



# **Survey on Merchants' Costs of Processing Cash and Card Payments**

## **Preliminary Results**

19 February 2014

# Background

## Visa and MasterCard MIF cases

- MIFs are a restriction of competition

## 'Merchant Indifference Test' MIF benchmark:

- Merchants should not pay higher charges than the value of transactional benefits that card use generates for them
- The MIF that meets the test is set at such a level that the merchant is at least indifferent as to whether the customer pays by card or in cash
- MIF income can then be used to stimulate uptake of cards on the issuing side

# Study history

## **Study on "Costs and benefits to merchants of accepting different payment methods" (COMP/2008/D1/020): December 2008 – September 2010**

- Methodology + pilot internet survey in 3 countries
- Very low response rate, incomplete and unreliable responses
- Unsatisfactory methodological recommendations, need for further testing

## **Testing phase: January – June 2011**

- In-depth interviews with 7 Dutch and British retailers
- Conclusion: workable questionnaire, but need for in-depth survey

## **Stakeholder consultation: October – December 2011**

## **Revision of methodology: two-part approach**

# Methodology: two-part approach

## **1<sup>st</sup> part: survey of large merchants to collect detailed and precise data on costs and estimate cost functions**

- Target: 500 merchants (turnover > €50/20 million) in 10 countries (AT, BE, DE, ES, FR, IT, NL, PL, SE, UK)

## **2<sup>nd</sup> part: survey of representative sample of merchants to collect data on value and volume of payments and try to extrapolate cost function to smaller merchants**

- Target: 2000 merchants in same 10 countries, stratified according to the 8 Eurostat size categories
- Both surveys contracted to Deloitte Consulting at the end of 2012
- Both delivered lower number of responses than the target
- Commission's analysis ongoing, only cost survey discussed today

## Conclusions already possible?

- No; preliminary nature and limited applicability of information presented today
- Further analysis required before the final report
- Application: assessment in competition cases
- For now, preliminary results do not form a reason to question the 0.20% and 0.30% caps applied by the schemes

# Data collection – cost survey

## **In-depth survey to collect data on:**

- Number and value of F2F transactions with cash, domestic debit cards, int'l four-party debit cards, int'l four-party credit cards (data on at-distance transactions and other payment means also collected)
- Cost level
- Cost nature (fixed vs variable costs)

## **Relevant costs:**

- Payment processing at the till (time measurements)
- Back-office labour (annual hours per task, hourly wage)
- Outsourced back-office activities (typically cash-related)
- MSC per card type (total amount and structure)
- Payment processing equipment
- PCI-DSS
- Fraud and losses
- Surcharges and rebates (negative cost)
- Float (lost interest)

