

Interchange Fees for Bank Payment Card Transactions at Point of Sales in Mexico

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BANCO DE MEXICO

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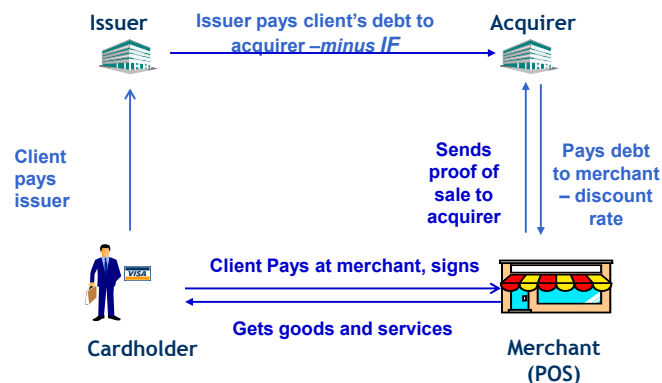
Motivation

- Banco de México's (BM) Law states as one of its goals "...promoting the sound development of the financial system and fostering the proper functioning of payment systems".
- To accomplish this mandate, the BM seeks to promote efficient payment systems.
- In 2004 a new law extended BM extended its powers to retail payments, including the regulation of interchange fees (IF). The results of BM intervention are deemed to be positive.
- In this paper we:
 - Describe the actions taken by BM regarding the IF.
 - Present the results of IF changes over discount rates and card users fees and commissions.
 - Present some illustrative international comparisons
- We consider that the Mexican experience constitutes an alternative to the regulation of IF followed in other countries.
- However, there are still many open questions.



General Background on IF

- IF are payments that usually flow from acquirer to issuer.
- The IF scale is set by card associations or by participating banks in a coordinated manner; usually in a non transparent way.
- It acts as a floor for discount rates (charges to merchants).
- The lack of transparency and impact over discount rates has attracted the attention of regulators.



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Background on Mexico's Card System

- Industry is highly concentrated both in issuing and acquiring.
- There is a widespread perception that banks' services are expensive.
- Cross subsidies, indirect practices and product differentiation are common.

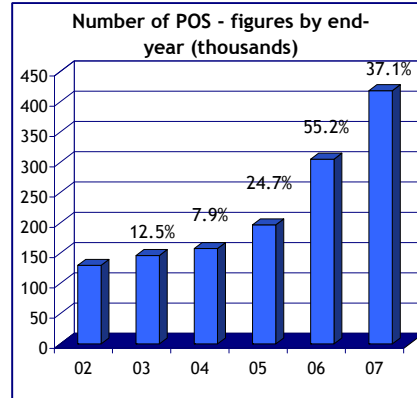
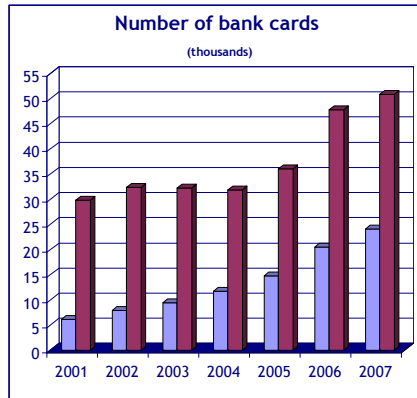
Concepts	Payment cards				Points of Sale (POS)		Number of transactions at POS			
	Credit		Debit		2002 ^a	2007 ^b	Issuer		Acquirer	
	2002 ^a	2007 ^b	2002 ^a	2007 ^b			2002 ^c	2007 ^d	2002 ^c	2007 ^d
Number of Banks	11	17	15	21	8	15	14	20	8	15
Market share of 2 largest banks (%)	65	52	66	45	55	52	68	57	72	71
Market share of 4 largest banks (%)	89	84	91	75	85	82	92	85	90	90
Herfindahl index	2,570	1,983	2,536	1,700	2,113	1,917	2,914	2,096	2,846	2,789

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Background on Mexico's Card System

- In recent years there has been a rapid growth in card infrastructure, both in cards number and POS.
- POS growth is related to a program to subsidize their deployment.

