Economics of Payment Cards

Özlem Bedre-Defolie

European School of Management and Technology

Stockholm, November 2014
The payment card industry

- $p$: price of good, $F$: Card membership fee, $f$: card transaction fee, $M$: merchant membership fee, $m$: merchant fee per transaction, $a$: interchange fee (IF).
- IF determines the price structure; how the total transaction price is allocated between the two sides.

(a) 3-party (closed) card network (E.g., AMEX)

(b) 4-party (open) card network (E.g., Visa)
Some important facts

- Increasingly high card usage: most widely used non-cash payment (40% in most markets), €1.8 trillion in the EU, $3.26 trillion in the US.
Some important facts

- Increasingly high card usage: most widely used non-cash payment (40% in most markets), €1.8 trillion in the EU, $3.26 trillion in the US.

- US merchants pay 1.8% of each card purchase to their banks (the 2nd highest expense after labor costs).
Some important facts

- Increasingly high card usage: most widely used non-cash payment (40% in most markets), €1.8 trillion in the EU, $3.26 trillion in the US.

- US merchants pay 1.8% of each card purchase to their banks (the 2nd highest expense after labor costs).

- Consumers are offered rewards if they checkout by card (in some cases, 5% of the transaction value paid back).
Some important facts

- Increasingly high card usage: most widely used non-cash payment (40% in most markets), €1.8 trillion in the EU, $3.26 trillion in the US.

- US merchants pay 1.8% of each card purchase to their banks (the 2nd highest expense after labor costs).

- Consumers are offered rewards if they checkout by card (in some cases, 5% of the transaction value paid back).

- IFs accounts for the most part of the merchant fee.
Some important facts

- Increasingly high card usage: most widely used non-cash payment (40% in most markets), €1.8 trillion in the EU, $3.26 trillion in the US.
- US merchants pay 1.8% of each card purchase to their banks (the 2nd highest expense after labor costs).
- Consumers are offered rewards if they checkout by card (in some cases, 5% of the transaction value paid back).
- IFs accounts for the most part of the merchant fee.
- The level of IF might depend on the merchant and business sector, and on the type of card and transaction.
Some important facts

- Increasingly high card usage: most widely used non-cash payment (40% in most markets), €1.8 trillion in the EU, $3.26 trillion in the US.
- US merchants pay 1.8% of each card purchase to their banks (the 2nd highest expense after labor costs).
- Consumers are offered rewards if they checkout by card (in some cases, 5% of the transaction value paid back).
- IFs accounts for the most part of the merchant fee.
- The level of IF might depend on the merchant and business sector, and on the type of card and transaction.
- In EU, in 2010, for €100 debit card transaction, an interchange fee ranges from €0.01 to €1.55. IFs are higher for credit cards than debit cards, for international networks than domestic ones.
Some important facts

- Increasingly high card usage: most widely used non-cash payment (40% in most markets), €1.8 trillion in the EU, $3.26 trillion in the US.
- US merchants pay 1.8% of each card purchase to their banks (the 2nd highest expense after labor costs).
- Consumers are offered rewards if they checkout by card (in some cases, 5% of the transaction value paid back).
- IFs accounts for the most part of the merchant fee.
- The level of IF might depend on the merchant and business sector, and on the type of card and transaction.
- In EU, in 2010, for €100 debit card transaction, an interchange fee ranges from €0.01 to €1.55. IFs are higher for credit cards than debit cards, for international networks than domestic ones.
- An IF is either set bilaterally by the issuer and acquirer, or multilaterally by the network. The latter is known as multilateral IF or MIF.
Some important facts

• Increasingly high card usage: most widely used non-cash payment (40% in most markets), €1.8 trillion in the EU, $3.26 trillion in the US.

• US merchants pay 1.8% of each card purchase to their banks (the 2nd highest expense after labor costs).

• Consumers are offered rewards if they checkout by card (in some cases, 5% of the transaction value paid back).

• IFs accounts for the most part of the merchant fee.

• The level of IF might depend on the merchant and business sector, and on the type of card and transaction.

• In EU, in 2010, for €100 debit card transaction, an interchange fee ranges from €0.01 to €1.55. IFs are higher for credit cards than debit cards, for international networks than domestic ones.

• An IF is either set bilaterally by the issuer and acquirer, or multilaterally by the network. The latter is known as multilateral IF or MIF.

• Profitability of issuing is higher than acquiring in EU and in US.
Policy makers’ concerns and interventions

- High IFs (so high merchant fees) inflate the cost of card acceptance by merchants without "improving efficiency".

- Cap regulations on IFs in Australia, Canada, Chile, Denmark, Mexico, Singapore, Switzerland, and the US (2011). Mostly based on issuers’ costs.

- MIFs harm competition between acquiring banks, inflate merchant fees and so final consumer prices. (The UK OFT’s MasterCard case, the EC MasterCard (2007) and Visa (2002, 2010) cases).

- No-surcharge-rules: Payment networks prohibit merchants from surcharging their payment cards in favour of other networks' cards possibly distorting competition.

- In 2010 Visa and MasterCard reached a settlement with the US DOJ to stop using NSRs.

- AMEX refused the DOJ’s rule and fights with a US law suit.

- In Australia, Czech Republic, Denmark, Ireland, Netherlands, New Zealand, UK NSR is banned, but in Australia and UK merchants’ surcharges are subject to cap regulation based on merchants’ costs of card acceptance.
Policy makers’ concerns and interventions

- High IFs (so high merchant fees) inflate the cost of card acceptance by merchants without "improving efficiency".
- Cap regulations on IFs in Australia, Canada, Chile, Denmark, Mexico, Singapore, Switzerland, and the US (2011). Mostly based on issuers’ costs.
Policy makers’ concerns and interventions

- High IFs (so high merchant fees) inflate the cost of card acceptance by merchants without "improving efficiency".
- Cap regulations on IFs in Australia, Canada, Chile, Denmark, Mexico, Singapore, Switzerland, and the US (2011). Mostly based on issuers’ costs.
- MIFs harm competition between acquiring banks, inflate merchant fees and so final consumer prices. (The UK OFT’s MasterCard case, the EC MasterCard (2007) and Visa (2002, 2010) cases).
Policy makers’ concerns and interventions

- High IFs (so high merchant fees) inflate the cost of card acceptance by merchants without "improving efficiency".
- Cap regulations on IFs in Australia, Canada, Chile, Denmark, Mexico, Singapore, Switzerland, and the US (2011). Mostly based on issuers’ costs.
- MIFs harm competition between acquiring banks, inflate merchant fees and so final consumer prices. (The UK OFT’s MasterCard case, the EC MasterCard (2007) and Visa (2002, 2010) cases).
- No-surcharge-rules: Payment networks prohibit merchants from surcharging their payment cards in favour of other networks’ cards possibly distorting competition.
Policy makers’ concerns and interventions

- High IFs (so high merchant fees) inflate the cost of card acceptance by merchants without "improving efficiency".
- Cap regulations on IFs in Australia, Canada, Chile, Denmark, Mexico, Singapore, Switzerland, and the US (2011). Mostly based on issuers’ costs.
- MIFs harm competition between acquiring banks, inflate merchant fees and so final consumer prices. (The UK OFT’s MasterCard case, the EC MasterCard (2007) and Visa (2002, 2010) cases).
- No-surcharge-rules: Payment networks prohibit merchants from surcharging their payment cards in favour of other networks’ cards possibly distorting competition.
  - In 2010 Visa and MasterCard reached a settlement with the US DOJ to stop using NSRs.
Policy makers’ concerns and interventions

- High IFs (so high merchant fees) inflate the cost of card acceptance by merchants without "improving efficiency".

