Economic Analysis of the Effects of the Federal Reserve Board's Proposed Debit Card Interchange Fee Regulations on Consumers and Small Businesses

By

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Executive Summary

The Board of Governors of the Federal Reserve System ("Board") has proposed a 73 to 84 percent reduction in the debit card interchange fee revenue that banks and credit unions receive as compensation from merchants when bank and credit union customers use their debit cards to pay for goods and services.[1] We have examined the impact of the proposed reductions on the economy and have concluded that at least in its first 24 months the Board's proposal, if implemented, will harm consumers, especially lower-income households, and small businesses. Our analysis implies that only large retailers will benefit as a group.

- Consumers and small business will face higher retail banking fees and lose valuable services as banks rationally seek to make up as much as they can for the debit interchange revenues they will lose under the Board's proposal (outcomes that the Board staff itself has anticipated). We estimate that these two groups of users of retail banking services will lose up to $33.4-$38.6 billion in the first 24 months the proposed rules are in effect.

- As a result of the anticipated increase in banking fees, the number of unbanked individuals will increase. Fewer low-income households will continue to have checking accounts under the higher fees that will be imposed for these accounts. Accordingly, in the future, many low-income individuals will be induced to rely on check-cashing and other high-priced alternatives to traditional banking services. We do not have a reliable projection of the increase but we believe that it is plausible that the number of unbanked households could increase by more than one million and would argue that the Board should investigate this possible impact in more detail.

- Small businesses will lose up to $4.2-4.8 billion in the first 24 months the proposed rules are in effect because of the offsetting increase in bank fees. Most of these small businesses do not accept debit cards and therefore will not have any offsetting benefits from lower interchange fees. Overall, small businesses will likely lose even after considering the possible effects of lower debit card interchange fees because their merchant processors will not pass on interchange fee reductions to these small merchants, who are charged based on blended pricing across all payment card methods, quickly or fully.

[1] "Debit Card Interchange Fees and Routing; Proposed Rule," The Federal Reserve System, *Federal Register*, 75:248, December 28, 2010, at p. 81726. Available at: http://edocket.access.gpo.gov/2010/pdf/2010-32061.pdf ("The Proposed Rules").

- Large retailers will receive a windfall that, based on certain assumptions, could equal $17.2-$19.9 billion dollars in the first 24 months the proposed rules are in effect.

I. Introduction and Overview

We have examined the economic impact of the Board's proposed regulations of debit card[2] interchange fees on consumers and small businesses.[3] Based on our research and analysis we have concluded that the Board's proposal, if implemented, will impose direct, immediate and certain harm on consumers, especially lower-income consumers,[4] and small businesses[5] that use checking accounts.[6]

- We estimate that the proposed rules will eliminate $33.4-$38.6 billion of debit card interchange fee revenues for banks and credit unions during the first two years the rules are in effect.[7]

- The proposed reductions of the fees that merchants pay for debit card transactions will dramatically reduce the profitability of checking accounts that banks and credit unions provide to consumers and small businesses. Based on 2009 debit interchange fees, the average consumer checking account will lose between approximately $56 and $64 in annual revenue and the average small business checking account will lose between $79 and $92, if the Board's proposals were implemented.

- To offset these lost revenues, banks and credit unions will increase fees to their retail customers for checking accounts, for the debit cards that are usually provided with their

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[2] The proposed regulations also apply to debit transactions that occur without a card such as mobile payment products that enable consumers to pay with funds from their checking accounts. For simplicity we refer to debit cards throughout this paper but the reader should understand that this includes all non-card based payment methods that are tied to the checking account.

[3] The Proposed Rules.

[4] Consumer checking accounts can be set up as individual accounts or as joint accounts often used by households.

[5] Most small businesses use the same checking account products and services as individuals.

[6] Checking accounts are often called "demand depository accounts" or DDAs.

[7] These figures are based on the estimated debit card interchange fee revenues that banks and credit unions would have received between July 21, 2011 and July 20, 2013 'but-for' the two proposals the Board has put forward. The interchange reduction calculations are based on the assumptions that exempt banks and credit unions face the same reduction in interchange fee revenues as non-exempt institutions and the debit card transaction growth beyond 2009 is equal to the average annual growth rate from 2005 to 2009. The calculations exclude interchange fees from all prepaid cards and are underestimates to the extent that some of these prepaid cards are covered by the regulations. We present the details of the calculation and further assumptions in Section II.

accounts, and for other retail banking services. Our analysis indicates that these changes will take place quickly after the implementation of the proposed rules. Some banks have already implemented changes in anticipation of the regulation, others have announced plans, and still others are reviewing changes in prices.

- Banks and credit unions will likely modify some features of the debit cards for which they cannot recoup their costs and earn a fair rate of return under the proposed price caps, and the networks may be forced to do so as well. These changes could include limiting the use of debit cards for payment in situations such as high-value transactions that impose high levels of fraud and other risks on the banks and credit unions, or charging for cash back at the point of sale.

- According to our analysis and research, banks and credit unions will pass on much of the $33.4-$38.6 billion reduction in interchange fees to consumers and small businesses in the form of higher fees or reduced services during the 24 month period following the implementation of the regulations.

Based on our research, these harms to consumers and small businesses will not be offset significantly by merchants charging lower prices for goods and services as a result of lower interchange fees. In fact, if implemented, the effects of the Board's proposal on merchant prices will occur slowly, and the amount of future reductions in retail prices is uncertain.

- Merchants will save roughly 10 cents for a typical $59.89 purchase of a basket of goods from the proposed debit card interchange fee reductions if their merchant processors pass on all of the interchange fee savings to them.[8] Merchants in this case will save less than 2 cents for a $10 item. It is unlikely that most merchants will pass along such small reductions quickly. In fact, economic research has shown that retail prices are sticky and do not change often in response to small changes in costs and demand conditions.

- Approximately three quarters of the merchants that accept debit cards, and virtually all small businesses, have contracts with their merchant processors under which the merchant pays a blended price covering all card transactions and is inclusive of all fees including interchange fees. Merchant processors are unlikely to pass on all of the debit card interchange fee reductions to these smaller merchants and may not pass on much, if any, of the reductions in the near term.

- The Board staff has observed that merchants that operate in highly competitive industries will pass on most of debit card interchange fee savings to consumers. While we agree with that observation as a matter of theory, there is no basis in fact for assuming that

[8]As discussed below these calculations are based on the average transaction amount at merchants and the proportion of those transaction dollars that are paid for with debit cards.

there is intense competition in the merchant categories that account for most debit card transactions. In fact, for several key categories, such as big box retail and supermarkets, the antitrust authorities have defined product and geographic markets that indicate that there is not a high degree of competition in local markets in most parts of the country. Certain large retailers also are likely to have sufficient market power that they will not be compelled to pass on the entirety of the cost savings to consumers.

This paper focuses on the overall impact of the Board's proposed regulations of debit card interchange fees on consumers and small businesses. However, we note that the proposed regulations will have several distributional impacts across different segments of the economy that the Board may wish to take into consideration under its obligations under the Electronic Fund Transfer Act ("EFTA") and the Regulatory Flexibility Act ("RFA").

- Lower income individuals have obtained significantly greater access to affordable retail banking services in the last decade, partly as a result of the debit card interchange fee revenues that have helped banks and credit unions defray the fixed costs of providing checking account services to accounts that maintain low average balances. It is likely that the reduction in debit card interchange fee revenues will result in a reduction in the number of lower income individuals with checking accounts and an increase in the number using alternative financial services, such as check-cashing services.

- Small businesses that have checking accounts will face higher fees and reduced services as a result of banks and credit unions losing much of the debit card interchange fee income from their accounts.[9] Most of these small businesses do not accept debit cards and will, therefore, definitely lose from the proposed regulations. The small merchants that do accept debit cards will not receive much of a reduction in their merchant processing fees in the near term as a result of the debit card interchange fee reductions and will not receive the full benefit of those reductions over the longer term; merchant processors would not have strong incentives to pass on interchange fee reductions to these small merchants, most of whom face blended pricing for all payment methods, quickly or fully. Overall, small businesses will likely lose, at least in the first two years, if the proposed regulations are put into place.

We conclude from this economic analysis that the overall impact of the proposed interchange fee reductions will be to harm consumers, lower-income individuals, and small

[9] Based on data we have received from knowledgeable industry observers, roughly 9.1 percent of checking accounts (18 million) are held by smaller businesses.

businesses. Large retailers will benefit, at least in the first 24 months, from a significant windfall at the expense of these other groups.

Section II provides background for the analysis conducted in this paper. It reports the estimated impact of the Board's proposals on debit card interchange fees received by debit card issuers and paid by debit card acquirers, describes the economics of retail banking, and provides an overview of the debit card product.

Section III examines how banks and credit unions will likely respond to the elimination of these fees. It shows that that the banking industry is intensely competitive and that, as a matter of economic theory, we expect that banks and credit unions will pass most of the revenue reductions on to consumers. It shows that banks and credit unions tend to quickly alter fees and services in response to significant changes in costs and revenues and that banks and credit unions will be likely to increase a number of fees, and reduce a number of services, in response to the proposed interchange fee reductions.

Section IV examines the extent to which the debit card interchange fee savings received by merchant processors will result in lower prices to consumers. It shows that the cost savings are very small as a percentage of retail prices. It also shows there is no presumption that the retail categories that will receive much of the reductions in interchange fees are intensely competitive and that, in fact, several are not. It concludes that merchants will lower prices slowly in response to the Board's proposed reductions and will not pass on most of the savings to consumers.

Section V considers the distributional impact of the Board's proposals on low-income individuals and small businesses. Section VI briefly summarizes our key quantitative findings.

II. Background

This section reviews the Board's proposal, describes the economics of retail banking, and examines the debit cards that are the subject of the proposed regulations.

A. The Board's Interchange Fee Proposals and Their Effect on Interchange Fee Revenues

Signature and PIN networks have established "interchange fees" that acquirers, which provide debit card services to merchants, have to pay issuers, which provide debit card services to debit cardholders.[10] These fees generally involve a percentage of the transaction amount, with these percentages varying considerably across merchant categories and across merchants. In many cases there is also a fixed fee, although especially for signature cards the variable fee generally accounts for the bulk of the total.[11] Based on the Board's survey of payment card networks the average debit card interchange fee debit transactions was 44 cents in 2009.[12] The Board reported that the average retail transaction that was paid for with a debit card was $38.58.[13] The average effective interchange fee was thus 1.14 percent.

The Board has asked for comments on two proposals for regulating debit-card interchange fees received by banks and credit unions with assets of $10 billion or more on non-exempt products. Under the "12 cent cap" proposal banks and credit unions would be able to receive up to 12 cents of interchange fee revenues per transaction. Banks and credit unions

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[10] As a practical matter most merchants receive most of their services from companies that are merchant processors (First Data Corporation for example) or, especially in the case of smaller firms, Independent Service Organizations (ISOs) that work on behalf of either merchant processors or acquirers. In much of this paper we refer to merchant processors rather than acquirers.

[11] PIN debit cards often have fixed transaction fees plus a variable fee based on the size of the transaction. See The Proposed Rules, at p. 81724.

[12] The Proposed Rules, at p. 81725.

[13] Ibid., at p. 81725.

would therefore face a reduction in interchange fee revenues per transaction of 73 percent ((44-12)/44).

Under the "7 cent safe harbor" proposal banks and credit unions would be able to receive at least 7 cents of interchange fee revenues per transaction (the safe harbor) and could receive up to 12 cents of interchange fee revenues per transaction (the cap) based on showing that their average variable cost of authorization, clearing and settlement was more than 7 cents. According to the Board, approximately half of the banks and credit unions in its survey of 89 financial institutions had average variable costs of authorization, clearing, and settlement of approximately 7 cents or less.[14] These banks and credit unions would therefore face an 84 percent reduction in interchange fee revenues per transaction ((44-7)/44). The other half of the banks and credit unions that had costs higher than 7 cents, and who obtain the ability to receive a higher interchange fee, would therefore face a reduction in interchange fee revenues per transaction of between 73 and 84 percent. It is unclear how many banks and credit unions would apply for and obtain the ability to charge more than 7 cents under the second proposal or would risk charging more and then having to defend their rates to the Board. The legal cost and uncertainty of obtaining a waiver, or the risk of a challenge, might deter some or many banks and credit unions. It is also likely that the half of the banks and credit unions with average variable costs higher than 7 cents account for significantly less than half of the transactions.[15] For the purposes of this paper we assume that the Board's 7 cent safe harbor would result in a reduction of debit card

[14] Ibid., at p. 81737.

[15] The transaction-weighted average of the average variable costs is 4 cents, which indicates that the banks with more transactions have lower average variable costs. See The Proposed Rules, at p. 81737. That implies that banks with average variable costs of greater than 7 cents account for a disproportionately small share of overall transactions.

interchange fee revenues per transaction of 84 percent; the actual reduction would be slightly lower.[16]

Based on its survey of all relevant networks, the Board reports that interchange fees for debit cards totaled $15.7 billion in 2009.[17] This figure includes banks and credit unions with assets of less than $10 billion, which are exempt by law from the interchange fee limits. However, it appears likely that the "exempt" banks and credit unions would also realize a significant decrease in interchange fees.

The exempt banks themselves believe they would not get the benefit of the exemption in practice.[18] While the exact details of what will happen under the new regulatory regimen are difficult to determine, the exempt banks, as well as industry experts we have talked to, believe that the exempt banks will lose out as networks attempt to attract larger issuers and merchants. These observers indicate that networks that adopt dual interchange fee schedules—one for small exempt institutions and the other for large covered institutions—would face severe pressure to reduce the small institution fee to the same level as the large institution fee.[19]

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[16] Under the assumption that banks with average costs as defined by the Board greater than 7 cents were able to charge a higher fee and that the average fee they charge would be at the midpoint between 7 and 12 cents (9.5 cents), the average debit card interchange fee would be .5 x 7 + .5 x 9.5 =8.25. In this case the safe harbor plus cap proposal would result in an 81.3 percent reduction in debit card interchange fee revenues. As noted above it is likely that the transaction-weighted average would result in a fee closer to 7 cents than to 8.25 cents.

[17] The Proposed Rules, at footnote 22. We have excluded prepaid cards which accounted for $500 million of these fees because many of these cards are exempt from the regulations.

[18] See "ICBA: Two-Tier Debit Card Interchange Plan Won't Work for Community Bank Customers," Independent Community Bankers of America, January 10, 2011; and Letter from Bill Cheney to House Financial Services Committee Chairman Spencer Bachus and Ranking Member Barney Frank urging them to hold hearings on the Board's proposed rules related to Section 1075 of the Dodd-Frank Act (Interchange Fees), January 3, 2011.

