

# Economic Analysis of the Board of Governors of the Federal Reserve System's Proposed Rulemaking on Debit Card Interchange Fees and Routing

By Andrew Rodrigo Nigrinis, Ph.D.

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## Qualifications and Assignment

1. I am an economist at Legal Economics LLC, a consulting firm specializing in economic and statistical analysis. Before joining Legal Economics, I was the sole enforcement economist in consumer financial services at the Consumer Financial Protection Bureau (CFPB). In this role, I led the economic analysis and evaluation of more than 70 cases, overseeing investigations related to allegations of unfair or deceptive practices, fair lending, disputes between financial services providers and lenders, issues in mortgage and student loan servicing, credit card fees, debt collections, and dark patterns.
2. My expertise extends to providing economic analysis of consumer financial regulations and policies, and I possess significant experience in sampling and big data. During my tenure at the CFPB, I collaborated with State Attorneys General, Department of Justice (DOJ) officials, and Office of the Comptroller of the Currency (OCC) officials on various matters. My academic background includes a Ph.D. in Economics from Stanford University, a master's degree in economics from Queen's University in Canada, and a bachelor's degree from the University of Alberta in Canada, where I was honored with the economics medal. I have also held prestigious fellowships, including being a Carmichael Fellow at Queen's University and a Stanford Institute for Economic Policy Research fellow at Stanford.
3. Brownstein Hyatt Farber Schreck LLP has engaged my services to offer my professional opinion on the economic analyses and empirical evidence referenced in the Board of Governors of the Federal Reserve System's (FRB or Board) Proposed Rulemaking on Debit Card Interchange Fees and Routing. Additionally, I have been tasked with providing my expert insight into the potential economic ramifications of the proposed rule on the payments industry and its anticipated

impact on the consumer finance sector. I am being compensated for preparing this report.

## Summary of Conclusions

4. Having reviewed the proposed changes to the regulatory framework for debit interchange fees in Regulation II (proposed rule or NPRM), it is evident that the Federal Reserve Board (FRB or Board) must conduct a thorough analysis of the potential impacts on consumers, financial institutions, and the broader market for point of sales (POS) payments. In my assessment, the FRB has failed to provide a valid economic analysis of the anticipated impact of the proposed rule.

Specifically, they have neglected to evaluate:

- The proposed rule's effect on the value of credit union members' shares in their credit unions.
- The estimated loss of revenue to covered credit unions is **\$414,364,336.15** had the proposed amendments to Regulation II applied in 2023. This will impact credit union members as consumers and as owners.
- The harm to consumers and credit union members from a rise in account fees and account balance minimums.
- The extent to which credit unions compete with large banks using different business models that focus on community and member services.
- The feasibility of funding customer rewards from debit card transactions.
- The limited impact on prices resulting from a potential pass-through of interchange fees to consumers.

- The extent of the implicit subsidy granted to merchants by the Durbin Amendment as a result of merchants not passing through interchange fee reductions to consumers.
- Alternative regulatory approaches that will be more efficient or equitable.
- The importance of interchange revenue that was lost via the Durbin Amendment is essential for funding debit card network infrastructure and to combat fraud.
- The effect of the rule on the market for payments.
- The potential impact on low-income designated credit unions, ten of which are covered issuers, and their importance to economically vulnerable populations.
- The implications of the Durbin Amendment and Regulation II on the affordability of financial services for low-income and minority households.
- The potential loss of community programs supported by non-profit, community-centered credit unions.

A comprehensive analysis of these factors is crucial for informing effective regulatory decision-making and ensuring that the interests of all stakeholders are adequately considered and protected.

5. To better inform the Federal Reserve about the negative consequences of reducing the debit interchange fee cap, America's Credit Unions conducted a survey of its members. Here's a summary and explanation of the survey results:

- **Increase in Fees and Tightening of Restrictions:** The survey revealed that there will be a response towards increasing fees and tightening restrictions on free checking and savings accounts among credit unions. This includes

raising minimum balance requirements and potentially reducing consumer benefits such as interest rate reductions.

- **Strategies to Mitigate Losses:** Credit unions aim to mitigate losses through various strategies, including increasing fees, reducing rewards, and potentially passing on revenue losses to account holders by decreasing interest rates and savings rates. However, credit unions do not plan to curtail services, operating hours, or community programs, unlike for-profit banks.
- **Impact on Individual Members:** Credit union members are likely to bear the brunt of revenue losses resulting from the proposed changes. This could lead to tangible losses for individual members as account holders and as shareholders.
- **Community-Oriented Initiatives at Risk:** Revenue declines from interchange fees, which often support community-oriented initiatives such as grants and scholarships, pose a risk to these programs. Over 50% of respondents indicated a likelihood of reducing community grants and scholarships, representing a tangible loss for communities and credit union members.
- **Concerns About Debit Reward Programs:** A portion of respondents expressed concerns about reducing or eliminating debit reward programs, indicating potential changes in these programs as a response to the proposed regulations.

Overall, the survey highlights significant concerns regarding the adverse effects of the proposed changes on credit unions, their members, and their communities.

6. Academic literature predominantly focuses on larger banks, often overlooking credit unions in its analyses but has clearly shown that the Durbin Amendment did not align with expectations of consumer benefit. The literature

clearly shows that consumers via fees paid a large portion of the revenue lost to banks and little savings were passed through by merchants. As a result, the Board lacks substantial evidence to support the notion that any considerable portion of savings resulting from regulatory changes will be passed on to consumers, highlighting the need for a more inclusive approach to understanding the impacts of regulations on diverse financial institutions such as credit unions. The regulation amounted to an expensive subsidy to large merchants.

7. This data shows the formidable challenges that credit unions confront in the shadow of large banks wielding substantial transaction volumes, a situation exacerbated by the Board's methodology for cost adjustment. The apparent decline in costs, which may seem indicative of an industry-wide trend, has been revealed to be primarily driven by cost reductions among a select few large banks. The Board should consider an issuer-weighted approach, treating all issuers equally and avoiding favoritism towards large institutions which could yield a more accurate cost assessment. Furthermore, the broader ramifications of proposed regulatory changes are to upend the business models of credit unions that are dependent on interchange fees to fund their non-profit community-based missions. Ultimately, it is imperative to safeguard the viability of credit unions within the financial landscape, recognizing their unique position and contributions while navigating the complexities of regulatory challenges.

8. The Board should have provided an analysis of this rule's impact on credit unions. The Board should use a data analytical method that does not reward large institutions at the expense of market diversity. There is no meaningful analysis or attempt to quantify how consumers will be harmed as consumers of financial services. The Board has not conducted a study to assess whether financial institutions will respond to the loss of income by reducing services, increasing fees, decreasing community investment, or scaling back benefits.

## 1. Background

9. Debit interchange fees are a significant, non-interest revenue source for financial institutions and credit unions. Most merchants in the United States facilitate in-person, point-of-sale (POS) transactions by accepting the three primary payment methods: cash, debit cards, and credit cards. The Fed estimates in the 2021 Debit Card Issuer Survey (DCI) that debit cards facilitated 92.1B transactions worth \$4.6T. This resulted in total interchange fee revenue of \$31.59B. The Board's proposal to lower interchange fee income is a significant change in financing consumer financial services with market-wide implications. This rule will drastically reduce the ability of credit unions to provide members with access to essential financial products and services. Further, this will be done by providing no or minimal consumer benefits and reducing the economic surplus generated by debit card services.

10. The proposed changes to Regulation II aim to assess interchange fees collected by debit card issuers in relation to transaction processing costs. The current fee structure, established in 2011, includes a 21-cent base fee, a 5-basis points ad valorem fee, and a 1-cent fraud-prevention adjustment for qualifying debit card transactions. The stated motivation for the change is a concern arising from outdated data, and the proposed changes include reducing the base component to 14.4 cents, lowering the ad valorem component to 4.0 basis points, and increasing the fraud-prevention adjustment to 1.3 cents. The Board plans biennial updates based on data from large debit card issuers without a notice and comment period.

11. The regulation applies to institutions with assets exceeding \$10 billion in total assets, maintaining the same threshold as in 2011. However, it's crucial to acknowledge the impact of inflation on the value of money over time. As of



December 2023, \$10 billion in 2011 equals about \$7.2 billion<sup>1</sup>. Therefore, by retaining the threshold without adjustment, the Board effectively extends the reach of Durbin Amendment's regulations to a larger market segment.

12. The Electronic Funds Transfer Act (EFTA) section 920(a)(4)(B) instructs the Board to differentiate between incremental and non-transaction-specific costs when establishing interchange fee standards for debit card transactions. Allowable costs cover a range of transaction-related expenses, including authorization, clearance, and settlement costs, as well as network processing fees, chargeback, non-routine transaction processing costs, transaction monitoring costs, and issuer fraud losses.

13. In contrast to the methodology implemented in 2011, the Board suggests a new methodology to determine the base component by calculating the transaction-weighted average of per-transaction base component costs across covered issuers. This method is intended to ensure that changes in the base component costs for the average covered issuer per transaction will proportionally impact the overall base component used to determine interchange fees and justify a future increase or decrease in interchange fees. The goal is to align the maximum interchange fee for covered issuers with the base component costs incurred in the authorization, clearance, or settlement pegged to the average covered issuer debit transaction.

14. The proposed formula by the Fed uses a fixed multiplier to the transaction-weighted average of per-transaction base component costs across covered issuers. This multiplier remains constant and corresponds to a target set by the Board, intended to facilitate the full recovery of base component costs over time for a significant percentage of covered issuer transactions.

15. The Board has suggested adopting a cost-recovery target of 98.5 percent for covered issuer transactions, represented by a fixed multiplier of 3.7. This target is

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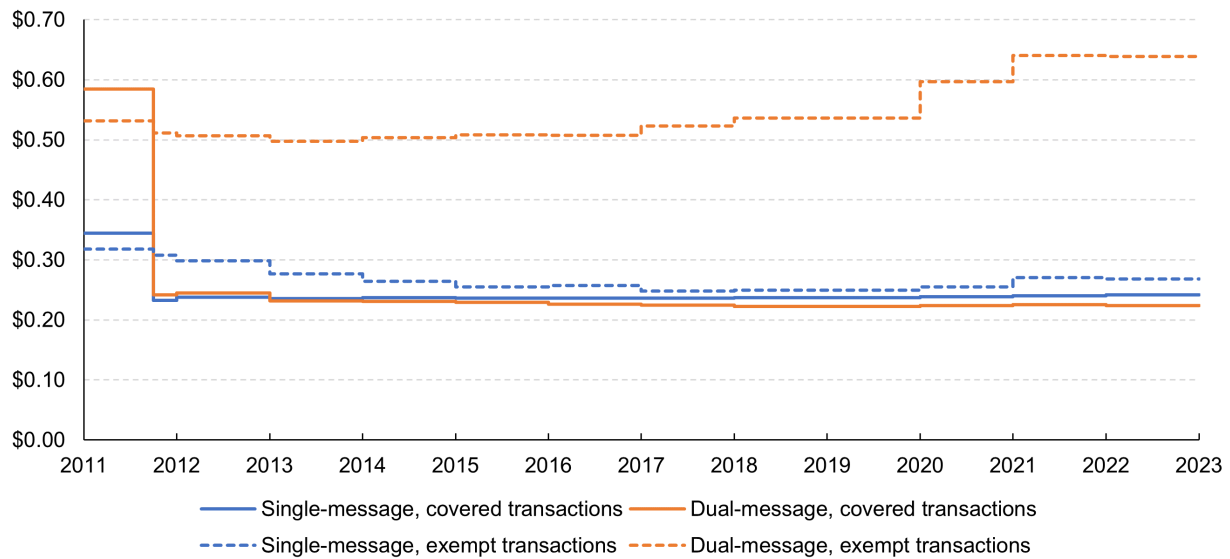
<sup>1</sup> Using the CPI calculator by the BLS available at [https://www.bls.gov/data/inflation\\_calculator.htm](https://www.bls.gov/data/inflation_calculator.htm)

determined based on cumulative data collected from covered issuers since 2009, and the proposed formula considers the distribution of per-transaction base component costs, resembling the Weibull distribution commonly used in social sciences and engineering. Additionally, the proposal introduces a novel methodology for determining the base component, aiming for full cost recovery over time, with the ad valorem component proposed as the median ratio of issuer fraud losses to transaction value.

16. The proposed approach introduces a potential ratchet effect, wherein a decrease in the transaction-weighted average of per-transaction transaction-processing costs across covered issuers, as revealed through data collected by the Board, could trigger a corresponding reduction in the interchange fee cap. This dynamic underscores the interplay between issuers' cost management decisions and the potential impact on the regulatory framework governing interchange fees.

17. In the cost/benefit analysis, the Board asserts that the primary consequence of the proposal for merchants would be to reduce costs associated with accepting debit card transactions. The proposal specifically targets a reduction in the interchange fee paid by acquirers (i.e., the merchant's depository institution) for an average transaction involving a debit card issued by a covered issuer. This reduction in interchange fees is expected to lower a merchant's costs by decreasing the merchant discount fee paid to its acquirer for debit card transactions. However, it is crucial to emphasize that the Board's economists and academic researchers suggest the unlikelihood of these potential impacts. The experience from the implementation of the Durbin Amendment in 2011 reveals that the inherent variability and market dynamics in the pass-through savings, as well as the extent of merchant responses to cost reductions, challenge the assertion of a demonstrable cost-benefit scenario.

18. Figure 1 shows the Durbin Amendment substantially affected debit card interchange fees. As anticipated, this impact was most predominantly felt by covered issuers—those financial institutions with more than \$10B in total assets. Because the Durbin Amendment was not accompanied by a corresponding reduction in issuer costs, the remarkable revenue reduction for covered institutions had serious negative consequences for consumers.



*Figure 1: Interchange fees over time*

Financial institutions typically offer a suite of services to their depository customers including access through branch tellers, ATMs, debit cards, checks, direct deposit, online access, online bill pay, wire transfers, and more. When a credit union experiences a decline in revenue from its checking account business, members may encounter increased fees, lowered interest rates, or diminished services. In practice, it proves challenging to pinpoint all potential changes and ascertain the extent to which they stem from the loss of debit-card interchange fee revenues as opposed to other factors like alterations in cost, demand, and regulatory adjustments. However, since the enactment of the Durbin Amendment, extensive research on this topic has been conducted, much of which has been

undertaken by Board economists and should not be disregarded – especially when they are the Board’s employees.

19. The research findings, Section 4, provide a comprehensive understanding of the multifaceted impacts of the Durbin Amendment on various stakeholders in the financial sector. Evans, Chang, and Joyce's (2015)<sup>2</sup> study reveal a substantial loss borne by consumers, while retailers gained profits and banks experienced significant profit reductions. Kay, Manuszak, and Vojtech (2018)<sup>3</sup> demonstrate that treated banks were able to offset over 90% of lost interchange income by increasing deposit fees, leveraging their market power and emphasizing bundling. Manuszak and Wozniak's (2017)<sup>4</sup> research further corroborates these findings, illustrating how banks adjusted their pricing strategies post-amendment, leading to reduced availability of free checking accounts, increased fees, and higher minimum balance requirements for consumers. These studies highlight the complexity of fee regulation effects, competitive responses among banks, and the nuanced impacts on consumers, merchants, and financial institutions.

20. Overall, the Durbin Amendment's impacts on account fees, pricing strategies, fraud prevention, and access to banking services underscore its profound implications for economic equality and consumer welfare. Disparities in banking fees disproportionately affect low-income and minority communities, exacerbating financial burdens and perpetuating economic inequalities. Despite expectations, reduced interchange fees did not uniformly benefit consumers due to merchants'

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<sup>2</sup> Evans, David S., Howard Chang, and Steven Joyce. "The impact of the US debit-card interchange fee regulation on consumer welfare." *Journal of Competition Law and Economics* 11.1 (2015): 23-67.

<sup>3</sup> Kay, Benjamin S., Mark D. Manuszak, and Cindy M. Vojtech. "Competition and complementarities in retail banking: Evidence from debit card interchange regulation." *Journal of Financial Intermediation* 34 (2018): 91-108.

<sup>4</sup> Manuszak, Mark D., and Krzysztof Wozniak. "The impact of price controls in two-sided markets: Evidence from us debit card interchange fee regulation." (2017).

pricing strategies, highlighting the need for further examination of regulatory interventions and their effects on market dynamics. Moreover, investments in fraud prevention infrastructure, funded in part by interchange fees, play a crucial role in maintaining the security of payment transactions. Access to banking services, particularly for low-income individuals, is essential for participation in online markets, receiving government payments, and improving credit accessibility, emphasizing the importance of addressing barriers to access in financial regulation.

21. The research leads me to conclude that the proposed changes are expected to result in a decrease in revenue from debit card transactions for covered issuers, impacting access to financial services and the sustainability of existing debit card reward programs funded by debit card fees. While there may be some offset from expected growth in overall debit card volume, it's anticipated to be minimal. To compensate for the loss in interchange fee revenue, covered issuers may consider reducing debit card reward programs, although data suggests there's a limit to how much further they can scale back. Consequently, the reduction in interchange fees is likely to have a more pronounced effect on account fees and access channels. Exempt issuers, however, are not expected to be directly affected, but the proposal could influence competitive dynamics between covered and exempt issuers, potentially leading to changes in fees, interest rates, or services for consumers, as observed in the past policy implementations of the Durbin Amendment.

## 2. The Economic Theory of Debit Cards

22. Payment cards, such as credit or debit cards, operate within a two-sided network, facilitating transactions between consumers and merchants. On one side of the network, consumers utilize payment cards to make purchases, benefiting from the convenience and security offered by these financial instruments. Conversely, on the other side, merchants serve as the businesses that accept

payment cards, gaining advantages such as increased sales, streamlined transactions, security features, and the ability to attract a broader customer base.

23. The value of the payment card network emerges from the interactions between consumers and merchants. Consumers actively seek to use their cards for transactions, while merchants aim to accept cards to accommodate consumer preferences and enhance their sales. This mutual dependence establishes a dynamic where the network's success is contingent upon both parties' collaborative engagement.

24. At the core of the revenue structure for debit cards lies the merchant discount—a fee remitted to the acquirer by merchants accepting debit card transactions. This fee undergoes further distribution, with a portion allocated to the issuer as the interchange fee. The intricate connection between these fees underscores the financial dynamics crucial for sustaining the debit card ecosystem.

25. Competition within this system revolves around various terms, including fees, rewards, and additional features such as consumer protection and customer service. Often denoted as four-party systems, these involve the merchant, the consumer, and the two financial institutions, with the network owner constituting a fifth party.

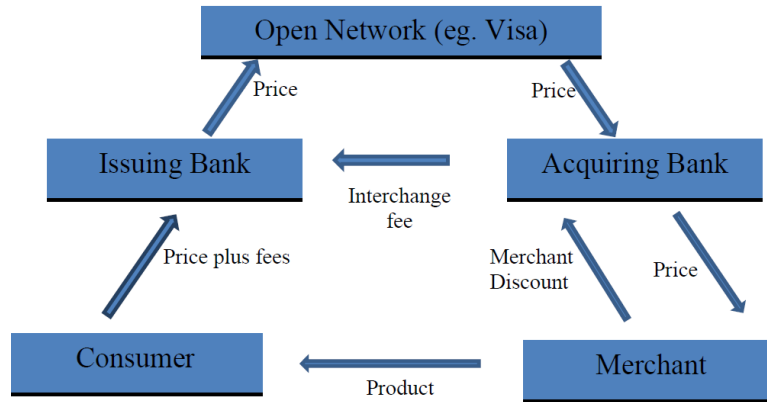


Figure 1: An Open Network System

*Figure 2 Payment Network*

26. Figure 2<sup>5</sup> shows the network structure underpinning the foundation of debit card systems. Delving into the mechanics of this system, let's consider a scenario where a consumer purchases a \$100 item from a merchant using a payment card within an open system. In this context, the issuing institution effectively transfers \$100 to the acquiring institution through the payment system. Subsequently, the acquiring institution deposits the complete \$100 in the merchant's account, deducting a merchant fee or discount.

27. The transaction's perspective concerning interchange fees is critical to this discussion. The acquiring institution essentially pays the issuing institution the interchange fee. To illustrate, if the interchange fee is 1%, the issuer effectively receives \$1 from the acquirer for a \$100 transaction. Operationally, this is achieved by reducing the settlement amount paid by the issuer for that transaction. The Durbin Amendment through Regulation II imposed a cap on interchange fees, and the current proposal seeks to decrease this ceiling further, subject to periodic reassessment every two years. In an unregulated market, interchange fees could

<sup>5</sup> Rysman, Marc, and Julian Wright. "The economics of payment cards." *Review of Network Economics* 13.3 (2014): 303-353.

vary based on the type of merchant or the transaction's value. However, Regulation II, except for the ad valorem component set at 4.0 basis points, introduces a degree of inflexibility.

28. Positive network externalities play a pivotal role in the two-sided nature of payment cards. As more consumers opt to use cards, the attractiveness for merchants to accept them grows, and vice versa. This positive feedback loop creates an environment where more users enhance the experience and benefits for users on the other, fostering a symbiotic relationship.

29. Building network effects is critical for the success of a payment card network, especially in its early stages. Attracting both consumers and merchants simultaneously can be challenging. To address this, platforms or card networks may implement strategic measures such as consumer subsidies or merchant incentives. These approaches encourage adoption on one side, with the understanding that the other side will subsequently benefit from increased participation, thus fostering a balanced and thriving ecosystem. As the number of participants on both sides of the network grows, coordination and efficiency within the system improve. Consumers find it easier to use cards for transactions, and merchants are more inclined to accept cards, creating a self-reinforcing cycle of growth and efficiency. This process is essential for establishing a well-coordinated payment card ecosystem.

30. In the economic analysis of the debit card system, interchange fees emerge as pivotal elements in balancing terms between consumers and merchants. Concepts like merchant internalization, wherein merchants weigh the surplus offered to cardholders when deciding to accept cards, play a significant role in shaping the system's dynamics.

31. In the context of card networks and two-sided markets, a fundamental principle emerges from a simple yet impactful insight: the status of cash as legal



tender plays a central role in shaping the landscape. This essence revolves around the interaction between merchants and consumers at the point of sale (POS), with dynamics heavily influenced by uncertainty surrounding merchant adoption of alternative POS methods which affects their value to consumers. This uncertainty, in turn, affects the incentives for other merchants to adopt different electronic payment methods since consumers may not be using debit cards.

32. The rationale is straightforward – as long as cash maintains its legal tender status and adoption of electronics payments has some cost, then heightened uncertainty about some merchant choices diminishes the motivation for other merchants to embrace electronic payment methods. This coordination problem in adopting payment technologies amongst merchants can exist as merchants always take cash even when cash can be more costly to handle. This ripple effect is due to the consumer side since debit cards have little value if they are not accepted. Greater uncertainty reduces the perceived value of debit cards as their utility, at the individual consumer level, is contingent on merchants' acceptance decisions. This is compounded by network effects, a decrease in merchant acceptance of electronic payment cards further dampens consumer incentives to adopt them. Thus, the intricate interplay between legal tender status, merchant choices, and consumer adoption forms the foundation of this two-sided market competitive dynamic.

33. Interchange fees are pivotal in maintaining equilibrium in the two-sided debit card network, providing essential funding for subsidies directed towards consumers rather than merchants. Several vital considerations propel this strategic focus on consumer subsidies. Firstly, recognizing the pivotal role of consumers in generating network effects, subsidies make their participation more appealing, creating a critical mass that incentivizes merchants to join and access a broader market. These subsidies frequently manifest through rewards programs, no-fee account offerings, and improved banking services provided to consumers.

Secondly, consumer adoption, in turn, acts as a catalyst for merchant participation, aligning to achieve widespread consumer acceptance and subsequently driving merchant adoption.

34. Consumer subsidies also significantly encourage behavior change by offering rewards, negative fees, or both, fostering a shift towards the preference for payment cards over alternative instruments. The asymmetric benefits inherent in payment card usage, where merchants gain advantages like increased sales while consumers value convenience, necessitate subsidies to balance these asymmetric benefits and ensure active participation from both sides. In addressing potential consumer resistance, often rooted in concerns about fees or reluctance to change payment habits, subsidies mitigate these barriers, making payment cards more appealing and contributing to a smoother and more rapid adoption process. In a competitive market landscape with various payment options, consumer subsidies create a strategic advantage for payment cards, influencing merchants to adopt the system widely used by consumers.

35. The strategic use of interchange fees further enhances this approach, acting as a mechanism for cross-subsidies that allow for consumer subsidies without compromising merchant adoption. In essence, subsidizing consumers in payment card systems is a well-thought-out strategy that considers network effects, encourages widespread consumer adoption, aligns with changing market dynamics, and effectively balances the interests of both consumers and merchants. By prioritizing consumer subsidies, payment card systems can foster a thriving ecosystem that benefits all participants in the long run.

36. In a recent theoretical breakthrough, Jain and Townsend (2021) have demonstrated that the market-determined price in a two-sided market is inherently efficient. Their research focuses on the economics of platforms, particularly scrutinizing payment networks like payment cards. The core arguments supporting

the efficiency of payment networks can be summarized into several key points. The study posits that economic platforms thrive by attracting diverse user types, especially in payment systems like digital currencies, payment cards, and mobile payments. The efficacy of these platforms is contingent on both merchants accepting the payment and consumers using it. The research contends that platforms achieve market efficiency by adeptly internalizing network effects. Platforms strategically offer type-specific contracts, incorporating different payment structures that precisely specify the number and composition of users. This inherent internalization ensures the seamless integration of more or different user types into the platform's functionality. The study underscores the pivotal role of user composition in platforms, particularly in payment card systems. It emphasizes the interdependence of users, where the platform choice of one agent can significantly influence the willingness of others to join.

