

## US Internet/Video Games &amp; Interactive Media

## February Mobile Game Tracker: improving Y/Y trends as comps ease

Industry Overview

**Market stable in February, some new launch green shoots**

We track monthly IAP revenues of 500+ mobile games across 5 video game stocks on Sensor Tower for intra-quarter reads. The mobile gaming market opened the year with a continuation of trends in seen 2023: revenue run rate appeared mostly stable per 3P data, and the outlooks from management teams reflect somewhat muted growth expectations, with many acknowledging the still challenging market backdrop. Nevertheless, [AppLovin's Software results & commentary](#) may raise optimism that AI upgrades in adtech models could help UA teams deploy larger ad budgets at acceptable returns, potentially resuscitating growth in mobile games. In February, we noted the early success of several new game launches that have contributed to our coverage.

**TTWO: new launch succeeds, mobile back in growth mode?**

3P ests. of TTWO's mobile portfolio were up +3% M/M and 11% Y/Y in February, tracking roughly inline with guidance and well above Street (+6% Q/Q) when excluding the one-time licensing revenue contribution in 4CQ (BofA est. \$30mn). *Match Factory*, a November launch, is now Zynga's the third largest revenue contributor by run rate (~\$150mn annualized). *Toon Blast*, TTWO's largest casual game (15% of mobile) was up 50% Y/Y in February and now back at pre-COVID run rate, supportive of the notion of a "Forever Franchise." We note that Peak Games called out "substantial growth in ROAS campaigns with AppLovin... with the recent AI advancements" in a December blog post. These recent successes lend support to our above-Street mobile growth forecast for FY25/FY26 (+4pp/+14pp Y/Y). Continued Y/Y growth like this, if profitable, could lead to an increase in our \$32 segment valuation for Zynga, which assumes a 9% FCF Yield.

**EA: sharp FC rebound, more mobile games to sunset**

EA's mobile bookings (3P est.) grew +14% M/M in February, almost entirely driven by a rebound in *FC Mobile* (+44% M/M) which likely benefited from seasonal event Team of the Year; bookings ex. *FC* were mostly stable. Nevertheless, 3P data thru Feb (-2% Q/Q) still tracks slightly below BofA (-5% Q/Q). On 2/28, EA announced the sunseting of 4 additional mobile games, reflecting 1) an ROI focused approach to growing the mobile portfolio, and 2) persistent challenges in scaling new games profitably, even with the backing of solid IP. We estimate that the sunseting games combined represent ~4% of EA's mobile gaming run rate and likely negligible contribution to consolidated topline.

**APP stable in Feb; UBI back to growth driven by new game**

APP mobile IAP bookings (3P est.) grew +6% Y/Y like-for-like in Feb; average daily run rate grew +2% M/M. UBI inflected to positive Y/Y growth (+20% Y/Y) for the first time since at least 2022, benefiting from new launch *Invincible: Guarding the Globe*.

**PLTK: 3P data inline w/ Street, run rate stable**

3P estimates of run rate through February suggests flattish Q/Q in 1CQ, roughly inline with Street. Management has guided '24 revenue to stay roughly flat Y/Y.

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UA: User Acquisition

IAP: In-app Purchase

ROI: Return on Investment

ROAS: Return on Ad Spend

DTC: Direct to Consumer

SOTP: Sum of the Parts

IP: Intellectual Property

TTWO: Take-Two Interactive

EA: Electronic Arts

APP: AppLovin

PLTK: Playtika

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# Mobile Gaming in February: run rate stable with easing Y/Y comps

We track monthly In-app Purchase (IAP) revenues for 500+ mobile games across 5 gaming companies (TTWO, EA, UBI, APP, PLTK) on mobile intelligence platform Sensor Tower for intra-quarter reads on the mobile gaming market.

Sensor Tower conducts quarterly download/revenue data revisions designed to implement the most up-to-date models, tune parameters for key markets, and to audit for accuracy degradation. These revisions impact historical data series (and Y/Y comps) and may result in differences vs data history published in our previous reports. While the magnitude of impact varies across individual apps and geographies, on an aggregate level these changes account for less than 0.5% of App store total revenue.

## Exhibit 1: Mobile In-App Purchase Tracking vs. Expectations, February '24

February bookings run rates were mostly stable but Y/Y comps have eased

Ticker	Mobile Mix of Revs	Reported Metric	Y/Y Growth (3P Ests)				Q/Q Growth (3P Ests)		Indicated Bookings Q/Q Growth (1CQ)			Tracking vs. Expectations
			4CQ	Jan	Feb	Jan + Feb	1CQ*		Street	Guide	BofA	
TTWO**	40%	Mobile IAP Bookings	-7%	-1%	11%	5%	11%		6%**	10%**	10%**	Better
EA***	15%	Mobile Bookings	-1%	-23%	-13%	-18%	-5%		8%***		-2%	Worse
APP	30%	Mobile IAP Bookings	6%	3%	6%	5%	-1%		-5%		-4%	Better
PLTK	100%	Total Revenue	-3%	-9%	-6%	-8%	-2%		1%		3%	Inline
UBI****	10%	Mobile Bookings	-13%	-13%	20%	3%	14%					

\* Q/Q growth (3P ests) intra-quarter is estimated from daily average run rate during the tracking period (partial quarter) vs in the full previous quarter

\*\* TTWO growth rates are calculated on a like-for-like basis (T2 Mobile + Zynga pro forma). Street/Guide/BofA Q/Q growth excludes one-timing licensing rev in 3FQ, which we estimate to be ~\$30mn

\*\*\* EA Street consensus is based on only 2 analyst estimates and may not be representative

\*\*\*\* Due to Sensor Tower's periodic data revisions, historical Y/Y comps may have small differences (usually less than 1% change) vs ests previously published

\*\*\*\*\* UBI is covered by Adrien de Saint Hilaire in the BofA European Media & Internet research team

Source: BofA Global Research, Visible Alpha, Company Reports

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## Exhibit 2: BofA Video Games & GameTech Current Ratings

Current ratings of our coverage

Company	Ticker	Rating	Price Objective	Price 3/5/2024
Roblox	RBLX	BUY (C-1-9)	60.00	\$38.87
AppLovin	APP	BUY (C-1-9)	68.00	\$60.96
Take-Two Interactive	TTWO	NEUTRAL (B-2-9)	170.00	\$143.94
Digital Turbine	APPS	NEUTRAL (C-2-9)	6.00	\$3.03
Playtika	PLTK	UNDERPERFORM (C-3-9)	7.00	\$6.84
Electronic Arts	EA	BUY (B-1-7)	150.00	\$136.28

Source: BofA Global Research, Bloomberg

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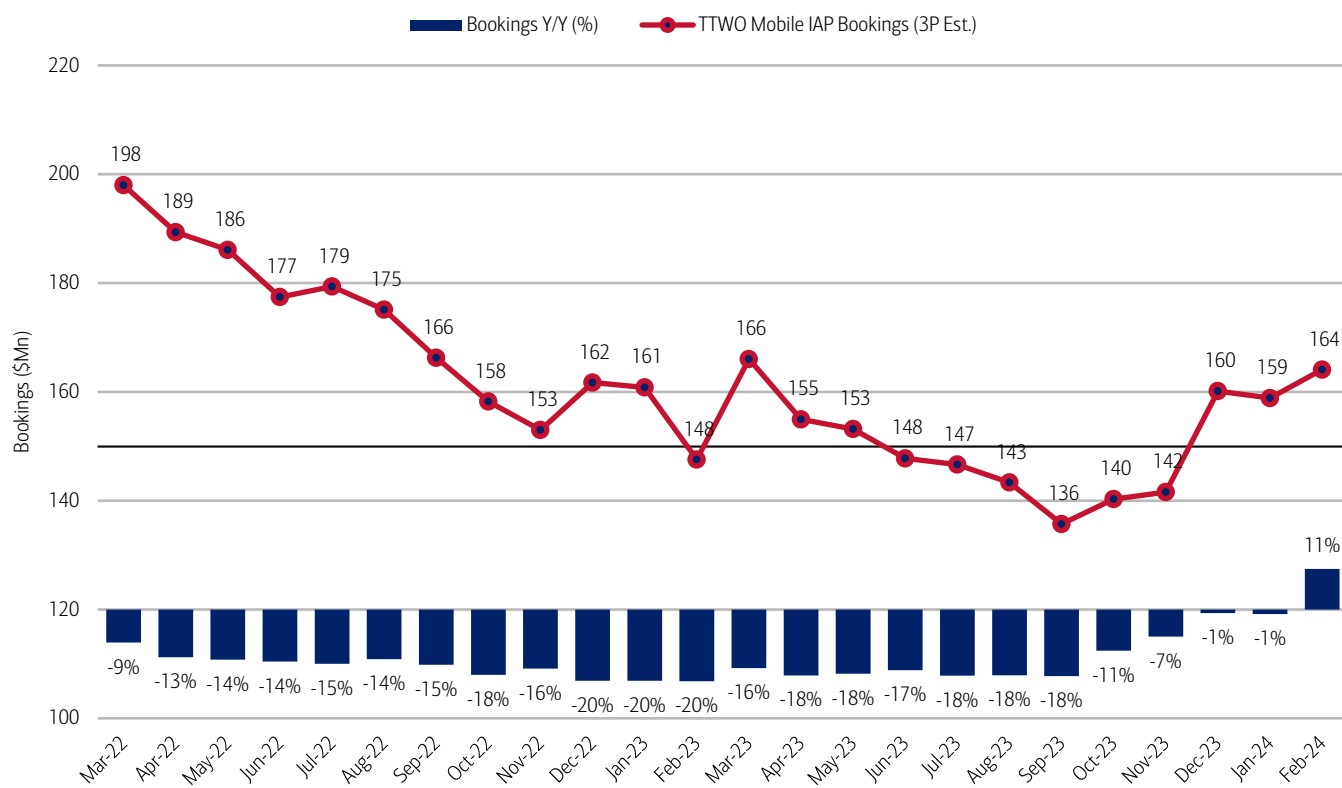
# TTWO: bookings up M/M despite short month, Match Factory momentum strong