[19] The Board staff questioned whether the exempt banks would receive higher interchange fees than the covered banks and expressed doubt that the exempt banks would continue to receive the current market levels of interchange fees: "So with regard to the small issuers, we really don't know what the net effect of the rules will be, because it depends on actions to be taken by the networks and the merchants, and we can't predict those actions…. The networks may decide that it's simply too costly or too complicated to maintain two separate interchange fee

Under the proposed routing provisions merchants would be able to switch transactions to the low-cost network carried on the card and discriminate against networks in various ways.[20] Networks that adopt a high debit card interchange fee schedule for small institutions would therefore tend to lose transactions at merchants. Networks compete for the 20 large debit-card issuers that account for over 60 percent of debit card volume.[21] These large issuers would likely avoid networks that have high interchange fees for small institutions because merchants would discriminate against those networks' cards and therefore these networks would lose transactions.[22] Large issuers would also likely avoid networks that have high interchange fees for small issuer competitors that account for about one-third of checking account deposits and debit card transactions. We expect that these competitive pressures would force interchange fees for exempt institutions to roughly the same level as interchange fees for covered institutions.[23]

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schedules and, therefore, they may simply say that everybody is going to operate under the same interchange fee schedule which complies with our standards. In that case, obviously, the exempt issuers would face a similar reduction in their interchange fees as would the covered issuers. If the networks do decide to establish two separate interchange fee schedules and allow higher interchange fees for the small issuers, it's possible that merchants would discriminate against those issuers by declining to accept their cards, because there are higher fees associated with accepting those cards." See "Federal Reserve Board of Governors Holds an Open Meeting," CQ Financial Transcripts, December 16, 2010, at pp. 14-15.

[20] Industry dynamics under these rules may be very different from competition in the absence of these regulatory requirements.

[21] "The Nilson Report Issue #947," The Nilson Report, April 2010.

[22] The recent settlement between the Department of Justice and MasterCard and Visa prevents the networks from limiting merchants from offering discounts and rebates based on the payment card used, from expressing a preference for a particular brand or type of card, promoting a particular brand or type of card, and communicating the costs to the merchant of different brands of cards. See "Justice Department Sues American Express, Mastercard and Visa to Eliminate Rules Restricting Price Competition; Reaches Settlement with Visa and Mastercard," Department of Justice, October 4, 2010. There would also likely be considerable scrutiny on any efforts by any other debit card networks to limit the ability of merchants to dissuade consumers from using particular networks.

[23] Industry experts we have talked to believe that competition between the two signature networks, MasterCard and Visa, for large issuers and large merchants will result in a small spread between the two interchange fee schedules should they be adopted. Similarly, PIN debit networks would face significant pressure, from large issuers and large merchants, if they attempt to maintain a substantial spread between interchange fees for exempt and non-exempt institutions. While a PIN debit network could attempt to become the network of choice for exempt issuers,

For the purposes of this paper we assume that the exempt banks and credit unions would face the same reduction in interchange fees as the covered banks and credit unions. Therefore, we assume based on total debit card interchange fees for 2009, that banks and credit unions would lose interchange fee revenues of between $11.4 (12 cent cap) and $13.2 billion (7 cent safe harbor).[24]

The Board's proposals would go into effect on July 21, 2011. Our research and analysis has focused on the impact on consumers and small businesses during the first 24 months of the regulations.[25] In the absence of the Board's debit interchange fee caps we estimate that banks and credit unions would receive approximately $45.9 billion of interchange fee revenue during that two-year period of time ($9.0 billion for the remainder of 2011, $22.7 billion in 2012, and

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it is not obvious that would be a successful strategy. There is a good chance that large merchants would negotiate low rates by threatening not to accept cards from such a network, and given that large merchants account for the majority of transaction volume, this would limit the effective rate received by issuers on a PIN debit network catering to exempt issuers. If the Board implements the version of the network exclusivity rules that requires two PIN debit networks (in addition to two signature debit networks), then there would have to be two PIN debit networks catering to exempt issuers and there would be pressure from large and smaller merchants (with the likely assistance of their acquirers) to route transactions to the PIN debit network with lower interchange fees. Under the version of the network exclusivity rules that requires only two debit networks (so that there is no requirement to have two PIN debit networks on the same card), a PIN debit network that attempted to maintain significantly higher interchange fees for exempt issuers would still face pressure from merchants to prompt customers to authorize using signature (which are likely to have lower interchange fees) rather than PIN. The requirement for a debit network to have acceptance nationwide and not be limited to a small number of merchant locations or at limited types of merchants imposes further pressure on a PIN debit network attempting to maintain significantly higher interchange fees for exempt issuers.

[24] Based on issuer debit transaction volume from The Nilson Report and financial institution asset data available through the Federal Deposit Insurance Corporation ("FDIC") and the National Credit Union Administration ("NCUA") Call Report data, banks with assets of under $10 billion account for approximately 33 percent of debit card transaction volume. If these banks continued to receive the current levels of interchange fees the reductions of debit card interchange fees under the proposed regulations would be $7.6 billion and $8.8 billion, respectively.

[25] The Board has proposed collecting cost information in two years time and we would expect the Board would use that as an opportunity to consider revising the interchange fee regulations. See, e.g., The Proposed Rules, at § 235.8. Moreover, it is difficult to forecast the total harm farther into the future because the debit card interchange fee reductions and routing restrictions would likely alter the extent to which banks issue debit cards and the extent to which possible fees banks could impose would affect the usage of debit cards. These structural changes in the payments industry could increase the harm to consumers to the extent consumers lose the use of products they value or decrease the harm to consumers if the financial services industry figures out ways to provide alternative unregulated products that meet consumer needs.

$14.1 billion in the first roughly 7 months of 2013).[26] Under these assumptions banks and credit unions would lose $33.4 billion in interchange fee revenues over these 24 months should the Board adopt the 12 cent cap proposal and $38.6 billion in interchange fee revenues over these 24 months should the Board adopt the 7 cent safe harbor proposal.[27] These figures would be lower if the Board increases the safe harbor or cap or otherwise provides a way for debit-card issuers to receive reimbursement from merchants for fraud prevention costs.

B. Checking Accounts and Retail Banking[28]

Consumers and small businesses had roughly 198 million checking accounts in 2010.[29] Checking accounts provide consumers and small businesses safety and liquidity for their funds. They also provide the basic tools for household and small business budgeting and money

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[26] These figures are based on the estimated debit card interchange fee revenues that banks would have received for July 21, 2011-July 20, 2013 less the estimated reductions in those fees under the two proposals the Board has put forward. To determine debit card interchange fee revenues during this period in the absence of the rules we used the Board's estimate of debit card interchange fee revenues in 2009 and assumed that in the absence of the rules these revenues would increase at the average annual compound growth rate of debit card transactions between 2005 and 2009. We have assumed that the Board's 7 cent safe harbor proposal with a 12 cent cap would result in the average interchange fee of approximately 7 cents for the reasons discussed below. To calculate the percent reductions in fees we used the Board's estimate that the average debit card interchange fee was 44 cents in 2009.

[27] These figures would be approximately $22.2 billion and $25.7 billion if the exempt banks continued to receive the current level of debit card interchange fees. The figure for the 7 cent safe harbor would be $24.8 billion if we assumed that the average debit card interchange fee fell to 8.25 cents (as discussed above) and if exempt banks continued to receive the current level of debit card interchange fees.

[28] We understand that the Board staff is very familiar with the material discussed here. However, for the sake of completeness for other possible readers and to lay the basis for the subsequent analysis we have included this basic description.

[29] Reliable estimates of the number of consumer and small business checking accounts are not available from public sources. We have prepared these are estimates based on the following information. The total number of checking accounts (180 million) is estimated using the percentage of US households with a checking account from the 2007 Survey of Consumer Finances (89.7 percent), the number of US households from the US Census Bureau (117.5 million as of the March 2010 Current Population Survey), and information from knowledgeable industry observers that the average household has roughly 1.7 checking accounts. Also, from discussions with industry observers, we estimate that approximately 9.1 percent (18 million) of checking accounts are held by small businesses. The consumer accounts include individual and joint checking accounts. Checking accounts are the most commonly used form of depository accounts which also including savings and money-market accounts. We focus our discussion on checking accounts. Small business owners may sometimes use their personal checking account for their businesses or may have separate account in the name of the business; the 9.1 percent figure above refers to accounts in the name of the business.

management. A checking account is usually the first step toward establishing a credit history and being able to borrow money.

Most households and small businesses use these accounts to keep liquid assets that they use to pay for goods and services. Households typically deposit their paychecks, as well as other funds, into these accounts and small businesses deposit sales receipts, and other funds, into these accounts. Those funds may earn some interest, depending on the type of account and the amount of balances maintained. Individuals and small businesses can withdraw these funds through a variety of means to pay for goods and services.

Banks and credit unions provide many services to checking and other depository account holders. Account holders can usually obtain various depository services through bank branches, ATMs, online banking, and phone banking. Account holders can pay merchants using a variety of services provided by the depository account including checks, debit cards, prepaid cards, online bill payment, mobile payment, money orders, ACH, and wire transfers. Account holders can also put funds into the account through services, such as direct deposit for payroll, income tax refunds, and other private/public assistance benefits. Many of these services have become standard elements of checking accounts.

Banks and credit unions recover the cost of providing these services and earn profits through a variety of fees as well as by using checking account balances to make loans of various sorts. As with many multidimensional products bundles, banks and credit unions do not specifically charge for all services and they use higher margins on some features to offset low or negative margins on other features.[30] Banks and credit unions typically provide more services at no charge to customers who keep higher deposit balances (as the banks earn profits from those balances) or are likely to buy other complementary products that the bank offers (such as mortgages or insurance). Table 1 shows the checking accounts offered by Bank of America, which is the country's largest holder of depository accounts. It shows the main account offerings as of January 2011 and the associated fees.

[30] N.B. Murphy (1991), "The Impacts of the Use of Electronic Banking Services and Alternative Pricing of Services," *Financial Services Review*, 1:1, pp. 35-44, notes in particular that "...the pricing of checking services in many cases does not reflect the marginal costs of providing the service..."

Table 1 - Bank of America Basic Checking Account Features and Fees, February 2011			
Account Features, Rates, and Fees	**eBanking**	**MyAccess® Checking**	**Small Business Checking Bundle**
Opening deposit requirement	$25	$25	$100
Minimum balance requirement	$0	$0	$0
Monthly Service Charge	$8.95	$8.95	$16.00
Monthly Service Charge Waiver	Monthly service charge waived when: • Deposits and withdrawals are made electronically or at our ATMs • AND You choose online paperless statements through Online Banking	Monthly service charge waived when: • Make direct deposits each statement period • OR Maintain an average balance of $1,500	Monthly service charge waived if you do one of the following: • 1) Enroll in Business Fundamentals and make a monthly qualifying purchase with your Business Debit Card, 2) keep a $4,000 min daily balance, 3) keep a $10,000 avg monthly balance, 4) keep a $7,500 combined min daily balance of linked accounts, or 5) have a $15,000 combined min daily balance of linked account
Direct Deposit	x	x	x
Online Banking	x	x	x
Debit Card	x	x	x
Online Bill Pay	x	x	x
Fraud Protection	x	x	x
Free ATMs	x	x	x
Overdraft Items and NSF	$35	$35	$35
Extended Overdrawn Balance Charge	$35, each time the account is overdrawn for 5 or more consecutive business days	$35, each time the account is overdrawn for 5 or more consecutive business days	$35, each time the account is overdrawn for 5 or more consecutive business days
Keep the Change®	x	x	
Business Economy Checking			x
Trade stocks online	x	x	x
Check enclosure fee	N/A	$3/per statement	$3/per statement
Stop payment fee	$30 each request	$30 each request	$30 each request
Non-BofA ATM fee in the US	$2	$2	$2
Non-BofA ATM fee outside the US	$5	$5	$5

Source: www.bankofamerica.com

The checking account is only one element in the sets of products that banks and credit unions offer their retail and small business customers. They also offer mortgages, various other kinds of loans, insurance, brokerage services, and retirement accounts. All of these sources of revenues cover banks' fixed costs, including the costs of maintaining bank branches. Banks balance the revenues and costs of various retail banking services features to ensure that they are recovering their overall costs and make a return on their investments. They incur fixed costs of offering the bundle of products and services included in the checking account and have to recover these costs. Changes in the revenue available or costs incurred for one element of the retail banking relationship therefore have effects on the fees charged for other features and the willingness of a bank to offer various features. The decision by a bank to offer various checking account services and other retail banking services to retail customers depends on the cost of those features and the revenue obtained directly from the fees for those features or indirectly from the purchase of other products or services from the bank.[31]

C. Debit Cards

In the mid 1990s banks and credit unions started replacing at an increasingly rapid rate the ATM cards that they had issued their checking account holders to take cash from ATM machines with ATM/debit cards that enabled checking account holders also to use their cards to pay for goods and services. In increasing numbers, banks and credit unions issued cards that could be accepted by merchants that accepted the Visa or MasterCard brands; these latter cards are known as "signature" cards because they require signatures in roughly the same situations in which a credit card would require a signature. Visa and MasterCard had offered signature debit cards to issuers since the mid 1970s. However, these cards became popular among issuers primarily as a result of investments that the card networks made in popularizing debit cards among consumers and as a result of the revenues that the banks could realize from debit card interchange fees.[32] Banks and credit unions also increased their issuance of cards that could be

[31] JPMorgan Chase CEO, Jamie Dimon, explained this concept following the passage of the Dodd–Frank Wall Street Reform and Consumer Protection Act, "If you're a restaurant and you can't charge for the soda, you're going to charge more for the burger…Over time, it will all be repriced into the business." See "Banks Seek to Keep Profits as New Oversight Rules Loom," *The New York Times*, July 15, 2010.

[32] David S. Evans and Richard Schmalensee, *Paying with Plastic: The Digital Revolution in Buying and Borrowing*. Cambridge, MA: MIT, 2005, ch. 8.

accepted by merchants that had PIN pads and that accepted cards associated with one of the Electronic Funds Transfer (EFT) networks.

Consumers liked these cards and increasingly used them to make payments. Table 2 shows the growth of the number of transactions and the dollar volume of transactions on debit cards from 2000-2009.[33]

Table 2 - Debit Transactions and Dollar Volume 2000 - 2009

in Billions

Year	Transactions	Transaction Dollars
2000	8.4	$311.0
2001	10.3	$388.1
2002	12.7	$480.6
2003	14.8	$588.7
2004	17.6	$729.4
2005	21.6	$869.0
2006	26.3	$1,024.5
2007	28.3	$1,184.0
2008	32.2	$1,330.0
2009	36.6	$1,421.0

Sources: ATM & Debit News EFT Data Book, The Nilson Report.

According to data from the Board's Survey of Consumer Finances, the proportion of U.S. households using debit cards increased from 17.6 percent in 1995, to 47.0 percent in 2001, and to 67.3 percent in 2007 (the most recent year available).[34] The Survey of Consumer Payment

[33] We note that the 2009 transaction and transaction dollars figures reported by the Nilson Report are slightly different than the figures reported in The Proposed Rules (37.7 billion transactions and $1.45 trillion in value). We use figures reported by The Nilson Report for the purpose of calculating the growth of debit cards usage between 2000 and 2009 to maintain a consistent time series.