- Cap regulations on IFs in Australia, Canada, Chile, Denmark, Mexico, Singapore, Switzerland, and the US (2011). Mostly based on issuers’ costs.

- MIFs harm competition between acquiring banks, inflate merchant fees and so final consumer prices. (The UK OFT’s MasterCard case, the EC MasterCard (2007) and Visa (2002, 2010) cases).

- No-surcharge-rules: Payment networks prohibit merchants from surcharging their payment cards in favour of other networks’ cards possibly distorting competition.
  - In 2010 Visa and MasterCard reached a settlement with the US DOJ to stop using NSRs.
  - AMEX refused the DOJ’s rule and fights with a US law suit.
Policy makers’ concerns and interventions

- High IFs (so high merchant fees) inflate the cost of card acceptance by merchants without "improving efficiency".

- Cap regulations on IFs in Australia, Canada, Chile, Denmark, Mexico, Singapore, Switzerland, and the US (2011). Mostly based on issuers’ costs.

- MIFs harm competition between acquiring banks, inflate merchant fees and so final consumer prices. (The UK OFT’s MasterCard case, the EC MasterCard (2007) and Visa (2002, 2010) cases).

- No-surcharge-rules: Payment networks prohibit merchants from surcharging their payment cards in favour of other networks’ cards possibly distorting competition.
  - In 2010 Visa and MasterCard reached a settlement with the US DOJ to stop using NSRs.
  - AMEX refused the DOJ’s rule and fights with a US law suit.
  - In Australia, Czech Republic, Denmark, Ireland, Netherlands, New Zealand, UK NSR is banned, but in Australia and UK merchants’ surcharges are subject to cap regulation based on merchants’ costs of card acceptance.
Payment card industry is a two-sided market

- There are network (membership) externalities between the two sides:
  - More cardholders hold cards of a network, say Visa, more merchants are willing to accept Visa cards.
  - More merchants accept Visa cards, more consumers would like to hold Visa cards.
- There are usage externalities from cardholders to merchants:
  - When cardholders pay by card, merchants have to pay a commission to their bank and might enjoy convenience benefits of being paid by card.
Payment card industry is a two-sided market

- There are network (membership) externalities between the two sides:
  - More cardholders hold cards of a network, say Visa, more merchants are willing to accept Visa cards.
Payment card industry is a two-sided market

- There are network (membership) externalities between the two sides:
  - More cardholders hold cards of a network, say Visa, more merchants are willing to accept Visa cards.
  - More merchants accept Visa cards, more consumers would like to hold Visa cards.
Payment card industry is a two-sided market.

- There are network (membership) externalities between the two sides:
  - More cardholders hold cards of a network, say Visa, more merchants are willing to accept Visa cards.
  - More merchants accept Visa cards, more consumers would like to hold Visa cards.
- There are usage externalities from cardholders to merchants:
Payment card industry is a two-sided market

- There are network (membership) externalities between the two sides:
  - More cardholders hold cards of a network, say Visa, more merchants are willing to accept Visa cards.
  - More merchants accept Visa cards, more consumers would like to hold Visa cards.

- There are usage externalities from cardholders to merchants:
  - When cardholders pay by card, merchants have to pay a commission to their bank and might enjoy convenience benefits of being paid by card.
Payment card industry is a two-sided market—

- Usage externalities could be internalised perfectly and IF is neutral; volume of transactions, profits do not depend on $a$, if merchants could price discriminate based on payment method at no cost (Gans and King, 2003).

- In practice externalities are not perfectly internalised since surcharging expensive cards are costly for merchants, e.g., due to No-Surcharge-Rules, transaction costs, or other costs of surcharging (missing sales).

- Hence, the volume of transactions depend on the allocation of transaction fees, $f^m$, between the two sides, so on the IF.

- Different from the standard theory of taxation where it does not matter whether the tax is on sellers or on buyers.

- A 4-party network can set a MIF and a 3-party network set directly end user fees to balance the demand between the two sides.
Payment card industry is a two-sided market—

- Usage externalities could be internalised perfectly and IF is neutral; volume of transactions, profits do not depend on $a$, if merchants could price discriminate based on payment method at no cost (Gans and King, 2003).

- In practice externalities are not perfectly internalised since surcharging expensive cards are costly for merchants, e.g., due to No-Surcharge-Rules, transaction costs, or other costs of surcharging (missing sales).
Usage externalities could be internalised perfectly and IF is neutral; volume of transactions, profits do not depend on \( a \), if merchants could price discriminate based on payment method at no cost (Gans and King, 2003).

In practice externalities are not perfectly internalised since surcharging expensive cards are costly for merchants, e.g., due to No-Surcharge-Rules, transaction costs, or other costs of surcharging (missing sales).

Hence, the volume of transactions depend on the allocation of transaction fees, \( f + m \), between the two sides, so on the IF.
Payment card industry is a two-sided market - Ctd

• Usage externalities could be internalised perfectly and IF is neutral; volume of transactions, profits do not depend on $a$, if merchants could price discriminate based on payment method at no cost (Gans and King, 2003).

• In practice externalities are not perfectly internalised since surcharging expensive cards are costly for merchants, e.g., due to No-Surcharge-Rules, transaction costs, or other costs of surcharging (missing sales).

• Hence, the volume of transactions depend on the allocation of transaction fees, $f + m$, between the two sides, so on the IF.

• Different from the standard theory of taxation where it does not matter whether the tax is on sellers or on buyers.
Payment card industry is a two-sided market:

- Usage externalities could be internalised perfectly and IF is neutral; volume of transactions, profits do not depend on \( a \), if merchants could price discriminate based on payment method at no cost (Gans and King, 2003).

- In practice externalities are not perfectly internalised since surcharging expensive cards are costly for merchants, e.g., due to No-Surcharge-Rules, transaction costs, or other costs of surcharging (missing sales).

- Hence, the volume of transactions depend on the allocation of transaction fees, \( f + m \), between the two sides, so on the IF.

- Different from the standard theory of taxation where it does not matter whether the tax is on sellers or on buyers.

- A 4-party network can set a MIF and a 3-party network set directly end user fees to balance the demand between the two sides.
Questions

1. The role of MIF: Does a 4-party network need a MIF to be efficient?

2. Do the pricing policies of payment networks promote the efficient card usage volume?
   - Should merchant fees (or MIF) be capped?
   - If so, what should be the optimal cap level?

3. The extent to which merchants should be allowed to price discriminate according to payment method.
   - How does NSR impact the consumer surplus, merchant profit and overall welfare?
1. The role of MIF

- A MIF enables a 4-party network to avoid double mark-up problem when selling complementary services independently:
1. The role of MIF

- A MIF enables a 4-party network to avoid double mark-up problem when selling complementary services independently:
  - Acquiring and issuing services are complements. If a 4-party network has no MIF, its issuers and acquirers would not internalise this complementarity fully and set card and merchant fees above the levels that would prevail with a MIF.

\[
f = c_I - a^* = c_I - (b_S - c_A), \quad m = c_A + a^* = b_S, \text{ and so induce efficient volume: Cards are used whenever } b_B + b_S \geq c_I + c_A.
\]
1. The role of MIF

- A MIF enables a 4-party network to avoid double mark-up problem when selling complementary services independently:
  - Acquiring and issuing services are complements. If a 4-party network has no MIF, its issuers and acquirers would not internalise this complementarity fully and set card and merchant fees above the levels that would prevail with a MIF.

