing games for five years after its release, proving the potential of subculture collectible RPGs.

In 2020, the highly acclaimed title *Genshin Impact* (published by miHoYo) took collectible RPGs to the next level. The segment is now estimated to contribute over 10% of revenue in China's mobile gaming market.

Figure 82. *Onmyoji*



Source: App Store, Mirae Asset Securities Research

Figure 83. *Genshin Impact*



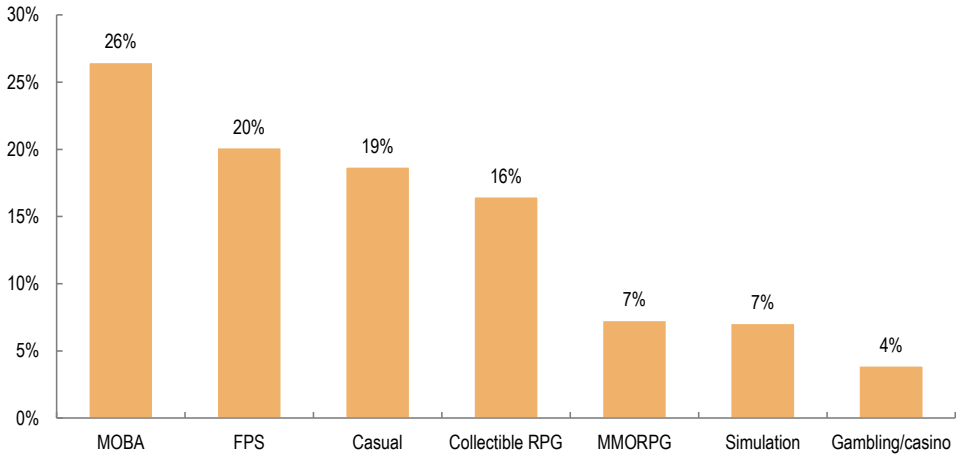
Source: App Store, Mirae Asset Securities Research

Current state in 2023

Collectible RPGs have been performing strongly, with *Chang'an Fantasy* gaining popularity following its release in late 2022. For the first two months of 2023, collectible RPGs accounted for 16% of total mobile game revenue, up from 13% in 2022. The share of casual games has expanded from 14% in 2022 to 19% in Jan.-Feb. 2023, driven by the phenomenal success of *Eggy Party* (no. 6 in revenue and 4% market share)—seen as a Chinese version of *Fall Guys*—since early 2022.

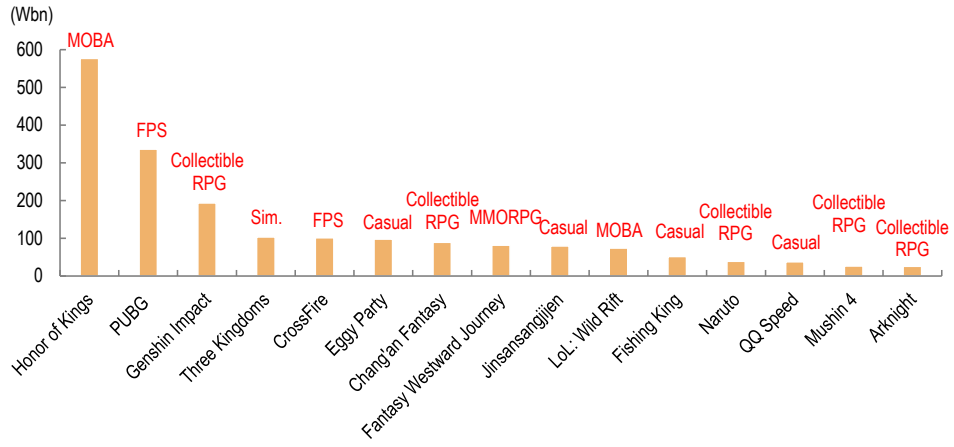
Meanwhile, a revenue rebound by *PUBG Mobile/Game for Peace* and *CrossFire M* has helped the share of FPS games recover to 20% (from 16% in 2022). And with *League of Legends: Wild Rift* retreating to the no. 10 spot, the share of MOBA games has fallen to 26% (from 28% in 2022).

Figure 84. Revenue share of top 50 mobile games by genre in Jan.-Feb. 2023 (App Store)



Source: Sensor Tower, Mirae Asset Securities Research estimates

Figure 85. Revenue of China's top 15 mobile games in Jan.-Feb. 2023 (based on App Store)



Source: Sensor Tower, Mirae Asset Securities Research estimates

V. Subculture and simulation game studios to increase in value

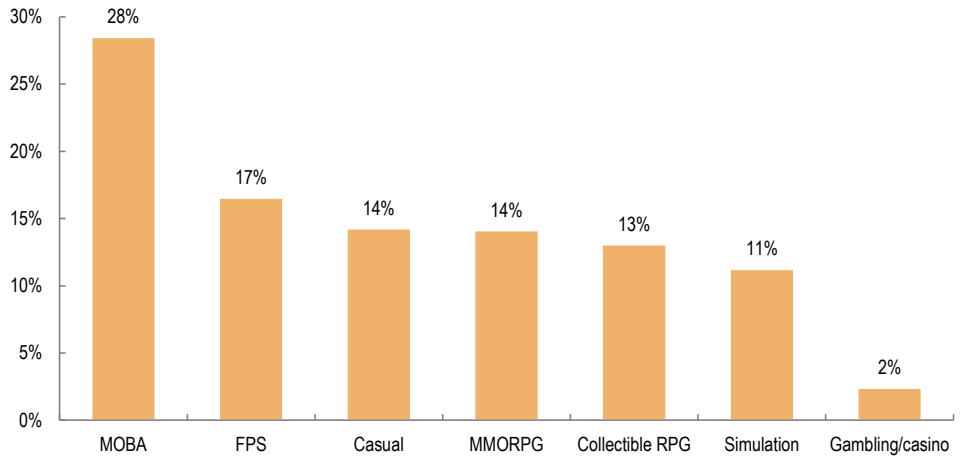
Subculture and simulation games: Better positioned in China than other genres

Continuing growth

We believe subculture and simulation games are better positioned to succeed in China than other genres. MMORPGs, a key area of strength for domestic gaming companies, are rapidly losing popularity in China. The genres that are currently popular in China include MOBA, FPS, simulation, and subculture collectible RPGs.

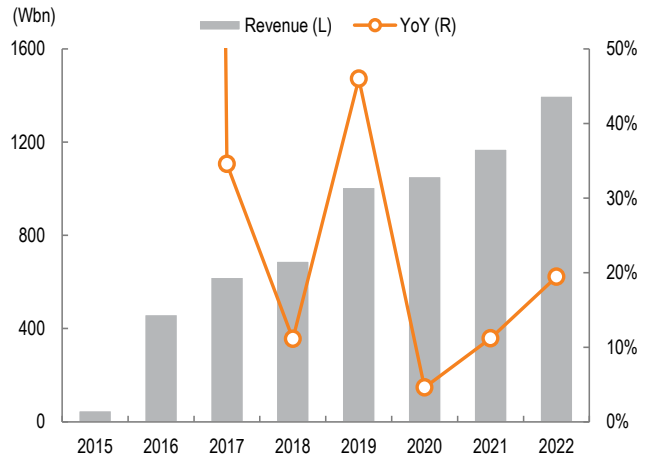
Of note, it is difficult to break into the MOBA genre, which is dominated by Tencent's *Honor of Kings* and *League of Legends: Wild Rift*. Moreover, no domestic gaming companies have strength in MOBA games. In the FPS genre, *CrossFire* (PC) and *PUBG Mobile* have become household names.

Figure 86. Revenue share of China's top 50 mobile games by genre in 2022 (App Store)



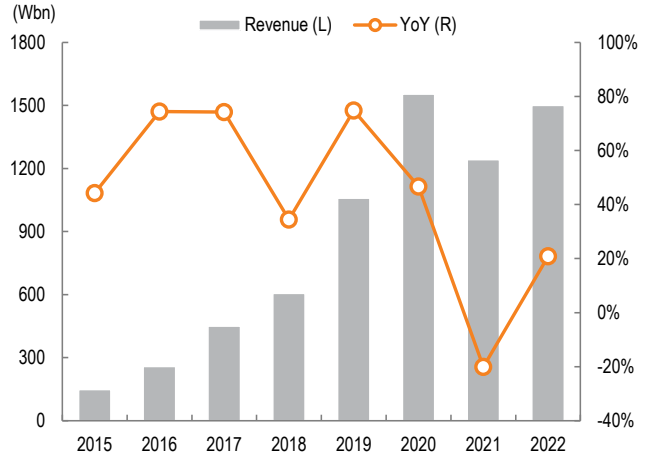
Source: Sensor Tower, Mirae Asset Securities Research estimates

Figure 87. Annual revenue trend of subculture games within China's top 50 mobile games (App Store)



Source: Sensor Tower, Mirae Asset Securities Research estimates

Figure 88. Annual revenue trend of simulation games within China's top 50 mobile games (App Store)



Source: Sensor Tower, Mirae Asset Securities Research estimates

Two types of subculture collectible RPGs

In terms of IP, subculture collectible RPGs can broadly be divided into two groups: 1) new IP games with worlds that are built from scratch (e.g., *Genshin Impact*, *Honkai Impact 3*, *Blue Archive*, and *Epic Seven*); and 2) games made from well-known existing IPs, such as *Fate/Grand Order* (Type-Moon IP), *Naruto*, and *Ni no Kuni*.

Figure 89. *Blue Archive* is based on new IP



Source: Nexon Games, Mirae Asset Securities Research

Figure 90. *Fate/Grand Order* was created from popular Japanese IP



Source: App Store, Mirae Asset Securities Research estimates

Developing a hit game based on new IP is much more challenging, as recent hit titles have raised the bar significantly. Indeed, subculture gamers will turn their backs on new games that lack a sophisticated world and seamless storyline. Furthermore, if a new IP game introduces few technical innovations, games utilizing familiar characters are more likely to prevail.

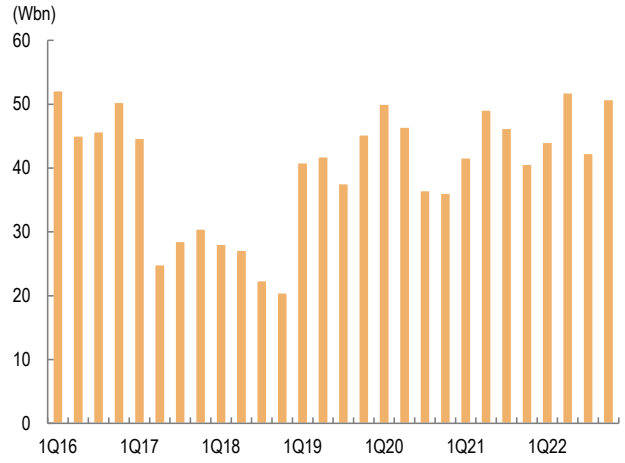
For gaming companies, creating a large-scale title with unrivaled quality like *Genshin Impact* is a formidable challenge. Indeed, *Genshin Impact* cost more than US$100mn to develop and has an annual content development budget of US$200mn.

Collectible RPGs based on globally popular IP can find success in China

Domestic companies competing with Chinese developers in the subculture genre could potentially leverage IP from popular Korean webtoons/web novels. *Naruto* and *Fate/Grand Order* are proof that games based on globally popular IP can do well in China.

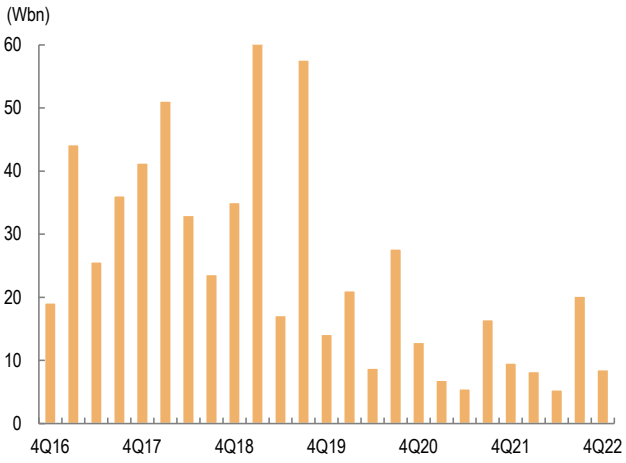
Despite being released seven years ago, *Naruto* has seen a steady increase in revenue and continues to rank among the top 20 highest-grossing games. *Fate/Grand Order*, released in 2016, also remained one of the top 20 games until 2018.

Figure 91. *Naruto*: Quarterly revenue in China (App Store)



Source: Sensor Tower, Mirae Asset Securities Research estimates

Figure 92. *Fate/Grand Order*: Quarterly revenue in China (App Store)

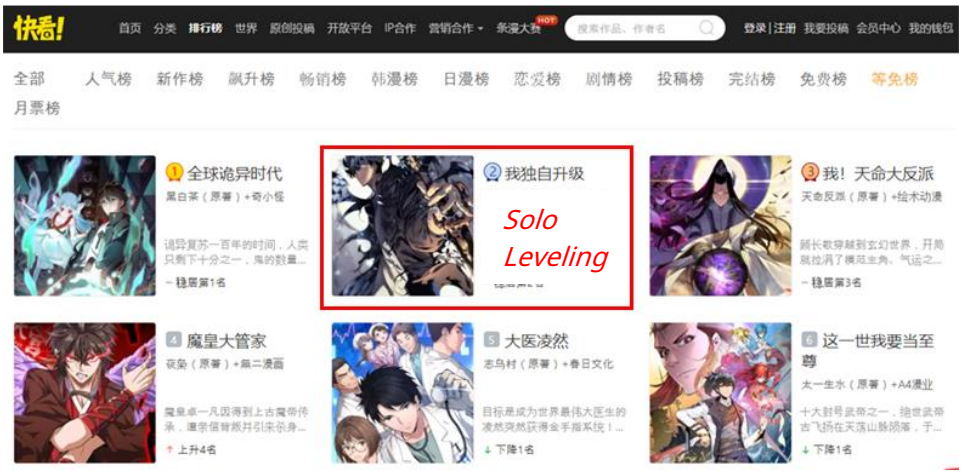


Source: Sensor Tower, Mirae Asset Securities Research estimates

Opportunities from Korean webtoon/web novel IPs

Given the growing popularity of webtoons in China, we believe games based on Korean webtoon IPs also have strong potential. Korean webtoons are often listed among the most popular titles on Kuaikan, China's no. 1 webtoon platform (over 500,000 monthly App Store downloads).

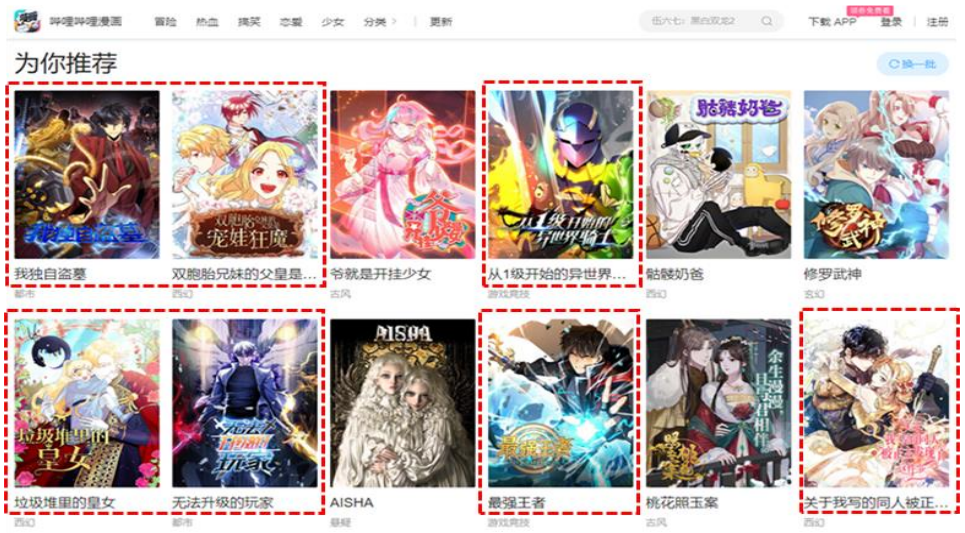
Figure 93. Popular webtoons on Kuaikan: The Korean title *Solo Leveling* is ranked no. 2



Source: Kuaikan, Mirae Asset Securities Research

Solo Leveling is the second most popular webtoon on Kuaikan's "pay-or-wait" list. Korean webtoons also have a strong presence on Bilibili Comics, another popular webtoon platform, where they are often found on the top 10 list (alongside Japanese manga).

Figure 94. Bilibili Comics, a popular Chinese webtoon platform



Source: Bilibili Comics, Mirae Asset Securities Research

Differentiation through storylines

We believe Korean webtoon IP can help differentiate domestic companies, given that Chinese subculture games are generally seen as having weak storylines. In China, books or comics that tackle societal issues in detail or depict real-world conflicts are rarely published, as authorities generally prohibit content that goes against the country's socialist views.

Instead, most of the webtoons popular in China are either: 1) simple romance stories; or 2) martial arts/fantasy stories with supernatural elements and uncomplicated narratives (the protagonist becomes stronger and destroys his/her enemies). They also generally feature very few supporting characters that grow alongside the protagonist or villains that elevate the story. This difference in story quality partly explains why so many more Korean webtoons have found global success than Chinese ones. In games, which require a large number of characters to encourage spending, such weak storylines can be a major liability.