[34] Loretta J. Mester (2009), "Changes in the Use of Electronic Means of Payment: 1995-2007," *Business Review*, pp. 29-37.

Choice conducted by the Federal Reserve Bank of Boston found that 77.6 percent of consumers had debit cards in 2009.[35]

Consumers were able to increase their use of debit cards because merchants also embraced this new form of payment. Between 2005 and 2010 the number of merchant locations accepting Visa debit cards increased by 34 percent from 6.1 million to 8.2 million, and similarly, the number of merchant locations accepting MasterCard debit cards increased from 6.0 million to 8.2 million.[36]

Debit cards were heavily advertised as substitutes for writing checks. Many consumers in fact started using these cards instead of writing checks. Debit cards have become the most commonly used noncash method of payment according to Board data and appear to have driven the sharp decline of check use by consumers.[37]

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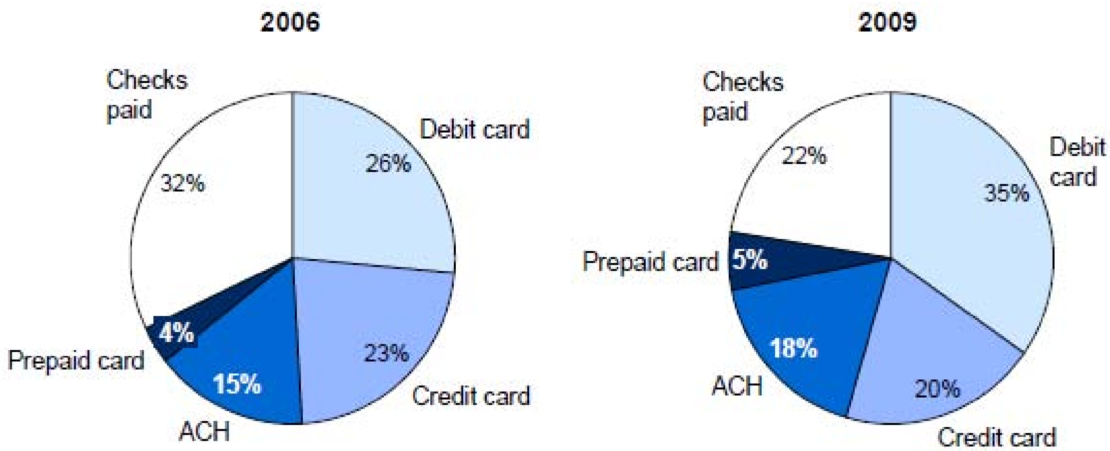
35 Schuh, Scott, "Basic Facts about U.S. Consumer Payment Choice," Presented at the MPD Payments Innovation Institute, Harvard Faculty Club, Cambridge, MA, November 5, 2010 ("Schuh November 2010 Presentation").

36 The Nilson Report. Prior to the Wal-Mart settlement in May 2003 merchants that agreed to accept MasterCard and Visa cards had to take both credit and debit cards. Since then, merchants could choose to accept credit cards without also accepting debit cards. It is our understanding from conversations with knowledgeable industry observers that very few merchants have done so.

37 "The 2010 Federal Reserve Payments Study: Noncash Payment Trends in the United States: 2006 – 2009," The Federal Reserve System, December 2010.

Figure 1 - Distribution of the Number of Noncash Payments



Debit cards have been used more heavily in places such as supermarkets and drug stores where consumers had previously paid with cash or check rather than credit cards.[38]

Although debit cards were introduced as a substitute for writing checks, it was possible for the card networks and financial institutions to provide many other features and services for debit cards that were not available for checks. Table 4 presents a comparison between the features of checks and debit cards at typical financial institutions. From the standpoint of cardholders and merchants checks and debit cards are very different products.

[38] Kevin Foster, Erik Meijer, Scott Schuh, and Michael A. Zabek (2010), "The 2008 Survey of Consumer Payment Choice," Federal Reserve Bank of Boston, Public Policy Discussion Papers, at table 23.

Table 4 - Comparison of Checking and Debit Cards		
Feature/Function	**Check**	**Debit Card**
Payment Authorization	• No real-time authorization capability • Use of third-party verification services[39] costs $0.35 - $0.50 per transaction plus monthly service fees of $12 - $20[40]	• Real-time account authorization of funds availability
Payment Clearing & Settlement	• Checks processed manually (deposited at a bank) take 1-3 business days to clear, after deposited • Checks converted to ACH transactions (BOC or POP) take 1-2 business days to clear	• 0-1 business days to clear signature debit transaction • Same day clearing and settlement of PIN debit transactions
Payment Guarantee	• No built-in payment guarantee • Third party guarantee services cost +/- 1.85 percent [41] • Guarantee service provider determines what will be declined at the POS	• All authorized transactions are guaranteed in the sense that the "check won't bounce for nonpayment"
Payment Acceptance	• Generally limited to face-to-face transactions.	• Face-to-face transactions. • Ability to make payments online, over the phone, and at unattended terminals such as gas stations and parking meters. • Ability to pay for taxis and public transportation in many major cities.
"Bounced checks"	• Merchant will be notified about insufficient funds 1-2 days after a check "bounces" • Merchant has to handle collections if they haven't paid someone to do that	• All insufficient funds transactions are handled automatically, without need for merchant to do anything; under recent Reg E changes, both PIN and signature transactions will be declined at the POS if the consumer has not "opted-in" to NSF/OD protection • If the consumer has opted in, any NSF/OD situation will be resolved by the issuing bank, and the merchant will be paid

[39] Verification services do not provide real-time account authorization, but rather provide a review of negative file information and provide an algorithmic screen of likelihood of a check clearing successfully.

[40] First Data Independent Sales Website estimate of industry prices (http://www.instamerchant.com/check-guarantee.html). First Data owns the largest check verification and guarantee service, TeleCheck.

[41] Ibid.

		regardless
Chargebacks	• No built-in process for disputing transactions • Both consumers and merchants have to handle disputes on their own	• Automated processes and rules for handling disputes, that minimize consumer and merchant effort and losses
Fraud/Risk Management	• No built-in capabilities for managing transaction risk • Fraud issues must be addressed individually by merchants and consumers	• Range of system-wide (Visa and MasterCard) and bank-specific tools for managing risk and fraud • Zero Liability for consumers who report fraud within specified time frame
Cost of checks	• Consumers (even with free accounts) typically pay \$6 -\$10 plus shipping and handling[42]	• No cost for initial debit card issuance • No cost for card reissuance
Record keeping	• Consumers must manage & reconcile all records for check writing • Carbon check "copies" in checkbooks typically increase cost of checks • Check number only on statements	• Receipt with every transaction • Merchant name and phone number on statements

As a result of these differences consumers have come to perceive checks and debit cards as different products. Table 5 summarizes the responses of consumers to various characteristics that consumers desire in a payment product. Almost half of consumers report that debit cards are very easy to use, while less than 15 percent of consumers report that for checks. More than one-third of consumers say that debit cards are very fast, while less than 7 percent say that for checks. Consumers also appear to value debit cards because they are accepted at more locations than checks. Almost half of consumers report that debit cards are almost always accepted, while less than one-fifth report that for checks.

[42] Cost of checks via Walmartchecks.com: $5.96 + shipping and handling. Bank websites cite check ordering costs of $8-$10.

Table 5 - 2009 Trends in Consumer Payment Preferences		
Characteristic	**Debit Card**	**Check**
Very Easy to Use	48.4%	14.5%
Very Fast	34.6%	6.7%
Almost Always Accepted	47.9%	19.3%
Very Low Cost	33.2%	22.8%
Very High Control	23.0%	11.4%

Source: Kevin Foster, Erik Meijer, Scott Schuh, and Michael A. Zabek, "The 2008 Survey of Consumer Payment Choice," Federal Reserve Bank of Boston, April 2010.

Banks and credit unions would have several responses available to them in the event that the Board implemented the proposed reductions in interchange fees and thereby sharply reduced the profitability of debit cards. First, banks and credit unions could attempt to impose fees for debit card transactions themselves. Debit card issuers may have some difficulty doing that because these consumers have cash, checks, and credit cards available as payment substitutes. Second, the debit card issuers and the networks that provide these products to the banks and credit unions could eliminate some features on debit cards such as covering fraud costs for consumers or providing payment guarantees to merchants. Banks and credit unions could also impose fees for some ancillary services provided by debit cards such as cash back at the point of sale. Third, banks and credit unions could attempt to impose fees for products and services that are complementary to debit cards. For example, it makes business sense to provide free checking to consumers when banks and credit unions obtain revenue from merchants when customers transfer payment to the merchant using their debit card; it would not likely make sense without the revenue stream from merchants. In the next section, we will discuss in more detail the likely impact of the proposed debit card fee reductions on the supply of debit card services to consumers and merchants.

D. "Pass-Through" and Its Determinants

The remainder of this paper examines the impact of the proposed interchange fee regulations on consumers and small businesses. To help answer this question we will be relying on what is known as the economics of "pass-through" which assesses the extent to which changes in costs lead firms and industries to change the prices they charge customers. There is a theoretical and empirical literature in economics that addresses this issue. It is useful to summarize some of the key findings here and provide an overview of the analysis in the next two sections.[43]

- First, when firms in an industry face an increase in variable costs they will fully pass on that increase in variable costs to consumers in the form of higher prices if the industry is highly competitive. For example, if the government imposed a $1 tax per unit of output, then we would expect that firms in a highly competitive industry would increase prices by about $1.[44] Competitive firms have to pass on cost decreases because their competitors or new entrants will lower prices to increase sales, and firms have to pass on cost increases because they would not be able to earn a competitive return otherwise.

- Second, when industries are not intensely competitive economic theory does not provide much guidance on the extent to which an increase in cost will be passed on consumers in the form of higher prices. Several empirical studies have found that in the particular situations examined firms eventually pass through between 40 and 70 percent of cost increases in the form of higher prices. The likely rate of pass through depends very much on the specifics of the business and the industry.

- Third, changes in costs are often not passed on for some time because firms tend not to change prices very often for a variety of reasons including the fact that it is expensive and time consuming to change prices. Therefore, prices tend to be sticky over a period of about a year on average. Price changes are especially unlikely when the optimal changes in prices are small, so the gains from changing prices are small relative to the (menu) costs of implementing the changes.

These principles are useful for analyzing the effect of interchange fees. In the next section we examine the effect of the reduction in interchange fee revenues on banks and credit

[43] These findings are discussed and supported in more detail in Section V.

[44] In formal economic terms this will result if the industry is perfectly competitive and faces constant unit costs of production.

unions. From the standpoint of economic theory the price caps on debit card interchange fee revenues have the same impact as an equivalent increase in cost to the depository account. We conclude that bank prices will not be sticky because the reductions in revenues incurred by the banks and credit unions would be large on a per account basis ($56-$64 per consumer account and $79-$92 per small business account per year) and as a percentage of profit and would therefore overwhelm the menu costs of changing prices. We show that most retail customers are served by a highly competitive retail banking industry and that there is therefore a presumption that banks and credit unions would pass on most of the revenue losses in the form of higher fees to their retail banking customers. We support this theoretical conclusion with evidence that during the 2000s banks appear to have reduced the prices of retail banking services to consumers (or increased the value of those services) at least in part as a result of increasing debit card revenues and net service fees. We demonstrate that banks have quickly raised rates in response to cost increases caused by Regulation E's limits on overdraft fees. We show that banks have already announced a number of increases in fees and reductions in service to recover the anticipated reduction in debit card interchange fee revenues.

Many merchants that accept debit cards for payment would have lower costs as a consequence of the proposed regulations. However, the reduction in costs for these retailers amounts to roughly 10 cents for a typical $59.89 transaction. The empirical literature on price stickiness strongly suggests that all else equal merchants would not reduce prices for many months and perhaps more than a year in response to such small cost decreases. Prices would be more likely to change in the longer term and then some pass through will occur. Moreover, several of the retail categories that account for a large portion of the debit card interchange fee reductions are not intensely competitive. A number of the very large retailers that would receive a significant portion of the savings also operate in categories that are not intensely competitive. We would therefore expect even after prices become flexible that retailers that account for a significant portion of debit card interchange fees would only pass on a portion of their savings in the form of lower prices.

III. Estimated Impact of the Board's Debit Card Interchange Fee Proposals on Bank Revenue and Profits

As estimated above, the Board's proposals would reduce annual debit card interchange fee revenues earned by banks and credit unions by between $11.4 and $13.2 billion per year based on 2009 debit card interchange fees. Using our estimate of 198 million checking accounts in 2009,[45] the interchange fee reduction would decrease average revenue for each of those accounts, all else equal, by between $58 and $67. Debit card interchange fee revenues accounted for between one-quarter and one-third of bank DDA-specific revenues in 2008.[46] DDA-specific revenues accounted for about 30-40 percent of retail banking revenues in 2008.[47] Based on these data the proposed reductions in debit card interchange fees would, in the absence of efforts to mitigate the losses, reduce DDA-specific revenues by between 21 and 24 percent and would reduce the revenues from retail banking by between 7 and 9 percent.[48]

To get a rough idea of how these losses of revenue would affect bank profitability in the absence of efforts to mitigate them, we have calculated total income of banks and credit unions

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[45] See footnote 29.

[46] These are rough estimates based on discussions with knowledgeable industry observers.

[47] These are rough estimates based on discussions with knowledgeable industry observers.

[48] The estimated revenue reductions are based on a 73 percent and 84 percent reduction of interchange fees and the assumption that interchange fee revenues are 29 percent of DDA revenues (29 percent is the midpoint between 25 percent and 33 percent—the range of estimates reported above) and DDA revenue is 35 percent of total retail banking revenues (35 percent is the midpoint between the range 30 percent and 40 percent reported above).

in 2007; we used 2007 since profits declined dramatically in 2008-2009 as a result of the financial crisis. The proposed reduction in debit card interchange fees amounts to approximately 9.4 percent-10.8 percent of the total net income of banks and credit unions in 2007.[49] Banks and credit unions do not report publicly the total income due to retail banking or depository accounts. The proposed debit card interchange fee reductions would be a much larger fraction of retail banking or depository banking profitability.

The Board's proposed reductions in debit card interchange fee revenues would therefore lead to significant financial consequences for banks and credit unions in the absence of efforts to mitigate their effects. To assess the impact of these reductions on the prices of retail banking services to individuals and small businesses we first examine the state of competition in this business.

A. Competition in Retail Banking[50]

There were 7,760 commercial banks and 7,402 credit unions in the United States as of September 30, 2010.[51] As a result of the end of interstate banking and branch banking laws, banks are now legally able to expand and compete anywhere in the country. When it comes to depository and other retail banking services, the day-to-day competition among banks and credit unions takes place in local areas. People still want to be able to go to a local branch sometimes and use the ATMs operated by their bank or credit union. A large number of banks and credit unions compete for customer business in local areas most parts of the country. To take one

[49] Net income data is based on the FDIC and NCUA Call Reports. Estimate of 2007 interchange fees is based on the effective interchange fee rate of 1.14 percent for 2009 referenced in The Proposed Rules, at p. 81725 and the total debit transaction volume reported by The Nilson Report.

