

Apple's **Profit Risk** in the AI Agent Era

An Analyst-Grade Deep-Dive Report

In one sentence: Apple's most fragile profit pool isn't the iPhone — it's the near-100%-margin "**channel tax**": App Store commissions (~\$26B) and Google default-search revenue share (~\$20B). AI agents drain this tax base directly through two channels: "automatically routing through the cheapest compliant channel" and "bypassing search on users' behalf." Today's bypassers are the price-sensitive few who don't mind hassle; agents drive the "hassle" cost to zero, turning bypass from **arbitrage by the few into the default optimal choice**.

Conservative · 2031
Annualized Net Gross-
Profit Loss

-\$7.8B

~9.5% of Services gross
profit

Base Case · 2031
Annualized Net Gross-
Profit Loss

-\$13.5B

~16% of Services gross
profit · ~10% of company
operating profit

Aggressive · 2031
Annualized Net Gross-
Profit Loss

-\$17.8B

~22% of Services gross
profit

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Labeling Convention

Every number in this report carries one of three labels — **(Disclosed)** = figures from Apple's filings / official studies / court documents verbatim; **(Estimated)** = estimates by named third parties (analysts / institutions / media); **(Assumed)** = model assumptions made by this research based on public evidence (including ranges and rationale). Numbers labeled **(Unverified)** never enter the calculations. Superscript [n] markers are reference numbers; see the reference list at the end for original sources.

Executive Summary: Bottom Line First

A slow burn, not a collapse: agents erode the "take a cut of every transaction" channel power, burning 10–22% of Services gross profit over five years. What matters most isn't how big the loss is, but that **the loss is a one-time deleveraging — once the tax base is bypassed, the revenue is lost every year.**

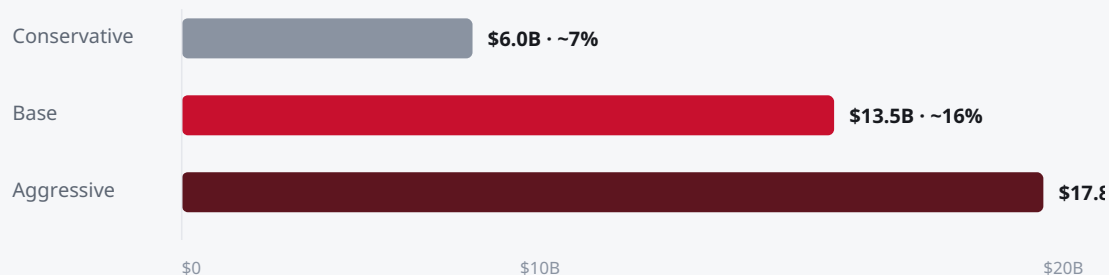
0.1 Headline Numbers (2031 Annualized Run-Rate; Target-Year Scenario Model Output (Assumed))

Scenario	Commission Loss	TAC Loss	Net Gross Profit Loss	% of Services GP (\$82.3B)	% of Company OP (\$133.1B)
Conservative	~\$5.0B	\$1B	~\$6.0B	~7%	~4.5%
Base	~\$10.5B	\$3B	~\$13.5B	~16%	~10%
Aggressive	~\$12.2B	\$6B	~\$17.8B	~22%	~13%

Note: Net gross profit loss = commission loss + TAC loss – offsets (only the aggressive scenario deducts incremental revenue from WeChat mini-programs at 15% (Estimated), \$0.4B). Revenue loss and gross profit loss are approximately 1:1 — both tax bases carry gross margins near 100%; this is the iron law of the model (Assumed; see §7 for rationale).

Exhibit 1 · Three-Scenario 2031 Annualized Net Gross-Profit Loss (\$B)

Loss as a share of Services gross profit (\$82.3B, FY2025). Red dashed line marks the base case.



0.2 What the Risk Pool Looks Like

Profit Layer	Scale	Nature
Company operating profit, FY2025 (Disclosed)	\$133.05B	—
Services gross profit, FY2025 (Disclosed)	\$82.314B (42.2% of total gross profit, only 26.2% of revenue)	The tax-base foundation
Of which: App Store commissions + Google TAC (Estimated)	~\$44B–\$50B (midpoint: \$26B + \$20B)	Pure-profit pool directly threatened by agents, ~57% of Services gross profit
Services operating profit (Assumed; range from two cost-allocation methods)	\$66.0B–\$75.1B (~50–56% of company operating profit)	Apple does not disclose segment operating profit; this is an estimate

0.3 Structural Conclusions (Three "Largest"s)

- Largest category exposure: gaming.** 53.5% of the commission pool (\$13.7B (Estimated)); ~49% of commission losses under the base scenario. What agents eliminate is discovery cost (users today don't even know Supercell Store exists) and redirect friction — not the price signal. The +10% bonus has always been there; agents simply multiply the number of people who act on it.

2. **Largest geographic exposure: the United States.** 39.4% of the commission pool (\$10.1B (Estimated)); ~58% of commission losses under the base scenario. Since the 2025-04-30 Epic contempt ruling, in-app external-link purchases in the U.S. carry **0% commission** (Disclosed; ruling text as restated by the Ninth Circuit). This is the model's most sensitive binary variable: the Supreme Court granted certiorari on 2026-06-30; if the zero-commission order is overturned, base-scenario 5-year losses drop by \$2.1B (–15%) (Assumed).
3. **Largest "black hole" variable: the true bypass rate is unobservable today.** The 2025-04-30 ruling bars Apple from requiring developers to report off-app purchases — **Apple itself has lost the means to observe it** (Disclosed). The known Appfigures datapoint, "U.S. commission revenue down –18% since the start of 2026" (reported by FT on 2026-08-18 (Estimated)), is a commission-revenue figure, **not a bypass rate** — it mixes fee cuts with slowing billings and cannot be converted directly.