Per our tracking of 100+ mobile games developed by TTWO:

- 3P estimates of mobile IAP bookings grew -1%/+11% Y/Y like-for-like in Jan/Feb, notably improving on 1) easier Y/Y comps and 2) contribution from new game launches. Total bookings grew 3% M/M in Feb despite it being a shorter month; average daily run rate was up 10% M/M
- TTWO guided 1CQ mobile flat Y/Y, which we think translates to roughly +10% Q/Q, excluding one-time Netflix licensing revenue recognized in the Dec Q (BofA est. \$30mn).** 3P data tracks roughly inline with guidance, with average daily run rate through Feb +11% Q/Q, but above Street at +6% Q/Q
- First indication of new launch success has emerged with Match Factory quickly rising through the ranks, now on track for >\$100mn annualized bookings run rate.** Monthly bookings reached \$12mn in Feb despite it being a short month, and were up +30% M/M.
- We note the strong tendency for downward biases in 3P data due to the exclusion of DTC revenues, and expect TTWO's reported mobile bookings to increasingly outperform 3P tracking as DTC penetration ramps up

## Exhibit 3: TTWO Mobile IAP Bookings (3P Ests), Mar '22 – Feb '24

TTWO mobile IAP bookings (3P Ests) have been rising since December on contribution from new game launches; bookings grew 3% M/M in Feb despite it being a shorter month



Source: Sensor Tower, BofA analysis of 100+ TTWO mobile games

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## Comps easing for existing games, new games are emerging growth driver

- Many top titles have seen shallower Y/Y declines since September as 1) Y/Y comps ease and 2) bookings stabilize sequentially. TTWO's biggest mobile game *Toon Blast* has made a strong comeback since October '23, with Y/Y growth accelerating. Nevertheless, Y/Y declines across most of the portfolio remain steep, highlighting the persistent challenges faced by many of its legacy games
- Match Factory* has grown rapidly since its Nov 2023 release and has become Zynga's top 3 game by bookings in Feb
- Monthly bookings from Other Games have seen accelerating growth since October, likely reflecting recent new game launches like *Match Factory* and *Top Troops*
- The wide dispersion in performance across TTWO's largest mobile titles have led to anemic growth in the overall portfolio over the past 12 months. The lack of consistency in growth implies to us that TTWO's 18-game slate for FY24 – FY26 is likely key to reviving growth in the mobile business

### Exhibit 4: Mobile IAP Bookings (3P Ests) Y/Y Growth, TTWO Top Games, 2023 - 2024

Lack of consistently growing titles has led to unsteady growth in TTWO's portfolio, suggesting continuous investment into new games is likely needed to revive growth

#### Key

Y/Y Growth < 0%

Y/Y Growth = 0%

Y/Y Growth > 0%

Mobile Franchise	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	% of Total Bookings (LTM)
Consolidated	-16%	-18%	-18%	-17%	-18%	-18%	-18%	-11%	-7%	-1%	-1%	11%	
Toon Blast	-33%	-30%	-29%	-23%	-27%	-22%	-20%	2%	28%	45%	37%	50%	16%
Empires & Puzzles: Match-3 RPG	-10%	-17%	-19%	-19%	-12%	-25%	-23%	-23%	-29%	-22%	-17%	-12%	15%
Merge Dragons!	3%	2%	-6%	-8%	-7%	-11%	-16%	-16%	-18%	-22%	-28%	-27%	8%
Toy Blast	-28%	-28%	-26%	-24%	-23%	-18%	-16%	-9%	-4%	-9%	-18%	-4%	6%
Zynga Poker™ - Texas Hold'em	-4%	-9%	-14%	-16%	-20%	-13%	-15%	-16%	-14%	-8%	-19%	-14%	6%
Top Eleven 2021: Be a Soccer Manager	30%	0%	4%	7%	4%	-4%	0%	-4%	-6%	-11%	-14%	-10%	5%
CSR 2 - Realistic Drag Racing	-7%	-10%	6%	7%	-5%	-18%	-3%	1%	5%	0%	-11%	-7%	4%
Game of Thrones Slots Casino	10%	19%	19%	15%	3%	-11%	-4%	-1%	-4%	-14%	-20%	-24%	4%
Harry Potter: Puzzles & Spells	-28%	-31%	-30%	-28%	-28%	-25%	-23%	-18%	-7%	-6%	-6%	4%	3%
Wizard of Oz Slots Games	-15%	-13%	-9%	-13%	-21%	-15%	-21%	-24%	-18%	-18%	-25%	-21%	3%
Hit it Rich! Casino Slots Game	0%	-10%	-14%	-16%	-19%	-21%	-26%	-19%	-19%	-20%	-24%	-18%	3%
Golf Rival - Multiplayer Game	-21%	-29%	-29%	-32%	-33%	-25%	-32%	-21%	-19%	-23%	-23%	-9%	3%
Words With Friends 2 Word Game	1%	-14%	-12%	-8%	-14%	-18%	-20%	-15%	-11%	-16%	-24%	-8%	2%
Dragon City Mobile	-33%	-29%	-16%	-15%	-16%	4%	-9%	-2%	-18%	1%	5%	-1%	2%
WWE SuperCard - Battle Cards	-32%	-20%	-20%	-14%	-29%	7%	-13%	9%	-11%	18%	41%	17%	2%
Two Dots: Brain Puzzle Games	-14%	-22%	-29%	-34%	-30%	-35%	-33%	-31%	-29%	-29%	-26%	-9%	2%
Match Factory!													2%
NBA 2K Mobile Basketball Game	-21%	-21%	3%	-5%	-7%	-8%	-22%	-14%	-5%	-10%	-18%	-17%	1%
Other Games	-24%	-23%	-24%	-21%	-23%	-20%	-19%	-5%	3%	6%	7%	43%	13%

Source: Sensor Tower, BofA Analysis of 100+ TTWO mobile games

Note: Y/Y comps not available for Match Factory! as the game was launched in Nov 2023

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## Fewer top titles below pre-COVID run-rate suggests worst is behind us

When comparing the current revenue run rates of TTWO's top mobile titles with pre-COVID levels (same month in 2019), we note that:

- Bookings of three of TTWO's four largest games (~30% of total bookings) still appear to be below their pre-COVID levels, a likely sign of game maturity among the most mature games, though trends have improved since January
- Sports (*Top Eleven*, *Golf Rival*, *NBA 2K*) appear to be best performing genres in TTWO's portfolio since 2019, with bookings notably above pre-Covid run rates. *Words With Friends 2* & *Two Dots* also performed better than pre-COVID
- Before its acquisition by TTWO, Zynga identified about a dozen "forever franchises" that were > \$100mn in bookings and could grow organically for at least 5 years through live events they called "bold beats". *Match Factory*, launched in December 2023, appears on track to become a new bold beat

### Exhibit 5: Mobile IAP Bookings (3P Ests) Comparison vs Pre-COVID, TTWO Top Games

TTWO's four largest games are showing potential signs of game saturation, with bookings now 20-40% lower vs pre-COVID