[50] We understand that the Board staff is very familiar with the material in this section but provide it for the sake of completeness and for readers who may not be familiar with it.

[51] FDIC "Statistics at a Glance", September 30, 2010. NCUA.

example, there are 83 banks and credit unions in the Washington, D.C. metropolitan area.[52] In the Georgetown section of Washington, D.C. alone, people could walk into branches for 13 different banks and set up a checking account.[53]

The Board, U.S. Department of Justice, and the courts have found that for assessing the state of competition, retail banking is a relevant product market and that metropolitan areas are the relevant geographic markets for retail banking.[54] These market definitions are generally considered to understate the degree of competition. On the product side, government authorities recognize that customers can also use money-market funds and other nationally marketed services for managing liquid funds.[55] On the geographic side the government authorities recognize that entry into local geographic markets is often relatively easy and that the ability of national banks to set up branches locally increases competitive pressure.

A commonly used statistical measure of the intensity of competition is the Herfindahl-Hirschman Index ("HHI"), which is used by the Board to assess bank competition for merger analysis. The U.S. Department of Justice and the Federal Trade Commission also use the HHI for screening mergers. The HHI is calculated by, first, squaring the market share of each firm, and second, summing the squared shares together. It ranges from a low of 0 for a perfectly competitive market to a high of 10,000 for a monopoly market. Markets are more concentrated

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[52] FDIC and NCUA.

[53] FDIC.

[54] "Statement by the Board of Governors of the Federal Reserve System Regarding the Application and Notices by Wells Fargo & Company to Acquire Wachovia Corporation and Wachovia's Subsidiary Banks and Nonbanking Companies," Federal Reserve System, October 12, 2008, at p. 10 ("The Board's Statement on Wells Fargo and Wachovia").

[55] The Board's Statement on Wells Fargo and Wachovia at footnote 30. Robert E. Litan, "Antitrust Assessment of Bank Mergers," Speech, April 6, 1994.

when a few businesses have a large share even if there are many competitors. Antitrust authorities consider markets with HHIs below 1,500 to be competitive and generally do not review mergers that do not raise HHI above that level. When the HHI is expected to be above 1,500 after the merger, mergers are reviewed if there is a significant change in concentration. For bank mergers, a higher threshold of 1,800 is used in recognition of competition from limited-purpose lenders and other non-depository financial institutions that are not included in the banking HHI calculations.[56]

Table 6 reports the HHIs for retail banking in 2009 for the 25 largest metropolitan areas in terms of population.[57] Six of the 25 largest metropolitan areas including Los Angeles, Chicago, and Washington DC had HHIs below 1,000 in 2010; two other metropolitan including Boston and Denver had HHIs slightly above 1,000 (below 1,100). Eighteen of the 25 largest metropolitan areas including New York City had HHIs below 1,500. Twenty-one of the 25 largest metropolitan areas had HHIs below 1,800.[58] The median HHI for the 25 was 1,270.

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[56] The Board's Statement on Wells Fargo and Wachovia at footnote 30. The horizontal merger guidelines were revised in August 2010. Previously, the guidelines indicated that mergers were not generally challenged unless the post-merger HHI was between 1,000 and 1,800 with an increase in the HHI of more than 100 or if the post-merger HHI was above 1,800 with an increase in the HHI of more than 50. See "Horizontal Merger Guidelines," U.S. Department of Justice and the Federal Trade Commission, issued April 2, 1992 and revised April 8, 1997. Available at http://www.justice.gov/atr/public/guidelines/horiz_book/ hmg1.html. Bank mergers are reviewed under a set of guidelines specific to the industry. Bank mergers are not generally challenged unless the post-merger HHI would be above 1,800 and the HHI would increase by more than 200. That is, there are higher safe harbor thresholds for the post-merger level of, and increase in, the HHI. "Bank Merger Competitive Review -- Introduction and Overview," Department of Justice, 1995. Available at http://www.justice.gov/atr/public/guidelines/6472.htm. With the August 2010 revisions to the general (non-bank) merger guidelines, the thresholds were raised for non-bank mergers. Mergers are not generally challenged unless the post-merger HHI is above 1,500 with an increase in the HHI of more than 100. The thresholds under the existing bank merger guidelines remain in effect and are still more lenient than the revised general guidelines. See "Federal Trade Commission and U.S. Department of Justice Issue Revised Horizontal Merger Guidelines," Federal Trade Commission, August 19, 2010. Available at http://www.ftc.gov/opa/2010/08/hmg.shtm.

[57] "FDIC Quarterly," FDIC, 2010, 4:4, at p. 46 ("FDIC Quarterly 2010-4").

[58] The four above 1,800 were Pittsburgh, San Francisco, Minneapolis, and Cincinnati.

Table 6 - HHI Measurement for the Top 25 Metropolitan Statistical Areas		
Metropolitan Staticital Area	**HHI**	**Population**
Pittsburgh, PA	2,466	2.4
San Francisco-Oakland-Fremont, CA	2,323	4.4
Minneapolis-St. Paul-Bloomington, MN-WI	2,259	3.3
Cincinnati-Middletown, OH-KY-IN	2,028	2.2
Phoenix-Mesa-Scottsdale, AZ	1,674	4.4
Houston-Sugar Land-Baytown, TX	1,551	6.0
Dallas-Fort Worth-Arlington, TX	1,513	6.6
Sacramento--Arden-Arcade--Roseville, CA	1,306	2.2
Portland-Vancouver-Beaverton, OR-WA	1,293	2.3
Baltimore-Towson, MD	1,281	2.7
Detroit-Warren-Livonia, MI	1,281	4.4
New York-Northern New Jersey-Long Island, NY-NJ-PA	1,276	19.2
San Diego-Carlsbad-San Marcos, CA	1,270	3.1
Atlanta-Sandy Springs-Marietta, GA	1,248	5.6
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	1,224	6.0
Seattle-Tacoma-Bellevue, WA	1,151	3.5
Riverside-San Bernardino-Ontario, CA	1,116	4.2
Boston-Cambridge-Quincy, MA-NH	1,071	4.6
Denver-Aurora, CO	1,016	2.6
Los Angeles-Long Beach-Santa Ana, CA	962	13.0
Washington-Arlington-Alexandria, DC-VA-MD-WV	959	5.5
Tampa-St. Petersburg-Clearwater, FL	958	2.8
Miami-Fort Lauderdale-Pompano Beach, FL	719	5.5
Chicago-Naperville-Joliet, IL-IN-WI	635	9.7
St. Louis, MO-IL	632	2.9

Source: FDIC Quarterly 2010-4, at p. 46.

Despite the mergers and acquisitions that have led to significant national consolidation of the banking industry "urban market concentration has remained virtually unchanged."[59] Concentration has remained low in banking markets in part because Federal deposit cap limitations prohibit any national bank from obtaining more than 10 percent of total deposits via

[59] Robin Prager, Antitrust in the U.S. Banking Industry (Presentation), Board of Governors of the Federal Reserve System November 30, 2007. Available at www.fdic.gov/bank/analytical/cfr/Prager.ppt.

acquisition[60] and because the Board has required divestitures to ensure continuing competition in retail banking in local markets.[61]

The retail banking industry is even more competitive than these concentration metrics suggest. As we noted earlier, it has become easier over the last two decades for banks to enter local markets.[62] A 2007 study by economists Berger, Dick, Goldberg and White found evidence that technological progress enabled large multi-geography banks to compete more effectively in local markets by leveraging scale from larger operations, while also creating greater utility for consumers through extensive branch and ATM networks.[63] This competition is seen in the growth in the number of branches of banks. Between June 2004 and June 2009 the number of branches for 113 banks with more than $10 billion in assets increased by more than 7,000 (a compound annual growth rate of 3.5 percent over the five years).[64]

While banks differentiate from each other based on their pricing of various element of the retail banking relationship, there are significant similarities the offerings of major banks. Table 7 shows the basic free-checking account offered by 4 banks in the Miami metropolitan area. Other metropolitan areas would show similar results.

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[60] When the results of a proposed merger or acquisition does approach the deposit cap limits, (e.g. Bank of America/Fleet and Wells/Wachovia), banks typically will make commitments to either sell off component parts of the business or "run off" deposits in order to stay under the 10 percent cap. Deposit cap requirements do not apply to organic deposit growth.

[61] For example, see The Board's Statement on Wells Fargo and Wachovia.

[62] Ronald L. Spieker, "Future of Banking Study, Bank Branch Growth Has Been Steady- Will It Continue?" FDIC, August 2008.

[63] Allen N. Berger, Astrid A. Dick, Lawrence G. Goldberg, Lawrence J. White (2007), "Competition from Large, Multimarket Firms and the Performance of Small, Single-Market Firms: Evidence from the Banking Industry," *Journal of Money, Credit and Banking*, 39:2-3, pp. 331-68.

[64] FDIC Quarterly 2010-4, at p. 43.

Table 7 - Checking Account Features Offered by Selected Banks in Miami, Florida				
Feature	**B of A**	**JPM Chase**	**Regions**	**Wells Fargo**
Min. Opening Balance	None	$25.00	$100.00	$50.00
Minimum Balance	$0.00	$0.00	$0.00	$0.00
Free ATMs	Yes	Yes	Yes	Yes
ATM Rebates	No	No	No	No
Check Card	Visa	Visa	Visa	Visa
Telephone Banking	Yes	Yes	Yes	Yes
Online Banking	Yes	Yes	Yes	Yes
Overdraft Protection	Yes	Yes	Yes	Yes
Monthly Fee	$8.95, waived with a qualifying monthly direct deposit or an avg daily balance of $1,500 or more is kept.	$6.00, waived with a qualifying monthly direct deposit or at least 5 debit card purchases in a month.	$8.00, waived with a qualifying direct deposit, or 15 electronic trans per month, or a $1000 avg monthly balance.	$5.00, waived with a qualifying monthly direct deposit or an avg daily balance of $1,500 or more is kept.
Fraud Protection	Yes	Yes	Yes	Yes
Direct Deposit	Yes	Yes	Yes	Yes
Number Branches	5,700	3,108	2,518	2,087
Interest	0%	0%	0.01%	0%
FDIC protection	Yes	Yes	Yes	Yes

Source: www.checkingoptions.com, www.bankofamerica.com, www.chase.com, www.regions.com, www.wellsfargo.com

One of the results of this competition is that retail-banking customers have high churn rates. The American Bankers Association estimates that the average US bank experiences portfolio attrition rates of between 12 percent and 15 percent[65] while Bank Marketing News estimates the average rate to be about 12 percent.[66] These attrition rates typically are as high as 25-30 percent for customers in their first year of a relationship with a new bank.[67]

Given this degree of competition we would expect that banks and credit unions would tend to pass on cost savings to customers fully in the long term. The reverse is also true. Because competition reduces profitability we would expect that banks would pass on cost increases to customers fully in the long term. In practice, in the short term they would likely pass on less than

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[65] American Bankers Association, cited in "Start Banking on your current customers," Stellar Strategic Group, http://www.stellarstrategic.com/pdf/Relationship_Marketing.pdf ("ABA Stellar Strategic Group").

[66] "Deposit Growth Strategies in a Difficult Market," *Bank Marketing News*, January 29, 2009.

[67] ABA Stellar Strategic Group.

100 percent of significant cost changes because of the time it takes to revise pricing and product offerings and do market tests. The next part of this section examines the evidence on the extent to which banks increase or decrease prices in response to significant changes in costs.[68]

B. The Pass-Through of Benefits and Costs to Consumers in Retail Banking

1. Improvements in the Value of Retail Banking Services in the 2000s

The last decade saw two important and related increases in revenue streams for depository accounts. First, banks and credit unions issued debit cards to more depository customers, and bank customers used these cards to make more transactions. As a result the average debit card interchange fee revenues for depository accounts increased considerably. Second, banks and credit unions increased revenues from fees charged to consumers when they incurred overdrafts, which became more common with the use of debit cards.

These increases in revenue were significant factors behind the expansion of retail banking services.[69] During the 2000s, consumers and small businesses received an increasing number of benefits from banks and credit unions through the expansion of services, many of which came without charges, and through reductions in fees.

- **Free checking**. The percentage of accounts at large banks that qualified for free checking[70] increased from 7.5 percent in 2001 to 76 percent in 2009.[71] That expansion

[68] The increase in interchange fee revenues from merchants can, for the pass-through discussion below, be treated equivalently as a reduction in cost.

[69] We have not conducted any empirical study that would demonstrate a causal relationship between these expansions in benefits and the expansion of revenues. However, the linkage is apparent from the basic economics of retail banking and conversations with executives in the banking industry confirm that linkage. At the same time we are not suggesting that all of the expansions in services and reductions in fees are related to debit cards. Banks have expanded ATMs and online banking in part to reduce to cost of having to maintain expensive branches and employer tellers.

[70] Free checking in this context means the percentage of accounts where there were no monthly service fees, or it was possible to waive monthly maintenance fees via a variety of methods, including minimum balances, direct deposit activity or number of debit card transactions per month.

resulted in part from a significant decline in the average minimum balance required to qualify for free checking from $440 in 2001 to $186 in 2009 (for no interest checking accounts).

- **Expansion of Consumer Access - ATMs and branches**. Over the decade banks made it easier to obtain money from accounts by expanding their deployment of ATMs and by opening more branches. Many banks also significantly expanded their operating hours both during evening and weekends to make banking more convenient for busy Americans. Despite lower revenues per ATM, banks continued to deploy ATMs throughout the 2000s as a service to drive competitive positioning with consumers. Total US ATM machine deployment has grown from 227,000 in 1999 to a total of 425,010 ATMs in 2008, driven heavily by bank ATM deployment by national players including Bank of America, JPMorgan Chase and Wells Fargo.[72] Similarly, bank branch coverage has increased steadily over time, reaching over 98,000 branches by 2010.[73]

- **Online banking**. At the beginning of the decade most consumers did not have access to online banking, and if they did they had to pay extra for it. Over the decade banks invested in developing and improving online banking so that their customers could do most of their banking online. Forrester Research estimates that by 2011 76 percent of household will be banking online.[74] Virtually all banks now provide online banking to virtually all customers for free.[75]

- **Online bill payment**. At the beginning of the decade banks charged customers for online bill payment. By 2004 approximately two-thirds of the largest banks provided online bill payment as a free service to their retail deposit customers.[76] By the end of the decade free online bill payment was ubiquitous.

- **Mobile banking.** Mobile banking was introduced in 2007, and today serves 12 million consumers, a number which is expected to increase to 45 million consumers by 2014.[77] Consumers have also received this service for free.

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[71] Bankrate, Checking Studies, 2001 – 2010, www.bankrate.com.