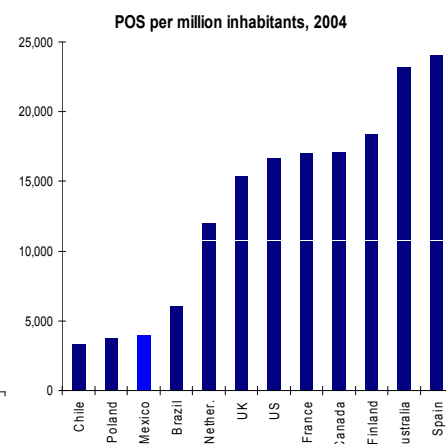
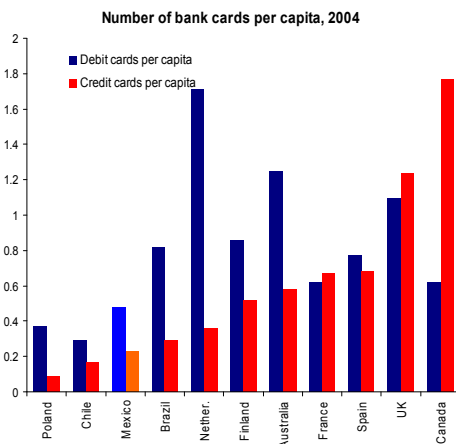


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Background on Mexico's Card System

- But in 2004, when BM intervened, international comparisons show limited development in the number of cards and POS.

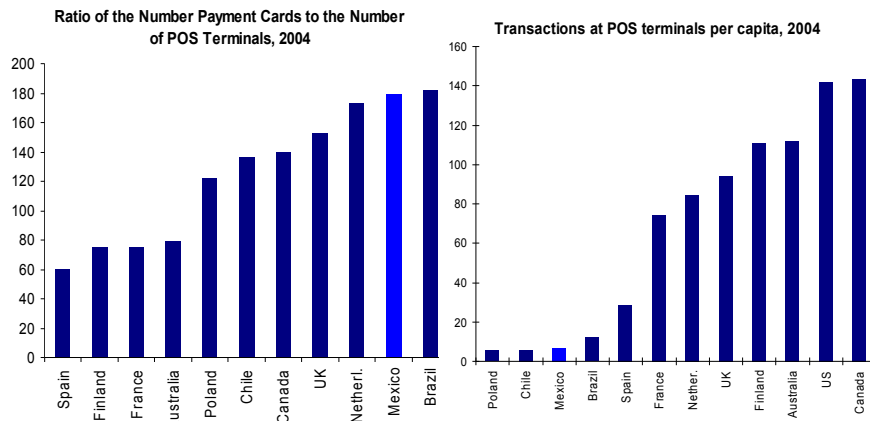


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Background on Mexico's Card System

- The ratio of cards to POS was extremely high.
- Usage of cards at POS was very low; in particular for debit.



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Interchange Fees in Mexico

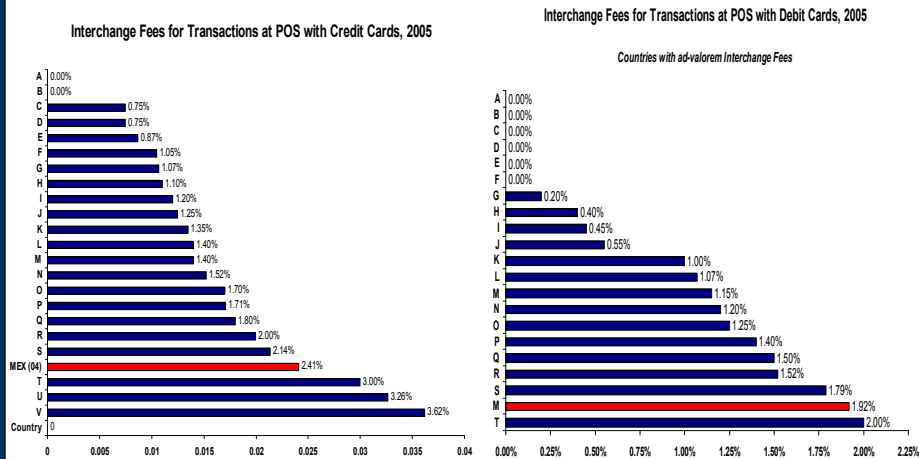
- These imbalances may be traced to the way cards work in Mexico:
- Rules of card associations:
 - Honor all cards rule: usual shape before LTOSF; became honor a type of card (credit or debit) rule.
 - No surcharge rule: modified by the intervention of the Competition Commission (CFC) in 1994. Discount for cash payments are allowed; surcharges for credit card payments are forbidden.
 - Duality rule: modified by the intervention of the CFC in 1996. The same bank issues Visa and MasterCard cards, and even AMEX
 - Only acquirer if issuer rule: still upheld.
- Additionally, non-banks do not participate in the market:
 - Only banks connect to switches (regulation allows non-banks);
 - Only institutions subject to similar prudential regulations as banks can issue cards (associations).