0.4 Offsets and Keep-an-Eye-On Variables (Don't Miss These)

- **WeChat mini-programs at 15%** (2025-11 Apple–Tencent agreement (Estimated)): a new commission source in China, conservatively modeled as an offset of "5% / 10% of the China commission pool" (3-year \$0.2B / 5-year \$0.4B, aggressive scenario) (Assumed).
- **TAC keep branch:** In 2026-01 Apple announced Siri/App Intelligence would switch to Google Gemini (Apple paying Google ~\$1B/year in reverse (Estimated)). If agent backends still run through Google's search/ads pipeline, TAC losses could approach zero; the erosion scenario only holds if agents pull the search-and-transaction loop into their own hands (Assumed).
- **Apple's defensive cards:** commission cuts to retain developers (the EU has already cut IAP from 30% to 26%); on 2026-08-14 Apple proposed U.S. external-link rates of 15%/5%/10% to the Northern District of California (**pending approval; not approved as of 2026-09-23** (Disclosed)).

§1

Layer One: Corporate Profit Structure (Foundation)

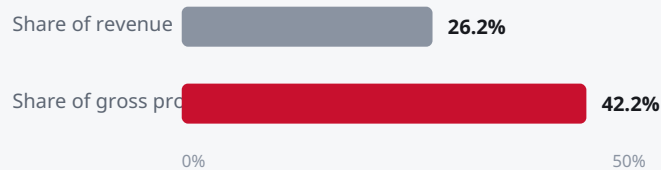
Apple isn't a hardware company — it's a company that **uses hardware to sell channel tax**: Services is only 26% of revenue yet contributes 42% of gross profit. Those 16 points of leverage are what agents are coming to burn.

Source: Apple FY2025 Form 10-K, consolidated income statement (p. 29) and MD&A "Gross Margin" table (p. 23). Units: \$ millions.

Item	FY2025	FY2024
Net sales — Products	\$307,003M	\$294,866M
Net sales — Services	\$109,158M	\$96,169M
Total net sales	\$416,161M	\$391,035M
Gross profit — Products	\$112,887M (36.8%)	—
Gross profit — Services	\$82,314M (75.4%)	\$71,050M (73.9%)
Total gross profit	\$195,201M (46.9%)	\$180,683M
Operating expenses (R&D \$34,550M + SG&A \$27,601M)	\$62,151M	\$57,467M
Operating profit	\$133,050M	\$123,216M
Net profit	\$112,010M	\$93,736M

Exhibit 2 · The Services Profit Leverage

Only 26% of revenue, yet 42% of gross profit. Tax-base erosion hits the bar on the right.



Three Foundation Facts

1. Services is only **26.2%** of revenue, yet contributes **42.2%** of total gross profit ($\$82.314\text{B} \div \195.201B).
2. Apple **does not disclose** Services operating profit (it only discloses reportable segments by geography). Estimated under two cost-allocation methods (Assumed): the high method (all R&D to Products, SG&A by revenue share) gives \$75.1B; the low method (all operating expenses by revenue share) gives \$66.0B — **Services operating profit is roughly half of company operating profit (49.6%–56.4%)**.
3. Trend: Services gross margin FY2023 70.8% → FY2024 73.9% → FY2025 75.4% → first nine months of FY2026 76.3% (Disclosed); FY2026 Q3 single-quarter Services revenue \$30.739B (+12.2% YoY), gross profit \$23.2B. But note that FY2026 Q3 company gross margin of 50.1% includes ~2pp of **one-time tariff-refund benefit** (10-Q MD&A); ex-refund it's ~48.1%.

Implication: Any erosion of the Services take rate hits roughly **2×** as hard on operating profit as on revenue — that's the profit leverage of agent risk.

Layer Two: Services Revenue Teardown

Breaking the \$109.2B apart line by line: only two lines can actually be touched by agents — **App Store commissions and Google TAC**. The rest (AppleCare, iCloud, Music...) is recurring revenue that agents can't reach.

Apple **never discloses** revenue for any individual Services line. Everything below is third-party estimates and back-calculations, summing to a midpoint of ~\$96.8B (Estimated); the ~\$12.4B gap to the reported \$109.2B goes into "other/residual" — a gap of ~11%, within acceptable range.

Line	Range (\$B)	Basis
App Store commissions	27–30	Appfigures 2024 global net commissions \$27.39B (lower anchor, net-commission basis) (Estimated); Apple's official 2025 digital-goods billings \$149B (Analysis Group 2025, released 2026-06) × ~20% blended effective commission rate → ~\$30B (upper anchor) (Estimated)
Google TAC	20–25	DOJ antitrust trial disclosed 2022 payments of ~\$20B (2023-11 trial testimony) (Disclosed); no new disclosures since; the \$25B upper bound rolls forward at search-ads growth (Assumed)
iCloud+	9–11	CIRP via Computerworld: ~\$10.4B (single source) (Estimated)
Apple Music	10–11	MIDiA via Business of Apps: 2024 \$10.12B (Estimated)
AppleCare+	8–9	ainvest puts FY2025 at \$8.4B (Estimated)
Advertising (mostly search ads)	6–8	JP Morgan 2022 report forecast \$6B for 2025 (Estimated)
TV+/Arcade/ Fitness+/News+	4–7	TV+ annual loss >\$1B (The Information 2025-03) (Estimated); ~45M subscribers → back-calculated \$3B–\$5B (Assumed); no reliable estimates for Arcade/Fitness+/News+, combined \$1B–\$2B (Assumed)
Apple Pay/Card	4–4.5	electroiQ back-calculation on a 0.15% interchange-rate model (Estimated); Apple Card standalone (Unverified)

Key inputs (risk side):

- **Pure-profit pool directly threatened by agents** = App Store commissions (~\$27B–\$30B) + Google TAC (~\$20B–\$25B) ≈ **\$47B–\$55B of revenue, almost entirely gross profit**, or **57–67%** of the \$82.3B Services gross profit (Estimated).
- Indirect threats: Apple Pay (agents routing through the cheapest channel could bypass it); advertising (agents comparison-shopping for users erodes search-ad value).