37. Even when agents' preferences hinge on the platform's composition, the competitive equilibrium remains efficient, showcasing the market's adept balancing of considerations for consumers and merchants within the payment card system. Moreover, the study underscores the pivotal role of pricing mechanisms, such as interchange fees, within payment networks. These mechanisms naturally internalize the benefits of altering a platform's composition, indicating responsiveness to the dynamics of attracting different user types. The argument asserts that payment networks contribute to an efficient economic environment by astutely considering and internalizing consumers' and merchants' preferences and dependencies. According to the study, payment platforms are crucial in addressing diverse user needs and effectively managing network effects.

### 2.1 Surcharging influences fees: challenges Durbin Amendment rationale.

38. Surcharging, imposing additional fees on consumers who pay by card, is a complex and multifaceted aspect of payment card systems, particularly concerning

interchange fees. Surcharging is legal in many States. According to Verdier (2011), allowing merchants to surcharge card payments enables them to charge consumers a higher price when they choose to pay by debit or with a credit card (or, alternatively, give a cash discount). This allows merchants to extract a portion of the benefits consumers derive from using payment cards, effectively transferring surplus from cardholders to merchants. This undermines the effect of interchange fees on balancing a two-sided market in cards. The literature on surcharging often refers to the neutrality result, suggesting that the level of interchange fees becomes irrelevant to the decisions of cardholders and merchants when surcharging is allowed.

39. Despite being allowed in many regions; merchants do not uniformly practice surcharging. In Sweden, for example, only 5% of merchants employ surcharges. Existing models do not fully explain this underutilization, and merchants often consider surcharging costly, as noted by Gans and King (2003). However, Rysman and Wright (2012) argue that observed behavior, such as add-on pricing at the register, challenges the perfect cost-based surcharging assumptions inherent in neutrality models.

40. Surcharging can act as a mechanism to prevent excessive interchange fees in payment card systems. Surcharges are an extraction of surplus generated from the payment system from the consumer to the merchant. Sometimes the surcharge is larger than the interchange fee as merchants reclaims the interchange fee and extract some of the consumer surplus. Surcharging introduces a link between interchange fees and the perceived cost of using payment cards. However, Consumers may become more sensitive to the fees associated with different payment methods when facing surcharges. This incentivizes payment networks and issuers to set interchange fees at lower levels to remain competitive and avoid consumer backlash. At the least, it acts as a safety valve. Alternatively, if the

surcharge for using a payment card becomes too high, consumers may opt for alternative payment instruments, such as cash or other electronic methods. This competitive pressure encourages payment networks to set interchange fees that are reasonable and competitive with different payment options. This negates the market rationale for the Durbin Amendment.

## 2.2 Card payments benefit merchants, but merchants always want lower fees.

41. Accepting card payments offers merchants many advantages, significantly contributing to the pervasive adoption of card transactions in the retail and business sectors. One of the primary merits lies in the potential for increased sales. Card payments provide customers with a convenient and universally accepted payment method, attracting a broader customer base that includes those exclusively or predominantly using cards for transactions. This expanded clientele often translates into increased sales, bolstering the overall revenue for merchants. Moreover, accepting cards contributes to an enhanced shopping experience by providing customers with a quick and hassle-free payment method. This convenience reduces the reliance on cash transactions, streamlining the purchasing process and making it more seamless for customers to complete transactions. Additionally, customers utilizing cards tend to exhibit a higher spending propensity compared to cash transactions. Accepting cards allows merchants to capture larger transaction amounts, especially when customers might not have sufficient cash on hand. This increased spending potential can significantly impact a merchant's bottom line, further highlighting the advantages of card acceptance.

42. The service and convenience of offering card payment options prove to be a substantial differentiator for merchants. Consumer preferences lean towards businesses that provide a variety of payment choices, and embracing card payments can confer a competitive edge upon merchants, distinguishing them from those with limited POS options. Beyond consumer preference, merchants also reap

the benefits of reduced cash handling costs when they accept cards. The intricacies of handling and managing cash transactions involve various expenses related to security, counting, and transporting cash. By accepting cards, merchants can mitigate these costs, as electronic transactions are more efficient and require less manual intervention. Additionally, electronic transactions, including card payments, provide a digital record of each sale, simplifying accounting and record-keeping processes for merchants. This digital trail proves invaluable in financial reporting, inventory management, and reconciliation, contributing to more efficient business operations. Security is another significant aspect enhanced when merchants accept card payments. Card transactions offer a more secure payment method than cash, reducing merchants' susceptibility to theft and counterfeit money. The reduced physical presence of cash on the premises also minimizes the risk of robbery, contributing to a safer business environment.

43. In the context of the existing card network, merchants are incentivized to consider the network as a given and advocate for reduced interchange fees. Interchange fees constitute a cost for merchants to accept card payments. Directly reducing these fees decreases the overall transaction costs for merchants, thereby enhancing their profitability. While merchants stand to gain from lower interchange fees, it is crucial to strike the right balance. Deficient interchange fees have the potential to impact the payment system's sustainability, affecting card issuers' ability to invest in critical areas such as infrastructure and security within the payment ecosystem. Consequently, engaging in negotiations to establish reasonable interchange fees becomes essential to create a mutually beneficial scenario for both merchants and the broader payment card system.

44. According to Gans (2018),<sup>6</sup> a higher interchange fee does not translate to lower issuer pricing, which would encourage increased card usage by consumers. Instead, it results in lower merchant adoption of cards, leading to suboptimal card utilization from a societal standpoint. This is likely in a competitive POS environment and, thus, acts as a restraint on payment networks using high interchange fees. Additionally, consumers may encounter negative card fees imposed by merchants, potentially using store cards or exclusive branded cards. This strategy could proliferate payment instruments, introducing more exclusivity and potentially reducing competition among merchants. This raises uncertainties about the benefits for cash users and concerns about potential losses that card users suffer. There are many markets and potential market options that would prevent inefficiently high interchange fees. However, merchants will always benefit from capped interchange fees by regulators at the expense of market efficiency and participants - including the consumers the Durbin Amendment purported to help.

### 2.3 The Durbin Amendment Interchange Fee structure is not Based on Economic Theory.

45. According to various studies, The Durbin Amendment fee structure, characterized by a cost-based regulation of interchange fees, faces significant criticisms and challenges. Wang (2016) argues that an issuer's cost-based regulation lacks a solid theoretical foundation and may lead to unintended consequences. Ignoring the market's two-sided nature, such a regulation runs the risk of undershooting or overshooting. In the latter case, setting the interchange fee too low could potentially harm the total user surplus and the issuer's profit, thereby diminishing social welfare.

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<sup>6</sup> Gans, Joshua S. "Are We Too Negative on Negative Fees for Payment Cardholders?." Rotman School of Management Working Paper 3162627 (2018).

46. Mukharlyamov and Sarin (2022)<sup>7</sup> point out that the Durbin Amendment fee structure, with a fixed component in its formula, results in interchange fees that are not proportional to the transaction value. This lack of proportionality creates challenges for merchants attempting to pass through savings to customers, potentially hindering the intended benefits of cost-based regulation. Additionally, Fung et al. (2018)<sup>8</sup> highlight findings that introducing a uniform interchange fee cap for debit cards in the United States increased fees for merchants with small average transaction values while decreasing fees for those with large average transaction values. Based on the implemented fee structure, this suggests potential distortions and adverse effects on merchant costs.

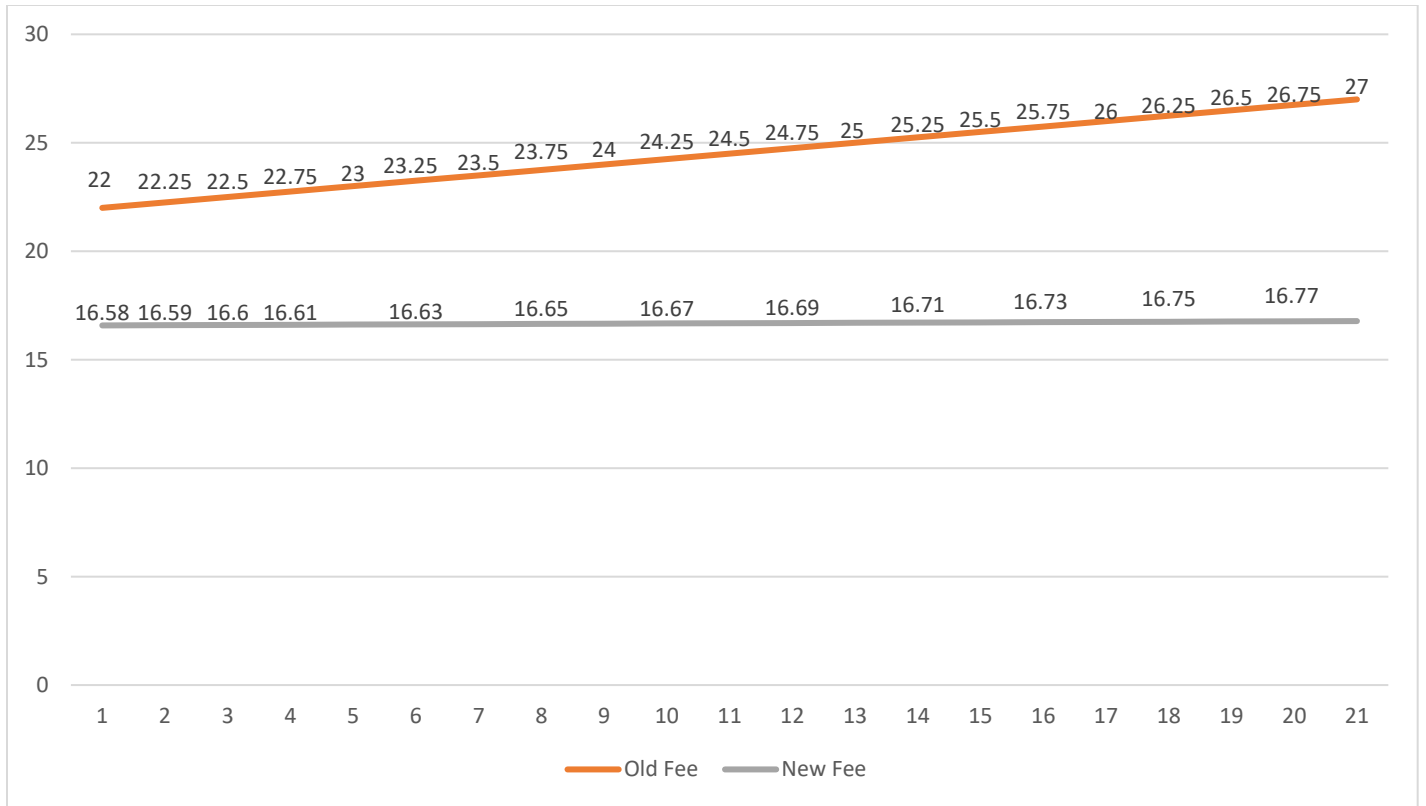
47. Figure 3 shows the expected interchange fee by transaction value. At a transaction of \$5, the interchange fee goes from \$0.22 to \$0.1658 - a substantial decrease. However, at \$100, the interchange fee would rise to \$0.27 and, under the new proposal, to \$0.1678. This almost wholly flat fee structure is not what economic theory recommends.

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<sup>7</sup> Mukharlyamov, Vladimir, and Natasha Sarin. "Price Regulation in Two-Sided Markets: Empirical Evidence from Debit Cards." Available at SSRN 3328579 (2022).

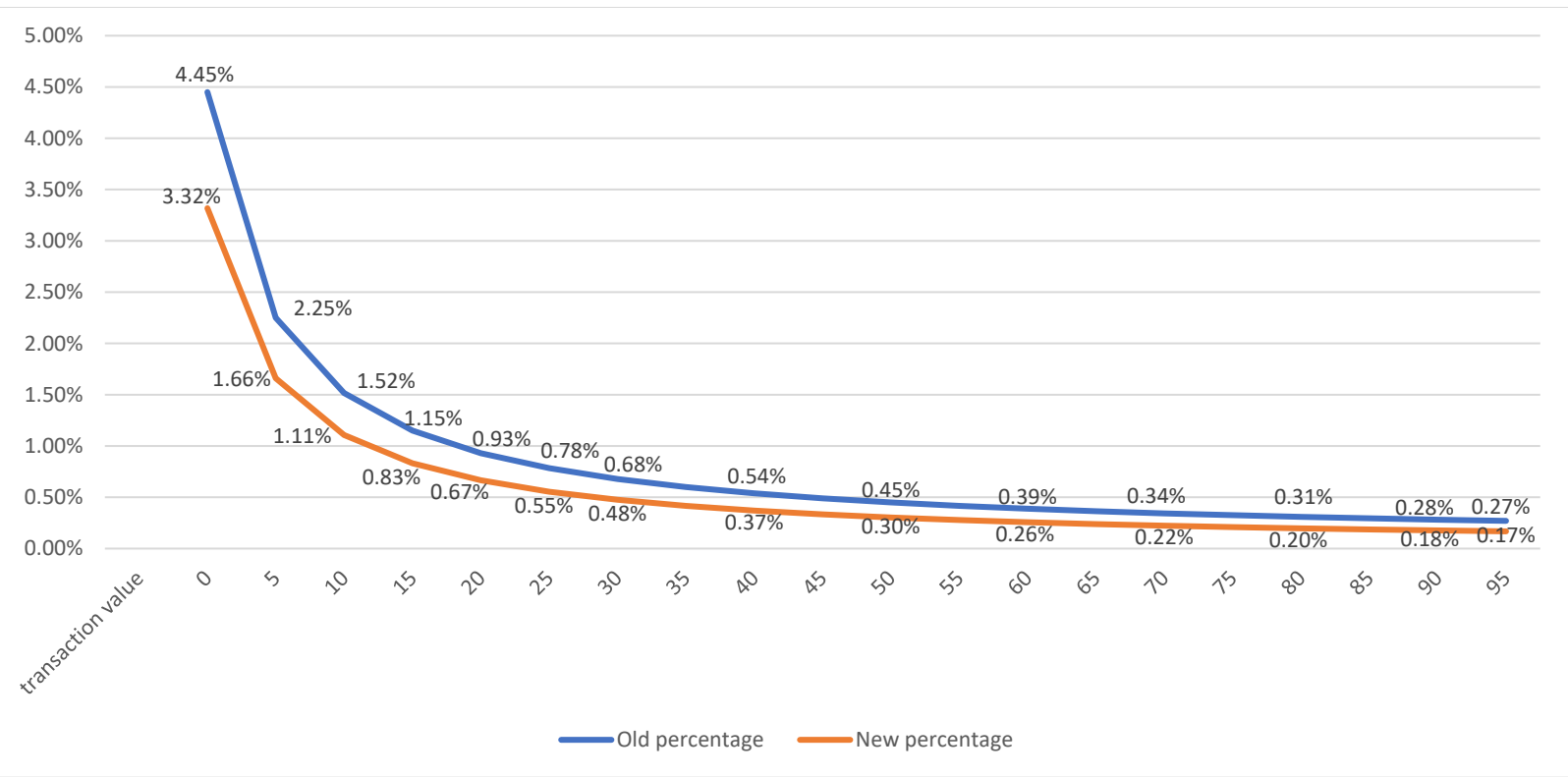
<sup>8</sup> Fung, Ben, Kim P. Huynh, Kerry Nield, and Angelika Welte. "Merchant acceptance of cash and credit cards at the point of sale." *Journal of Payments Strategy & Systems* 12, no. 2 (2018): 150-165.





*Figure 3: Interchange Fee by Transaction Value in Cents*

Additionally, Figure 4 shows the interchange fee under Durbin is decreasing as a percentage of transaction value. The new regulations will only make the interchange fee as a percentage of transaction value even smaller. This fee structure is the opposite of what economic theory advocates. The fee should be smaller for small transaction values. This occurred in the pre-Durbin environment when small transaction values had lower interchange fees that subsidized the consumer to encourage electronic payments. This fee structure rewards big merchants with high transaction values at the expense of the consumer and smaller merchants.



*Figure 4: Interchange Fee as a percentage of transaction Value*

48. Rysman and Wright (2012)<sup>9</sup> point out that existing regulators, such as the Board, have used narrowly defined issuers' variable costs to determine the cap on allowed interchange fees. However, this approach lacks support from economic theory. As shown in Section 8.2, none of the existing models for determining optimal interchange fees implies that setting fees based on issuers' costs will be optimal or contribute to increased welfare compared to unregulated fees. These critiques highlight concerns about the Durbin Amendment fee structure's effectiveness, theoretical foundation, and unintended consequences, indicating the

<sup>9</sup> Rysman, Marc, and Julian Wright. "The economics of payment cards." *Review of Network Economics* 13.3 (2014): 303-353.

need for a more nuanced and comprehensive approach to regulating interchange fees in two-sided markets.

### 3. Durbin Amendment alters bundled financial services pricing.

49. Debit cards are not typically purchased as standalone products; instead, they form integral components of modern financial services and are frequently included in bundled offerings by financial institutions. These bundles, primarily centered around checking accounts, provide a comprehensive suite of services. This includes access to accounts through various channels like branches and ATMs and additional features such as checks, direct deposit, online access, online bill pay, and wire transfers. The bundling of debit cards with other financial services has become a widespread practice in the finance industry. This presents consumers with a complete set of financial tools and conveniences packaged together. The prevalence of bundling debit cards with accounts has attracted the attention of researchers and economists, prompting studies to delve into the implications and effects of this practice within the dynamic landscape of two-sided markets.

50. The economic theory of bundling involves the strategic practice of presenting multiple goods or services as a consolidated package rather than individual offerings. This approach is grounded in the belief that amalgamating diverse items into a single bundle can generate value for sellers and buyers. Various economic theories shed light on the motives and consequences associated with bundling.

51. One key aspect is the concept of economies of scale and scope, where bundling can lead to cost savings for financial institutions by streamlining the production and distribution of a package of financial services. This efficiency contributes to enhanced profitability compared to dealing with each service independently. Price discrimination is another strategic use of bundling, allowing

sellers, such as financial institutions, to offer different bundles at various price points. This enables competition for customers by attracting diverse market segments. For instance, a financial institution may present a basic account at a lower price and a premium account with additional features or rewards at a higher cost. Additionally, bundling can stimulate network effects in two-sided markets such as debit cards, where the value of a payment network depends on the participation of both consumers and merchants. Financial institutions leverage this by offering complementary products, creating a more robust network of potential debit card users, and creating value for the payment network. Financial institutions strategically use bundling to compete in a highly competitive market for account services. For instance, the revenue generated from debit card interchange fees faces intense competition, leading to the adoption of promotional rewards or benefits like no-fee checking accounts. Ultimately, from the standpoint of maximizing consumer welfare, demand for affordable and convenient financial products and services, a competitive market serves as the best allocator of interchange revenue and not large merchants that have been shown to only pass through a small amount of savings to consumers.

52. From the consumer's perspective, bundling is pivotal in enhancing consumer surplus, capturing the difference between the perceived value of a good or service and the actual payment made. Offering bundles at a cost lower than the sum of individual items allows consumers to derive increased value from their purchase, ultimately leading to heightened satisfaction. The crucial aspect is that bundling occurs when the debit card platform subsidizes participation in financial services, with the checking account acting as a loss leader. Cross-subsidization is a crucial mechanism facilitated through bundling, where profits generated from one product, such as debit card fees, subsidize the price of another, like the cost of a checking account. Employing bundling to subsidize participation in checking accounts

expands demand in this domain. This can be achieved by attracting new consumers to the market or enticing consumers away from competing financial institutions. This strategic use of bundling encourages the adoption of checking accounts, particularly among consumers who might not otherwise afford them.

53. The Durbin Amendment has specifically impacted a bundle of products centered around the checking account for financial institutions. Despite credit unions' rich spectrum of products offered, the most natural and straightforward response to regulation is to reset prices within and exclusively within the regulated bundle. This approach does not necessitate extensive communication and coordination across various functional areas within a financial institution. Economic literature has uncovered many effects of the Durbin Amendment regulation on the pricing of financial services. In Section 4, I show that the economic literature has revealed what economic theory predicts should happen—that the pricing of the bundle of financial services changes when interchange revenue from debit cards falls.

#### 4. The Negative Effects of the Durbin Amendment Revealed by Economic Research

54. The Board anticipates that the revised interchange fee structure will notably impact covered issuers, primarily by diminishing their revenue derived from debit card transactions, specifically through a decline in interchange fee revenue. However, the proposal suggests that the ongoing expansion of total debit card volume could partially mitigate this reduction in income. Despite the possibility of covered issuers considering offsetting the loss through reductions in debit card reward programs, the Board admits that such programs were largely curtailed or eliminated after adopting the Durbin Amendment interchange fee cap. There are fewer bonus programs to curtail. As a result, the current proposal has a high

potential to prompt covered issuers, especially those catering to niche market segments, to contemplate downsizing or discontinuing their debit card programs.

#### 4.1 Durbin Amendment analysis shows consumer losses, retailer gains, and bank profit impacts, revealing complex dynamics of fee regulation effects.

55. The research conducted by Evans, Chang, and Joyce (2015)<sup>10</sup> examines the impact of the U.S. debit-card interchange fee regulation on consumer welfare through an event-study analysis of stock prices, focusing on the consequences of the Durbin Amendment. The study utilizes stock prices as indicators to assess the anticipated effects on consumers, merchants, and banks. The key findings suggest that the present discounted value of losses, as of 2014, for consumers resulting from the Durbin Amendment's implementation is estimated to be between \$22 billion and \$25 billion.

56. The study uses a well-understood methodology that uses the expectations of capital markets regarding the behavior of publicly traded retailers and banks in response to the regulation. Capital markets anticipated that publicly traded retailers would retain billions of dollars in profits due to reduced debit-card interchange fees. At the same time, publicly traded banks were expected to lose billions of dollars in profits. This implies that a significant portion of the decrease in interchange fees would impact bank profits rather than being fully passed on to consumers. To estimate the impact on stock prices, the study considers 100 retailers with the highest U.S. sales in 2010 and 100 issuers with the largest total dollar volume on U.S. debit cards in 2010. The results show estimates of banks' losses in profits ranging from \$15.9 billion to \$16.4 billion and merchants' gains in profits ranging from \$38.1 billion to \$41.1 billion.

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<sup>10</sup> Evans, David S., Howard Chang, and Steven Joyce. "The impact of the US debit-card interchange fee regulation on consumer welfare." *Journal of Competition Law and Economics* 11.1 (2015): 23-67.

57. The research indicates that retailers pass on some of their savings to consumers and do not retain all the benefits as profits. Similarly, banks pass some of their losses on to consumers rather than absorb all losses through reduced profits. The study emphasizes that the pass-through rate, the extent to which cost changes are transferred to consumers, is approximately 49 to 53 percent for retailers and 80 percent for banks under plausible assumptions.

58. The research underscores the complex dynamics and implications of the Durbin Amendment on financial services, as reflected in stock price movements, profit expectations for retailers and financial institutions, and the pass-through rates observed in the market. The estimated impact on consumers suggests a potential loss of \$22 billion to \$25 billion, emphasizing the nuanced effects of the regulation on fees, reduced financial services, merchant prices, and merchant services. It is important to note that these results are a conservative underestimate. These results do not include how exempt institutions behaved. They also do not show the losses by financial institutions that are not publicly traded -- such as credit unions. Nor do these results reflect the losses experienced by those who lost access to the financial system when they lost access to products, such as no-fee checking accounts, subsidized by interchange fee revenue.

#### 4.2 U.S. banks offset lost income from debit card regulation by raising deposit fees, leveraging market power, emphasizing bundling, and retention.

59. The research by Kay, Manuszak, and Vojtech (2018)<sup>11</sup> investigates the impact of the U.S. debit card interchange fee regulation on retail banks. The study employs a difference-in-differences identification strategy to analyze the effects of the regulation on covered banks compared to exempt banks. Difference-in-

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<sup>11</sup> Kay, Benjamin S., Mark D. Manuszak, and Cindy M. Vojtech. "Competition and complementarities in retail banking: Evidence from debit card interchange regulation." *Journal of Financial Intermediation* 34 (2018): 91-108.

differences (DiD) is a statistical methodology extensively used in economics research to estimate causal effects. It assesses the impact of a treatment or policy by comparing outcome changes over time between a treated group and a control group. The analysis is conducted over pre- and post-treatment periods, with the fundamental assumption being parallel trends in the absence of treatment between covered and exempt banks.

60. The research reveals a substantial decline in interchange income for treated banks, averaging approximately 28%, due to regulatory changes. The estimated aggregate reduction amounted to \$4.1 billion in the primary sample, rising to \$6.5 billion when applied to all treated banks, excluding a few credit card banks.

Treated banks demonstrated a remarkable ability to offset over 90% of the lost interchange income by increasing deposit fees for account holders, indicative of their market power. The study underscores the significance of complementarity between debit card transactions and deposit accounts, leading multiproduct firms like banks to bundle services strategically.

61. The primary avenue for treated banks to mitigate the regulatory impact was through adjustments in deposit fees. Despite concerns that heightened fees might prompt customers to switch to untreated banks, the study found no evidence of a decrease in the number of deposit accounts at treated banks. The research emphasizes the theoretical prerequisites for this observed phenomenon, highlighting the necessity for banks to possess some market power. The complementarity between debit cards and deposit accounts emerges as a crucial factor for banks to navigate effectively in response to regulatory caps on interchange fees.