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Background on Mexico's Card System

- IF in Mexico were high for international standards (2005 data)



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IF in Mexico

- The Association of Mexican Banks (ABM) sets the IF; the role of card associations in IF is limited.
- The IF schedule is the same for Visa and MasterCard.
- The IF was set in a non transparent manner.
- Before 2005 there were three IF schedules in Mexico based on volume of transactions and same for credit and debit (see table).
- They reflect bargaining power; no efficiency content.
- They discriminate against small merchants and debit transactions.

Interchange Fee Schedules Prior to the LTOSF			
	Credit	Debit	
		Applied to Non-ANTAD Merchants	Applied to ANTAD Merchants
Simple Average	2.73%	2.73%	0.04 US dlls.
Brackets	5	5	10
Main Feature	Proportional	Proportional	Fixed fees

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IF in Mexico

Summing up the situation until 2005:

- Market of bank card was rather underdeveloped;
- Market was concentrated and same banks dominated both sides;
- There were important imbalances:
 - The number of POS was low: there seemed to be constraints in the acquiring side;
 - Debit cards were mainly used for withdrawals at ATM;
 - Usage of cards at POS was limited.
- The IF schedules seemed to be related to these problems:
 - Disfavored small merchants and debit purchases at POS.
 - Were high for international standards.
 - Were not transparent and had no technical support.
- Evidence that discount rates were extremely high
- Even banks realized that a reform to IF was needed.
- However, there is no universally accepted mechanism to set the IF.

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IF in Mexico

- In 2006 the Banks Association put in place a mechanism to set the IF (it was used again in 2008 with new data).
- The mechanism has two stages:
 - Reference IF (RIF) determination.
 - Adjustments around the RIF to get IFs for merchant categories.
- The process was followed separately for debit and credit.
- The process to find the RIF was based in the following formula:

$$\frac{R_I + a - c_I - C_I}{R_I + a} = \frac{R_A - a - c_A - C_A}{R_A - a}$$

- R_I , c_I and C_I are per transaction revenue, variable and fixed cost for issuers, while R_A , c_A and C_A for acquirers, and a is the average interchange value (income or expense) per transaction.
- a balances the issuing and acquiring banks' profits (net of interchange); profits are normalized by revenue (net of interchange).
- The formula is similar to Lerner indices: it equates market power.
- To get the actual RIF need average transaction value (AT): $RIF = \frac{a}{AT}$

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IF in Mexico

- Model adapted to include transactions (g_2) and transaction value growth (g_1):

$$\frac{R_I + a(1+g_1) - c_I - \frac{C_I}{(1+g_2)}}{R_I + a(1+g_1)} = \frac{R_A - a(1+g_1) - c_A - \frac{C_A}{(1+g_2)}}{R_A - a(1+g_1)}$$

- Therefore:

$$RIF = \frac{R_A[C_I + (1+g_2)c_I] - R_I[C_A + (1+g_2)c_A]}{AT(1+g_1)[C_I + C_A + (1+g_2)(c_I + c_A)]}$$

- Notice that the RIF decreases whenever :
 - Issuers' cost or acquirers' revenue diminish;
 - Issuers' revenue or acquirers' cost increase;
 - Average transactions value increases.
- Problems with the model:
 - Network's growth is not optimized: static model.
 - It distributes rents, not costs.
 - Incentive problems (i.e. cost is not minimized).

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IF in Mexico

- The data was only based on transactions services as opposed to credit services (credit cards).
- For credit cards, the ABM excluded interest rate revenues.
- Included costs:

Issuing Costs	Acquiring Costs
Services, maintenance (account statements, cardholder services).	Operative costs (authorization, processing, charging merchants)
Operative costs (processing and authorizing transactions)	Indirect costs (sales analysis, marketing and card promotion)
Fixed costs (risk management, fraud prevention).	Fixed costs (management, risk, payroll, equipment, software).
Customer acquisition (marketing, card issuing).	
Fraud losses	
Funding interest-free period (credit card)	

- Data coming from some banks only; weighted by bank participation.
- Data was not very reliable.
- With this data the RIF was obtained.