- Relatively safe: AppleCare (hardware-tied), iCloud (storage is a necessity), Apple Music (subscription habit) — low agent substitution elasticity.

§3 Layer Three: Commission Pool Anatomy (Category × Region Matrix)

The \$26B isn't monolithic: **gaming is over half, the U.S. is ~40%**. Agent firepower naturally concentrates in those two cells — while China is ironclad (m=0) and the EU only erodes the spread.

3.1 Scale and Basis (Important: Two Bases Coexist)

Basis	2025 Figure	Source
Total ecosystem billings (incl. physical goods \$1,100B, advertising \$151B)	\$1,400B	Analysis Group 2025 study (commissioned by Apple, released 2026-06) (Disclosed)
Of which digital goods & services (ecosystem basis, incl. off-platform purchases)	\$149B (2024: \$131B)	Same as above (Disclosed)
This report uses: in-App-Store consumer spend (IAP/subscriptions/paid downloads)	\$115B (range \$105B–\$125B) (Assumed)	Triangulation: Sensor Tower <i>State of Gaming 2026</i> gaming IAP \$52.5B ÷ BofA gaming share 45% ≈ \$117B; Goldman 44% ≈ \$119B; dual-store \$167B converted at App Store share ≈ \$108B–\$114B (Estimated)

3.2 Category × Region Matrix (Commission-Revenue Basis; Total ≈ \$25.7B ≈ \$26B)

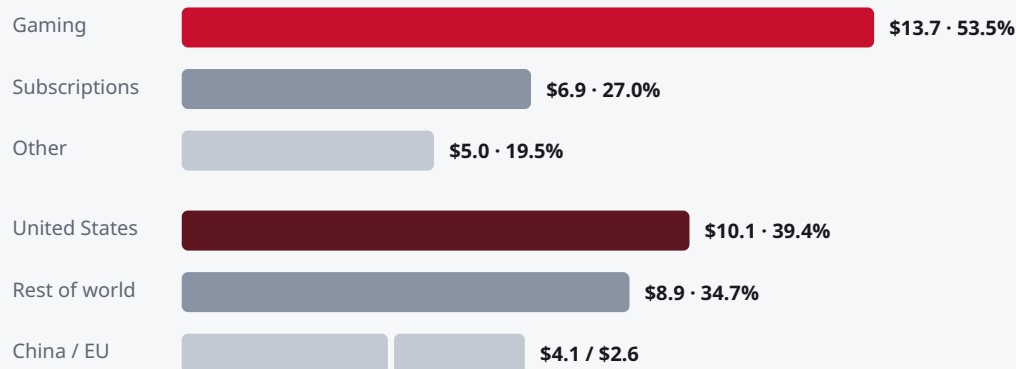
Category mix (share of \$115B billings): gaming IAP 45% (\$52B, dual-sourced from BofA/Goldman) / non-gaming subscriptions 38% (\$44B, estimated, range 35–42%) / other digital goods 17% (\$19B, residual) (Estimated/Assumed). Region mix (Analysis Group 2025 regional data: U.S. \$62B / China \$21B / Europe \$24B / Japan \$15B; EU estimated at 70% of Europe (Estimated/Assumed)).

Region	Category	Billings (\$B)	Effective Rate	Commission (\$B)	Share
United States	Gaming IAP	19.2	25%	4.8	18.7%
	Non-gaming subscriptions	20.2	16%	3.2	12.6%
	Other digital goods	8.6	24%	2.1	8.1%
Mainland China	Gaming IAP	9.9	28%	2.8	10.8%
	Non-gaming subscriptions	4.0	18%	0.7	2.8%
	Other digital goods	2.1	27%	0.6	2.2%
European Union	Gaming IAP	5.2	24%	1.2	4.9%
	Non-gaming subscriptions	5.5	15%	0.8	3.2%
	Other digital goods	2.3	23%	0.5	2.1%
Rest of world	Gaming IAP	18.2	27%	4.9	19.2%
	Non-gaming subscriptions	12.9	17%	2.2	8.6%
	Other digital goods	6.8	26%	1.8	6.9%
Regional subtotals: United States \$10.1B (39.4%) Rest of world \$8.9B (34.7%) Mainland China \$4.1B (15.8%) European Union \$2.6B (10.2%). Category subtotals: Gaming \$13.7B (53.5%) Non-gaming subscriptions \$6.9B (27.0%) Other \$5.0B (19.5%).				\$25.7B	100%

Blended effective commission rate $\approx 22.3\%$ ($\$25.7B \div \$115B$), far below the nominal 30% — reflecting the blended reality of 15% for small businesses, 15% subscription renewals, 0% U.S. external links, and EU fee cuts (Assumed).

Exhibit 3 · Commission Pool Structure: Gaming Is the Largest Category Exposure, the U.S. the Largest Regional Exposure

\$B. Agent firepower naturally concentrates in the top-left cell (U.S. × Gaming ≈ \$4.8B).