62. The research findings highlight the strategic response of treated banks to U.S. debit card interchange fee regulation, emphasizing the bundling of products and services, particularly the complementary relationship between debit card



transactions and deposit accounts, as discussed in Section 3. With some market power, treated banks effectively offset the decline in interchange income by increasing deposit fees, as expected, with complementarity in bundled financial services. The study shows that the bundled nature of services contributes to customer retention, as evidenced by the absence of a decrease in deposit accounts despite concerns about potential customers switching due to increased fees. The insights underscore the importance of market power in enabling banks to strategically navigate regulatory changes by bundling products, adjusting fees, and ensuring stability in customer relationships. The research highlights how bundled products, complementarity, and market power collectively shape retail banks' responses to regulatory shifts in interchange fees.

63. The study suggests that financial institution customers predominantly bear the burden of reduced interchange fees through higher account fees. This challenges the notion that consumers, who might have expected to benefit from reduced interchange fees, were the primary beneficiaries. The overall impact of the regulation was negative, with banks being strategic in mitigating the costs with more fees but high costs for consumers facing higher fees. Despite the significant cost shock implied by the regulation, the research found no abnormal account-switching behavior among bank customers. Multi-product firms, like banks, showcased their ability to utilize various strategies, such as raising revenue on other products and adjusting balance sheets, to ameliorate the effects of regulatory changes.

### 4.3 Banks adjusted pricing strategies post-Durbin Amendment, revealing competitive responses and consumer impacts.

64. The outcomes presented in the study by Manuszak and Wozniak (2017)<sup>12</sup> provide valuable insights into the repercussions of the Durbin Amendment for both banks and consumers. Employing a difference-in-differences methodology, the research delves into how financial institutions adapted their account pricing strategies following the regulatory cap on interchange fees. The differential application of the cap across various banks and account types is a focal point, with careful consideration given to the equilibrium spillover effects on banks not subject to the cap. The study illustrates that banks under the cap responded by increasing checking account prices, employing tactics such as limiting free account availability, raising monthly fees, and elevating minimum balance requirements. Furthermore, exempt banks competitively adjusted their pricing, responding to the alterations initiated by regulated banks. This comprehensive examination, with different data, corroborates the findings of Kay et al. (2018), adding further weight to the understanding of the multifaceted impact of the Durbin Amendment on the banking sector and its customers.

65. The primary data for the analysis comes from RateWatch, a consultancy specializing in the retail banking industry. The dataset includes detailed pricing information for three deposit account products: noninterest checking, interest checking, and savings. While per-transaction fees are not directly observed, the study uses a measure called "Exposure" to assess how strongly an exempt bank competes with covered banks for retail customers, constructed using data from the FDIC's Summary of Deposits (SOD).

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<sup>12</sup> Manuszak, Mark D., and Krzysztof Wozniak. "The impact of price controls in two-sided markets: Evidence from us debit card interchange fee regulation." (2017).

66. The research emphasizes the importance of considering competitive responses when evaluating the impact of the policy. Not accounting for such responses may lead to underestimating the policy's effects on capped and exempt banks. The study introduces the concept of a "waterbed effect," indicating how changes in regulated banks' prices influence the pricing decisions of their exempt competitors. The researchers utilize a detailed panel dataset capturing multiple terms and fees across various account types, allowing for a comprehensive analysis of price adjustments. Table 1<sup>13</sup> displays the simple means, presenting the preliminary findings before applying models that control for various effects. The results indicate that consumers experience a reduced availability of free checking accounts, increased fees, and higher minimum balance requirements. A parallel effect is observed for exempt banks, although the magnitude of these changes is comparatively smaller.

*Table 1: Sample means by account type and issuer status*

TABLE I: SAMPLE MEANS OVER TIME BY ACCOUNT TYPE AND ISSUER STATUS

Variable	Account type	Covered Issuers		Exempt Issuers	
		Pre-Reg II	Post-Reg II	Pre-Reg II	Post-Reg II
<i>FreeAccount</i> (%)	Noninterest checking	51.7	30.0	54.0	55.3
	Interest checking	6.2	8.3	6.5	7.2
	Savings	11.8	15.3	25.5	22.8
<i>MonthlyFee</i> (\$)	Noninterest checking	6.74	7.68	6.02	6.03
	Interest checking	11.89	13.18	8.67	8.89
	Savings	5.05	5.40	3.86	4.05
<i>AvoidFee</i> (%)	Noninterest checking	82.6	86.7	88.2	89.8
	Interest checking	100.0	97.1	98.8	98.8
	Savings	100.0	100.0	99.9	100.0
<i>MinBalance</i> (\$)	Noninterest checking	848.34	1098.98	592.58	620.68
	Interest checking	3062.55	4570.28	1402.43	1713.12
	Savings	292.76	387.36	177.77	189.05

Source: RateWatch and Federal Reserve Board

<sup>13</sup> Manuszak, Mark D., and Krzysztof Wozniak. "The impact of price controls in two-sided markets: Evidence from us debit card interchange fee regulation." (2017) Pg33.

67. The results of the full model show that covered banks were less likely to offer free noninterest checking accounts after the regulation, with a substantial reduction compared to the scenario without the regulation. Monthly fees on noninterest and interest checking accounts increased, and minimum balance requirements to avoid monthly fees saw significant hikes. The research highlights the nonlinear pricing response, indicating differences in consumer price sensitivity between terms and fees and across different account types. This is what economic theory centered around bundling would predict. Depending on their competitive exposure to covered banks, exempt banks adjusted their prices, although the magnitude of their responses was generally lower than those of covered banks. The analysis underscores the importance of considering equilibrium pricing effects in a market where covered issuers' prices influence those set by exempt competitors.

68. The study draws attention to the theoretical models of two-sided markets, emphasizing the deviations from reality regarding issuer pricing. It notes that issuers use nonlinear, account-based pricing, cross-sell multiple products, and are heterogeneous firms subject to idiosyncratic cost shocks. The research highlights the need to recognize the interdependence of prices set by covered and exempt issuers in a competitive environment.

#### 4.4 The Durbin Amendment raised account fees, disproportionately affecting low-income households and leading to changes in banking behavior.

69. In two-sided markets, exemplified by debit card networks, the persuasion of both consumers to use cards and merchants to accept them is crucial (Mukharlyamov & Sarin, 2022)<sup>14</sup>. These platforms often resort to subsidizing one side of the market to generate profits that surpass competitive levels from the other

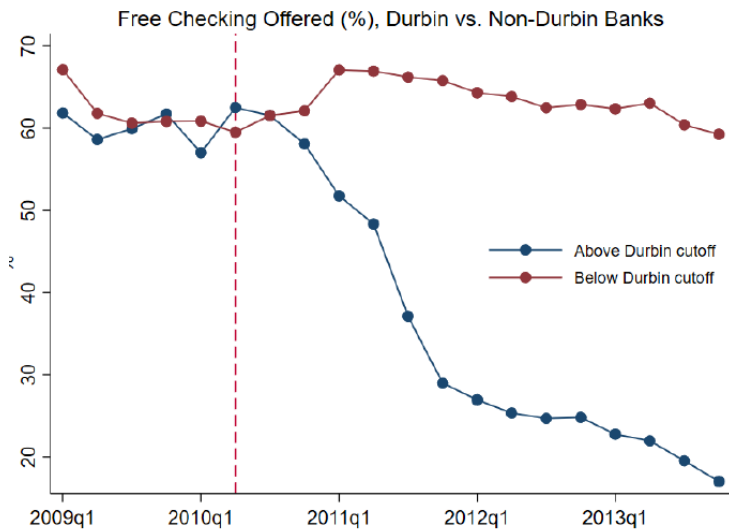
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<sup>14</sup> Mukharlyamov, Vladimir, and Natasha Sarin. "Price Regulation in Two-Sided Markets: Empirical Evidence from Debit Cards." Available at SSRN 3328579 (2022).

side—the consumer. The Durbin Amendment increased consumer checking account fees, a side of the market that was previously subsidized.

70. In response to the collective loss of \$5.5 billion in annual revenue attributed to the Durbin Amendment, banks opted to transfer 42 percent of these losses onto consumers. This shift is evident in Figure 5, illustrating a substantial transformation. The share of free checking accounts, previously at 61 percent, plummeted to 18 percent. Simultaneously, there was a noteworthy increase in average checking account fees, as indicated in panel B of Figure 5. Specifically, monthly maintenance fees, which had an average of \$3.07 for banks above the Durbin threshold, surged by nearly 100 percent due to the enactment of Durbin. This fee increase reflects the consequential impact of the regulatory changes on consumers. While adjustments in pricing are observed across various account types, the magnitude is less pronounced. For interest checking accounts, covered banks witnessed a rise in monthly maintenance fees of \$1.55, constituting a 14 percent increase. Similarly, savings accounts experienced an adjustment, with banks increasing withdrawal penalties by \$1.40, marking a 39 percent increment. These changes underscore the multifaceted effects of the Durbin Amendment on different aspects of banks' fee structures and consumer interactions.

Panel A: Availability of Free (\$0 Monthly Fee) Accounts



Panel B: Account Fees

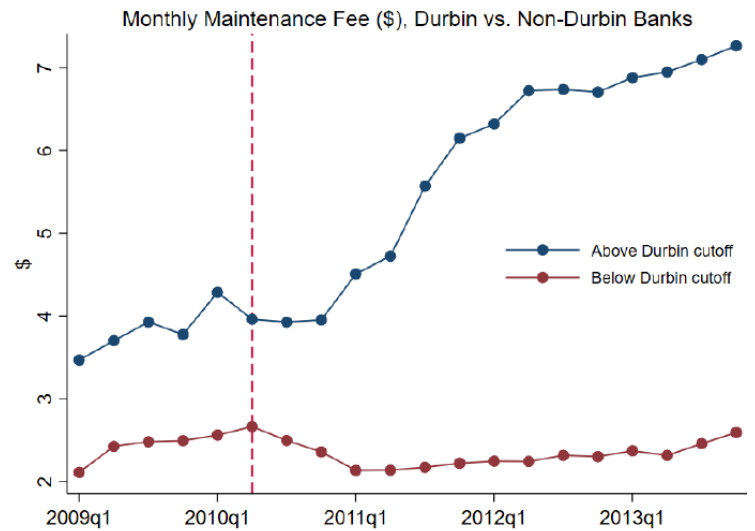


Figure 5: Changes due to regulations

71. The Durbin Amendment significantly impacted monthly minimum balances for consumers as financial institutions responded to the collective loss of over \$5.5 billion in annual revenue due to the regulation. In this study with banks over \$500M in assets, they raised fees on checking accounts, a service previously offered for free. The average monthly maintenance fees substantially increased, nearly doubling from \$3.07 to \$5.92. Concurrently, monthly minimums to avoid fees experienced a 21 percent rise. Figure 6 shows how these adjustments disproportionately affected low-income consumers. Each panel shows the distribution of account balances and how many customers fell below the cut-off for no-fee accounts. Unsurprisingly, the percentage of accounts in the no-fee checking zone correlates with household income. In the post-Durbin era, those who couldn't maintain the required minimum balance, primarily low-income households, faced a high cost to keep financial services.

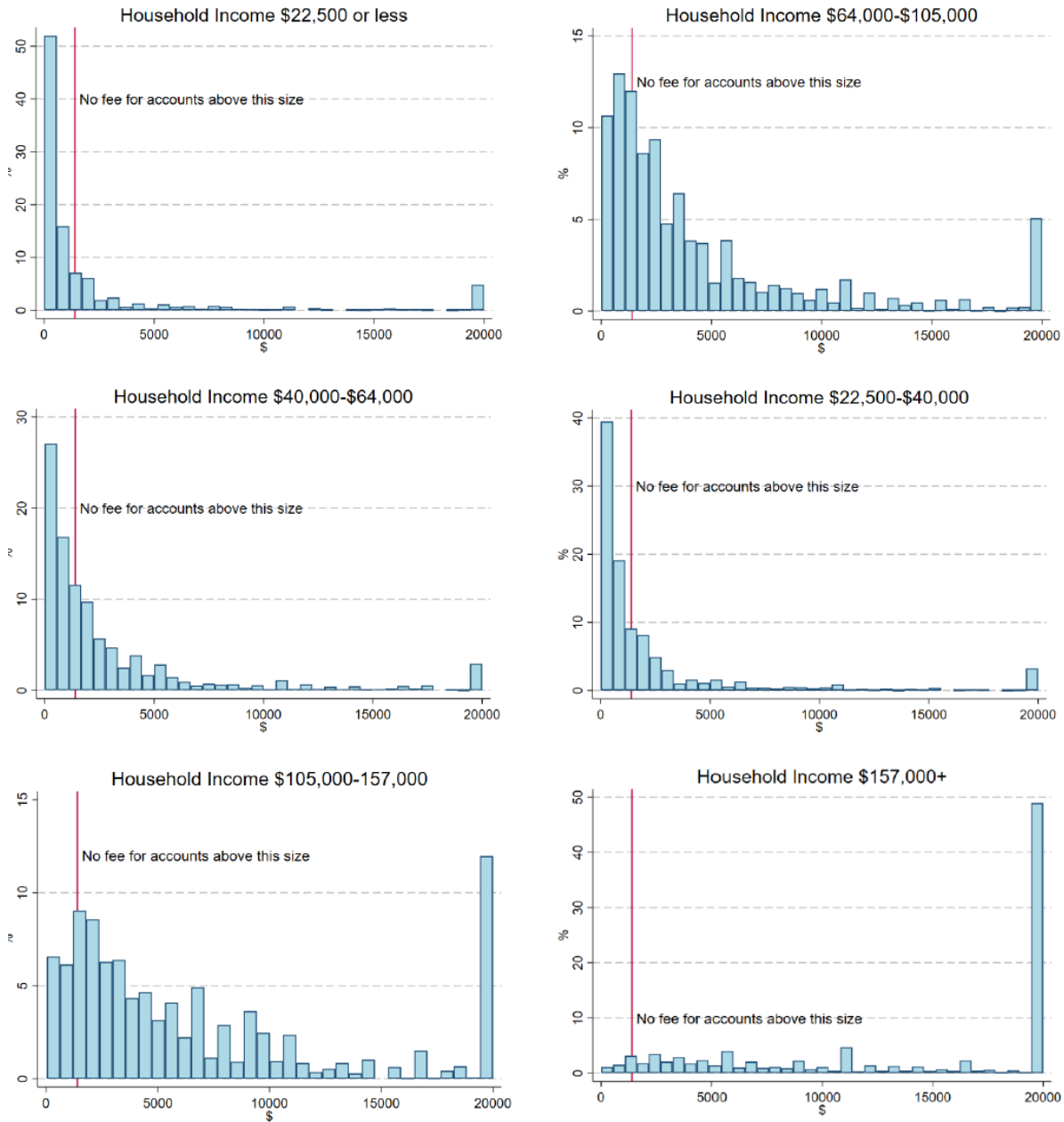


Figure 6: Changes by Income

72. The study also analyzes geographical patterns, which indicates a decline in the engagement of large banks in the debit-card payments market within ZIP codes significantly impacted by the Durbin Amendment. This geographical trend correlates with an increase in credit card usage. Notably, residents with lower incomes in areas experiencing a more pronounced withdrawal of large banks from

debit cards exhibit a higher likelihood of carrying unpaid credit card balances. This localized response is attributed to the bundled nature of checking account prices, emphasizing their role in providing low-income households access to the financial system. Notably, fees on interest checking accounts, savings accounts, and money market accounts exhibit minimal changes in the aftermath of the Durbin Amendment.

#### 4.5 Effect on Prices: Durbin Amendment's consumer benefits were overstated.

73. The Board's perspective, as articulated in the proposed rule, centers on the notion that the primary consequence of the proposal would be a reduction in the costs incurred by merchants when handling debit card transactions. This is chiefly attributed to the expected decrease in interchange fees, translating into a lowered financial burden for merchants, specifically in the form of a diminished merchant discount. The merchant discount, in this context, represents the fee remitted by a merchant to its acquirer for processing a debit card transaction. The Board acknowledges that the pass-through of savings resulting from the reduced interchange fee will likely exhibit variability among merchants and that not all merchants might choose to convey the entirety of the savings to consumers, and the extent of this pass-through may vary across different businesses.

74. Regarding potential consumer benefits, the rule anticipates that merchants, capitalizing on the reduced costs associated with accepting debit card transactions, would extend these savings to consumers through diverse channels. This may be reduced prices for goods and services, a strategic decision to abstain from future price hikes, or product or service quality enhancements. The expected consumer advantages manifest across a spectrum of pricing strategies and product/service enhancements. This belief was wrong and was not experienced after the Durbin Amendment was implemented. The Board has no reason to believe any, but a small fraction of savings will be passed on to consumers.



75. The "rockets and feathers" phenomenon, as documented by Peltzman in 2000 and referenced in Mukharlyamov and Sarin's paper, describes a pattern observed across various industries where changes in costs or inputs are not fully and immediately reflected in price changes. This phenomenon suggests that while businesses may quickly adjust prices upwards in response to rising costs, they may be less inclined to lower prices in the face of reduced costs. This asymmetry in price adjustments is often attributed to factors such as market competition, consumer behavior, and pricing strategies employed by firms.

76. However, rather than uniformly reducing interchange fees across the board, implementing the Durbin Amendment had mixed effects on these fees. There is a noted reduction in interchange fees, but before the Durbin Amendment, card networks often offered discounted interchange fees for small-ticket transactions to incentivize merchants to accept debit cards. In response to the regulation, card networks eliminated these small-ticket discounts and applied the maximum interchange fee set by the regulation to all transactions. In the context of the study on price regulation in two-sided markets, the "rockets and feathers" phenomenon implies that despite reductions in interchange fees following regulatory changes like the Durbin Amendment, the corresponding price decrease for consumers may not occur immediately or to the same extent.

77. Fed economist Wang, along with co-authors Scarlett Schwartz and Neil Mitchell, conducted a survey study to investigate the impact of the Durbin Amendment on merchants. Their study aimed to understand how the regulation affected interchange fees and merchants' costs, particularly focusing on small-ticket transactions. The study involved surveying a sample of 420 merchants across 26 different sectors. The researchers collected data on the changes in debit card costs experienced by these merchants following the implementation of the Durbin Amendment. By analyzing the survey responses from a diverse set of merchants

across different sectors, Wang and his co-authors were able to assess the variation in the impact of the Durbin Amendment across the merchant landscape. This approach allowed them to provide empirical evidence on how the regulation affected interchange fees, particularly for small-ticket transactions, and shed light on the broader implications for merchants in various industries.

78. Despite reducing the average debit interchange fee by almost half from its pre-regulation level, many merchants were observed to raise prices or impose restrictions on debit card usage in response to increased costs associated with accepting debit cards. Table 2 from Wang et al. (2014) shows the rockets and feathers phenomena. Even though 25% of merchants saw costs go up (as Durbin resulted in the elimination of the fee discount for small transaction values), there were 23% price increases – almost 1 for 1. However, there were a few instances where merchants reduced prices. But this occurred only 2% of the time. Additionally, debit restrictions increased despite decreases in debit card costs as merchants could no longer offer the benefit to consumers.

*Table 2: Price Impact*

**Table 2 Summary of Merchant Impact/Reaction Variables (N=420)**

Merchant Average	Decrease	Stay the Same	Increase	Don't Know
Cost Change	8%	41%	25%	26%
Small-Ticket Cost Change	3%	47%	27%	24%
Price Change	2%	75%	23%	0%
Debit Restriction Change	12%	76%	12%	0%
	Minimum Amount	Surcharge	Discount	Others
Before Durbin	26%	24%	20%	55%
After Durbin	29%	20%	20%	58%

79. In their follow-up paper, Haltom, Courtois, and Wang (2015) concluded that the Durbin Amendment had limited and unequal effects on merchants. They found that merchants who reported reduced debit costs might have benefited more from large-ticket transactions than small-ticket ones, indicating advantages for large retailers over small businesses. Moreover, they observed an asymmetric response, with few merchants reducing prices or debit restrictions despite decreased costs. This lack of price variation based on payment type underscores the need for variable pricing strategies that Durbin makes infeasible.

80. Additionally, Wang's theoretical study revealed that the regulation overlooked "spillovers" across different transactions. Before the regulation, issuers may have accepted losses on small-ticket transactions to increase overall card acceptance and usage, offsetting these losses with fees on high-dollar transactions. However, this loss-leading strategy became unprofitable with the interchange cap in place. Wang's study suggests that consumers could have benefited from different fees for large and small transactions, a practice that ceased following the Durbin Amendment.

81. Like Wang and his co-author's research, Mukharlyamov and Sarin's (2022) study also focuses on assessing Durbin's impact on retail prices but focuses on gasoline prices. Considering the substantial decline in debit interchange expenses post-Durbin, with gas retailers, they believe representing about 15% of total Durbin Amendment savings. They select the retail gas industry due to its localized pricing, standardized products, and comprehensive data availability for 2016 across 14,783 ZIP codes in the US, covering approximately 80% of the population.

82. Their analysis examines the relative shares of payment methods and interchange fee rates at gas stations across ZIP codes in 2016. They observe that payments with debit cards issued by non-exempt banks are subject to the lowest fees, indicating the intended effect of the regulation. They conducted a directional

test to determine whether gas stations in ZIP codes with a higher penetration of larger banks' debit cards charged less for gas in 2016. However, the results show that quantifying the extent of pass-through of interchange fee savings to gas prices is virtually impossible due to the minuscule magnitude of savings per gallon, \$0.0015 per gallon, compared to the significant variation in gas prices across ZIP codes. This study shows that the Durbin Amendment has had, at best, a negligible effect on retail prices in the gasoline industry. This effect is so tiny that making accurate pass-through quantification statistically unattainable.

83. Proponents of the Durbin Amendment and the lower interchange fees believe that retail prices will fall for cash consumers. A "cash siphon" refers to the idea that merchants may pass on some of the costs they face from card acceptance to cash-paying customers, effectively subsidizing card users at the expense of cash users. However, this notion, most eloquently by Gans (2018),<sup>15</sup> has been challenged by studies that find no evidence of such a phenomenon occurring in practice.

84. Payment method options can be seen as a bundling of services by merchants, irrespective of whether all customers utilize them. Certain consumers may benefit more from services without facing differential charges, but the same principle applies to payment instruments. Merchants are heterogeneous regarding their customer payment preferences. Consumer preferences make it less plausible for merchants to engage in widespread cost shifting. Merchants make deliberate choices in their pricing strategies, often incorporating various costs into overall prices rather than selectively burdening certain payment types.

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<sup>15</sup> Gans, Joshua S. "Are We Too Negative on Negative Fees for Payment Cardholders?." Rotman School of Management Working Paper 3162627 (2018).

85. Merchant and consumer behavior also play significant roles in debunking the cash siphon theory. Merchants are unlikely to adopt card payments if they don't see clear benefits after considering all pricing factors. For merchants with minimal card-using customers, their costs and pricing impact may be negligible. Similarly, merchants serving predominantly card-using clientele don't have a pool of cash-paying customers from which card networks could siphon funds. Furthermore, the existence of an intermediate mix of payment types typically requires merchants to wield some degree of market power in their respective industries. Without this influence, cash-paying customers facing higher prices would likely opt to shop elsewhere, undermining the premise of systematic cost-shifting.

86. The theoretical arguments of Gans reinforce the empirical results of Wang et al. and Mukharlyamov and Sarin. Combined with price stickiness in a downward direction, there is no reason to believe that a significant reduction in retail prices that would benefit consumers would occur.

#### 4.6 Proposed rule's cost-recovery target raises concerns over unintended consequences and the "ratchet effect."

87. The proposed rule by the Board introduces a cost-recovery target of 98.5 percent for covered issuer transactions, which corresponds to a fixed multiplier of 3.7 based on cumulative data collected since 2009. Notably, there's a potential concern regarding the ratchet effect, as outlined in footnote 94. This footnote highlights that issuers aiming to cut costs may do so by reducing transaction-processing costs or other expenses. According to the proposed approach, decreasing transaction-weighted average per-transaction processing costs across covered issuers could reduce the interchange fee cap. This provision must be reconsidered due to the potential implications and unintended consequences of cost-reduction measures within the regulatory framework.

88. In contract theory, the "ratchet effect" describes a scenario where the terms of a contract enable one party to enhance their position over time, often to the disadvantage of the other party. This phenomenon typically occurs in long-term contracts where conditions evolve or when one party holds greater bargaining power than the other. Price ratcheting is one manifestation of the ratchet effect in contracts or regulations. The Board's periodic price adjustments are based on cost changes or market conditions. However, while the Board may permit fee decreases, they fail to include provisions for corresponding fee increases if costs or market conditions deteriorate. Consequently, the fee will "ratchet down" over time, resulting in increasingly lower fees for financial institutions. The ratchet effect reflects an asymmetrical adjustment mechanism that favors merchants over financial institutions. This highlights the lack of fairness and balance in this long-term regulation where conditions may change. This will efficiently drive fees to marginal cost, which is precisely the incorrect fee structure for this market, see Section 8.2. Further, firms know that there will be few, if any, margins and will not be incentivized to invest in the payment platform.

#### 4.7 Fraud Prevention and Interchange Fees: Investment in Infrastructure

89. In his report, Grossman shows merchants have little incentive to reduce the fraud that leads to data breaches. This leaves the burden of fraud on the payment networks and the credit unions. The Board proposes calculating the ad valorem component for a specific debit card transaction by considering the median ratio of issuer fraud losses to transaction value among covered issuers multiplied by the transaction value. While the issuer fraud losses have decreased, the fraud-prevention costs on which the Board bases the fraud-prevention adjustment have increased. As a result, the proposed fraud prevention adjustment is set to rise from 1 cent to 1.3 cents, reflecting the observed growth in fraud.

