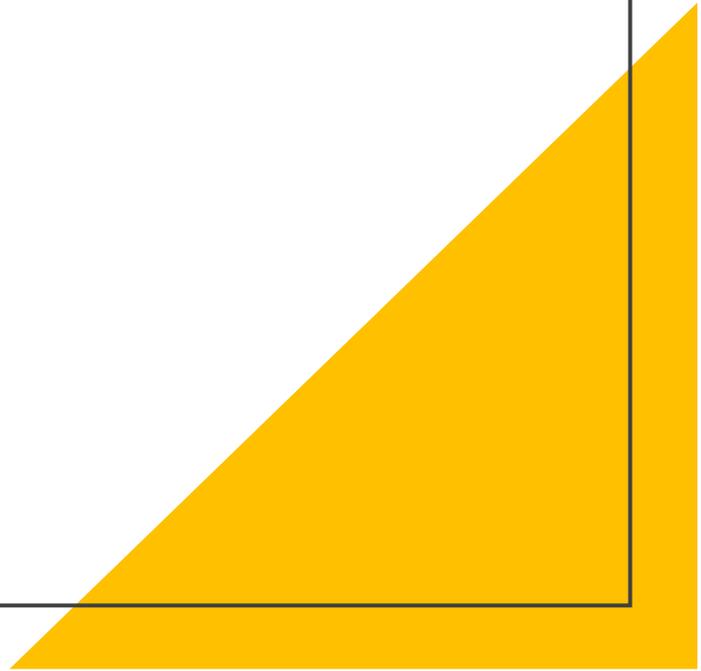


Enabling competition in app stores

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Disclaimer

Retained on behalf of Epic Games as an independent expert in the litigation in Australia (Epic Games v. Apple) with hearing in 2024.

Judgement released publicly in September 2025:

- [Epic Games, Inc v Apple Inc \[2025\] FCA 900](#)
- [Epic Games, Inc v Google LLC \[2025\] FCA 901](#)
- [Anthony v Apple Inc \[2025\] FCA 902](#)

App store cases around the world

- Judge's ruling on Epic vs Apple in US (Sep 2021); must allow free steering (Apr 2025)
- Jury ruling in Epic vs Google in US (Dec 2023), Judge's ruling upheld (July 2025)
- DOJ (+16 states) filed claim vs Apple for monopolizing the smartphone market (Mar 2024)
- EC fines Apple for non-compliance with DMA (Apr 2025)
- Epic (and class actions) vs Apple and Google, Federal Court Australia decision (Aug 2025)
- Kent vs Apple, Competition Appeal Board decision in UK (Oct 2025)
- CMA designated Apple/Google with strategic market status in mobile platforms (Oct 2025)
- JFTC enacted Smartphone Act in Japan to enable competition for app stores (Dec 2025)
- Brazil: The "CADE" Settlement with Apple on steering and alternative stores (Dec 2025)
- CIPPIC filed abuse-of-dominance claim in Canada against Apple App Store (Jan 2026)

Key competition problem



Key competition problem

- Armstrong (2006): consumers singlehome and developers free to multihome
 - developers make independent decisions to join each platform
 - no competition for developers
 - developer fees maximize platform profit plus consumer surplus (ignore developers' interests)
 - implies equilibrium fees charged to developers are excessive from welfare perspective
- Teh and Wright (2026): provide general framework
 - incorporate developers' post-participation decisions (e.g. pricing)
 - in general platform choices are excessive in direction opposite to developers' interests
 - excessive commission fees, excessive self-preferencing, excessive efforts to stop disintermediation etc
 - more platforms doesn't generally lower the distortion
 - to overcome bottleneck, need multiple ways for developers to reach singlehoming consumers

Platforms are complements for developers

- Jeon and Rey (2025) and Teh and Wright (2026)
 - app developers face common setup cost and/or economies of scale in adopting platforms
 - if adopt one platform, more likely (not less) to adopt the other
- Implies negative cross-platform spillovers from participation
 - higher commissions by one platform implies less demand and revenue for rival platform
 - results in additional distortion towards excessive commissions by platforms