3.3 Region-by-Region Rules (As of 2026-09-23; Verified Item by Item)

- **United States:** On 2025-04-30 Judge Yvonne Gonzalez Rogers held Apple in contempt, **barring Apple from collecting any commission on U.S. external-link purchases** (currently **0%**); on 2025-12-11 the Ninth Circuit upheld the contempt finding but vacated the "blanket collection ban" and remanded; **on 2026-08-14 Apple proposed new rates of 15% / 5% for small businesses / 10% for subscription renewals and partners, pending district-court approval as of 2026-09-23** (Disclosed). **The Supreme Court granted certiorari on 2026-06-30** (narrowed to a single legal question), with the parties' agreed briefing schedule pointing to **oral argument in the first week of 2027-01 at the earliest**, decision expected before 2027-06 (Disclosed).
- **European Union:** Old terms (17%/10% + €0.50/install CTF) **superseded twice over**. Since 2026-01-01 the CTF became a uniform 5% CTC; **announced 2026-08, effective 2026-10-01**, a new four-tier flat commission: IAP **26%** (15% if eligible) / alternative payments **20%** (10%) / external links **15%** (10%) / third-party stores & web distribution **5%** CTC (Disclosed). On 2025-04-23 the Commission fined Apple €500M for anti-steering (Disclosed).
- **Mainland China:** Still full **30%/15%**, no external links, no third-party stores (Disclosed). SAMR antitrust probe rumored 2025-02; complaints in 2025-10

(55 consumers) / 2026-06 (48 developers); **no case filed and no policy change as of 2026-09-23** (Disclosed). **New variable:** the 2025-11 Apple–Tencent agreement — **WeChat mini-program/mini-game IAP processed by Apple at 15%** (Apple previously earned nothing from this ecosystem; Bloomberg called the deal "worth billions of dollars") — a **new** commission source in China, not a fee cut (Estimated).

- **Rest of world:** Predominantly standard 30%/15%. After Korea's 2021 legislation Apple charges 26% on third-party payments, but total cost exceeds 30% so **actual adoption is minimal** (Disclosed); Japan's Mobile Software Competition Act (MSCA) **took full effect 2025-12-18**; rate details not independently verified (see unverified list) (Disclosed/Unverified).

Layer Four: Bypass Exposure (The "Ceiling" in the Agent Era)

The bypass channels are already paved; agents just turn "people who don't mind hassle" into everyone. Four layers of friction removal, each pushing the bypass rate toward the ceiling.

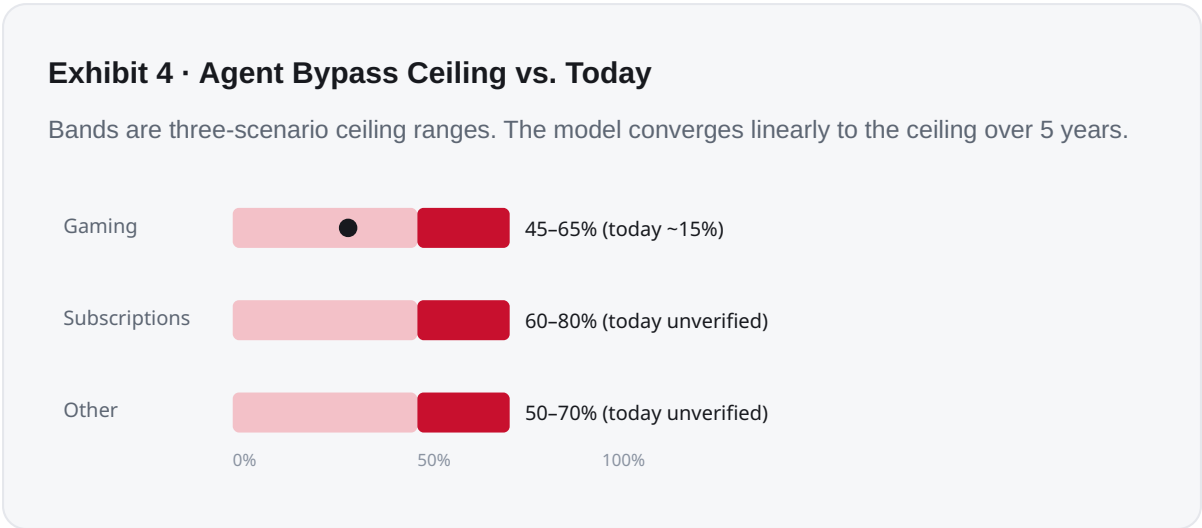
4.1 Channel Inventory (Hard Instances, Not Theory)

Gaming IAP: Supercell Store (store.supercell.com, covering Clash of Clans/Brawl Stars etc., **+10% bonus gems on every purchase**), Scopely/Warner Bros official web stores, DTC payments infrastructure like Appcharge (directly pluggable for small/mid developers) (Disclosed). **In-app direct external links in the U.S.** (in theory games could also place zero-commission external links after the 2025-04-30 ruling), but verified large-scale adoption instances concentrate in subscription/reader categories (Assumed).

Subscriptions: Spotify iOS v9.0.40 (approved 2025-05-02, full in-app pricing + external link to its website), Patreon iOS v125.5.0 (2025-05, U.S. users default to web checkout), Kindle "Get Book" orange button (2025-05), Netflix reader external links (global since 2022) (Disclosed).

4.2 Three Tables: Technically Bypassable / Current Actual / Agent-Era Ceiling

Category	Technically Bypassable Today	Current Actual Bypass Rate	Agent-Era Ceiling (3–5 Years)
Gaming IAP	75–90% (Assumed)	~15% (Estimated) (GDC × Appcharge 2026-06 survey: DTC ≈ 15% of mobile-game IAP \$113.3B ≈ \$17B)	45–65% (Assumed)
Subscriptions	90–100% (Assumed)	(Unverified) category-level figures; only Spotify's "significant growth" qualitatively	60–80% (Assumed)
Other digital goods	85–95% (Assumed)	(Unverified)	50–70% (Assumed)



4.3 Four Layers of Friction Eliminated by Agents (This Study's Core Mechanism)

#	Friction Layer — Today	After Agent-ization
1	Discovery cost: Users don't know official channels exist (in-game promotion banned; subscriptions banned from showing prices in-app for years)	Agents auto-compare prices and proactively surface the best channel; "knowing" shifts from a user task to a machine task
2	Account linking: Manual sign-up/ log-in/binding takes 3–5 minutes, a heavy churn zone for new users	Agents fill in and bind on your behalf; bind once, reuse forever
3	Payment redirect: Leave app → browser → pay → back to app; breaks flow	Completed silently in the background; the user just says one sentence
4	Settlement/renewal/failure handling: Settlement delays, self-service support for dropped orders, subscriptions lost to expired cards	Polling confirmations, failed-payment retries, unified renewal management, price-comparison reminders before renewal

Core mechanism **In one sentence:** Today's bypassers are the price-sensitive few who don't mind hassle; agents drive the "hassle" cost to zero, turning bypass from "arbitrage by the few" into "the default optimal choice." Friction removal doesn't change the price signal (the +10% bonus and the 30% commission savings were always there) — it changes **the number of people who respond to the price signal**.