[72] Tyler Metzer, "ATM Use in the United States," CreditCards.com, March 2, 2010. Statistics referenced sources including ABA, ATM & Debit News, Dove Consulting and American Banker.

[73] SNL Financial estimate of bank branches, March 2010.

[74] "US Online Banking: Five Year Forecast," Forester Research, March 19, 2007.

[75] Banks have an incentive to offer this service for free in part because it reduces the cost of branches and tellers.

[76] "Pricing – The 'Fee vs. Free' Controversy," *Online Banking Report,* August 25, 2004. The article referenced a Fall 2003 Tower Group Report.

[77] Frost and Sullivan, cited by Constance Gustke "5 Reasons to Use Mobile Banking," Bankrate.com, March 10, 2010.

The most significant benefit consumers received over the course of the 2000s was free checking, which reduced the barrier to getting basic retail banking services. Figure 1 shows the increase in free checking over the decade along with the increase in debit-card transactions.[78] Debit card interchange fees would have followed the same trend over this period since the change in the total fees was attributable mainly to the increase in the number of transactions rather than changes in debit card interchange fee rates.[79] We are not suggesting that we have demonstrated a causal relationship between these fees and the rise of free checking and, in fact, a number of other factors including overdraft fees were likely associated with the rise of free checking. Nevertheless, both the economics of competition in retail banking and anecdotal evidence indicates that debit card interchange fees were a major factor in the growth of free checking.

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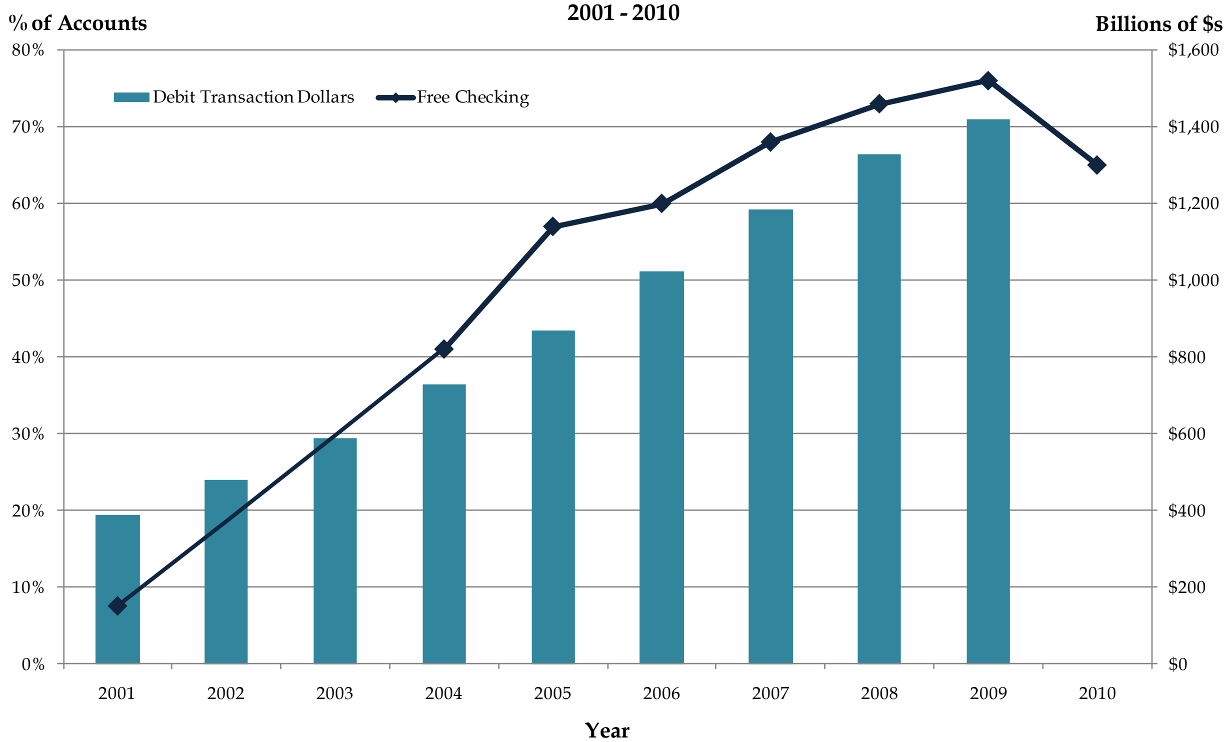
[78] The time series on the percentage of free checking accounts is based on Bankrate's survey of checking accounts. The methodology of Bankrate's survey is not reported in detail. While we cannot verify that the estimates are fully comparable across years, the significant trend toward free checking in the 2000s is consistent with our understanding from our conversations with industry participants.

[79] See Robin A. Prager, Mark D. Manuszak, Elizabeth K. Kiser, and Ron Borzekowski (2009), "Interchange Fees and Payment Card Networks: Economics, Industry Developments, and Policy Issues," *Finance and Economics Discussion Series*, Board of Governors of the Federal Reserve System, 2009-03, at figure 3 for evidence on the change in debit card interchange fees over this period of time.

Figure 1
Percentage of Checking Accounts with No Monthly Service Charge (Free Checking) and Total Debit Transaction Dollars
2001 - 2010



Sources: BankRate.com, ATM & Debit News EFT Data Book, The Nilson Report.

One of the most significant additional benefits that consumers and small businesses received with their checking accounts was a debit card that makes it more convenient to pay for things with funds from their accounts as well as to obtain cash. During the 2000s, banks reduced the cost of using debit cards, introduced rewards for using these cards, and increased the services that customers obtained with these cards.

- **Debit card fees**. During the 2000s most banks eliminated fees for using debit cards. In the early 2000s many banks charged fees to some or all of their customers when they used PIN debit to make purchases, with fees ranging from $0.25 - $1.00. Some banks also charged annual fees for debit cards. By 2007, almost all large banks had eliminated these fees.[80] In a 2007 Bankrate survey, only 7 of the top 100 depository institutions had fees for debit usage.[81]

[80] Ellen Cannon, "Analysis: Check card fees gone," Check Card Survey 2007, Bankrate, 2007.

[81] Ibid.

- **Debit card rewards.** Few banks offered rewards for using debit cards at the beginning of the decade. By 2009 about two-thirds of debit cards had a reward program that provided a variety of benefits,[82] and approximately 45 percent of consumers were aware of these programs.[83] Debit card rewards participants receive points redeemable for airline miles, merchandise, charitable contributions, and cash back. Many banks also offer reward programs that provide incentives and bank matches for savings, such as Bank of America's Keep the Change program.

- **Cash back at the Point of Sale**. Over the decade banks increasingly made it possible for debit card users to obtain cash back at the point of sale. Consumers can usually receive cash back for free using their debit card at many merchant locations including supermarkets and drug stores; in many locations they would have to pay foreign ATM fees of $1.50 - $5.00 per transaction.

- **Fraud and Liability Protection**. As consumers and small businesses switched from making purchases or paying bills with debit cards rather than checks over the 2000s they obtained increasing fraud and liability protection that was of considerable value to them. Because of real-time authorization and many sophisticated card security and risk management features, the use of debit cards is subject to very low rates of fraud compared with checks. Federal Law sets the maximum consumer fraud liability at $50 as long as the fraud is reported in a timely manner, but most banks have chosen to limit consumer liability to zero in most instances. Consumers were protected from $788 million in debit card fraud losses in 2008.[84]

During the 2000s total debit card interchange fees increased dramatically for banks and credit unions. These additional revenues from checking account customers led these banks and credit unions to compete for new checking account customers and to keep their existing customers from leaving for other financial institutions. The fee revenues, together with the forces of competition, led banks and credit unions to provide a number benefits to debit card users in particular and checking account customers generally. The loss of these fees and the same forces of competition would lead banks and credit unions to withdraw or curtail these benefits.

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[82] 2009 Debit Card Rewards – Consumer Insights," Consumer Loyalty Study, First Data, April 2009.

[83] Ibid.

[84] "2009 Deposit Account Fraud Survey Report," American Bankers Association, November 2009. Check fraud numbers for the same period rose to $1.024 billion, despite declines in check usage.

2. Bank Response to Regulation E Changes

Recent changes in Regulation E provide information on how banks respond to significant reductions in revenues and how quickly they do so. As mentioned, during the 2000s, banks earned increased net service fees (“NSF”) in part from overdraft fees (“OD”). Concern over these fees led the Board, along with the Office of Thrift Supervision and the National Credit Union Administration, to exercise their authority under the Federal Trade Commission Act to make changes to Regulation DD that changed notification and opt-out requirements around NSF/OD fees. The final rules, which were announced in November 2009, were made to Regulation E, which implements the EFTA,[85] and came into effect on July 1, 2010. These regulations required banks to provide notice to consumers about NSF/OD fees, requiring them to “opt-in” in order for the bank to assess NSF/OD charges for ATM and debit transactions. Consumers who do not opt-in have their transactions that are over the limit declined. Although this change only applied to ATM and debit transactions, it had a significant impact on checking account fee revenue, as approximately 30-50 percent of NSF/ODs are associated with debit transactions.[86]

Starting within days after the new rules went into effect, banks began to announce changes to address the expected lost revenues by reducing the availability of free checking, raising other fees to recover the lost revenue and eliminating services.[87] By the fall of 2010, just

[85] Federal Reserve System 12 CFR Part 205 [Regulation E: Docket No. R-1343]. The official staff commentary 12 CFR part 205 (Supp. I) interprets the requirements of Regulation E to facilitate compliance and provides protection from liability under Sections 915 and 916 of the Electronic Fund Transfer Act for financial institutions and other persons subject to the Act who act in conformity with the Board’s official interpretations. 15 U.S.C. 1693m(d)(1). The commentary is updated periodically to address significant questions that arise.

[86] Based on discussions with knowledgeable industry observers.

[87] We are not suggesting that these changes were entirely the result of the new Regulation E rules. Around this time banks were also responding to pressures from the financial crisis.

a few months after the changes went into effect, most major banks had made significant changes. The percentage of accounts with free checking dropped 11 percentage points (roughly 20 million accounts) from 76 percent in 2009 to 65 percent in 2010. Table 8 summarizes changes in depository account offerings for a selection of banks from July 2010-December 31, 2010 which were largely driven, according to analysts and banks, by the Regulation E changes.

Table 8 - Post Regulation E Checking Account Feature Changes

Date	Financial Institution	Checking Account Fees Changes	Source
July 2010	Bank of America	Announced no more free checking for "basic accounts," $8.95/mo for teller access and paper statements. The fee is waived if customers make direct deposits in each period or maintain an average balance of $1,500. eBanking accounts are free.	Reuters News
July 2010	Wells Fargo	Eliminated free checking for new bank customers, introduced a $5 monthly fee on its most basic account. Fees are waived if a direct deposit of $250 or more is made or an average balance of $1,500 is kept.	Reuters News
September 2010	Citibank	Announced an $8/mo service fee. Customers must perform a combination of transactions to avoid service fees (direct deposits, any debit card purchase, bill payments, auto deductions, ACH payments, checks paid, cash withdrawals at any ATM)	Dow Jones Business News
December 2010	JPMorgan Chase	Basic account has a $6/mo fee waived if a direct deposit of $500 or more is made or 5 or more debit card purchases are made. "Chase Free Extra Checking" will be renamed "Chase Total Checking." with a $12 fee which will be waived with 1.) direct deposit of $500 or more, 2.) by keeping a daily balance of $1,500 or more, or 3.) keeping an avg balance of $5,000 or more in a combination of accounts at Chase.	The Record

The Regulation E experience shows that banks respond swiftly to significant costs increases or revenue reductions.[88]

C. Anticipated Reaction of Banks and Credit Unions to Reductions of Debit Interchange Fees

As shown above, the reductions in debit card interchange fees for banks and credit unions under the Board's proposals are large relative to depository account revenues and retail bank customer revenues. Given the highly competitive nature of the banking industry and the historical evidence presented above, we would expect that banks and credit unions would pass a significant portion of these costs on to retail banking customers in the form of higher fees or reduced services. As with the Regulation E changes, the change in fees and services would be expected to happen quickly, especially given the size of the impact. Over time we expect that banks and credit unions would reduce investment in various deposit-related services that benefit retail bank customers, since maintaining and attracting those customers would be less profitable.
[89]

[88] To date we have been unable to find reliable, quantitative data to assess how much the banks and credit unions lost as a result of the Regulation E changes or how much of these losses were passed on to consumers in the former of higher fees or reduced services. Part of the complexity with the recent Regulation E changes is that banks were forced to eliminate a consumer service (and its associated costs) unless consumers opted in for the NSF/OD service. An unexpectedly large percentage of consumers chose to opt in, and many more have chosen to opt-in over time, making the determination of losses difficult.

[89] The Reserve Bank of Australia reduced credit card interchange fees November 2003. See Howard Chang, David S. Evans, and Daniel D. Garcia Swartz (2005), "The Effect of Regulatory Intervention in Two-Sided Markets: An Assessment of Interchange-Fee Capping in Australia," *Review of Network Economics*, 4:4, pp. 328 – 358, which estimates that Australian banks passed on 30-40 percent of the reduced credit card interchange fee revenues to cardholders in the short run (approximately the first year after the reduction). The Australian experience confirms that a reduction in interchange fees to merchant acquirers will result in an increase in other fees to cardholders. The estimated pass-through rate in Australia may not predict reliably what would happen in the United States in the event of a significant reduction in debit card interchange fee revenues. Predictions for debit cards may not apply to credit cards since they are very different products. Moreover the Australian credit card industry is highly concentrated, with the top four issuers accounting for 85 percent of all issuing, and predictions of pass-through from a highly concentrated market are likely to understate the pass-through that would occur in the highly competitive market for retail banking. Nevertheless, it is noteworthy that credit card fees continued to increase in later years. By 2006, for example, the average fee per account was about AU$40 higher than in had been in 2002 (prior to reforms), about the same as the decline in interchange fee per account that had resulted in the reforms.

Shortly after the Durbin Amendment was passed as part of the Dodd-Frank bill, banks and credit unions started considering how to change their fees and services in response. These plans have accelerated since December 16th, when the Board proposed larger changes to debit card interchange fees than many observers had anticipated.

Based on our review of various sources we have found that banks and credit unions have been considering the following changes to offset the reductions in revenues in the two months since the Board announced its proposed reductions:[90]

- Increased monthly maintenance fees on DDAs
- Transaction fees for debit card usage
- Annual fees for debit cards ranging from $25-$30/year
- Fees for cash back at the point of sale
- Lower interest rates on funds in DDAs
- Limits to number of debit card transactions
- Limits to dollar amount of debit card transactions
- Increases to ATM fees for non-customers
- Reduction or elimination of debit card rewards programs, including savings programs
- Increased balance requirements and direct deposit amounts
- Reductions in interest spreads for consumers

Without having done an extended analysis of these changes, it would still appear that the reduction in interchange fees was likely fully passed on to consumers in the form of higher fees. See http://www.rba.gov.au/payments-system/resources/statistics/rps.xls for the number of credit card accounts. See “Banking Fees in Australia,” Reserve Bank of Australia, May 2008, available at http://www.rba.gov.au/publications/bulletin/2008/may/3.html; and “Banking Fees in Australia,” Reserve Bank of Australia, May 2006, available at http://www.rba.gov.au/publications/bulletin/2006/may/2.html.

