INTRODUCTION

Interchange is a vital part of the electronic payments system. Credit and debit cards provide important benefits to consumers, merchants, and financial institutions, and interchange fees are necessary to keep the system working for everyone. The electronic payments system is a two-sided market, with consumers on one side and merchants on the other. Both sides benefit from the arrangement, with card networks setting interchange rates based on the cost of doing business and the benefit to consumers and merchants. This arrangement is efficient, and it maintains the competitiveness of the system.

This interchange primer will help explain the value of the electronic payments system and how it works in an effort to aid discussion of interchange-related matters among policymakers, media outlets, and other audiences.

Common Factual Misstatements

While the United States has long been a global leader in electronic payments, the country's system is complex. That fact can lead to misstatements, confusion, and, sometimes, outright falsehoods.

For example:

Isn't It True that Retailers Are Burdened by These Fees, and that These Costs Have Increased over Time?

No. The reality is that while total interchange *revenues* have increased, the interchange *rates* for each transaction have remained remarkably stable over the past decade. **The "fee increase" that retailers routinely point to is driven almost entirely by increased sales volumes and card use**. That fact actually provides evidence that the electronic payments system offers real value to merchants and consumers alike.

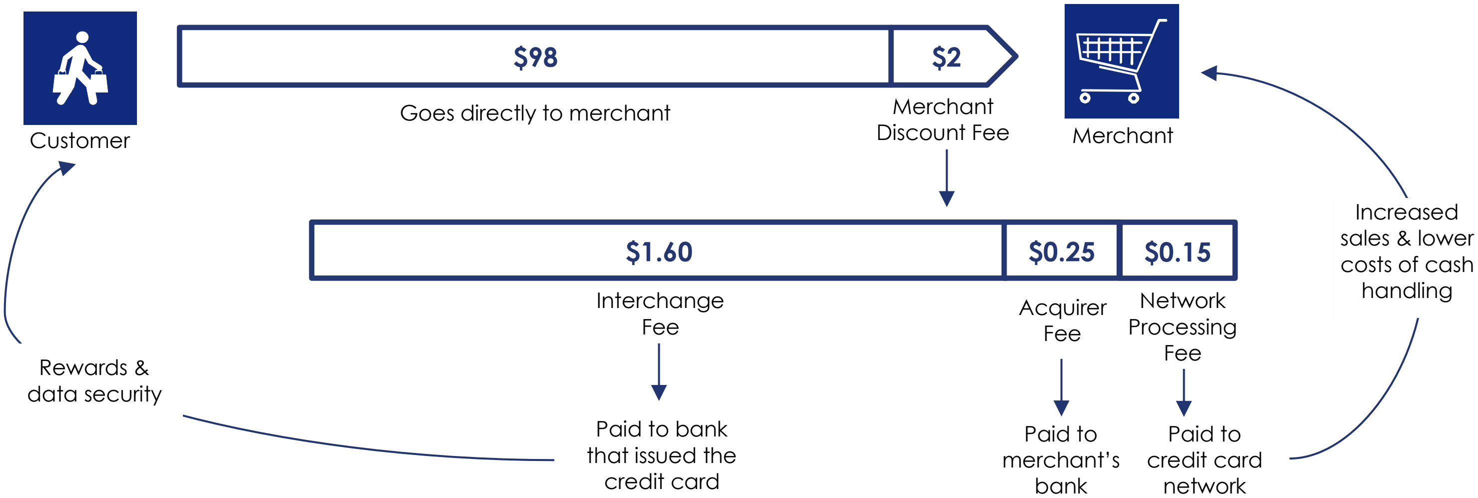
Electronic payment acceptance has grown dramatically as well, demonstrating that merchants themselves see the tremendous value in accepting electronic payments. Credit and debit card purchase volume has rapidly expanded over the last decade, increasing from $3.6 trillion in 2010 to $6.7 trillion in 2018.[1] Merchants not only want this service. They are demanding it. Moreover, and perhaps more importantly, the focus on interchange fee and rate trends distracts from the broader and more important truth, which is that merchants receive far more value from accepting electronic payments than they pay in fees.

Retailers Refuse to Acknowledge Substantial Value

Margins are generally thin in the retail industry, and U.S. merchants want to reduce costs wherever possible. On the other side, card issuers want to meet the demands of consumers who want increased value out of their card products. Interchange is driven by the balance between the value that merchants receive for accepting cards and the cost of products required to meet consumer expectations as cardholders. The fact that many merchants have a challenging business model does not change the fact that they derive significant net value from accepting electronic payments.