Counterforces Why the ceiling exists: ① the Supreme Court's 2027 ruling could close the U.S. zero-commission channel; ② Apple can cut commissions to retain developers (EU already 30% → 26%); ③ migration ROI is inherently low for immediacy/small-ticket scenarios; ④ some users voluntarily pay for unified Apple ID billing / Family Sharing / refund protection.

4.4 Appfigures –18%: Existence Verified (But Don't Misread It)

- The number **exists**: Appfigures data, reported by **FT 2026-08-18** and relayed by MacRumors: "Apple's U.S. commission revenue has fallen 18 percent since the start of 2026" (Estimated).
- Cross-corroboration: Sensor Tower says U.S. App Store consumer spend fell **–6% YoY** in 2026-Q2; Morgan Stanley: App Store net revenue down **–0.6% YoY** through mid-August, the first decline in four years; Apple's 2026-06 quarter earnings call acknowledged regulation starting to drag on Services growth (\$30.7B vs. \$31.4B expected) (Estimated/Disclosed).

Interpretation warning

–18% is an **Apple commission-revenue** figure, not a bypass rate. Commission revenue = billings × rate × collectability; its decline mixes ① true bypass (billings migrating out), ② fee cuts (EU 26%, Japan's new rates, etc.), and ③ slowing billings growth itself. **Do not read –18% as "18% of purchases were bypassed."** The true bypass rate = migrated billings ÷ total billings, whose numerator is unobservable today (§0.3 item 3).

§5 The Second Tax Base: Google TAC (Default-Search Revenue Share)

Apple collects ~\$20B a year from Google — **for doing nothing**, simply because Safari's default search engine is Google. It's the purest rent in all of tech, and the pipe agents most want to bypass.

5.1 Scale: \$18B–\$20B/Year (Modeling Base: \$20B)

Date	Figure	Source
2023-08	\$18B–\$20B/year, 14–16% of Apple's annual operating profit	Bernstein (Toni Sacconaghi), via The Register (Estimated)
2022	Google paid Apple ~ \$20B in 2022	US v. Google trial testimony (Disclosed)
2024-08	\$20B/year , ~36% of Google's Safari search-ads revenue; termination would hit Apple profit by 4–6%	Morgan Stanley, via Reuters 2024-08-06 (Estimated)
Mid-2024	\$15B–\$20B/year range; full termination wipes ~15% of EPS	JPMorgan et al. (ainvest compilation) (Estimated)
2025–2026	Media still cite "~\$20B/year"	BTCC 2025-09-03, Analysis Atlas 2026 (Estimated)

Verification conclusion: All public estimates across 2022–2026 converge on \$18B–\$20B/year; the 2022 \$20B is the trial-disclosed figure for that year, with no new disclosures since (Unverified: actual 2025/2026 payment amounts). At \$20B: ~**18%** of FY2025 Services revenue and **24%** of Services gross profit — the second-largest pure profit in Services after App Store commissions (Estimated).

5.2 Contract Status: Ongoing; the 2025-09 Remedies Ruling

Preserved Payments

- 2024-08-05: Judge Mehta ruled Google an illegal search monopolist (remedies tried separately) (Disclosed).
- 2025-09-02/03 remedies ruling: **rejected DOJ's "ban all payments" request** — Google may keep paying for default placement, but on **non-exclusive + annually renegotiated/switchable-default** terms. Mehta's words: "Cutting off payments from Google almost certainly will impose substantial — in some cases, crippling — downstream harms to distribution partners." Market reaction: Alphabet +8% after hours, Apple +4% (Disclosed).
- The ISA (Information Services Agreement, fully confidential) runs at least through **September 2026**, renewable unilaterally by Apple for two more years (→ September 2028); no public reporting of any post-2024-08-ruling change to payment amounts/ratios (Disclosed/Unverified). **DOJ appealed the remedies ruling in 2026-02** (Disclosed).
- Where it sits in the filings: buried in Services' licensing sub-line; Apple never breaks it out (Disclosed).

5.3 Agent Erosion Scenarios (Base \$20B/Year; Pass-Through Coefficient 1.0)

Transmission chain: personal agents answer directly (no Google results page shown) → users bypass google.com / Safari address-bar search → Google search-query volume on Apple devices falls $x\%$ → search-ad impressions/clicks fall $\approx x\%$ → the ISA revenue share (tied to Safari search-ads revenue) shrinks proportionally → Apple's annual TAC revenue falls $\approx \$20B \times x\% \times \text{pass-through coefficient}$ (Assumed).

Scenario	Share of Google Search Queries Replaced by Agents	Annual TAC Loss	Coefficient 0.7–1.3 Stress Range
Mild	5%	\$1.0B	\$0.7B–\$1.3B
Moderate	15%	\$3.0B	\$2.1B–\$3.9B
Severe	30%	\$6.0B	\$4.2B–\$7.8B

Rationale for coefficient 1.0: Bernstein/Morgan Stanley back-calculations both treat TAC as a fixed share of Safari search-ads revenue (the revenue-share contract structure), and ad revenue is roughly proportional to monetizable query volume. Sensitivity: if agents mainly replace informational queries (low monetization), coefficient <1; if they replace high-commercial-intent queries like shopping/local, coefficient >1 (Assumed).