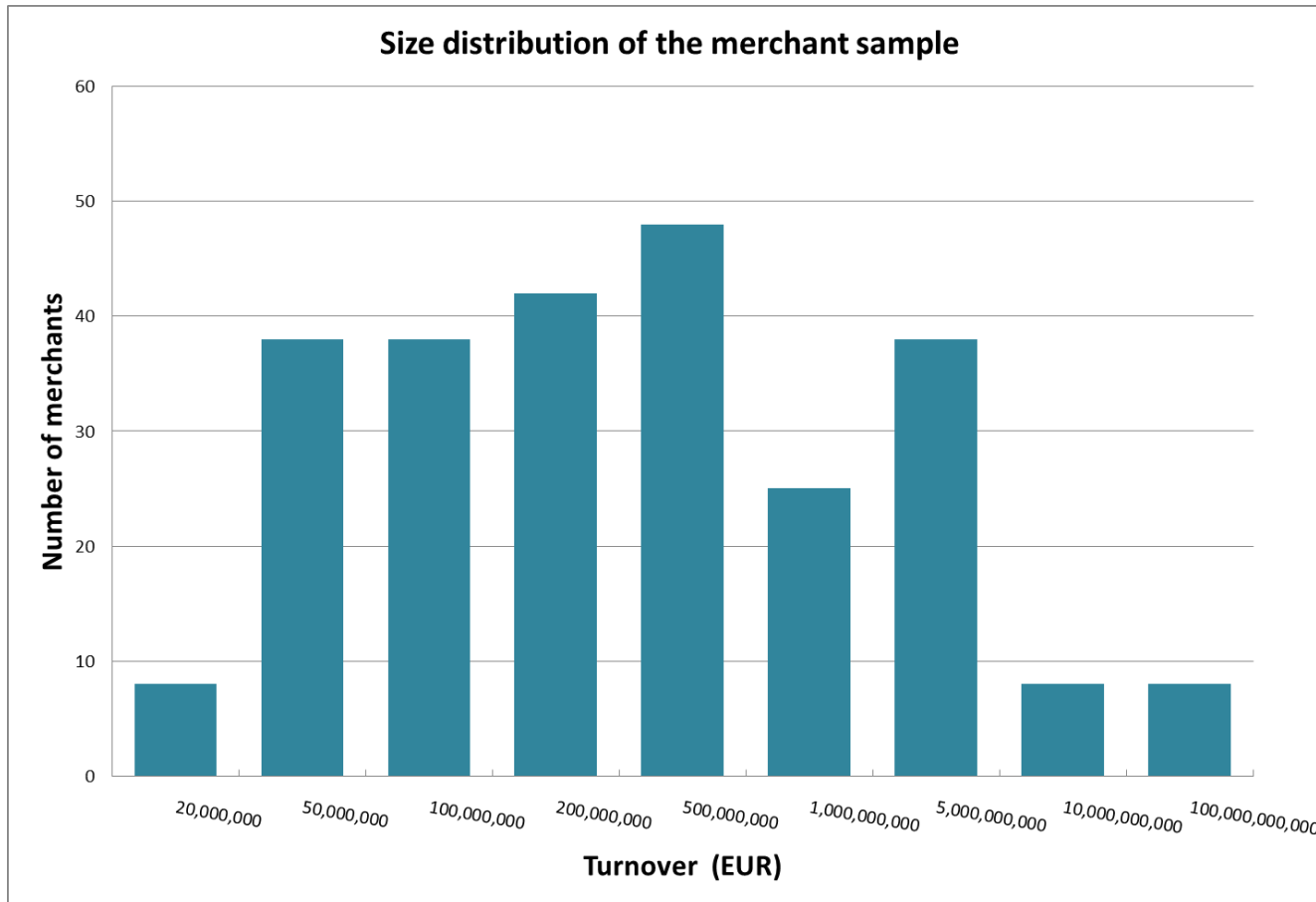
# Coverage

<b>Coverage of the sample</b>			
<b>Country</b>	<b>Number of observations</b>	<b>Coverage in terms of value of card transactions (ECB data)</b>	<b>Coverage in terms of retail trade (Eurostat data)</b>
Austria	15	5.6%	7.1%
Belgium	27	6.6%	5.8%
France	33	14.2%	17.1%
Germany	24	8.6%	8.0%
Italy	18	9.7%	6.6%
Netherlands	16	4.4%	4.9%
Poland	24	22.0%	16.9%
Spain	18	9.0%	5.8%
Sweden	50	9.5%	14.6%
UK	28	19.7%	37.0%
<b>Grand Total</b>	<b>253</b>	<b>13.8%</b>	<b>14.7%</b>
<b>Total EU</b>		<b>12.2%</b>	<b>13.1%</b>