90. The Federal Reserve updated the dual routing mandate under Section 920(b)(1)(A) of the EFTA, requiring merchants to support at least two payment card networks for card-not-present (CNP) transactions, effective from July 1, 2023. While merchants have autonomy in choosing networks, they often prioritize cost over other factors like fraud prevention.

91. Grossman noted that by 2018, revenue from single-message card-present (CP) transactions declined notably for exempt and covered transactions, with exempt debit transaction revenue decreasing by 29% on single-message networks. Despite CNP transactions representing 33% of debit transactions in 2022, they accounted for 84% of debit fraud. CNP debit transaction volume has increased significantly, growing four times faster than CP volume, with online and mobile transactions witnessing over a 10% volume increase.

92. In the battle against fraud, the size of financial institutions plays a significant role, especially concerning the reliance on payment networks to detect fraudulent transactions, particularly in card-not-present (CNP) scenarios. Visa has introduced EMV 3-D Secure (3DS), available exclusively on the Visa and Mastercard networks, to aid in authenticating CNP transactions. This standard facilitates the exchange of over 135 data points between merchants and issuers to enhance decision-making and fraud detection capabilities. However, the threat of compromised payment data continues to escalate, underscoring the importance of merchant responsibility in mitigating fraud and associated costs. Recent research studies by America's Credit Unions highlight alarming trends:<sup>16</sup>

- 36% of adults had to replace their cards due to fraud within the past two years.
- The average cost of card replacement amounts to \$7.26 per card.

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<sup>16</sup> Grossman, Glenn. "The True Impact of Interchange Regulation." 2023 Cornerstone Advisors

- For 10% of credit union credit card programs in 2020, the expense of card replacement exceeded their total margin.

These statistics underscore the financial impact of fraud-related card replacements on credit unions, emphasizing the need for collaborative efforts between financial institutions, merchants, and payment networks to combat fraud effectively. In the new era of AI, fraudsters will likely become more sophisticated in their tactics, making it increasingly difficult for traditional fraud prevention methods to keep pace. They may exploit vulnerabilities in outdated security measures, which will require continual investment to maintain expected levels of security in place.

93. Interchange fees are crucial in funding network improvement and security within payment card systems. Financial institutions argue that these fees are necessary to incentivize investments that enhance the quality and security of payment services.<sup>17</sup> Security improvements require significant investments from both issuers and acquirers. Issuers invest in improving chip quality, gathering data on cardholders and transactions, and implementing fraud detection measures. Acquirers invest in upgrading their electronic equipment, expanding network infrastructure, and improving authorization network responsiveness. These investments aim to bolster the security of payment transactions and mitigate the risks associated with fraudulent activities.

94. Furthermore, interchange fees impact banks' margins per transaction and the overall volume of card transactions. By shifting revenues between different stakeholders in the payment ecosystem, interchange fees influence credit unions' incentives to invest in quality and security. Since the costs of fraud are primarily borne by issuers, innovations aimed at reducing fraud are particularly beneficial for

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<sup>17</sup> The source for the theory on investments in two-sided markets are chiefly from: Verdier, Marianne. "Interchange fees and incentives to invest in payment card systems." *International Journal of Industrial Organization* 28.5 (2010): 539-554.



them. Interchange fees help cover the costs of implementing these innovations, ensuring that payment networks can continually enhance security measures to protect consumers and merchants from fraudulent activities. Verdier (2010) shows that interchange fees are a mechanism to fund network improvement and security enhancements within payment card systems. They enable financial institutions to invest in technologies, infrastructure, and fraud prevention measures that enhance the quality and safety of payment transactions for all stakeholders involved.

#### 4.8 Banking Fees Impact: The problem of the unbanked will get worse

95. Mukharlyamov and Sarin (2020), as detailed in Section 4.4, illustrate that following the initial enactment of the Durbin Amendment, there was a significant increase in basic checking account fees. Notably, these fees predominantly affected customers who could not maintain a minimum balance sufficient to waive them.

96. Shay (2023) reviews the literature on cash holdings in the United States. Shay finds that unlike in other countries, like Norway and Sweden, where the prevalence of unbanked households is considerably lower, the FDIC (2020) reports that 7.1 million households in the United States (constituting 5.4 percent of the population) were unbanked in 2019. Cole and Greene (2017) delve into the demographics of these unbanked and underbanked consumers and their utilization and ownership of various payment instruments. This can be seen in Table 3 reproduced from Shay (2023), produced by data from the Federal Reserve Bank of Atlanta.

Table 3: Point of Sale usage by income

Card adoption	0–10k	10k–20k	20k–30k	30k–40k	40k–60k	60k–80k	80k–120k	120k–180k	180k+	All
Both cards (%)	35.9	45.6	56.2	59.6	66.9	76.0	77.6	80.7	82.1	67.2
No credit (%)	32.6	31.6	25.0	20.9	14.6	8.4	6.8	3.5	1.5	14.2
No debit (%)	8.9	6.6	11.0	11.8	13.4	12.7	12.8	13.8	15.3	12.2
None banked (%)	2.3	4.4	0.4	0.9	0.0	0.0	0.1	0.0	0.0	0.6
None unbanked (%)	17.8	9.2	5.9	4.1	2.5	1.5	0.4	0.8	0.0	3.8
Number respondents	304	228	272	339	529	526	688	399	196	3,481
Percentage (%)	8.7	6.5	7.8	9.7	15.2	15.1	19.8	11.5	5.6	100.0
Percentage (%) (w)	9.3	5.7	7.1	9.6	14.8	15.2	21.2	11.5	5.5	100.0

Notes: The top five rows display percentage of respondents within each income group who have both credit and debit cards, no credit cards, no debit cards, and no credit or debit cards (banked and unbanked). (w) indicates weighted data to fit the US 18 and older population.

Source: Federal Reserve Bank of Atlanta: The 2017, 2018, and 2019 Survey and Diary of Consumer Payment Choice. Available at <https://www.frbatlanta.org/banking-and-payments/consumer-payments.aspx>. Data and R-code can be downloaded from Shy (2022).

97. Unsurprisingly, the proportion of unbanked consumers without debit or credit cards decreases as household income rises. This demographic accounts for 17.8 percent of the lowest income group but drops below 1 percent for households earning above \$80,000 annually. This table shows how debit is a lower to middle-income product. The Point-of-Sale competition for debit is cash for lower-income and credit for higher-income. Low-income individuals lacking debit cards face a notable funding obstacle in the final stages of electronic payments. This challenge arises because most current payment methods require linkage to a financial institution’s account, debit card, or credit card. This excludes low-income consumers from the cost savings from online retailers' competition. The cashless retail movement now threatens to exclude consumers from some physical retailers.

98. The study by Migueis, Suher, and Xu (2022) highlights the significant impact of account fees on low- and moderate-income (LMI) communities, particularly those predominantly comprised of minorities. The research reveals that fees, including minimum balance requirements and maintenance charges, tend to be higher in LMI and majority-minority neighborhoods compared to non-LMI areas. For instance, individuals residing in LMI neighborhoods often face a

requirement of approximately \$50 higher minimum balance to qualify for free checking, coupled with a \$0.36 higher monthly maintenance fee, around 5% more than in non-LMI areas. Such disparities in banking fees contribute to financial burdens for LMI households, with an estimated \$1.4 billion paid out of the \$2.5 billion in total bank earnings from checking and savings account maintenance fees in 2021. This racial disparity in banking fees exacerbates financial inequalities and limits access to essential banking services for minority populations.

99. As section 3 outlines, financial institutions often bundle services, leveraging interchange fees to subsidize banking services. While all consumers, including those with limited income, can opt for cash transactions to avoid interchange fees, the brunt of bank fees falls disproportionately on low-income and minority individuals. High-income earners typically benefit from various profitable banking products, like mortgages, which can prompt financial institutions to increase account fees for low-income customers to offset potential revenue losses. This practice places added financial pressure on minority communities, restricting their access to affordable banking services and impeding their wealth-building opportunities. Consequently, many individuals in these communities resort to costly alternative financial services, such as payday lending, perpetuating a cycle of financial instability. This exacerbates economic inequalities and has a disproportionate impact on minority households.

100. Access to electronic money, particularly relevant in the US, where unbanked individuals heavily rely on cash, enables participation in online markets and fosters societal welfare. Additionally, having an account facilitates direct government payments, reducing costs and delays associated with paper checks, as observed during the distribution of stimulus payments in 2020. Encouraging account access can also improve credit accessibility, as it allows lenders to assess potential

borrowers' financial management skills, leading to better credit allocation in society and increased consumption of household durable goods.

101. The Board overlooks the community-oriented and non-profit nature of credit unions, which play a crucial role in serving low-income consumers by providing access to financial services. Out of the 21 credit unions affected by the Durbin Amendment, 10 are designated as low-income status, indicating their focus on assisting economically vulnerable populations. This designation considers individuals with family incomes at 80% or less than the median for their area, including students enrolled in educational institutions. As credit unions heavily rely on interchange fees for non-interest income and offer bundled financial products, reducing these fees threatens their ability to serve low-income communities effectively or at all.

102. Boel and Zimmerman,<sup>18</sup> economists at the Federal Reserve Bank of Cleveland, note that when the benefits of opening an account outweigh the costs ( $B + C > 0$ ), efficient outcomes can be achieved through fee arrangements between finance institutions and customers. Both parties can benefit by charging a fee ( $F$ ) within the  $-B < F < C$  range, leading to increased welfare. Conversely, negative fees can incentivize account opening, such as offering cashback or free services if the benefits exceed the costs ( $C < 0 < B + C$ ). This is how interchange fees spread access to financial services to the unbanked. This channel promotes the policy goals of the federal government and is a by-product of a regular functioning market. The Durbin Amendment prohibits this virtuous cycle of profit and social welfare.

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<sup>18</sup> Boel, Paola, and Peter Zimmerman. "Why Worry about Financial Exclusion?." *Economic Commentary* 2022-09 (2022).

## 5. The Market for Payments: Durbin Amendment skews competition.

103. Debit cards occupy a central role within the ever-evolving landscape of payment methods, coexisting with various alternatives such as cash, credit cards, and emerging digital currencies. Regarding consumer behavior, the diverse preferences within different population segments contribute to the multifaceted coexistence of payment methods. Individuals exhibit varying inclinations, some favoring the convenience and security offered by debit cards. In contrast, others opt for cash or credit cards based on financial habits and accessibility to financial services. Demographic factors, including income levels, age, and education, further play a role, with younger consumers leaning towards digital wallets and older individuals adhering to traditional methods like cash.

104. Table 4<sup>19</sup> illustrates the correlation between income levels and point-of-sale (POS) payments. High-income households predominantly utilize credit cards, emphasizing their popularity in this demographic. In contrast, cash emerges as the preferred choice among low-income households. On the other hand, debit cards enjoy popularity across a broad income spectrum, reaching a peak among middle-income households. This observation underscores the competitive nature of debit cards as a widely favored payment method. However, it also suggests that robust competition from other POS methods constrains any potential market power they might wield over interchange fees.

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<sup>19</sup> Felt, Marie-Hélène, Fumiko Hayashi, Joanna Stavins, and Angelika Welte. "Regressive effects of payment card pricing and merchant cost pass-through in the United States and Canada." *Journal of Banking & Finance* 154 (2023): 106968.

*Table 4: Average value by Point of Sale option*

**Table 1**

Average Value and number of POS purchases per consumer per month by payment instrument and by income cohort.

Panel A: US	Annual Household Income (in US\$)					
	< \$25,000	\$25,000 - \$49,999	\$50,000 - \$74,999	\$75,000 - \$99,999	\$100,000 - \$149,999	\$150,000+
Share of consumers	23%	18%	18%	13%	16%	12%
Value of transactions (in US\$)						
Cash	\$260	\$322	\$272	\$306	\$413	\$284
Credit cards	\$170	\$252	\$483	\$533	\$794	\$1653
Reward credit cards	\$130	\$191	\$418	\$460	\$680	\$1274
Non-reward credit cards	\$40	\$61	\$65	\$73	\$114	\$379
Debit cards	\$370	\$545	\$570	\$1217	\$798	\$817
Reward debit cards	\$121	\$73	\$90	\$232	\$101	\$116
Non-reward debit cards	\$249	\$472	\$480	\$985	\$697	\$701
All transactions (cash+credit+debit)	\$800	\$1120	\$1324	\$2056	\$2005	\$2755
Number of transactions						
Cash	13.7	15.3	14.4	13.2	11.3	11.8
Credit cards	4.0	6.5	10.2	12.9	13.3	21.8
Reward credit cards	3.0	5.0	9.0	11.5	12.2	18.9
Non-reward credit cards	1.0	1.5	1.2	1.4	1.1	2.8
Debit cards	11.0	14.1	17.0	18.5	19.2	15.1
Reward debit cards	2.7	3.1	2.8	5.6	2.5	1.5
Non-reward debit cards	8.3	11.0	14.2	12.8	16.7	13.6
All transactions (cash+credit+debit)	28.7	35.9	41.6	44.6	43.9	48.7
Distribution of credit card reward type						
Basic-reward	55%	46%	27%	15%	14%	5%
Premium-reward	45%	54%	73%	85%	86%	95%
Share of transactions at grocery, drug, and gas (GDG) stores in value	53%	42%	37%	25%	18%	18%
Distribution of transactions at GDG stores in value						
Cash	26%	24%	17%	13%	8%	10%
Credit cards	25%	25%	25%	24%	41%	55%
Debit cards	49%	51%	58%	63%	50%	35%

105. Examining POS options based on transaction value, Figure 7,<sup>20</sup> compiled by the Federal Reserve Bank of Atlanta, provides insights into the distribution of POS methods. Cash is preferred for small transactions, particularly at convenient denominations like \$5, \$10, and \$20. As the transaction value increases, the popularity of debit and credit cards grows. Notably, debit cards exhibit a higher cost for small transactions as a percentage of the transaction value.

106. These higher cost margins for small transactions are attributed to the regulatory impact of the Durbin Amendment on interchange fees, deviating from traditional economic theory. Pre-Durbin, interchange fees for small transactions

<sup>20</sup> Shy, Oz. "Cash is alive: How economists explain holding and use of cash." *Journal of Economic Literature* 61.4 (2023): 1465-1520.

were lower, driven by effective competition that incentivized networks to compete with cash. The reduced interchange fee for small-ticket items became unsustainable as a subsidy for smaller-value transaction merchants, such as mom-and-pop stores, once interchange fees for larger-value merchants were regulated and capped.<sup>21</sup> The current scenario highlights a competitive constraint on debit cards' ability to price or set fees. Despite their popularity, especially in mid to high-value transactions, the cost structure poses challenges for debit cards in small-value transactions, indicating the intricate relationship between regulation, competition, and transaction values in the POS landscape.

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<sup>21</sup> Wang, Zhu. "Price cap regulation in a two-sided market: Intended and unintended consequences." *International Journal of Industrial Organization* 45 (2016): 28-37.

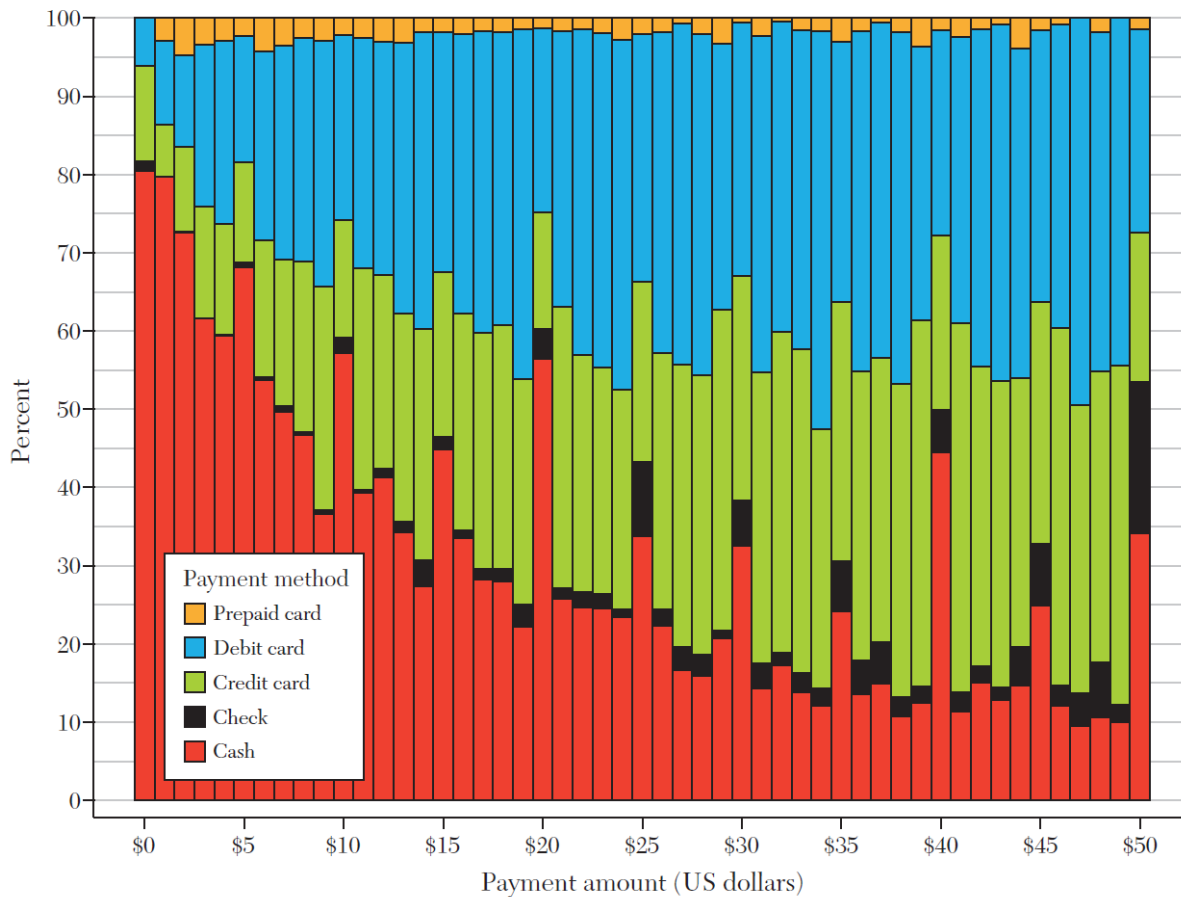


Figure 6. US Shares of Cash, Check, Credit, Debit, and Prepaid Card Payments Made In Person

Note: The chart displays 21,444 in-person payments (\$0 to \$50) made with cash, checks, credit cards, debit cards, and prepaid cards by 3,237 US adult survey respondents.

Source: Federal Reserve Bank of Atlanta: The 2017, 2018, and 2019 Diary of Consumer Payment Choice. Available at <https://www.frbatlanta.org/banking-and-payments/consumer-payments.aspx>. Data and R-code can be downloaded from Shy (2022).

Figure 7: Point of Sale share by transaction value

107. The economic literature, including many studies done by Board economists, shows that there is competition for payment methods and that this competition is related to demographics.<sup>22</sup> Cash usage is significantly influenced by consumers' banking status and payment preferences, as evidenced by studies conducted by

<sup>22</sup> Shy, Oz. "Cash is alive: How economists explain holding and use of cash." *Journal of Economic Literature* 61.4 (2023): 1465-1520.



Shy<sup>23</sup>. Individuals with debit and credit cards used cash for 31.9 percent of their payments, while those without credit cards but with debit cards opted for cash in 49.9 percent of transactions. Unbanked consumers, lacking both debit and credit cards, heavily relied on cash for 85.7 percent of payments, with prepaid cards contributing 14.3 percent. Shy's analysis of payment volumes across various merchant categories revealed that peer-to-peer (P2P) payments were the most cash-intensive at 71.8 percent, followed by fast food and coffee shops at 43 percent. The presence of incentives, such as cash discounts, increased the likelihood of consumers choosing cash by 19.2 percent, showcasing the nuanced dynamics of cash usage influenced by consumer characteristics and external incentives.

108. Table 5,<sup>24</sup> derived from the Atlanta FED's research, offers insights by ranking various payment methods based on distinct characteristics, positioning debit cards as an intermediary between credit and cash. Debit cards boast numerous advantages, making them a preferred financial tool. Users benefit from immediate access to funds in their checking or savings accounts, facilitating swift and seamless transactions. Transitioning to cashless transactions is another crucial advantage, alleviating the need to carry physical currency, especially when cash is impractical or unavailable.

109. Enhanced security features, such as Personal Identification Numbers (PINs) and chip technology, contribute to the safety of debit card transactions, minimizing the risk of unauthorized use. Notably, implementing electronic benefit transfer programs and providing debit cards to government benefit recipients has been associated with reduced crime rates, including burglary, assault, and theft, as

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<sup>23</sup> *ibid*

<sup>24</sup> Shy, Oz. "Cash is alive: How economists explain holding and use of cash." *Journal of Economic Literature* 61.4 (2023): 1465-1520.

observed in Wright et al.'s study based on data from Missouri and bordering counties between 1990 and 2011.

110. Debit cards stand out as a cost-efficient payment option due to their typical absence of annual fees, distinguishing them from certain credit cards that may impose annual membership fees. The direct linkage to the user's account simplifies financial management, eliminating the need for a separate credit account.

Additionally, the accessibility of debit cards extends to a broader demographic, encompassing individuals who may not qualify for a credit card, thereby promoting financial inclusion.

111. In summary, Table 5 shows the middle-ground positioning of debit cards, coupled with their immediate access, security features, crime-reduction potential, cost efficiency, and accessibility, collectively contribute to their prominence and make them a favorable choice for diverse users.

*Table 5: Consumer ranking of Point of Sale method*

TABLE 5 US CONSUMER RANKINGS OF SIX PAYMENT ATTRIBUTES 2015–19					
	Cash	Check	Debit card	Credit card	Prepaid card
Acceptance					
2015	2	5	3	1	4
2016	2	5	3	1	4
2017	3	5	2	1	4
2018	2	5	3	1	4
2019	3	5	2	1	4
Acquisition and setup					
2015	1	4	2	3	5
2016	1	3	2	4	5
2017	1	4	2	3	5
2018	1	4	2	3	5
2019	1	4	2	3	5
Convenience					
2015	3	5	2	1	4
2016	3	5	1	2	4
2017	3	5	2	1	4
2018	3	5	2	1	4
2019	3	5	2	1	4
Cost					
2015	1	3	2	5	4
2016	1	3	2	5	4
2017	1	3	2	5	4
2018	1	3	2	5	4
2019	1	3	2	5	4
Payment records					
2015	5	3	2	1	4
2016	5	3	2	1	4
2017	5	3	2	1	4
2018	5	3	2	1	4
2019	5	3	2	1	4
Security					
2015	5	3	2	1	4
2016	5	3	2	1	4
2017	4	3	2	1	5
2018	5	3	2	1	4
2019	5	3	2	1	4

*Notes:* “1” means that consumers rate it the best and “5” rate it the worst. This table has been modified from the original survey, which ranks 8 payment methods.

*Source:* Federal Reserve Bank of Atlanta: The 2015–2019 Survey of Consumer Payment Choice. Available at <https://www.atlantafed.org/banking-and-payments/consumer-payments/survey-of-consumer-payment-choice.aspx>. Data and R-code can be downloaded from Shy (2022).

112. Debit cards play a central role in the diverse landscape of payment methods, coexisting with alternatives such as cash, credit cards, and emerging digital currencies. This robust competition constrains potential market power, emphasizing the need for competitive fees. However, the Durbin Amendment price regulates one POS option, debit cards, resulting in an unlevel playing field for POS methods. Examining POS options based on transaction value, while debit cards are popular in mid to high-value transactions, their cost dynamics present challenges in small-value transactions caused by inappropriate regulatory fee structure imposed by the Durbin Amendment. The Economic literature, including studies by Board economists, underscores competition for payment methods. Cash usage is influenced by banking status and preferences, with incentives impacting consumer choices. In a competitive environment driven by consumer preferences for payment options rather than government price controls, debit cards emerge as a favored choice among various payment methods, highlighting the beneficial outcomes of market-driven competition.

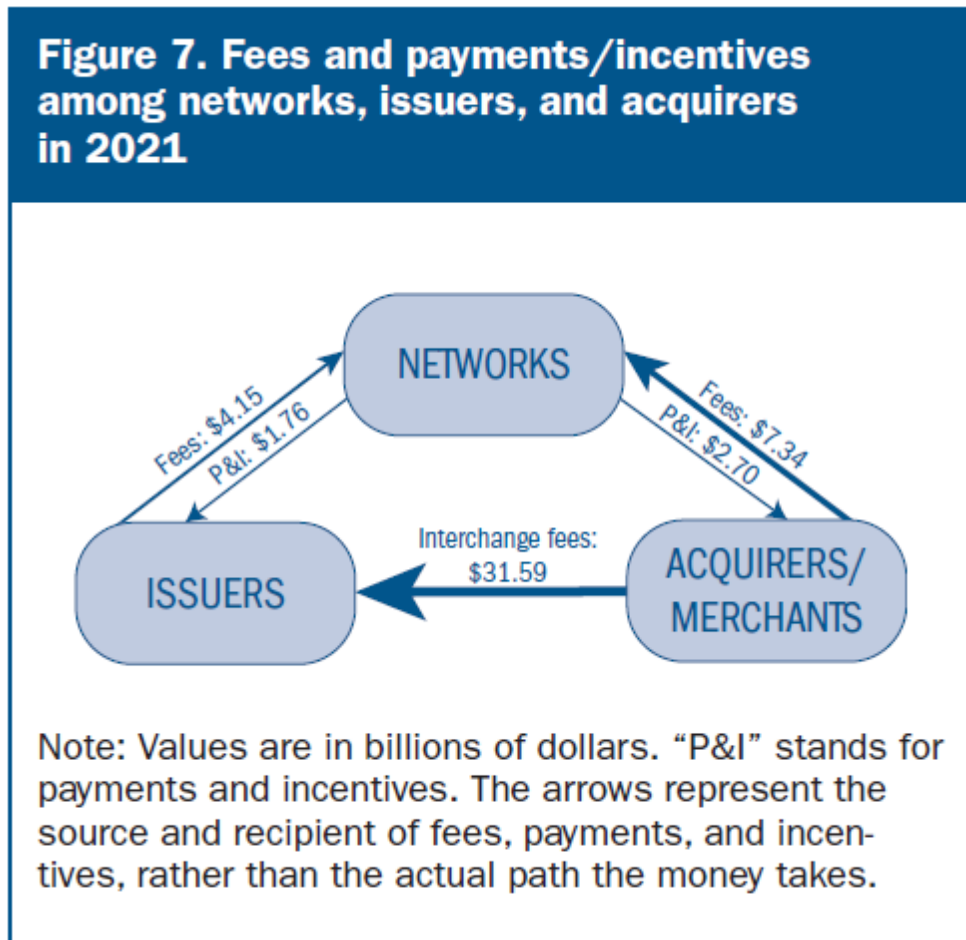
#### 6. Data Examination and Validation: Cost data skewed by large banks, credit unions affected.