Empirical anchors

"Direct answers" eroding queries/clicks already has evidence: Agarwal & Sen (ISB/CMU, 2026-04 SSRN, revised June) randomized controlled trial: AI Overviews cut outbound clicks ~40% and lifted zero-click searches 34.5%; Ahrefs 2026-02: top-position CTR on AI-Overview-triggered keywords fell a cumulative 58% from 2023-12 to 2025-12 (Estimated). Personal agents are a more thorough version of the same mechanism (the Google results page never even opens).

5.4 The Biggest Uncertainty: If Agent Backends Still Run Through Google's Pipes, TAC May Survive

Whether erosion happens depends on where agents' "answers" come from and where the money flows:

1. **Keep branch:** the agent retrieval layer calls the Google Search API / Gemini grounding on Google Search, and commercial queries still trigger Google ad auctions → TAC survives or even grows. Real-world support: Apple **announced in 2026-01 that Siri/Apple Intelligence would switch to Google Gemini** (Apple paying Google ~\$1B/year in reverse — money flowing the other way) (Estimated). If Apple-ecosystem agents' backends are Google models + retrieval, TAC's foundation is reinforced, not weakened.

2. **Erode branch:** agents answer from their own indexes/model weights, or via Bing/other retrieval, or close the transaction loop inside the agent (ordering for users through the cheapest compliant channel) — Google gets neither queries nor ad impressions → TAC shrinks per the §5.3 scenarios.
3. **Hybrid:** informational queries get eaten by agents (low monetization) while commercial queries still flow back to Google → coefficient <1 , actual losses smaller than the query-replacement share.

In one sentence TAC risk isn't "agents get popular so TAC automatically shrinks" — it's "**whether agents' retrieval-and-transaction backends still run through Google's monetization pipes.**" The short-TAC scenario requires branches 2/3; if branch 1 holds, TAC is safe.

§6 Three-Scenario Model (Reproducible)

Target-year annualized run-rate, fully transparent formulas. Anyone can reproduce the same numbers from §6.3's formulas and assumptions — that's the fundamental difference between this report and a typical sell-side note.

6.1 Master Model Output Table (model.py Actual Output, Precise to 0.1B)

Scenario	Horizon	Comm ission Loss	TAC Loss	Offse t	Net GP Loss	% of Svcs GP	% of Co. OP	% of Svcs OP
Conse rvative	3y (2029)	\$5.0B	\$1B	0	~\$6.0B	~7%	~4.5%	~8– 9%
Conse rvative	5y (2031)	\$6.8B	\$1B	0	~\$7.8B	~9.5%	~6%	~10– 12%
Base	3y (2029)	\$7.2B	\$3B	0	~\$10.2B	~12%	~8%	~14– 15%
Base	5y (2031)	\$10.5 B	\$3B	0	~\$13.5B	~16%	~10%	~18– 20%
Aggre ssive	3y (2029)	\$8.2B	\$6B	– \$0.2B	~\$14.0B	~17%	~11%	~19– 21%
Aggre ssive	5y (2031)	\$12.2 B	\$6B	– \$0.4B	~\$17.8B	~22%	~13%	~24– 27%

(model.py has been re-run; output matches this table. Detail table: parts/
model_assumptions.csv.)

6.2 Base-Case 5-Year Loss Structure (Where the \$13.5B Comes From) (Assumed)

By category: Gaming \$5.1B (~49%) / Subscriptions \$3.3B (~31%) / Other \$2.0B (~20%).

By region: United States \$6.1B (~58%) / Rest of world \$3.7B (~36%) / China \$0.0B / European Union \$0.7B (~6%, computed on the 26% → 15% spread).
(model.py detail: gaming = U.S. 2.97 + rest 1.83 + EU 0.32; subscriptions = U.S. 1.91 + rest 1.18 + EU 0.21; other = U.S. 1.18 + rest 0.73 + EU 0.13.)

Structural read: **gaming is the largest category exposure, the U.S. the largest regional exposure, China is ironclad ($m=0$), and the EU only erodes the spread.**

6.3 Formulas (Fully Transparent) (Assumed)

```
Commission-pool base pool(c,r) = regional commission subtotal(r) × category commission
Bypass rate b(c,h,s)           = base(c) + (ceil(c,s) - base(c)) × h/5
Regional multiplier m(r,s)      = China 0; EU ≈0.42 (only erodes the 26%→15% spread); r
                                U.S.: conservative 3-year 0.70 / 5-year 0.66 (incl. r
Commission loss L_comm(s,h)     = Σ pool(c,r) × b(c,h,s) × m(r,s)
TAC loss L_tac(s)               = Conservative $1B / Base $3B / Aggressive $6B
Net gross-profit loss L_net      = L_comm + L_tac - offsets (aggressive only: WeChat min
```

Parameter sources: base(c) gaming 15% / subscriptions 10% / other 10% (current actual; subscriptions/other use conservative assumptions); ceil(c,s) three-scenario three-category ceilings (§4.2); regional multipliers above. All (Assumed); rationale in §7.

6.4 The 3 Most Sensitive Assumptions (Anchor: Base 5-Year \$13.5B; model.py Single-Factor Sensitivity Output)

1. **Whether the U.S. 0%-commission order survives (the runaway leading binary event):** If overturned, the U.S. m drops from 1.0 to ~0.66 → net loss – \$2.1B (–15.3%). The single largest risk point in the entire model.

2. **Gaming bypass ceiling $\pm 10\text{pp}$** : $\pm \$0.9\text{B}$ ($\pm 6.9\%$). Gaming is 53.5% of the commission pool; the 45–65% ceiling range directly determines nearly half the losses.
3. **TAC pass-through coefficient 0.7/1.3**: $\pm \$0.9\text{B}$ ($\pm 6.7\%$); if agent backends run through Google's pipes (the §5.4 keep branch), TAC losses could approach zero.