Figure 95. Popular Chinese webtoons on Bilibili Comics



Source: Bilibili Comics, Mirae Asset Securities Research

Censorship is one of the biggest reasons why China has relatively few games developed from homegrown IP. Most Chinese games based on new IP feature post-apocalyptic themes, which partly reflects a desire to avoid censorship. It should also be noted that the initial success of *Genshin Impact* was largely due to the game's technical sophistication rather than its world or storylines. After the game became a hit, its world was expanded and enhanced, contributing to its ongoing success.

Figure 96. *Girls' Frontline* and its apocalyptic theme



Source: App Store, Mirae Asset Securities Research

Figure 97. *Arknights* and its apocalyptic theme



Source: App Store, Mirae Asset Securities Research

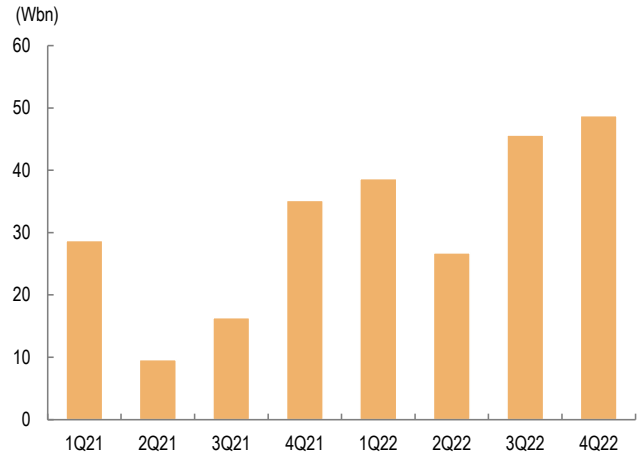
While it is possible for Chinese gaming companies to license Korean webtoon IPs to develop new titles, we believe the chances are low. The uncertainty surrounding regulatory approval always hangs over Chinese companies, making it a risky prospect to develop a new title based on foreign content. Domestic gaming companies, meanwhile, can create new titles based on popular IPs that target global audiences and opt for a Chinese version if they happen to gain approval.

Extended life cycles

We believe subculture collectible RPGs that find success among Chinese players are likely to generate revenue over an extended period, in stark contrast to MMORPGs and console games, which typically see more front-loaded revenue. In particular, MMORPGs tend to display a steeper downward revenue slope than games in other genres. This is mainly because, as time goes by, new players tend to get discouraged by their lack of competitiveness relative to more seasoned players who have made heavy time and financial investments.

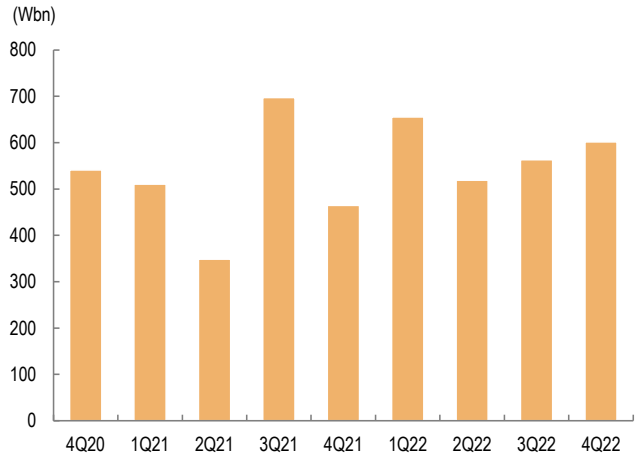
On the other hand, non-MMORPG games tend to generate long-term revenue by slowly converting initial players into loyal users. Unless the game encourages excessive spending or features severe inflation in in-game items, players tend to make steady purchases and develop a strong attachment. For reference, the blockbuster game *Genshin Impact* has avoided a revenue downturn despite being released more than two years ago.

Figure 98. *Blue Archive*: Global quarterly revenue trend



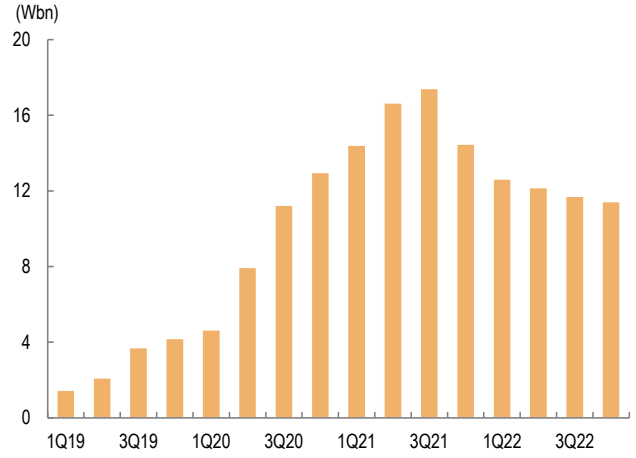
Source: Sensor Tower, Mirae Asset Securities Research estimates

Figure 99. *Genshin Impact*: Global quarterly revenue trend



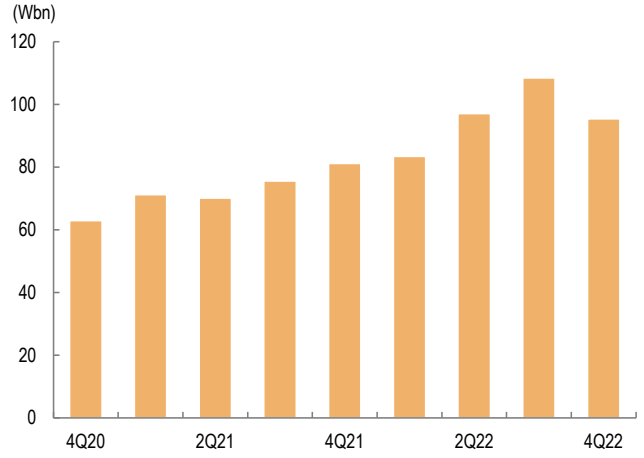
Note: For China, only App Store (iOS) revenue is included
Source: Sensor Tower, Mirae Asset Securities Research estimates

Figure 100. *Gunship Battle*: Global quarterly revenue trend



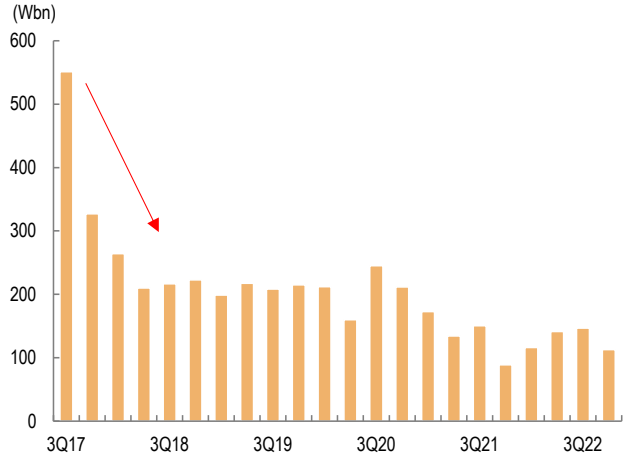
Source: Sensor Tower, Mirae Asset Securities Research estimates

Figure 101. *Rise of Kingdoms*: Global quarterly revenue trend



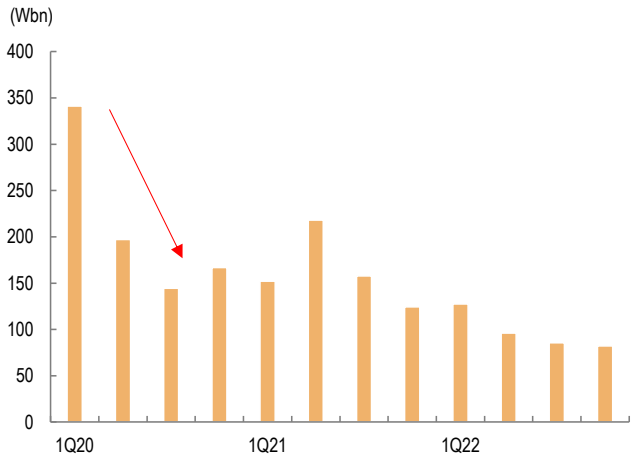
Source: Sensor Tower, Mirae Asset Securities Research estimates

Figure 102. *Lineage M*: Quarterly revenue trend



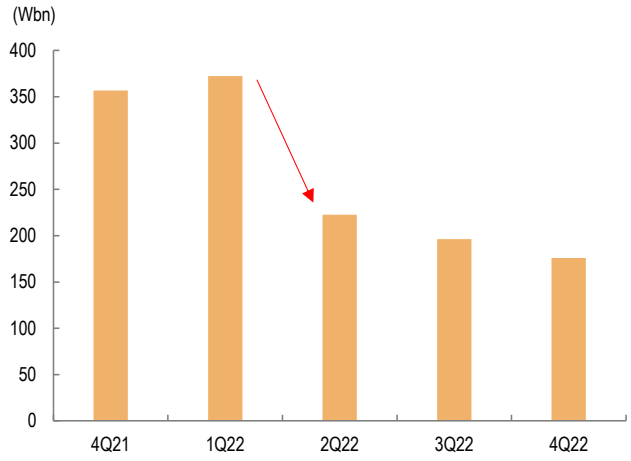
Source: Sensor Tower, Mirae Asset Securities Research estimates

Figure 103. *Lineage 2M*: Quarterly revenue trend



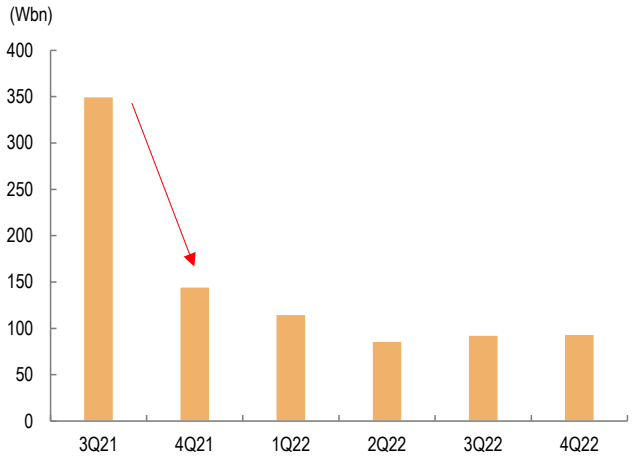
Source: Sensor Tower, Mirae Asset Securities Research estimates

Figure 104. *Lineage W*: Quarterly revenue trend



Source: Sensor Tower, Mirae Asset Securities Research estimates

Figure 105. *Odin:* Quarterly revenue trend



Source: Sensor Tower, Mirae Asset Securities Research estimates

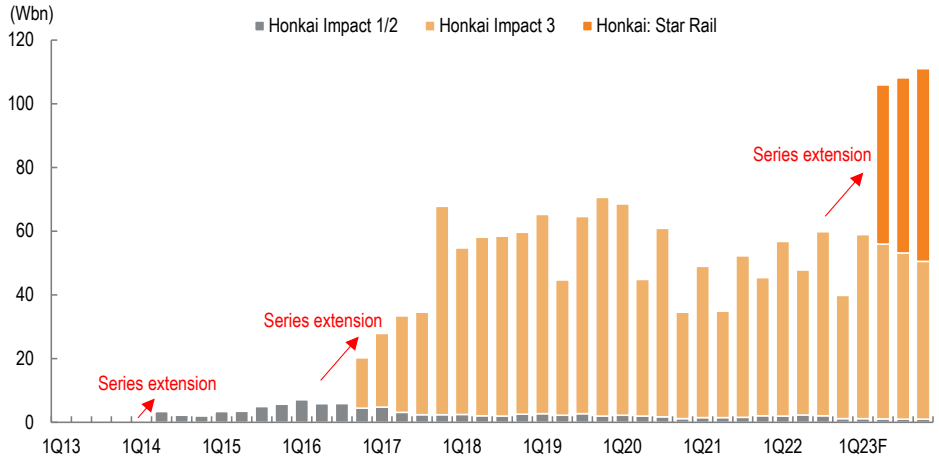
Subculture sequels enjoy higher chances of success

Strong world-building and character development pave the way for sequels

Subculture games tend to be extremely story-driven. Titles that leverage existing IP, such as *Fate/Grand Order* (Type-Moon IP), enjoy strong support from fans of the source material, who are curious about how their favorite characters and storylines will evolve. And developers of completely original subculture games focus on creating compelling storylines that can sustain interest across various sequels.

In comparison, MMORPGs tend not to be story-driven, which makes IP extension difficult. For example, despite the longstanding success of the *Lineage* titles (enabled by successful adaptations on various platforms), there are no further sequels in the works, due to insufficient interest in the series' IP. The same is true of other non-subculture mobile/PC games

Figure 106. *Honkai* series: Quarterly revenue trend



Note: *Honkai: Star Rail*'s second CBT has been completed, with pre-registrations surpassing 5mn.
Source: Mirae Asset Securities Research

MiHoYo's *Honkai* series is a prime example of IP extension. Starting with the title *FlyMe2theMoon* (Sep. 2012), the developer continued to develop and extend the game's IP. The series started to gain a major following in 2014 with *Honkai Impact 2* and found global success in 2017 with the release of *Honkai Impact 3.* We expect the much-anticipated *Honkai: Star Rail* (1H23) to build on this success.

Figure 107. MiHoYo's *Honkai* series is a prime example of IP extension



Source: HoYoverse, App Store, Mirae Asset Securities Research

Continuous world-building through adaptations

Game companies can also help boost the popularity of their titles by extending their IP to other forms of media (animated series, comics, films, etc.). For over two decades, Type-Moon has released animated series, comics, and films based on the IP originally introduced in *Fate/stay night*. Since its 2015 release, *Fate/Grand Order*, a game based on the *Fate/stay night* world, has set multiple records in Japan, China, and the US.

Figure 108. *Fate/stay night* (visual novel; 2004)



Source: YouTube, Type-Moon, Mirae Asset Securities Research

Figure 109. *Fate/stay night* (manga; 2006-12)



Source: NAVER Books, Mirae Asset Securities Research

Figure 110. *Fate/stay night* (animated series; 2006)



Source: YouTube, Studio Deen, Mirae Asset Securities Research

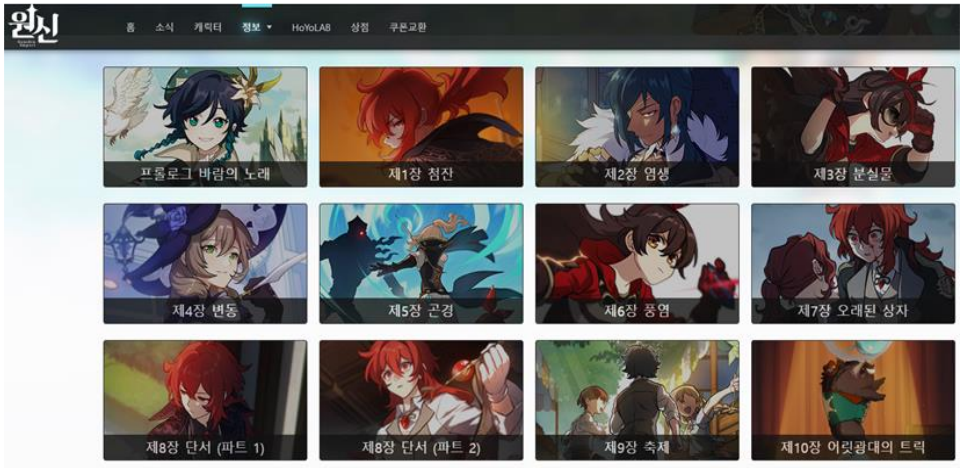
Figure 111. *Fate/stay night: Unlimited Blade Works* (movie; 2009), *Fate/stay night: Heaven's Feel* (2017)



Source: NAVER Movies, Mirae Asset Securities Research

Notably, miHoYo's *Honkai* IP extension efforts have included offline events, merchandise, and adaptations (animated series). And *Genshin Impact* has spawned webtoons and animated series aimed at developing and enriching the storylines and world introduced by the game. We believe *Blue Archive*, one of the most successful games in Japan, is set to follow in the footsteps of these two IPs (animated series in development).

Figure 112. *Genshin Impact* webtoon (with content updates)



Source: HoYoverse, Mirae Asset Securities Research

Figure 113. *Blue Archive* to be adapted into an animated series



Source: Nexon Games, Mirae Asset Securities Research

Company analysis

Nexon Games (225570 KQ/Buy) Strength in subculture and FPS games to stand out

JoyCity (067000 KQ/Buy) Competitiveness in simulation/subculture games gaining attention

Netmarble (251270 KS/Buy) Plenty of room for growth in China

Kakao Games (293490 KQ/Buy) Indirect beneficiary of genre diversification

COMPANY ANALYSIS

[Korea] Games

March 15, 2023

Nexon Games

(225570 KQ)

Strength in subculture and FPS games to stand out

Buy
(Initiate)

TP: W19,000
Upside: 45.0%

Mirae Asset Securities Co., Ltd.
HeeSeok Lim heeseok.lim@miraeasset.com

Initiating coverage

Initiate at Buy with TP of W19,000

- We derived our target price on Nexon Games by applying a P/E of 25x to our 2024F EPS. Our target P/E represents the average multiple of NCsoft from 2H19 to 1H20.
- Nexon Games' stock, which had corrected due to a sharp downward stabilization in revenue from *Heroes of Incredible Tales 2* (*HIT2*; 3Q22), has been trading sideways.
- New title momentum should pick up from 2Q23 as details emerge on the release schedules of three new titles coming out this year (*Veiled Experts*, *The First Descendant*, and *Godsome*).
- If China continues to reopen its gaming market, we believe the company's strength in subculture games will come into focus.