**249 billion EUR  
card value**

**414 billion EUR  
retail turnover**

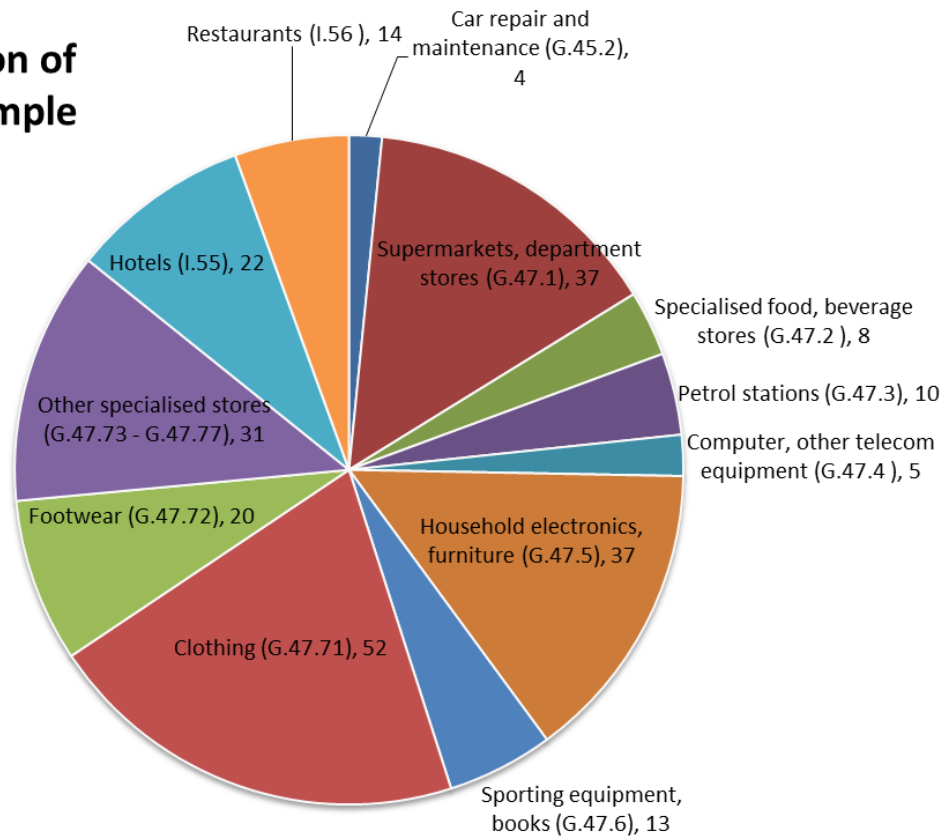
# Sample composition



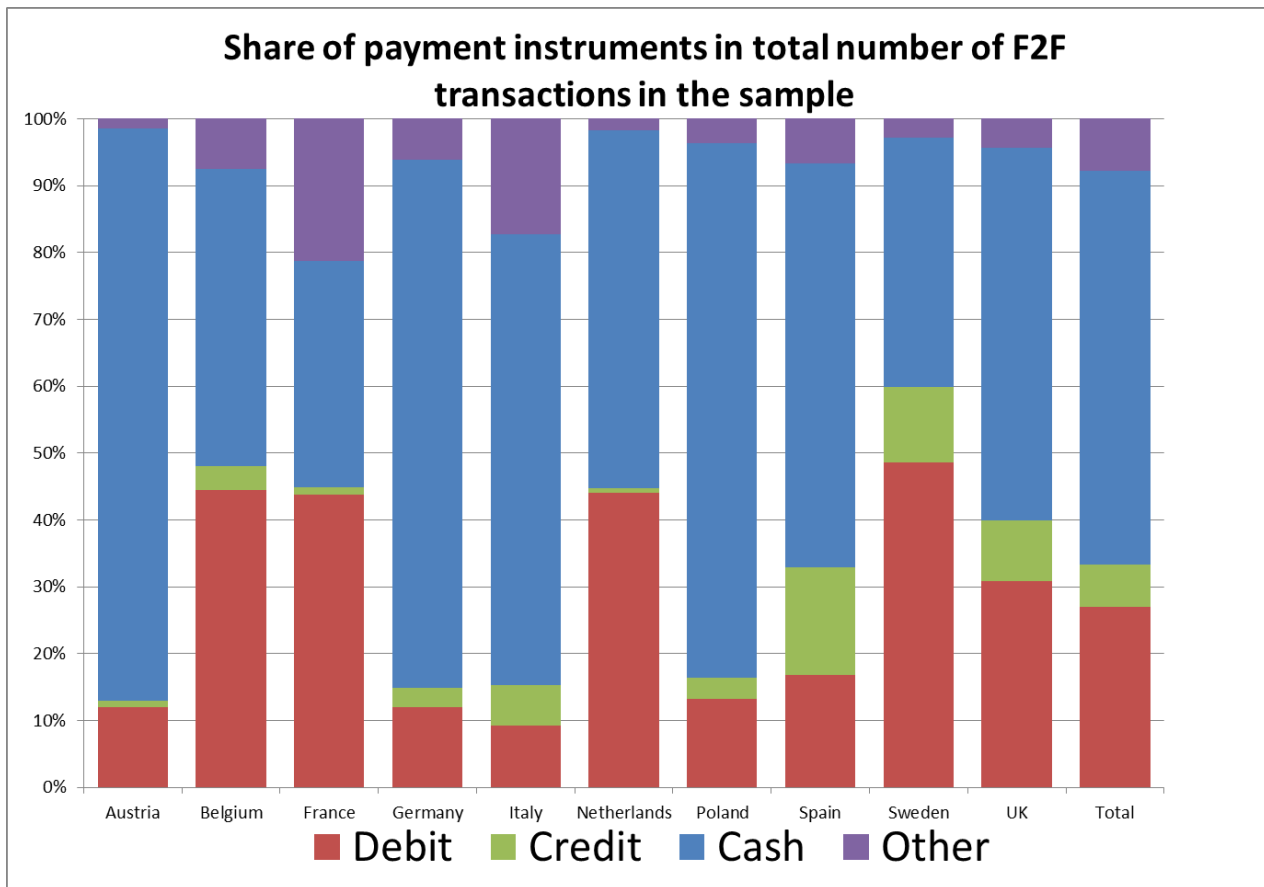


# Sample composition

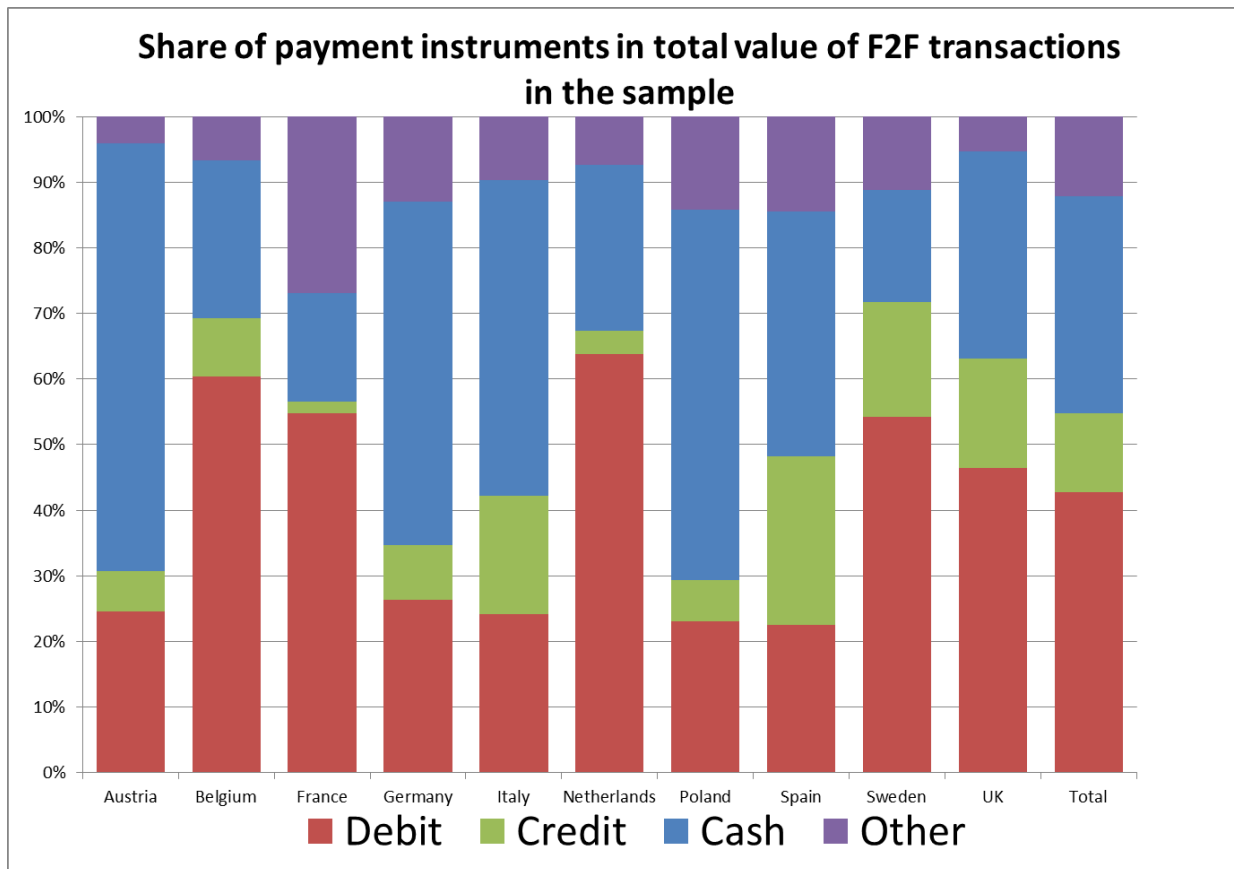
**Sector distribution of the merchant sample**



# Distribution of payment instruments



# Distribution of payment instruments



**ATVs:**

<b>CASH</b>	<b>15 EUR</b>
<b>DEBIT</b>	<b>42 EUR</b>
<b>CREDIT</b>	<b>51 EUR</b>
<b>OTHER</b>	<b>41 EUR</b>

# MIF calculation methodology

Linear cost functions:

$$TC_j = F_j + a_j * N_j + b_j * V_j$$

where  $F_j$  - fixed costs of payment instrument  $j$ ,  $a_j$  - cost incurred each time a transaction with  $j$  takes place,  $N_j$  - number of transactions with  $j$ ,  $b_j$  - cost incurred per unit of turnover with  $j$ ,  $V_j$  - value of transactions with  $j$

MIT MIF – based on marginal cost of cash and cards (net of current MIF)

$$MC_j = AVC_j = a_j + b_j * ATV_j$$

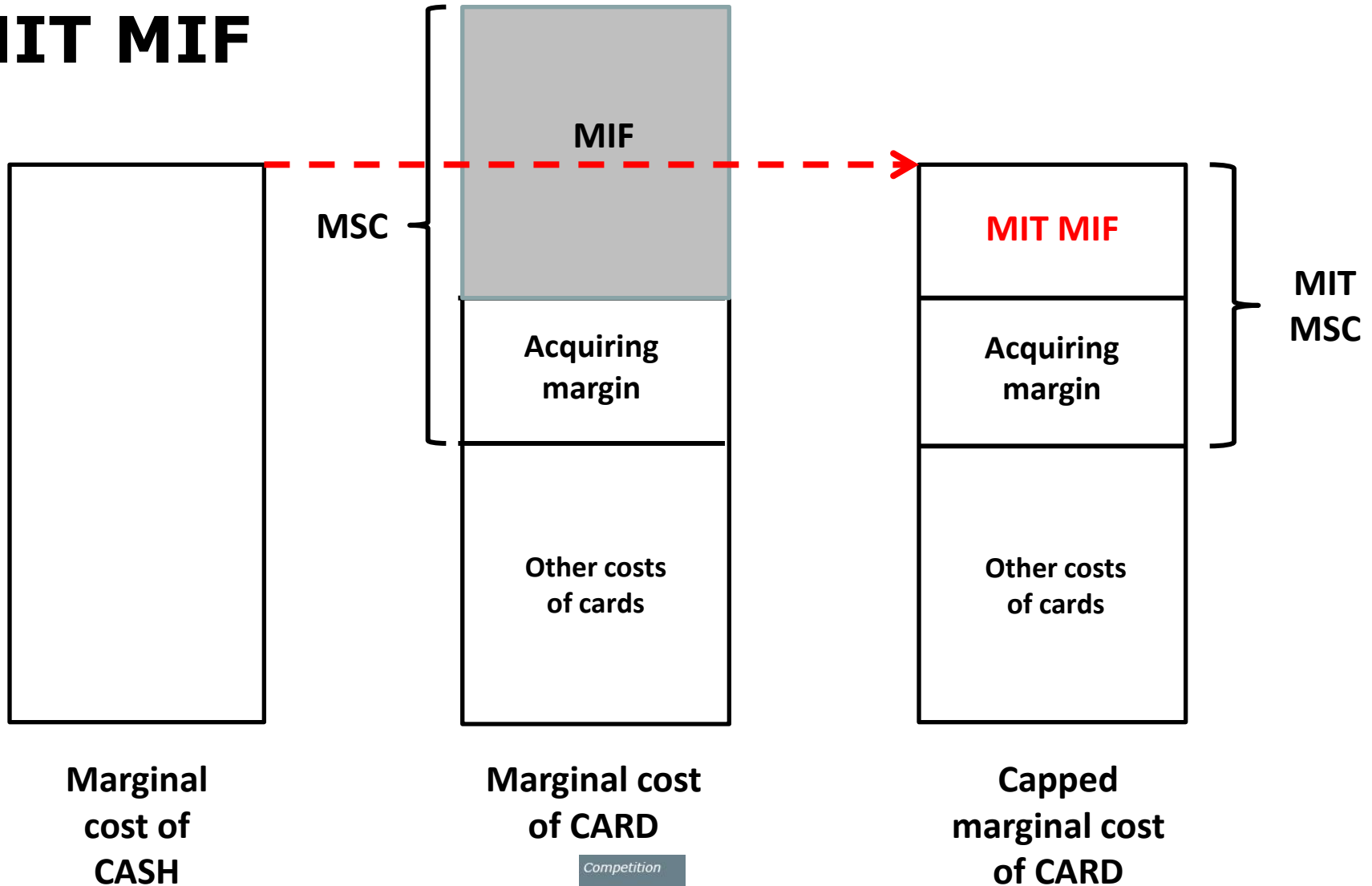
$$MIT MIF = (a_{cash} - a_{card}) / ATV_{card} + (b_{cash} - b_{card})$$