(Subscription ceiling $\pm 10\text{pp}$ moves only $\pm \$0.5\text{B}$ ($\pm 3.5\%$) — relatively insensitive.)

6.5 One-Sentence Conclusion

Conclusion Even under the **conservative** scenario, 2031 Services gross profit is eroded by **roughly one-tenth**; **base** by **roughly one-sixth** ($\approx$ **one-tenth** of company operating profit); **aggressive** by **over one-fifth**. And this is annualized run-rate, not cumulative — once the tax base is bypassed, the revenue is lost every year.

Download **Reproducible model**: [model.py](#) (recalculation script, Python standard library only) + [model_assumptions.csv](#) (all assumption parameters). Run `python3 model.py` after downloading to reproduce every headline number in this section; disagree with any §7 assumption, change the corresponding parameter in the CSV and re-run — the conclusions will speak for themselves.

What the model rests on, on one page. Disagree with any item — change the parameter and re-run; the conclusions will speak for themselves.

#	Assumption	Value	Basis	If It Fails
A 1	Commission/ TAC revenue loss vs. Services gross- profit loss is approximately 1:1	Gross margin ≈100%	App Store commissions' marginal costs (review, payment processing) are negligible against the \$26B pool; TAC is pure licensing revenue. FY2025 Services overall gross margin was 75.4%; these two lines are its highest- margin parts, so 100% is a conservative approximation	If actual marginal gross margin is 90%, loss figures revise down by about one-tenth
A 2	Commission- pool base \$25.7B (matrix basis)	billings \$115B × 22.3%	Triangulation (§3.1); reconciled against \$149B ecosystem basis × ~20% ≈ \$30B in §3.2	billings range \$105B– \$125B → pool ±~\$2B
A 3	Agent ceilings: gaming 45– 65% / subscriptions 60–80% / other 50–70%	Low/mid/ high across three scenarios	Current anchor (gaming DTC already ~15% (Estimated)) + four- layer friction-removal mechanism (§4.3) + counterforce constraints	\$6.4 sensitivity: gaming ceiling ±10pp → ±\$0.9B
A 4	China bypass multiplier m=0	China at full 30%/15%, no external links	Rules as of 2026-09-23 (Disclosed); SAMR has no open case	If China opens external links, new exposure on the \$4.1B pool
A 5	EU multiplier ≈0.42 (only erodes the 26% → 15% spread)	New four- tier rates effective 2026-10-01	Agents via external links cut 26% to 15%; Apple loses the 11pp spread, not the full amount	If the EU cuts rates further, the multiplier rises
A 6	U.S.: base/ aggressive m=1.0;	Current external links 0% (Disclosed);	Apple's 2026-08-14 proposal of 15%/5%/ 10% pending; Supreme Court final ruling	If overturned, base 5-year loss –\$2.1B (–15.3%) —

#	Assumption	Value	Basis	If It Fails
	conservative m=0.66–0.70	conservative scenario includes the "zero-commission order overturned" branch	expected before 2027-06	the model's most sensitive binary event
A 7	TAC base \$20B; erosion tiers \$1B/\$3B/\$6B (replacing 5%/15%/30% of queries, coefficient 1.0)	Trial-disclosed \$20B (2022) + analyst cross-checks	Bernstein/Morgan Stanley back-calculation structure (fixed-ratio revenue share)	Keep branch (\$5.4): agent backends run through Google's pipes → losses approach zero
A 8	WeChat mini-programs at 15% as offset (aggressive scenario only: 3-year \$0.2B / 5-year \$0.4B)	2025-11 Apple–Tencent agreement	Bloomberg called it "worth billions of dollars" but gave no base (Estimated); conservatively modeled at 5%/10% of the China pool	If rollout exceeds expectations, the offset is larger; if execution is discounted, the offset goes to zero
A 9	Linear convergence to ceiling over 5 years; 60% convergence at 3 years	Simplifying assumption	No historical precedent (no prior agent channel migration)	If migration is faster (iPhone replacement cycle + agent pre-installation), early-year losses revise upward

A summary. No figure on this list entered the model — this is the report's honesty boundary.

Profit & Services Layer

1. Services segment operating profit: Apple's 10-K does not disclose it (reportable segments are disclosed by geography only, and geographic segments don't disclose profit either). The report's \$66.0B–\$75.1B is an estimated range under two cost-allocation methods (Assumed).
2. Precise internal breakdown of Services (App Store / ads / AppleCare / iCloud / Music / TV+ / Pay revenue and gross profit each): 10-K Item 1 lists business names only, with no breakdown disclosed.
3. Apple Arcade / Fitness+ / News+ revenue each: no reliable third-party estimates (combined at \$1B–\$2B (Assumed)).
4. Apple Card standalone revenue: partnership structure undecided after Goldman Sachs' exit.
5. Within-bundle split of the Apple One subscription pack (Apple only reports 1.5 billion total subscriptions, not first-party vs. third-party).
6. Precise iCloud revenue: only the single ~\$10.4B estimate, no second-source cross-check.
7. Actual Apple TV+ revenue: only subscriber count (~45M) and annual loss (>\$1B); revenue is back-calculated.
8. Original named sell-side reports from Bernstein/Morgan Stanley on App Store commissions: public channels only surfaced Appfigures and Visible Alpha consensus-level figures.

Commission-Pool & Rules Layer

1. Precise share of subscriptions in App Store billings: non-gaming subscriptions at 38% is this study's estimate (range 35–42%).
2. Precise EU share of "European" digital goods: Analysis Group only gives Europe \$24B; no public EU/UK/Switzerland/Norway split, estimated at 70% (range 65–75%).
3. Actual U.S. external-link migration share: no public precise data on how much billings already flow through the 0% external-link channel, estimated at ~10–15%.
4. Blended effective commission rates by category (no public precise data on big/small-developer revenue mix): gaming 28% / subscriptions 18% / other 27%, all estimated.
5. Coverage and revenue scale of the WeChat mini-program 15% agreement: Bloomberg called it "potentially billions of dollars," no base figure; treated only qualitatively as an offset.
6. Korea alternative-billing 26% rate: actual adoption qualitatively "minimal," no number.
7. Brazil CADE settlement rates (external links 15% / third-party payments 25%): single source, not independently verified.
8. Japan new rate details (IAP 10%/21%, CTC 5%): aggregator sources; no Apple official announcement found.