Competitively positioned across diverse genres

Strong development capabilities across subculture, FPS, and MMORPG genres

- The subculture game *Blue Archive* is still the 10th highest-grossing mobile game in Japan despite being launched more than two years ago.
- *Sudden Attack* was released more than 17 years ago but continues to hold the largest domestic market share among FPS games.
- We believe Nexon Games is well-positioned to benefit from changes in the domestic gaming industry, which has started to shift toward non-MMORPGs.

China likely to continue to reopen, presenting opportunities

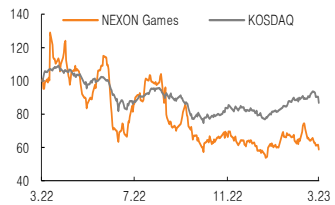
- We expect China to continue to reopen its gaming market, which contracted 10% in 2022.
- Even as the overall market has contracted, subculture and FPS games have continued to gain market share (11% and 20%, respectively) and expand revenue in China. In our view, Nexon Games has greater potential for success in China than other companies, given its strength in both genres.

Earnings outlook

Rebound in *Blue Archive* revenue to drive growth in 2023

- For 2023, we look for revenue of W183bn (+38% YoY) and operating profit of W15bn (+199% YoY).
- We forecast *Blue Archive*'s 2023 revenue to grow 53% YoY to W86bn thanks to the effects of the title's second-anniversary update.
- We forecast labor costs to rise 32% YoY to W127bn amid continued aggressive hiring (around 300 new hires for 2023).
- Margin improvements driven by an expanded new title lineup should materialize after 3Q23.

Key data



Current price (3/14/23, W)	13,100	Market cap (Wbn)	861
OP (22, Wbn)	5	Shares outstanding (mn)	66
Consensus OP (22F, Wbn)	-	Free float (%)	33.5
EPS growth (22, %)	-	Foreign ownership (%)	1.7
P/E (22, x)	120.8	Beta (12M)	1.61
Market P/E (22, x)	11.6	52-week low (W)	12,000
KOSDAQ	758.05	52-week high (W)	28,700

Share performance

(%)	1M	6M	12M
Absolute	-8.9	-22.5	-41.1
Relative	-6.3	-19.9	-32.2

Earnings and valuation metrics

(Dec.)	2019	2020	2021	2022	2023F	2024F
Revenue (Wbn)	-	-	-	132	183	248
OP (Wbn)	-	-	-	5	15	63
OP margin (%)	-	-	-	3.8	8.2	25.4
NP (Wbn)	-	-	-	6	12	50
EPS (W)	-	-	-	107	187	762
ROE (%)	-	-	-	2.6	5.1	18.3
P/E (x)	-	-	-	120.8	69.9	17.2
P/B (x)	-	-	-	3.2	3.1	2.6
Div. yield (%)	-	-	-	0.0	0.0	0.0

Notes: Under non-consolidated K-IFRS; NP is attributable to owners of the parent
Source: Company data, Mirae Asset Securities Research estimates

MIRAE ASSET Securities

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Earnings outlook and valuation

Earnings outlook

For 2023, we expect Nexon Games to record revenue of W183bn (+38% YoY) and operating profit of W15bn (+199% YoY). We forecast that revenue from *Blue Archive* will grow 53% YoY to W86bn, driving overall growth. The title has continued to see robust traffic following a January update celebrating its second anniversary in Japan. In addition, revenue generation from three new titles coming out this year—*Veiled Experts*, *The First Descendant*, and *Godsome*—should begin in 2H23.

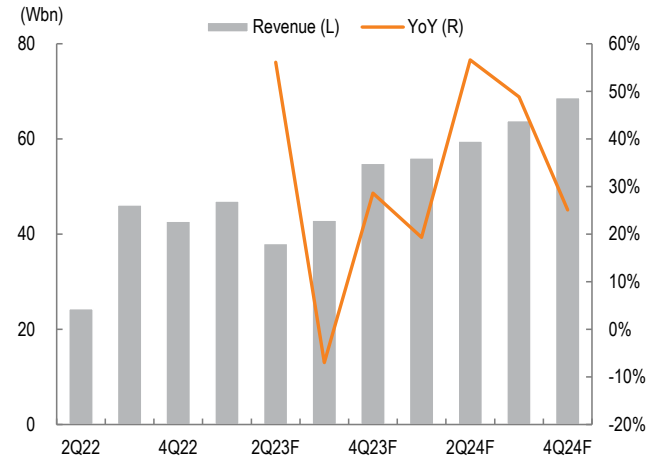
We see 2023 operating expenses rising 32% YoY to W167bn. Nexon Games, which has a current head count of around 1,000, plans to continue its aggressive hiring policy by adding around 300 employees this year. With the company continuing to spend heavily on development, margin improvements should begin to materialize in 2024, supported by full-year revenue recognition for the three aforementioned titles.

Table 2. Quarterly and annual earnings (Wbn)

	1Q22	2Q22	3Q22	4Q22	1Q23F	2Q23F	3Q23F	4Q23F	2022	2023F	2024F
Revenue	**19.2**	**24.4**	**46.2**	**42.7**	**47.0**	**38.0**	**42.9**	**54.9**	**132.4**	**182.8**	**248.1**
(YoY)					145.2%	56.1%	-7.0%	28.6%		38.1%	35.7%
Mobile	19.2	14.3	36.3	33.1	37.5	28.7	26.9	35.6	102.8	128.7	164.7
PC		9.7	9.5	9.3	9.1	8.9	15.7	19.0	28.5	52.7	82.0
Other		0.4	0.4	0.4	0.4	0.4	0.4	0.4	1.1	1.4	1.4
Operating expenses	**20.7**	**31.2**	**37.2**	**38.2**	**39.6**	**41.1**	**42.6**	**44.2**	**127.2**	**167.4**	**185.5**
Labor	16.9	24.4	27.0	28.4	29.7	31.0	32.4	33.9	96.6	127.0	143.2
Stock rewards	1.0	2.1	4.4	4.3	4.4	4.5	4.6	4.7	11.8	18.2	19.7
Commissions	0.9	2.2	3.3	2.9	3.0	3.0	3.0	3.0	9.3	12.0	12.5
Other	2.0	2.6	2.5	2.5	2.5	2.5	2.5	2.5	9.5	10.1	10.1
OP	**-1.5**	**-6.8**	**9.0**	**4.5**	**7.3**	**-3.0**	**0.3**	**10.8**	**5.2**	**15.4**	**62.6**
(YoY)					TTB	RR	-96.1%	138.9%		198.9%	306.5%
OP margin	-7.9%	-28.0%	19.5%	10.5%	15.6%	-8.0%	0.8%	19.6%	3.9%	8.4%	25.2%
NP attributable to owners of the parent	**-1.8**	**-6.0**	**10.1**	**3.7**	**5.9**	**-2.4**	**0.3**	**8.6**	**6.0**	**12.3**	**50.1**
Net margin	-9.1%	-24.5%	21.8%	8.7%	12.5%	-6.4%	0.6%	15.7%	4.6%	6.7%	20.2%

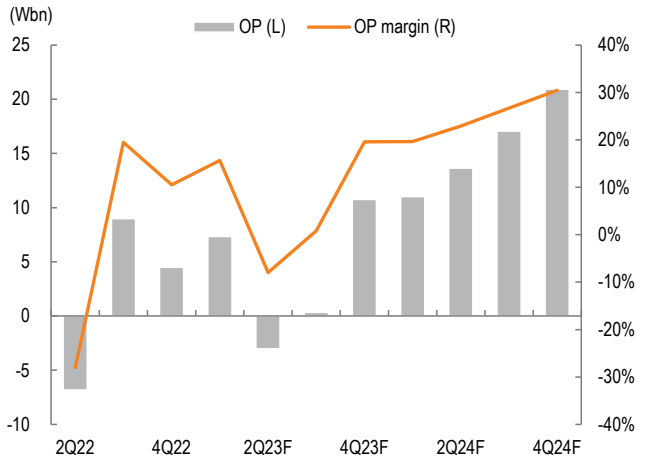
Source: Company data, Mirae Asset Securities Research

Figure 114. Quarterly revenue outlook



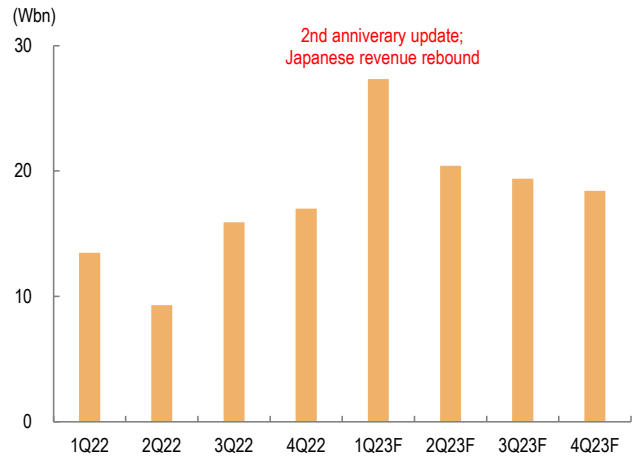
Source: Company data, Mirae Asset Securities Research

Figure 115. Quarterly OP outlook



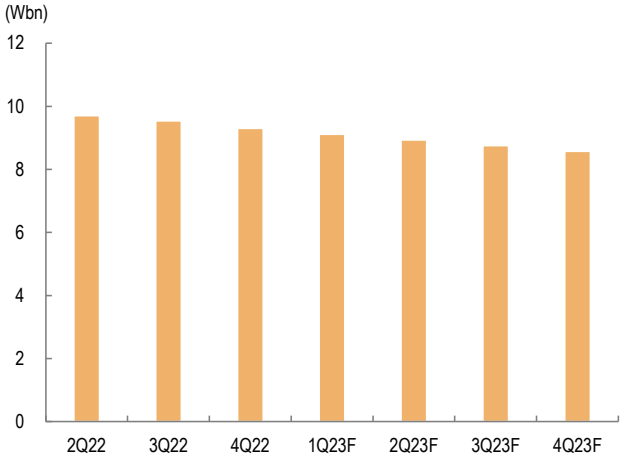
Source: Company data, Mirae Asset Securities Research

Figure 116. *Blue Archive*: Quarterly revenue (based on developer's share)



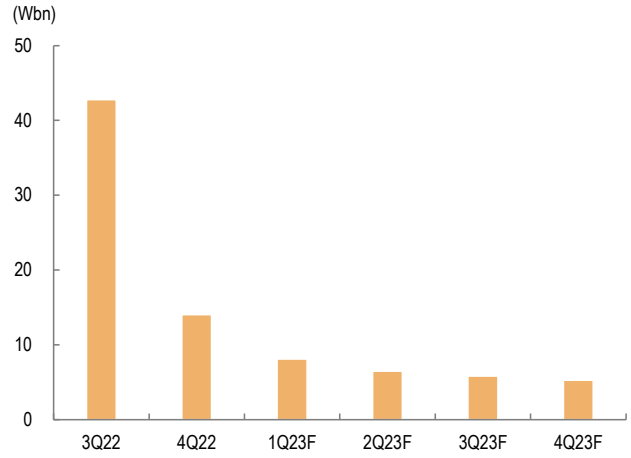
Source: Mirae Asset Securities Research estimates

Figure 117. *Sudden Attack*: Quarterly revenue (based on developer's share)



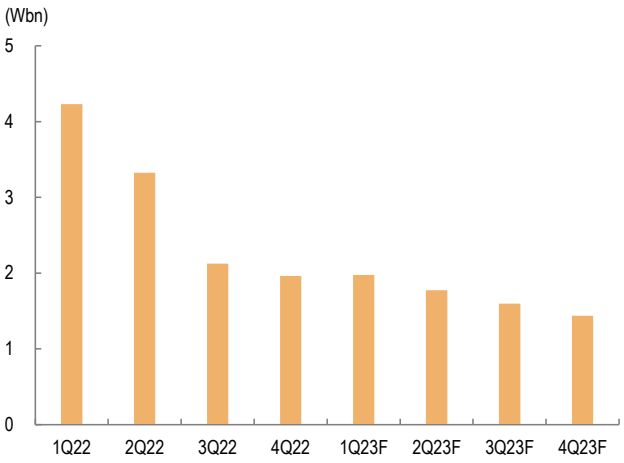
Source: Mirae Asset Securities Research estimates

Figure 118. *HIT2*: Quarterly revenue (based on developer's share)



Source: Mirae Asset Securities Research estimates

Figure 119. *V4*: Quarterly revenue (based on developer's share)



Source: Mirae Asset Securities Research estimates

Valuation

We derived our target price of W19,000 on Nexon Games by applying a P/E of 25x to our 2024F EPS of W762. Our target P/E represents the average multiple of NCsoft from 2H19 to 1H20 (when the company's expanded lineup drove margin improvements). The stock is currently trading at a 2024F P/E of 17x. With spending set to increase, we expect new title expectations (rather than earnings momentum) to be the stock's main catalyst in 2023.

New title momentum should strengthen as more details emerge on the release schedules of the three new titles coming out this year: *Veiled Experts* (FPS/TPS), *The First Descendant* (looter shooter), and *Godsome* (simulation). In the medium and long term, as domestic game genres become more diversified and China continues to reopen, we believe Nexon Games' proven development capabilities across diverse genres (subculture, FPS, MMORPG, etc.) will gain increasing attention.

Table 3. Valuation

	Value	Notes
2024F NP attributable to owners of the parent (Wbn)	50	
Target P/E (x)	25	NCsoft's avg. multiple in 2H19-1H20, when the company's expanded lineup drove margin improvements
Target market cap (Wbn)	1,253	
No. of shares ('000)	65,761	
TP (W)	19,000	
CP (W)	13,100	
Upside	45.0%	

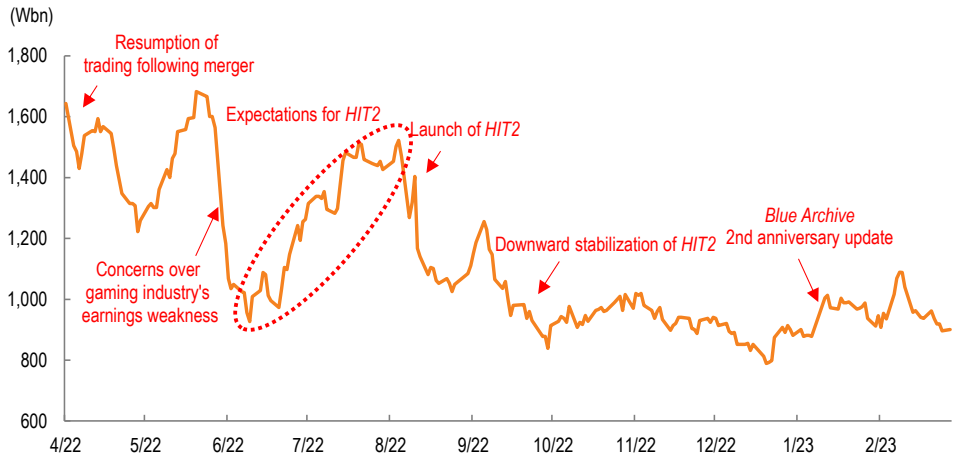
Source: Mirae Asset Securities Research

Table 4. Annual earnings and valuation (Wbn, x)

	2020	2021	2022	2023F	2024F
Revenue	109	119	132	183	248
OP	29	23	5	15	63
NP attributable to owners of the parent	30	19	6	12	50
P/S (avg.)	5.7	7.5	9.0	4.7	3.5
P/E (avg.)	20.6	46.5	196.5	69.8	17.2

Notes: 2020-21 earnings figures represent combined results of NAT Games and Nexon GT; multiples are based on the combined market cap of the two companies.
Source: Company data, Mirae Asset Securities Research

Figure 120. Market cap trend



Source: Mirae Asset Securities Research

Table 5. Global peer valuation table (Wbn, x, %)

	Market cap	P/E		P/S		P/B		EV/EBITDA		OP margin	
		23F	24F	23F	24F	23F	24F	23F	24F	23F	24F
Krafton (Korea)	8,050	14.8	13.4	4.4	4.1	1.4	1.2	7.0	6.5	35.4	35.1
NCsoft	8,705	17.8	14.6	3.4	3.0	2.3	2.0	10.3	8.5	21.7	23.8
Netmarble	4,805	79.7	37.2	1.6	1.5	0.9	0.9	20.3	16.2	2.1	4.2
Pearl Abyss	2,691	33.3	14.0	5.8	3.0	3.4	2.4	26.6	10.0	15.2	21.5
Kakao Games	3,556	19.8	16.6	2.5	2.2	1.7	1.5	12.5	10.8	18.7	19.4
Wemade	1,714	59.9	21.1	2.5	2.1	3.8	3.4	37.7	15.4	4.9	12.5
Com2uS	890	19.2	17.9	1.1	1.0	0.7	0.7	18.1	13.1	3.6	4.5
NHN	963	16.9	12.6	0.4	0.4	0.5	0.5	4.0	3.5	3.4	4.0
DoubleU Games	772	6.0	5.4	1.2	1.1	0.9	0.8	3.0	2.8	29.8	30.3
Webzen	603	10.5	9.2	2.5	2.2	0.9	0.8	6.6	5.6	27.7	28.7
Neowiz	940	12.2	12.9	2.2	2.1	1.7	1.5	7.7	8.3	21.1	19.4
JoyCity	304	14.9	9.3	1.6	1.4	2.5	2.0	13.4	9.2	13.3	17.5
Activision Blizzard (US)	79,675	20.4	19.4	6.5	6.4	2.8	2.5	15.4	13.8	35.1	37.9
Electronic Arts	39,014	18.1	17.0	4.2	4.0	4.0	3.8	12.4	11.8	29.1	29.7
Take-Two Interactive	24,303	30.7	21.8	3.5	3.0	2.0	2.0	23.1	17.5	15.5	15.3
Nintendo (Japan)	64,860	15.0	16.5	4.1	4.3	2.7	2.5	9.3	10.4	31.6	31.5
Nexon	25,746	23.9	20.7	6.4	5.9	2.8	2.4	14.8	13.2	32.5	33.6
Bandai Namco	18,007	18.3	17.9	1.9	1.8	2.9	2.7	10.3	9.8	13.8	14.1
Konami	8,831	22.8	17.0	2.9	2.7	2.3	2.1	10.0	8.1	17.2	21.2
CyberAgent	5,499	29.9	19.3	0.8	0.7	3.5	3.0	8.6	7.0	6.5	7.6
Square Enix	7,421	16.4	15.8	2.2	2.0	2.4	2.1	10.7	7.9	14.2	17.8
Tencent (China)	547,765	25.1	20.8	5.2	4.7	3.2	2.8	18.6	15.8	29.1	29.4
NetEase	71,811	16.4	14.7	3.6	3.3	5.0	4.7	11.6	10.2	21.8	22.4
Kingsoft	6,299	61.2	51.9	4.4	3.6	1.5	1.4	10.5	7.9	22.7	24.2
Youzu Interactive	1,926	81.2	31.2	5.3	5.3	2.1	2.0	40.5	22.3	3.4	12.6
Ubisoft (France)	3,897	-	13.0	1.4	1.2	1.8	1.6	4.3	3.6	-28.3	14.9

