REGULATING INTERCHANGE FEES: A WELFARE ANALYSIS

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I. INTRODUCTION

☞ Lot of attention paid to IFs:

- ✓ directly (focus of this presentation): are IFs too high?
  or indirectly (tying, No Surcharge Rule, legitimacy of collective determination)

- ✓ retrospective: damages
  prospective : IF regulation

- ✓ private lawsuits (Wal-Mart, new class-action suits), competition authorities (EU, OFT, RBA,...).

☞ What do we know about economics of card payment?

OUTLINE

II. SOME ECONOMICS OF CARD PAYMENTS

III.   STANDARD COMPETITION POLICY IS INADEQUATE
FOR IF MATTERS

IV. IS THERE A MARKET FAILURE ?

V.   WELFARE ANALYSIS

VI.   CONCLUSIONS

II. SOME ECONOMICS OF CARD PAYMENTS - 1

(1) When a transaction between a buyer and a seller is settled by card, a

   single service is provided **jointly** to the two users:

- convenience benefit to the seller: b_S

   [cost saved by not using cash or check: speed , theft, fraud

   accounting]

- convenience benefit to the buyer: b_B

   [cost saved by not having to carry cash or checks, or to go to

   ATM,...]

II. SOME ECONOMICS OF CARD PAYMENTS 2

TWO IMPORTANT BENCHMARKS:

✔ if $b_B + b_S \geq c$ (total cost)

card payment increases **SOCIAL WELFARE**

✔ if $b_B + b_S \geq p_B + p_S$ (total price)

card payment increases **TOTAL USER SURPLUS**

II. SOME ECONOMICS OF CARD PAYMENTS 3

(2) **Timing of users' decisions:**

- First, membership:

  buyer = do I own a card ?

  seller = do I accept cards?

- Then, usage: buyer = do I use my card?

✓ By using his card the buyer exerts an externality
  $b_S - p_S$ ($\gtrless$ *0 ?*) on the seller.

✓ By accepting card payments the seller creates an option value for the   buyer (positive externality).

(3) IFs are used by payment card associations to reallocate total cost of service between issuer (bank of the buyer) and acquirer (bank of the seller).

IFs do not change total cost.

IF debate is about relative prices (*structure*), not total price (*level*) .

III.   STANDARD COMPETITION POLICY DOCTRINE IS INADEQUATE FOR IF MATTERS

Specificities of situation:

 (1) (*Open*) *not-for-profit associations*

   Association, even if dominant, cannot raise price *level*

   ➡   issue is not whether card payments are "too expensive".

   Indeed, concerns are about *too many* card payments, not too few.

   [MasterCard's recent IPO, though]

III. STANDARD COMPETITION POLICY DOCTRINE IS INADEQUATE FOR IF MATTERS - 2

(2) *Payment networks are two-sided markets*

✓ Platforms must keep both sides (card users, merchants) on board.

✓ Price structure often skewed, regardless of extent of competition in industry:

- low price (perhaps zero) to one side,

- high price on other side.

Ex: Adobe Acrobat, Text Processors, MP3 patents:

free reader, charge or royalties for encoding

III. STANDARD COMPETITION POLICY DOCTRINE IS INADEQUATE FOR IF MATTERS - 3

✔ *Skewed pricing patterns in other two-sided markets*:

Product	loss leader/break-even segment	profit-making segment
SOFTWARE		
Browsers	clients	web servers (Netscape)
Operating systems (Windows, Palm, Pocket PC)	application developers (development tools, support, functionalities,...)	clients
DoCoMo's I - mode phone	content providers	subscribers (based on downloaded volume)
PORTALS AND MEDIA		
Portals	"eyeballs"	advertisers
Newspapers	readers	advertisers
(Charge-free) TV networks	viewers	advertisers
Yellow pages	consumers	advertisers

IV. IS THERE A MARKET FAILURE ?

✓ Policy intervention must be based on existence of **market failure** (here non-internalized externalities).

