

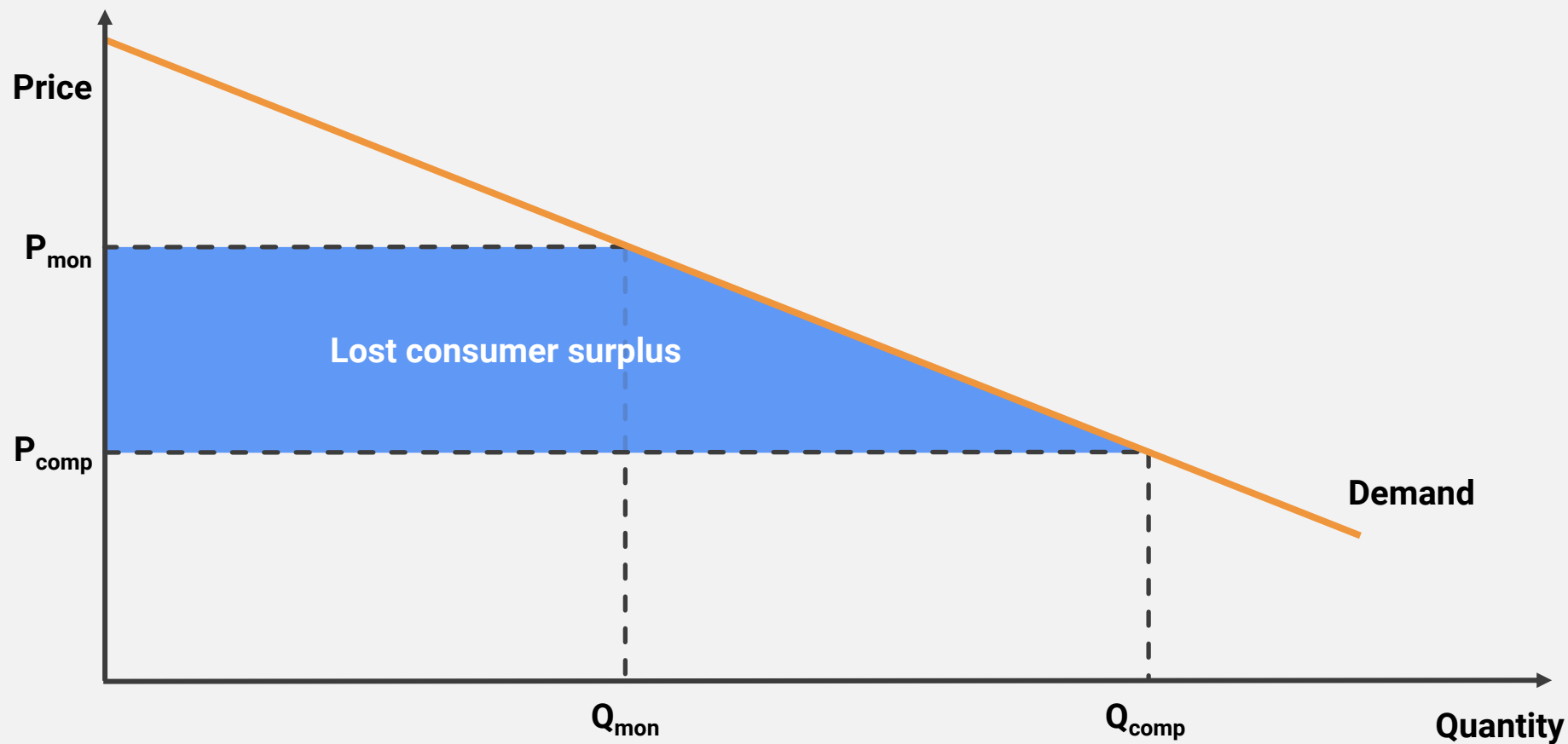
EXHIBIT B

In re Google Play Store Antitrust Litigation

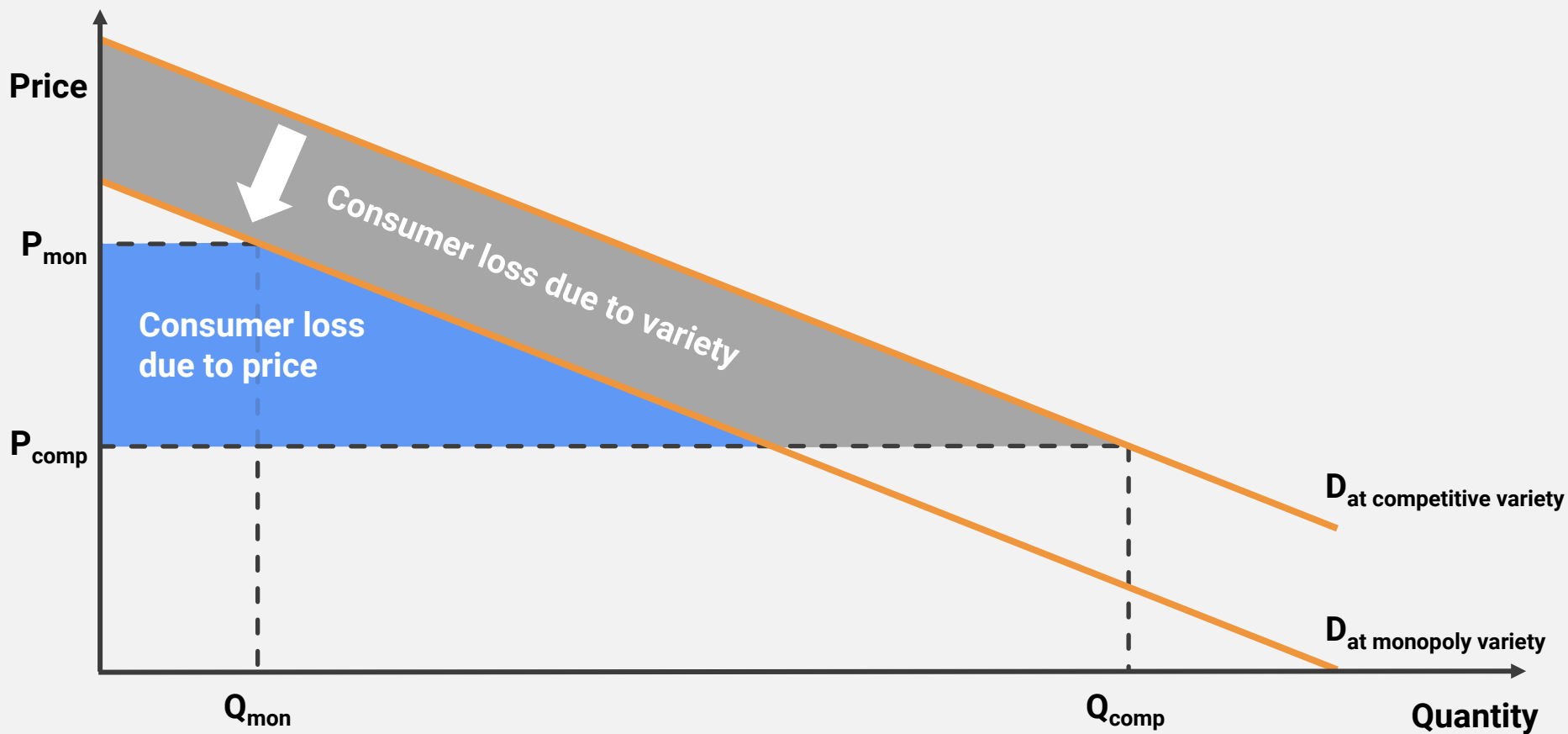
Concurrent Expert Proceeding for Merits Experts: Presentation of Dr. Marc Rysman

August 1, 2023

Consumer Welfare: Price Changes



Consumer Welfare: Price & Variety Changes



The Damages Seesaw

High Pass-Through



The Damages Seesaw

Low Pass-Through



Dr. Rysman's Model

Three Stages as in Dixit & Stiglitz

1

Entry

- Free entry

Church & Gandal (1993)

- App success is unknown

Janßen et al. (2022)

2

Pricing

- Developers reduce price or
- Developers pocket savings, spurring entry

Church & Gandal (1993)

3

Purchase

- Demand elasticity

Ghose & Han (2014)

- Consumer allocates budget and gains surplus

Dixit & Stiglitz (1977)

Consumer Utility

Solving the model of consumers making choices over apps

Consumers get utility:

$$V(p, n) = \frac{y}{1 - t_B} \times \frac{n^{(\rho-1)}}{p}$$

p – price of app transaction

n – number of apps

y – net consumer spending on apps/in-app content

t_B – Google's discount rate (including Play Points)

ρ – function of elasticity of substitution

Ghose and Han (2014) paper and shown to be conservative using my regression analyses

n and p are determined by demand and costs. Solve for those following the literature.

Calculating Damages for Intermediate Pass-Throughs Using The Model