Source: Bloomberg, Mirae Asset Securities Research

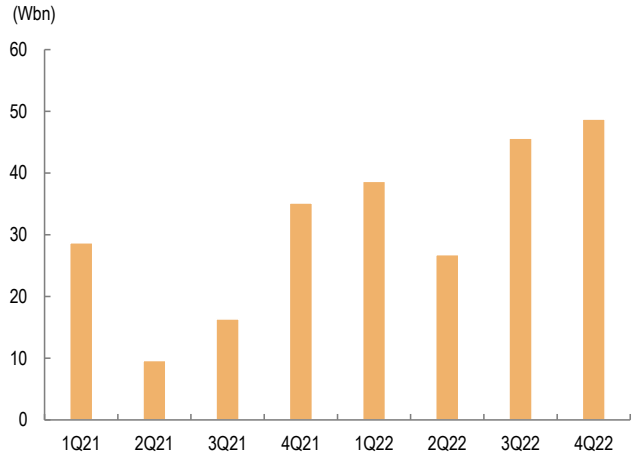
Subculture game development capability to come into greater focus

1. Subculture games enjoy extended life cycles

We believe subculture collectible RPGs that find success among Chinese players are likely to generate revenue over an extended period, in stark contrast to MMORPGs and console games, which typically see more front-loaded revenue. In particular, MMORPGs tend to display a steeper downward revenue slope than games in other genres. This is mainly because, as time goes by, new players tend to get discouraged by their lack of competitiveness relative to more seasoned players who have made heavy time and financial investments.

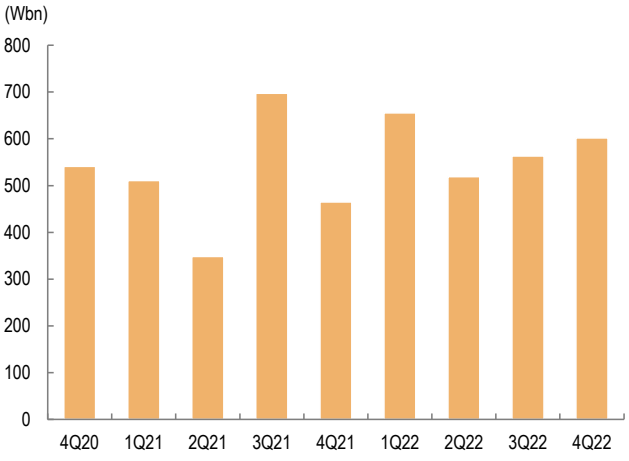
On the other hand, subculture games tend to generate long-term revenue by slowly converting new players into loyal users. Unless the game encourages excessive spending or features severe inflation in in-game items, players tend to make steady purchases and develop a strong attachment. For reference, the blockbuster game *Genshin Impact* has avoided a revenue downturn despite being released more than two years ago.

Figure 121. *Blue Archive*: Global quarterly revenue



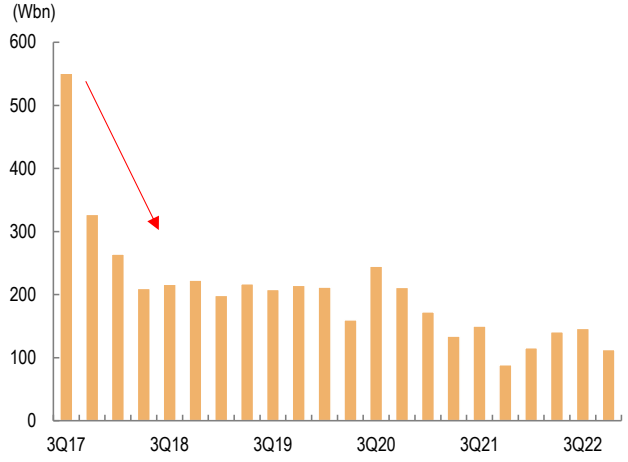
Source: Sensor Tower, Mirae Asset Securities Research estimates

Figure 122. *Genshin Impact*: Global quarterly revenue



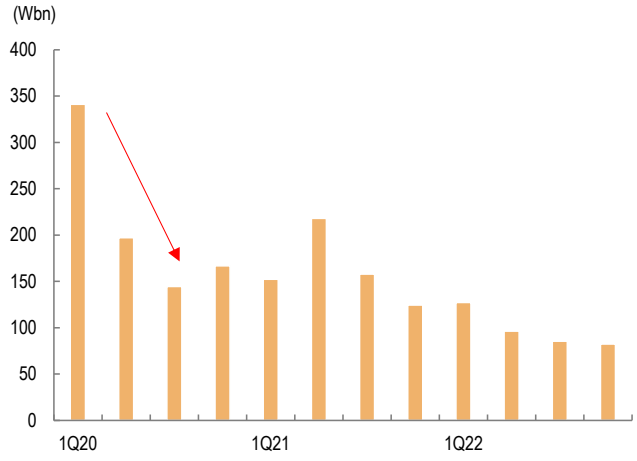
Note: For China, only App Store (iOS) revenue is included
Source: Sensor Tower, Mirae Asset Securities Research estimates

Figure 123. *Lineage M*: Quarterly revenue



Source: Sensor Tower, Mirae Asset Securities Research estimates

Figure 124. *Lineage 2M*: Quarterly revenue



Source: Sensor Tower, Mirae Asset Securities Research estimates

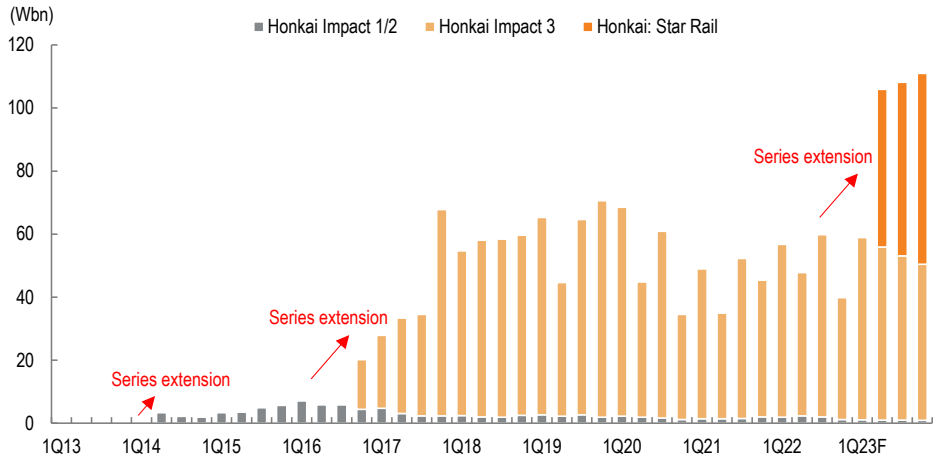
2. Subculture sequels enjoy higher chances of success

Strong world-building and character development pave the way for sequels

Subculture games tend to be extremely story-driven. Titles that leverage existing IP, such as *Fate/Grand Order* (Type-Moon IP), enjoy strong support from fans of the source material, who are curious about how their favorite characters and storylines will evolve. And developers of completely original subculture games focus on creating compelling storylines that can sustain interest across various sequels.

In comparison, MMORPGs tend not to be story-driven, which makes IP extension difficult. For example, despite the longstanding success of the *Lineage* titles (enabled by successful adaptations on various platforms), there are no further sequels in the works, due to insufficient interest in the series' IP. The same is true of other non-subculture mobile/PC games.

Figure 125. *Honkai* series: Quarterly revenue



Note: *Honkai: Star Rail*'s second CBT has been completed, with pre-registrations surpassing 5mn.
Source: Mirae Asset Securities Research

MiHoYo's *Honkai* series is a prime example of IP extension. Starting with the title *FlyMe2theMoon* (Sep. 2012), the developer continued to develop and extend the game's IP. The series started to gain a major following in 2014 with *Honkai Impact 2* and found global success in 2017 with the release of *Honkai Impact 3*. We expect the much-anticipated *Honkai: Star Rail* (1H23) to build on this success.

Figure 126. MiHoYo's *Honkai* series is a prime example of IP extension

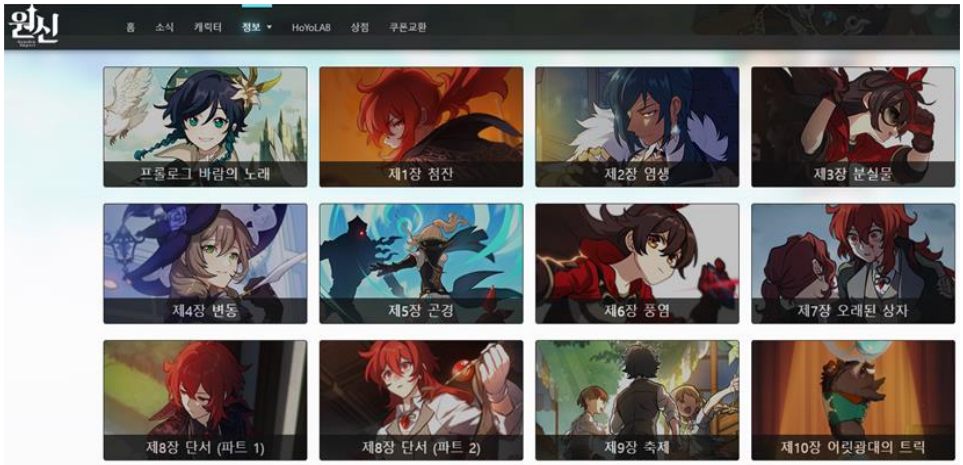


Source: HoYoverse, App Store, Mirae Asset Securities Research

Continuous world-building through adaptations

Game companies can also help boost the popularity of their titles by extending their IP to other forms of media (animated series, comics, films, etc.). For over two decades, Type-Moon has released animated series, comics, and films based on the IP originally introduced in *Fate/stay night*. Since its 2015 release, *Fate/Grand Order*, a game based on the *Fate/stay night* world, has set multiple records in Japan, China, and the US.

Figure 127. *Genshin Impact* webtoon (with content updates)



Source: *HoYoverse*, Mirae Asset Securities Research

Notably, miHoYo's *Honkai* IP extension efforts have included offline events, merchandise, and adaptations (animated series). And *Genshin Impact* has spawned webtoons and animated series aimed at developing and enriching the storylines and world introduced by the game. We believe *Blue Archive*, one of the most successful games in Japan, is set to follow in the footsteps of these two IPs (animated series in development).

Figure 128. *Blue Archive* to be adapted into an animated series



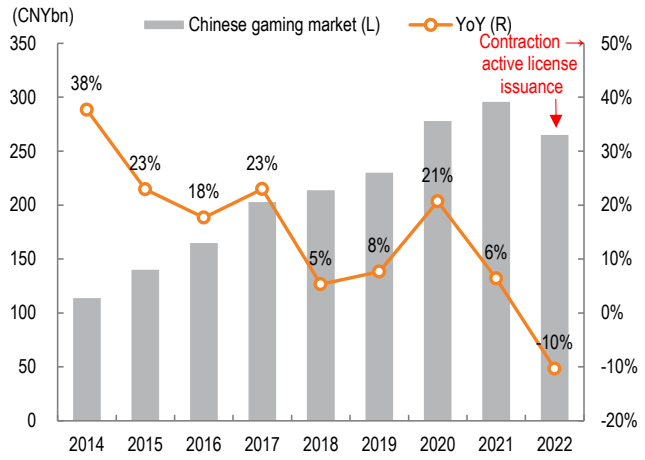
Source: Company materials, Mirae Asset Securities Research

Reopening of Chinese game market to continue

In 2022, China, the world's biggest gaming market, shrank 10% YoY to CNY266bn (W51tr), marking the first decline since mobile games started to gain ground in 2010. With this in mind, we expect authorities to continue aggressively issuing game licenses in 2023.

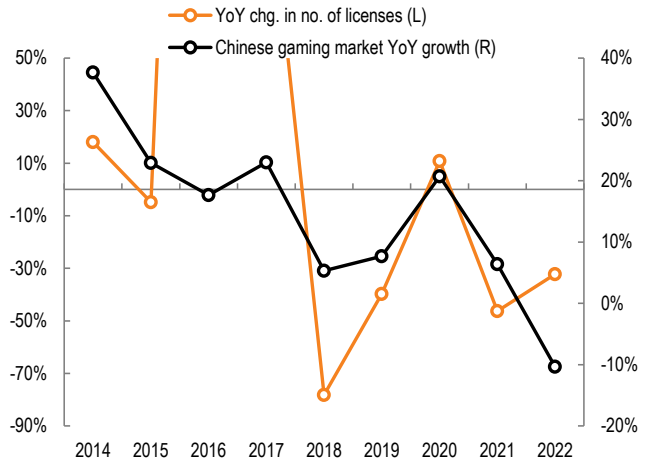
Authorities began to scale back license issuance in 2018, tempering industry growth to around 10% from over 20% previously. Since 2H22, China has begun to issue game publishing licenses more frequently and in higher numbers, indicating that authorities hope to propel a market recovery in 2023-24.

Figure 129. Chinese game market size



Source: "2022 China Game Industry Report," Mirae Asset Securities Research

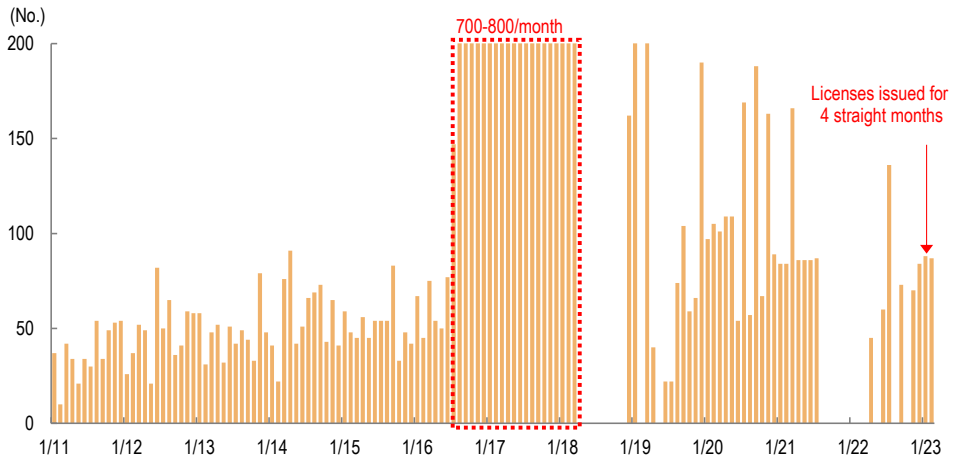
Figure 130. Correlation between game license issuance and gaming market size in China



Source: Mirae Asset Securities Research estimates

Chinese regulators have granted licenses for homegrown titles for four straight months (from Nov. 2022 to Feb. 2023), which suggests that restrictions on the gaming industry are essentially coming to an end. In Nov. 2022, 70 Chinese titles were approved; the following month, 84 were approved. The trend has continued in 2023, with China approving 88 homegrown titles in January and 87 in February—collectively more than one-third of the 2022 total (468). It is also notable that the number of licenses issued per month is over 80, close to the 2020 (pre-crackdown) level.

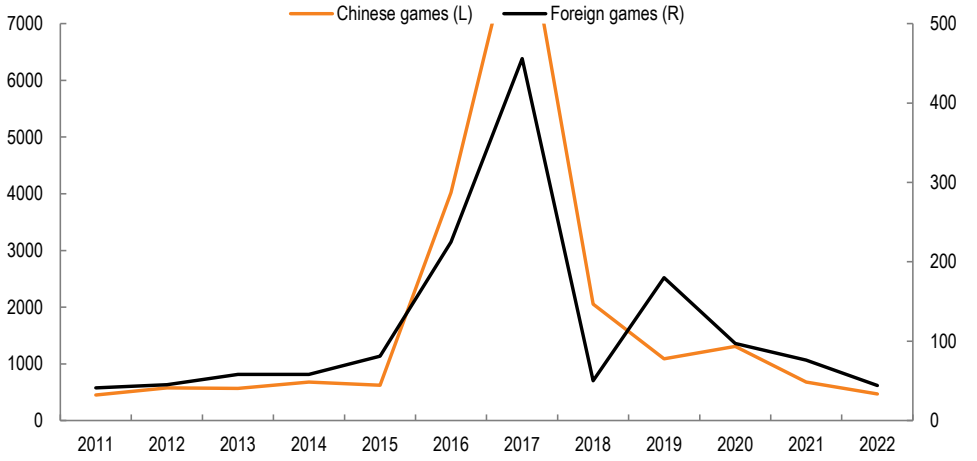
Figure 131. Monthly no. of licenses issued for Chinese games since 2011



Source: "2022 China Game Industry Report," Mirae Asset Securities Research

The continued licensing of homegrown titles suggests that more foreign titles are likely to be approved as well. Indeed, over the past decade, approvals of Chinese titles and foreign titles have mostly moved in the same direction. With China having resumed license approvals for domestic titles, we believe a key precondition for the normalization of foreign title approvals has been met.