113. The Board adjusts its cost structure based on findings from its biennial report on interchange fees sourced from the Debit Card Issuer Survey (DCI). This survey collects data on the costs associated with debit card usage. The Board's data reveals economies of scale in debit card costs relative to the number of transactions conducted by a financial institution. However, this issue is exacerbated by the highly concentrated market in debit issuer transactions. The Board implicitly acknowledges this challenge by employing a statistical methodology that attempts to account for the skewed data. However, the Board's methodology is transaction-weighted, resulting in a cost structure that disproportionately favors large banks with high transaction volumes as this methodology treats every transaction as equal

so therefore banks with large amounts of transactions are overweighted in the cost calculation. Consequently, this burdens credit unions, which heavily rely on interchange fee revenue. Moreover, the lack of adjustment in the \$10 billion threshold has led to bracket creep, subjecting more credit union issuers to regulation under the Durbin Amendment.

### Payment flows

114. Figure 8 from the Board’s biennial report illustrates the payment flows within this market and shows that interchange fees totaled \$31.59 billion in 2021.



*Figure 8: Example of network payment flow*

115. The payment structure outlined here might seem nonsensical in a conventional market. However, in a two-sided market, such payment flows balance

incentives among Issuers, Merchants, Networks, and card users. Yet, this equilibrium can lead to a payment cap in one area, manifesting in changed payments elsewhere. The Board acknowledges this issue regarding Payments and Incentives (P&I) and network fees. They note that P&I typically involves bilateral agreements between a network and a merchant, acquirer, or issuer. However, the figures derived from network-reported totals fail to capture the diversity of these bilateral arrangements. To regulate a two-sided market effectively, the Board proposes regulating one payment flow despite lacking comprehensive data on the other payment flows. These other payment flows can change due to negotiations or legal settlement and should be considered by the Board in its regulations.<sup>25</sup> Nonetheless, the Board possesses some data relevant to this matter but does not act on it.

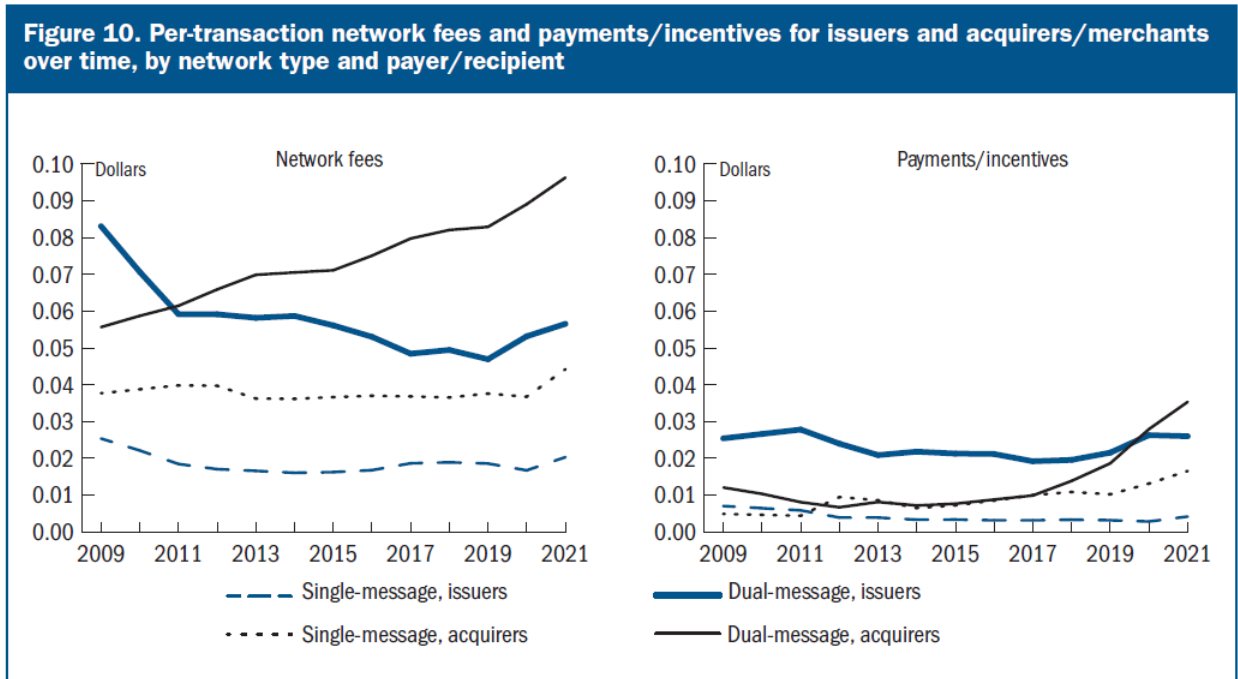
116. Figure 9 from the biennial survey suggests the existence of such a problem. The graph on the left illustrates a consistent rise in dual message network fees for Merchants, a trend that began with implementing the Durbin Amendment. Initially, there was a decline in dual message network fees right after the enactment of the Durbin Amendment, followed by a gradual decrease. Meanwhile, Payments and Incentives (P&I) have remained relatively stable, except for a surge in dual message P&I for acquirers around 2016.

117. These network fees are dynamic and can change as an unintended consequence of the Durbin Amendment. This can lead to a balloon effect, wherein compressing one end causes inflation elsewhere. While this might not be a concern in the absence of bargaining power, the fact that the Board lacks reported data on

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<sup>25</sup> <https://www.bloomberg.com/news/articles/2024-03-26/visa-mastercard-reach-30-billion-swipe-fee-deal-with-merchants>. Part of the settlement that allows merchants to discount certain debit transactions which is relevant for Durbin Regulation II purposes.

these bilateral agreements raises apprehensions. Moreover, given that credit unions lack the market power wielded by larger banks, there's a likelihood that interchange fee regulation is being subverted unevenly by these large banks, which possess the leverage to negotiate better terms with the networks.



*Figure 9: Network fees and incentives over time*

118. Network fees represent a significant portion of ACS costs, comprising 40% of the total ACS costs, which amount to \$82M of the \$204M ACS costs for credit unions in the 2023 sample data (Figure 10 and 11). Larger banks have a superior ability to negotiate network fees, which underscores the magnitude of potential cost advantages stemming from their control over a large volume of accounts. The Capital One-Discover merger proposal is primarily motivated by the imperative to secure access to a network, further emphasizing the importance of network fees in strategic decision-making.<sup>26</sup> Regrettably, the Board has yet to conduct any

<sup>26</sup> <https://www.reuters.com/markets/deals/capone-tells-regulators-discover-deal-will-boost-competition-stability-sources-2024-03-21>

comprehensive analysis regarding the impact of network fees on lowering ACS costs and subsequently enhancing profitability through interchange fees. Notably, the proposed changes to Regulation II could amplify the advantage large banks enjoy with scale and considerably more bargaining power.

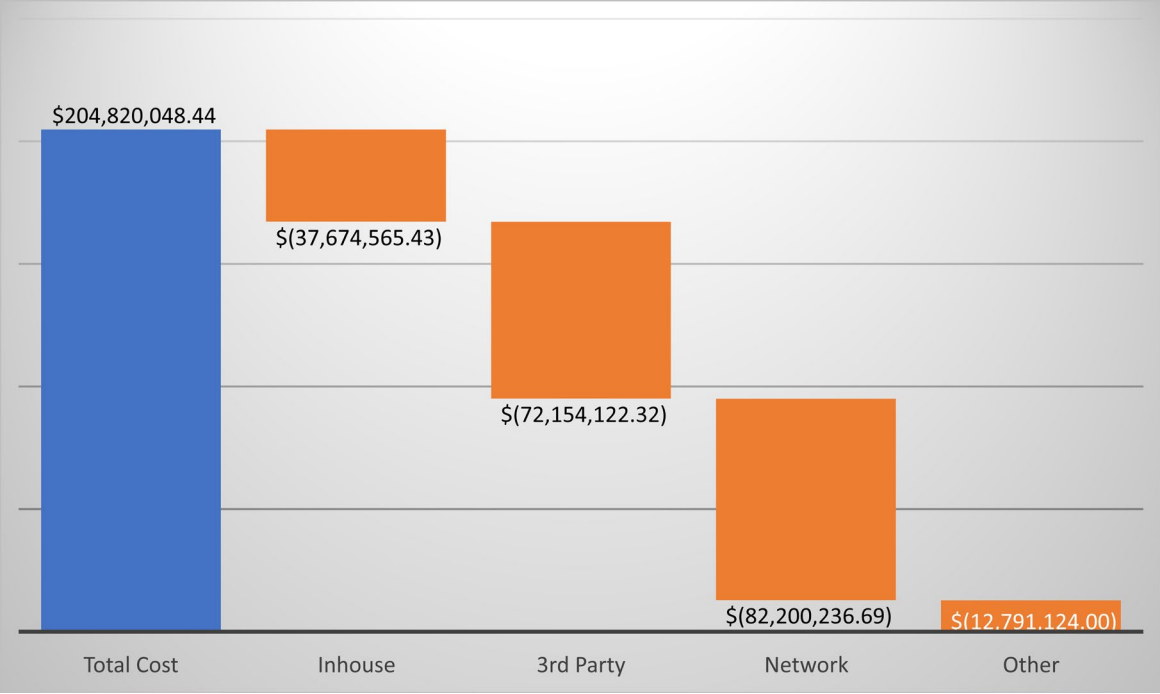
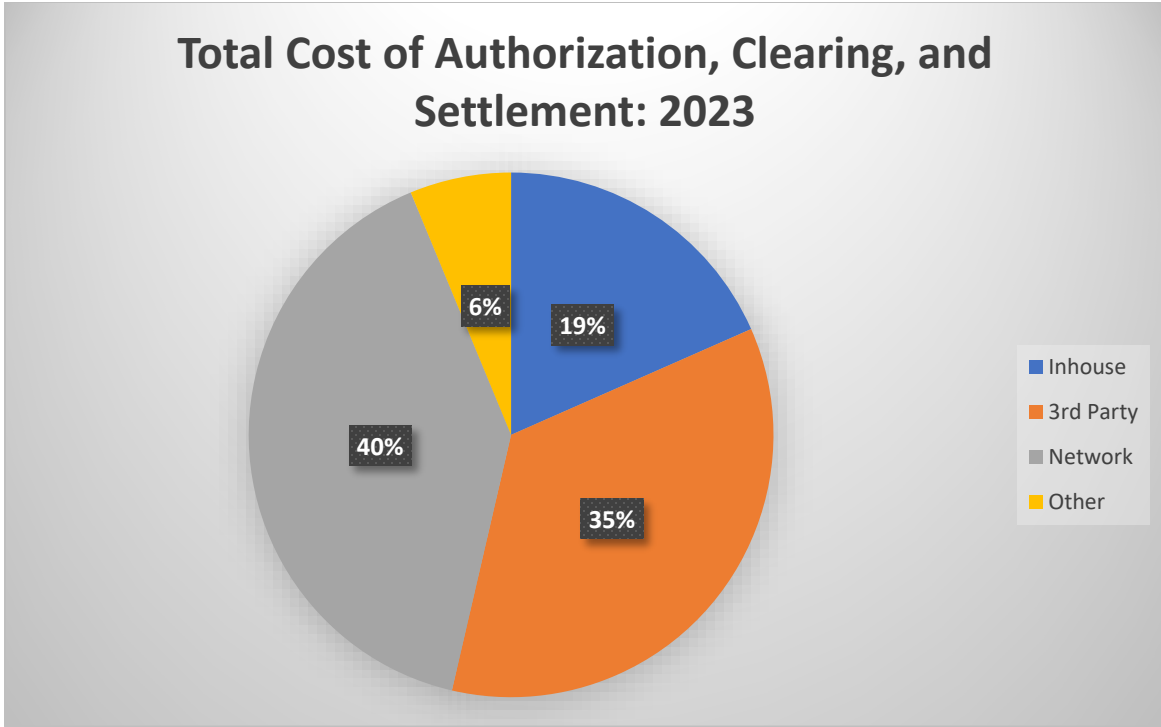


Figure 10: Total In Sample Cost of Authorization, Clearing, and Settlement 2023





*Figure 11: Total Cost of Authorization, Clearing, and Settlement: 2023*

119. However, the market for debit cards is concentrated on the issuer side when looking at transaction volume. Below, Table 6, I reproduce the Board’s table on the debit market by volume. Regulation II’s interchange fee cap covers the entire market with respect to covered issuers. However, 33% of the issuers (those with over 100 million transactions) account for 94.32% of the market in 2021 and 93.86% by value. We can also see the value of the average transaction is inversely related to the volume of the issuer.

*Table 6: Covered issuers 2021*

	Number of covered issuers		% of transactions <sup>1</sup>	% of transaction value <sup>1</sup>	Average transaction value (\$) <sup>2</sup>
<b>All covered issuers</b>	<b>163</b>				<b>47.67</b>
High-volume issuers (more than 100 million transactions)	53	33%	94.32%	93.86%	47.44
Mid-volume issuers (1-100 million transactions)	86	53%	5.68%	6.13%	51.49
Low-volume issuers (less than 1 million transactions)	24	15%	0.01%	0.01%	78.47

<sup>1</sup> The percentage of the total number or value of covered issuer transactions. Covered issuers represent about 65 percent of all debit card transactions.

<sup>2</sup> Average transaction values in this table are calculated from the Debit Card Issuer survey. Average transaction values reported in tables 1-3 are calculated from the Payment Card Network survey.

120. However, this table is misleading. There is a high concentration within the high-volume category. The top 3 banks issuing debit cards by volume in 2022 are:<sup>27</sup>

- Wells Fargo: \$463.981 billion (16.4%)
- Bank of America: \$459.218 billion (16.2%)
- JPMorgan Chase: \$449.989 billion (15.9%)

The remaining transactions, constituting 45.85% of the market volume, are spread across the other 50 firms in the high-volume category. However, on average, these firms hold less than a 1% market share each. It's worth mentioning that this distribution is not uniform, as many large banks like Citibank and PNC Bank are not among the top three. This skewed nature of the business becomes apparent in the mid-volume and low-volume categories, where numerous institutions compete for increasingly smaller market shares. Despite this, taking the Fed's table at face value obscures the true extent of market concentration, and by extension, the top three issuer's potential ability to out-perform all other institutions in terms of efficiency. Accordingly, their costs are not representative of all financial institutions.

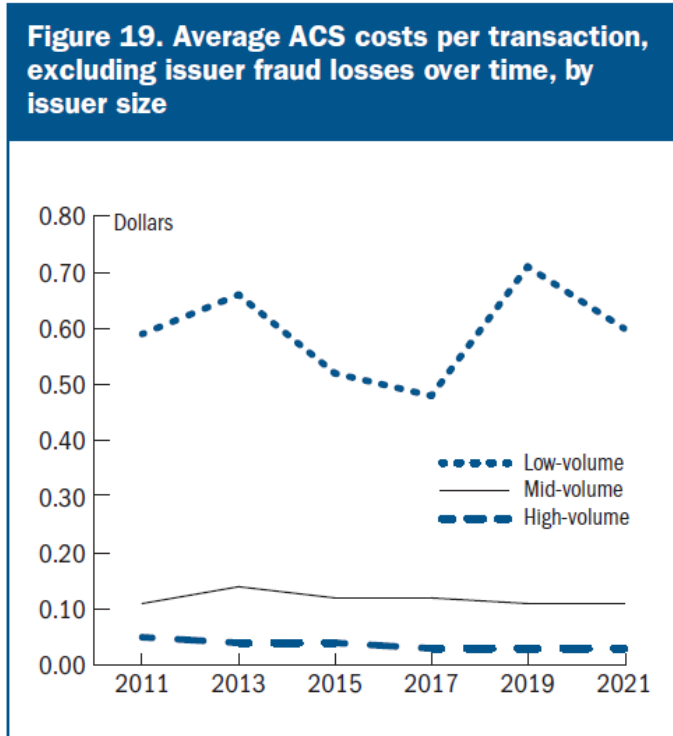
121. I reviewed the submissions to the Board for nine credit unions. Among them, three credit unions fell into the mid-volume category, while the remaining six were classified as high-volume. However, it's important to note that these credit unions did not operate at the same scale as the large banks. The average transaction value among these credit unions was \$45.83, with credit unions exceeding \$50.

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<sup>27</sup> These data are from The Nilson Report (2023) Issue 1235 and Issue 1240.

Additionally, the average transaction volume stood at 168 million. These findings indicate that these credit unions serve as a benchmark for the credit union industry, positioning them at the lower end of the high-volume or even within the mid-volume segment of the market.

122. To compound the issue of concentration by major banks, the Board's data underscores the existence of scale economies in the costs associated with debit cards. The Board's rationale for reducing the base interchange fee hinges on the purported decrease in costs of debit card transactions. Below, Figure 12, is a figure replicated from the Board's report on Authorization, Clearance, and Settlement (ACS) costs. These costs amounted to \$0.077 per transaction in 2009 and have since dropped to \$0.039 per transaction. However, this apparent decline in costs can be misleading. It primarily stems from a few large banks reducing their costs and does not represent a market-wide trend. High-volume issuers, for instance, reported costs of \$0.047 per transaction in 2011, which remained relatively stable until 2017, when they decreased to \$0.033. In 2021, these costs are reported at \$0.035 per transaction. Conversely, mid-volume issuers witnessed fewer substantial changes, with costs dropping from \$0.113 in 2011 to only \$0.109 in 2021. The figure below shows that low-volume issuers experience significant cost fluctuations, which are not reflected in the Board's cost estimate due to lower transaction volumes.



*Figure 12: Average ACS cost by volume and year*

123. In Table 7, I present the Board's data on covered issuer costs per transaction for 2021, supplemented with information from the credit unions' submissions to the Board.<sup>28</sup> For confidentiality reasons, I refrain from elaborating on the percentiles. These data show the high degree of variation in the ACS costs despite a decade of experience complying with the Durbin Amendment. The concentration in the market and its effects on the cost data can be seen by comparing the costs when calculated as transaction-weighted or issuer-weighted. The transaction-weighted cost is \$0.035 per transaction, but when averaging across issuers, it is \$0.056 per transaction or 1.6 times higher. The conclusion is that a few low-cost, high-volume banks are lowering the cost estimate. The cost of \$0.035 is not

<sup>28</sup> I exclude one observation as the cost data is so implausibly low, I conclude it must be an error.

representative of the costs faced by financial institutions in the high-volume category. The same pattern repeats in the mid-volume and low-volume categories.

*Table 7: Costs of Authorization, Clearance, and Settlement*

	<i>Transaction-weighted average</i>	<i>Issuer-weighted average</i>	<i>Issuer percentiles</i>		
			<i>25<sup>th</sup></i>	<i>50<sup>th</sup></i>	<i>75<sup>th</sup></i>
High	0.035	0.056	0.029	0.042	0.078
Mid	0.109	0.151	0.072	0.113	0.169
Low	0.595	14.161	0.519	1.350	2.029
High Credit Union	0.047	0.051			
Mid Credit Union	0.078	0.068			

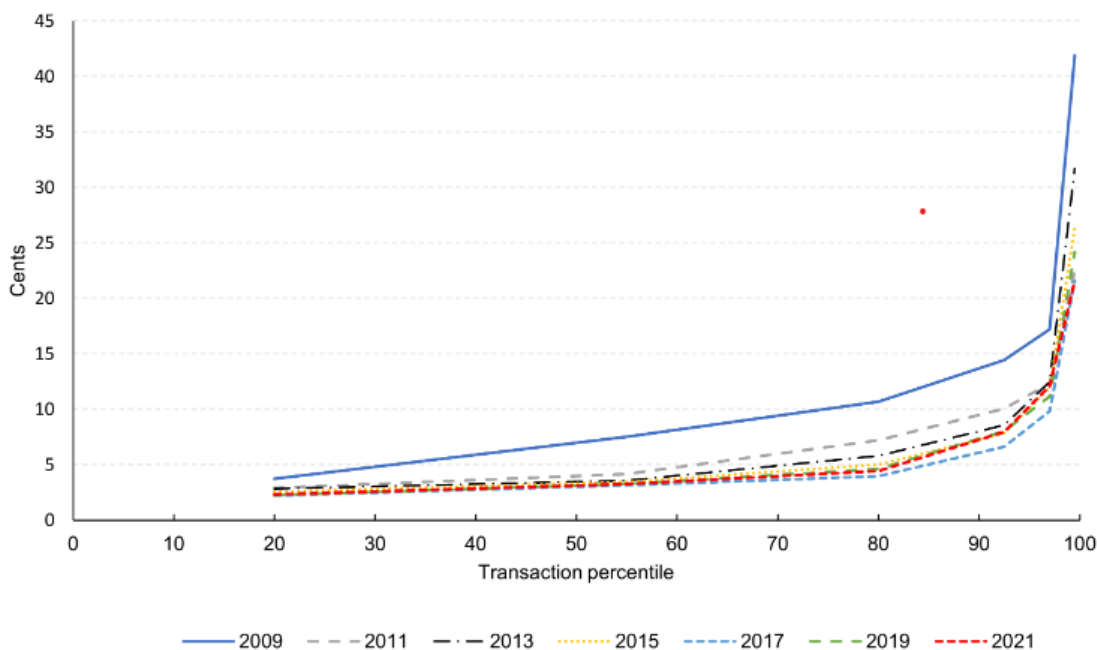
<sup>1</sup> Authorization, clearing, and settlement costs include transactions monitoring costs and exclude issuer fraud losses, which are reported separately.

124. The credit union data is categorized into high and mid-transaction levels. The Board did not provide the breakdown of cost and transaction levels to analyze this relationship explicitly. However, it's apparent that within the high-volume subsample, the credit union's cost of \$0.047 per transaction slightly exceeds the median cost of \$0.042. Conversely, the mid-volume cost for credit unions, amounting to \$0.078 per transaction, positions it slightly above the 25th percentile. This suggests credit unions are cost-effective within their peer group once the institution's size is considered.

125. The data underscores the significant influence of a small group of high-volume banks on the overall cost estimates within the debit card market. Despite representing a fraction of total issuers, these top three banks wield substantial market share, shaping transaction costs due to their immense volume and economies of scale. While their dominance drives down transaction-weighted averages, the issuer-weighted average paints a different picture, revealing higher costs per transaction among other financial institutions. **This discrepancy**

**underscores the importance of understanding market segments and considering diverse cost structures across financial institutions.**

Figure 1: Average per-transaction base component costs of covered issuer transactions, in cents, by transaction percentile range and year



Note: Figure 1 plots the data captured in table 1 at the midpoint of each transaction percentile range, and connects these individual points with straight lines to aid presentation.

*Figure 13: Costs by transaction percentile*

126. The misleading nature of this analysis can be seen in Figure 13.<sup>29</sup> Two crucial factors stand out. First, it appears costs are flat for most of the market, but it must be noted that 45-50% of the data is from just *three* banks. Second, the only considerable cost reduction occurred in 2009 *before* the Durbin amendment. Given the skewed nature of the data (see Figure 13), the Board must acknowledge the heterogeneity in costs. However, the proposed rule relies on a Weibull distribution, which is known for its flexibility in handling diverse data patterns and skewness. The Board's method of calculating costs on a transaction-weighted basis

<sup>29</sup> [The Fed - Additional Data Concerning the Proposed Methodology for Determining the Base Component of the Interchange Fee Cap \(federalreserve.gov\)](https://www.federalreserve.gov/interchange/interchange-fee-cap-additional-data)

exacerbates the concentration issue in debit accounts. As seen in the analysis, this approach hasn't significantly improved the cost structure for most financial institutions, except for the top three banks. **Considering an issuer-weighted approach, treating all issuers equally and avoiding favoritism towards large institutions could present a more accurate cost assessment.**

127. According to Figure 14, derived from an America's Credit Unions survey detailed in section 7, credit unions in the high-volume category exhibit competitive ACS costs, albeit slightly above the median in 2021. However, the data suggests a rise in costs for 2022 and 2023, though it's premature to ascertain if this trend is industry wide. Contrarily, industry-wide costs have decreased, primarily driven by reductions at the 25th percentile in the high-volume category, as depicted in Figure 14.