✓ Two possible **externalities**:

- cardholders on merchants (or cash buyers),
- merchants on cardholders.

✓ How these two externalities play out depends on:

- **internalization** parameter (defined shortly),
- cardholder **single- or multi-homing** (determines which side is in the driver's seat),
- intermediaries' **markups**, as they affect card usage.

IV. IS THERE A MARKET FAILURE ? 2

Cardholders derive positive net surplus from **option** to use their card:

average cardholder surplus : v

$$\left[\text{technically } \vee (p_B) \equiv E\left[b_B - p_B | b_B \geq p_B\right]\right]$$

convenience
cost of alternative
payment

variable fee
(often negative)

THIS OPTION VALUE INCREASES **QUALITY OF SERVICE**
OF RETAILER

IV. IS THERE A MARKET FAILURE ? 3

✓ Does **card acceptance make merchant more attractive**?

- Yes if latter know whether card is accepted

  [well-informed consumers, especially if repeat customers]

- No if they don't

  [poorly-informed consumers, especially if one-time patrons]

IV. IS THERE A MARKET FAILURE ? 4

✓ Informed consumers view card acceptance as an increase (by v) of quality of service (QoS).

internalization parameter : α

$$0 \leq \alpha \leq 1$$

✓ **Definition**= fraction of "informed purchases" (consumers who are aware about card acceptance policy before choosing store)

IV. IS THERE A MARKET FAILURE ? 5

Merchants' card acceptance decision

Merchant accepts cards if $[b_S - p_S] + \alpha v \geq 0$
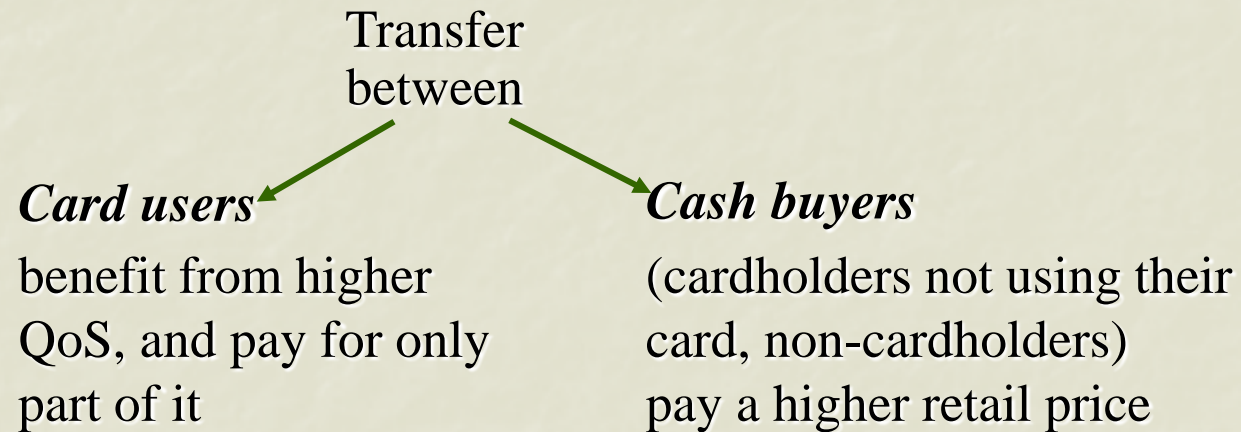
Merchant acceptance

- is a money-losing proposition from a narrow accounting viewpoint if $b_S < p_S$,
- but increases QoS, allowing a retail price increase.

Not different from **supermarket hiring more cashiers** in order to attract time-conscious customers!

Do merchants suffer from a negative externality?

✓ No if merchant passes through merchant discount into retail price:

Transfer
between

Card users

benefit from higher
QoS, and pay for only
part of it

Cash buyers

(cardholders not using their
card, non-cardholders)
pay a higher retail price

✓ Externality: from card users onto **cash buyers**, not onto merchants.