Figure 132. Annual no. of license approvals for Chinese and foreign games since 2011



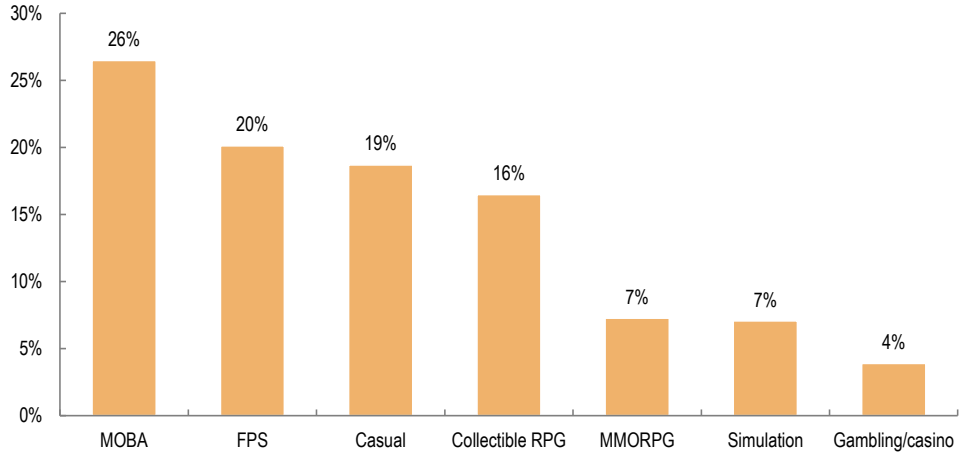
Source: National Press and Publication Administration, Mirae Asset Securities Research

Well-positioned for China entry

Even as the overall Chinese market slows, collectible RPGs and FPS games remain popular. In contrast, MMORPGs have rapidly fallen out of favor, with their market share falling to less than 10%. Within collectible RPGs, more than two-thirds of revenue comes from subculture collectible RPGs.

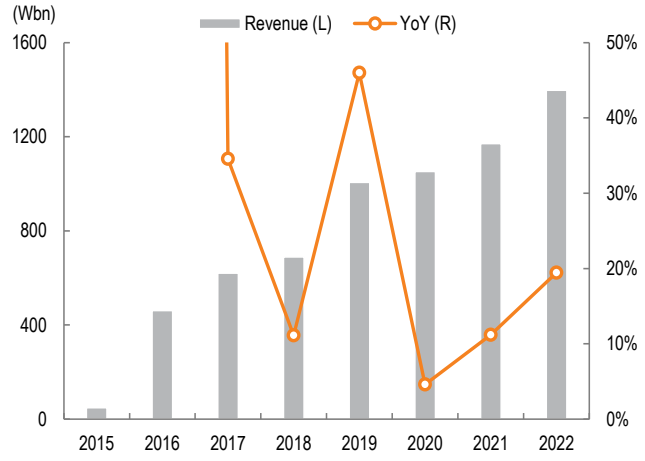
Revenue from subculture games on China's top 50 list (App Store) is estimated to have grown more than 20% in 2022. And the revenue share of subculture games among the top 50 increased to 11% in the first two months of 2023. We believe *Blue Archive*, which continues to enjoy huge popularity globally (especially in Japan), also has strong potential in China.

Figure 133. Revenue mix of China's top 50 highest-grossing games by genre in Jan.-Feb. 2023 (App Store)



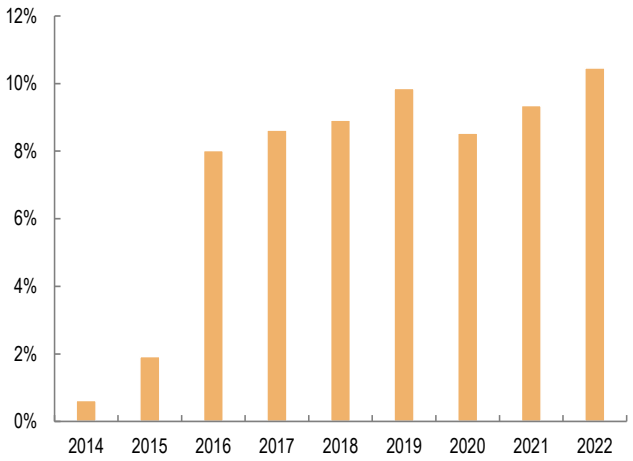
Source: Sensor Tower, Mirae Asset Securities Research estimates

Figure 134. Annual revenue of subculture games among China's top 50 highest-grossing games (App Store)



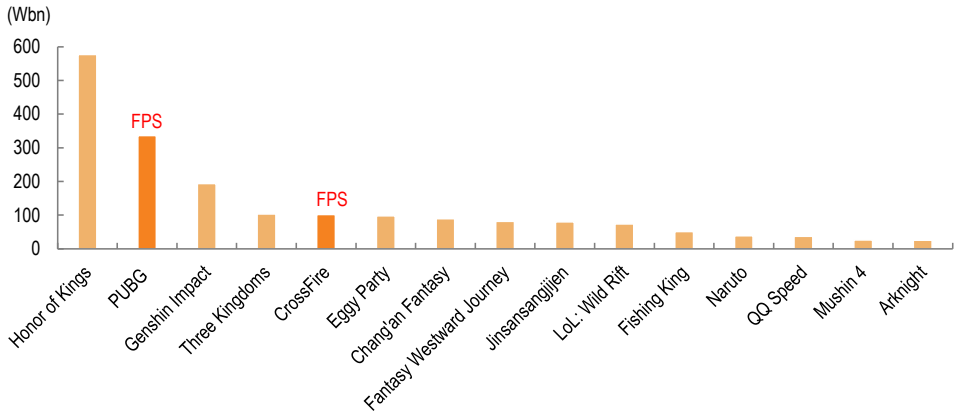
Source: Sensor Tower, Mirae Asset Securities Research estimates

Figure 135. Revenue share of subculture games among China's top 50 highest-grossing games (App Store)



Source: Sensor Tower, Mirae Asset Securities Research estimates

Figure 136. Revenue of China's top 15 highest-grossing games in Jan.-Feb. 2023 (App Store)



Source: Sensor Tower, Mirae Asset Securities Research estimates

We believe Nexon Games also deserves attention for its strong development capabilities in shooter games. The hugely successful Nexon title *Sudden Attack* remains the no. 1 shooter game in Korea long after its release. Given the popularity of shooter games (market share of 20%) in China, we think Nexon Games' upcoming shooter titles like *Veiled Experts* (TPS) and *The First Descendant* (looter shooter) could also do well in China.

While *PUBG Mobile/Game for Peace* and *CrossFire* (PC), which have both become household names in China, will be difficult to dethrone, we see strong potential in new genres, such as looter shooters.

Figure 137. New TPS game *Veiled Experts* (final beta test to begin on Steam on Mar. 30)



Source: Company materials, Mirae Asset Securities Research

Figure 138. New looter shooter game *The First Descendant*



Source: Company materials, Mirae Asset Securities Research

Nexon Games (225570 KQ)

Income statement (summarized)

(Wbn)	2021	2022F	2023F	2024F
Revenue	-	**132**	**183**	**248**
Cost of revenue	-	**0**	**0**	**0**
GP	-	**132**	**183**	**248**
SG&A expenses	-	**127**	**167**	**186**
OP (adj.)	-	**5**	**15**	**63**
OP	-	**5**	**15**	**63**
Non-operating profit	-	**1**	**0**	**0**
Net financial income	-	0	0	0
Net income from associates	-	0	0	0
Pretax profit	-	6	15	63
Income tax	-	0	3	13
Profit from continuing operations	-	6	12	50
Profit from discontinued operations	-	0	0	0
NP	-	**6**	**12**	**50**
Attributable to owners	-	6	12	50
Attributable to minority interests	-	0	0	0
Total comprehensive income	-	**6**	**12**	**50**
Attributable to owners	-	6	12	50
Attributable to minority interests	-	0	0	0
EBITDA	-	10	20	68
FCF	-	-5	19	54
EBITDA margin (%)	-	7.6	10.9	27.4
OP margin (%)	-	3.8	8.2	25.4
Net margin (%)	-	4.5	6.6	20.2

Balance sheet (summarized)

(Wbn)	2021	2022F	2023F	2024F
Current assets	-	**204**	**223**	**275**
Cash & equivalents	-	115	129	177
AR & other receivables	-	27	29	30
Inventory	-	0	0	0
Other current assets	-	62	65	68
Non-current assets	-	**121**	**122**	**128**
Investments in associates	-	0	0	0
PP&E	-	50	50	53
Intangible assets	-	36	37	41
Total assets	-	**326**	**345**	**404**
Current liabilities	-	**60**	**66**	**72**
AP & other payables	-	0	0	0
Short-term financial liabilities	-	7	7	8
Other current liabilities	-	53	59	64
Non-current liabilities	-	**29**	**30**	**32**
Long-term financial liabilities	-	13	13	13
Other non-current liabilities	-	16	17	19
Total liabilities	-	**88**	**96**	**104**
Equity attributable to owners	-	**237**	**249**	**299**
Capital stock	-	33	33	33
Capital surplus	-	213	213	213
Retained earnings	-	-8	4	54
Minority interests	-	**0**	**0**	**0**
Shareholders' equity	-	**237**	**249**	**299**

Cash flow statement (summarized)

(Wbn)	2021	2022F	2023F	2024F
Operating cash flow	-	**49**	**23**	**61**
NP	-	6	12	50
Non-cash income/expenses	-	5	8	18
Depreciation	-	4	4	5
Amortization	-	1	1	1
Other	-	0	3	12
Chg. in working capital	-	39	5	6
Chg. in AR & other receivables	-	-27	-1	-1
Chg. in inventory	-	0	0	0
Chg. in AP & other payables	-	0	0	0
Income tax	-	0	-3	-13
Cash flow from investing activities	-	**-185**	**-9**	**-14**
Chg. in PP&E	-	-54	-4	-7
Chg. in intangible assets	-	-36	-2	-4
Chg. in financial assets	-	-62	-3	-3
Other	-	-33	0	0
Cash flow from financing activities	-	**265**	**1**	**1**
Chg. in financial liabilities	-	20	1	1
Chg. in equity	-	246	0	0
Dividends	-	0	0	0
Other	-	-1	0	0
Chg. in cash	-	**115**	**14**	**48**
Beginning balance	-	0	115	129
Ending balance	-	115	129	177

Key valuation metrics/ratios

	2021	2022F	2023F	2024F
P/E (x)	-	120.8	69.9	17.2
P/CF (x)	-	68.7	42.6	12.7
P/B (x)	-	3.2	3.1	2.6
EV/EBITDA (x)	-	72.2	34.1	9.4
EPS (W)	-	107	187	762
CFPS (W)	-	188	308	1,031
BPS (W)	-	4,103	4,290	5,052
DPS (W)	-	0	0	0
Dividend payout ratio (%)	-	0.0	0.0	0.0
Dividend yield (%)	-	0.0	0.0	0.0
Revenue growth (%)	-	-	38.1	35.7
EBITDA growth (%)	-	-	109.5	235.2
OP growth (%)	-	-	198.9	306.5
EPS growth (%)	-	-	74.9	306.5
AR turnover (x)	-	4.9	6.6	8.5
Inventory turnover (x)	-	0.0	0.0	0.0
AP turnover (x)	-	0.0	0.0	0.0
ROA (%)	-	1.9	3.7	13.4
ROE (%)	-	2.6	5.1	18.3
ROIC (%)	-	0.0	19.0	77.9
Debt-to-equity ratio (%)	-	37.3	38.5	34.8
Current ratio (%)	-	342.5	339.6	381.3
Net debt-to-equity ratio (%)	-	-65.2	-68.6	-73.8
Interest coverage ratio (x)	-	0.0	0.0	0.0

Source: Company data, Mirae Asset Securities Research estimates

COMPANY ANALYSIS

[Korea] Games

March 15, 2023

JoyCity

(067000 KQ)

Buy
(Maintain)

TP: W6,500
Upside: 50.6%

Competitiveness in simulation/subculture games gaining attention

Mirae Asset Securities Co., Ltd.
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China to maintain reopening policy toward gaming industry

Worries about gaming industry raised during China's "two sessions" meetings

- During China's 2023 "two sessions" meetings, officials raised worries about the slowdown of the gaming industry; this marked a sharp contrast to the 2022 meetings, which featured calls for regulation.
- In 2022, China's gaming industry contracted 10% YoY, posting negative growth for the first time since the 2010s.
- Chinese authorities scaled back license issuance starting in 2018, tempering 2017-21 industry CAGR to around 10%.
- We believe Chinese regulators will more actively issue licenses for both local and foreign games to restore the growth of the gaming industry.

Well-positioned in key genres

Simulation games more popular in China than in other markets

- Simulation is an important game genre in China, accounting for 11% of the 50 highest-grossing games on China's iOS in 2022.
- While it may be difficult for JoyCity to directly compete against large Chinese developers, such as Lilith Games, we think the company's two simulation titles based on Disney IP have the potential to do well in China, given the popularity of Disney characters in the country.

Well-positioned in subculture collectible RPGs

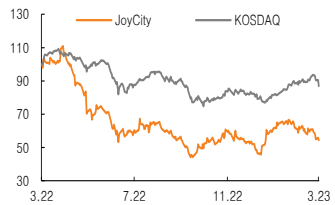
- We believe the company is also well-positioned in the subculture collectible RPG genre, which is growing at an annual rate of over 20% in China.
- JoyCity's studio Mojito Games, which is behind the upcoming title *Starseed*, is a subculture game developer that has found previous success in the Greater China region. Back in 1H16, the company's title *Game of Dice* was the second-highest-grossing mobile game in Hong Kong.

Valuation and recommendation

Maintain Buy and TP of W6,500

- We keep our 2023 earnings estimates and target P/E of 20x (2020 multiple) unchanged. JoyCity is currently trading at a 2023F P/E of 13.4x.
- The stock looks undervalued, given: 1) ongoing margin improvements driven by the decrease in marketing payments to Tilting Point; 2) potential in China; and 3) momentum related to two new titles set for release in 3Q23.
- Key events expected in 2Q23 include *Disney Knights Saga*'s soft launch and *Starseed*'s second closed beta test.
- These events should ease worries about further delays, helping to revive new title momentum.