#### Key

Y/Y Growth < 0%

Y/Y Growth = 0%

Y/Y Growth > 0%

Mobile Franchise	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	% of Total Bookings (LTM)
Consolidated	1%	1%	-7%	-8%	-15%	-19%	-23%	-23%	-22%	-15%	2%	10%	
Toon Blast	-29%	-25%	-33%	-35%	-43%	-42%	-45%	-38%	-27%	-11%	-9%	-3%	16%
Empires & Puzzles: Match-3 RPG	-15%	-19%	-19%	-2%	-27%	-25%	-34%	-37%	-36%	-38%	-21%	-21%	15%
Merge Dragons!	-14%	-26%	-34%	-38%	-43%	-49%	-51%	-48%	-47%	-39%	-20%	-30%	8%
Toy Blast	-30%	-30%	-43%	-39%	-36%	-37%	-41%	-44%	-44%	-43%	-46%	-37%	6%
Zynga Poker™ - Texas Hold'em	24%	28%	9%	-3%	1%	3%	2%	6%	2%	11%	-5%	2%	6%
Top Eleven 2021: Be a Soccer Manager	198%	166%	135%	164%	178%	168%	204%	145%	152%	104%	194%	157%	5%
CSR 2 - Realistic Drag Racing	-37%	-35%	-28%	-25%	-10%	-41%	-33%	-28%	-37%	-32%	-41%	-49%	4%
Game of Thrones Slots Casino		29950%	2545%	167%	121%	72%	56%	55%	43%	60%			4%
Harry Potter: Puzzles & Spells													3%
Wizard of Oz Slots Games	25%	25%	14%	13%	16%	11%	-7%	-18%	-16%	-15%	-1%	-3%	3%
Hit it Rich! Casino Slots Game	20%	11%	10%	12%	2%	-4%	0%	-8%	-8%	-10%	-1%	-2%	3%
Golf Rival - Multiplayer Game	350%	208%	95%	44%	38%	24%	35%	36%	38%	43%	460%	360%	3%
Words With Friends 2 Word Game	70%	80%	60%	64%	68%	56%	33%	17%	16%	18%	39%	71%	2%
Dragon City Mobile	-6%	-3%	24%	-4%	-13%	0%	-7%	8%	-18%	-16%	-13%	-9%	2%
WWE SuperCard - Battle Cards	-7%	-8%	12%	-20%	-22%	-12%	-9%	0%	-34%	-26%	-8%	-4%	2%
Two Dots: Brain Puzzle Games	127%	115%	88%	58%	53%	38%	31%	7%	10%	-5%	109%	134%	2%
Match Factory!													2%
NBA 2K Mobile Basketball Game	233%	144%	138%	92%	92%	93%	73%	112%	104%	33%	206%	129%	1%
Other Games	-18%	-10%	-20%	-19%	-20%	-22%	-31%	-33%	-34%	-28%	-11%	14%	13%

Source: Sensor Tower, BofA Analysis of 100+ TTWO mobile games

Numbers in table represent growth of estimated bookings relative to bookings in the same month in 2019. E.g. Jan '24 comp = Bookings (Jan '24) / Bookings (Jan '19) - 1

\* Comparisons vs pre-COVID are not available for Harry Potter: Puzzles & Spells, Match Factory! as the games were launched after 2019

\* Comparisons vs pre-COVID for Game of Thrones Slots are elevated as it was lapping the year of launch

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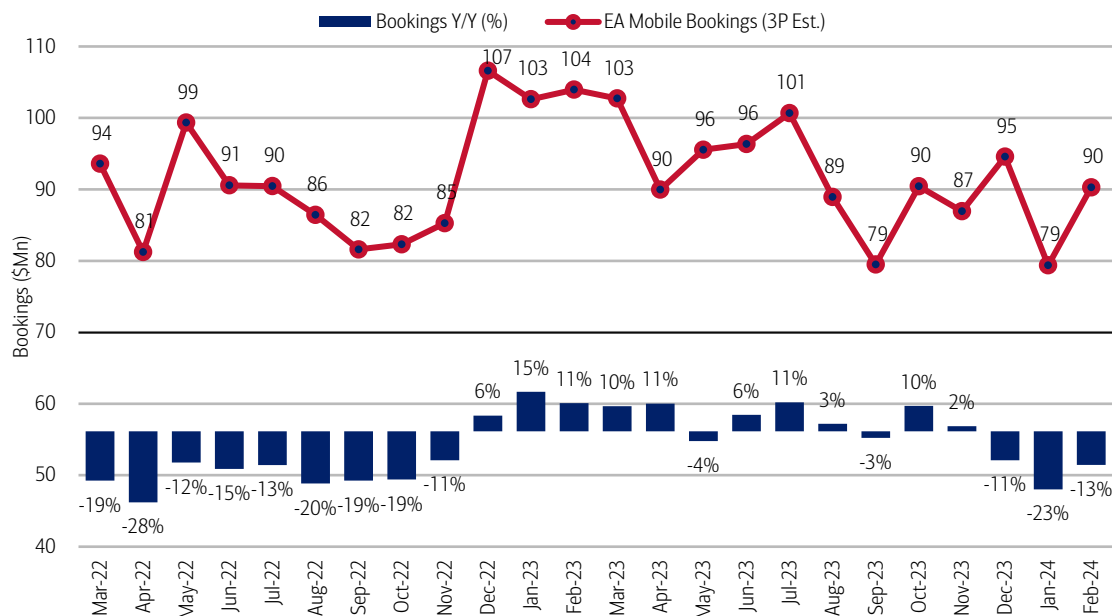
## EA: bookings jumped 14% M/M on FC Mobile rebound, more games to sunset

Per our tracking of 200+ mobile games from EA:

- **3P estimates of mobile IAP bookings rose +14% M/M in February despite it being a shorter month; daily average run rate increased +22% M/M.** The sequential growth was almost entirely driven by *EA Sports FC Mobile*, which grew +44% M/M; strength was likely driven by seasonal special event Team of the Year. *Star Wars Galaxy of Heroes* bookings were slightly higher sequentially and appear to be normalized following a strong December.
- **3P data through February suggests -5% Q/Q, slightly below BofA's 1CQ mobile forecast (-2% Q/Q); FC Mobile, however, appears on track for sequential growth.**
- **On a 2/28 press release, EA announced it will sunset 4 mobile games, namely *Kim Kardashian Hollywood*, *Lord of the Rings*, *Tap Sports Baseball*, and *F1 Mobile*.** We think the move reflects EA's focus on ROI in its mobile growth strategy, but nevertheless highlights the challenge in scaling mobile games profitably, even when games are backed with established IP. Based on 3P data, we estimate that the 4 games combined contributed to ~4% of EA's total mobile bookings in the last 6 months.

### Exhibit 6: EA Mobile IAP Bookings (3P Ests), Mar '22 - Feb '24

EA mobile IAP bookings (3P Ests) grew 14% M/M in Feb despite it being a shorter month

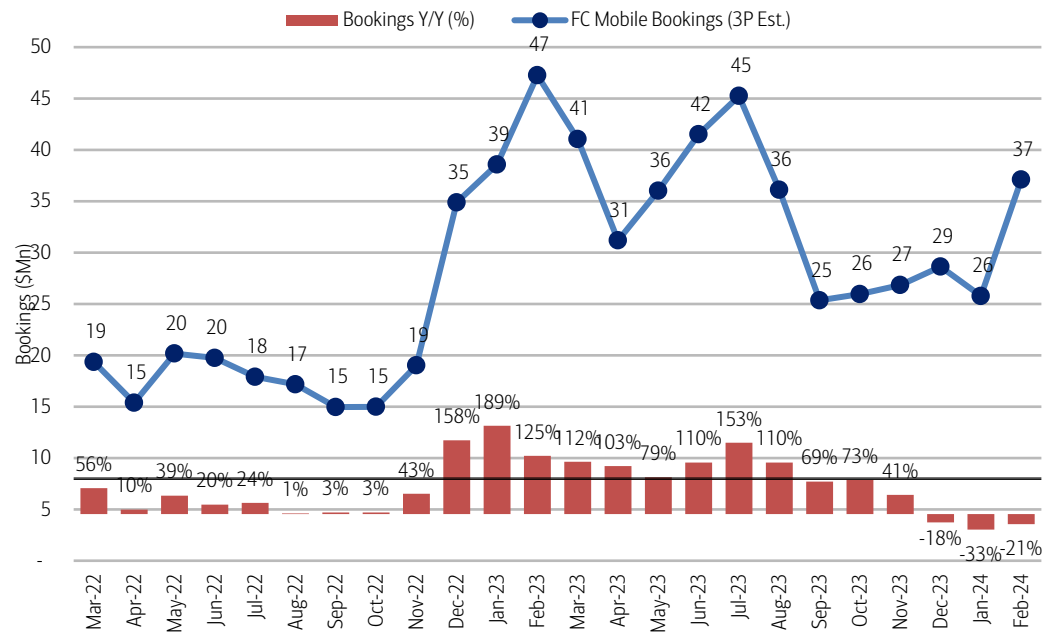


Source: Sensor Tower, BofA analysis of >200 EA games

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**Exhibit 7: EA Sports FC Mobile Bookings (3P Ests), Mar '22 - Feb '24**