[1] The Nilson Report.

WHAT IS INTERCHANGE?



Merchants Keep about 98% of Revenue—Far More Than for Cash

As shown in the figure above, merchants keep about 98% of the revenue[2] from every sale paid for by credit card. The remaining 2% is called the *merchant discount fee*.

DEFINITION: Merchant Discount Fee = Interchange Fee + Network Fee + Acquirer Fee
Is Collected by the Acquirer from Merchants

The merchant discount fee represents the total price the merchant pays to accept card payments. It consists of three parts: an *interchange fee*, a *network* fee, and an *acquirer fee*. Each fee is set by, and paid to, a different entity; however, the acquirer initially collects all the fees before transmitting them to the appropriate party. Interchange fees are just one piece of the merchant discount fee, and the card-issuing bank does not have control over setting any of the fees—not interchange, not the processing, and not the acquiring fees[3]. (The card issuing bank does control consumer-facing fees such as interest rates and annual fees, which also play an important role in paying for the costs of operating the electronic payments system. The issuing bank combines all these sources of income to help fund the operation of the system).

DEFINITION: Interchange Fee = Portion of Revenue from Sale
Is Set by Networks and Paid by Acquirers to Issuing Banks

Banks that issue debit and credit cards receive from acquirers an interchange fee. This fee is set by the networks, and as noted in the paragraph above, is a component of the total merchant discount fee collected by acquirers from merchants. An interchange fee is collected each time a consumer pays with a card. It is calculated as a percent of the revenue from the sale and is combined with other income streams to help to pay for the many benefits merchants receive from accepting electronic payments.

An example of how this works:

- A customer uses a credit card to purchase a good or service for $100.

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[2] Barron's. (2019). "How Mastercard and Visa Are Beating the Tech Giants at Their Own Game."

[3] Some banks do have acquiring operations which are separate businesses independent of the issuing side of the bank and have to compete with other processors that have no affiliation with banks.

- When the card is used, the purchase information is sent electronically to the merchant's bank.
- The merchant pays the merchant discount fee for this service.
- Components of the merchant discount fee are the *acquirer fee* that goes to the merchant's own bank, the *network processing fee* that goes to the credit card network (e.g., Visa or Mastercard), and the *interchange fee* that goes to the bank that issued the credit card. (Credit card-networks determine the default interchange fee[4], but they have no control over the other parts of the merchant discount fee.)
- In the case of this $100 purchase, the merchant would pay $2.00. Of that, $0.25 would go to their own bank, $0.15 to the credit card network, and $1.60 to the bank that issued the credit card.
- In the end, the merchant keeps $98 in revenue from the $100 sale.

Therefore, the average merchant discount fee (of which interchange is just one component) is around 2% of total sales revenue.

Importantly, when you evaluate the overall cost of acceptance, there are similarities among all major network brands, despite some different business models. There are multiple estimates for the merchant discount fee that vary slightly from year to year, but two of the most commonly cited estimates are published by Verisk Financial Research (formerly Lafferty Research) and the Nilson Report. As shown in Table 1, the Nilson Report estimates that the merchant discount fee decreased 1bp in 2019 to 2.25% for Visa and Mastercard (though it is 9bp above 2012 levels), fell 3bp to 2.27% for American Express and is down 14bp since 2012), and increased 3bp to 2.18% for Discover. Meanwhile, Verisk Financial finds that the weighted average merchant discount fee across all credit cards was 2.16% in 2019, unchanged since 2017 and down 8bp compared to 2012.

In Table 2, the interchange rates are isolated. And, again, the trend is quite stable. The average credit interchange rate held steady at 1.70% from 2012–2017 before falling slightly to 1.60% in 2018 and 2019. The debit interchange rate, kept artificially low due to the Durbin amendment, has fallen 5bp to 0.71% from 2012–2018.

Table 1: U.S. Merchant Discount Fee for Credit Cards
As a percentage of purchase volume. Note, complete data is not available for 2015 and 2019.