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IF in Mexico

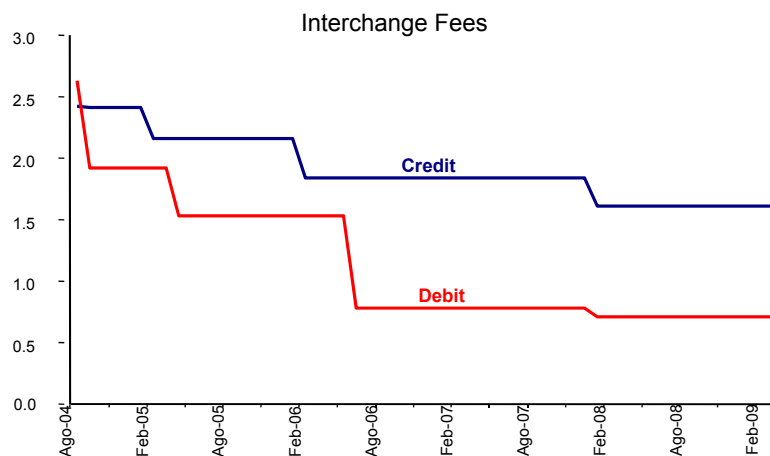
- Once the RIF was determined for both credit and debit, the ABM applied an adjustment process in order to find specific IFs for 22 merchant categories.
- The adjustment process is based on proxies of the relative demand elasticities for merchants and consumers.
- This adjustment suffered changes in the two processes mentioned (2006 and 2008); better proxies for merchants' demand used in 2008.
- Additional elements:
 - All debit IF categories are lower than credit;
 - For debit an IF ceiling was set under the idea that the cost of debit transactions is unrelated to the transaction amount. The ceiling was set at 13.5 (1.2 dls) pesos in 2006 and 9.50 pesos in 2008 (0.90 dls.)
 - For debit there is a merchant category that has a fixed fee per transaction.

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Outcome of this process on IF

- IF has fallen in a very important way as a result of this process.



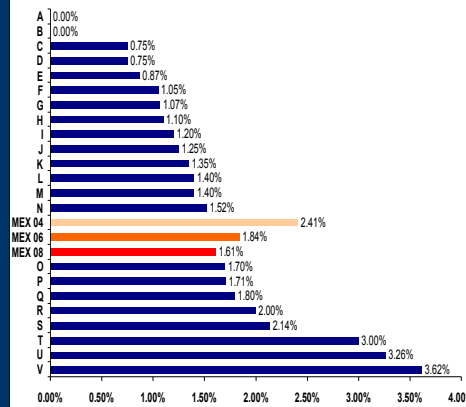
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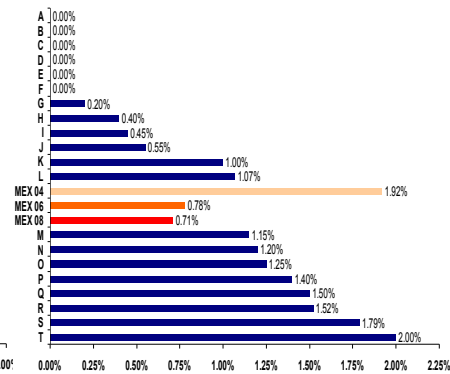
Outcome of this process on IF

- In terms of other countries, now the IF is lower, specially debit.

Interchange Fees for Transactions at POS with Credit Cards, 2006



Interchange Fees for Transactions at POS with Debit Cards, 2006
Countries with ad-valorem Interchange Fees