FC Mobile bookings grew 44% M/M in Feb, though still lower Y/Y comping strong World Cup engagement last year



Source: Sensor Tower

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## Declines still steep but somewhat moderated, FC franchise faces tough comps

- Except games in the Sports FC franchise, most of EA's top mobile titles have shown consistent bookings (3P ests) declines in 2023. However, declines have somewhat moderated since October '23 as Y/Y comps ease. EA Sports FC has seen Y/Y declines since Dec '23 lapping peak engagement during World Cup 2022
- EA views its already successful PC/Console IP as a growth driver for its mobile games, and sees its biggest titles as best positioned to capitalize on opportunities in mobile. FC Mobile best exemplifies this strategy, and a few other IP-based games (SimCity, Madden, The Sims, Star Wars) have begun to show signs of outperformance relative to Casual games (Design Home, Covet Fashion, Plants vs Zombies, etc.) since October '23
- EA acquired Playdemic for \$1.4Bn in September '21, of which Golf Clash is the main asset. Golf Clash bookings (3P ests) have been falling Y/Y since EA's acquisition, though declines have moderated since July '23

### Exhibit 8: Mobile IAP Bookings (3P Ests) Y/Y Growth, EA Top Games, 2023 - 2024

Except games in the Sports FC franchise, most of EA's top mobile titles have been in Y/Y decline

#### Key

Y/Y Growth < 0%

-20%

Y/Y Growth = 0%

0%

Y/Y Growth > 0%

20%

Game	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	% of Total Bookings (LTM)
Consolidated	10%	11%	-4%	6%	11%	3%	-3%	10%	2%	-11%	-23%	-13%	
EA SPORTS FC™ Mobile Soccer	112%	103%	79%	110%	153%	110%	69%	73%	41%	-18%	-33%	-21%	37%
Star Wars™: Galaxy of Heroes	-24%	-14%	-28%	-21%	-29%	-28%	-31%	41%	-3%	16%	-22%	-10%	12%
Golf Clash	-17%	-20%	-21%	-24%	-10%	-18%	-16%	-7%	-6%	-11%	-7%	27%	10%
Design Home™: House Makeover	-9%	-1%	-5%	2%	-14%	-19%	-9%	-21%	-16%	-22%	-15%	-6%	7%
SimCity BuildIt	12%	9%	1%	11%	11%	0%	-3%	-7%	3%	-1%	-18%	0%	5%
Madden NFL 24 Mobile Football	18%	13%	-16%	-15%	-28%	-18%	-24%	-6%	6%	16%	12%	2%	4%
The Sims™ FreePlay	-14%	7%	5%	-1%	-13%	-22%	-16%	-15%	-2%	-3%	-10%	-2%	3%
Covet Fashion: Dress Up Game	-28%	-11%	-10%	3%	-13%	-10%	-1%	-4%	-18%	-19%	-16%	-22%	3%
EA SPORTS FC™ 24 Companion	36%	133%	41%	59%	55%	152%	336%	89%	72%	92%	49%	17%	3%
EA SPORTS MLB TAP BASEBALL 23													2%
Plants vs Zombies™ 2	-22%	-27%	-24%	-14%	-11%	-16%	20%	16%	11%	9%	-18%	5%	2%
The Simpsons™: Tapped Out	20%	39%	13%	11%	17%	7%	0%	-13%	11%	3%	-1%	1%	2%
Need for Speed™ No Limits	-34%	-32%	-21%	-9%	-12%	-10%	-11%	-20%	-23%	-21%	-28%	-32%	1%
Other Games	-42%	-48%	-61%	-61%	-61%	-59%	-53%	-55%	-54%	-55%	-56%	-42%	8%

Source: Sensor Tower, BofA analysis of >200 EA games

MLB Tap Sports Baseball Y/Y comps not available as the game launched in 2023

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## Games have declined vs pre-COVID except FC Mobile

When comparing the current revenue run rates of EA's top mobile titles with pre-COVID levels (same month in 2019), we note that:

- *FC Mobile* appears to be the only title among top 13 (~90% of total bookings) that has grown consistently since 2019, excluding new launches (*Madden*, *MLB Tap Sports Baseball*, *FC 24 Companion*)
- Across the portfolio, bookings estimates are 20%-60% lower than pre-COVID, suggesting that declines are driven by a structural deterioration in EA's core mobile franchise, not by the reopening dynamic post pandemic

### Exhibit 9: Mobile IAP Bookings (3P Ests) Comparison vs Pre-COVID, EA Top Games

Bookings (3P ests) on top games also appear to be lower than pre-COVID, except FC Mobile

#### Key

Y/Y Growth < 0%

-60%

Y/Y Growth = 0%

0%

Y/Y Growth > 0%

60%

Game	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	% of Total Bookings (LTM)
Consolidated	-9%	-14%	-8%	-12%	-6%	-18%	-25%	-18%	-18%	-25%	-30%	-15%	
EA SPORTS FC™ Mobile Soccer	302%	250%	274%	270%	366%	274%	161%	125%	139%	107%	130%	270%	37%
Star Wars™: Galaxy of Heroes	-38%	-35%	-18%	-36%	-39%	-38%	-52%	-17%	-37%	-41%	-42%	-32%	12%
Golf Clash	-50%	-51%	-47%	-52%	-39%	-40%	-40%	-40%	-37%	-40%	-54%	-47%	10%
Design Home™: House Makeover	-33%	-38%	-43%	-44%	-47%	-48%	-45%	-50%	-50%	-47%	-54%	-45%	7%
SimCity BuildIt	-1%	9%	-9%	-17%	-8%	-26%	-29%	-15%	-12%	-11%	-19%	-14%	5%
Madden NFL 24 Mobile Football													4%
The Sims™ FreePlay	-29%	-18%	-32%	-39%	-31%	-28%	-21%	-23%	-23%	-27%	-36%	-25%	3%
Covet Fashion: Dress Up Game	-47%	-28%	-15%	-35%	-41%	-30%	-36%	-36%	-39%	-40%	-52%	-34%	3%
EA SPORTS FC™ 24 Companion			15514%	499%	830%	1393%	213%	189%	250%	207%			3%
EA SPORTS MLB TAP BASEBALL 23													2%
Plants vs Zombies™ 2	-17%	-30%	-44%	-38%	-20%	-32%	-15%	-11%	-9%	-11%	-15%	-22%	2%
The Simpsons™: Tapped Out	-26%	3%	-3%	-12%	-17%	-25%	-7%	-3%	22%	-20%	-37%	-32%	2%
Need for Speed™ No Limits	-38%	-47%	-49%	-57%	-52%	-61%	-58%	-60%	-64%	-55%	-59%	-60%	1%
Other Games	-72%	-75%	-69%	-71%	-73%	-78%	-75%	-78%	-77%	-80%	-83%	-83%	8%

Numbers in table represent growth of estimated bookings relative to bookings in the same month in 2019. E.g. Jan '24 comp = Bookings (Jan '24) / Bookings (Jan '19) - 1

\* Comparisons vs 2019 are not available for Madden, FC 24 Companion, and MLB Tap Sports Baseball as the games were launched after 2019

Source: Sensor Tower, BofA analysis of >200 EA games

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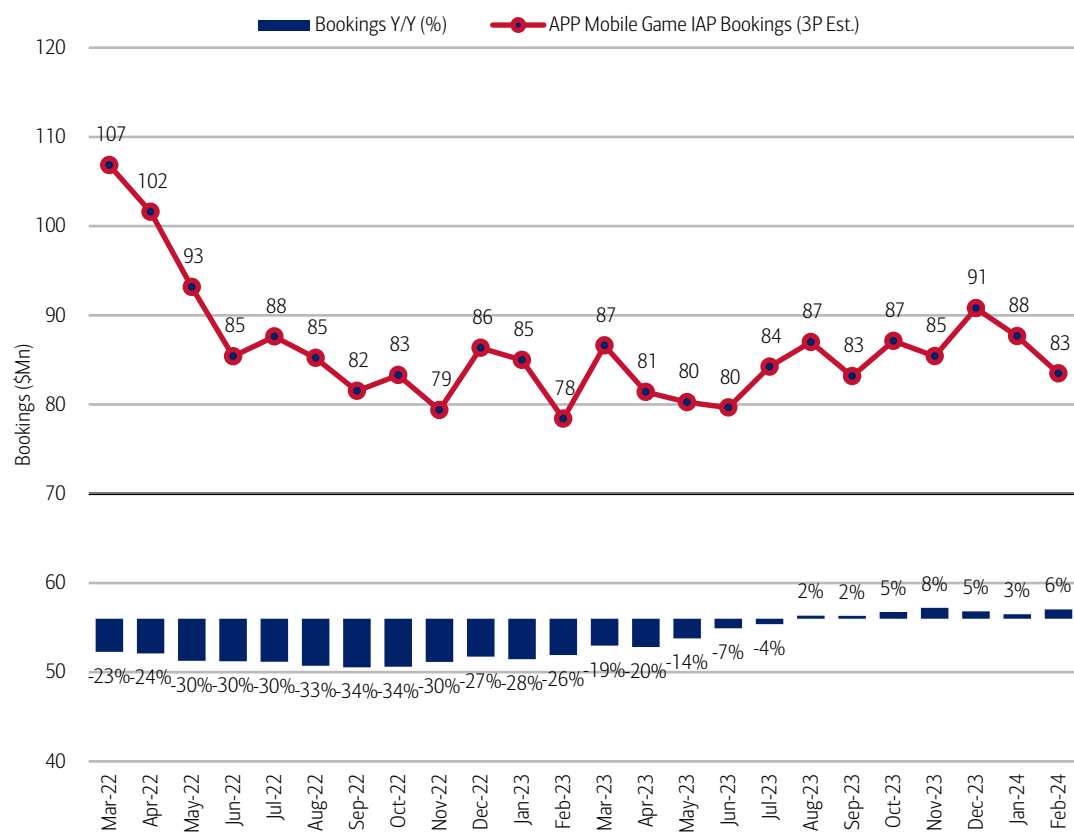
# APP: Tracking above Street 1CQ, game portfolio slowly improving