Key data



Current price (3/14/23, W)	4,315	Market cap (Wbn)	296
OP (22, Wbn)	8	Shares outstanding (mn)	69
Consensus OP (22F, Wbn)	5	Free float (%)	57.9
EPS growth (22, %)	-40.9	Foreign ownership (%)	4.5
P/E (22, x)	65.4	Beta (12M)	1.36
Market P/E (22, x)	11.5	52-week low (W)	3,500
KOSDAQ	758.05	52-week high (W)	8,800

Share performance

(%)	1M	6M	12M
Absolute	-10.8	-0.5	-45.6
Relative	-8.2	2.8	-37.4

Earnings and valuation metrics

(Dec.)	2019	2020	2021	2022	2023F	2024F
Revenue (Wbn)	103	165	201	164	190	216
OP (Wbn)	9	20	22	8	27	40
OP margin (%)	8.7	12.1	10.9	4.9	14.2	18.5
NP (Wbn)	-1	11	7	4	22	35
EPS (W)	-25	185	104	62	322	507
ROE (%)	-4.9	21.8	8.0	4.3	19.6	24.7
P/E (x)	-	39.5	98.1	65.4	13.4	8.5
P/B (x)	1.9	4.7	7.2	2.7	2.4	1.9
Div. yield (%)	0.0	0.0	0.0	0.0	0.0	0.0

Notes: Under consolidated K-IFRS; NP is attributable to owners of the parent
Source: Company data, Mirae Asset Securities Research estimates

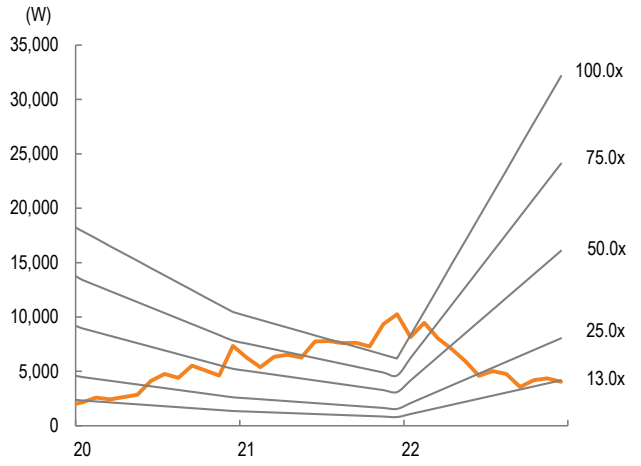
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Table 6. Quarterly and annual earnings (Wbn)

	1Q22	2Q22	3Q22	4Q22	1Q23F	2Q23F	3Q23F	4Q23F	2020	2021	2022	2023F
Revenue	**41.1**	**39.8**	**43.9**	**39.5**	**41.1**	**42.2**	**52.4**	**53.8**	**165.4**	**201.3**	**164.3**	**189.5**
(YoY)	-22.5%	-26.0%	-7.6%	-15.9%	0.0%	6.0%	19.6%	36.0%	60.3%	21.7%	-18.4%	15.3%
Freestyle (sports)	11.1	9.9	9.9	9.7	10.9	9.7	9.8	9.9	36.0	41.9	40.6	40.3
Simulation	25.8	26.5	25.7	25.4	24.6	26.9	37.0	38.1	103.7	138.1	103.5	126.6
RPG	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.8	3.1	0.0	0.0
Subculture	0.2	0.3	0.2	0.1	0.1	0.1	0.1	0.1	5.2	2.1	0.8	0.3
Other	3.9	3.1	8.1	4.4	5.5	5.6	5.6	5.7	11.6	16.0	19.4	22.3
S&A expenses	**38.0**	**39.8**	**41.7**	**37.3**	**36.7**	**37.1**	**43.6**	**45.3**	**144.9**	**179.5**	**156.7**	**162.6**
Labor	6.0	7.6	6.5	7.7	6.6	7.6	6.7	7.7	19.4	24.2	27.8	28.6
Fees/commissions	18.5	17.8	17.3	17.3	17.4	18.0	23.2	24.1	80.4	90.8	70.9	82.6
Marketing	11.4	12.2	15.4	10.0	10.2	9.0	10.6	10.4	38.2	56.0	48.9	40.2
Other	2.1	2.1	2.5	2.4	2.4	2.5	3.1	3.2	7.0	8.4	9.1	11.2
OP	**3.1**	**0.1**	**2.2**	**2.2**	**4.4**	**5.2**	**8.9**	**8.5**	**20.5**	**21.8**	**7.6**	**26.9**
(YoY)	-56.1%	-98.7%	-46.9%	-47.7%	41.9%	-	310.7%	279.2%	139.4%	6.5%	-65.2%	254.7%
OP margin	7.6%	0.2%	4.9%	5.6%	10.8%	12.2%	16.9%	15.7%	12.4%	10.8%	4.6%	14.2%
NP attr. to owners of the parent	**2.7**	**0.1**	**2.5**	**-1.1**	**3.2**	**3.9**	**7.6**	**7.2**	**11.3**	**7.0**	**4.1**	**21.9**
Net margin	6.4%	0.2%	5.8%	-2.8%	7.7%	9.3%	14.5%	13.4%	6.8%	3.5%	2.5%	11.6%

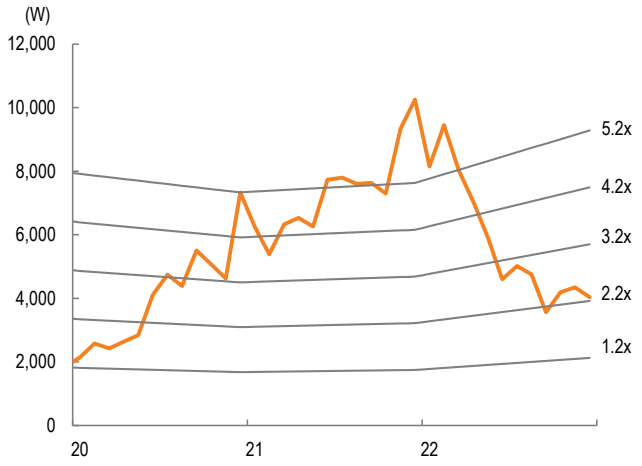
Source: Company data, Mirae Asset Securities Research

Figure 139. 12-month forward P/E band chart



Source: Mirae Asset Securities Research

Figure 140. 12-month forward P/B band chart



Source: Mirae Asset Securities Research

Table 7. Global peer valuation table (Wbn, x, %)

	Market cap	P/E		P/S		P/B		EV/EBITDA		OP margin	
		23F	24F	23F	24F	23F	24F	23F	24F	23F	24F
Krafton (Korea)	8,050	14.8	13.4	4.4	4.1	1.4	1.2	7.0	6.5	35.4	35.1
NCsoft	8,705	17.8	14.6	3.4	3.0	2.3	2.0	10.3	8.5	21.7	23.8
Netmarble	4,805	79.7	37.2	1.6	1.5	0.9	0.9	20.3	16.2	2.1	4.2
Pearl Abyss	2,691	33.3	14.0	5.8	3.0	3.4	2.4	26.6	10.0	15.2	21.5
Kakao Games	3,556	19.8	16.6	2.5	2.2	1.7	1.5	12.5	10.8	18.7	19.4
Wemade	1,714	59.9	21.1	2.5	2.1	3.8	3.4	37.7	15.4	4.9	12.5
Com2uS	890	19.2	17.9	1.1	1.0	0.7	0.7	18.1	13.1	3.6	4.5
NHN	963	16.9	12.6	0.4	0.4	0.5	0.5	4.0	3.5	3.4	4.0
DoubleU Games	772	6.0	5.4	1.2	1.1	0.9	0.8	3.0	2.8	29.8	30.3
Webzen	603	10.5	9.2	2.5	2.2	0.9	0.8	6.6	5.6	27.7	28.7
Neowiz	940	12.2	12.9	2.2	2.1	1.7	1.5	7.7	8.3	21.1	19.4
JoyCity	304	14.9	9.3	1.6	1.4	2.5	2.0	13.4	9.2	13.3	17.5
Activision Blizzard (US)	79,675	20.4	19.4	6.5	6.4	2.8	2.5	15.4	13.8	35.1	37.9
Electronic Arts	39,014	18.1	17.0	4.2	4.0	4.0	3.8	12.4	11.8	29.1	29.7
Take-Two Interactive	24,303	30.7	21.8	3.5	3.0	2.0	2.0	23.1	17.5	15.5	15.3
Nintendo (Japan)	64,860	15.0	16.5	4.1	4.3	2.7	2.5	9.3	10.4	31.6	31.5
Nexon	25,746	23.9	20.7	6.4	5.9	2.8	2.4	14.8	13.2	32.5	33.6
Bandai Namco	18,007	18.3	17.9	1.9	1.8	2.9	2.7	10.3	9.8	13.8	14.1
Konami	8,831	22.8	17.0	2.9	2.7	2.3	2.1	10.0	8.1	17.2	21.2
CyberAgent	5,499	29.9	19.3	0.8	0.7	3.5	3.0	8.6	7.0	6.5	7.6
Square Enix	7,421	16.4	15.8	2.2	2.0	2.4	2.1	10.7	7.9	14.2	17.8
Tencent (China)	547,765	25.1	20.8	5.2	4.7	3.2	2.8	18.6	15.8	29.1	29.4
NetEase	71,811	16.4	14.7	3.6	3.3	5.0	4.7	11.6	10.2	21.8	22.4
Kingsoft	6,299	61.2	51.9	4.4	3.6	1.5	1.4	10.5	7.9	22.7	24.2
Youzu Interactive	1,926	81.2	31.2	5.3	5.3	2.1	2.0	40.5	22.3	3.4	12.6
Ubisoft (France)	3,897	-	13.0	1.4	1.2	1.8	1.6	4.3	3.6	-28.3	14.9

Source: Bloomberg, Mirae Asset Securities Research

JoyCity (067000 KQ)

Income statement (summarized)

(Wbn)	2021	2022F	2023F	2024F
Revenue	**201**	**164**	**190**	**216**
Cost of revenue	**0**	**0**	**0**	**0**
GP	**201**	**164**	**190**	**216**
SG&A expenses	**180**	**157**	**163**	**176**
OP (adj.)	**22**	**8**	**27**	**40**
OP	**22**	**8**	**27**	**40**
Non-operating profit	**-8**	**1**	**1**	**1**
Net financial income	0	-1	-1	-1
Net income from associates	0	0	0	0
Pretax profit	14	9	28	41
Income tax	7	5	6	6
Profit from continuing operations	7	4	22	35
Profit from discontinued operations	0	0	0	0
NP	**7**	**4**	**22**	**35**
Attributable to owners	7	4	22	35
Attributable to minority interests	0	0	0	0
Total comprehensive income	**7**	**4**	**22**	**35**
Attributable to owners	7	4	22	35
Attributable to minority interests	0	0	0	0
EBITDA	26	12	32	46
FCF	30	9	24	37
EBITDA margin (%)	12.9	7.3	16.8	21.3
OP margin (%)	10.9	4.9	14.2	18.5
Net margin (%)	3.5	2.4	11.6	16.2

Balance sheet (summarized)

(Wbn)	2021	2022F	2023F	2024F
Current assets	**74**	**77**	**99**	**134**
Cash & equivalents	24	29	47	78
AR & other receivables	26	22	26	29
Inventory	0	0	0	0
Other current assets	24	26	26	27
Non-current assets	**163**	**161**	**163**	**165**
Investments in associates	1	1	1	1
PP&E	1	1	1	2
Intangible assets	3	3	3	4
Total assets	**238**	**237**	**262**	**299**
Current liabilities	**66**	**62**	**64**	**66**
AP & other payables	17	17	18	19
Short-term financial liabilities	39	37	37	37
Other current liabilities	10	8	9	10
Non-current liabilities	**75**	**74**	**75**	**75**
Long-term financial liabilities	70	70	70	70
Other non-current liabilities	5	4	5	5
Total liabilities	**140**	**136**	**138**	**141**
Equity attributable to owners	**97**	**101**	**124**	**158**
Capital stock	23	23	23	23
Capital surplus	71	71	71	71
Retained earnings	-3	1	23	58
Minority interests	**0**	**0**	**0**	**0**
Shareholders' equity	**97**	**101**	**124**	**158**

Cash flow statement (summarized)

(Wbn)	2021	2022F	2023F	2024F
Operating cash flow	**31**	**10**	**26**	**39**
NP	7	4	22	35
Non-cash income/expenses	22	10	11	13
Depreciation	2	1	1	2
Amortization	3	3	4	4
Other	17	6	6	7
Chg. in working capital	8	2	-1	-2
Chg. in AR & other receivables	2	5	-3	-3
Chg. in inventory	0	0	0	0
Chg. in AP & other payables	7	0	0	0
Income tax	-6	-5	-6	-6
Cash flow from investing activities	**-137**	**-3**	**-8**	**-9**
Chg. in PP&E	0	-1	-2	-2
Chg. in intangible assets	0	-3	-4	-5
Chg. in financial assets	-14	1	-2	-2
Other	-123	0	0	0
Cash flow from financing activities	**110**	**-2**	**0**	**0**
Chg. in financial liabilities	99	-2	0	0
Chg. in equity	14	0	0	0
Dividends	0	0	0	0
Other	-3	0	0	0
Chg. in cash	**5**	**5**	**18**	**30**
Beginning balance	19	24	29	47
Ending balance	24	29	47	78

Key valuation metrics/ratios

	2021	2022F	2023F	2024F
P/E (x)	98.1	65.4	13.4	8.5
P/CF (x)	23.7	19.3	8.9	6.2
P/B (x)	7.2	2.7	2.4	1.9
EV/EBITDA (x)	20.1	27.9	10.4	6.5
EPS (W)	104	62	322	507
CFPS (W)	432	209	485	691
BPS (W)	1,423	1,480	1,801	2,308
DPS (W)	0	0	0	0
Dividend payout ratio (%)	0.0	0.0	0.0	0.0
Dividend yield (%)	0.0	0.0	0.0	0.0
Revenue growth (%)	21.7	-18.4	15.3	13.8
EBITDA growth (%)	9.2	-55.0	167.9	44.9
OP growth (%)	6.5	-65.2	254.7	49.1
EPS growth (%)	-43.7	-40.9	420.5	57.5
AR turnover (x)	8.2	7.2	8.6	8.6
Inventory turnover (x)	0.0	0.0	0.0	0.0
AP turnover (x)	0.0	0.0	0.0	0.0
ROA (%)	4.0	1.8	8.9	12.4
ROE (%)	8.0	4.3	19.6	24.7
ROIC (%)	40.2	19.3	120.6	164.7
Debt-to-equity ratio (%)	144.4	134.0	112.1	89.1
Current ratio (%)	113.4	123.4	155.1	203.7
Net debt-to-equity ratio (%)	65.0	54.0	29.3	3.3
Interest coverage ratio (x)	26.6	5.1	18.2	27.1

Source: Company data, Mirae Asset Securities Research estimates

COMPANY ANALYSIS

[Korea] Games

March 15, 2023

Netmarble

(251270 KS)

Plenty of room for growth in China

Buy
(Upgrade)
TP: W70,000 ▲
Upside: 23.0%

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China to maintain reopening policy toward gaming industry

Worries about gaming industry raised during China's "two sessions" meetings

- During China's 2023 "two sessions" meetings, officials raised worries about the slowdown of the gaming industry; this marked a sharp contrast to the 2022 meetings, which featured calls for regulation.
- In 2022, China's gaming industry contracted 10% YoY, posting negative growth for the first time since the 2010s.
- Chinese authorities scaled back license issuance starting in 2018, tempering 2017-21 industry CAGR to around 10%.
- We believe Chinese regulators will more actively issue licenses for both local and foreign games to restore the growth of the gaming industry.

Lineup includes a number of titles with strong potential in China besides *Ni no Kuni*

New China revenue to materialize in 2H23

- In 2H23, Netmarble will release *A3: Still Alive*, *Shop Titans*, *Ni no Kuni*, and *StoneAge* in China. *Ni no Kuni* is a globally popular title that raked in daily revenue of W3bn in the first month of its release and W2bn in the first quarter of its release.
- The title took the top spot on both app stores in Taiwan after its release and was also the second-highest-grossing mobile game in 2H21—a testament to its IP competitiveness.
- We believe the title could generate daily revenue in the mid-W1bn range in the first quarter of its release, given that it is based on IP that is popular in China.

Lineup includes a number of titles that have strong potential in China

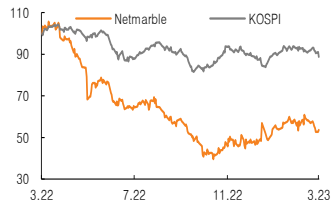
- We believe *The Seven Deadly Sins*, a globally successful collectible RPG based on a popular Japanese manga, is also likely to well in China.
- Likewise, *Solo Leveling*, an upcoming collectible RPG adapted from a popular Korean webtoon, has strong potential in China.
- *Solo Leveling* is currently the second most popular title on Chinese webtoon platform Kuaikan (under the "pay-or-wait" model).

Valuation and recommendation

Upgrade to Buy from Hold; raise TP by 17% to W70,000

- We raise our 2023F EBITDA on Netmarble by 12%. We keep our target EV/EBITDA of 30x unchanged.
- We lifted our revenue estimate by 1% to reflect new title momentum. Meanwhile, we reduced our labor expense estimate by 4% to W779bn, in light of the company's continued aggressive restructuring.
- We expect new title momentum to strengthen with the releases of *Everybody's Marble* and *Tower of God* in 1H23 and *Arthdal Chronicles* and *Solo Leveling* in 2H23.
- Momentum should continue through the launch of *Ni no Kuni* in China, where the title is expected to do well.