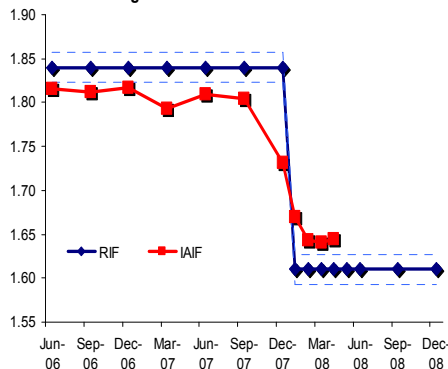
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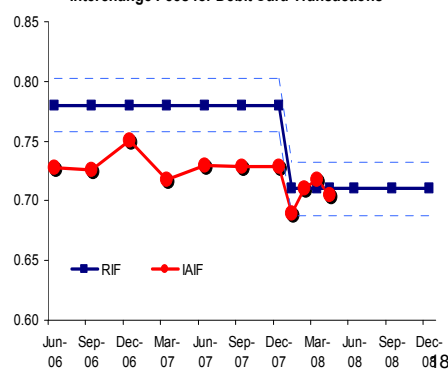
IF in Mexico

- The way BM follows the agreements:
 - BM receives information on all card transactions at POS from switches.
 - Estimate the implicit aggregated IF (IAIF). If RIF=IAIF then the agreements are being fulfilled.

Interchange Fees for Credit Card Transactions



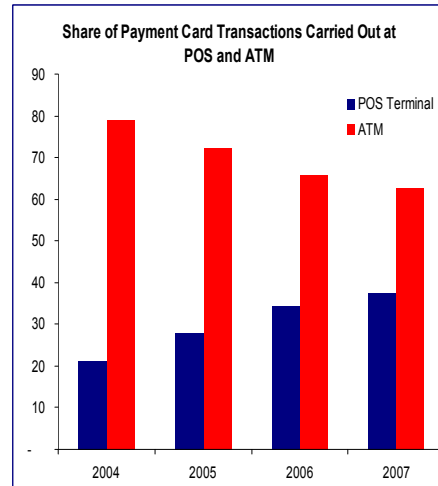
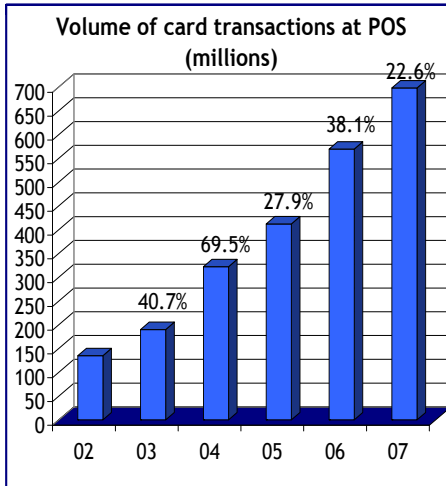
Interchange Fees for Debit Card Transactions





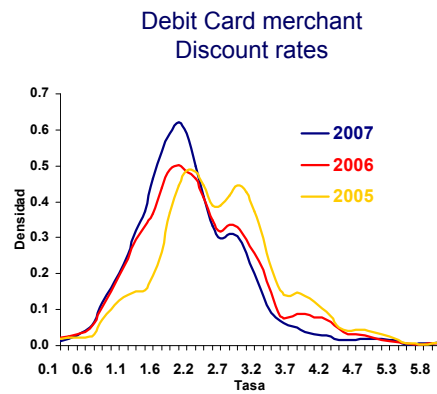
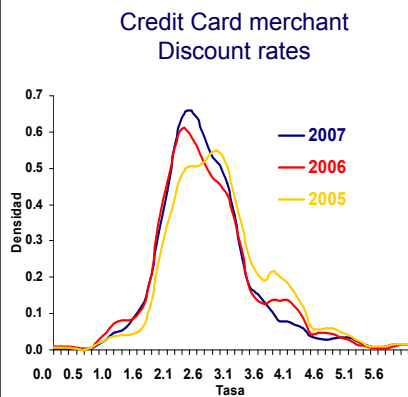
IF in Mexico

- Cards usage at POS has increased consistently.
- Increase of cards usage at POS relative to ATMs, too.