(%)    (€)    (€)    (%)



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# MIT MIF



# MIF calculation methodology

- Identification of cost nature (fixed, variable by number, variable by value) – based on individual responses
- 2 scenarios for identifying cost nature considered:
  - Scenario 1: change triggered by one additional transaction
  - Scenario 2: a 10% decrease in number of cash transactions over 3-4 years, replaced by card transactions
- Cost functions computed at merchant level, aggregated based on merchants' relative number and value of card transactions
- Average acquiring margin – estimated using survey data on MSCs and public MIF rates
- MIT MIF computed reflects the cost savings (relative to cash) of an average card transaction in our sample

## Aggregation of merchant costs

Calculation of average variable cost per transaction for payment instrument  $j$  in scenario  $s$  for the purpose of calculating MIT MIF

$$\overline{a_{js}} = \sum_{i=1}^{253} w_i * a_{ijs} , \text{ where } w_i = \frac{N_{i,card}}{\sum_{i=1}^{253} N_{i,card}}$$

Calculation of average variable cost per value for payment instrument  $j$  in scenario  $s$  for the purpose of calculating MIT MIF

$$\overline{b_{js}} = \sum_{i=1}^{253} k_i * b_{ijs} , \text{ where } k_i = \frac{V_{i,card}}{\sum_{i=1}^{253} V_{i,card}}$$

# Marginal cost functions

## Debit cards (scenario 2):

Cash:  $0.09 \text{ EUR} + 0.20\% * \text{transaction value}$   
 $a_{\text{cash}} \quad b_{\text{cash}}$

Debit cards (without acquiring margin or MIF):