Per our tracking of 250+ mobile games developed by APP:

- 3P estimates of mobile IAP bookings grew +6% Y/Y like-for-like in February and were down 5% M/M in a shorter month; daily average run rate was still up +2% sequentially
- **3P tracking data for Jan + Feb suggests -1% Q/Q in 1CQ, above Street/BofA at -5%/-4% Q/Q**
- APP's decision to rationalize its gaming portfolio appears to have paid off – mobile bookings run rates have been slowly but steadily improving since Jun '23 despite the run off of smaller games, suggesting a stabilization of its largest games

## Exhibit 10: Mobile IAP Bookings (3P Ests) Y/Y Growth, APP Top Games, Mar '22 - Feb '24

APP mobile IAP bookings (3P Ests) grew +6% Y/Y in February, and were down 5% M/M in a shorter month



Source: Sensor Tower, BofA Analysis of 250+ APP mobile games

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## Top titles improving, new games driving growth

- Many of APP's top games have shown moderating Y/Y declines since 2H23 as comps ease, with some recovering to growth. We view the performance improvements among top titles as an indication that APP's decision to rationalize its long-tail portfolio has born fruit, as more resources can be allocated to its best games
- New launches such as *Jackpot Friends*, *Décor Match*, and *Marsaction* remain an important growth driver, as older titles have not shown consistent growth

### Exhibit 11: Mobile IAP Bookings (3P Ests) Y/Y Growth, APP Top Games, 2023 - 2024

Bookings declines appear to be broad-based across APP's top mobile titles (except new titles), but have moderated since the start of 2023

#### Key

Y/Y Growth < 0%

-20%

Y/Y Growth = 0%

0%

Y/Y Growth > 0%

20%

Game	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	% of Total Bookings (LTM)
Consolidated	-19%	-20%	-14%	-7%	-4%	2%	2%	5%	8%	5%	3%	6%	
Project Makeover	-30%	-28%	-24%	-16%	-5%	10%	12%	15%	13%	8%	4%	5%	19%
Cash Tornado™ Slots - Casino	8%	-2%	16%	20%	2%	-1%	-13%	-9%	-4%	-7%	-6%	-5%	11%
Jackpot Master™ Slots-Casino	55%	34%	35%	29%	9%	6%	2%	6%	-3%	-8%	0%	-3%	8%
Matchington Mansion	-17%	-21%	-12%	-16%	-25%	-16%	-16%	-21%	-15%	-16%	-15%	-14%	7%
Wordscapes	-20%	-19%	-16%	-5%	-13%	5%	11%	5%	15%	10%	7%	12%	7%
Clockmaker: Mystery Match 3	-30%	-30%	-29%	-18%	-18%	-6%	4%	13%	23%	33%	27%	15%	6%
West Game	-21%	-21%	-14%	-8%	-9%	-14%	-20%	-13%	-15%	-14%	-20%	-7%	6%
Cooking Madness: A Chef's Game	-29%	-26%	-26%	-28%	-12%	-15%	-9%	2%	-2%	-17%	-19%	-10%	4%
Jackpot Friends™-Slots Casino	1582059%	1671704%	1888632%		462321%	474437%	597356%	116915%	19993%	7393%	3319%	2213%	2%
Bermuda Adventures Farm Island	-16%	-24%	-28%	-1%	29%	31%	26%	33%	46%	31%	8%	-21%	2%
Decor Match	6%	-16%	-23%	102%	21981986%	568494281%	16903469%	18692230%	1173022981%	735013192%	11421%	4610%	2%
The Price Is Right: Bingo!										12497%	1325%	397%	2%
Game of War - Fire Age	-6%	-14%	-18%	-29%	-24%	-34%	-32%	-36%	-27%	-31%	-32%	-31%	2%
Marsaction: Infinite Ambition						1116%	67%	29%	22%	28%	11%	16%	2%
Word Connect	-23%	-4%	9%	4%	-3%	-6%	-4%	-4%	-7%	-8%	-13%	-8%	1%
Other Games	-36%	-38%	-35%	-29%	-24%	-20%	-19%	-18%	-13%	-11%	-14%	-1%	20%

\* Jackpot Friends and Décor Match were launched after 2022, Y/Y growth rates are elevated as they are lapping the year of launch

Source: Sensor Tower, BofA Analysis of 250+ APP mobile games

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## Growth vs pre-COVID mostly driven by new game launches

When comparing the current revenue run rates of APP's top mobile titles with pre-COVID levels (same month in 2019), we note that:

- APP's mobile portfolio has grown since the pandemic, largely driven by new launches after 2019; More than half of its top 15 games today have been launched in/after 2019
- Among older games, only *Cooking Madness*, *Clockmaker*, and *Word Connect* have shown consistent growth vs pre-COVID.

### Exhibit 12: Mobile IAP Bookings (3P Ests) Comparison vs Pre-COVID, APP Top Games

Core titles (ex new launches) have declined vs pre-pandemic, an indication of secular decline of the core portfolio

#### Key

Y/Y Growth < 0%	-60%
Y/Y Growth = 0%	0%
Y/Y Growth > 0%	60%

Game	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	% of Total Bookings (LTM)
Consolidated	-1%	0%	1%	3%	14%	17%	18%	17%	17%	20%	9%	6%	
Project Makeover													19%
Cash Tornado™ Slots - Casino													11%
Jackpot Master™ Slots-Casino													8%
Matchington Mansion	-70%	-72%	-72%	-75%	-73%	-73%	-72%	-68%	-64%	-58%	-65%	-71%	7%
Wordscapes	-26%	-26%	-23%	-25%	-26%	-2%	-1%	-6%		-2%	-16%	-22%	7%
Clockmaker: Mystery Match 3	112%	95%	64%	50%	30%	13%	8%	8%	-8%	2%	212%	161%	6%
West Game	1108196%	4079%	1014%	405%	278%	129%	59%	49%	21%	26%			6%
Cooking Madness: A Chef's Game	118%	100%	92%	104%	105%	92%	107%	155%	176%	111%	96%	71%	4%
Jackpot Friends™-Slots Casino													2%
Bermuda Adventures Farm Island													2%
Decor Match													2%
The Price Is Right: Bingo!													2%
Game of War - Fire Age	-58%	-56%	-59%	-64%	-64%	-69%	-59%	-65%	-66%	-68%	-64%	-68%	2%
Marsaction: Infinite Ambition													2%
Word Connect ♣	152%	116%	112%	116%	114%	84%	90%	85%	80%	65%	81%	118%	1%
Other Games	-59%	-58%	-58%	-57%	-52%	-48%	-50%	-55%	-55%	-53%	-65%	-60%	20%

Numbers in table represent growth of estimated bookings relative to bookings in the same month in 2019. E.g. Jan '24 comp = Bookings (Jan '24) / Bookings (Jan '19) - 1

\* Comparisons vs pre-pandemic are not available for Project Makeover, Cash Tornado, Jackpot Master, Solitaire Cruise, Bermuda Adventures Farm Island, and Marsaction as the games were launched after 2019

\*\* West Game was launched in 2019, comps are elevated as they are lapping the year of launch