- Even if issuing and acquiring are perfectly competitive, a 4-party network needs a MIF to internalise externalities (for efficiency).

\[ f = c_I - a^* = c_I - (b_S - c_A), \]
\[ m = c_A + a^* = b_S, \]
1. The role of MIF

- A MIF enables a 4-party network to *avoid double mark-up* problem when selling complementary services independently:
  - Acquiring and issuing services are complements. If a 4-party network has no MIF, its issuers and acquirers would not internalise this complementarity fully and set card and merchant fees above the levels that would prevail with a MIF.
- Even if issuing and acquiring are perfectly competitive, a 4-party network needs a MIF to *internalise externalities* (for efficiency).
  - When only consumers are heterogenous in their card usage benefits, Baxter’s (1983) IF, \( a^* = b_S - c_A \), makes consumers internalise their externality on the other side:
1. The role of MIF

- A MIF enables a 4-party network to avoid double mark-up problem when selling complementary services independently:
  - Acquiring and issuing services are complements. If a 4-party network has no MIF, its issuers and acquirers would not internalise this complementarity fully and set card and merchant fees above the levels that would prevail with a MIF.
- Even if issuing and acquiring are perfectly competitive, a 4-party network needs a MIF to internalise externalities (for efficiency):
  - When only consumers are heterogenous in their card usage benefits, Baxter’s (1983) IF, \( a^* = b_S - c_A \), makes consumers internalise their externality on the other side:
  - \( f = c_I - a^* = c_I - (b_S - c_A) \), \( m = c_A + a^* = b_S \), and so induce efficient volume: Cards are used whenever \( b_B + b_S \geq c_I + c_A \).
2. Potential reasons of market failures

Compared to the social optimum

- The total of end user fees is too high if the platform has market power (Rochet and Tirole, 2003, 2006; Bedre-Defolie, 2013).

- Platform competition will correct the first distortion, but it is unclear how it affects the price structure distortion.
2. Potential reasons of market failures

Compared to the social optimum

- The total of end user fees is too high if the platform has market power (Rochet and Tirole, 2003, 2006; Bedre-Defolie, 2013).
- The platform’s pricing might distort the price structure by inducing too high MIFs and merchant fees due to
2. Potential reasons of market failures

Compared to the social optimum

- The total of end user fees is too high if the platform has market power (Rochet and Tirole, 2003, 2006; Bedre-Defolie, 2013).
- The platform’s pricing might distort the price structure by inducing too high MIFs and merchant fees due to
2. Potential reasons of market failures

Compared to the social optimum

- The total of end user fees is too high if the platform has market power (Rochet and Tirole, 2003, 2006; Bedre-Defolie, 2013).
- The platform’s pricing might distort the price structure by inducing too high MIFs and merchant fees due to
  2. Asymmetric choice between consumers and merchants (Bedre-Defolie and Calvano, 2013)
2. Potential reasons of market failures

Compared to the social optimum

- The total of end user fees is too high if the platform has market power (Rochet and Tirole, 2003, 2006; Bedre-Defolie, 2013).
- The platform’s pricing might distort the price structure by inducing too high MIFs and merchant fees due to
  2. Asymmetric choice between consumers and merchants (Bedre-Defolie and Calvano, 2013)
  3. Network competition when consumers single-home (adopt one type of card) more than merchants (Rochet and Tirole, 2003; Guthrie and Wright, 2007)
2. Potential reasons of market failures

Compared to the social optimum

- The total of end user fees is too high if the platform has market power (Rochet and Tirole, 2003, 2006; Bedre-Defolie, 2013).
- The platform’s pricing might distort the price structure by inducing too high MIFs and merchant fees due to
  2. Asymmetric choice between consumers and merchants (Bedre-Defolie and Calvano, 2013)
  3. Network competition when consumers single-home (adopt one type of card) more than merchants (Rochet and Tirole, 2003; Guthrie and Wright, 2007)
- Platform competition will correct the first distortion, but it is unclear how it affects the price structure distortion.
2.1. Merchant internalisation

- Ex-ante: Card acceptance is a way to increase quality of the merchant services, so increase store demand and/or steal business from rivals and so to internalise (at least partially) consumer surplus from card transactions, \( v_B = E[b_B - f | b_B \geq f] \).

- Ex-post: Once consumers are at the shop, merchants do not want to miss sales at a point-of-sale by declining cards (Bourguignon et al. 2014).

- Must-take cards: When merchant internalisation holds, merchants accept cards even if the merchant fee is above their transaction benefit: \( m > b_S \) (Rochet and Tirole, 2002, 2011; Bourguignon et al. 2014).

- When merchants are heterogeneous, merchant (ex-ante) internalisation makes the merchant demand for card acceptance less elastic to merchant fee, and so raises the network’s optimal MIF (Wright, 2013).

- The social planner sets a lower IF than the network since it counts consumers’ card usage surplus, \( v_B \), only once (Important assumption: The issuer cost pass-through rate is not very much above the acquirer cost pass-through rate.).

- The greater merchant internalisation, the more likely it is that the card network exploits the lower merchant resistance by setting an inefficiently high merchant fee (so MIF).
2.1. Merchant internalisation

- **Ex-ante:** Card acceptance is a way to increase quality of the merchant services, so increase store demand and/or steal business from rivals and so to internalise (at least partially) consumer surplus from card transactions, \( v_B = E[b_B - f|b_B \geq f] \).

- **Ex-post:** Once consumers are at the shop, merchants do not want to miss sales at a point-of-sale by declining cards (Bourguignon et al. 2014).

- **Must-take cards:** When merchant internalisation holds, merchants accept cards even if the merchant fee is above their transaction benefit: \( m > b_S \) (Rochet and Tirole, 2002, 2011; Bourguignon et al. 2014).

- **When merchants are heterogeneous, merchant (ex-ante) internalisation makes the merchant demand for card acceptance less elastic to merchant fee, and so raises the network's optimal MIF (Wright, 2013).

- The social planner sets a lower IF than the network since it counts consumers' card usage surplus, \( v_B \), only once [Important assumption: The issuer cost pass-through rate is not very much above the acquirer cost pass-through rate.]

- The greater merchant internalisation, the more likely it is that the card network exploits the lower merchant resistance by setting an inefficiently high merchant fee (so MIF).
2.1. Merchant internalisation

- **Ex-ante**: Card acceptance is a way to increase quality of the merchant services, so increase store demand and/or steal business from rivals and so to internalise (at least partially) consumer surplus from card transactions, \( \nu_B = E[b_B - f | b_B \geq f] \).

- **Ex-post**: Once consumers are at the shop, merchants do not want to miss sales at a point-of-sale by declining cards (Bourguignon et al. 2014).

- **Must-take cards**: When merchant internalisation holds, merchants accept cards even if the merchant fee is above their transaction benefit: \( m > b_S \) (Rochet and Tirole, 2002, 2011; Bourguignon et al. 2014).
2.1. Merchant internalisation

- **Ex-ante:** Card acceptance is a way to increase quality of the merchant services, so increase store demand and/or steal business from rivals and so to internalise (at least partially) consumer surplus from card transactions, $\nu_B = E[b_B - f | b_B \geq f]$.