Data from Nilson Report	2012	2013	2014	2015	2016	2017	2018	2019
Visa and Mastercard Credit	**2.16%**	**2.17%**	**2.15%**	**—**	**2.12%**	**2.17%**	**2.26%**	**2.25%**
American Express	**2.41%**	**2.37%**	**2.48%**	**—**	**2.36%**	**2.33%**	**2.30%**	**2.27%**
Discover	**1.90%**	**1.89%**	**1.89%**	**—**	**2.04%**	**2.09%**	**2.15%**	**2.18%**
Data from Verisk	2012	2013	2014	2015	2016	2017	2018	2019
Credit (Weighted Average)	**2.24%**	**2.24%**	**2.24%**	**2.20%**	**2.17%**	**2.16%**	**2.16%**	**2.16%**

Source: The Nilson Report; Verisk. Note: Nilson Data for 2015 is unavailable.

[4] The default fee is used if the merchants or their trade groups have not negotiated another rate.

Table 2: U.S. Interchange Rate for Credit and Debit Cards
Weighted average as a percentage of purchase volume

	2012	2013	2014	2015	2016	2017	2018	2019
Credit	**1.70%**	**1.70%**	**1.70%**	**1.70%**	**1.70%**	**1.70%**	**1.60%**	**1.60%**
Debit	**0.76%**	**0.74%**	**0.73%**	**—**	**0.72%**	**0.72%**	**0.71%**	**—**

Source: Verisk (Credit), and The Nilson Report (Debit). Note: Nilson Data for 2015 is unavailable.

As we have stated, interchange is only one part of the merchant discount fee, but it is an important contributor to defraying the costs financial institutions incur to fund the development and maintenance of the electronic payments system. Electronic payments require a large investment from issuing banks, who pay for technology, card security, data privacy, and customer rewards. Interchange fees, in combination with other fees, offset these costs and ensure that the electronic payments system remains robust and secure.

INTERCHANGE ALLOWS CONSUMERS AND RETAILERS TO BENEFIT FROM ELECTRONIC PAYMENTS

Merchants Make—And Keep—More Money Because of Electronic Payments

Unlike traditional markets with only one customer, credit and debit card markets are two-sided, meaning both consumers and merchants benefit from an increase in card use.[5] While the benefits to consumers may be more obvious, retailers receive great value from credit and debit cards as well. We already have explained that retailers keep the vast majority of their profits from a card sale, but they also actually earn *more* money and keep more in their pocket when they accept cards compared to cash or checks. For example:

- **Increased sales.** Since customers are not limited to spending the cash they have in their pocket, merchants that accept cards have, on average, higher sales. This "ticket lift" phenomenon is significant: debit and credit card transactions are 2-4 times larger than cash transactions, and when a merchant begins accepting card payments, they experience a 10-15% increase in average transaction size.[6]

- **Reduced cost of cash.** Card acceptance reduces costs associated with counting, storing, safeguarding, and transporting cash, and it limits losses from mislaid or stolen cash—all of which are significant expenses that retailers often overlook. A recent study conducted by a retail industry research firm found that the average retailer spends more than 9% of the value of their cash transactions counting, auditing, and depositing cash.[7] In dollar terms, U.S. and Canadian retailers spent more than $96 billion on cash-handling activities in 2017.[8]

- **Faster transaction time.** Electronic payments are twice as fast as cash transactions and several times faster than checks, which improves customer throughput. This is a key benefit to most retailers since moving customers quickly through the checkout process is a top priority.[9]

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[5] Newspapers, having both advertisers and subscribers as customers are the classic example. An electronic platform like Open Table, where both diners and restaurants benefit, is a contemporary example.

[6] MasterCard (2017). "Measuring the Value of Electronic Payments to Merchants."

[7] IHL Group (2018). "Cash Multipliers: How Reducing the Costs of Cash Handling Can Enable Retail Sales and Profit Growth."

[8] *ibid.*

[9] Digital Transactions (2018). "Many Merchants Expected to Erase Signature Requirements from Their Checkout Counters."

- **Additional retail channels.** Electronic payments also allow merchants to take advantage of other sales channels via e-commerce and mobile commerce avenues, which are growing rapidly. Nearly three-quarters of small business operators say that accepting credit cards brings in additional business.[10]

Merchant Benefits Are Higher Than Costs

When both costs and benefits are assessed together, it is clear that the incremental costs of accepting electronic payments are more than offset by increased sales and the reduced cost of doing business. Ultimately, however, each merchant has to decide whether these benefits outweigh the cost of acceptance. But we know they *have* made that decision. With the number of merchants choosing to accept electronic payments increasing every year, it is clear that the benefits are higher, even if merchants might prefer the costs be lower.