Key data



Current price (3/14/23, W)	56,900	Market cap (Wbn)	4,891
OP (22, Wbn)	-104	Shares outstanding (mn)	86
Consensus OP (22F, Wbn)	-105	Free float (%)	31.2
EPS growth (22, %)	-	Foreign ownership (%)	22.4
P/E (22, x)	-	Beta (12M)	1.01
Market P/E (22, x)	11.6	52-week low (W)	41,950
KOSPI	2,348.97	52-week high (W)	112,000

Share performance

(%)	1M	6M	12M
Absolute	-6.3	-7.8	-46.3
Relative	-1.6	-5.3	-39.5

Earnings and valuation metrics

(Dec.)	2019	2020	2021	2022	2023F	2024F
Revenue (Wbn)	2,179	2,485	2,507	2,673	2,860	3,061
OP (Wbn)	203	272	151	-104	23	103
OP margin (%)	9.3	10.9	6.0	-3.9	0.8	3.4
NP (Wbn)	156	313	240	-817	69	137
EPS (W)	1,823	3,647	2,795	-9,502	803	1,597
ROE (%)	3.5	6.3	4.3	-15.2	1.4	2.7
P/E (x)	50.7	36.1	44.7	-	70.8	35.6
P/B (x)	1.6	1.9	1.7	1.0	0.9	0.9
Div. yield (%)	0.0	0.6	0.4	0.9	0.9	0.9

Notes: Under consolidated K-IFRS; NP is attributable to owners of the parent
Source: Company data, Mirae Asset Securities Research estimates

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Table 8. Quarterly and annual earnings (Wbn)

	1Q22	2Q22	3Q22	4Q22	1Q23F	2Q23F	3Q23F	4Q23F	2021	2022	2023F	2024F
Revenue	**631**	**661**	**694**	**687**	**671**	**696**	**731**	**762**	**2,507**	**2,673**	**2,860**	**3,061**
(YoY)	10.7%	14.5%	14.4%	-8.7%	6.3%	5.3%	5.3%	10.9%	0.9%	6.6%	7.0%	7.0%
Second Country: Cross Worlds	44	66	56	34	36	36	36	35	258	200	143	138
Marvel Contest of Champions	57	66	76	89	71	71	70	68	313	289	280	260
The Seven Deadly Sins: Grand Cross	44	46	42	48	53	50	48	45	241	180	196	160
Lineage 2: Revolution	25	26	28	34	33	31	29	28	141	114	121	99
Blade & Soul Revolution	25	20	21	21	19	18	17	16	110	87	69	56
Harry Potter: Hogwarts Mystery	19	20	21	21	20	20	19	19	105	80	78	72
Cookie Jam	19	20	21	21	20	20	19	19	93	80	78	72
Cash Frenzy	57	53	56	55	52	53	54	55	41	220	215	233
Jackpot World	44	53	56	62	64	66	68	70	32	214	266	300
Lotsa Slots	44	53	56	55	56	57	58	59	30	208	231	250
Other	253	238	264	247	248	274	313	346	1,144	1,002	1,181	1,422
EBITDA	**46**	**22**	**21**	**40**	**33**	**49**	**73**	**103**	**302**	**128**	**258**	**333**
EBITDA margin	7.2%	3.3%	3.0%	5.8%	4.9%	7.0%	10.0%	13.5%	12.0%	4.8%	9.0%	10.9%
Operating expenses	**643**	**695**	**733**	**707**	**697**	**706**	**717**	**717**	**2,356**	**2,778**	**2,837**	**2,959**
Commissions	246	261	279	271	264	271	282	281	1,013	1,056	1,098	1,136
Labor	187	190	203	200	199	198	197	196	639	779	789	811
Marketing	113	144	145	122	123	125	126	127	396	524	501	548
Other	98	100	106	113	112	112	113	113	220	418	460	464
OP	**-12**	**-35**	**-38**	**-20**	**-26**	**-10**	**14**	**45**	**151**	**-104**	**23**	**103**
(YoY)	TTR	TTR	TTR	TTR	RR	RR	TTB	TTB	-44.5%	TTR	RR	TTB
OP margin	-1.9%	-5.2%	-5.5%	-2.9%	-3.9%	-1.4%	1.9%	5.9%	6.0%	-3.9%	0.8%	3.4%
NP	**-43**	**-118**	**-245**	**-410**	**-8**	**5**	**24**	**47**	**240**	**-817**	**69**	**137**
Net margin	-6.8%	-17.9%	-35.3%	-59.7%	-1.1%	0.7%	3.3%	6.2%	9.6%	-30.6%	2.4%	4.5%

Source: Company data, Mirae Asset Securities Research

Table 9. Annual earnings forecast revisions

	Previous		Revised		Chg.		Consensus		Diff.		Notes
	2023F	2024F	2023F	2024F	2023F	2024F	2023F	2024F	2023F	2024F	
Revenue	2,836	3,006	2,860	3,061	1%	2%	2,911	3,177	-2%	-4%	
OP	-5	76	23	103	-	34%	34	133	-33%	-23%	- Full-fledged recognition of China revenue to begin in 4Q23
NP	131	188	69	137	-47%	-27%	-20	88	-	56%	- Lower labor costs amid restructuring
EBITDA	230	314	258	333	12%	6%	-	-	-	-	- Higher non-operating losses (FX)
OP margin	-0.2%	2.5%	0.8%	3.4%	-	-	1.2%	4.2%	-	-	- Adjustments to equity-method gains forecasts
Net margin	4.6%	6.2%	2.4%	4.5%	-	-	-0.7%	2.8%	-	-	

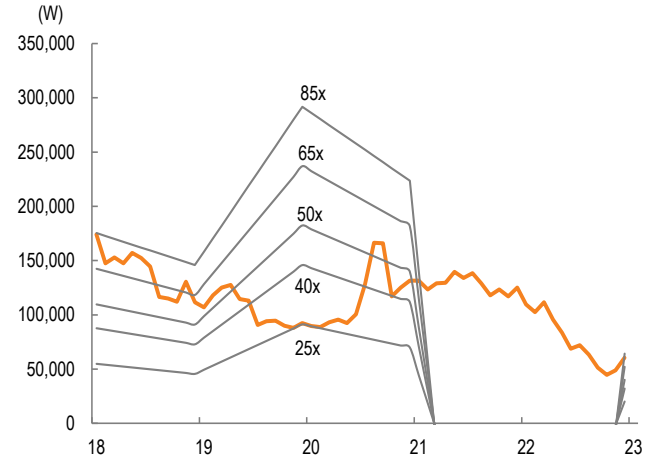
Source: FnGuide, Mirae Asset Securities Research

Table 10. Valuation

	Value	Notes
2023F EBITDA (Wbn)	258	
Target EV/EBITDA (x)	30	Netmarble's 2020 avg. EV/EBITDA
EV (Wbn)	7,741	
Net debt (Wbn)	1,742	
Target market cap (Wbn)	5,998	
No. of shares ('000)	85,954	
TP (W)	70,000	
CP (W)	56,900	
Upside	23.0%	

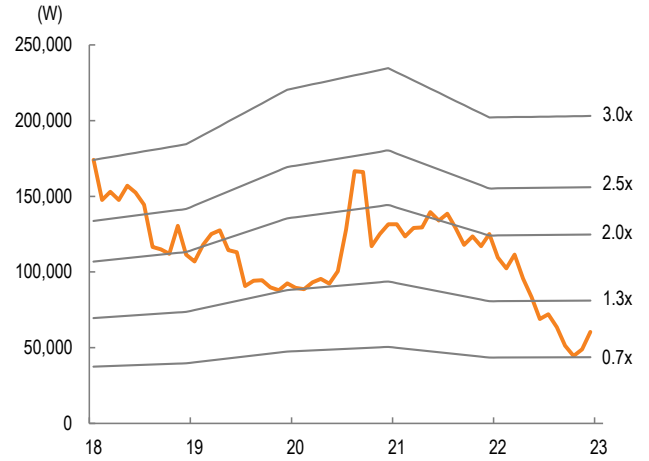
Source: Mirae Asset Securities Research

Figure 141. 12-month forward P/E band chart



Source: Mirae Asset Securities Research

Figure 142. 12-month forward P/B band chart



Source: Mirae Asset Securities Research

Table 11. Global peer valuation table

(Wbn, x, %)

	Market cap	P/E		P/S		P/B		EV/EBITDA		OP margin	
		23F	24F	23F	24F	23F	24F	23F	24F	23F	24F
Krafton (Korea)	8,050	14.8	13.4	4.4	4.1	1.4	1.2	7.0	6.5	35.4	35.1
NCsoft	8,705	17.8	14.6	3.4	3.0	2.3	2.0	10.3	8.5	21.7	23.8
Kakao Games	4,805	79.7	37.2	1.6	1.5	0.9	0.9	20.3	16.2	2.1	4.2
Pearl Abyss	2,691	33.3	14.0	5.8	3.0	3.4	2.4	26.6	10.0	15.2	21.5
Kakao Games	3,556	19.8	16.6	2.5	2.2	1.7	1.5	12.5	10.8	18.7	19.4
Wemade	1,714	59.9	21.1	2.5	2.1	3.8	3.4	37.7	15.4	4.9	12.5
Com2uS	890	19.2	17.9	1.1	1.0	0.7	0.7	18.1	13.1	3.6	4.5
NHN	963	16.9	12.6	0.4	0.4	0.5	0.5	4.0	3.5	3.4	4.0
DoubleU Games	772	6.0	5.4	1.2	1.1	0.9	0.8	3.0	2.8	29.8	30.3
Webzen	603	10.5	9.2	2.5	2.2	0.9	0.8	6.6	5.6	27.7	28.7
Neowiz Games	940	12.2	12.9	2.2	2.1	1.7	1.5	7.7	8.3	21.1	19.4
JoyCity	304	14.9	9.3	1.6	1.4	2.5	2.0	13.4	9.2	13.3	17.5
Activision Blizzard (US)	79,675	20.4	19.4	6.5	6.4	2.8	2.5	15.4	13.8	35.1	37.9
Electronic Arts	39,014	18.1	17.0	4.2	4.0	4.0	3.8	12.4	11.8	29.1	29.7
Take-Two Interactive	24,303	30.7	21.8	3.5	3.0	2.0	2.0	23.1	17.5	15.5	15.3
Nintendo (Japan)	64,860	15.0	16.5	4.1	4.3	2.7	2.5	9.3	10.4	31.6	31.5
Nexon	25,746	23.9	20.7	6.4	5.9	2.8	2.4	14.8	13.2	32.5	33.6
Bandai Namco	18,007	18.3	17.9	1.9	1.8	2.9	2.7	10.3	9.8	13.8	14.1
Konami	8,831	22.8	17.0	2.9	2.7	2.3	2.1	10.0	8.1	17.2	21.2
CyberAgent	5,499	29.9	19.3	0.8	0.7	3.5	3.0	8.6	7.0	6.5	7.6
Square Enix	7,421	16.4	15.8	2.2	2.0	2.4	2.1	10.7	7.9	14.2	17.8
Tencent (China)	547,765	25.1	20.8	5.2	4.7	3.2	2.8	18.6	15.8	29.1	29.4
NetEase	71,811	16.4	14.7	3.6	3.3	5.0	4.7	11.6	10.2	21.8	22.4
Kingsoft	6,299	61.2	51.9	4.4	3.6	1.5	1.4	10.5	7.9	22.7	24.2
Youzu Interactive	1,926	81.2	31.2	5.3	5.3	2.1	2.0	40.5	22.3	3.4	12.6
Ubisoft (France)	3,897	-	13.0	1.4	1.2	1.8	1.6	4.3	3.6	-28.3	14.9

Source: Bloomberg, Mirae Asset Securities Research

Netmarble (251270 KS)

Income statement (summarized)

(Wbn)	2021	2022F	2023F	2024F
Revenue	**2,507**	**2,673**	**2,860**	**3,061**
Cost of revenue	**0**	**0**	**0**	**0**
GP	**2,507**	**2,673**	**2,860**	**3,061**
SG&A expenses	**2,356**	**2,778**	**2,837**	**2,959**
OP (adj.)	**151**	**-104**	**23**	**103**
OP	**151**	**-104**	**23**	**103**
Non-operating profit	**200**	**-841**	**70**	**82**
Net financial income	-28	-39	-35	-34
Net income from associates	210	124	129	150
Pretax profit	351	-945	93	185
Income tax	102	-39	23	46
Profit from continuing operations	249	-906	70	139
Profit from discontinued operations	0	0	0	0
NP	**249**	**-906**	**70**	**139**
Attributable to owners	240	-817	69	137
Attributable to minority interests	9	-89	1	1
Total comprehensive income	**503**	**-906**	**70**	**139**
Attributable to owners	488	-879	68	134
Attributable to minority interests	15	-27	2	4
EBITDA	302	128	258	333
FCF	51	-1,097	269	350
EBITDA margin (%)	12.0	4.8	9.0	10.9
OP margin (%)	6.0	-3.9	0.8	3.4
Net margin (%)	9.6	-30.6	2.4	4.5

Balance sheet (summarized)

(Wbn)	2021	2022F	2023F	2024F
Current assets	**1,963**	**1,074**	**818**	**972**
Cash & equivalents	1,354	474	181	297
AR & other receivables	232	237	253	271
Inventory	4	4	5	5
Other current assets	373	359	379	399
Non-current assets	**8,701**	**7,736**	**7,752**	**7,781**
Investments in associates	2,477	2,642	2,826	3,025
PP&E	323	405	410	397
Intangible assets	4,099	3,590	3,415	3,257
Total assets	**10,664**	**8,811**	**8,570**	**8,754**
Current liabilities	**3,056**	**2,653**	**2,367**	**2,435**
AP & other payables	166	177	190	203
Short-term financial liabilities	2,211	1,966	1,652	1,691
Other current liabilities	679	510	525	541
Non-current liabilities	**1,600**	**1,099**	**1,118**	**1,139**
Long-term financial liabilities	1,178	828	828	828
Other non-current liabilities	422	271	290	311
Total liabilities	**4,656**	**3,752**	**3,485**	**3,573**
Equity attributable to owners	**5,792**	**4,931**	**4,957**	**5,051**
Capital stock	9	9	9	9
Capital surplus	3,897	3,897	3,897	3,897
Retained earnings	2,235	1,375	1,400	1,494
Minority interests	**216**	**127**	**128**	**129**
Shareholders' equity	**6,008**	**5,058**	**5,085**	**5,180**

Cash flow statement (summarized)

(Wbn)	2021	2022F	2023F	2024F
Operating cash flow	**137**	**-962**	**329**	**395**
NP	249	-906	70	139
Non-cash income/expenses	90	216	277	294
Depreciation	44	53	55	57
Amortization	107	179	180	173
Other	-61	-16	42	64
Chg. in working capital	-116	-288	24	26
Chg. in AR & other receivables	20	-4	-14	-15
Chg. in inventory	0	0	0	0
Chg. in AP & other payables	-99	4	4	5
Income tax	-65	39	-23	-46
Cash flow from investing activities	**-1,158**	**182**	**-80**	**-76**
Chg. in PP&E	-86	-135	-60	-45
Chg. in intangible assets	-15	330	-5	-15
Chg. in financial assets	68	-13	-15	-16
Other	-1,125	0	0	0
Cash flow from financing activities	**1,099**	**-638**	**-357**	**-4**
Chg. in financial liabilities	1,794	-595	-314	39
Chg. in equity	10	0	0	0
Dividends	-157	-43	-43	-43
Other	-548	0	0	0
Chg. in cash	**96**	**-880**	**-292**	**115**
Beginning balance	1,257	1,354	474	181
Ending balance	1,354	474	181	297

Key valuation metrics/ratios

	2021	2022F	2023F	2024F
P/E (x)	44.7	-	70.8	35.6
P/CF (x)	31.7	-	14.1	11.3
P/B (x)	1.7	1.0	0.9	0.9
EV/EBITDA (x)	42.5	57.6	27.2	20.8
EPS (W)	2,795	-9,502	803	1,597
CFPS (W)	3,949	-8,030	4,035	5,028
BPS (W)	72,095	62,090	62,390	63,484
DPS (W)	528	528	528	528
Dividend payout ratio (%)	17.4	-4.8	62.0	31.2
Dividend yield (%)	0.4	0.9	0.9	0.9
Revenue growth (%)	0.9	6.6	7.0	7.0
EBITDA growth (%)	-21.4	-57.6	102.0	29.1
OP growth (%)	-44.5	-	-	349.9
EPS growth (%)	-23.4	-	-	98.8
AR turnover (x)	13.1	13.1	13.4	13.4
Inventory turnover (x)	583.8	652.8	653.8	653.9
AP turnover (x)	0.0	0.0	0.0	0.0
ROA (%)	2.6	-9.3	0.8	1.6
ROE (%)	4.3	-15.2	1.4	2.7
ROIC (%)	3.7	-6.5	0.9	2.7
Debt-to-equity ratio (%)	77.5	74.2	68.5	69.0
Current ratio (%)	64.2	40.5	34.6	39.9
Net debt-to-equity ratio (%)	30.8	40.3	39.4	36.9
Interest coverage ratio (x)	4.2	-2.3	0.6	2.8

Source: Company data, Mirae Asset Securities Research estimates

COMPANY ANALYSIS

[Korea] Games

March 15, 2023

Kakao Games

(293490 KQ)

Indirect beneficiary of genre diversification

Buy
(Maintain)

TP: W60,000
Upside: 40.2%

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HeeSeok Lim heeseok.lim@miraeasset.com

China to maintain reopening policy toward gaming industry

Worries about gaming industry raised during China's "two sessions" meetings

- During China's 2023 "two sessions" meetings, officials raised worries about the slowdown of the gaming industry; this marked a sharp contrast to the 2022 meetings, which featured calls for regulation.
- In 2022, China's gaming industry contracted 10% YoY, posting negative growth for the first time since the 2010s.
- Chinese authorities scaled back license issuance starting in 2018, tempering 2017-21 industry CAGR to around 10%.
- We believe Chinese regulators will more actively issue licenses for both local and foreign games to restore the growth of the gaming industry.

Genre diversification by Korean players to gather steam

Reopening of Chinese market should fuel genre diversification

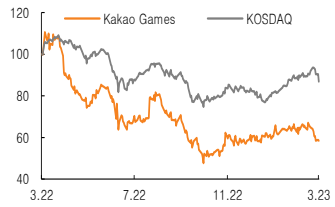
- China's mobile gaming market is well-diversified. In 2022, revenue contribution by genre was 28% for MOBA, 17% for FPS, 14% for casual, 14% for MMORPG, 13% for collectible RPG, and 11% for simulation.
- We believe the reopening of China's gaming market, led by non-MMORPGs, will prompt domestic gaming companies to speed up genre diversification.
- Many gaming companies had already been moving to diversify genres due to the maturing of the domestic market (which is heavily geared toward MMORPGs).
- For the period 2017-22, the revenue mix of non-MMORPGs in the domestic market was around 30%. However, that figure is now over 40%.

Valuation and recommendation

Reaffirm Buy and TP of W60,000

- We keep our 2023 earnings estimates and target P/E of 24x for Kakao Games unchanged. We maintain the stock as our top pick in games.
- We expect to see more games targeting casual players. Given that publishing plays a bigger role for such games than for MMORPGs, demand for outsourced publishing will likely increase. This should benefit top-tier publishers like Kakao Games.
- If the company finds success with its global rollouts of *Odin* (Japan in 1Q23 and Europe/North America in 4Q23) and *Goddess Order* (3Q23), we believe it will see a sharp rise in publishing demand from domestic game developers.
- We also expect new title momentum to continue with the releases of *ArcheAge War* (Mar. 21) and *Ares* (2Q23).