- **Ex-post:** Once consumers are at the shop, merchants do not want to miss sales at a point-of-sale by declining cards (Bourguignon et al. 2014).

- **Must-take cards:** When merchant internalisation holds, merchants accept cards even if the merchant fee is above their transaction benefit: $m > b_S$ (Rochet and Tirole, 2002, 2011; Bourguignon et al. 2014).

- When merchants are heterogeneous, merchant (ex-ante) internalisation makes the merchant demand for card acceptance less elastic to merchant fee, and so raises the network’s optimal MIF (Wright, 2013).
2.1. Merchant internalisation

- Ex-ante: Card acceptance is a way to increase quality of the merchant services, so increase store demand and/or steal business from rivals and so to internalise (at least partially) consumer surplus from card transactions, $v_B = E[b_B - f | b_B \geq f]$.

- Ex-post: Once consumers are at the shop, merchants do not want to miss sales at a point-of-sale by declining cards (Bourguignon et al. 2014).

- Must-take cards: When merchant internalisation holds, merchants accept cards even if the merchant fee is above their transaction benefit: $m > b_S$ (Rochet and Tirole, 2002, 2011; Bourguignon et al. 2014).

- When merchants are heterogenous, merchant (ex-ante) internalisation makes the merchant demand for card acceptance less elastic to merchant fee, and so raises the network’s optimal MIF (Wright, 2013)

- The social planner sets a lower IF than the network since it counts consumers’ card usage surplus, $v_B$, only once [Important assumption: The issuer cost pass-through rate is not very much above the acquirer cost pass-through rate.]
2.1. Merchant internalisation

- **Ex-ante:** Card acceptance is a way to increase quality of the merchant services, so increase store demand and/or steal business from rivals and so to internalise (at least partially) consumer surplus from card transactions, $\nu_B = E[b_B - f | b_B \geq f]$.

- **Ex-post:** Once consumers are at the shop, merchants do not want to miss sales at a point-of-sale by declining cards (Bourguignon et al. 2014).

- **Must-take cards:** When merchant internalisation holds, merchants accept cards even if the merchant fee is above their transaction benefit: $m > b_S$ (Rochet and Tirole, 2002, 2011; Bourguignon et al. 2014).

- When merchants are heterogenous, merchant (ex-ante) internalisation makes the merchant demand for card acceptance less elastic to merchant fee, and so raises the network’s optimal MIF (Wright, 2013).

- The social planner sets a lower IF than the network since it counts consumers’ card usage surplus, $\nu_B$, only once [**Important assumption:** The issuer cost pass-through rate is not very much above the acquirer cost pass-through rate.]

- The greater merchant internalisation, the more likely it is that the card network exploits the lower merchant resistance by setting an inefficiently high merchant fee (so MIF).
2.2. Asymmetric choice between consumers and merchants

Bedre-Defolje and Calvano, 2013:

- When merchants cannot surcharge card payments, they have only one decision: card acceptance. So there is only extensive margin: how merchant fees influence membership.

- Even with two-part tariff merchant fees, the platform cannot internalise the average merchant surplus from card transactions, but accounts for the marginal merchant’s surplus.

- Consumers make two distinct decisions: card membership and card usage. So there are two margins: extensive margin and intensive margin (how card fees affect card usage).

- With two-part tariff card fees, the platform could internalise the average consumer surplus from card transactions.

- A social planner accounts for the average card usage surpluses of consumers and merchants.

- Hence, the platform sets a higher IF than the planner, over-taxing merchants and over-subsidising consumers.
2.2. Asymmetric choice between consumers and merchants

Bedre-Defolie and Calvano, 2013:

- When merchants cannot surcharge card payments, they have only one decision: card acceptance. So there is only extensive margin: how merchant fees influence membership.
- Even with two-part tariff merchant fees, the platform cannot internalise the average merchant surplus from card transactions, but accounts for the marginal merchant’s surplus.
- With two-part tariff card fees, the platform could internalise the average consumer surplus from card transactions.
- A social planner accounts for the average card usage surpluses of consumers and merchants.
- Hence, the platform sets a higher IF than the planner, over-taxing merchants and over-subsidising consumers.
2.2. Asymmetric choice between consumers and merchants

Bedre-Defolie and Calvano, 2013:

- When merchants cannot surcharge card payments, they have only one decision: card acceptance. So there is only extensive margin: how merchant fees influence membership.
- Even with two-part tariff merchant fees, the platform cannot internalise the average merchant surplus from card transactions, but accounts for the marginal merchant’s surplus.
- Consumers make two distinct decisions: card membership and card usage. So there are two margins: extensive margin and intensive margin (how card fees affect card usage).
2.2. Asymmetric choice between consumers and merchants

Bedre-Defolie and Calvano, 2013:

- When merchants cannot surcharge card payments, they have only one decision: card acceptance. So there is only extensive margin: how merchant fees influence membership.
- Even with two-part tariff merchant fees, the platform cannot internalise the average merchant surplus from card transactions, but accounts for the marginal merchant’s surplus.
- Consumers make two distinct decisions: card membership and card usage. So there are two margins: extensive margin and intensive margin (how card fees affect card usage).
- With two-part tariff card fees, the platform could internalise the average consumer surplus from card transactions.

A social planner accounts for the average card usage surpluses of consumers and merchants. Hence, the platform sets a higher IF than the planner, over-taxing merchants and over-subsidising consumers.
2.2. Asymmetric choice between consumers and merchants

Bedre-Defolie and Calvano, 2013:

- When merchants cannot surcharge card payments, they have only one decision: card acceptance. So there is only extensive margin: how merchant fees influence membership.
- Even with two-part tariff merchant fees, the platform cannot internalise the average merchant surplus from card transactions, but accounts for the marginal merchant’s surplus.
- Consumers make two distinct decisions: card membership and card usage. So there are two margins: extensive margin and intensive margin (how card fees affect card usage).
- With two-part tariff card fees, the platform could internalise the average consumer surplus from card transactions.
- A social planner accounts for the average card usage surpluses of consumers and merchants.
2.2. Asymmetric choice between consumers and merchants

Bedre-Defolies and Calvano, 2013:

- When merchants cannot surcharge card payments, they have only one decision: card acceptance. So there is only extensive margin: how merchant fees influence membership.
- Even with two-part tariff merchant fees, the platform cannot internalise the average merchant surplus from card transactions, but accounts for the marginal merchant’s surplus.
- Consumers make two distinct decisions: card membership and card usage. So there are two margins: extensive margin and intensive margin (how card fees affect card usage).
- With two-part tariff card fees, the platform could internalise the average consumer surplus from card transactions.
- A social planner accounts for the average card usage surpluses of consumers and merchants.
- Hence, the platform sets a higher IF than the planner, over-taxing merchants and over-subsidising consumers.
2.3. Network Competition

Rochet and Tirole, 2003; Guthrie and Wright, 2007:

- The optimal pricing decisions depend on whether end users join one platform (single-homing) or both platforms (multi-homing).
- The competitive price on one market depends on the extent of multi-homing on the other market.
- Example: If Visa reduces the fee paid by merchants, merchants become more willing to refuse more costly AMEX cards as long as a large fraction of AMEX customers also owns a Visa card.
- Multi-homing on one-side intensifies price competition on the other side since platforms use low prices in an attempt to steer end users on the latter side towards an exclusive relationship.
- Payment networks compete more fiercely for consumers and set a higher MIF than the monopoly network if consumers single-home more than merchants. (empirical evidence by Rysman, 2007)
- In general whether network competition leads to a higher or lower MIF is an empirical question.
2.3. Network Competition

Rochet and Tirole, 2003; Guthrie and Wright, 2007:

- The optimal pricing decisions depend on whether end users join one platform (single-homing) or both platforms (multi-homing).
- The competitive price on one market depends on the extent of multi-homing on the other market.