And What about Consumers?

Interchange is also highly valuable to consumers. Interchange helps defray the cost of rewards cards, which have become increasingly popular among consumers of all income levels. Almost 90% of credit card users have at least one rewards card, including nearly three-quarters of consumers who earn less than $20,000 per year.[11] Since both merchants and consumers benefit from electronic payments, the costs should be shared between them—just as both newspaper advertisers and subscribers pay a fee to the newspaper owner for access to the provided service.

ADDRESSING MERCHANT MYTHS ABOUT INTERCHANGE

Merchant Myth: Interchange Rate Are Rising

Like any other cost of doing business, merchants do not enjoy paying merchant discount fees—even though they benefit in a myriad of ways from accepting electronic payments. In their arguments against paying their fair share, merchants often assert that interchange fees are on the rise. As evidence, they cite statistics that show an increase in total interchange *volume* rather than the interchange *rate*. While it is true that interchange volume has increased over the last several years, this is not due to rising interchange rates (which, as discussed earlier, have remained quite stable).

Instead, interchange volume has risen because electronic payments—particularly credit cards—have become more popular with consumers. Indeed, total credit card expenditure grew by 60% from 2012 to 2018. Given that interchange is calculated as a percentage of credit card expenditures, one would expect total interchange to increase as well. As shown in Figure 1, total interchange volume grew at almost exactly the same pace as total credit card purchase volume. At the same time, the average merchant discount fee rate has remained relatively stable since 2012.

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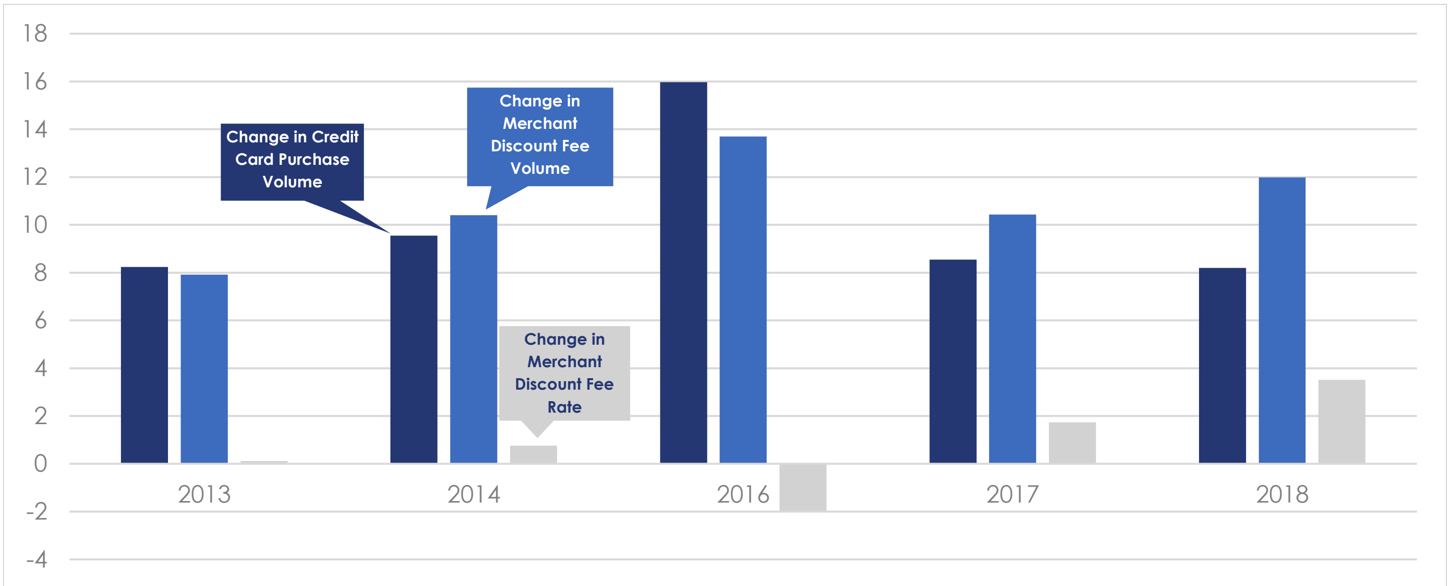
[10] PERC (2012). "Credit Card Rewards: Context, History, and Value."

[11] Phoenix Marketing International (2016). "2016 Credit Card Monitor Report."