Source: Sensor Tower, BofA Analysis of 250+ APP mobile games

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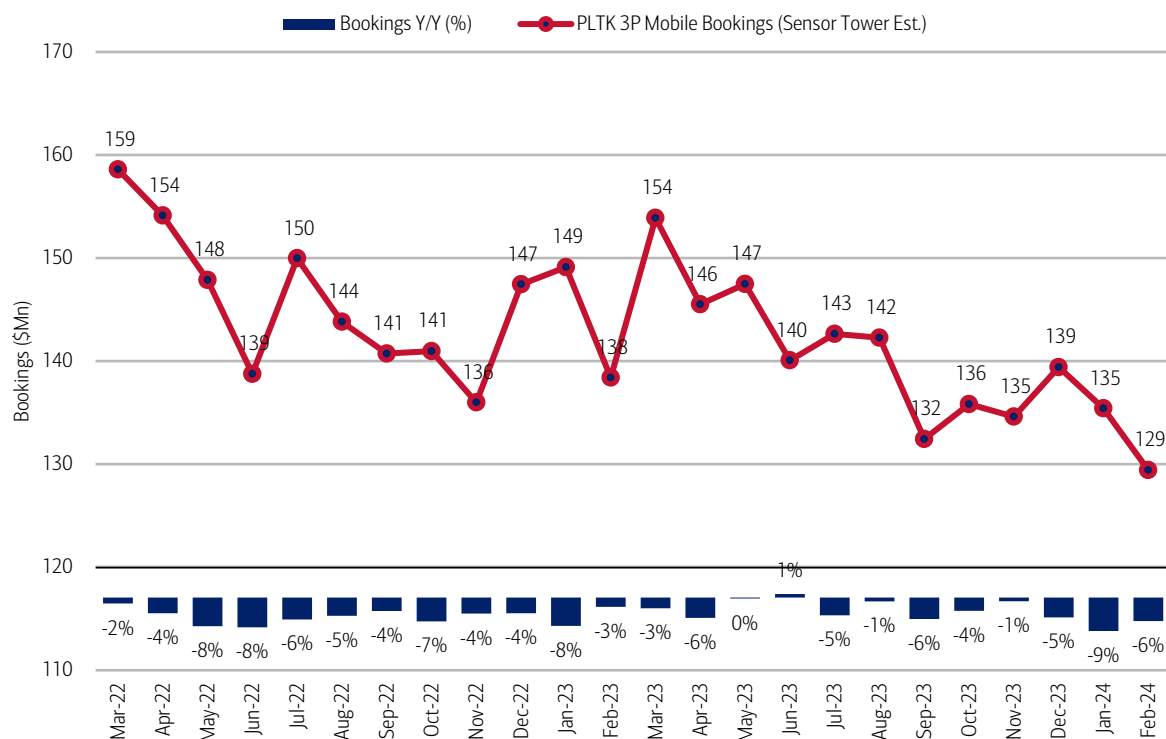
## PLTK: 1CQ tracks inline, February run rate stable

Per our tracking of PLTK's mobile games on Sensor Tower:

- **3P estimates of mobile IAP bookings fell 6% Y/Y like-for-like (excl. InnPlay contribution), with average daily run rate stable sequentially.** We estimate bookings fell 3% Y/Y in February when including the contribution from InnPlay Labs
- **3P data through February points to sequentially flattish 1CQ, largely inline with Street**
- **PLTK guided '24 topline flat Y/Y and sees consumer mobile in-game spend shrinking in the overall market**
- We note that 3P data could underestimate actual bookings as it does not track sales from DTC channels, which make up 20%+ of total revenue and have meaningfully outpaced overall bookings growth in the past

### Exhibit 13: PLTK Mobile IAP Bookings (3P Ests), Mar '22 – Feb '24

PLTK mobile IAP bookings (3P Ests) fell 6% Y/Y in Feb, and were -4% M/M in a shorter month



Source: Sensor Tower

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## Social Casino not showing significant recovery, Casual continued to outperform

- Performance of PLTK's Casual games and Social Casino games continued to diverge, with top Casual games (*Solitaire Grand Harvest*, *June's Journey*) notably outperforming top Social Casino games (*Slotomania*, *House of Fun*, *Caesars Slots*). *Bingo Blitz*, PLTK's largest game, appears to have been in decline since May
- Among top Social Casino games, only *WSOP* has improved somewhat in the past 12 months; *Slotomania*, *House of Fun*, *Caesars Slots* have not shown significant recovery on a consistent basis
- June's Journey* continued to grow strongly Y/Y, *Solitaire Grand Harvest* growth has stalled since January
- While genre may play a role, we think the divergence in growth rates among top titles is primarily a function of game seniority, whereby growth of older games tends to moderate
- The mix shift into newer, more casual titles will likely pressure margins as we believe its longest running games (particularly top Social Casino games) are also the most profitable

### Exhibit 14: Mobile IAP Bookings (3P Ests) Y/Y Growth, PLTK Top Games, 2023 - 2024

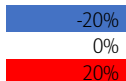
PLTK's top Casual titles continued to outperform its top Social Casino titles

#### Key

Y/Y Growth < 0%

Y/Y Growth = 0%

Y/Y Growth > 0%



Game	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	% of Total Bookings (LTM)
Consolidated	-3%	-6%	0%	1%	-5%	-1%	-6%	-4%	-1%	-5%	-9%	-6%	
Bingo Blitz	4%	1%	-3%	-4%	-13%	-13%	-21%	-16%	-12%	-17%	-20%	-11%	19%
Solitaire Grand Harvest	27%	31%	35%	33%	17%	18%	12%	11%	13%	6%	-9%	-10%	18%
Slotomania	-7%	-17%	-10%	-6%	-12%	-3%	-6%	-5%	-5%	-11%	-14%	-11%	16%
June's Journey	16%	4%	33%	18%	19%	49%	16%	26%	38%	23%	34%	22%	15%
WSOP	-6%	-11%	-11%	5%	-2%	-1%	4%	4%	-4%	-2%	-9%	0%	8%
House of Fun	-9%	-8%	-7%	4%	-3%	-18%	-13%	-16%	-15%	-7%	-18%	-9%	6%
Best Fiends	-24%	-19%	-25%	-20%	-22%	-19%	-19%	-23%	-24%	-28%	-24%	-27%	5%
Caesars Slots	-12%	-17%	-9%	-11%	-16%	-19%	-17%	-18%	-14%	-20%	-15%	-17%	5%
Other Games	-36%	-33%	-27%	-27%	-25%	-23%	-22%	-16%	-11%	-10%	-8%	-5%	8%

Source: Sensor Tower

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## Run rates on top Casino games fell below pre-COVID levels

When comparing the current revenue run rates of PLTK's top mobile titles with those pre-COVID, we note that:

- Most of PLTK's top games have grown vs pre-COVID, with Casual games leading the pack (e.g. *Bingo Blitz*, *Solitaire Grand Harvest*, *June's Journey*)
- PLTK's largest Social Casino games (*Slotomania*, *House of Fun*) now have lower revenue run rates than pre-COVID, signaling structural declines among its longest running Casino games. *WSOP* appears to have grown moderately vs pre-COVID periods
- We think the deterioration of PLTK's core Social Casino titles could be a sign that its largest games have reached saturation, a growth headwind if true, given its top Casino games are also its best monetized games

### Exhibit 15: Mobile IAP Bookings (3P Ests) Comparison vs Pre-COVID, PLTK Top Games

Bookings (3P ests) on PLTK's largest Social Casino titles (*Slotomania*, *House of Fun*) are now lower than pre-COVID, a sign that its most mature games could have reached saturation

#### Key

Y/Y Growth < 0%	-60%
Y/Y Growth = 0%	0%
Y/Y Growth > 0%	60%

Game	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	% of Total Bookings (LTM)
Consolidated	35%	35%	28%	24%	23%	21%	15%	16%	17%	16%	28%	29%	
Bingo Blitz	110%	93%	89%	92%	64%	60%	54%	63%	46%	61%	37%	25%	19%
Solitaire Grand Harvest	473%	429%	351%	309%	238%	226%	218%	189%	171%	185%	157%	150%	18%
Slotomania	-28%	-28%	-31%	-36%	-29%	-36%	-41%	-40%	-35%	-42%	-51%	-50%	16%
June's Journey	301%	309%	310%	291%	275%	326%	279%	257%	236%	206%	176%	152%	15%
WSOP	6%	10%	4%	16%	7%	4%	13%	6%	6%	9%	0%	-3%	8%
House of Fun	-39%	-38%	-41%	-35%	-34%	-40%	-41%	-42%	-39%	-22%	-37%	-33%	6%
Best Fiends	9%	7%	-10%	-11%	-17%	-18%	-25%	-26%	-23%	-25%	-24%	-33%	5%
Caesars Slots	-7%	1%	0%	-6%	-12%	-5%	-7%	-7%	-5%	-12%	-5%	-20%	5%
Other Games	-11%	-10%	-14%	-20%	-12%	-13%	-20%	-14%	-14%	-11%	-13%	-15%	8%

Numbers in table represent growth of estimated bookings relative to bookings in the same month in 2019. E.g. Jan '24 comp = Bookings (Jan '24) / Bookings (Jan '19) - 1