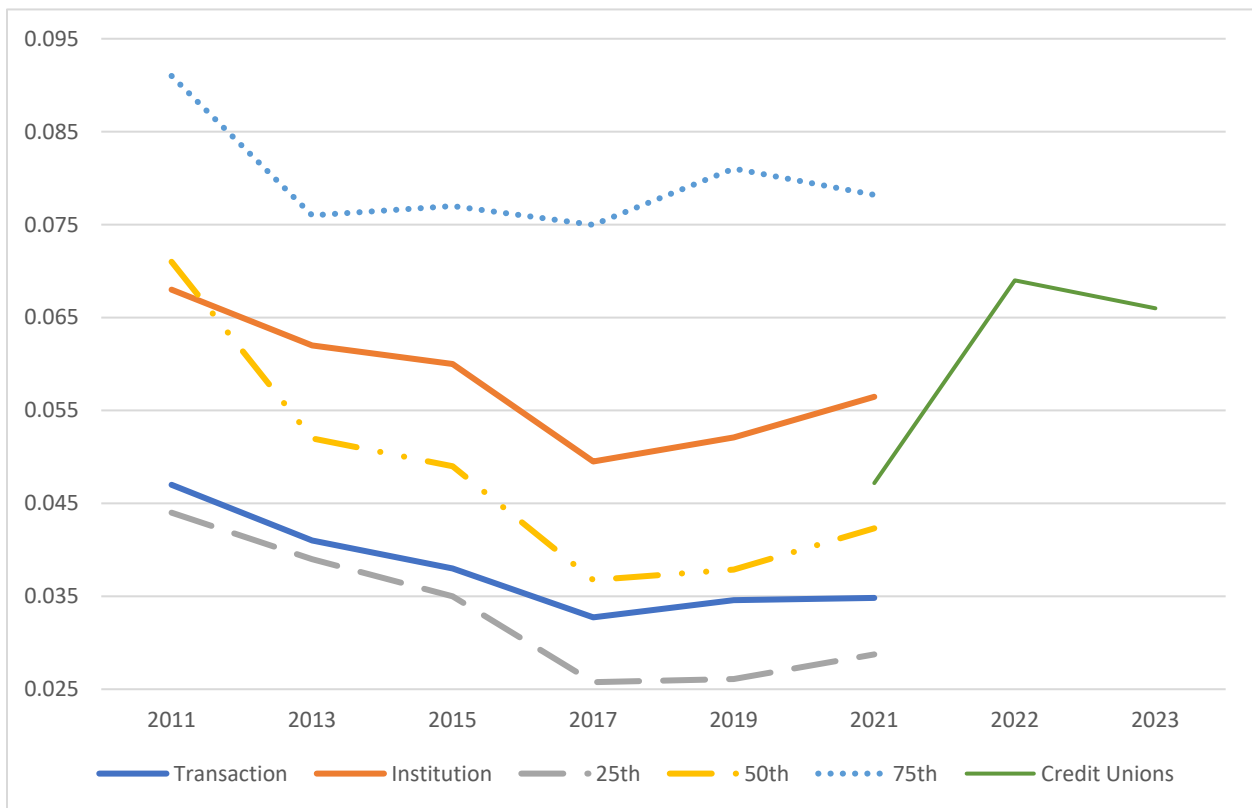


Figure 14: Changes in ACS cost per transaction over the years

128. Table 8 demonstrates the percentage change in costs from 2011 to 2021, revealing a 25.9% decline in ACS costs on a transaction basis. However, at an institutional level, the reduction is less pronounced at 16.9%, indicating that cost reductions primarily benefit a select group of banks achieving scale. These reductions, predominantly observed at the 25th and 50th percentiles, occurred primarily after implementing the Durbin Amendment in 2011. Restricting the sample from 2013 to 2021 reveals diminished gains, with costs for the 75th percentile rising by 2.8%. It's important to note that attributing these cost reductions solely to the Durbin Amendment amidst the regulatory changes following the 2009 Great Recession is challenging. This was a period of great growth in volume across the major networks and the data may just reflect more financial institutions achieving scale. Moreover, these reductions seem temporary, and implementing the proposed changes by **the Board could potentially favor large banks at the expense of the broader financial ecosystem, limiting consumer finance choices to institutions less reliant on interchange fees.**

*Table 8: Change in Costs*

	High Volume Percent Change in costs				
	Transaction	Institution	25th	50th	75th
2011-2021	-25.9%	-16.9%	-34.7%	-40.4%	-14.1%
2013-2021	-17.7%	-9.8%	-35.7%	-22.9%	2.8%

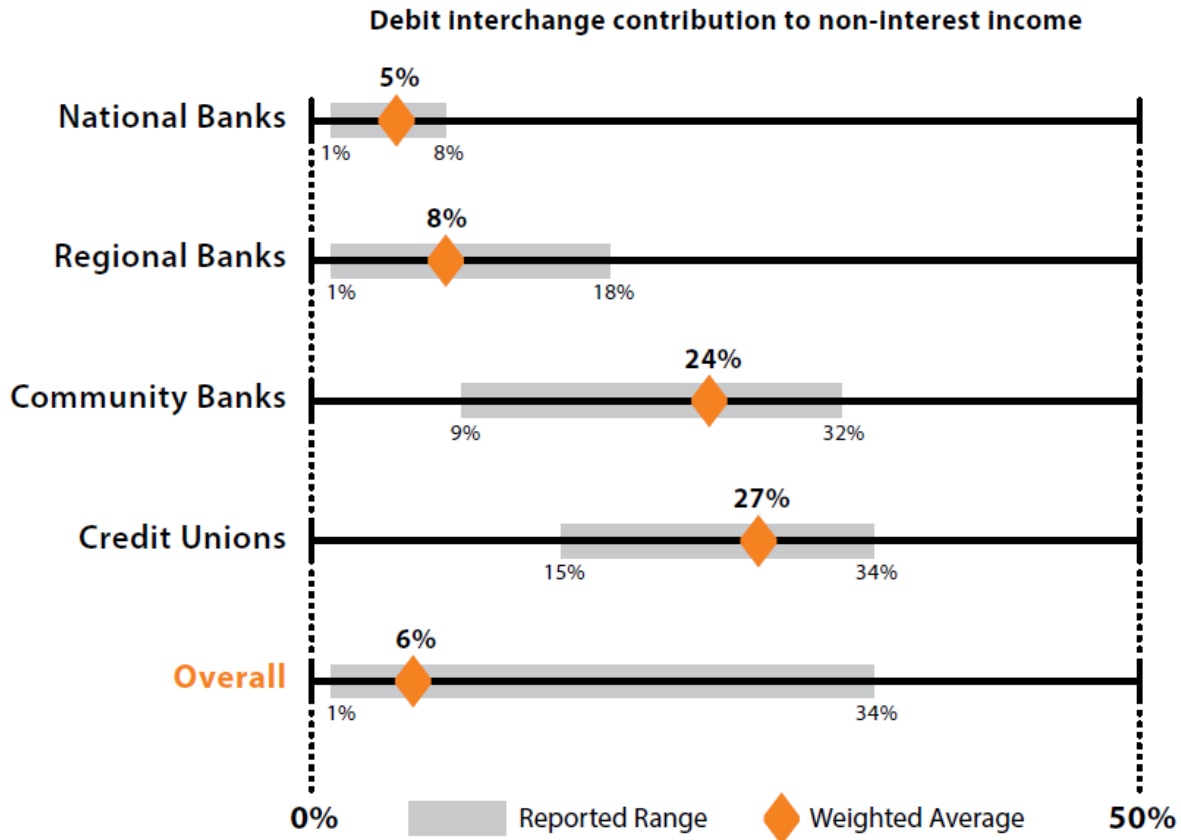
129. Figure 15 below illustrates the disparity in the reliance on debit interchange fee revenue across various financial institutions. Notably, large national banks exhibit the lowest dependence on interchange fees, whereas community banks and credit unions rely heavily on these fees. This diversity in reliance on interchange fees reflects a healthy range of business models and market dynamics within the



industry.

**Figure 9**

*Importance of debit interchange revenue, 2019*



*Figure 15: Importance of debit interchange revenue, 2019*

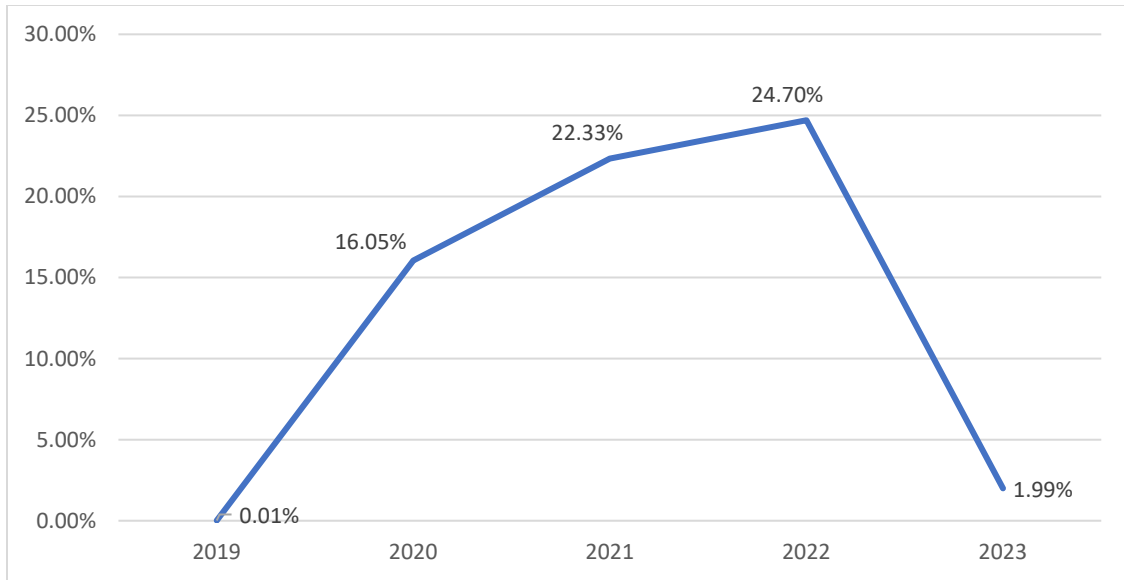
130. The proposed rule is poised to significantly reshape the market structure of financial services. If interchange fees cease to serve as a profit center for funding a bundle of financial services, as outlined in Section 3, this traditional banking model may become less viable. With a reduced interchange fee cap, debit services could become less profitable or unprofitable altogether, raising concerns about the market's response.

131. One likely reaction would involve financial institutions altering their business models. Without interchange revenue, they may need to seek alternative

sources of income, such as implementing additional fees. Another possible response could be market exits, primarily through mergers. Financial institutions may merge to increase transaction volumes and benefit from economies of scale. However, this challenges credit unions, which are non-profits which limit their ability to raise capital and they prioritize their unique identity. Ultimately, the primary beneficiaries of these changes are likely to be large banks, which drive down costs by consolidating more financial institutions, leading to lower costs overall. As a result, financial services may become more standardized and concentrated, influenced by the data and methodology employed in setting interchange fees.

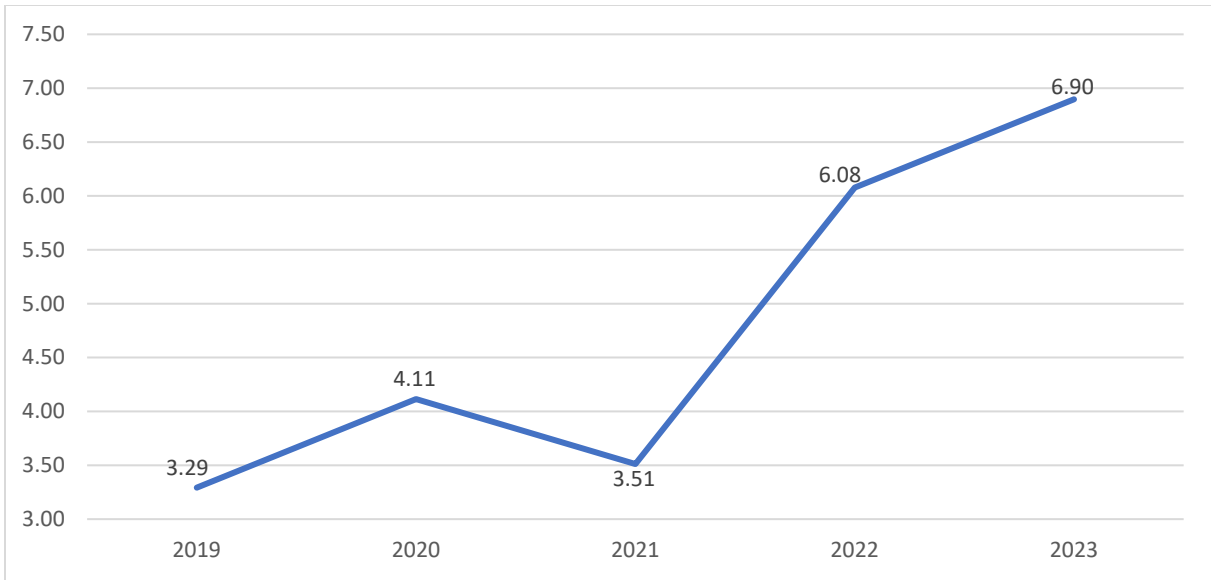
### **Instability of Fraud Losses**

132. The Board's proposed increase in the fraud adjustment from 1-cent to 1.3 cents per transaction signifies a step in the right direction. However, predicting fraud and quantifying all of its related costs remains a challenging task. While the Federal Reserve interprets the Durbin Amendment to not authorize reimbursement for fraud losses, since they are not costs incurred to *prevent* fraud, it would be naïve to assume that such losses do not constrain the ability of issuers to absorb the cost of price controls established in Regulation II. Utilizing data from the survey conducted by America's Credit Unions (detailed in section 7), I present Figure 16, which illustrates the percentage change in fraud losses reported by credit unions from 2019 to 2023. During the pandemic years of 2020 to 2022, there was a substantial surge in fraud, reaching its peak with a 24.7% increase in 2022. Although there has been a decline to a 1.99% increase in 2023, it's essential to note that this still constitutes a significant annual rise compared to the pre-pandemic period.

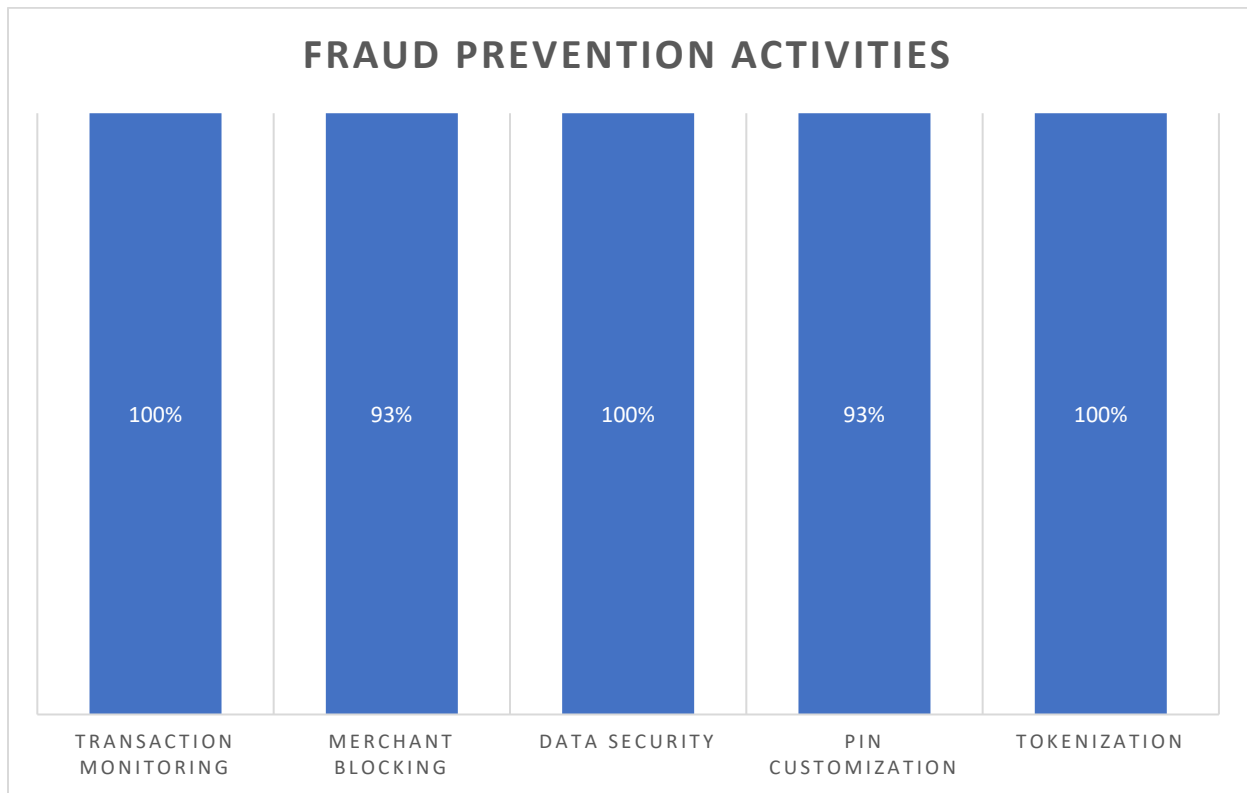


*Figure 16: Percent Change in Fraud Losses*

133. Figure 17, sourced from the same survey data, provides a nuanced depiction of the change in the ratio of total fraud losses to total transactions. While fraud per transaction experienced a decline in 2021, there has been a notable increase in this metric from 2019 to the end of the sample, 2023. This indicates a combination of increased transaction volumes and a higher incidence of fraud per transaction over this period. Additionally, based on the same dataset, Figure 18 highlights that credit unions have embraced investment in all security categories the Federal Reserve has enumerated in the Debit Card Issuer Survey with nearly 100% adoption across all categories, as well as others that are not specifically listed. Despite these efforts to prevent fraud, the presence of fraud losses underscores the reality of the losses incurred, emphasizing the need for continued vigilance and adaptation in fraud prevention strategies.



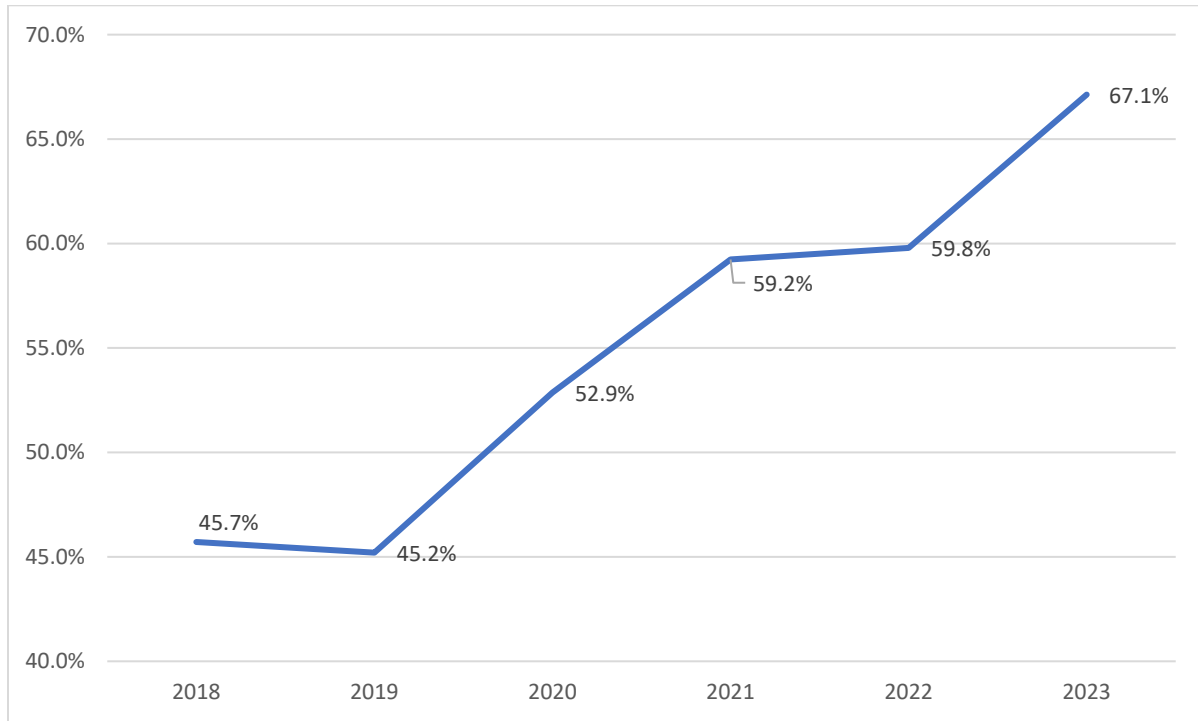
*Figure 17: Ratio Total Fraud Losses to Total Transactions*



*Figure 18: Fraud Prevention Activities*

134. Lastly, Figure 19, drawn from the America’s Credit Unions’ survey data, illustrates the source of the increase in fraud, revealing that the share of fraud

stemming from Card Not Present (CNP) transactions has surged from 45.7% to 67.1%. This rise can be attributed to the expansion of CNP transaction volume, which accelerated during the pandemic due to the shift of commerce to online platforms and mobile apps. This trend appears to be enduring, indicating a lasting change in consumer behavior towards digital transactions.



*Figure 19: Percentage of Debit Card Fraud from Card Not Present (CNP)*

135. The data presented highlights the significant challenges posed by the instability of fraud losses, particularly exacerbated by the dynamic landscape of digital transactions. While the proposed increase in the fraud adjustment is a positive step, it's evident that the surge in fraud, especially within Card Not Present transactions, necessitates a higher adjustment to reflect these evolving trends accurately. Furthermore, the findings underscore the critical role of interchange fees in funding ongoing improvements in security measures. Despite credit unions' widespread adoption of advanced security protocols, fraud losses persist,

emphasizing the need for continual investment in fraud prevention strategies to ensure a safe and efficient customer experience. Therefore, a higher fraud adjustment is essential to mitigate the impact of rising fraud and uphold the integrity of the financial system. While the largest issuers may enjoy advantages in scale that allow fraud losses to be absorbed with less acute effects on short-term liquidity or long-term profitability, smaller issuers may find it challenging to manage their card programs if fraud related adjustments do not keep pace with the total cost of fraud, which logically encompasses losses and the costs associated with honoring consumer rights to reimbursement for unauthorized transfers under the Electronic Fund Transfer Act.

#### 7. Predicted effects on credit unions.

136. While much of the literature on the impacts of the Durbin Amendment focuses primarily on larger banks, there is a notable gap in the analysis concerning credit unions. However, the survey conducted by America's Credit Unions among covered issuers members with assets of at least \$10 billion fills this void. The findings from this survey provide valuable insights into how credit unions are responding to the proposed changes to Regulation II and shed light on the potential implications for their members and communities. Despite operating as non-profit cooperatives, credit unions face similar challenges as larger banks in navigating the regulatory landscape and mitigating revenue losses. However, their community-oriented nature and ownership structure present unique considerations that may influence their strategies for adapting to regulatory changes. Understanding these dynamics is crucial for policymakers and stakeholders to ensure that regulatory changes support the continued viability of credit unions and the financial well-being of their members.

137. Table 9 presents data from the DCI Fed survey and the America’s Credit Unions study. The DCI Fed study is based on data from 2021, while the America’s Credit Unions’ data spans 2022 and 2023. The America’s Credit Unions’ survey was conducted in stages from December 2023 to March 2024. Notably, the average transaction values between the two datasets are comparable. This approach allows for a more inclusive examination of the potential impacts of proposed amendments, providing insights specific to credit unions and offering a prospective outlook on how these changes may affect them and their members.

*Table 9: Data in the Fed DCI and American Credit Union’s survey*

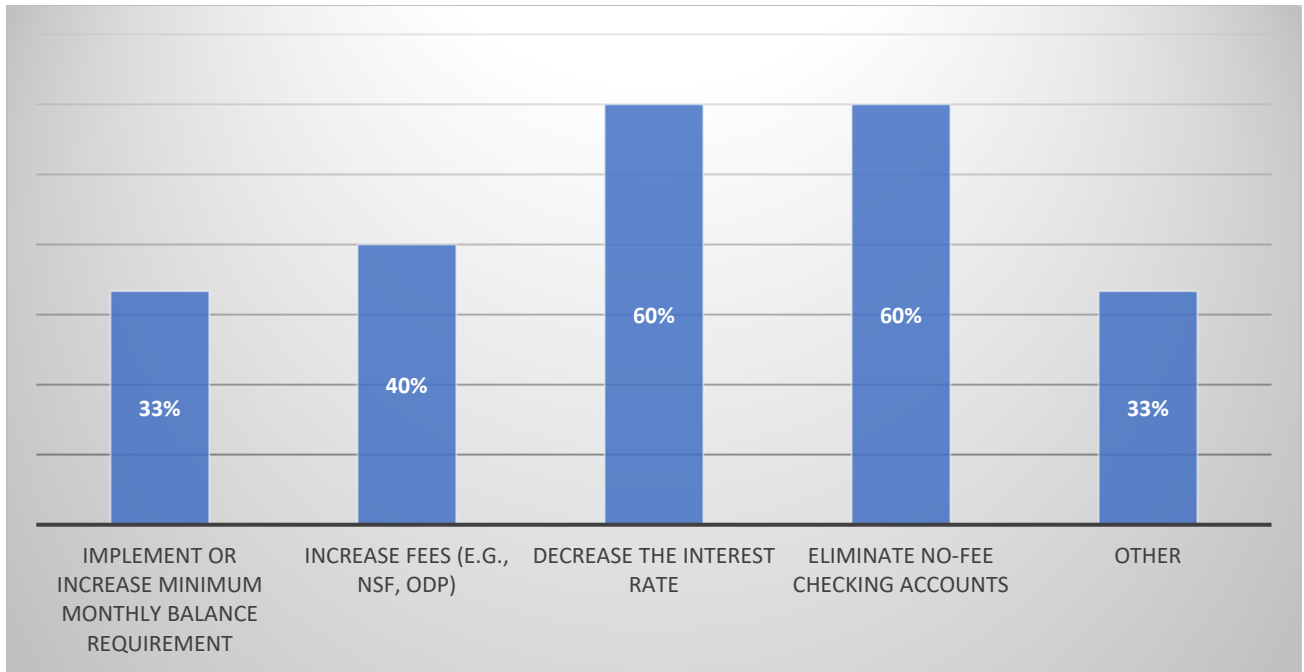
Covered issuers in 2021 DCI Fed Survey				
	<i>Number of covered issuers</i>	<i>Average transaction value (\$)<sup>2</sup></i>		
<b>All covered issuers</b>	<b>163</b>	<b>47.67</b>		
High-volume issuers (more than 100 million transactions)	53	47.44		
Mid-volume issuers (1-100 million transactions)	86	51.49		
Low-volume issuers (less than 1 million transactions)	24	78.47		
Sample of America’s Credit Union Study				
	2022	2022 Avg Transaction	2023	2023 Avg Transaction
<b>All covered issuers in the sample</b>	15	\$ 47.12	15	\$ 47.19
High-volume issuers (more than 100 million transactions)	10	\$ 46.24	10	\$ 46.50
Mid-volume issuers (1-100 million transactions)	5	\$ 48.88	5	\$ 48.57
Low-volume issuers (less than 1 million transactions)	0		0	

138. A recurring finding in academic literature is increasing fees and tightening restrictions on free checking and savings accounts. Figure 20 sheds light on the data about free checking accounts, with the top two responses comprising 60% of the dataset. This indicates a shift towards eliminating no-fee checking accounts and reducing consumer benefits through interest rate reductions. Notably, at the time of the survey, there were expectations of rising interest rates, though the current

outlook suggests a less probable scenario, potentially resulting in reduced interest rate adjustments.