[90] Robin Sidel, “At Banks, New Fees Replacing Old Levies,” *The Wall Street Journal*, January 5, 2011; and Robin Sidel, “Checking Isn’t Free at More Branches,” ¨*The Wall Street Journal*, February 19, 2011.

Banks and credit unions would decide which of these changes to implement in the marketplace based on competitive dynamics and market research on the response of consumers to these various changes. There is, however, widespread agreement that the combination of radical debit card interchange fee reductions and the Regulation E changes of 2010 would lead to the elimination of free checking for most individuals and small businesses.[91]

We do not believe that it is likely that most banks and credit unions would impose significant fees on debit card transactions because, as discussed earlier, consumers can use cash, checks, and credit cards instead—each of which is free for making transactions.[92] However, it is likely that banks and credit unions would curtail the supply of debit cards to consumers and small business customers in a number of ways.

- As a result of increased checking account fees fewer consumers and small businesses would have checking accounts and therefore fewer would have debit cards.
- Banks and credit unions would be likely to reduce the supply of debit cards services for transactions that have unusually high costs because of risk or customer service calls. That would likely involve banks and credit unions prohibiting the use of debit cards in certain high-cost situations or possibly surcharging for those transactions.
- Banks, credit unions, and card networks would be likely to modify some of the features of debit cards, either eliminating them or charging for them separately. For example, banks and credit unions could charge consumers for cash back at the point of sale, impose fees for chargebacks to merchants, charge for customer service calls, and reduce fraud protections; the networks could also change features of the debit cards that benefit merchants such as the faster settlement of funds relative to checks.
- The Board's proposed limits would decrease the profitability of debit cards relative to checks, credit cards, and exempt forms of prepaid cards. We would therefore expect that

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[91] Ibid. Also see, "New fees could drive millions to join the 'unbanked' // Some say the end of free checking could lead many to drop accounts. Others say big banks are using scare tactics as part of a lobbying effort.," *Minneapolis Star Tribune*, February 13, 2011; and Karen Blumenthal, "Why Checking Fees Keep Going Up," *The Wall Street Journal*, December 4 ,2010.

[92] Consumers spend at least $.075 per check ($5.96 + shipping and handling for a box of 150 checks at Walmart). www.walmartchecks.com.

banks and credit unions would reduce the supply of debit card services and expand the supply of these alternative payment services.

IV. Impact of Proposed Fee Reductions on Merchants

Merchant processors would be the direct beneficiaries of the reductions in debit card interchange fees. They book these fees as expenses and seek to recover them from merchants.

Based on discussions with people familiar with the merchant processing and acquiring business, approximately 25 percent of the merchants that accept cards, typically the larger merchants who collectively account for roughly 75 percent of payment card volume, have negotiated "interchange-fee plus" contracts with their processors, These contracts result in their paying merchant fees plus the interchange fees for transactions at their stores. The remaining 75 percent of merchants are typically smaller merchants who collectively account for roughly 25 percent of card volume. These smaller merchants pay processing charges without any specific assessment for interchange fees; the merchant processor factors in the interchange fee when it negotiates the price schedule for the merchant.[93]

The interchange-fee plus merchants would receive a penny-for-penny reduction in debit-card interchange fee costs. The first several parts of this section focus on determining the extent to which these larger merchants would reduce prices to consumers as a result of the decreases in the debit card interchange fees they would have to pay. We find that they would receive very small reductions in their costs as a percentage of sales (less than 0.2 percent) and would pass little of these savings on to consumers quickly. It is uncertain how much they would pass on to consumers in the form of lower prices over the longer run. The last part of this section considers

[93] There are no reliable data available to our knowledge on the total number of unique merchants that accept payment cards. Published data count merchant locations, which substantially exceeds the number of unique merchants since larger merchants operate from many locations.

the smaller merchants that have blended pricing. We find that merchant processors would not pass much of the reduction in interchange fees to these smaller merchants quickly. These smaller merchants would therefore not realize material cost reductions in the near term that they would be able to pass on to consumers.

For the purposes of this section "large merchants" refers to the merchants that have interchange-fee plus pricing and account for roughly 25 percent of all merchants. "Small merchants" refers to the merchants that have blended discounts and account for 75 percent of all merchants.

A. Estimated Magnitude of Debit Card Interchange Fee Reductions for Large Merchants

Merchants incur a variety of costs that result from taking payments from consumers that depend on the particular method of payment that consumers use. These costs include direct costs such as handling cash, the cost of returned checks, and merchant processor fees as well as indirect costs such as the time it takes cashiers to handle payments and the inconvenience that customers experience as a result of the payment choices made by other customers in line.[94] Debit card interchange fees are one of the elements of costs that determine how much merchant processors[95] charge the merchant when a customer uses a debit card for payment.

As a percentage of sales, the savings that merchants would receive from the debit card fee reductions is equal to the reduced debit card interchange fees they would pay divided by their

[94] Daniel D. Garcia-Swartz, Robert W. Hahn, and Anne Layne-Farrar (2006), "The Move Toward a Cashless Society: A Closer Look at Payment Instrument Economics," *Review of Network Economics*, 5:2.

[95] In order to accept cards, merchants must have a relationship with a merchant acquirer, a bank that accepts liability for merchant risk and sponsors the merchant. In practice, many merchant acquirers outsource the actual processing of merchant card transactions to an acquirer processor that sets the discount rate to the merchant, and assesses ancillary processing fees associated with card acceptance.

total sales. We do not have access to the data to calculate this figure exactly but present a rough approximation.

According to the Board the average debit card transaction was $38.58 in 2009. Under the Board's proposals, debit card interchange fees would decline by 32 cents under the 12 price cap proposal or by roughly 37 cents under the 7 cent safe harbor proposal for a debit card transaction. Approximately 18.9 percent of the dollars that consumers spent were on debit cards in 2009[96] and 29.3 percent of transactions were made on debit cards in 2009.[97] Based on this information, the average purchase at merchants in 2009 was approximately $59.89.[98] Using these figures we find that the average savings for a large merchant would be 10.8 cents for the average purchase (0.18 percent) for the 7 cent safe harbor proposal or 9.4 cents for the average purchase (0.16 percent) for the 12 cent cap proposal.

The actual savings would vary across merchant categories depending on the interchange fees that the networks charge for that category (for example, grocery stores have lower rates than average);[99] the rate structure adopted in that category for signature or PIN debit (some merchant categories have a mixture of flat rate and proportional fees); and the share of dollars that are spent on debit cards (the percentage is higher at grocery stores and lower for bill payment). The actual savings would also vary across large merchants because many networks provide different

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[96] Equal to the total debit card transaction volume ($1.45 trillion, as reported in The Proposed Rules) divided by the total US expenditure volume on goods and services (7.68 trillion, as reported in Nilson Report Issue #962).

[97] Schuh November 2010 Presentation.

[98] $38.58*(.293/.189)

[99] See "Visa U.S.A. Interchange Reimbursement Fees," Visa Inc., 2010, available at http://usa.visa.com/download/merchants/october-2010-visa-usa-interchange-rate-sheet.pdf; and "MasterCard Worldwide U.S. and Interregional Interchange Rates," MasterCard, 2010, available at http://www.mastercard.com/us/merchant/pdf/MasterCard_Interchange_Rates_and_Criteria.pdf.

interchange fees to merchants based on how much volume they process on that network, and many merchants have negotiated additional rate discounts directly from the networks.

For the purposes of our discussion we are going to assume that the typical large merchant would realize a 10 cent reduction in cost on an average purchase, amounting to 0.18 percent of overall sales. The 10 cent figure is for the purchase of a basket of goods by consumers. Merchants set prices on individual goods. We do not have data available to determine the average price of a good. But by way of illustration merchants would realize cost savings of less than 2 cents on a $10 item.

It is likely that these savings overstate the actual savings that merchants would realize. As mentioned earlier banks and credit unions would likely reduce the supply of debit card services including some services such as one-day settlement that merchants currently benefit from. In addition, banks and credit unions would likely take actions that would result in consumers and small businesses using debit cards less and alternative forms of payment such as checks, credit cards and exempt prepaid cards more. Banks and credit unions may also raise the cost to consumers of withdrawing cash at the point of sale which would reduce the supply of this form of payment which merchants at least claim is low cost to them. Merchants may, on the other hand, take steps to encourage the use of debit cards at the point of sale which could offset these changes to some degree.

B. The Extent to Which Merchants Pass Small Cost Changes on to Consumers

Merchants would be unlikely to change prices in response to the very small reduction in costs that would result from the proposed reductions in debit card interchange fees for three reasons we describe here.

Menu costs: It takes time and money for merchants to change the prices they charge consumers. Economists refer to these as "menu costs" because they are similar to the costs that restaurants incur when they change the prices on their menus.[100] Retailers would weigh the benefits and costs of changing prices. The benefits of reducing prices in response to a cost reduction would include persuading consumers to shop at their store instead of competing stores. Given that stores compete on many dimensions, including location, convenience, and service, it is hard to imagine that price changes in response to the small reductions contemplated here would result in a competitive edge. Merchants also reduce prices to drive sales. It is hard to believe that the handful of penny changes involved here would do that either.

Focal price points: Retailers tend to set prices based on focal "price points" such as $9.99.[101] When they change prices they tend to change them to another focal point that they believe will be appealing to consumers. A 2 cent change in cost on an item would not be likely to persuade retailers to move to a different focal point by itself. They would be likely to leave prices where they are or move the price to another focal point based on a number of cost and demand changes.

Price predictability: Retailers tend not to change prices frequently in part because consumers like predictability in prices. Retailers are particularly hesitant to reduce prices

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[100] Daniel Levy, Mark Bergen, Shantanu Dutta, and Robert Venable (1997). "The Magnitude of Menu Costs: Direct Evidence from Large U.S. Supermarket Chains." *Quarterly Journal of Economics*, 112:3, pp. 791–825.

[101] Edward S. Knotek II (2010), "The Roles of Price Points and Menu Costs in Price Rigidity," Federal Reserve Bank of Kansas City, Research Working Paper.

because consumers are resistant to increases in prices tomorrow that reductions today may make necessary.[102]

In fact, most merchants do not change prices frequently in response to changes in the continual changes in demands and costs that occur in the market. Economists have conducted a number of studies that document that prices are "sticky" in many markets:

- Former Board Vice Chairman Blinder and co-authors conducted a survey of 200 firms in 1998. They found that the median firm changed prices about once a year.[103]
- Nakamura and Steinsson found that the average duration of a price for consumer goods was 11 months. They found that the average ranged from 0.5 months for vehicle fuel, 1.9 months for travel, 3.5 months for unprocessed food, 9.0 months for processed food, 16.1 months for household furnishing, 16.3 for recreation goods, and 27.3 months for apparel.[104]
- MacDonald and Aaronson found that restaurants kept the same prices for around one year.[105]
- A 1995 study by Kashyap found there was an average of 14.7 months between price changes for mail-order catalog goods.[106]

The price stickiness literature suggests that on average it would take about a year for cost changes to work their way down to changes in the prices that consumers pay.

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[102] Eric T. Anderson and Duncan I. Simester (2010). "Price Stickiness and Customer Antagonism." *Quarterly Journal of Economics*.

[103] Alan S. Blinder, Elie R. D. Canetti, David F. Lebow, and Jeremy B. Rudd (1999). "Asking About Prices: A New Approach to Understanding Price Stickiness," Review of Industrial Organization, 15:1, pp. 97-101.

[104] Emi Nakamura and Jon Steinsson (2008), "Five Facts about Prices: A Reevaluation of Menu Cost Models," *Quarterly Journal of Economics*. This excludes temporary price changes for promotions and price changes resulting from the substitution of a new product for an existing product. See tables 2 and 4.

[105] James M. MacDonald and Daniel Aaronson (2006), "How Firms Construct Price Changes: Evidence From Restaurant Responses To Increased Minimum Wages," *American Agricultural Economics Association*.

[106] A. K. Kashyap (1995), "Sticky prices: new evidence from retail catalogs," *The Quarterly Journal of Economics*.

Given the very small size of the debit card interchange fee reductions on a per transaction and per product basis, the disincentives for changing prices quickly, and the evidence on price stickiness, we believe that it is unlikely that consumers would see materially lower prices quickly following the proposed interchange fee reductions on July 21, 2011. Some merchants that are changing prices for other reasons might adjust prices in light of these changes, but others would likely wait for a future date to consider changing prices.

C. Pass-Through of Debit Card Interchange Fee Reductions to Consumers

Merchants eventually change their prices in response to changes in costs, demand, competition, and other factors. We would expect that one of the factors they would consider in changing their prices would be the cost reductions that would result from debit card interchange fee reductions. Economists have found that it is difficult to predict how much of a cost change will be passed on to consumers except in those markets that are intensely competitive, in which all of it is likely to be passed on in some form. The degree of pass-through depends on the precise nature of the demand facing firms,[107] how firms compete with each other, and other factors.[108]

The nature and degree of competition in a market requires a detailed analysis. In the case of banking we relied on the work by the Board that found that retail banking was the relevant product market and that the metropolitan statistical area was the relevant geographic market. We

[107] As a technical matter the rate of pass-through depends on the second-derivative of the demand schedule (i.e. the change in the change in demand in response to changes in prices). Different demand conditions can lead to very different rates of pass-through.

[108] Carl Shapiro and Joseph Farrell have observed that pass through rates are hard to estimate. See Joseph Farrell and Carl Shapiro (2010), “Antitrust Evaluation of Horizontal Mergers: An Economic Alternative to Market Definition,” *The B.E. Journal of Theoretical Economics*, 10:1, at Section 3.B. Shapiro and Farrell are the chief economists respectively of the Antitrust Division of the U.S. Department of Justice and the U.S. Federal Trade Commission.

presented an analysis above that indicated that competition was intense within those retail banking markets and relied on a number of independent studies that supported this. There is no similar presumption that the merchant categories that would receive the bulk of the debit interchange fee reductions are intensely competitive and would therefore pass on most of the savings to consumers in the form of lower prices. For the banking analysis we were able to rely on published concentration statistics (the HHIs) for the geographic areas that the Board has determined to be the relevant geographic market. We were not able to find similar published data on merchant categories where the antitrust authorities have identified local geographic markets that differ substantially from the metropolitan statistical area as we discuss below.