Example: If Visa reduces the fee paid by merchants, merchants become more willing to refuse more costly AMEX cards as long as a large fraction of AMEX customers also owns a Visa card.
2.3. Network Competition

Rochet and Tirole, 2003; Guthrie and Wright, 2007:

- The optimal pricing decisions depend on whether end users join one platform (single-homing) or both platforms (multi-homing).

- The competitive price on one market depends on the extent of multi-homing on the other market.
  
  Example: If Visa reduces the fee paid by merchants, merchants become more willing to refuse more costly AMEX cards as long as a large fraction of AMEX customers also owns a Visa card.

- Multi-homing on one-side intensifies price competition on the other side since platforms use low prices in an attempt to steer end users on the latter side towards an exclusive relationship.
2.3. Network Competition

Rochet and Tirole, 2003; Guthrie and Wright, 2007:

- The optimal pricing decisions depend on whether end users join one platform (single-homing) or both platforms (multi-homing).
- The competitive price on one market depends on the extent of multi-homing on the other market.

Example: If Visa reduces the fee paid by merchants, merchants become more willing to refuse more costly AMEX cards as long as a large fraction of AMEX customers also owns a Visa card.

- Multi-homing on one-side intensifies price competition on the other side since platforms use low prices in an attempt to steer end users on the latter side towards an exclusive relationship.
- Payment networks compete more fiercely for consumers and set a higher MIF than the monopoly network if consumers single-home more than merchants. (empirical evidence by Rysman, 2007)
2.3. Network Competition

Rochet and Tirole, 2003; Guthrie and Wright, 2007:

- The optimal pricing decisions depend on whether end users join one platform (single-homing) or both platforms (multi-homing).
- The competitive price on one market depends on the extent of multi-homing on the other market.
  Example: If Visa reduces the fee paid by merchants, merchants become more willing to refuse more costly AMEX cards as long as a large fraction of AMEX customers also owns a Visa card.
- Multi-homing on one-side intensifies price competition on the other side since platforms use low prices in an attempt to steer end users on the latter side towards an exclusive relationship.
- Payment networks compete more fiercely for consumers and set a higher MIF than the monopoly network if consumers single-home more than merchants. (empirical evidence by Rysman, 2007)
- In general whether network competition leads to a higher or lower MIF is an empirical question.
Socially optimal IF when merchants are homogenous

- When only consumers are heterogenous in their card usage benefits (merchant demand is inelastic), issuer and acquirer markets are perfectly competitive, the Baxter’s IF is optimal: $a^* = b_S - c_A$

Tourist-test: A merchant discount passes the tourist test if and only if accepting the card does not increase the merchant’s operating cost: $m \leq b_S$ (Rochet and Tirole, 2011).

- If there is issuer market power, the socially (1st best) optimal IF does not pass tourist test.Privately optimal and 2nd best optimal are both equal to $a^*$: there is under-provision of card payments due to issuer market power (Guthrie and Wright, 2003).

- The IF maximising the total user surplus is lower (higher) than $a^*$ if issuer cost pass-through is below (above) 1 (Rochet and Tirole, 2011).

- If there is issuer market power and issuers use two-part tariff fees, the first best optimal IF and privately optimal IF are both equal to $a^*$ (Bedre-Defolie and Calvano, 2013).
Socially optimal IF when merchants are homogenous

- When only consumers are heterogenous in their card usage benefits (merchant demand is inelastic), issuer and acquirer markets are perfectly competitive, the Baxter’s IF is optimal: \( a^* = b_S - c_A \)
- **Tourist-test**: A merchant discount passes the tourist test if and only if accepting the card does not increase the merchant’s operating cost: \( m \leq b_S \) (Rochet and Tirole, 2011).
Socially optimal IF when merchants are homogenous

- When only consumers are heterogenous in their card usage benefits (merchant demand is inelastic), issuer and acquirer markets are perfectly competitive, the Baxter’s IF is optimal: \( a^* = b_S - c_A \)

- **Tourist-test:** A merchant discount passes the tourist test if and only if accepting the card does not increase the merchant’s operating cost: \( m \leq b_S \) (Rochet and Tirole, 2011).

- If there is issuer market power, the socially (1st best) optimal IF does not pass tourist test. Privately optimal and 2nd best optimal are both equal to \( a^* \): there is under-provision of card payments due to issuer market power (Guthrie and Wright, 2003).
When only consumers are heterogenous in their card usage benefits (merchant demand is inelastic), issuer and acquirer markets are perfectly competitive, the Baxter’s IF is optimal: \( a^* = b_S - c_A \)

**Tourist-test:** A merchant discount passes the tourist test if and only if accepting the card does not increase the merchant’s operating cost: \( m \leq b_S \) (Rochet and Tirole, 2011).

If there is issuer market power, the socially (1st best) optimal IF does not pass tourist test. Privately optimal and 2nd best optimal are both equal to \( a^* \): there is under-provision of card payments due to issuer market power (Guthrie and Wright, 2003).

The IF maximising the total user surplus is lower (higher) than \( a^* \) if issuer cost pass-through is below (above) 1 (Rochet and Tirole, 2011).
Socially optimal IF when merchants are homogenous

- When only consumers are heterogenous in their card usage benefits (merchant demand is inelastic), issuer and acquirer markets are perfectly competitive, the Baxter’s IF is optimal: \( a^* = b_S - c_A \)

- **Tourist-test**: A merchant discount passes the tourist test if and only if accepting the card does not increase the merchant’s operating cost: \( m \leq b_S \) (Rochet and Tirole, 2011).

- If there is issuer market power, the socially (1st best) optimal IF does not pass tourist test. Privately optimal and 2nd best optimal are both equal to \( a^* \): there is under-provision of card payments due to issuer market power (Guthrie and Wright, 2003).

- The IF maximising the total user surplus is lower (higher) than \( a^* \) if issuer cost pass-through is below (above) 1 (Rochet and Tirole, 2011).

- If there is issuer market power and issuers use two-part tariff fees, the first best optimal IF and privately optimal IF are both equal to \( a^* \). (Bedre-Defolie and Calvano, 2013)
Socially optimal IF

- When both consumers and merchants are heterogeneous, there is issuer market power and issuers use two-part tariff fees, the socially optimal price structure (IF) depends on the average user surpluses and the elasticity of demands (Bedre-Defolie and Calvano, 2013):

\[
f + m = c \\
\frac{f}{\eta^B}v^B = \frac{m}{\eta^S}v^S
\]

where \( \eta^i \) is the elasticity of side \( i \) demand with respect to its price.

- The first best optimal card fees and merchant fees cannot be implemented by one IF (Bedre-Defolie and Calvano, 2013).