IF in Mexico

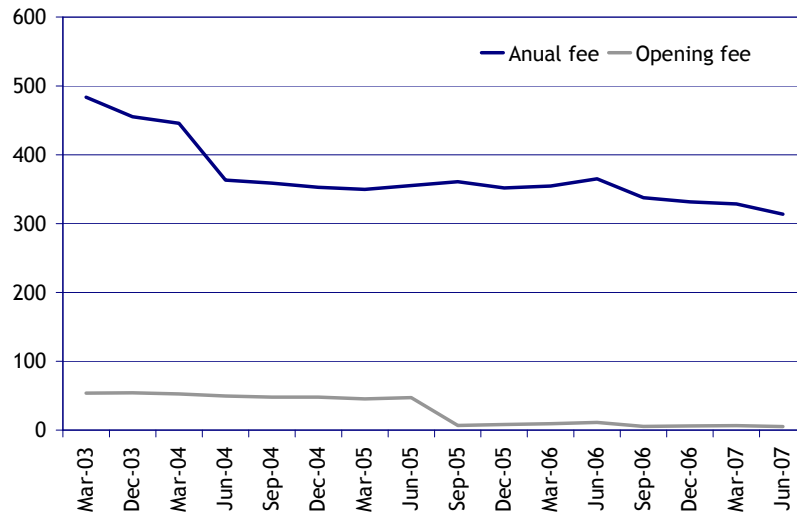
- There is an important reduction in discount rates. That is, the transmission mechanism seems to be working to some extent.





IF in Mexico

- There does not seem to be a reduction in card benefits for consumers.



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IF in other countries

- In a survey with other central banks on the way they set IF we found:

Country	Is IF based on costs	Is IF max. or unique fee?	Is IF different for credit and debit?	Is IF different per merchant type?	Is the IF a fixed fee or proportional?
Australia	Yes	Maxi	Yes	No	Ad-valorem for credit; fixed fee for debit
Spain	Yes	Maxi	Yes	Not since 2006	Ad-valorem
Israel	Yes	Maxi	Yes	No	Ad-valorem
Italy	Only for debit	Unique	Yes	Not since 2003	Fixed amount plus a percentage
United Kingdom	Yes	Max	Yes	Yes	N.A.
Switzerland	Yes	Max	Yes	Yes	Ad-valorem
Visa	Yes	Unique	Yes	No	Ad-valorem

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IF in Mexico

Are these cost elements included in the IF for credit and debit cards?						
Country	Transaction authorization	Transaction processing	Account acquisition and manage.	Maintenance	Fixed costs	Indirect expenses (marketing, promotions, incentives)
Switzerland	Yes	Yes	Yes	Yes	Yes	No
Israel	Yes	Yes	No*	No*	N. A.	No*
Spain	Yes	Yes	No	No	No	No
Visa Intnl.	Yes	Yes	No	No	No	No
UK - MasterCard	Yes	Yes	No	No	No	No
Australia	Yes	Yes	No	No	No	No

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Final Comments

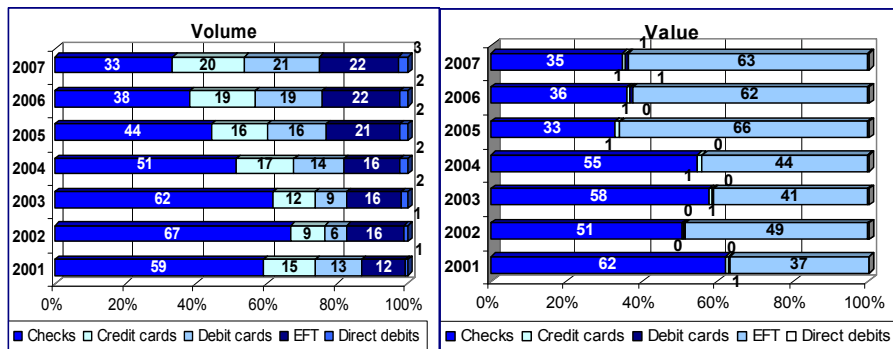
- The reform of the IF in Mexico has been a successful exercise:
 - Infrastructure has kept on growing, particularly POS,
 - Transactions at POS have increased, especially debit.
- There has not been direct intervention. Nevertheless, BM has put pressure on the banks using its legal capacity to regulate the IF.
- There are several open questions about the process that are being address:
 - The mechanism to set the IF needs to be address. In particular, the growth of the network has to be endogenous.
 - Third party system have not been addressed by BM.
 - The ceiling on debit cards may need to be reviewed.

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Background on Mexico's Card System

- The economy rests heavily on cash transactions.
- In terms of volume, the importance of card payments has grown between the non cash retail payments.





Background on Mexico's Card System

- In Mexico a small portion of the population has access to bank cards.
- In national surveys only around 7% of individuals appear to have credit cards.
- Having a card is closely related to income and education level.