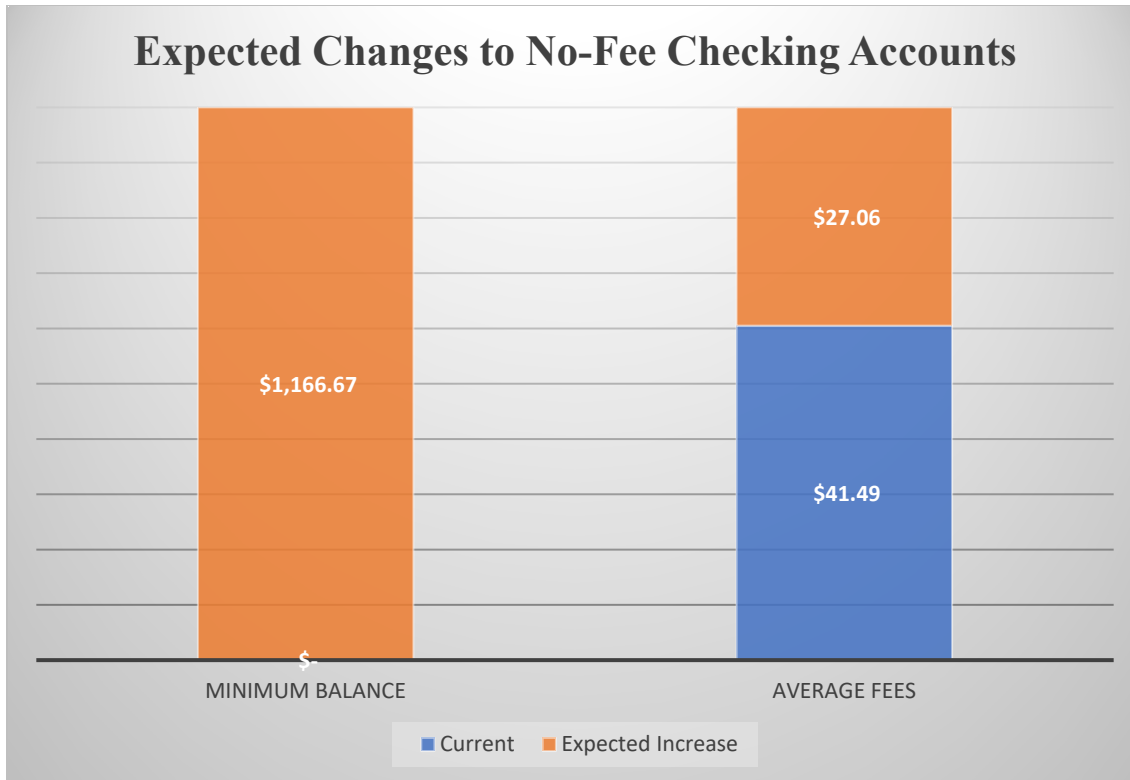
139. Among the responses, 40% intend to implement fee increases, with 33% planning to raise the minimum balance required to maintain no-fee checking accounts. While this aligns with findings in the academic literature, as discussed in Section 4, these changes' magnitude appears smaller than anticipated. It's essential to consider that credit unions operate as non-profit cooperatives, which may temper their inclination to aggressively pass on lost revenue compared to large for-profit banks, often the focus of academic studies. However, credit unions with limited capacity to operate debit programs as loss leaders may face pressure to merge, especially in an environment where there is a regulatory agenda to limit fee income. Furthermore, certain credit unions may regard fees for basic banking services as non-viable and would instead seek a merger with a larger institution. Nevertheless, despite these caveats, the shift towards increased fees and reduced benefits represents a significant loss for individual credit union members. This underscores the importance of understanding and addressing the evolving landscape of financial services to ensure the continued well-being of consumers within the credit union ecosystem.





*Figure 20: Potential Responses to No-Fee Checking if Interchange Revenue falls*

140. Figure 21 depicts the anticipated increases in minimum balance requirements and fees for no-fee checking accounts. Respondents report a minimum balance of \$0 required to maintain these accounts, which is projected to escalate significantly to \$1,167. Moreover, the average fees paid by members with no-fee checking accounts currently stand at \$41.49, with an expected surge of \$27.06 or a 65% increase. These figures represent tangible losses that credit union members are likely to experience due to the proposed changes to Regulation II. Such adjustments will directly impact the financial well-being of individuals, underscoring the potential hardships consumers face because of these regulatory amendments.



*Figure 21: Expected Changes to No-Fee Checking Accounts*

141. Figure 22 presents comparable data concerning no-fee savings accounts. Notably, 80% of respondents indicated that a plan to decrease the interest rate may be influenced by the timing of the survey, which was conducted in December 2023, when Federal Reserve rate hikes were anticipated. However, 20% of respondents intend to eliminate base savings accounts, while 27% plan to increase fees and potentially raise minimum balance requirements. In Figure 23, the expected rise in minimum balances by \$358.33 and fees by \$1 reflects a 16.5% fee increase. These findings underscore credit unions' community-oriented and non-profit nature, seeking to shield their members from the revenue declines anticipated due to the proposed rule. Nevertheless, these adjustments represent significant shifts of revenue losses to the public, highlighting the consequential impact on consumers.

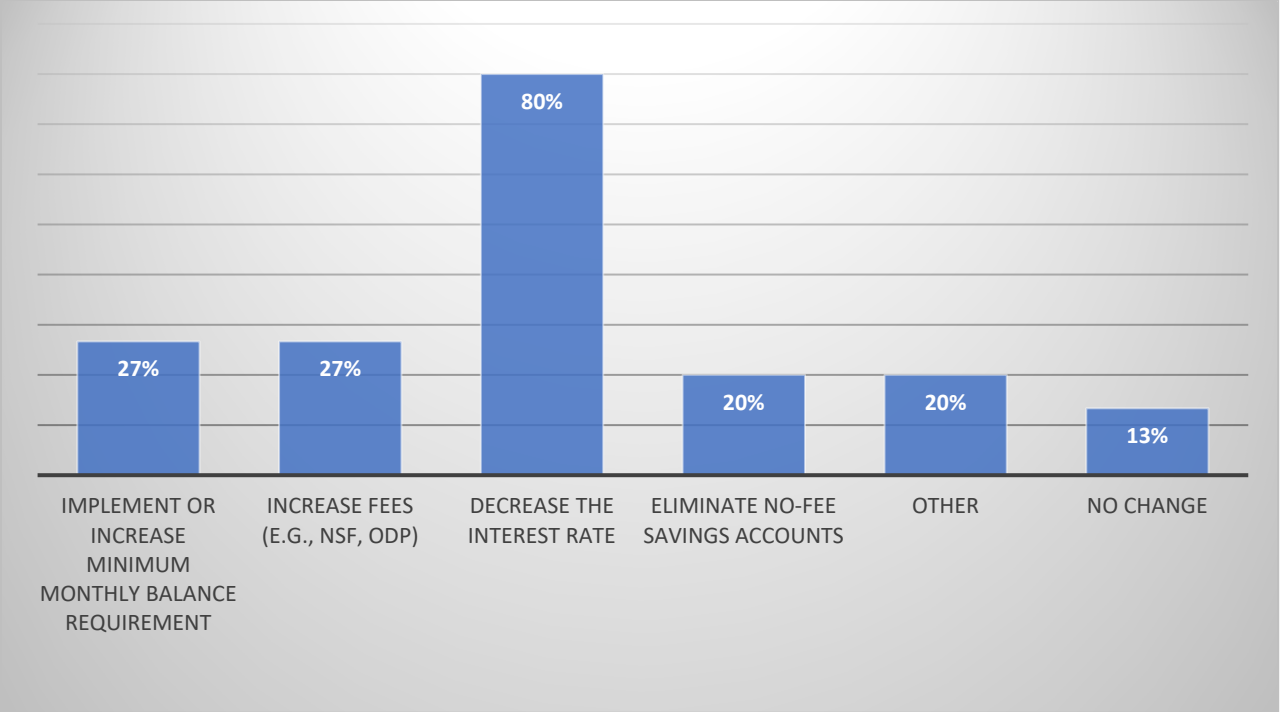
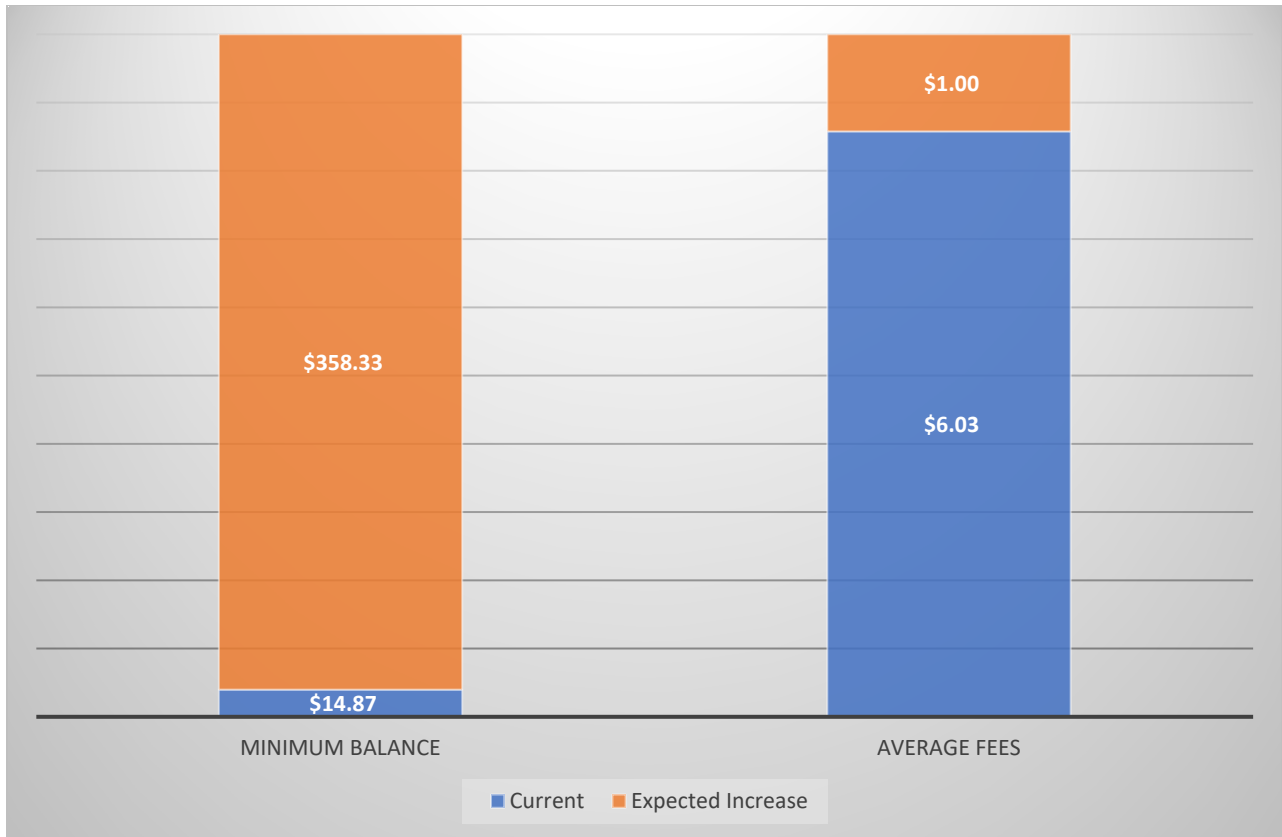


Figure 22: Potential Responses to No-Fee Savings if Interchange Revenue falls



*Figure 23: Expected Changes to No-Fee Savings Accounts*

142. In Figure 24, members were asked to gauge the potential negative impact of the proposed reduction in the debit interchange cap on various offerings at their credit unions. The responses revealed a predominant concern regarding interest rates, with 87% expressing a high likelihood of reducing the value of savings and 7% indicating a somewhat likely reduction. This signals an impending decrease in income for account holders to offset the anticipated decline in revenue from interchange fees.

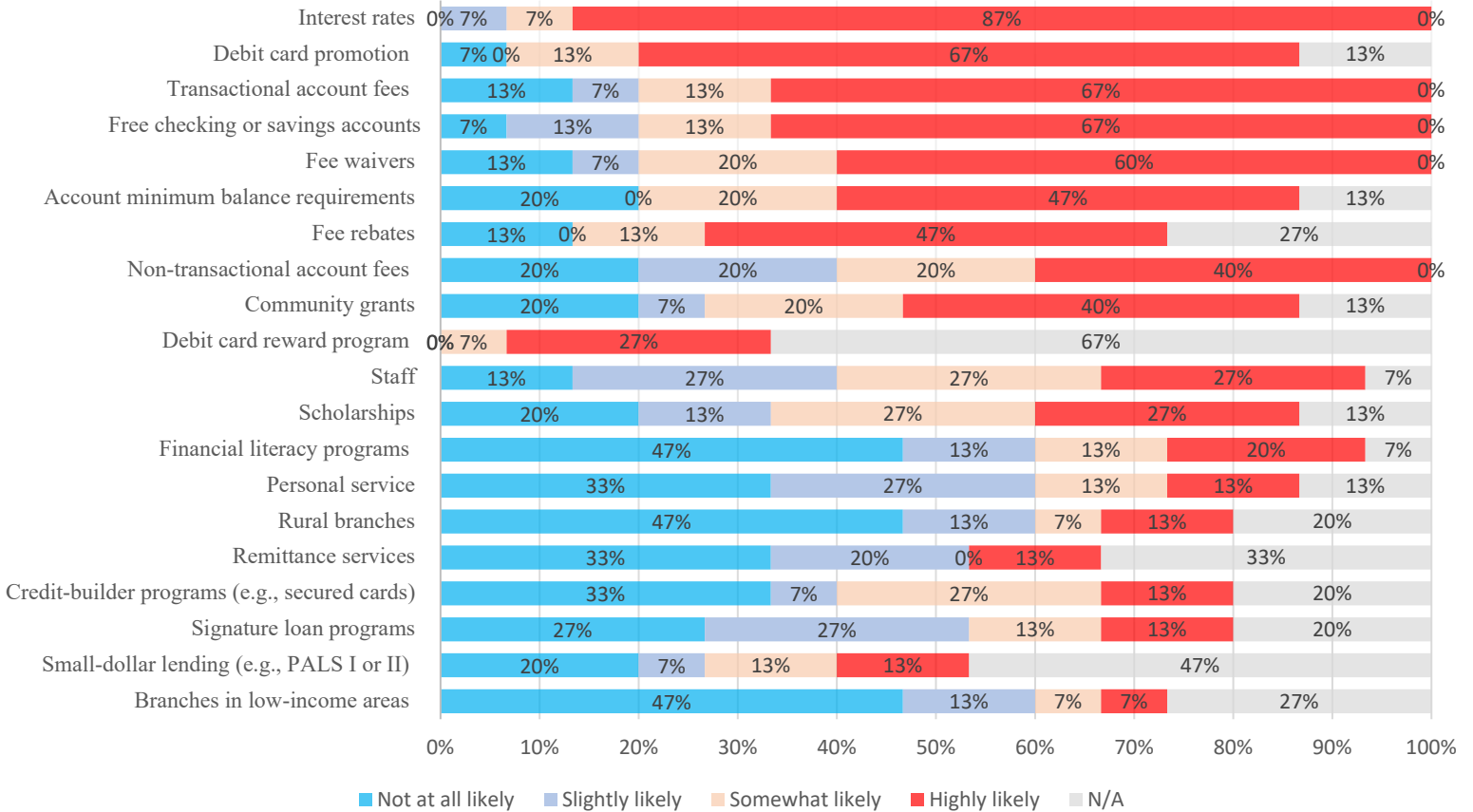
143. Additionally, 67% of respondents deemed debit card promotion highly likely to be reduced, suggesting a potential shift away from heavily promoting debit networks. Consistent with findings in academic literature, the survey highlighted expectations of rising transactional account fees, reductions in free checking or savings accounts, fewer fee waivers or rebates, and an increase in minimum

account balances. Notably, the focus of responses leans towards revenue reclamation rather than cost reduction, with areas such as staffing, branches, credit building programs, and small-dollar lending expected to be less impacted.

144. Credit unions, as non-profit entities based on communal ties with limited fields of membership, reinvest in the communities they serve. However, the revenue generated from interchange fees often supports these community-oriented projects. Alarming, over 50% of respondents indicated a likelihood of reducing community grants and scholarships, representing a tangible loss for communities and credit union members. This aspect is often overlooked in academic literature, which tends to focus on large, publicly traded for-profit banks.

145. Interestingly, a significant portion of respondents opted out of responding to debit reward programs, likely due to the substantial reduction or cessation of such programs following the initial implementation of the Durbin Amendment. Among those who did respond, 27% indicated a high likelihood of reducing debit reward programs, while 7% expressed a somewhat likely reduction. This suggests that any remaining debit rewards are also at risk of reduction or elimination.

## HOW LIKELY THE PROPOSED REDUCTION IN THE DEBIT INTERCHANGE CAP IS TO NEGATIVELY IMPACT THE FOLLOWING OFFERINGS AT YOUR CREDIT UNION?



*Figure 24: Responses by credit unions*

146. In Figure 25, responses were limited to the top three options, offering insights into the most pertinent strategies for credit unions likely to occur. With a significant 40% response rate, the primary option identified is to reduce interest on accounts, effectively passing on the reduction in interchange fee revenue to account holders. Another top response is to decrease the share of savings rates. Credit unions operate as cooperatives, with members owning shares based on their accounts. These shares pay out dividends to account holders. Therefore, a reduction in the share of savings rates represents the principal method through

which credit unions are likely to pass on the diminished value of the institution and the reduced income due to lost revenue to their members. Recognizing that credit unions differ from for-profit banks in ownership structure is crucial. While for-profit banks may spread losses in market value to various investors, credit unions are owned by their members. Thus, the survey indicates that account holders will bear the losses incurred by credit unions as both an account holder and as a member-owner of their debit card issuer institution. Given the research on cost savings pass through by merchants, there will be little if any benefit to them as consumers.

147. Additionally, a significant share of credit unions aim to preserve services, operating hours, or community programs. This stands in contrast to the strategies often pursued by for-profit banks. The "other" category of responses primarily focused on marketing efforts or indicated that it was too early to determine how to compensate for lost revenues.

## Which three of the following actions would a credit union take to make up for loss in revenue from interchange fees?

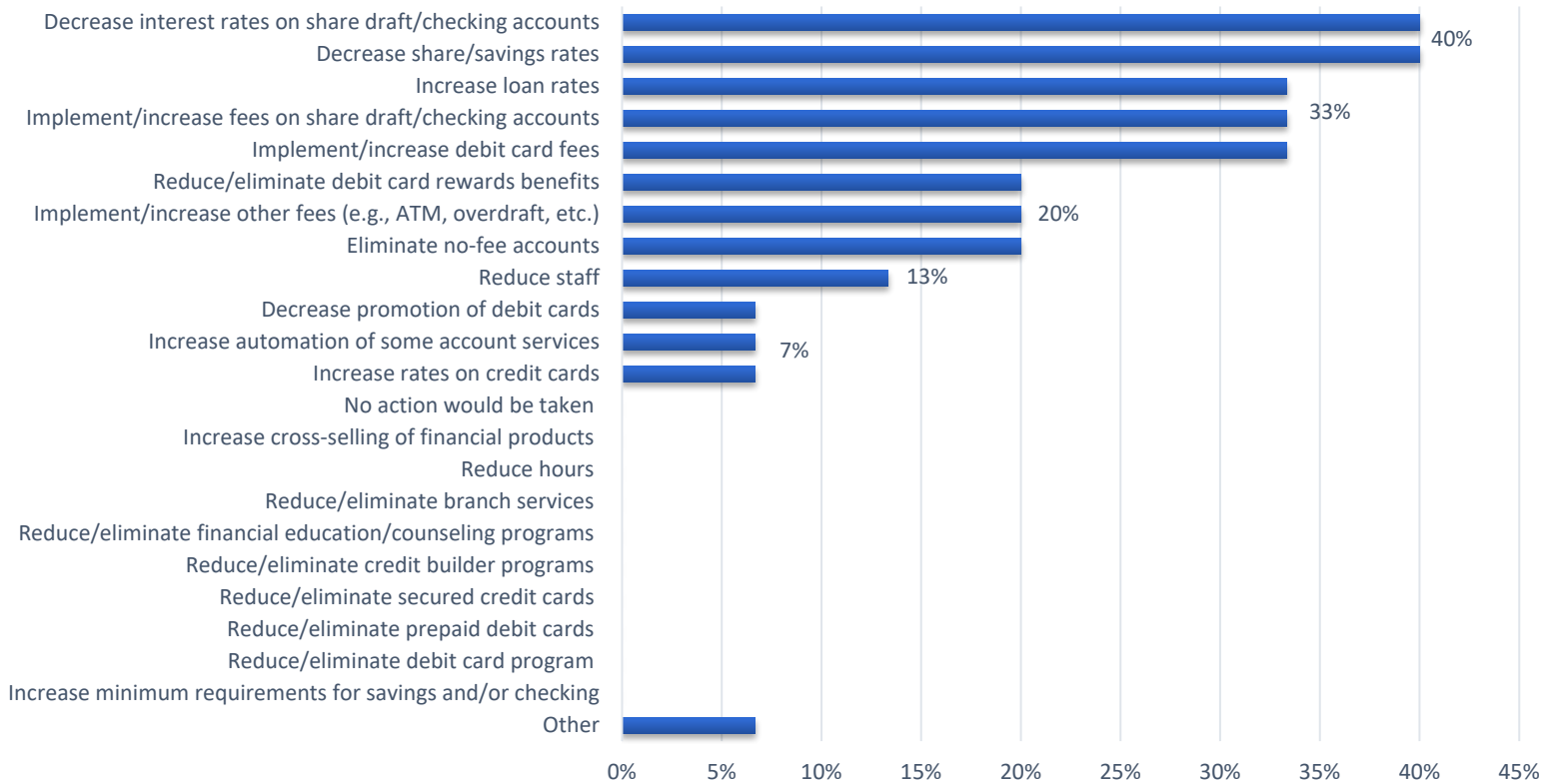


Figure 25: Top 3 responses by credit unions

148. The analysis provides an evaluation of the potential impacts of the proposed changes to Regulation II on credit unions, consistent with insights from academic literature and based on a survey conducted by America's Credit Unions among its members. The findings underscore significant concerns regarding the adverse effects of the proposed changes, particularly on credit union members and their communities.

Key points highlighted include:

- The academic literature overlooks credit unions, leading to a bias towards larger banks.



- Findings reveal increasing fees and tightening restrictions on free checking and savings accounts, with credit union members likely to bear the brunt of revenue losses.
- Anticipated adjustments include reductions in interest rates, increased fees, and higher minimum balance requirements, representing tangible losses for individual credit union members.
- Community-oriented initiatives, such as grants and scholarships, are at risk of reduction due to revenue declines from interchange fees.
- Credit unions aim to mitigate losses through revenue reclamation strategies, such as increased fees and reduced rewards while preserving services and community programs.

149. The proposed changes to Regulation II could harm credit unions and their members. It underscores the importance of considering the impact on smaller financial institutions and their communities when implementing regulatory changes, highlighting potential unintended consequences, and advocating for policies that support financial inclusion and community well-being.

## 8. Costs and Benefits

150. The absence of a comprehensive assessment of the costs and benefits of the proposed rule changes to Regulation II represents a regulatory oversight by the Board. However, leveraging insights from academic literature and survey analysis makes it feasible to conduct rough back-of-the-envelope calculations of the costs and benefits incurred by stakeholders.