Solving the model of competition between apps and use the following formula to evaluate damages for intermediate pass-throughs:

$$\Delta y = y \times \left[\left[\frac{p_1(1 - t_{B1})}{p_2(1 - t_{B2})} \right]^\rho \left[\frac{(1 - \tau_2)p_2 - c}{(1 - \tau_1)p_1 - c} \right]^{\rho-1} - 1 \right]$$

Δy – damages

y – net consumer spending on apps/in-app content

ρ – function of elasticity of substitution

Ghose and Han (2014) paper and shown to be conservative using my regression analyses

τ_1, t_{B1} – Google's actual commission rate and price discount to consumers

τ_2, t_{B2} – Google's but-for commission rate and price discount to consumers

p_1, p_2 – actual and but-for price. But-for price evaluated based on an assumed pass-through.

c – developer marginal cost. Recovered using Lerner index.

Damages Using 0% Pass-Through

Damages for all U.S. Consumers, August 16, 2016 – May 31, 2022

Model	Damages
Variety effects plus direct effects on price	10,522,937,653
Direct effects on price	194,291,949
Variety effects	10,328,645,704

Damages Using Dr. Leonard's 3% Pass-Through

Damages for all U.S. Consumers, August 16, 2016 – May 31, 2022

Model	Damages
Total welfare effects	10,665,941,568
Direct effects on price	386,664,379

Damages Using Dr. Singer's 91.1% Pass-Through

Damages for all U.S. Consumers, August 16, 2016 – May 31, 2022

Model	Damages
Total welfare effects	13,011,922,462
Direct effects on price	6,930,171,698