- When both consumers and merchants are heterogeneous, issuer and acquirer markets are perfectly competitive, and merchant internalisation holds, the optimal interchange fee is the “average Baxter's IF” (or “tourist test”): 

\[
a^* = b_S - c_S(Wright, 2003)
\]

So efficiency requires tourist test to be met by only the average merchant (Rochet and Tirole, 2011).
Socially optimal IF

- When both consumers and merchants are heterogeneous, there is issuer market power and issuers use two-part tariff fees, the socially optimal price structure (IF) depends on the average user surpluses and the elasticity of demands (Bedre-Defolien and Calvano, 2013):

\[ f + m = c \]

\[ \frac{f}{\eta^B} v^B = \frac{m}{\eta^S} v^S \]

where \( \eta^i \) is the elasticity of side \( i \) demand with respect to its price.

- The first best optimal card fees and merchant fees cannot be implemented by one IF (Bedre-Defolien and Calvano, 2013).
Socially optimal IF

- When both consumers and merchants are heterogenous, there is issuer market power and issuers use two-part tariff fees, the socially optimal price structure (IF) depends on the average user surpluses and the elasticity of demands (Bedre-Defolie and Calvano, 2013):

\[ f + m = c \]

\[ \frac{f}{\eta_B} v^B = \frac{m}{\eta_S} v^S \]

where \( \eta^i \) is the elasticity of side \( i \) demand with respect to its price.

- The first best optimal card fees and merchant fees cannot be implemented by one IF (Bedre-Defolie and Calvano, 2013).

- When both consumers and merchants are heterogenous, issuer and acquirer markets are perfectly competitive, and merchant internalisation holds, the optimal interchange fee is the "average Baxter's IF" (or "tourist test"):\n  \[ a^* = b_S - c_S \] (Wright, 2003). So efficiency requires tourist test to be met by only the average merchant (Rochet and Tirole, 2011).
3.1 The Role of NSR

- NSR is a price restriction imposed by the payment network on its merchants, so can be seen as a vertical restraint in a two-sided market.
3.1 The Role of NSR

- NSR is a price restriction imposed by the payment network on its merchants, so can be seen as a vertical restraint in a two-sided market.
- We know very little about how we should address vertical restraints in two-sided markets:
3.1 The Role of NSR

- NSR is a price restriction imposed by the payment network on its merchants, so can be seen as a vertical restraint in a two-sided market.
- We know very little about how we should address vertical restraints in two-sided markets:
  - What should be the relevant market? Total volume of transactions or market for consumers or market for merchants?
3.1 The Role of NSR

- NSR is a price restriction imposed by the payment network on its merchants, so can be seen as a vertical restraint in a two-sided market.
- We know very little about how we should address vertical restraints in two-sided markets:
  - What should be the relevant market? Total volume of transactions or market for consumers or market for merchants?
  - If a payment network has no dominant position for the total volume of transactions, it could still have strong market power vis-a-vis one side of the market: If cardholders are single-homing and merchants are multi-homing, even if a network has very low market share on the consumer side, it has monopoly power on the merchant side. (competitive bottleneck, Armstrong, 2006)
3.1 The Role of NSR- Ctd

- In a vertical relationship if the supplier restricts pricing of its products by the retailer, e.g., by a RPM, this would raise anti-competitive concerns.
3.1 The Role of NSR- Ctd

- In a vertical relationship if the supplier restricts pricing of its products by the retailer, e.g., by a RPM, this would raise anti-competitive concerns.
- A payment network is the supplier of infrastructure to merchants and via NSR it could condition merchant’s price for the payment method on the prices of rival payment methods.
In a vertical relationship if the supplier restricts pricing of its products by the retailer, e.g., by a RPM, this would raise anti-competitive concerns.

A payment network is the supplier of infrastructure to merchants and via NSR it could condition merchant’s price for the payment method on the prices of rival payment methods.

Under NSR, the costs of card acceptance are passed on to the retail price which is paid both by card users and cash users, so lead to redistribution from ("less wealthy") cash users to ("more wealthy") card users (Schuh, Shy, and Stavins, 2010).
3.2 Impact of NSR

Inelastic consumption demand for goods

- If merchants are perfectly competitive and homogenous, NSR has no impact on transaction volume or social welfare (Wright 2003).

- If merchants are monopolistic and homogenous, NSR increases volume of transactions and social welfare since it prevents merchants' ex-post monopoly markup limiting card usage (Wright, 2003).

- In case of imperfect merchant competition (Hotelling) and homogenous merchants, the impact of NSR on the social welfare is ambiguous: When issuer market power is sufficiently high, NSR is welfare increasing (Rochet and Tirole, 2002).

- A monopoly intermediary always prefers to impose price coherence (uniform price regardless of purchasing channel) on its sellers and this reduces the consumer surplus and sometimes the total welfare due to over-consumption of the intermediary's service and also due to over-investment of intermediary in buyer-side benefits (Edelman and Wright, 2014).

- Competition among intermediaries intensifies these distortions.
3.2 Impact of NSR

Inelastic consumption demand for goods

- If merchants are perfectly competitive and homogenous, NSR has no impact on transaction volume or social welfare (Wright 2003).
- If merchants are monopolistic and homogenous, NSR increases volume of transactions and social welfare since it prevents merchants’ ex-post monopoly markup limiting card usage (Wright, 2003).
- In case of imperfect merchant competition (Hotelling) and homogenous merchants, the impact of NSR on the social welfare is ambiguous: When issuer market power is sufficiently high, NSR is welfare increasing (Rochet and Tirole, 2002).
- A monopoly intermediary always prefers to impose price coherence (uniform price regardless of purchasing channel) on its sellers and this reduces the consumer surplus and sometimes the total welfare due to over-consumption of the intermediary’s service and also due to over-investment of the intermediary in buyer-side benefits (Edelman and Wright, 2014).
- Competition among intermediaries intensifies these distortions.
3.2 Impact of NSR

Inelastic consumption demand for goods

- If merchants are perfectly competitive and homogenous, NSR has no impact on transaction volume or social welfare (Wright 2003).
- If merchants are monopolistic and homogenous, NSR increases volume of transactions and social welfare since it prevents merchants’ ex-post monopoly markup limiting card usage (Wright, 2003).
- In case of imperfect merchant competition (Hotelling) and homogenous merchants, the impact of NSR on the social welfare is ambiguous: When issuer market power is sufficiently high, NSR is welfare increasing (Rochet and Tirole, 2002).
3.2 Impact of NSR

Inelastic consumption demand for goods

- If merchants are perfectly competitive and homogenous, NSR has no impact on transaction volume or social welfare (Wright 2003).
- If merchants are monopolistic and homogenous, NSR increases volume of transactions and social welfare since it prevents merchants’ ex-post monopoly markup limiting card usage (Wright, 2003).
- In case of imperfect merchant competition (Hotelling) and homogenous merchants, the impact of NSR on the social welfare is ambiguous: When issuer market power is sufficiently high, NSR is welfare increasing (Rochet and Tirole, 2002)
- A monopoly intermediary always prefers to impose price coherence (uniform price regardless of purchasing channel) on its sellers and this reduces the consumer surplus and sometimes the total welfare due to over-consumption of the intermediary’s service and also due to over-investment of intermediary in buyer-side benefits (Edelman and Wright, 2014).
3.2 Impact of NSR