## 8.1 Analysis of Stakeholders

151. In 2021, covered institutions garnered \$14.5 billion in interchange revenue, calculated at an interchange fee of \$0.25 per transaction,<sup>30</sup> based on an average transaction size of \$47.91. However, if the proposed rule had been enforced during that period, the interchange fee would have decreased to \$0.176 per transaction,<sup>31</sup> constituting a significant 30% decline. This reduction would result in an approximate loss of \$4.35 billion in interchange fees for covered institutions. In 2023 credit unions are estimated to have received \$1.49B in interchange fees. Had the proposed rule been in place this revenue would only have been \$1.075B. This represents a loss of revenue to credit unions of \$414M.<sup>32</sup> Although these figures are rough estimates, they underscore the anticipated substantial drop in industry revenue. The crucial question arises: where do these losses manifest, and who bears their burden?

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<sup>30</sup> My calculation was  $\$0.244 = (\$0.21 + (0.0005 * 47.91) + \$0.01)$  which is probably due to a rounding error.

<sup>31</sup> My calculation was  $\$0.176 = (\$0.144 + 0.0004 * 47.91 + \$0.013)$

<sup>32</sup> The assessment of revenue loss relied on data from two main sources. Firstly, survey data, detailed in section 7, was utilized, although not all covered credit unions were included in the survey. Secondly, membership data from Q4 of 2023 was considered. Using this data, the average interchange fee per member for surveyed credit unions in 2023 was calculated. This average was then applied to credit unions without reported interchange fee revenue, assuming similar debit card usage patterns among members of reported and unreported credit unions. Statistically, this method should provide a reliable estimate of 2023 interchange fee revenue if members of reported credit unions use their debit cards similarly to those that did not report. For instance, if a teacher in Iowa, who is a member of a local teacher's credit union, exhibits, on average, similar usage patterns to a teacher in Ohio or a member of the military, etc., who belongs to their community credit union.

Subsequently, the estimated interchange fees for 2023 were determined, followed by a similar process to ascertain the average transaction value. The current Regulation II fee cap formula was then applied to estimate transaction-based fees, alongside the proposed new rule's formula. The percentage change in revenue was calculated and applied to the 2023 total transaction fees to project what interchange fees would be in a scenario where the proposed rule is adopted. Finally, the difference between these values was calculated to gauge the potential impact of the proposed rule.

## Banks

152. The most comprehensive study of banks during the implementation of the Durbin Amendment was by Evans et al. (2015). He found that Banks passed on 80% of the lost revenue to customers through lower services or higher fees.

## Credit Unions

153. Assessing the impact on credit unions poses a challenge due to the distinct nature of credit unions compared to traditional banks. Credit unions operate as cooperative, non-profit entities with limited fields of membership, serving specific groups of members, such as military personnel or teachers, or individuals within a specified geographic region. As member-owned and mission-driven organizations, credit unions prioritize community service over profit maximization, often insulating their members and exhibiting slower pass-through of financial losses.

154. However, findings from the Americas Credit Union survey, as detailed in Section 7, suggest credit unions will be forced to mitigate lost interchange fee revenue through strategies such as fee increases, service reductions, and program cutbacks. Unlike national banks, credit unions rely more heavily on interchange fees for their non-interest income. As Figure 15 from Section 6 illustrates, these fees constitute 27% of non-interest income for credit unions compared to just 6% for national banks, which formed most of the data analyzed by Evans et al. Given the unique economic structure of credit unions, it's reasonable to anticipate that the passing on of lost revenue would occur below the 80% recovery threshold observed in banks. However, the significance of interchange fee revenue underscores the imperative for credit unions to recoup these losses, potentially resulting in a recovery rate approaching the 80% range.

155. The members of low-income designated credit unions among the 21 affected by the Durbin Amendment are particularly vulnerable. Among all covered credit

union issuers, 10 are designated as low-income by the National Credit Union Administration. This designation encompasses individuals with family incomes at 80% or less than the median for their area, including students enrolled in educational institutions. In other words, the fields of membership of these credit unions contain economically vulnerable populations. Given that credit unions heavily rely on interchange fees for non-interest income and offer bundled financial products, any reduction in these fees jeopardizes their ability to effectively serve low-income communities or even maintain operations.

### Exempt institutions

156. Exempt issuers were excluded by a desire to protect small institutions. Though well-intentioned, the exclusion from the Durbin Amendment's fee cap provisions was still damaging to them, and if this proposed rule is implemented, it will continue to be damaging to them. According to the findings of Manuszak and Wozniak (2017), exempt banks similarly adjusted their fees based on their competitive exposure to covered banks. For instance, their research indicates that exempt banks experiencing substantial competition from covered banks would reduce the availability of free noninterest checking accounts by 15.5%, significantly less than the observed 35.2% reduction for covered banks. This serves as direct evidence that the mandated reduction of interchange fees by covered banks and the subsequent cost pass-through to customers prompted exempt institutions to adapt their behavior in response to market dynamics. Exempt institutions were compelled to lower their interchange fees to stay competitive and offset lost revenue through adjustments in other fees. Consequently, while the magnitude of changes may vary, the qualitative trickle-down effects remain similar for exempt institutions and their customers. I would expect exempt institutions also to lose revenue but at a much smaller scale.

## Consumers

157. The research, with many studies conducted by Board economists, is clear that consumers of financial services are bearing the cost of the Durbin Amendment. The only debate is on the magnitude. Kay et al. (2018) found that with a broad measure of fees, banks recouped 90% of the interchange revenue via their customers. Mukharlyamov and Sarin (2022) restrict their analysis to mainly account fees and find that Banks clawed back 42% of the loss revenue through these fees. Evans et al. (2015) found that banks recovered 80% as measured by stock valuation. I believe the 80% number seems to be a good measure. This means that consumers have realized little benefit from the interchange fee revenue.

158. However, a primary distinction between credit unions and banks lies in their ownership structure and mission. While banks are driven by external shareholders seeking profits, credit unions are owned and controlled by their members, who are also considered shareholders. This unique arrangement means credit union members have a direct stake in the organization's decisions and financial outcomes. Credit union members' accounts are akin to shares, reflecting their ownership in the institution. These accounts accrue dividends, signifying a portion of the credit union's profits. Moreover, being a shareholder in a credit union brings various benefits, including lower loan and credit card interest rates, higher dividends on savings, and fewer fees. Beyond financial benefits, credit unions prioritize community investment, financial education, and member discounts. The funding for these benefits was curtailed due to the Durbin Amendment and will be further curtailed by the proposed rule change. Additionally, the potential closure or scaling down of low-income credit unions would exacerbate financial exclusion for low-income communities, leaving them with fewer options for accessing basic financial services. As a result, individuals and families already struggling to make ends meet

may face increased barriers to managing their finances effectively, perpetuating cycles of poverty and inequality.

159. The survey findings in Section 7 suggest that one response to the proposed rule changes would be to decrease the value derived by members from an ownership in interest in their credit union. This response underscores a fundamental difference between credit unions and large banks: in credit unions, the shareholders affected by revenue losses are also the consumers. Unlike large banks, where the portion of revenue not passed through to consumers is lost by stockholders or private owners, credit union members (teachers, military members, government employees, or other defined communities) bear the brunt of these losses. In essence, the losses inflicted by the Durbin Amendment translate directly into losses for consumers who are also the shareholders. **Therefore, the effective pass-through rate of these losses, whether through higher fees for financial services or via the concept of ownership in the credit union, would approach 100%. This highlights the significant impact of the proposed rule changes on credit union members, emphasizing the need for careful consideration of their implications.**

#### Merchants and consumers

160. The Durbin Amendment's underlying rationale posits that benefits will trickle down from merchants to consumers. The theory suggests that merchants benefiting from lower interchange fees would pass on these savings to consumers. However, as observed in Section 4.5, when costs decreased, there were limited instances of these savings being passed through to consumers. Consequently, it's reasonable to anticipate that any benefits accruing to consumers would likely be minimal and challenging to quantify meaningfully, echoing the findings of Mukharlyamov and Sarin (2022).

161. To analyze the impact on merchants, it's crucial to differentiate between small and large businesses. Small merchants, such as local shops and independent retailers, do not experience significant benefits from the Durbin Amendment. This is primarily due to the flat interchange fee structure mandated by the Amendment, which results in relatively high fees compared to the smaller transaction values typically seen in these establishments. Consequently, small merchants may face challenges, potentially leading to a reduction in debit card acceptance options. This could manifest as imposing minimum charges for debit card transactions or introducing surcharges.

162. In contrast, large merchants like Walmart and other major retailers emerge as the clear beneficiaries of the Durbin Amendment. These retail giants wield substantial market power, enabling them to retain the savings from reduced interchange fees without passing them on to consumers. Moreover, the flat fee structure, coupled with their higher average transaction values, diminishes the significance of interchange fees as a percentage of their transactions. This contradicts traditional economic theory, as corroborated by the findings of Evans et al. (2015), who observed only a partial pass-through of savings to consumers among large publicly traded retailers. Over the study period, these retailers retained a substantial interchange fee revenue totaling \$41.1 billion.

163. The Durbin Amendment thus represents a highly inefficient subsidy to merchants, as indicated by Evans et al.'s estimates of its societal cost at \$24.8 billion to subsidize merchants up to \$41.1 billion. If the proposed rule changes are implemented, it will likely perpetuate this socially wasteful subsidy to merchants, further underscoring the economic inefficiencies inherent in the Amendment.

164. The proposed rule changes to Regulation II are poised to have significant implications for various stakeholders. Covered institutions, such as banks, would incur substantial losses in interchange fee revenue, estimated at approximately

\$4.35 billion, had the proposed rule been enforced in 2021. Credit unions in 2023 had an estimated interchange fee revenue of \$1.49B which the proposed rule would drop to \$1.075B representing a \$414M loss.<sup>33</sup> Credit unions, operating as non-profit entities, may experience slower pass-through of financial losses but are expected to mitigate revenue decreases through strategies like fee increases and service reductions. Despite being excluded to protect small institutions, exempt institutions are likely to adapt their behavior in response to market dynamics, leading to revenue losses, albeit at a smaller scale. Consumers, particularly credit union members who are also shareholders, are directly impacted by the revenue losses, with the effective pass-through rate of these losses potentially approaching 100%. Additionally, merchants, particularly large retailers, emerge as beneficiaries of the Durbin Amendment, retaining substantial savings from reduced interchange fees without necessarily passing them on to consumers. Overall, the proposed rule changes may perpetuate an inefficient subsidy to merchants, highlighting the need to consider their implications on stakeholders carefully.

## 8.2 How the FRB should regulate interchange fees

165. Effective regulation of interchange fees in payment card systems is essential to mitigate the adverse effects on efficiency and competition caused by poorly calibrated price controls. Exploring various regulatory approaches becomes imperative to balance market dynamics and regulatory oversight. In regulatory approaches to interchange fees in payment card systems, various methodologies have been proposed to address the complexities of two-sided markets and ensure the efficient allocation of resources. Among these approaches, the free-market equilibrium stands as a cornerstone, allowing competition to drive innovation and pricing strategies without external interference. However, recognizing the desire

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<sup>33</sup> *supra*



for regulatory intervention, alternative frameworks such as the Baxter rule and the Tourist test have emerged, offering more nuanced solutions to optimize interchange fee structures.

166. The Baxter rule, rooted in economic theory, aims to balance the elasticities of card usage across different merchant groups and consumers, ensuring that subsidies are directed towards the side requiring incentivization. This approach acknowledges the diverse needs of market participants and seeks to align fees accordingly, promoting efficiency and social welfare. On the other hand, the Tourist test provides a practical mechanism for assessing interchange fees, focusing on the point of merchant indifference between cash and card transactions. While this approach offers valuable insights into cost considerations, its implementation complexity and limited scope raise concerns about its effectiveness in capturing the broader dynamics of payment systems.

167. Amidst ongoing debates surrounding interchange fee regulation, it is imperative to evaluate these alternative approaches in comparison to the prevailing Durbin Amendment structure before proceeding with further downward ratcheting of interchange fees. By examining their merits and shortcomings, policymakers can identify the most effective regulatory framework to promote competition, innovation, and consumer welfare in payment card markets. In my opinion, the market is the best regulator. While it is doubtful that regulatory intervention is needed at all, implementation of the Durbin Amendment's objective of identifying reasonable and proportional fees should be based on the Baxter test. Failing this, I would advocate for a Tourist test to maintain flexibility based on merchant characteristics (small vs large merchants). The Durbin Amendment methodology is one of the worst regulatory methods as it is opposite of what economic theory would prescribe.

### 8.2.1 Market Solution

168. Jain and Townsend (2021) address a significant gap in the two-sided market literature by focusing on modeling platforms within a competitive environment rather than a partial equilibrium framework. They construct their model with payment networks specifically in mind, acknowledging that point-of-sales payments are competitive, and consumers have the freedom to choose between various platforms such as credit, debit, cash, or emerging fintech options.

Consequently, pricing strategies must consider this competitive landscape.

169. They demonstrate that net prices are appropriate in their model, as they account for the indirect effects on both platform sides. In their perfectly competitive economy, platforms earn no rents, contrasting with models assuming oligopolistic competition where platforms have market power and may charge socially inefficient prices. By removing the potential for rent extraction, their model eliminates a significant source of social inefficiency. The critical distinction between the competitive and monopoly equilibria lies in the number and type of platforms created. In a competitive equilibrium, multiple platforms coexist, whereas in a monopoly equilibrium, a single price-setting intermediary restricts platform supply to maximize rent. However, given the diversity of payment options available to consumers across multiple platforms, the competitive equilibrium model provides the best approximation of the actual environment. In their setup, they find no rationale for price regulation on platforms. Instead, they argue that policies to achieve a more equitable allocation should focus on wealth redistribution rather than intervening in market prices.

170. In Board economist Wang's study (2016),<sup>34</sup> the primary focus is on examining the consequences, both intended and unintended, of price cap regulation

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<sup>34</sup> Wang, Zhu. "Price cap regulation in a two-sided market: Intended and unintended consequences." *International Journal of Industrial Organization* 45 (2016): 28-37.

within a two-sided market, specifically within the context of U.S. debit card regulation. The study reveals a breakdown of the competitive equilibrium after implementing the first Durbin Amendment. Before the regulation, card networks and issuers subsidized interchange fees for small-ticket transactions, leveraging the use of cards to drive card usage for larger purchases. However, with the introduction of fee caps, this subsidy practice was discontinued, resulting in an increase in interchange rates for small transactions. Responding to the elevated interchange rates, numerous small-ticket merchants adopted various strategies to counteract the heightened costs. These strategies included raising prices, limiting the usage of debit cards, and providing incentives to consolidate transactions using prepaid cards or online wallets. Consequently, these actions undermined the advantages of a competitively priced Point of Sale market.

171. In line with the findings of Jain and Townsend (2021), Wang's research illustrates that an unregulated card network striving to maximize issuer profit would strategically set differentiated interchange fees to incentivize card usage across both high and low-value sectors. Additionally, Wang demonstrates that a social planner aiming to maximize social welfare would similarly establish varied interchange fees to facilitate card transactions in both high and low-value sectors, mirroring the fee structure set by the private network. Before the implementation of Durbin Amendment regulations, significant networks like Visa, MasterCard, and various PIN networks had adopted a practice of offering discounted debit interchange fees for small-ticket transactions, with rates set at 1.55 percent of the transaction value plus 4 cents for sales under \$15. However, Wang's analysis underscores the intricate nature of price cap regulation on interchange fees within two-sided markets, highlighting its far-reaching implications on merchant behavior and consumer payment preferences.

172. These studies suggest that a free market equilibrium, characterized by competition among multiple platforms and the absence of price regulation, may be the most effective approach for achieving efficiency and maximizing social welfare in two-sided markets. Allowing market forces to operate freely provides consumers with diverse choices, and platforms are incentivized to innovate and compete on price and quality. Therefore, policymakers should carefully consider the implications of regulatory interventions and prioritize policies that foster competition and innovation while ensuring equitable access to financial services for all consumers.

#### 8.2.2 Tourist Test

173. Another method for regulating interchange fees is known as the "tourist test," or formally, the Merchant Indifference Test (MIT). In the MIT setup, merchants evaluate costs based on a non-repeat customer, such as a tourist who carries enough cash for the transaction. The concept revolves around determining the point at which the merchant is indifferent between serving a customer they will never see again using cash or a debit card.<sup>35</sup>

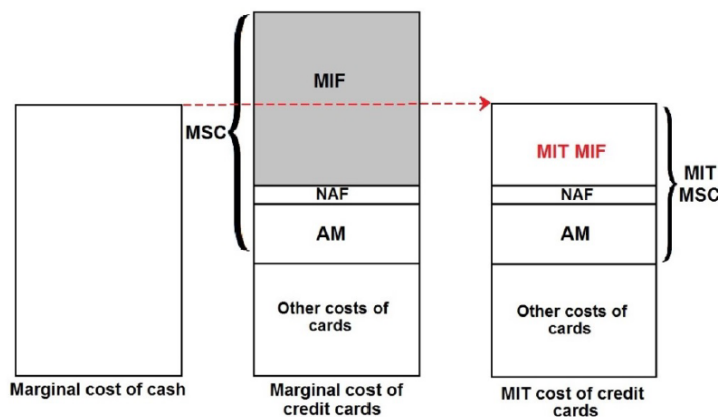
174. The MIT operates on the principle of comparing the marginal cost of cash to the marginal cost of debit (or credit) cards, considering the merchant service charge (MSC). This methodology categorizes merchants' total costs for cash and debit cards into fixed and variable costs. Variable costs may fluctuate with the number or value of transactions, while fixed costs remain constant. For instance, in the case of debit cards, the time spent on accepting payments at the Point of Sale constitutes a transaction-related variable cost. In contrast, the cost of potential fraud represents a value-related variable cost. On the other hand, for cash transactions, the majority of

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<sup>35</sup> A good discussion that I rely on is found in: Fung, Ben, et al. "Merchant acceptance of cash and credit cards at the point of sale." *Journal of Payments Strategy & Systems* 12.2 (2018): 150-165.

total costs for merchants are typically associated with back-office tasks related to processing banknotes, such as counting, bundling, and depositing at a financial institution. This approach can be illustrated using a hypothetical scenario. In the scenario represented in Figure 26, three columns represent different scenarios: the marginal cost of cash (left column), an interchange fee deemed too high by the merchant (middle column), and the highest interchange fee that still satisfies the tourist test (right column). The analysis helps identify the threshold at which the merchant prefers cash over using a card and the interchange fee level that strikes a balance between card acceptance and cost-effectiveness for the merchant.

**Figure 2: Merchant indifference test for the merchant service charge and for the merchant interchange fee**



Notes: Adapted from ECDCG (2014). MIF: merchant interchange fee; NAF: network access fee; AM: acquirer margin; MSC: merchant service charge; MIT: merchant indifference test.

*Figure 26: Example of the Tourist Test*

175. Further studies by Hayashi (2013) and Layne-Farrar (2013) indicate that introducing a uniform maximum interchange fee cap for debit cards in the United States increased fees for merchants with small average transaction values but decreased fees for those with large average transaction values. Layne-Farrar's study (2013) evaluates the effectiveness of the Durbin Amendment's debit card interchange fee cap by applying the "tourist test" proposed in the theoretical literature. Initially, Layne-Farrar calculates merchant incremental payment

processing costs across different payment instruments, revealing that while debit card bank fees are higher than those for other instruments, comparing additional incremental costs mitigates this difference. With these cost estimates, Layne-Farrar compares the interchange fee suggested by the "tourist test" with the one set by the Durbin Amendment.

176. The study refers to Baxter's seminal work (1983), which emphasizes that the costs of one side do not solely drive optimal pricing for multi-sided payment platforms but must ensure participation on both sides for platform success. Layne-Farrar finds that the Durbin Amendment approach, focused solely on setting the interchange fee equal to a subset of "issuer costs," ignores the consumer side entirely. Additionally, the "tourist test" compares the merchant discount to the marginal costs of cash avoided by the merchant when accepting card payments. The test assesses merchant fees, considering consumer benefits and merchant costs. Layne-Farrar's analysis highlights discrepancies in interchange fees across different types of merchants, with small transactions consistently failing the test. Before the Durbin Amendment, the per-transaction debit interchange fee averaged around 44 cents on an average transaction of \$35. Layne-Farrar's tests reveal that the Amendment's cap is above the optimal level for retailers with relatively low average debit card transactions but falls below the optimal level for retailers with relatively high average debit card transactions.

177. The empirical examination of the tourist test highlights the critical role played by the payment instrument whose costs are "avoided" (here, the cost of cash), influencing the test's outcome. This underscores the challenge of establishing an optimal interchange fee cap that caters to all scenarios. Layne-Farrar points out that the Durbin Amendment lacks a solid theoretical foundation for its interchange fee structure and fails to consider the impact on consumer charges for debit card usage.

178. The primary drawbacks of the Tourist test are twofold. Its implementation is complex and requires extensive data collection by the merchant sector, adding to the operational burden. The test determines the point at which the merchant becomes indifferent between cash and debit card transactions. However, we do not typically base decisions on such indifference points in other retail services to consumers, such as bathrooms. Moreover, there are tangible benefits to consumers associated with encouraging debit card usage, and internalizing these benefits through an interchange fee allows for the pass-through of advantages to the acquiring institution. This can manifest in various forms, such as reward points or fee-free checking accounts. The Tourist test overlooks the competitive dynamics among financial institutions, which play a crucial role in shaping the market environment.

179. However, with the proposed Durbin amendment, Layne-Farrar argues that the pricing structure of interchange fees is fundamentally flawed. Both empirical evidence and theoretical insights indicate that interchange fees should be a constant proportion or larger for large transactions. However, as depicted in Figure 4 in Section 2.3, the fee structure under the Durbin Amendment shows a declining trend as a percentage of the transaction value. Consequently, Layne-Farrar's findings are not surprising, and according to the Tourist Test, most of the market would recommend an increase in interchange fees.

#### 8.2.3 Baxter Test

180. In practical terms, implementing the Baxter interchange fee involves setting it to balance the elasticities of card usage across different merchant groups and consumers. Essentially, this means that the side requiring subsidization receives the interchange fee. In well-established payment networks where most merchants are equipped to accept debit cards, like the U.S., this would necessitate subsidies directed towards consumers via an interchange fee to the issuing institution (i.e.,

the credit unions). Larger merchants would bear higher fees as they stand to benefit more from consumers having a broader range of payment options. Conversely, small-scale retailers, such as family-owned convenience stores, would incur lower fees as a proportion of the transaction, given that cash remains a more competitive option at the point of sale. As noted, this world would resemble the pre-Durbin Amendment interchange fee structure.

181. Adopting the Baxter rule as the basis for regulatory measures would entail gathering additional data on merchants and consumers. However, it would result in a fee structure vastly different from the problematic arrangement seen in the Durbin Amendment. By aligning fees with the specific needs and dynamics of various market segments, the Baxter rule offers a more nuanced and efficient approach to regulating interchange fees that would increase social welfare from the current inappropriate interchange fee structure.

182. Jain and Townsend (2021) and Wang's study (2016) both underscore the effectiveness of a competitive market equilibrium in two-sided markets, where platforms compete based on consumer preferences rather than government regulation. They highlight that in such an environment, platforms are incentivized to innovate and compete on price and quality, ultimately maximizing social welfare and efficiency. Conversely, Layne-Farrar's analysis of the Durbin Amendment reveals flaws in its approach to interchange fee regulation. The tourist test indicates that the Amendment's fee structure fails to consider consumer benefits and merchant costs adequately, leading to suboptimal outcomes for various types of retailers. Additionally, the fee structure under the Durbin Amendment does not align with theoretical expectations, suggesting that segments of the market would benefit from an increase in interchange fees. In contrast, implementing the Baxter rule would align fees with the specific needs and dynamics of different market segments, resulting in a more efficient and nuanced approach to regulating



interchange fees. Therefore, the Baxter rule offers a superior alternative to the Durbin Amendment, as it would increase social welfare by ensuring a fair and balanced fee structure that reflects market realities. A free market, the tourist test, and the Baxter test all offer superior methods to regulating the debit interchange fee market than the Durbin Amendment which is not based on any economic reasoning.

## Conclusion

183. The Durbin Amendment and its proposed changes underscore the complexity and interconnectedness of regulatory policies in interchange fees and payment card markets. While the Durbin Amendment aimed to address concerns about interchange fee structures and promote fairer pricing dynamics, its implementation has faced criticism for its unintended consequences and limitations. The proposed changes to Regulation II seek to reassess interchange fees but fail to address market concentration, cost structures, and evolving payment trends. There are unaddressed concerns about the potential impact of these changes on various stakeholders, including financial institutions, merchants, and consumers.

184. One of the key challenges highlighted by the analysis is the potential for adverse effects on smaller financial institutions, such as credit unions, which may struggle to mitigate revenue losses through fee adjustments and service reductions. Additionally, there are concerns about the impact on consumers, particularly those in low- and moderate-income communities, who may face higher fees and reduced access to essential financial services. Overall, it is necessary to carefully consider the potential unintended consequences and trade-offs associated with regulatory changes. A nuanced and comprehensive approach that considers the interests of all

stakeholders is crucial to promoting competition, efficiency, and financial inclusion in payment card markets.

185. Many scholars have shown the adverse effects of the Durbin Amendment.

The Fed economists who have performed research on the topic:

- Haltom,
- Hayashi,
- Jain,
- Kay,
- Manuszak,
- Shy,
- Stavins,
- Wojtech,
- Wang and,
- Wozniak

have found negative consequences of the Durbin Amendment. The proposed changes should not be enacted. The Durbin Amendment should be repealed based on the adverse effects.

*Andrew Nigrinis*

Andrew Nigrinis, Ph.D.

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