Key data



Current price (3/14/23, W)	42,800	Market cap (Wbn)	3,527
OP (22, Wbn)	178	Shares outstanding (mn)	82
Consensus OP (22F, Wbn)	193	Free float (%)	44.5
EPS growth (22, %)	-	Foreign ownership (%)	11.4
P/E (22, x)	-	Beta (12M)	1.06
Market P/E (22, x)	11.5	52-week low (W)	34,950
KOSDAQ	758.05	52-week high (W)	81,000

Share performance

(%)	1M	6M	12M
Absolute	-9.5	-14.1	-41.5
Relative	-6.9	-11.3	-32.7

Earnings and valuation metrics

(Dec.)	2019	2020	2021	2022	2023F	2024F
Revenue (Wbn)	391	496	1,012	1,148	1,595	1,805
OP (Wbn)	35	67	112	178	346	406
OP margin (%)	9.0	13.5	11.1	15.5	21.7	22.5
NP (Wbn)	11	86	529	-200	208	258
EPS (W)	197	1,379	7,061	-2,513	2,522	3,131
ROE (%)	2.6	12.1	34.1	-10.0	10.4	11.5
P/E (x)	-	33.4	12.9	-	17.0	13.7
P/B (x)	-	3.4	3.4	1.9	1.7	1.5
Div. yield (%)	-	0.0	0.0	0.0	0.0	0.0

Notes: Under consolidated K-IFRS; NP is attributable to owners of the parent
Source: Company data, Mirae Asset Securities Research estimates

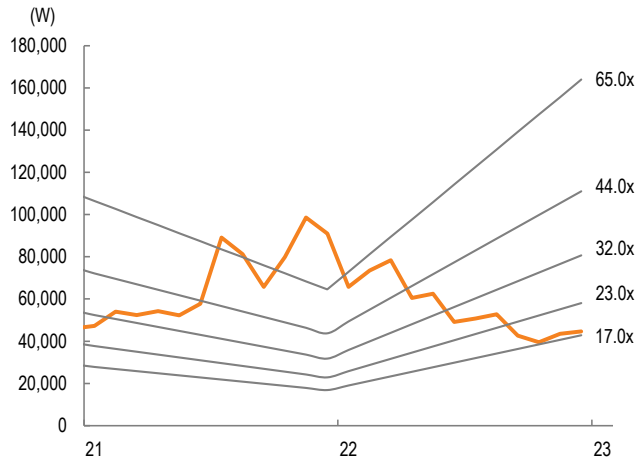
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Table 12. Quarterly and annual earnings (Wbn)

	1Q22	2Q22	3Q22	4Q22	1Q23F	2Q23F	3Q23F	4Q23F	2021	2022	2023F	2024F
Revenue	**266**	**339**	**307**	**236**	**282**	**385**	**475**	**452**	**1,012**	**1,148**	**1,595**	**1,805**
(YoY)	104.7%	161.7%	-34.2%	-17.8%	6.0%	13.6%	54.9%	91.8%	104.3%	13.4%	38.9%	13.2%
Mobile	177	213	197	152	189	252	358	359	755	739	1,158	1,306
PC	15	15	13	11	11	11	10	10	107	54	42	53
Other	75	111	97	73	82	122	108	83	150	355	395	446
Operating expenses	**224**	**258**	**263**	**225**	**252**	**302**	**354**	**340**	**901**	**970**	**1,249**	**1,399**
Labor	48	50	48	53	53	53	54	56	131	199	216	237
Fees/commissions	89	94	111	85	102	128	191	191	549	379	612	671
Marketing	15	20	21	15	24	23	21	20	79	71	87	99
Other	73	93	83	72	74	98	88	73	141	320	333	367
OP	**42**	**81**	**44**	**11**	**30**	**83**	**122**	**112**	**112**	**178**	**346**	**406**
(YoY)	169.7%	900.2%	2.3%	-76.2%	-28.9%	2.1%	178.1%	932.1%	68.2%	58.8%	94.7%	17.3%
OP margin	15.8%	23.9%	14.2%	4.6%	10.6%	21.5%	25.6%	24.7%	11.1%	15.5%	21.7%	22.5%
NP attributable to owners of the parent	**14**	**45**	**3**	**-262**	**11**	**49**	**78**	**70**	**529**	**-201**	**207**	**258**
Net margin	5.1%	13.3%	1.0%	-111.3%	3.8%	12.8%	16.3%	15.5%	52.2%	-17.5%	13.0%	14.3%

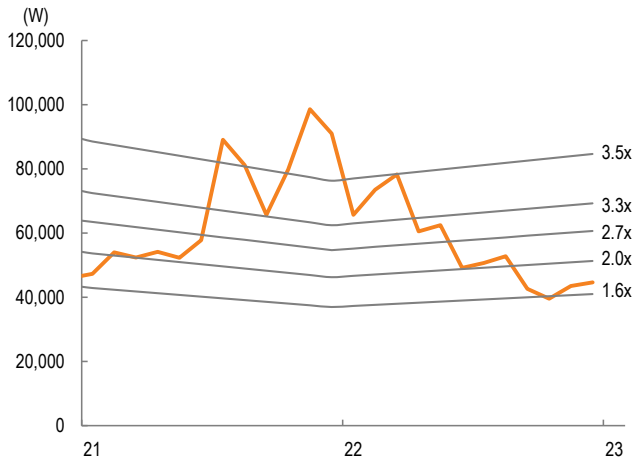
Source: Company data, Mirae Asset Securities Research

Figure 143. 12-month forward P/E band chart



Source: Mirae Asset Securities Research

Figure 144. 12-month forward P/B band chart



Source: Mirae Asset Securities Research

Table 13. Global peer valuation table (Wbn, x, %)

	Market cap	P/E		P/S		P/B		EV/EBITDA		OP margin	
		23F	24F	23F	24F	23F	24F	23F	24F	23F	24F
Krafton (Korea)	8,050	14.8	13.4	4.4	4.1	1.4	1.2	7.0	6.5	35.4	35.1
NCsoft	8,705	17.8	14.6	3.4	3.0	2.3	2.0	10.3	8.5	21.7	23.8
Kakao Games	4,805	79.7	37.2	1.6	1.5	0.9	0.9	20.3	16.2	2.1	4.2
Pearl Abyss	2,691	33.3	14.0	5.8	3.0	3.4	2.4	26.6	10.0	15.2	21.5
Kakao Games	3,556	19.8	16.6	2.5	2.2	1.7	1.5	12.5	10.8	18.7	19.4
Wemade	1,714	59.9	21.1	2.5	2.1	3.8	3.4	37.7	15.4	4.9	12.5
Com2uS	890	19.2	17.9	1.1	1.0	0.7	0.7	18.1	13.1	3.6	4.5
NHN	963	16.9	12.6	0.4	0.4	0.5	0.5	4.0	3.5	3.4	4.0
DoubleU Games	772	6.0	5.4	1.2	1.1	0.9	0.8	3.0	2.8	29.8	30.3
Webzen	603	10.5	9.2	2.5	2.2	0.9	0.8	6.6	5.6	27.7	28.7
Neowiz Games	940	12.2	12.9	2.2	2.1	1.7	1.5	7.7	8.3	21.1	19.4
JoyCity	304	14.9	9.3	1.6	1.4	2.5	2.0	13.4	9.2	13.3	17.5
Activision Blizzard (US)	79,675	20.4	19.4	6.5	6.4	2.8	2.5	15.4	13.8	35.1	37.9
Electronic Arts	39,014	18.1	17.0	4.2	4.0	4.0	3.8	12.4	11.8	29.1	29.7
Take-Two Interactive	24,303	30.7	21.8	3.5	3.0	2.0	2.0	23.1	17.5	15.5	15.3
Nintendo (Japan)	64,860	15.0	16.5	4.1	4.3	2.7	2.5	9.3	10.4	31.6	31.5
Nexon	25,746	23.9	20.7	6.4	5.9	2.8	2.4	14.8	13.2	32.5	33.6
Bandai Namco	18,007	18.3	17.9	1.9	1.8	2.9	2.7	10.3	9.8	13.8	14.1
Konami	8,831	22.8	17.0	2.9	2.7	2.3	2.1	10.0	8.1	17.2	21.2
CyberAgent	5,499	29.9	19.3	0.8	0.7	3.5	3.0	8.6	7.0	6.5	7.6
Square Enix	7,421	16.4	15.8	2.2	2.0	2.4	2.1	10.7	7.9	14.2	17.8
Tencent (China)	547,765	25.1	20.8	5.2	4.7	3.2	2.8	18.6	15.8	29.1	29.4
NetEase	71,811	16.4	14.7	3.6	3.3	5.0	4.7	11.6	10.2	21.8	22.4
Kingsoft	6,299	61.2	51.9	4.4	3.6	1.5	1.4	10.5	7.9	22.7	24.2
Youzu Interactive	1,926	81.2	31.2	5.3	5.3	2.1	2.0	40.5	22.3	3.4	12.6
Ubisoft (France)	3,897	-	13.0	1.4	1.2	1.8	1.6	4.3	3.6	-28.3	14.9

Source: Bloomberg, Mirae Asset Securities Research

Kakao Games (293490 KS)

Income statement (summarized)

(Wbn)	2021	2022F	2023F	2024F
Revenue	**1,012**	**1,148**	**1,595**	**1,805**
Cost of revenue	**0**	**0**	**0**	**0**
GP	**1,012**	**1,148**	**1,595**	**1,805**
SG&A expenses	**901**	**970**	**1,249**	**1,399**
OP (adj.)	**112**	**178**	**346**	**406**
OP	**112**	**178**	**346**	**406**
Non-operating profit	**610**	**-365**	**-3**	**-3**
Net financial income	0	-8	-12	-10
Net income from associates	13	-31	-17	-18
Pretax profit	722	-187	343	403
Income tax	202	-23	93	109
Profit from continuing operations	520	-164	250	294
Profit from discontinued operations	0	0	0	0
NP	**520**	**-164**	**250**	**294**
Attributable to owners	529	-200	208	258
Attributable to minority interests	-9	36	43	36
Total comprehensive income	**738**	**-164**	**250**	**294**
Attributable to owners	747	-166	253	297
Attributable to minority interests	-8	2	-3	-3
EBITDA	155	220	387	451
FCF	217	-933	362	353
EBITDA margin (%)	15.3	19.2	24.3	25.0
OP margin (%)	11.1	15.5	21.7	22.5
Net margin (%)	52.3	-17.4	13.0	14.3

Balance sheet (summarized)

(Wbn)	2021	2022F	2023F	2024F
Current assets	**1,151**	**1,249**	**1,553**	**1,846**
Cash & equivalents	809	830	1,016	1,246
AR & other receivables	102	83	115	130
Inventory	60	120	132	146
Other current assets	180	216	290	324
Non-current assets	**3,154**	**2,799**	**2,897**	**2,985**
Investments in associates	325	218	302	342
PP&E	75	143	137	147
Intangible assets	2,128	2,038	2,047	2,081
Total assets	**4,305**	**4,048**	**4,451**	**4,831**
Current liabilities	**843**	**280**	**320**	**353**
AP & other payables	603	72	83	92
Short-term financial liabilities	54	30	39	44
Other current liabilities	186	178	198	217
Non-current liabilities	**1,042**	**1,512**	**1,624**	**1,677**
Long-term financial liabilities	615	1,223	1,223	1,223
Other non-current liabilities	427	289	401	454
Total liabilities	**1,885**	**1,792**	**1,944**	**2,030**
Equity attributable to owners	**2,101**	**1,900**	**2,109**	**2,366**
Capital stock	8	8	8	8
Capital surplus	1,054	1,054	1,054	1,054
Retained earnings	741	540	748	1,005
Minority interests	**319**	**356**	**398**	**435**
Shareholders' equity	**2,420**	**2,256**	**2,507**	**2,801**

Cash flow statement (summarized)

(Wbn)	2021	2022F	2023F	2024F
Operating cash flow	**228**	**-843**	**377**	**386**
NP	520	-164	250	294
Non-cash income/expenses	-551	27	146	164
Depreciation	20	22	21	23
Amortization	23	20	21	22
Other	-594	-15	104	119
Chg. in working capital	57	-722	85	47
Chg. in AR & other receivables	79	18	-28	-13
Chg. in inventory	-11	-60	-12	-13
Chg. in AP & other payables	-21	2	5	2
Income tax	-4	23	-93	-109
Cash flow from investing activities	**-804**	**-59**	**-115**	**-121**
Chg. in PP&E	-11	-90	-15	-33
Chg. in intangible assets	-15	70	-30	-55
Chg. in financial assets	-105	-39	-70	-33
Other	-673	0	0	0
Cash flow from financing activities	**818**	**584**	**9**	**4**
Chg. in financial liabilities	555	584	9	4
Chg. in equity	326	0	0	0
Dividends	0	0	0	0
Other	-63	0	0	0
Chg. in cash	**241**	**21**	**186**	**229**
Beginning balance	567	809	830	1,016
Ending balance	809	830	1,016	1,246

Key valuation metrics/ratios

	2021	2022F	2023F	2024F
P/E (x)	12.9	-	17.0	13.7
P/CF (x)	-	-	8.9	7.7
P/B (x)	3.4	1.9	1.7	1.5
EV/EBITDA (x)	45.8	19.4	10.1	8.2
EPS (W)	7,061	-2,513	2,522	3,131
CFPS (W)	-416	-1,713	4,819	5,560
BPS (W)	27,156	23,124	25,643	28,774
DPS (W)	0	0	0	0
Dividend payout ratio (%)	0.0	0.0	0.0	0.0
Dividend yield (%)	0.0	0.0	0.0	0.0
Revenue growth (%)	104.3	13.4	38.9	13.2
EBITDA growth (%)	74.8	42.0	75.9	16.3
OP growth (%)	68.2	58.7	94.7	17.3
EPS growth (%)	412.0	-	-	24.1
AR turnover (x)	14.0	14.1	18.4	16.8
Inventory turnover (x)	28.2	12.7	12.6	13.0
AP turnover (x)	0.0	0.0	0.0	0.0
ROA (%)	18.5	-3.9	5.9	6.3
ROE (%)	34.1	-10.0	10.4	11.5
ROIC (%)	8.1	0.7	15.2	14.5
Debt-to-equity ratio (%)	77.9	79.4	77.5	72.5
Current ratio (%)	136.6	446.1	485.7	522.8
Net debt-to-equity ratio (%)	-10.9	10.7	0.2	-8.9
Interest coverage ratio (x)	16.2	10.5	15.6	18.2

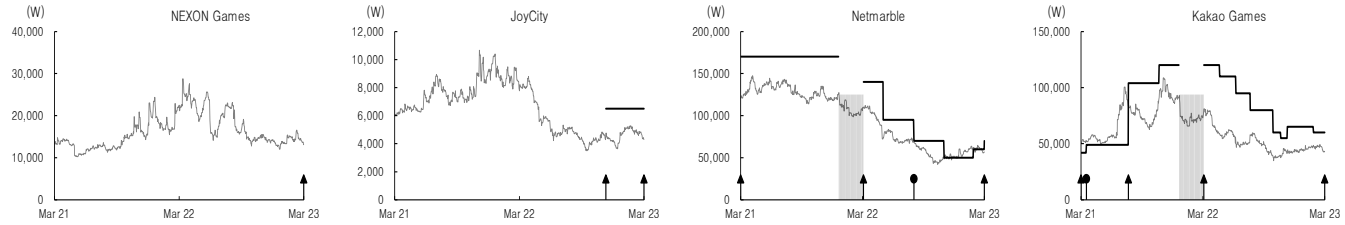
Source: Company data, Mirae Asset Securities Research estimates

Appendix 1

Important disclosures and disclaimers

Two-year rating and TP history

Company	Date	Rating	TP (W)
Nexon Games (225570)			
	03/15/23	Buy	19,000
JoyCity (067000)			
	11/23/22	Buy	6,500
Netmarble (251270)			
	03/15/23	Buy	70,000
	02/10/23	Hold	60,000
	11/14/22	Hold	50,000
	08/16/22	Hold	70,000
	05/16/22	Buy	95,000
	03/18/22	Buy	140,000
	01/03/22	No Coverage	
	11/12/21	One year	170,000
	11/12/20	Buy	170,000
Kakao Games (293490)			
	02/09/23	Buy	60,000
	11/23/22	Buy	65,000
	11/03/22	Buy	55,000
	10/11/22	Buy	60,000
	08/04/22	Buy	80,000
	06/22/22	Buy	95,000
	05/04/22	Buy	110,000
	03/18/22	Buy	120,000
	01/03/22	No Coverage	
	11/04/21	Buy	120,000
	08/04/21	Buy	104,000
	03/31/21	Hold	49,000
	09/10/20	Buy	42,000



Stock ratings	
Buy	Expected 12-month performance: +20% or greater
Trading Buy	Expected 12-month performance: +10% to +20%
Hold	Expected 12-month performance: -10% to +10%
Sell	Expected 12-month performance: -10% or worse

Sector ratings	
Overweight	Expected to outperform the market over 12 months
Neutral	Expected to perform in line with the market over 12 months
Underweight	Expected to underperform the market over 12 months

Rating and TP history: Share price (─), TP (▬), Not Rated (■), Buy (▲), Trading Buy (■), Hold (●), Sell (♦)
* Our investment rating is a guide to the expected return of the stock over the next 12 months.
* Outside of the official ratings of Mirae Asset Securities Co., Ltd., analysts may call trading opportunities should technical or short-term material developments arise.
* The TP was determined by the research analyst through valuation methods discussed in this report, in part based on estimates of future earnings.
* TP achievement may be impeded by risks related to the subject securities and companies, as well as general market and economic conditions.

Ratings distribution and investment banking services

	Buy	Trading Buy	Hold	Sell
Ratings distribution	85.18%	8.89%	5.19%	0.74%
Investment banking services	83.33%	16.67%	0%	0%

* Based on recommendations in the last 12-months (as of December 31, 2022)

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