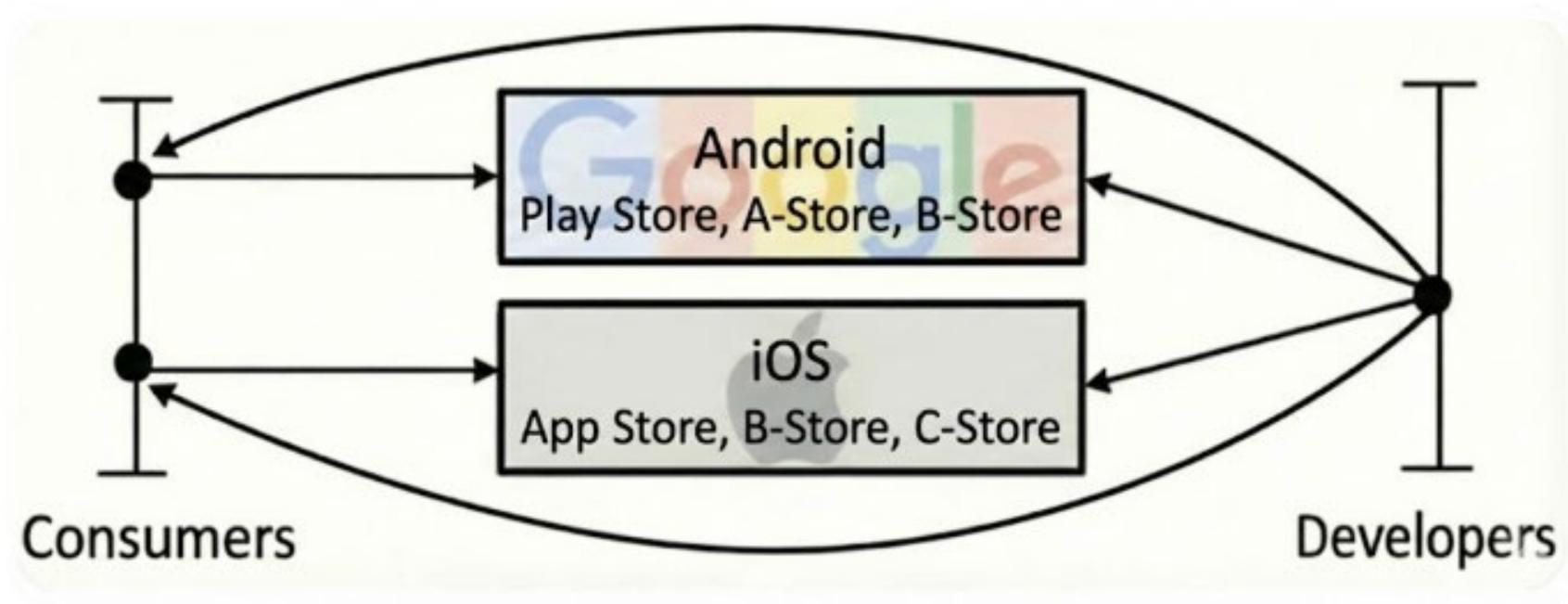
Other negative spillovers

- Spillovers from developer-side post-participation decisions (Teh and Wright, 2026)
 - app developers make common investments/marketing in their apps to increase demand
 - app-specific network effects
 - uniform pricing across channels
 - promotion of direct channel
- Implies negative cross-platform spillovers
 - higher commissions by one platform implies less demand and revenue for rival platform
 - results in additional distortion towards excessive commissions by platforms

Getting around the bottleneck

- If don't directly regulate commissions and other platform instruments, what are the alternatives?
- Allow developers to reach and transact with consumers via multiple channels
 - allow alternative app stores on the same OS
 - allow direct app downloads
 - allow developers to steer users to make digital purchases outside of the platform
 - allow developers to use alternative payment solutions

Addressing the bottleneck



Why we want competing app stores?

- Lower commissions
 - more (investment in) apps by developers and lower consumer prices
- Alternative app stores can serve different niches
 - child-friendly app store
 - specialized gaming store
 - mini-stores that work on top of apps (e.g. GPT store by Open AI)
- Improvement in services
 - better search and discovery (e.g. AI-based text UI)
 - create more community/social features within store
- Offer different business model
 - subscription models where consumers subscribe to bundle of apps

Why we want competing app stores?