Bypass-Rate Layer (Core Black Hole)

1. True bypass rates by category (migrated billings ÷ total billings): no public data source; Apple is barred from tracking, vendors don't disclose, third parties can only measure inside the App Store.
2. Specific Spotify iOS external-link conversion figures: only "significant growth" qualitatively, no percentages.
3. Supercell Store's share of Supercell revenue: undisclosed.

4. Patreon web-checkout adoption share: undisclosed.
5. Kindle "Get Book" button click/conversion data: undisclosed.
6. U.S. gaming in-app direct-external-link adoption instances and rates: no large-scale reporting seen; unknown.
7. Precision of Appcharge's \$17B/15%: vendor survey basis, median extrapolated from 281 valid responses; directional evidence only.
8. Appfigures' "-18%" primary report: only the FT 2026-08-18 report and MacRumors relay seen; the original report could not be opened to verify the primary figure.

TAC Layer

1. Actual Google TAC payments in 2025/2026: no new disclosures since the 2022 \$20B; no analyst has published updated 2025/2026 annual estimates.
2. ISA's specific revenue-share rate and payment formula: confidential.
3. Renewal terms after the September 2026 expiry: no reporting yet.
4. TAC's exact amount within Apple's reported licensing sub-line: Apple does not disclose.

EPS & Valuation Impact (2026-09-23 Supplement)

Translating the \$13.5B into stock-price language: the base case is roughly equivalent to **–5% of today's share price**, plus a layer of multiple-compression risk not in the model. A slow-burn derating, not a halving.

Assumption chain Gross-profit loss flows 1:1 into pre-tax (near-100% margin) → effective tax rate 16% (FY2025 actual) → diluted shares ~14.6B → 2031 base-case EPS ≈ \$14.5 (TTM \$8.72 grown at 11% CAGR for 5 years, Assumed) → discount rate 9% (5-year $\times 0.65$). Current price ~\$338, TTM P/E ~38x, forward ~35x (2026-09-23 snapshot). This section is model-extension extrapolation; assumptions below.

9.1 Transmission Chain: Gross-Profit Loss → EPS Impact (2031 Annualized)

Scenario	GP Loss (\$B)	After Tax ($\times 0.84$) (\$B)	EPS Impact (\$)	% of 2031 Base EPS \$14.5
Conservative	7.8	6.6	–0.45	–3.1%
Base	13.5	11.3	–0.78	–5.4%
Aggressive	17.8	15.0	–1.02	–7.1%

9.2 Discounted to Today: Share-Price Impact

Scenario	2031 Price Impact (30x / 35x P/E)	Discounted to Today ($\times 0.65$)	vs. Current ~\$338
Conservative	–\$13.5 / –\$15.8	~ –\$9 to –\$10	~ –3%
Base	–\$23.4 / –\$27.3	~ –\$15 to –\$18	~ –5%
Aggressive	–\$30.6 / –\$35.7	~ –\$20 to –\$23	~ –6 to –7%

Exhibit 5 · Three-Scenario Share-Price Impact (Discounted to Today, \$)

Using the midpoint of the 30x/35x range. Note: this is one layer of profit loss; there is a second layer (multiple compression) not in the model.



9.3 Second Layer: Multiple Compression (Not in the Model, but Potentially Just as Damaging)

The calculation above only moves the numerator (profit). If the market re-rates Apple from "platform collecting channel tax" to "ordinary hardware + services company," the denominator moves too: each 1x of 2031 P/E compression $\approx$ **\$13.7/share**; 35x $\rightarrow$ 32x adds roughly **-\$41/share** — the same order of magnitude as the profit loss itself. That's the "slow-burn derating": profit a little less each year, multiple killed a little at a time.

Honesty boundary This section is extrapolation under 2031 steady-state assumptions, not a forecast: ① the market may price it in early, with the impact already partly in the price; ② the counter-case: commission cuts may retain developers and actually expand the tax base, Apple may levy new agent-related tax bases, ongoing buybacks hedge EPS; ③ the 2031 \$14.5 base EPS is itself an extrapolated assumption; ④ the 9% discount rate is subjective. The 2029 annualized figures (net losses 6.0/10.2/14.0) imply EPS impacts of roughly -0.35/-0.59/-0.81, usable as mid-term anchors.

9.4 File Index and Reproduction Guide

File	Contents
APPLE_AGENT_RISK_REPORT_EN.md	Final summary report (English; this page)
parts/ part1_profit.md	Profit-structure teardown (10-K foundation + FY2026 Q3 trends)
parts/ part2_services.md	Services \$109.2B line teardown and sum-check
parts/ part3_commission_pool.md	Commission-pool category × region matrix, region-rule verification, source URL compilation
parts/ part4_bypass.md	Bypass channel inventory (hard-instance URLs), three-category ceilings, −18% verification
parts/ part5_scenarios.md	Three-scenario model documentation, formulas, sensitivity
parts/part6_tac.md	Google TAC scale/contract/erosion scenarios/keep branch
model.py	Scenario model script (run and verified error-free; output matches \$6.1)
model_assumptions.csv	Model parameter detail table (machine-readable)

Reproduce: `python3 model.py` (no third-party dependencies). Change parameters → re-run → cross-check `model_assumptions.csv`. Scenario definitions: Conservative/Base/Aggressive × 3-year (2029) / 5-year (2031).

Ordered by first appearance in the text. Every source that can be directly linked is linked; name-only citations (no direct link) are relayed sources.

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