Figure 1: Change in Volume of Merchant Discount Fee, Total Purchase Volume, and Merchant Discount Rate
*Y/Y percent change**



Source: The Nilson Report.
*Note: Nilson data for 2015 are unavailable, so the change reported in 2016 is from 2014–2016.

Merchant Myth: Interchange Caps Benefit Consumers and Small Businesses

The data above is clear: credit card use is rising while the interchange rates set by card networks are generally unchanged. Still, some retailers are arguing for government intervention. Past legislation should inform the potential effects of a credit interchange cap.

The Durbin amendment, passed by Congress in 2010, implemented a cap on interchange for debit cards issued by large financial institutions. Merchants claimed that if debit interchange fees were lower, they would be able to cut prices for consumers. But numerous studies have shown that, following the implementation of price caps, merchants did not meaningfully reduce prices. In fact, the Federal Reserve Bank of Richmond found that only 1% of retailers passed savings along to consumers.[12] Research from the University of Pennsylvania has found, on net, consumers actually lose about $2 billion every year because of the Durbin Amendment.[13]

Not only did consumers not benefit from the Durbin amendment like retailers promised, they also ended up being harmed in other ways following the interchange regulation. For example, prior to the Durbin amendment, many financial institutions issued debit cards with rewards, but these products largely disappeared after enactment.[14] Additionally, since financial institutions could no longer charge appropriate interchange fees, other products were impacted. The availability of free checking accounts declined, overdraft fees went up, and minimum balances were raised.[15] And since debit cards

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[12] Wang, Schwartz, and Mitchell (2015), "The Impact of the Durbin Amendment on Merchants: A Survey Study."

[13] Mukharlyamov and Sarin (2019), "The Impact of the Durbin Amendment on Banks, Merchants, and Consumers." University of Pennsylvania Law School Institute for Law and Economics: Research Paper No. 19-06.

[14] Pulse (2012), "Executive Summary: 2012 Debit Issuer Study."

[15] Mukharlyamov and Sarin (2019), "The Impact of the Durbin Amendment on Banks, Merchants, and Consumers." University of Pennsylvania Law School Institute for Law and Economics: Research Paper No. 19-06.

are more popular among lower-income consumers, the negative effects of the Durbin amendment had a disproportionate impact on low-income consumers.[16]

Caps on debit interchange also hurt small businesses. Prior to the Durbin amendment, networks were able to negotiate lower interchange rates with small businesses. Post-Durbin, however, they could no longer offer such discounts.[17] Additionally, small credit unions and community banks have experienced a decline in interchange revenue, with losses totaling more $4.5 billion.[18]

CONCLUSIONS

Interchange is a two-sided market that benefits both consumers and merchants. We know:

- The total volume of interchange has increased on par with the use of credit cards, but interchange rates have stayed relatively flat.
- Merchants keep almost all the revenue from their electronic payment sales.
- Any discussion of the costs of interchange must take into account the value that electronic payments provide to retailers. The use of electronic payments leads to ticket lift and faster transactions times, and it is less costly than cash. Plus, it has opened up a whole entire world of online payments.
- The increase in the volume of electronic payments shows interchange is something both consumers and merchants value.

Congress regulated debit interchange for large issuers through the Durbin amendment in 2010. Importantly, credit interchange continues to be determined by free market forces.[19] For example, the U.S. has some of the lowest debit acceptance costs in the world now, only about 24 basis points (bp)[20] higher than China.[21] Further reducing interchange fees will hurt consumers, small businesses, and potentially, even retailers themselves.

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[16] Electronic Payments Coalition (2018). "Out of Balance: How the Durbin Amendment Has Failed to Meet Its Promise."

[17] Wang, Schwartz, and Mitchell (2015).

[18] Manuszak and Wozniak (2017). "The Impact of Price Controls in Two-sided Markets: Evidence from U.S. Debit Card Interchange Fee Regulation." Federal Reserve Board.

[19] Despite an attempt to exempt smaller institutions, the Durbin amendment caused interchange revenue to fall by a significant amount for community banks and credit unions due to the realities of the two-sided market. See EPC's "What Exemption?"

[20] A basis point is a unit of measure used in finance to describe the percentage change in the value or rate of a financial instrument. One basis point is equivalent to 0.01% (1/100th of a percent) or 0.0001 in decimal form. (Investopedia.com)

[21] Verisk Financial Research