Source: Sensor Tower

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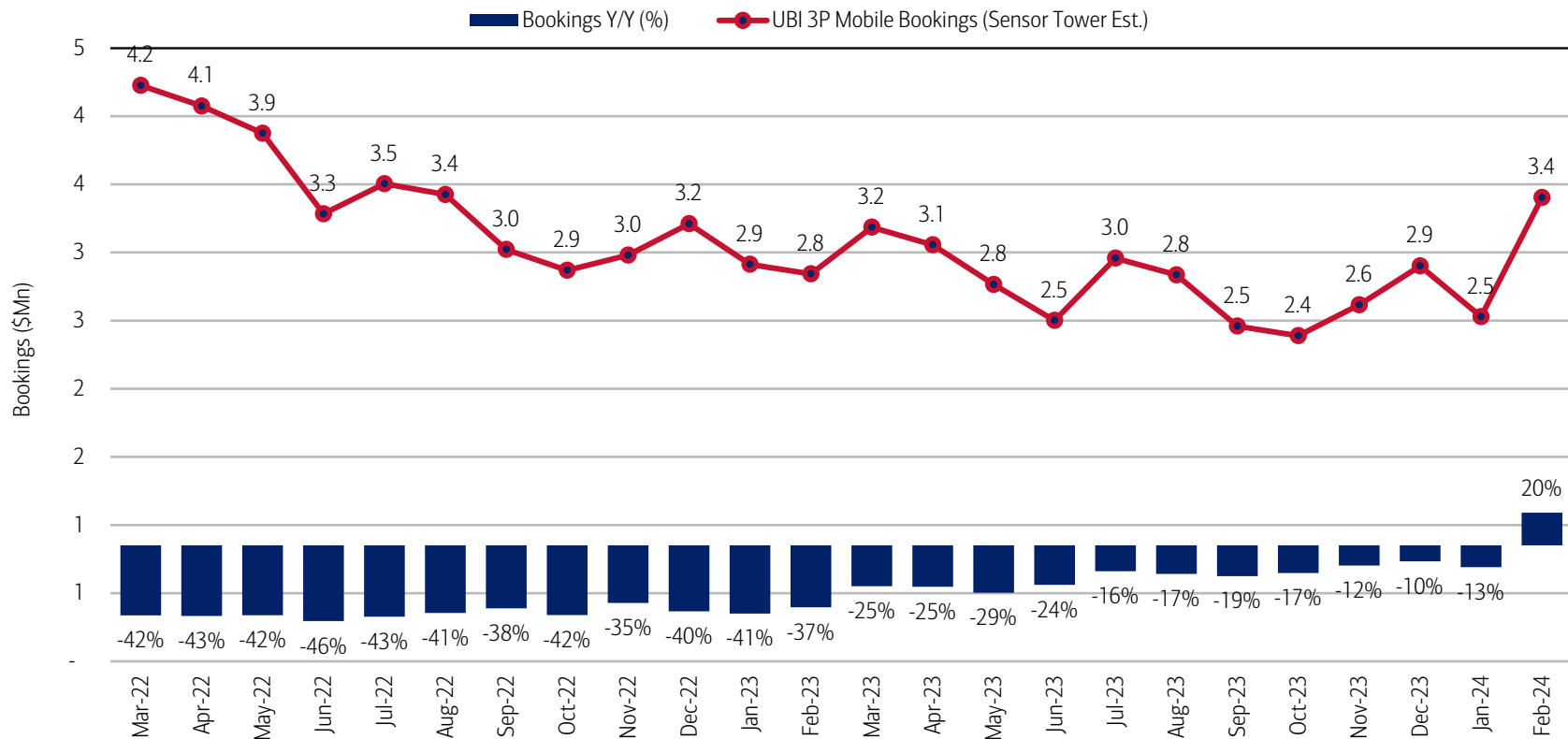
# UBI: Y/Y growth inflected to positive driven by new launch

Per our tracking of 150+ mobile games from UBI:

- 3P estimates of mobile IAP bookings grew 20% Y/Y like-for-like in February, inflecting to positive growth for the first time since at least 2022. Growth was mostly driven by new game launched in the month, *Invincible: Guarding the Globe*, which quickly became UBI's top mobile gaming after release
- Excluding *Invincible: Guarding the Globe*, monthly revenue run rates have been mostly stable since August 2022, Y/Y comps have improved notably since November '23
- Declines are seen across most of the portfolio with bookings 10-40% lower Y/Y, but some games have started to recover back to growth recently (eg *Hungry Shark Evolution*, *Brawlhalla*, *Howrse*). When compared to the pre-COVID period (same month in 2019), most top games have declined notably (except *Just Dance Now*, *Hungry Shark*, *Howrse*), a sign of secular deterioration

## Exhibit 16: UBI Mobile IAP Bookings (3P Ests), Mar '22 – Feb '24

UBI mobile IAP bookings (3P Ests) grew 20% Y/Y in February, inflecting to positive growth for the first time since 2022



Source: Sensor Tower

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**Exhibit 17: Mobile IAP Bookings (3P Ests) Y/Y Growth, UBI Top Games, 2023 - 2024**

The steep Y/Y declines of some of UBI's top games have moderated, and new game launches are increasingly contributing to growth

**Key**

Y/Y Growth &lt; 0%

-20%

Y/Y Growth = 0%

0%

Y/Y Growth &gt; 0%

20%

Game	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	% of Total Bookings (LTM)
Consolidated	-25%	-25%	-29%	-24%	-16%	-17%	-19%	-17%	-12%	-10%	-13%	20%	
Hungry Shark Evolution	-25%	-19%	-14%	9%	16%	14%	7%	31%	71%	52%	16%	41%	16%
Might & Magic: Era of Chaos	-24%	-37%	-39%	-42%	-45%	-36%	-39%	-37%	-50%	-54%	-43%	-39%	15%
Hungry Shark World	-27%	-46%	-41%	-26%	-15%	-20%	-29%	-33%	-17%	-10%	-19%	-18%	13%
Growtopia	-22%	-6%	-36%	-34%	-9%	-34%	-11%	-23%	-24%	-22%	-47%	-42%	10%
South Park: Phone Destroyer™	35%	35%	15%	-3%	1%	-9%	-5%	-7%	-23%	0%	-10%	-32%	9%
Just Dance Now	-14%	-16%	-12%	-11%	-7%	-1%	-1%	-6%	-4%	-7%	8%	0%	9%
Brawlhalla	-51%	-29%	-10%	-5%	-2%	11%	39%	3%	21%	38%	20%	40%	5%
Howrse - Horse Breeding Game	32%	11%	49%	7%	6%	6%	7%	6%	10%	4%	-11%	-6%	3%
Assassin's Creed Rebellion	-17%	-8%	-32%	-31%	-26%	-29%	-44%	-33%	-36%	-29%	-30%	-30%	3%
Other Games	-53%	-44%	-48%	-42%	-26%	-23%	-28%	-18%	5%	11%	16%	305%	17%

Source: Sensor Tower

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**Exhibit 18: Mobile IAP Bookings (3P Ests) Comparison vs Pre-COVID, UBI Top Games**

Bookings (3P ests) on many of UBI's top games have shown signs of secular decline, with bookings below the pre-COVID level

**Key**

Y/Y Growth &lt; 0%

Y/Y Growth = 0%

Y/Y Growth &gt; 0%

Game	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	% of Total Bookings (LTM)
Consolidated	-65%	-64%	-65%	-67%	-71%	-69%	-66%	-65%	-58%	-65%	-74%	
Hungry Shark Evolution	3%	21%	44%	1%	-5%	-4%	-4%	10%	70%	35%	22%	16%
Might & Magic: Era of Chaos								9604%	42%	-84%	-83%	15%
Hungry Shark World	-46%	-61%	-51%	-33%	-33%	-49%	-45%	-49%	-43%	-32%	-43%	13%
Growtopia	-54%	-39%	-60%	-71%	-47%	-62%	-53%	-34%	-47%	-49%	-65%	10%
South Park: Phone Destroyer™	-53%	-46%	-60%	-73%	-77%	-81%	-78%	-83%	-82%	-78%	-77%	9%
Just Dance Now	13%	31%	32%	27%	16%	21%	26%	17%	18%	7%	9%	9%
Brawlhalla												5%
Howrse - Horse Breeding Game	94%	60%	145%	67%	58%	72%	95%	114%	105%	216%	88%	3%
Assassin's Creed Rebellion	-88%	-87%	-87%	-82%	-82%	-87%	-80%	-80%	-71%	-80%	-78%	3%
Other Games	-92%	-91%	-92%	-92%	-94%	-92%	-91%	-90%	-86%	-85%	-86%	17%

Numbers in table represent growth of estimated bookings relative to bookings in the same month in 2019. E.g. Jan '24 comp = Bookings (Jan '24) / Bookings (Jan '19) - 1

\* Comparisons vs pre-COVID period are not available for Brawlhalla and Is it Love, as the games were launched after 2019

\*\* Comparisons vs pre-COVID period are elevated for Might & Magic, as it was lapping the year of launch

Source: Sensor Tower

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## Price objective basis & risk

### AppLovin (APP)

Our \$68 PO is based on our SOTP framework valuing APP's Software segment at \$66 and the Gaming Segment, including both in-game advertising and in-game consumer spend, at \$2/share. Our Software valuation is 13x FY24 EBITDA, inline with META, which we view as the key barometer of the overall health of the mobile ad ecosystem and an important valuation anchor. Our Gaming segment valuation is based on an enterprise value that is 5x FY24 Gaming Segment EBITDA, inline with Casual Mobile Game Publisher peers.