Implication: *assuming* that IF is excessive, it is the **cash buyers**

who **should receive damages** (not merchants)!

✓ **Digression: Should we worry about redistributive aspects?**

Of course yes in general; here much less so:

- "cash buyers" include cardholders when using cash:
"subsidy"=incentive to use a more efficient payment mode.

- competition law rules out redistributive concerns :
(there exist **more efficient ways of redistributing income).**

- back to **cashiers' analogy**: Time-conscious buyers are often wealthy
ones. **Poorer customers receive less in terms of time savings than
they pay in terms of higher retail prices**.

[Unfortunate, but no-one would regulate shops' QoS.]

Do merchants exert a negative externality onto cardholders?

Yes if $\alpha < 1$ (imperfect internalization).

Merchants may:

- refuse cards altogether,

- or accept only a card that is inferior for cardholders, but cheaper for them.

V. WELFARE ANALYSIS

✓ **Current concern: issuers push for excessive IF**.

Assume, therefore, that association is *issuer controlled*.

Issuers want **high volume of transactions**, hence **high IF**

(as long as merchants accept)

Total *variable* markup $= m = m_{issuers} + m_{acquirers}$

[variable markup= price minus marginal cost]

- can be sizeable even under free entry, if fixed costs large,
- in general depends on IF.]

V. WELFARE ANALYSIS 2

(1) Benchmark case:
Merchants homogeneity and cardholder single-homing

b_S the same for all merchants. Issuers set IF such that:

$$p_S = b_S + \alpha \, v(\, p_B \,)$$

IF socially
- too high if $\alpha v > m$
- optimal if $\alpha v \leq m$

[constrained by merchant acceptance]

[Proof: internalization by cardholder requires $p_B = c - b_S$.
But $p_B + p_S = c + m$. Hence social optimum would require $p_S = b_S + m$, if consistent with merchant acceptance.]

V. WELFARE ANALYSIS 3

Some argue:

"like other monopolies, monopoly issuers should not be subsidized (through a high IF)"

This argument is flawed for several reasons:

(a) Part of markup m may come from acquirers...

(b) analogy with monopoly subsidization is misleading:

  (i) "subsidy" does not come from government,

  (ii)   "subsidy" would go to **competitive** issuers;
          standard concern (subsidizing inefficient monopolist) **irrelevant**

  [*positive $m_{issuers}$*   consistent with free entry if issuers have fixed costs].

V. WELFARE ANALYSIS 4

(c)   Actual incidence of "subsidy" is on **cardholders!**

Under **free entry** into issuing and because **subsidy is untargeted** (new entrants benefit, not only incumbents), high variable profits imply **more entry and variety/competition** for cardholders.

Then $m_{issuers}$ ultimately goes to cardholders.

V. WELFARE ANALYSIS 5

Limits on issuers' ability to raise IF

(2) *Merchants heterogeneity*

Marginal merchant does not internalize loss of cardholder surplus when rejecting card.

(3) *Multiple cards and cardholder multi-homing*

Merchants now in driver's seat: they can reject some of the cards and "steer" consumers.

Then, IF resulting from inter-network competition always **lower** than socially optimal one.

VI. CONCLUSIONS

✓ Competition policy and regulation should be based on reasonably broad intellectual consensus on theoretical and empirical fronts.

✓ In particular, **competition policy doctrine must be amended to account for two-sidedness** (not specific to cards); for example:

Price structure often skewed, regardless of extent of competition in industry

Dominant platform could be found guilty of predatory pricing on one side and (in the EU) excessive pricing on the other.

VI. CONCLUSIONS - 2

✓ **Number of aspects overlooked by analysts:**

IFs are about **price structure**, not price level.

Cards transactions increase the **QoS** of merchants.

✓**Consensus among economists:** (regardless of where they stand on IF)

Cost-based regulation of IF economically meaningless.

✓ **Need for empirical investigations** as to whether there are too many card payments.