Supermarkets account for a significant portion of debit card use. The Federal Trade Commission has reviewed a number of supermarket mergers.[109] In the course of doing so it has found that there is a relevant product market for large supermarkets that can provide a full array of grocery and related products to consumers and that this market includes the grocery portion of supercenters. Other stores that sell food—such as club stores, premium natural and organic supermarkets, "mom & pop" stores, specialty food stores, and convenience stores—are generally not viewed as competitors in the relevant market.[110] The Federal Trade Commission has also found that the geographic market is local and depends mainly on how long it takes to drive to

[109] We are not necessarily endorsing the conclusions reached by the antitrust agencies and we are not suggesting that there are any antitrust concerns in the merchant categories we discuss here. Our analyses are solely focused on predicting the degree of pass through from small cost reductions and not on any other competition issue. These analyses however do indicate that it would be at least premature to conclude that any of the categories we discuss are intensely competitive to the extent that would be required for full pass-through of cost reductions.

[110] Complaint, *In the Matter of The Great Atlantic & Pacific Tea Company, Inc., and Pathmark Stores Inc.*, ¶13, November 2007, available at http://www.ftc.gov/os/caselist/0710120/0710120cmplt.pdf. In the proposed merger between Whole Foods and Wild Oats the FTC concluded that for the purposes of assessing price competition these premium and natural organic supermarkets were in a separate product market from regular supermarkets.

different supermarkets.[111] Based on examining data for a number of cities and admittedly casual inspection it appears that most people have the choice between a few supermarkets as defined by the antitrust authorities. A downtown resident of Boston, Massachusetts would find 4 supermarkets chains within the city limits (5 if we included Whole Foods which the FTC would not); based on the experience of two of the authors most people would find only one or two of these convenient to use on a regular basis for major shopping.

Big box retailers also account for a significant portion of debit card use. The Federal Trade Commission has found that there are local markets for big box retailers. In *Staples/Office Depot* the FTC argued and a court agreed that these office superstores faced little competition from other stores that sold office supplies and that the geographic markets were local. In 15 metropolitan areas, Staples and Office Depot were the only competitors.

Debit cards are used in a variety of merchant categories. In most of these categories the relevant product and geographic markets for assessing the degree of competition, and thus any presumption concerning full pass through, are much smaller than the overall category. Take first-run movie theaters, which are part of the entertainment services category. In *AMC/Loews*, the Justice Department found that there are local markets for first-run movie theaters and that first-run movie theaters do not face competition from second-run or specialist movie theaters, home movie viewing or other forms of entertainment.[112] In three local markets (the northern part of Chicago, downtown Boston and downtown Seattle), the parties to the merger were the only two

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[111] In the proposed merger between Whole Foods and Wild Oats the FTC concluded that for the purposes of assessing price competition these premium organic stores were in a separate product market than regular supermarkets.

[112] Complaint, *U.S. v. Marquee Holdings, Inc. and LCE Holdings, Inc.*, ¶¶ 14-27, December 2005, available at http://www.justice.gov/atr/cases/f213800/213861.htm.

competitors. The Justice Department sought and obtained divestitures in those and other local markets.

We conclude from these analyses that there is no presumption that all or most of the merchants retailers that would receive the debit-card interchange fee reductions operate in the sorts of intensely competitive product and geographic markets that would tend to drive the full pass through of cost changes.

What portion of a cost change these larger retailers would pass on to consumers is uncertain in the absence of research on the market conditions faced by these retailers. We have not found any empirical studies that would allow us to predict the effect of the very small industry-wide reduction in costs involved here. To the extent economists have conducted empirical studies of pass through the evidence indicates that the pass through rate is roughly 50 percent (for cost changes that are generally significantly larger than the ones applicable here) but could be lower or higher across businesses and industries.[113]

D. Estimated Windfalls Received by Large Merchants

As noted earlier, estimates from knowledgeable industry sources indicate that 25 percent of the merchants that accept cards account for 75 percent of card transactions and have agreements under which their merchant processors would pass on all of the debit-card

[113] Empirical studies on pass-through by supermarkets and other retailers of manufacturer discounts to consumers suggest pass-through is approximately in the 50-70 percent range. See Vincent Nijs, Kanishka Misra, Eric T. Anderson, Karsten Hansen, and Lakshman Krishnamurthi (2009), "Channel Pass-Through of Trade Promotions," *Marketing Science*, at p. 8; and Sergio Meza and K. Sudhir (2006), "Pass-Through Timing," *Quant Market Econ*, at p. 352. Empirical studies on the pass through of changes in the costs of goods imported to the US due to exchange rate fluctuations finds that approximately 40-60 percent of cost shocks are passed through. See Pinelopi Goldberg and Michael Knetter (1997), "Goods Prices and Exchange Rates: What Have We Learned?" *Journal of Economic Literature*, at pp. 1249-50; and Jose Manuel Campa and Linda S. Goldberg (2005), "Exchange Rate Pass-Through Into Import Prices: A Macro Or Micro Phenomenon?," *Review of Economics and Statistics*, at p. 679.

interchange fee reductions to them. We have estimated how much revenue these large merchants would likely keep under the assumption that these merchants also account for 75 percent of debit card interchange fee revenues.[114] In the first 24 four months after the Boards regulations come into effect the large merchants would receive cost savings of $25.0 billion under the 12 cent cap proposal and $28.9 billion under the 7 cent safe harbor proposal.

Based on the analysis above we believe that it is likely these large merchants would not pass on a significant portion of these cost savings to consumers in the form of lower prices in the first 12 months given that these cost savings are a very small percentage of sales and the evidence on price stickiness reported above. For the purposes of a rough estimate, we assume that they would pass on 10 percent of the cost saving in the form of lower prices in the first year. We believe that it is highly speculative how much overall the large merchants would pass on in the next 12 months. For the purposes of a rough estimate we assume they would pass on 50 percent of the cost savings in the form of lower prices in the second 12 months (about the average pass-through rate for the studies cited above). Based on these assumptions the large merchants would receive a windfall over the first 24 months of $17.2 billion in the case of 12 cent price cap proposal and $19.9 billion in the case of the 7 cent safe harbor proposal.

We believe that it is likely that after 24 months banks and credit unions which operate in highly competitive retail banking businesses would have passed on roughly 100 percent of the revenue losses from debit card interchange fee reductions in the form of increased fees or reduced services. We believe that it is also likely that after 24 months large merchants would pass on significantly less than 100 percent of their cost savings to consumers. Therefore, we

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[114] We have no reason to believe the proportion for debit cards would be substantially different.

would anticipate that the proposed debit card interchange fee reductions would continue to harm consumers and small businesses well beyond the initial 24 month period.

Proponents of the claim that merchant would pass on savings fully to consumers rely entirely on the economic proposition that firms in highly competitive industries will pass on all cost savings to consumers and the claim that retailing is highly competitive. For example, the Reserve Bank of Australia has reported no empirical evidence that retailers in that country passed on *any* cost savings to consumers following the reductions in credit and debit card interchange fees in that country.[115] They nevertheless claim that consumers have benefited from lower prices because economists would expect firms to lower prices under competition.[116] As we have discussed above, the evidence—much of it based on the analysis by antitrust authorities—demonstrates that the categories that account for significant portions of debit card transactions are not the kinds of highly competitive markets for which 100 percent pass through would ordinarily take place.[117] As far as we are aware, proponents of the claim that merchants would pass through the cost savings have not presented any empirical evidence to support it.

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[115] "Reform Of Australia's Payments System Preliminary Conclusions Of The 2007/08 Review," Reserve Bank of Australia, April 2008, at pp 22-23, available at http://www.rba.gov.au/payments-system/reforms/review-card-reforms/pdf/review-0708-pre-conclusions.pdf .

[116] Ibid.

[117] Retail markets in Australia are even more concentrated than in the United States which makes the RBA claim even more difficult to accept. For example, in Australia two national supermarket chains account for more than 75 percent of the market for supermarkets. See National Association of Retail Grocers of Australia Pty Ltd letter dated July 20, 2010 citing market share figures from ACNielson and Retail World, available at http://www.pc.gov.au/__data/assets/pdf_file/0012/102072/sub047.pdf; and Andrew Jacenko and Don Gunasekera (2005), "Australia's retail food sector," Australian Bureau of Agricultural and Resource Economics, conference paper.

E. Impact of Debit Card Interchange Fee Reductions on Smaller Card Accepting Merchants on Blended Pricing

There are several reasons to doubt that the small merchants would receive significant cost savings quickly as a result of the proposed reductions in debit card interchange fees or that their prices would fall eventually by the full amount of the debit-card interchange fee reductions.

Because they pay blended pricing to their merchant acquirers, small merchants cannot easily tell how changes in debit card interchange fees should affect the merchant discounts they are charged. They also have less incentive to switch to another merchant processor that reduced merchant discounts in response to the interchange fee reductions because the costs of doing so are likely to outweigh the savings. They would incur costs for looking for a new processor, negotiating a contract, and completing paperwork. A merchant with sales of $1 million would only save between $1,565 and $1,809 per year if they found a merchant processor that fully passed on the cost reduction, while a merchant with sales of $250,000 would only save $391 and $452 per year.[118] Their incentives to switch would be even lower if merchant processors did not pass on all of the interchange fee reductions. Finally, for some smaller merchants it can be especially difficult to switch merchant processors. A significant portion of the process of entering into an agreement with a merchant processor is a determination of the risk that the merchant presents to the acquirer. Small merchants in particular can have high rates of chargeback and fraud or face other financial difficulties that could impose costs on the acquirers.

[118] The calculation of the potential interchange fee cost reductions is based on the average debit interchange fees paid per transaction in 2009 (1.14%) and assumes that the portion of merchant sales volume transacted on debit cards is equal to the percentage of US total expenditure volume that debit card transaction made up (18.9%). Debit card transaction volume as a percentage of total expenditure volume is based on the total personal consumption expenditures of 7.68 trillion for 2009 as reported by The Nilson Report (Issue #962) and total debit card transactions of 1.45 trillion as reported in The Proposed Rules, at p. 81725.

There is typically significant paperwork and time required for entering into an agreement with a processor for a small merchant.

Merchant processors are unlikely to offer lower prices to the small merchants that receive blended pricing because, for the reasons just discussed, they recognize that by doing so they may not attract many merchants from competitors and that by not doing so they are unlikely to lose many accounts to competitors. Merchant processors have much less pricing flexibility with large merchants, who usually have the track record to easily switch processors, have accounting departments that can handle the paperwork, and have bargaining power because of their size.

Analysts are forecasting that large merchant processors will realize increases in earnings in part because they will retain some portion of the debit card interchange fee reductions. These increased earnings would come largely from the reductions in interchange fee expenses incurred for smaller merchants with blended fees who would not receive a corresponding reduction in fees. For example, the analyst group Baird recognizes that interchange fee pass-through will not be complete for direct merchants under bundled pricing and ISOs (agents of the merchant processors who particularly sign up small merchants) would have the opportunity to keep a portion of interchange fee reductions.[119] Similarly, Aite Group concluded that in the short run merchant processors and ISOs that offer bundled pricing to merchants will be able to bring down fees at a slower rate even though the debit interchange reduction impact will be immediate.[120]

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[119] Business Process Outsourcing, Thoughts on Debit Interchange/Exclusivity Regulations, Robert W. Baird & Co., December 17, 2010.

[120] The New Order: How Interchange Regulation Will Change the U.S. Payment Industry, Aite Group, December 2010.

V. Impact of Proposed Fee Reductions on Lower Income Consumers, Small Businesses, and Small Banks and Credit Unions

Section 904 of the EFTA obligates the Board to conduct specified economic analyses whenever it proposes new regulations under the EFTA. Among other things, the Board must analyze the "costs and benefits to financial institutions, consumers, and other users of electronic fund transfers" and how the proposed regulation affects "competition in the provision of electronic banking services among large and small financial institutions and the availability of such services to different classes of consumers, particularly low income consumers."[121] The RFA also requires the Board to consider how proposed regulations would affect small financial institutions and as well as small businesses more generally.[122]

The previous sections document how the proposed regulations of debit card interchange fees would, in the aggregate, harm consumers. This section examines how the proposed regulation would affect lower-income consumers, small businesses, and small financial institutions. We hope the Board finds this material useful in preparing the analyses required by the EFTA and RFA.

A. Lower Income Consumers

Over the last several decades, lower-income segments of the population—including many individuals who belong to groups considered to be disadvantaged for various reasons—have been brought into the financial system. The likely effect of the proposed rate caps would be the withdrawal of many of those households from the mainstream market for banking services. In general, the proposed regulation would affect those households in particular because their

[121] 15 U.S.C. § 1693b(a)(2)-(3).

[122] 5 U.S.C. § 603(a).

relatively low average account balances mean that the profitability of existing relationships with them is likely to depend in large part on debit interchange fees and net service fees.

A checking account gives a household numerous benefits. Most obviously, it is a safe and liquid place to keep its funds. Research on lower-income households in the United States and other parts of the world shows that the ability to put money aside and access it easily is important for pulling these households up the economic ladder.[123] These accounts also provide the basic building blocks for household management of finances, the touchstone of financial competence. Finally, a checking account is the steppingstone for developing a credit record and the ability to borrow money. A FDIC survey of people that did not have bank accounts found that people want to open accounts for all these reasons.[124] Simply put, people covet the ability to cash and write checks, have a safe place for their money, and save.

One important benefit that has flowed from checking-account access has been the ability of lower-income households to obtain debit cards. Many of these households did not qualify for credit cards and therefore getting a checking account has been the main way for them to get plastic.[125] The percentage of low income households with access to a payment card increased from 45 percent to 67 percent between 1995 and 2007 as shown in Figure 2.[126] Crucially, much of the increase resulted from debit cards. The percentage of low income households with access

[123] Tyler Desmond and Charles Sprenger (2007), "Estimating the Cost of Being Unbanked," Federal Reserve Bank of Boston. Caskey et. al (2006), "The Urban Unbanked in Mexico and the United States," World Bank Policy Research Working Paper.