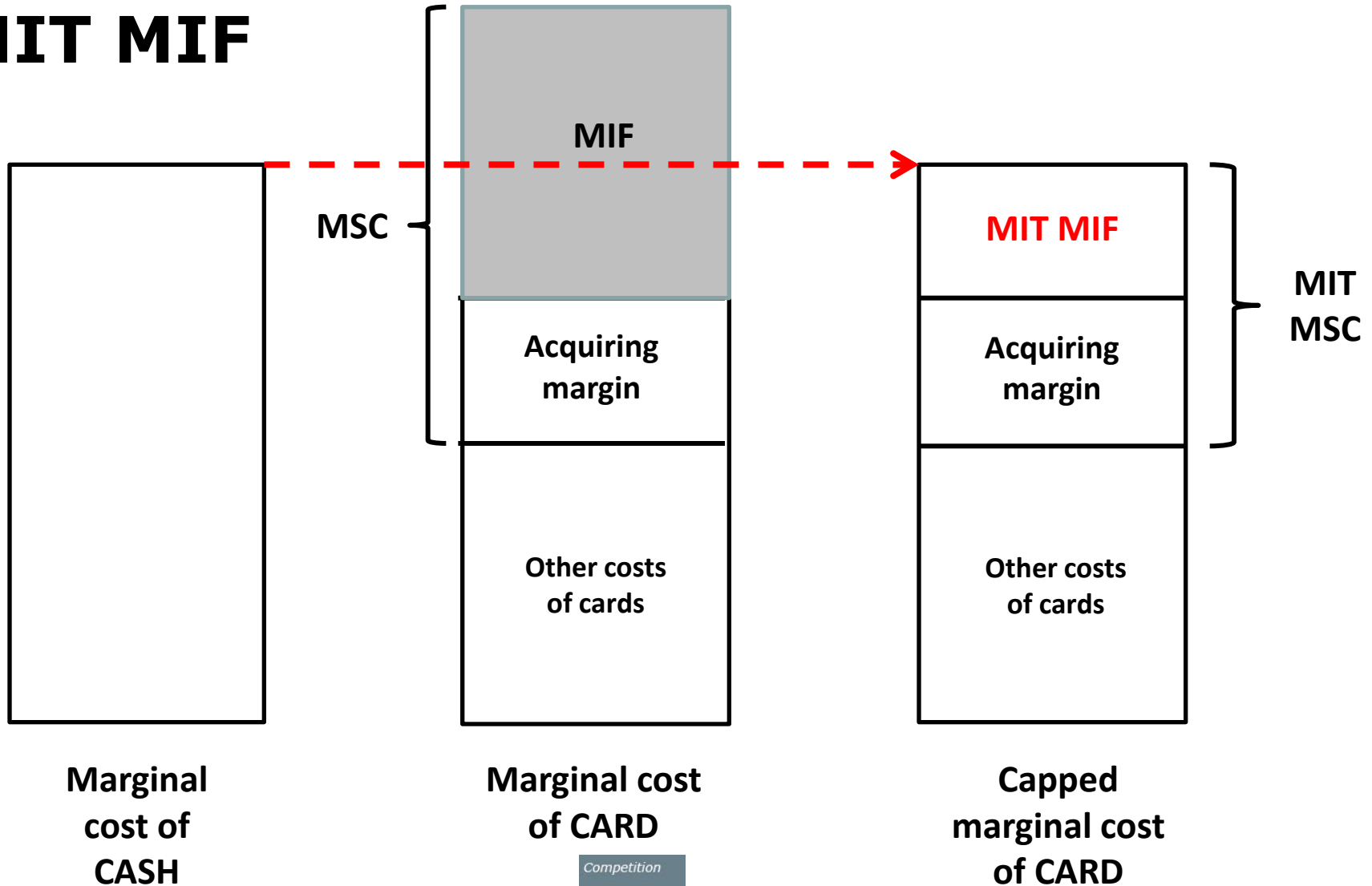
$0.10 \text{ EUR} + 0.01\% * \text{transaction value}$   
 $a_{\text{card}}^* \quad b_{\text{card}}^*$





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# MIT MIF



# Marginal cost functions

	Scenario 1		Scenario 2		Acquiring margin (%)	ATV Card (EUR)
Calculation for debit cards	a* (EUR)	b* (%)	a* (EUR)	b* (%)		
Cash	0.08	0.13%	0.09	0.20%	0.06%	42
Debit	0.09	0.01%	0.10	0.01%		
Calculation for credit cards						
Cash	0.08	0.17%	0.08	0.24%	0.06%	51
Credit	0.09	0.01%	0.10	0.01%		

\* without acquiring margin

# Results

- $MC_{\text{cash}} - MC_{\text{card}}$  (without acquiring margin) = MIT MSC
- MIT MIF = MIT MSC – acquiring margin

**MIT MSC**

**- Acquiring  
margin =**

**MIT MIF**

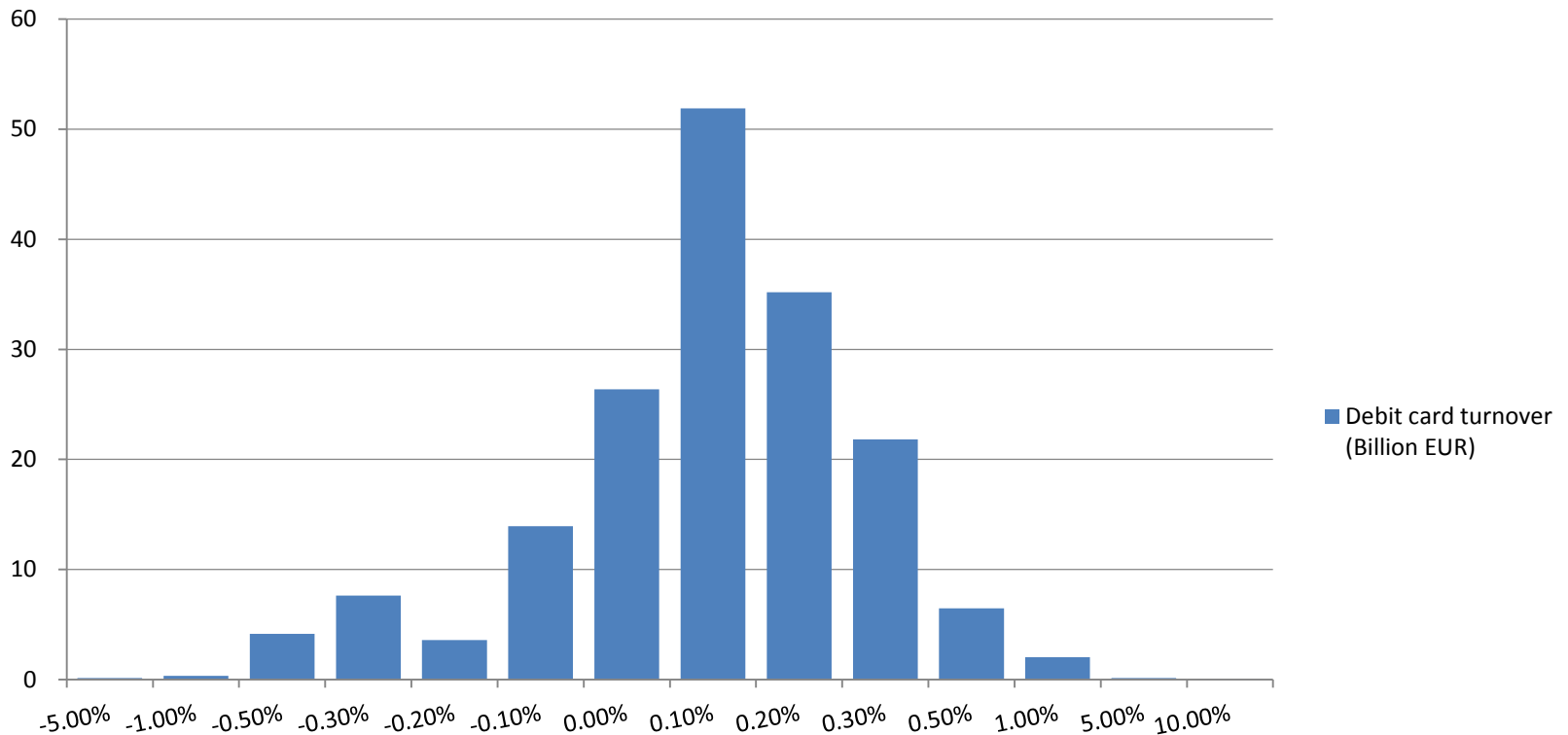
	<b>DEBIT</b>	<b>CREDIT</b>
Scenario1	<b>0.09%</b>	<b>0.13%</b>
Scenario2	<b>0.17%</b>	<b>0.21%</b>