- Provide cross-platform integration
 - making it easier for users to switch between iOS and Android
- Would allow an AI-agent app alternative to a marketplace to enter
 - personalized AI agent that works on top of other apps
 - it shouldn't be that only Apple and Google can offer such an AI-agent on their OSs
 - an independent AI-agent app could facilitate new form-factors

Implications of lower commissions

- Relevant question if having competing app stores lowers commission levels
- Welfare maximizing level of commissions
 - negative in most of these models (Jeon and Rey, Teh and Wright)
 - constrained optimal would be to set at zero
 - cost recovery is not at issue here (unlike usual access pricing problem)
- Some papers find eqm commissions maximize consumer surplus
 - Etro (2023) and Jeon and Rey (without spillovers) find this due to “full” waterbed effect
 - reflects timing assumption: developer participation doesn’t depend on consumer participation
 - once allow for this dependence, get partial waterbed effect
 - Teh and Wright show consumer surplus maximization requires lowering commissions

Implications of lower commissions

- Waterbed effect may be very low or even zero
 - marginal consumer for device may have zero spending on digital content
 - marginal consumer for device may be upgrading to newer generation of device
 - in either case, no reason to lower device price when commission revenue increases, since don't collect any additional commission revenue from new (marginal) consumers
- Implications of lower commissions on platform investment
 - if device price is not affected by commission level, no negative effect on investment in devices
 - investment in app store functionality or tools could still be affected, but direction could be positive if lower commission is driven by increased competition among app stores

Modelling competing app stores

- Model of competing marketplaces
 - existing models: Rochet and Tirole (2003) and Teh et al. (2023)
- Need to extend these models
 - need to incorporate developers pricing to consumers, and commissions rather than per-unit fees
 - need to factor in App Store/Play Store start with strong existing network effects
 - need to imbed competing marketplaces within each platform (OS) in a competitive bottleneck setting

Competitive bottleneck and marketplace network effects

- (1) Competitive Bottleneck
 - source of platform's market power is large set of single-homing consumers at OS level
 - reflects high costs of multihoming and high switching costs for consumers across OSs
- (2) Network Effects of App Store
 - additional source of platform's market power is cross-side network effects via dominant app store on each OS
- Allowing rival app stores, direct downloading and developer steering helps mitigate (1)+(2)

Feasibility of app store competition

- Network effects can protect an incumbent marketplace to some extent
 - Amazon marketplace faces limited competition in the US
 - this can partly reflect economies of scale in its distribution network
 - could also reflect the use of anticompetitive practices (e.g. PPC like practices)
- Marketplace-level competition feasible for digital marketplaces
 - EGS entered to compete with Valve's Steam on Windows/macOS: Steam lowered commissions
 - Microsoft Store also competes on Windows/macOS, together with several niche app stores
 - Samsung Galaxy Store, Aptoide, and ONE Store compete on Android despite Google efforts to limit
 - in some open settings, we see intense competition: e.g. marketplaces for NFTs
- A key precondition is that the incumbent marketplace doesn't get to tax rivals

Which types of fees raise concerns?

- Platforms can charge developers for its own app store services
 - listing fees, review fees, promotion fees, a fee for using its payment solution
- For competition to work, these fees shouldn't be tied to developers' external choices
 - shouldn't charge fees to rival app stores (or to developers for transactions via rival app stores)
 - shouldn't be monitoring or taxing external transactions
 - shouldn't charge developers for listing on rival app stores or for steering consumers to rival store

Principles for achieving competition

- Need to prevent foreclosure via price squeeze in fees
 - e.g. charge fees for transactions outside app store to limit viability of alternatives
- Need to prevent foreclosure via all-or-nothing choices (exclusivity)
 - e.g. developer cannot list on platform's store and rival store; do all transactions with IAP or outside
- Need to prevent foreclosure via discrimination
 - e.g. fees only charged on apps of certain type that more likely to be rival app stores
- Need to prevent foreclosure via tying/bundling
 - e.g. tie the use of certain APIs or other services to distribution through platform's store
- Need to prevent foreclosure via degrading experience of rival's store
 - e.g. put up “scare screens”; make it difficult to install; APIs made to not work as well

Achieving contestability and fairness - DMA

- Cremer et al. (2025) “Access pricing for App Stores under the DMA”
 - “the Access Fee for third-party app stores on iOS should be zero to comply with the DMA”

Thank you