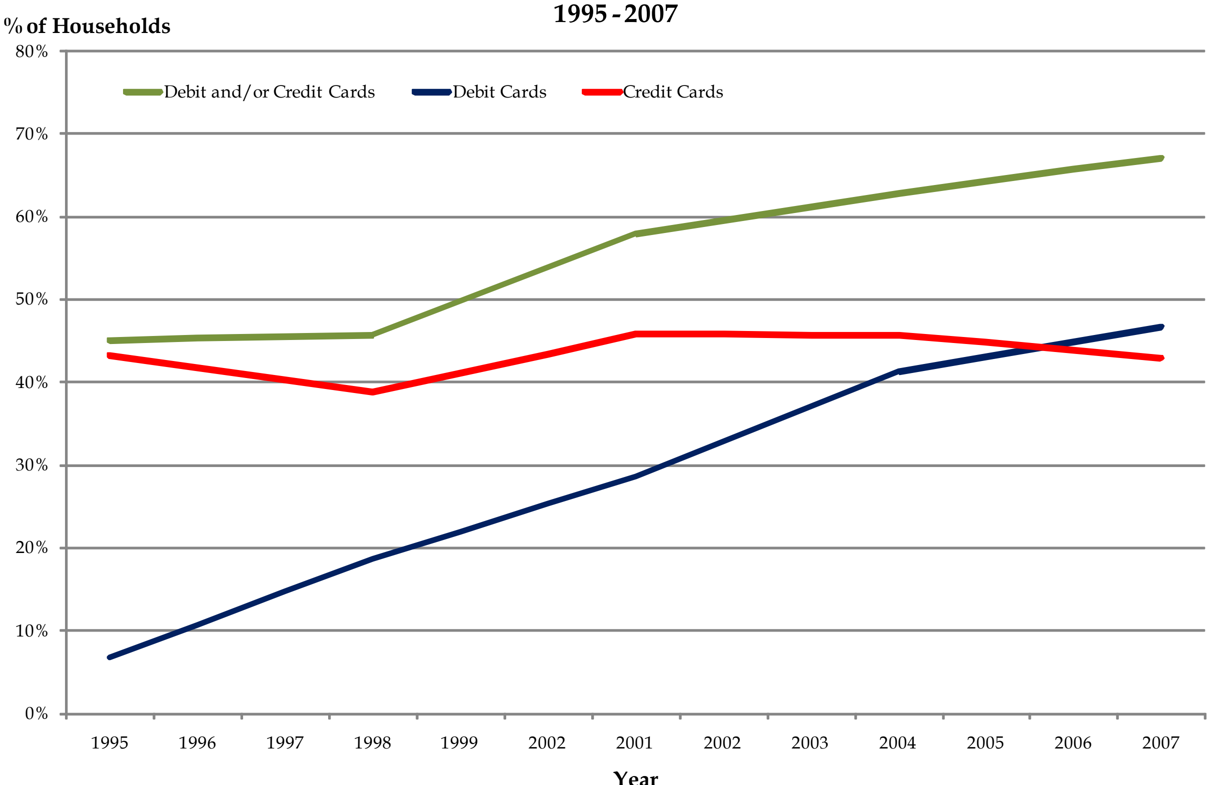
[124] "FDIC National Survey of Unbanked and Underbanked Households," FDIC, December 2009 ("FDIC Survey of Unbanked and Underbanked").

[125] In recent years they have been able to get prepaid cards. Although these cards often offer many of the same benefits, they are also relatively expensive (and thus less satisfactory as a general policy option for lower-income households).

[126] Low income is defined as households with an income that is 50 percent or less than the median.

to a credit card has remained fixed at around 43 percent through that time period, but the percentage of households with a debit card increased from 7 percent to 47 percent. Because modern debit cards are full-purpose payment cards, households that obtained those cards thereby gained access to mainstream financial activities like paying online, paying over the phone, renting a car, and all of the other transactions that customarily require a full-purpose payment card.

Figure 2
Percentage of Low Income Households with Payment Cards
1995 - 2007



Source: Survey of Consumer Finances

Lack of access to checking accounts, related banking services and debit/ATM cards has severe economic consequences for lower income households. Unbanked households have to rely on expensive check-cashing services when they are paid with checks, manage their cash between paychecks often in unsecure environments, and rely on payday lenders and other sources of borrowing when their cash does not stretch through the month. Their dependence on those more expensive services is exacerbated by the limited likelihood that they will have access to credit cards to manage minor liquidity events.

The FDIC estimates that as of 2009 more than 25.6 percent of American households were unbanked or under-banked.[127] Nine million households had no banking relationship, and 21 million households relied on high-cost check cashing or other expensive financial service providers.[128] The unbanked and underbanked consist disproportionately of low and moderate income Americans, including high percentages of African-Americans, Hispanics and Native Americans.[129]

Revenues from debit card interchange and other services spurred banks to provide free depository accounts to households. Many of these households were lower income households, as the *The Wall Street Journal* reported in June 2010:

> The offers of free checking without any minimum balance requirements attracted a new wave of low-income customers, who previously went to check-cashing stores. Some consumer advocates have warned that the elimination of free checking could drive some of those customers out of the banking system.[130]

The proposed debit-card interchange fee reductions can be expected to push a significant number of lower-income households out of the banking system and thereby increase the number of unbanked households. Debit card interchange fee revenues and net service fees help defray the

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[127] See FDIC Survey of Unbanked and Underbanked. Unbanked households are those without a checking or savings account, and under-banked households are those that have either a checking or savings account, but have used non-bank financial alternatives (e.g. check cashers or payday lenders) in the last 30 days.

[128] FDIC Survey of Unbanked and Underbanked, cited in "Obama Administration Pushes "Bank on USA" to Help Unbanked and Under-banked Americans," Worldpress.com, September 2, 2010.

[129] Ibid.

[130] Robin Sidel and Dan Fitzpatrick, "End Is Seen to Free Checking," *The Wall Street Journal*, June 16, 2010 ("WSJ: End Is Seen to Free Checking").

other costs of the accounts including the costs of complying with regulations, posting, processing and sending statements, and fraud costs. As a result of the combined loss of revenues from overdraft fees and debit-card interchange, banks are now eliminating, or considering eliminating, free checking and imposing higher fees on accounts. As noted earlier, the Regulation E limitations have already resulted in banks reducing the percentage of free checking accounts from 76 percent in 2009 to 65 percent in 2010.[131] The elimination of debit-card interchange revenues is likely to accelerate the discontinuation of free checking[132] and result in increased fees for many customers, especially those who do not maintain high balances.[133]

We were not able to forecast the number of accounts that households would abandon as a result of the higher checking account fees that would be imposed in the event that the Board adopted the proposed debit card interchange fee regulations. On JPMorgan Chase's 4Q 2010 earning conference call, however, Jamie Dimon, the bank's CEO, stated that the fee increases that would result from the loss of debit card interchange fee revenues would make banking service too expensive for as many as 5 percent of Chase's customers.[134] We would expect that a significant portion of the customers that would abandon checking accounts would be lower-income households since those are the ones most likely not to be able to want to pay for the more expensive accounts. To get an understanding of the potential significance of these closures we note that a one percent decline in checking accounts would result in the loss of checking access for roughly 1 million households; an increase in the number of households by 1 million would

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[131] BankRate.com.

[132] See WSJ: End Is Seen to Free Checking; and "US Debit Market and the Durbin Amendment: Worse Than The Worse-Case Scenario," Oliver Wyman, December 22, 2010.

[133] See Table 8.

[134] "US debit fee caps may hurt poorest customers-Dimon," *Reuters News*, January 14, 2011.

increase the percent of unbanked individuals by 12 percent.[135] While we are not in a position to offer a precise forecast of the impact of the Board's proposed rules on the number of unbanked households, based on the information we have seen we believe increases in this order of magnitude—1 million or more—are plausible. For example, if Mr. Dimon is correct that 5 percent of accounts would be closed and 20 percent of those accounts were closed by households in the bottom quintile of the income distribution, then the reduction of low income household with a checking account would be approximately 1 million. We urge the Board to investigate this further.

B. Small Businesses

We estimate that roughly 15.4 million small businesses have checking accounts.[136] These likely include most active small businesses that are engaged in the sales of goods and services and therefore the preponderance of small businesses (those with fewer than 500 employees) based on the percentage of sales or employment. Approximately one-eighth of the $15.7 billion ($1.96 billion) of debit-card interchange fee revenue that the Board reported for 2009 came from purchases made by the owners of small business accounts.[137] Indeed, the average debit-card interchange revenue is higher for small business accounts than for consumer

[135] Based on 1 percent loss in checking relationships from 105.4 million households with a checking account. In this illustration, the number of unbanked households would increase from 9.00 million to 10.05 million.

[136] There were an estimated 198 million consumer and small business accounts in 2010 as we discussed in footnote 29. Based on data we have received from knowledgeable industry observers roughly 9.1 percent (18 million) of checking accounts are held by smaller businesses. This figure is adjusted downward by 14.7 percent to account for small business that had a checking account at more than one financial institution (see the 2003 Survey of Small Business Finances which shows that approximately 14.6 percent of small businesses had a checking account at more than one financial institution and the average number of financial institutions used for checking accounts by small business was 1.17). The total number of small businesses was 27.5 million in 2009 but many of these small businesses are part-time businesses, inactive, or have small receipts.

[137] The estimate of the percentage of interchange fees from small business accounts is based on information from knowledgeable industry observers concerning the fraction of checking accounts held by small businesses. We have excluded prepaid cards, which accounted for $500 million of the total $16.2 billion of interchange fees in 2009, because most prepaid cards are exempt from the proposed regulations.

accounts because small businesses tend to spend more on their debit cards than do consumers. Specifically, the estimated debit card fee revenue per small business account for 2009 is roughly $109 ($1.96 billion in interchange fees divided by 18 million small business accounts). The proposed reductions in debit-card interchange fees would reduce that by between $79 and $92 per account. Based on estimates of the fraction of debit-card fee revenues due to small business accounts, we estimate that banks and credit unions would lose $4.2-$4.8 billion in revenues from small business accounts over the first 24 months after the proposed regulation went into effect.[138]

Our analysis of how banks and credit unions would respond to the loss of the debit-card interchange fee revenues indicates that they would promptly pass on much of the lost revenue relatively quickly to checking account holders in the form of higher fees or reduced services. As a result, the average small business account holder could expect to face higher fees or reductions in services that would account for a significant portion of the $79-$92 of debit card interchange fees that banks and credit unions would lose per account. In the aggregate then, small businesses would suffer a loss in the first 24 months of proposed rate caps approaching the $4.2-$4.8 billion of debit card interchange fee revenues that the regulation would remove from small business accounts.

Some small businesses also accept debit cards for payment and would obtain offsetting benefits to the extent that their merchant processors passed on reductions in debit card interchange fees in the form of lower blend payment card prices. As we discussed above, however, we find it unlikely that merchant processors would lower blended prices quickly to

[138] The estimated revenue reduction figures of $4.2-$4.8 billion are based on the assumption that small businesses will continue to make up roughly 1/8th of the total debit interchange fees during the first two years following the implementation of the proposed fee reductions.

smaller businesses or do so by anything approaching the full amount of the reduced debit card interchange fees.

We present an illustrative calculation of the possible overall impact on small businesses. Suppose banks and credit unions consistently passed on 75 percent of the lost revenue in first year and 100 percent in the second year. Then the total loss to small businesses would be between $3.7 and 4.3 billion over the first 24 months. Suppose merchant processors reduced fees to merchants with blended prices by 10 percent of the reduction in interchange fees in the first 12 months and 50 percent in the second twelve months. In this scenario, merchant debit card charges would fall by between $2.6 and $3.0 billion in the first 24 months. The net impact on small businesses would be between $1.1 and $1.3 billion. These figures are likely to understate the net harm to small businesses because they do not include the higher fees for small business owners that use a personal checking account for their business. The smallest businesses, in particular, are likely to be the worst off, as they will receive little benefit from lower fees for debit card transactions if they have modest sales volume, while all small businesses will experience increases in checking account fees.

C. Small Financial Institutions

As discussed earlier, we also doubt that banks and credit unions with assets of less than $10 billion would receive materially higher interchange fees than banks and credit unions with assets of $10 billion or more. The networks would face market pressures from large debit-card issuers and large merchants to reduce the debit card interchange fees received by exempt institutions to a level similar to the level that covered institutions receive. Moreover, merchants could discriminate against cards from small issuers by refusing to accept these cards or steering consumers away from them. Exempt institutions might also prefer to accept lower interchange fees than risk having their checking account customers discouraged by retailers from using their cards.

Indeed, the community banks themselves are convinced that the Board's proposed interchange fee regulations will harm them. The Independent Community Bankers of America (ICBA) noted that "the so called 'carve out' for institutions with less than $10 billion in assets included in the Durbin amendment simply won't work primarily because merchants will now control the entire transaction process, driving customers to cheaper price-controlled cards instead of cards issued by their local community bank."[139]

The Board's proposed interchange fee caps are likely to be more severe for smaller institutions because these institutions have considerably higher average total costs for debit cards – because they incur fixed costs that they recover over small volumes of transactions and because they face higher variable costs of transactions than larger institutions. We have examined this issue in particular with respect to the average variable costs of authorization, clearing and settlement that the Board has used as the basis for its proposed safe harbor and cap. According to the Board the median per transaction variable cost for the 89 large institutions included in its survey was 7.1 cents.[140] However, the average variable cost weighted by transaction volume was 4.0 cents.[141] The difference between the median and the weighted average demonstrates that larger institutions have significantly lower average variable costs than larger institutions. In fact, even among the institutions in the Board's survey the differences are striking. For the weighted average to be 4.0 cents large institutions must have average variable

[139] Independent Community Bankers of America, "Survey: Fed Debit Card Rule Will Harm Community Bank Customers," Press Release, February 14, 2011.

[140] The Proposed Rules, at 81725.

[141] Ibid., at 81737.

costs less than 4.0 cents. Yet 20 percent of the large institutions had average variable costs in excess of 12 cents according to the Board.[142] Small banks and credit unions outsource their debit card processing to card processors. Based on conversations we have had with knowledgeable industry observers it is our understanding that the average processing cost (the equivalent of authorization, clearing and settlement) is 15 cents and higher for institutions with assets less than $10 billion. We would expect other costs related to debit cards would be higher for smaller banks and credit unions than for larger ones.

Smaller institutions may also face more difficulties recovering lost revenues than larger institutions. Although they emphasize close relationships with their customers for the product lines that they do offer, they tend to provide retail customers with fewer services such as insurance, mortgages, and other financial services products than do larger institutions. As a result, it is possible that the operating margins of smaller institutions could decline even after they undertake efforts to raise fees and reduce services. That in turn would reduce their operating capital and their ability to extend loans. The impact on these smaller institutions could exacerbate the negative effects discussed above for small businesses. Notably, although small banks have less than a quarter of the industry's assets, they make more than half of small business loans.[143]

We have not had access to sufficient data to assess what the overall financial impact of the proposed rules would be on small banks and credit unions and their small business customers who need credit. We would urge the Board to conduct further research, as we understand it is

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[142] Ibid.

[143] FDIC Call Report Data as of September 30, 2010.

required under EFTA and RFA, to assess more fully the impact of its proposed rules on small banks and credit unions.

VI. Conclusion

The Board's proposed debit card interchange fee regulations would likely have the following effects over the 24 month period between July 21, 2011 and July 20, 2013:

- Consumer and small business owners would face higher retail banking fees and lose valuable services. We estimate that these losses would equal a large fraction of the $33.4-$38.6 billion that banks and credit unions would lose over those 24 months.

- Small businesses would lose a large fraction of the $4.2-4.8 billion that banks and credit union would lose on debit card interchange fees from small business accounts over those 24 months. Most of these businesses do not accept debit cards and would not have any offset from lower fees. Given that smaller merchants that do accept cards are unlikely to receive significant reductions in the blended pricing they pay, we would anticipate that small businesses overall would lose.

- The number of unbanked individuals would likely increase, possibly by more than 1 million households under plausible assumptions, as a result of lower-income individuals not being able to afford checking accounts.

- Large retailers would receive a windfall that based on some plausible assumptions could equal $17.2-$19.9 billion dollars in the first 24 months.