Inelastic consumption demand for goods

- If merchants are perfectly competitive and homogenous, NSR has no impact on transaction volume or social welfare (Wright 2003).
- If merchants are monopolistic and homogenous, NSR increases volume of transactions and social welfare since it prevents merchants’ ex-post monopoly markup limiting card usage (Wright, 2003).
- In case of imperfect merchant competition (Hotelling) and homogenous merchants, the impact of NSR on the social welfare is ambiguous: When issuer market power is sufficiently high, NSR is welfare increasing (Rochet and Tirole, 2002).
- A monopoly intermediary always prefers to impose price coherence (uniform price regardless of purchasing channel) on its sellers and this reduces the consumer surplus and sometimes the total welfare due to over-consumption of the intermediary’s service and also due to over-investment of intermediary in buyer-side benefits (Edelman and Wright, 2014).
  - Competition among intermediaries intensifies these distortions.
3.2 Impact of NSR- Ctd

Elastic consumption demand for goods

- Assuming exogenous amount of card users and cash users, NSR increases card transactions and reduces cash transactions. NSR increases the total welfare if and only if there is sufficiently big amount of cash users (Schwartz and Vincent, 2006)
3.2 Impact of NSR- Ctd

Elastic consumption demand for goods

- Assuming exogenous amount of card users and cash users, NSR increases card transactions and reduces cash transactions. NSR increases the total welfare if and only if there is sufficiently big amount of cash users (Schwartz and Vincent, 2006)

- Banning surcharging increases welfare if the merchant fee is sufficiently high (above the tourist test level) and decreases welfare otherwise (Bourguignon et al., 2014)
3.2 Impact of NSR- Ctd

Elastic consumption demand for goods

- Assuming exogenous amount of card users and cash users, NSR increases card transactions and reduces cash transactions. NSR increases the total welfare if and only if there is sufficiently big amount of cash users (Schwartz and Vincent, 2006)
- Banning surcharging increases welfare if the merchant fee is sufficiently high (above the tourist test level) and decreases welfare otherwise (Bourguignon et al., 2014)
- When surcharging is allowed, capping merchant fees is welfare reducing
Conclusions

- 4-party (open) payment networks need a MIF to be efficient.
Conclusions

- 4-party (open) payment networks need a MIF to be efficient.
- The total card and merchant fees will be too high if the platforms have market power.
- Privately set price structure and MIF might distort the volume of card transactions.
- It is unclear whether this distortion might disappear with network competition.
- Reasons of too high MIFs and so too high merchant fees: merchant internalisation, asymmetric choice between consumers and merchants, network competition when consumers single-home and merchants multi-home.
- Optimal price structure and level of IF depend on demand properties as well as issuer and acquirer cost pass-throughs (no rationale for cost-based cap regulation).
- If the industry structure implies a too high MIF for open networks, it should also imply too high merchant fees for closed networks.
- Affect of NSRs on the social welfare is ambiguous.
- Optimal policy towards NSR is related to public policy towards merchant fees or MIFs.
Conclusions

- 4-party (open) payment networks need a MIF to be efficient.
- The total card and merchant fees will be too high if the platforms have market power.
- Privately set price structure and MIF might distort the volume of card transactions.
Conclusions

- 4-party (open) payment networks need a MIF to be efficient.
- The total card and merchant fees will be too high if the platforms have market power.
- Privately set price structure and MIF might distort the volume of card transactions.
- It is unclear whether this distortion might disappear with network competition.
Conclusions

- 4-party (open) payment networks need a MIF to be efficient.
- The total card and merchant fees will be too high if the platforms have market power.
- Privately set price structure and MIF might distort the volume of card transactions.
- It is unclear whether this distortion might disappear with network competition
- Reasons of too high MIFs and so too high merchant fees: merchant internalisation, asymmetric choice between consumers and merchants, network competition when consumers single-home and merchants multi-home.

Optimal price structure and level of IF depend on demand properties as well as issuer and acquirer cost pass-throughs (no rationale for cost-based cap regulation)

If the industry structure implies a too high MIF for open networks, it should also imply too high merchant fees for closed networks.

Affect of NSRs on the social welfare is ambiguous.

Optimal policy towards NSR is related to public policy towards merchant fees or MIFs.
Conclusions

- 4-party (open) payment networks need a MIF to be efficient.
- The total card and merchant fees will be too high if the platforms have market power.
- Privately set price structure and MIF might distort the volume of card transactions.
- It is unclear whether this distortion might disappear with network competition.
- Reasons of too high MIFs and so too high merchant fees: merchant internalisation, asymmetric choice between consumers and merchants, network competition when consumers single-home and merchants multi-home.
- Optimal price structure and level of IF depend on demand properties as well as issuer and acquirer cost pass-throughs (no rationale for cost-based cap regulation).
Conclusions

• 4-party (open) payment networks need a MIF to be efficient.
• The total card and merchant fees will be too high if the platforms have market power.
• Privately set price structure and MIF might distort the volume of card transactions.
• It is unclear whether this distortion might disappear with network competition
• Reasons of too high MIFs and so too high merchant fees: merchant internalisation, asymmetric choice between consumers and merchants, network competition when consumers single-home and merchants multi-home.
• Optimal price structure and level of IF depend on demand properties as well as issuer and acquirer cost pass-throughs (no rationale for cost-based cap regulation)
• If the industry structure implies a too high MIF for open networks, it should also imply too high merchant fees for closed networks.
Conclusions

- 4-party (open) payment networks need a MIF to be efficient.
- The total card and merchant fees will be too high if the platforms have market power.
- Privately set price structure and MIF might distort the volume of card transactions.
- It is unclear whether this distortion might disappear with network competition.
- Reasons of too high MIFs and so too high merchant fees: merchant internalisation, asymmetric choice between consumers and merchants, network competition when consumers single-home and merchants multi-home.
- Optimal price structure and level of IF depend on demand properties as well as issuer and acquirer cost pass-throughs (no rationale for cost-based cap regulation).
- If the industry structure implies a too high MIF for open networks, it should also imply too high merchant fees for closed networks.
- Affect of NSRs on the social welfare is ambiguous.
Conclusions

- 4-party (open) payment networks need a MIF to be efficient.
- The total card and merchant fees will be too high if the platforms have market power.
- Privately set price structure and MIF might distort the volume of card transactions.
- It is unclear whether this distortion might disappear with network competition.
- Reasons of too high MIFs and so too high merchant fees: merchant internalisation, asymmetric choice between consumers and merchants, network competition when consumers single-home and merchants multi-home.
- Optimal price structure and level of IF depend on demand properties as well as issuer and acquirer cost pass-throughs (no rationale for cost-based cap regulation).
- If the industry structure implies a too high MIF for open networks, it should also imply too high merchant fees for closed networks.
- Affect of NSRs on the social welfare is ambiguous.
- Optimal policy towards NSR is related to public policy towards merchant fees or MIFs.
Open questions

- How banks would react to a card fee regulation and what the resulting effect would be on consumer and merchant welfare?

  Bedre-Defolie and Song (2014): Using the national debit card scheme data in Norway we estimate consumer demand for a bank to get a debit card, merchant demand for a bank to get a card acceptance contract and consumer demand for using card at a point-of-sale.

  Verdier, 2010: Long-run reaction by changing investment in infrastructure, quality

- What is the optimal level of a MIF? (Market level empirical analysis is needed to measure the demand elasticities and average card usage surpluses of both sides.)

- How would a cap regulation on MIF affect the competition between 4-party networks that are subject to the regulation and 3-party card networks?