**- 0.06%**

<b>DEBIT</b>	<b>CREDIT</b>
<b>0.02%</b>	<b>0.07%</b>
<b>0.11%</b>	<b>0.15%</b>

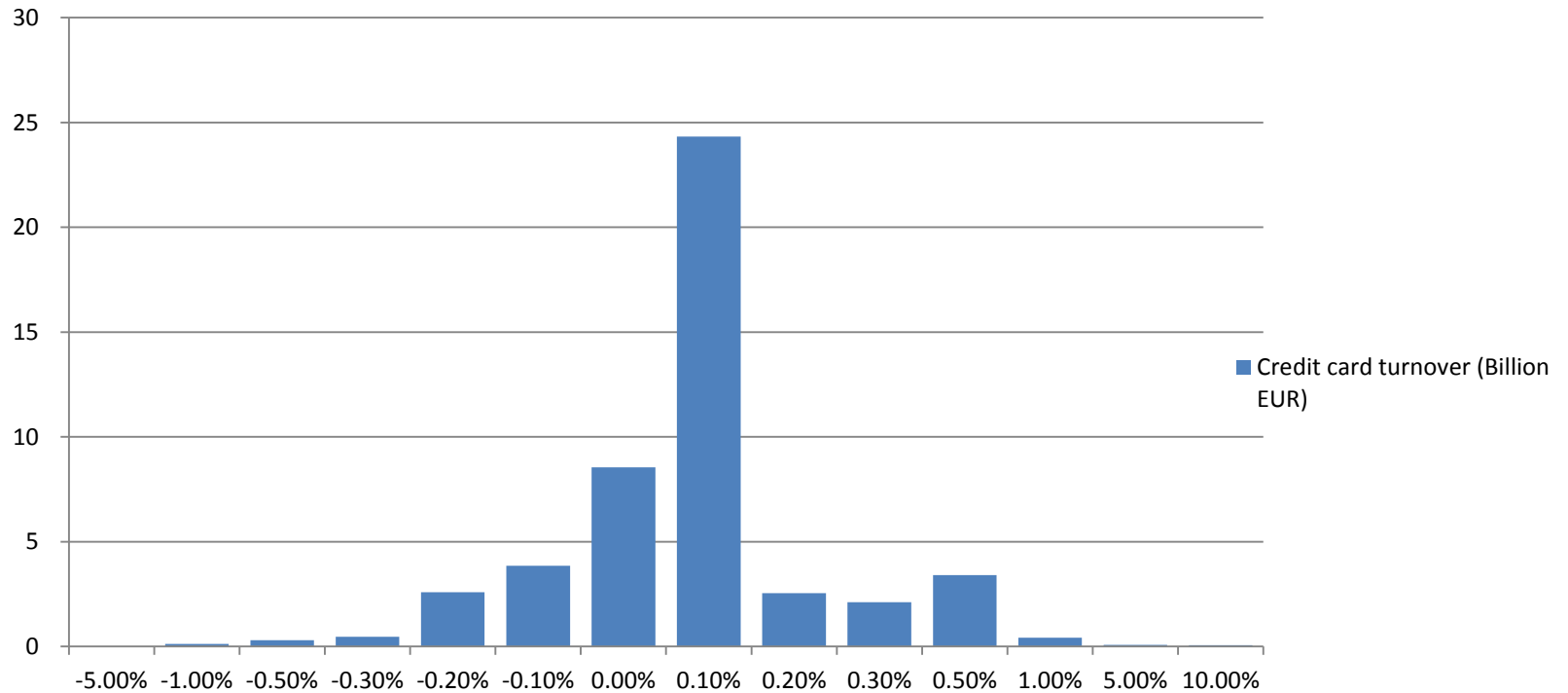
## Further information: Distribution of MIT MSC by merchant card turnover

