

# Pricing Payment Cards

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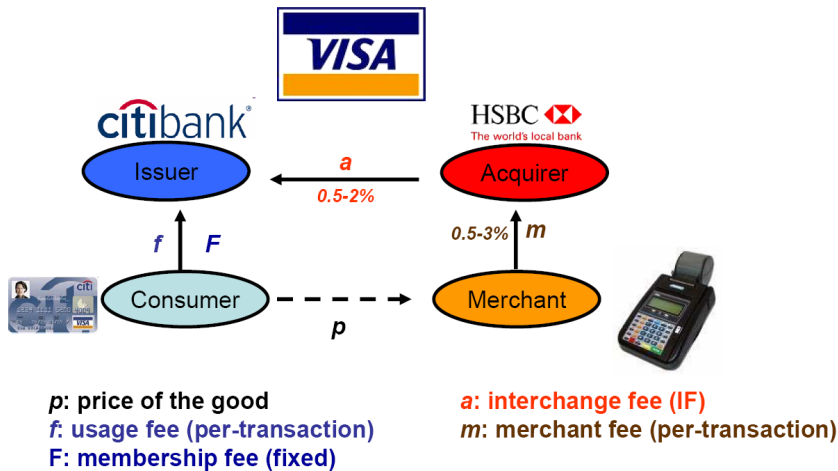
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# The Payment Card Industry

A 4-party Card Scheme (like Visa or MasterCard)



- Compares the determinants of
  - **the privately optimal IF**, which is the fee set by a card association to maximize the total profits of its member banks

with

  - **the socially optimal IF**, which is the fee set by a regulator to maximize the social welfare.

# Why is it interesting to study IFs?

- **The Role of an IF:** The IF affects the structure of user fees to consumers and merchants.
- **Policy Makers' Concerns:** IFs inflate the cost of card acceptance by retailers, and thus increase retail prices.
  - Consumers (both card and cash users) foot the bill.
  - Card users pay twice for payment cards: once through annual fees to their bank and a second time through inflated retail prices.
  - Multi billion euro industry "taxes" transactions. Any efficiency gains / losses?  
In 2006, the total value of card payments is €1600 billion in the EEA, which means min €8 billion IF payments.
- **Interventions:**
  - Cap regulation on IFs (in Australia, Spain, Switzerland, Mexico, Israel).
  - The EC obliged MasterCard to stop setting an IF for cross-border consumer card transactions (Dec 2007). The EC is now investigating Visa's IFs.
- **Defence of the Business:** The IF is used as a tool to balance the demands of cardholders and merchants to achieve the optimal transaction volume.

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- **Strong complementarities** between **consumers** and **merchants**: A card transaction occurs iff a consumer uses his card at a merchant where the card is accepted.
- Corresponding **externalities** are not internalized by end users:
  - Two-sided membership externalities: merchants  $\Leftrightarrow$  consumers
  - One-sided usage externalities: consumers  $\rightarrow$  merchants

**Remark:** Card usage is determined by cardholders, since affiliated merchants are not allowed to turn down cards.
- In theory, the IF could be used as a tool to induce consumers and merchants to internalize their externalities on the rest of the industry.

- **Baxter (1983)**: IFs sustain efficient card usage.  
Critical assumptions: Homogeneous merchants and perfectly competitive industry.
- **Rochet and Tirole (2002)**: the profit-maximizing IF  $\geq$  the welfare-maximizing IF.  
Critical assumption: Homogeneous merchants.
- **Wright (2001,2004)**: *heterogeneous merchants* + Rochet and Tirole framework,  
 $\implies$  No clear policy implications.
- See Chakravorti and To (2001), Evans and Schmalensee (2005b), Rochet (2003) for reviews. Weiner and Wright (2005) compares IF practices across countries.
- Literature on access charges and “two-sided markets”: Armstrong (2002, 2006), Laffont et al.(2003), Rochet and Tirole (2003, 2006).

- **Realistic Setup:**

- *Both* consumers and merchants are heterogeneous in their benefits from card payments, so

card holding, card usage and card acceptance are continuous (elastic) functions of usage and membership fees.

- We allow for imperfect competition of banks on both sides of the market.

- **Result:** The card association sets a too high IF resulting in too low card user fees at the expense of merchants paying too high merchant fees.

- **Clear policy implications:**

- Structural remedy: Cap regulation on IFs.
- Behavioral remedy: Allowing member merchants turn down the cards of the platform.

- **Encompasses the literature:** Obtain Baxter (83), Rochet and Tirole (02, 03), Wright (01, 04) as special cases.

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- We take into account the fact that
  - consumers make two types of decisions: card membership (holding) and card usage,
  - merchants make one type of decision: card membership (acceptance).
- **Method:**
  - By separating *card membership decisions* from *card usage decisions*,  
AND
  - allowing for fixed card fees as well as transaction fees.

- Issuer banks could internalize all incremental card usage surpluses of consumers through fixed card fees because consumers'
  - membership (cardholding) decisions depend on the average card fee, and
  - card usage decisions depend on the transactional card fee.
- Acquirer banks could internalize some of the (**but not all**) card usage surpluses of merchants even if they use non-linear merchant fees.
  - Merchants' card acceptance decisions depend on the average merchant fee.
  - Once a merchant becomes a member of the platform, it is not allowed to turn down the cards of the platform, so it is the cardholder who determines card usage.
- The card association internalizes every incremental card usage surpluses of consumers, but only some of the card usage surplus of merchants.
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- Only card transaction fees  $\Rightarrow$  The benchmark of Rochet and Tirole (03, Section 2).
  - The comparison between the privately and socially optimal IFs hinges on the relative demand elasticities and the relative average surpluses of merchants and consumers.
- Allowing for fixed card fees in RT (03) does not change their results, because
  - they implicitly assume that consumers get a card iff they use it.
    - $\Rightarrow$  consumers make one decision: cardholding ( $\approx$  card usage)
- We separate cardholding from card usage decisions by assuming that consumers do not know their card usage benefits when they decide to get a card. Consumers
  - hold a card to secure the expected surplus from card usage (the option value),
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  - Merchants would internalize some of the card usage surplus of consumers, and thus would be more willing to accept cards, i.e., resist less to an increase in merchant fees  
→ The association raises the IF.
- **Strategic card acceptance:** Merchants accept cards to steal business from their rivals.
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- Efficiency gains from setting caps on IFs.
- No reason to apply widely used (issuing) cost-based regulation, because the socially optimal IF depends on
  - the relative demand elasticities, and
  - the relative average surpluses of consumers and merchants.
- Regulating only the IF is not enough to achieve full efficiency:
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- An average merchant prefers a lower interchange fee (IF) than an average cardholder.
- A payment card association (like Visa) sets a HIGHER IF than the socially optimal level because
  - Visa could internalize incremental card usage surpluses of consumers through fixed card fees, however, could only internalize some of the card usage surplus of merchants, even if non-linear merchant fees are available.
  - The socially optimal IF, however, takes into account all incremental card usage surpluses of consumers and merchants.
- Cardholders are the ones who determine card usage once a merchant becomes a Visa member, so Visa sets a too high IF to subsidize card users at the expense of too high merchant fees.
- Regulating only IFs is not enough to achieve full efficiency.