Bedre-Defolie (ESMT) Economics of Payment Cards Stockholm, 2014
Open questions

• How banks would react to a card fee regulation and what the resulting effect would be on consumer and merchant welfare?
  • Short-run reaction by changing prices: Bedre-Defolie and Song (2014): Using the national debit card scheme data in Norway we estimate consumer demand for a bank to get a debit card, merchant demand for a bank to get a card acceptance contract and consumer demand for using card at a point-of-sale.

• Long-run reaction by changing investment in infrastructure, quality (Verdier, 2010)

• What is the optimal level of a MIF? (Market level empirical analysis is needed to measure the demand elasticities and average card usage surpluses of both sides.)

• How would a cap regulation on MIF affect the competition between 4-party networks that are subject to the regulation and 3-party card networks?
Open questions

• How banks would react to a card fee regulation and what the resulting effect would be on consumer and merchant welfare?
  
  • Short-run reaction by changing prices: Bedre-Defolie and Song (2014): Using the national debit card scheme data in Norway we estimate consumer demand for a bank to get a debit card, merchant demand for a bank to get a card acceptance contract and consumer demand for using card at a point-of-sale.
  
  • Long-run reaction by changing investment in infrastructure, quality (Verdier, 2010)
Open questions

- How banks would react to a card fee regulation and what the resulting effect would be on consumer and merchant welfare?
  - Short-run reaction by changing prices: Bedre-Defolie and Song (2014): Using the national debit card scheme data in Norway we estimate consumer demand for a bank to get a debit card, merchant demand for a bank to get a card acceptance contract and consumer demand for using card at a point-of-sale.
  - Long-run reaction by changing investment in infrastructure, quality (Verdier, 2010)

- What is the optimal level of a MIF? (Market level empirical analysis is needed to measure the demand elasticities and average card usage surpluses of both sides.)
Open questions

- How banks would react to a card fee regulation and what the resulting effect would be on consumer and merchant welfare?
  - Short-run reaction by changing prices: Bedre-Defolie and Song (2014): Using the national debit card scheme data in Norway we estimate consumer demand for a bank to get a debit card, merchant demand for a bank to get a card acceptance contract and consumer demand for using card at a point-of-sale.
  - Long-run reaction by changing investment in infrastructure, quality (Verdier, 2010)

- What is the optimal level of a MIF? (Market level empirical analysis is needed to measure the demand elasticities and average card usage surpluses of both sides.)

- How would a cap regulation on MIF affect the competition between 4-party networks that are subject to the regulation and 3-party card networks?
Open questions- Ctd

- Why don’t some merchants surcharge even when they are allowed to do so? (they might differ in their transaction costs of surcharging, in the degree of how much surcharges are salient.)

- What are the determinants of merchant's decision of whether to surcharge or not and the level of surcharge? (more empirical research needs to be done)

- What is the effect of NSR on the entry of new (innovative) payment platforms?

- How do behavioural and price restrictions of payment networks affect consumer surplus, profits and total welfare?

- Need for more theoretical work that captures interaction between payment card fees and merchants' prices for goods when merchant demand is elastic.

- Does a MIF dampen acquirer competition/issuer competition/network competition?

- Bedre-Defolie (2013) extension of imperfect issuer competition illustrates how a MIF could be used strategically to raise fixed (annual) card fees for consumers, and so softens issuer competition.

- Accounting for differentiation between debit vs credit card networks
Open questions- Ctd

- Why don’t some merchants surcharge even when they are allowed to do so? (they might differ in their transaction costs of surcharging, in the degree of how much surcharges are salient.)
- What are the determinants of merchant’s decision of whether to surcharge or not and the level of surcharge? (more empirical research needs to be done)
Open questions- Ctd

- Why don’t some merchants surcharge even when they are allowed to do so? (they might differ in their transaction costs of surcharging, in the degree of how much surcharges are salient.)
- What are the determinants of merchant’s decision of whether to surcharge or not and the level of surcharge? (more empirical research needs to be done)
- What is the effect of NSR on the entry of new (innovative) payment platforms?
Open questions- Ctd

- Why don’t some merchants surcharge even when they are allowed to do so? (they might differ in their transaction costs of surcharging, in the degree of how much surcharges are salient.)

- What are the determinants of merchant’s decision of whether to surcharge or not and the level of surcharge? (more empirical research needs to be done)

- What is the effect of NSR on the entry of new (innovative) payment platforms?

- How do behavioural and price restrictions of payment networks affect consumer surplus, profits and total welfare?
Open questions- Ctd

- Why don’t some merchants surcharge even when they are allowed to do so? (they might differ in their transaction costs of surcharging, in the degree of how much surcharges are salient.)
- What are the determinants of merchant’s decision of whether to surcharge or not and the level of surcharge? (more empirical research needs to be done)
- What is the effect of NSR on the entry of new (innovative) payment platforms?
- How do behavioural and price restrictions of payment networks affect consumer surplus, profits and total welfare?
  - Need for more theoretical work that captures interaction between payment card fees and merchants’ prices for goods when merchant demand is elastic.
Open questions- Ctd

- Why don’t some merchants surcharge even when they are allowed to do so? (they might differ in their transaction costs of surcharging, in the degree of how much surcharges are salient.)

- What are the determinants of merchant’s decision of whether to surcharge or not and the level of surcharge? (more empirical research needs to be done)

- What is the effect of NSR on the entry of new (innovative) payment platforms?

- How do behavioural and price restrictions of payment networks affect consumer surplus, profits and total welfare?
  - Need for more theoretical work that captures interaction between payment card fees and merchants’ prices for goods when merchant demand is elastic.

- Does a MIF dampen acquirer competition/issuer competition/network competition?
Open questions- Ctd

- Why don’t some merchants surcharge even when they are allowed to do so? (they might differ in their transaction costs of surcharging, in the degree of how much surcharges are salient.)
- What are the determinants of merchant’s decision of whether to surcharge or not and the level of surcharge? (more empirical research needs to be done)
- What is the effect of NSR on the entry of new (innovative) payment platforms?
- How do behavioural and price restrictions of payment networks affect consumer surplus, profits and total welfare?
  - Need for more theoretical work that captures interaction between payment card fees and merchants’ prices for goods when merchant demand is elastic.
- Does a MIF dampen acquirer competition/issuer competition/network competition?
  - Bedre-Defolie (2013) extension of imperfect issuer competition illustrates how a MIF could be used strategically to raise fixed (annual) card fees for consumers, and so softens issuer competition.
Open questions- Ctd

- Why don’t some merchants surcharge even when they are allowed to do so? (they might differ in their transaction costs of surcharging, in the degree of how much surcharges are salient.)

- What are the determinants of merchant’s decision of whether to surcharge or not and the level of surcharge? (more empirical research needs to be done)

- What is the effect of NSR on the entry of new (innovative) payment platforms?

- How do behavioural and price restrictions of payment networks affect consumer surplus, profits and total welfare?
  - Need for more theoretical work that captures interaction between payment card fees and merchants’ prices for goods when merchant demand is elastic.

- Does a MIF dampen acquirer competition/issuer competition/network competition?
  - Bedre-Defolie (2013) extension of imperfect issuer competition illustrates how a MIF could be used strategically to raise fixed (annual) card fees for consumers, and so softens issuer competition.

- Accounting for differentiation between debit vs credit card networks