Upside risks to our PO are new dovish monetary policy and regulation that would reduce Apple's or Google's control over their own mobile ecosystems. Downside risks to our PO include a recession, and a tightening of financial conditions brought about by the Fed. Policies by Google and Apple, pertaining to their mobile platforms, that would debase broker ad networks' value proposition are also downside risks, and a major resurgence of Facebook on iOS would also negatively affect APP stock.

### Digital Turbine, Inc (APPS)

Our \$6 PO is based on 9.5x valuation multiple on FY25E EBITDA, below that of AppLovin, but roughly inline with other smaller adtech players (not mobile focused). Upside risks to our PO include faster-than-expected ramp in SingleTap and Hubs business, as well as a re-acceleration in the AGP business. Downside risks to our PO include: 1) adverse macroeconomic conditions that could lead to a decline in ad dollars, 2) consolidation of ad channels, which could disproportionately hurt tier 2 ad platforms, 3) longer-than-expected enterprise sales cycle (due to adverse macro) that could lead to delayed product uptake and monetization, and 4) significant churn of business as related to platform integrations (Fyber and AdColony)

### Electronic Arts (EA)

Our price objective of \$150 is based on a share price 19x our FY25E Non-GAAP Diluted EPS estimate. We think EA should trade at a premium to PC/Console game publisher peers in light of its ownership of two of only 10 "mega" franchises in the world. EA currently trades below the median valuation of 10 PC/Console game publishers on a P/E basis.

Downside risks to EA are loss of key personnel, deterioration of gamer budgets in a return-to-work environment, rising personnel costs that are not offset by price increases, and production delays driven by return to office by employees.

### Playtika (PLTK)

Our \$7 PO is based on 5.4x FY24 EV/EBITDA ratio, at the high end of casual mobile gaming peers (range 0.2x-5.7x). Our valuation reflects (1) structural challenges for mobile game developers that impede long term growth, (2) PLTK's solid execution and best-in-class operating efficiency, and (3) uncertainties around the success of its M&A led growth strategy.

Upside risks to our PO are (1) a potential acquisition by a strategic acquirer, (2) step function improvements in user targeting technologies among ad networks, (3) ability to drive significant inorganic growth through acquisitions, and (4) outperformance in UA efforts that leads to market share gains. Downside risks to our PO are (1) significantly weaker macro condition in 2024 that leads to lower mobile gaming spend than our expectations, (2) worse-than-expected deterioration in core Social Casino portfolio that leads to lower overall user monetization, and (3) inability to drive profitable growth through acquisitions



**Roblox Corp. Class A (RBLX)**

Our \$60 PO is based on a DCF that assumes a 25x FCF terminal value multiple in 2030, in line with mature tech platforms.

Downside risks to our PO are inability to develop high production value content to appeal to a broader demographic, and an inability to continually improve the developer value proposition, thereby stagnating its developer base.

**Take-Two Interactive (TTWO)**

Our price objective of \$170, is based on 20x the average of FY25E & FY26E EPS estimates. Our target P/E multiple is above the weighted average P/E valuation of our comp set of large game publishers, justified by higher earnings growth potential & FCF generation in FY26 and beyond after the launch of GTA 6.

Upside risks to our price objective are: (1) confirmation of FY25 guidance through summer '24, (2) a gameplay trailer by Rockstar indicating an "early '25" launch, (3) media hype cycle drives retail and institutional FOMO-driven momentum rally, (4) Zynga performance suddenly accelerates.

Downside risks to our price objective are a delay of GTA VI launch beyond FY26, re-degradation of mobile game performance, and the lack of new games launching, when we expect them to and in the revenue level we expect.

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## US - Internet Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
<b>BUY</b>				
	Alphabet	GOOGL	GOOGL US	Justin Post
	Alphabet	GOOG	GOOG US	Justin Post
	Amazon.com	AMZN	AMZN US	Justin Post
	AppLovin	APP	APP US	Omar Dessouky, CFA
	DoorDash	DASH	DASH US	Michael McGovern
	DoubleVerify Holdings, Inc.	DV	DV US	Omar Dessouky, CFA
	Electronic Arts	EA	EA US	Omar Dessouky, CFA
	Integral Ad Science Holding Corp.	IAS	IAS US	Omar Dessouky, CFA
	LegalZoom	LZ	LZ US	Michael McGovern
	Match Group	MTCH	MTCH US	Curtis Nagle, CFA
	Meta Platforms Inc	META	META US	Justin Post
	Pinterest	PINS	PINS US	Justin Post
	RH	RH	RH US	Curtis Nagle, CFA
	Roblox Corp. Class A	RBLX	RBLX US	Omar Dessouky, CFA
	Squarespace, Inc.	SQSP	SQSP US	Michael McGovern
	Uber	UBER	UBER US	Justin Post
	Udemy Inc	UDMY	UDMY US	Curtis Nagle, CFA
	Vivid Seats	SEAT	SEAT US	Curtis Nagle, CFA
	Wayfair	W	W US	Curtis Nagle, CFA
	Wix.com	WIX	WIX US	Michael McGovern
<b>NEUTRAL</b>				
	ACV Auctions	ACVA	ACVA US	Curtis Nagle, CFA
	Airbnb	ABNB	ABNB US	Justin Post
	Beyond Inc	BYON	BYON US	Curtis Nagle, CFA
	Booking Holdings Inc	BKNG	BKNG US	Justin Post
	Bumble	BMBL	BMBL US	Curtis Nagle, CFA
	Digital Turbine, Inc	APPS	APPS US	Omar Dessouky, CFA
	Duolingo	DUOL	DUOL US	Curtis Nagle, CFA
	eBay	EBAY	EBAY US	Justin Post
	Etsy, Inc.	ETSY	ETSY US	Curtis Nagle, CFA
	Expedia	EXPE	EXPE US	Justin Post
	Instacart	CART	CART US	Justin Post
	Magnite, Inc.	MGNI	MGNI US	Omar Dessouky, CFA
	Snap	SNAP	SNAP US	Justin Post
	Take-Two Interactive	TTWO	TTWO US	Omar Dessouky, CFA
	Zillow	ZG	ZG US	Curtis Nagle, CFA
	Zillow	Z	Z US	Curtis Nagle, CFA
<b>UNDERPERFORM</b>				
	Chewy Inc	CHWY	CHWY US	Curtis Nagle, CFA
	Lyft, Inc.	LYFT	LYFT US	Michael McGovern
	Opendoor Technologies	OPEN	OPEN US	Curtis Nagle, CFA
	Peloton	PTON	PTON US	Curtis Nagle, CFA
	Playtika	PLTK	PLTK US	Omar Dessouky, CFA
	Redfin Corp	RDFN	RDFN US	Curtis Nagle, CFA
	Shutterstock	SSTK	SSTK US	Curtis Nagle, CFA

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Coverage Universe	Count	Percent	Inv. Banking Relationships <sup>R1</sup>	Count	Percent
Buy	35	53.85%	Buy	15	42.86%
Hold	15	23.08%	Hold	8	53.33%
Sell	15	23.08%	Sell	7	46.67%

**Equity Investment Rating Distribution: Technology Group (as of 31 Dec 2023)**

Coverage Universe	Count	Percent	Inv. Banking Relationships <sup>R1</sup>	Count	Percent
Buy	215	53.09%	Buy	111	51.63%
Hold	97	23.95%	Hold	45	46.39%
Sell	93	22.96%	Sell	24	25.81%

**Equity Investment Rating Distribution: Global Group (as of 31 Dec 2023)**

Coverage Universe	Count	Percent	Inv. Banking Relationships <sup>R1</sup>	Count	Percent
Buy	1895	53.62%	Buy	1083	57.15%
Hold	832	23.54%	Hold	454	54.57%
Sell	807	22.84%	Sell	383	47.46%

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Investment rating	Total return expectation (within 12-month period of date of initial rating)	Ratings dispersion guidelines for coverage cluster <sup>R2</sup>
Buy	≥ 10%	≤ 70%
Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

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