### Distribution of debit MIT MSC

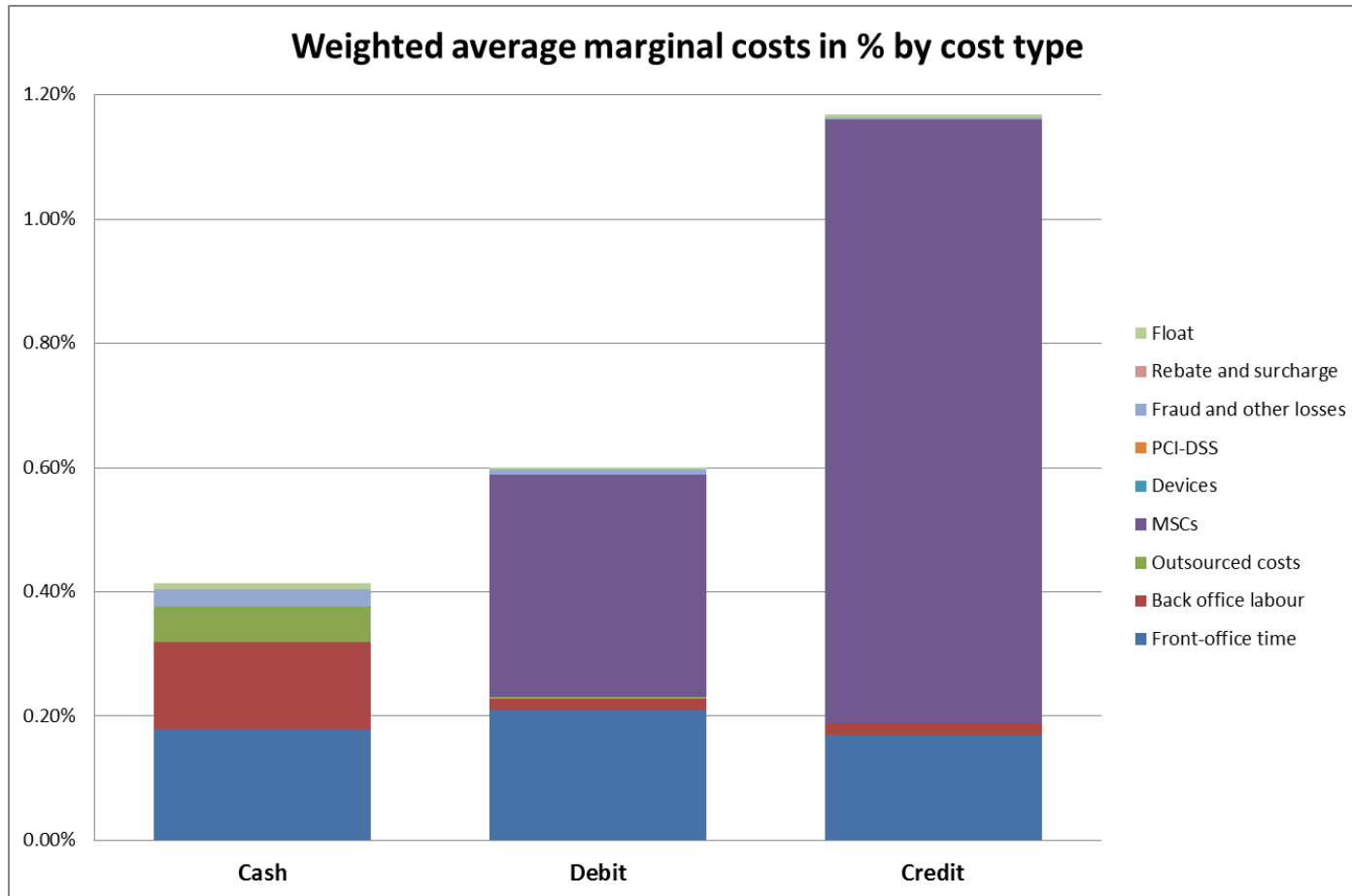


# Further information: Distribution of MIT MSC by merchant card turnover

## Distribution of credit MIT MSC



# Further information: Cost structure (scenario 2)



# Limitations

Results only for the sample:

- Limited number of large merchants
- 10 countries
- Only face-to-face transactions

Acquiring margin approximated

# Further analysis

- Assessment of the possibility to use econometric methods to pin down the variable costs of different means of payments
- Assessment of possibility to extend results to non-surveyed merchant categories to increase representativeness (using statistical inference)
- Further analysis of relationship between MIF and merchant size and sector
- Further work on estimating acquiring margin



# QUESTIONS?