

Summary: This analysis investigates if the debit card interchange fee regulation section of the Durbin Amendment of the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank act) had an impact on debit card interchange revenue for community banks and large banks. The Durbin Amendment reduced the fees that large banks could collect on debit-card purchases, which some suggested would significantly limit bank revenue. This preliminary analysis indicates that the Durbin Amendment did not have a significant impact on interchange revenue for smaller/community banks, but among large banks interchange revenue did decline following implementation of the regulation. That said, the sample used, the lack of interchange data prior to the Durbin Amendment, and the fact that it was implemented during the recovery period after a recession make identification of the amendment's short-term effects difficult.

The Dodd-Frank Wall Street Reform and Consumer Protection Act

In 2010, in response to the financial crisis of 2008 and in an effort to protect consumers and regulate the financial sector's behavior, the Dodd-Frank act was passed. The act itself is several thousand pages long, with sections dedicated to everything from establishing a new bureau in charge of consumer financial protection to commissioning a study of short selling by hedge funds. Among the amendments to the act was Senate Amendment 3989, an eleventh-hour, short amendment submitted by Sen. Richard Durbin (D-IL) that primarily regulated the interchange-fee structure of debit-card transactions. Interchange fees are fees that vendors pay indirectly to card issuers¹ in order to accept credit or debit card payments. The amendment specifically targeted debit transactions and did not offer any additional regulations on credit-card transactions.

¹ Debit-card issuers are primarily banks and credit unions. For more information, please see the next section.

As stated in its purpose, the Durbin Amendment was proposed:

...to ensure that the fees that small businesses and other entities are charged for accepting debit cards are reasonable and proportional to the costs incurred, and to limit payment card networks from imposing anti-competitive restrictions on small businesses and other entities that accept payment cards.

This report will examine the early impact of the Durbin Amendment on the interchange revenue of community banks in New England. This report uses the \$10B threshold in assets established by the amendment to differentiate between community, or small banks, and the large banks. The amendment stated that banks with less than \$10B in assets would be exempt from the regulation. However, despite the fact that the amendment exempted them from the regulation, small banks were still concerned that the regulation would have a detrimental effect on their interchange revenue. According to the FTC, there were more than 14,000 exempt card issuers² in 2012 (Federal Trade Commission, December 2012).

² The exempt issuers are primarily small banks and credit unions.

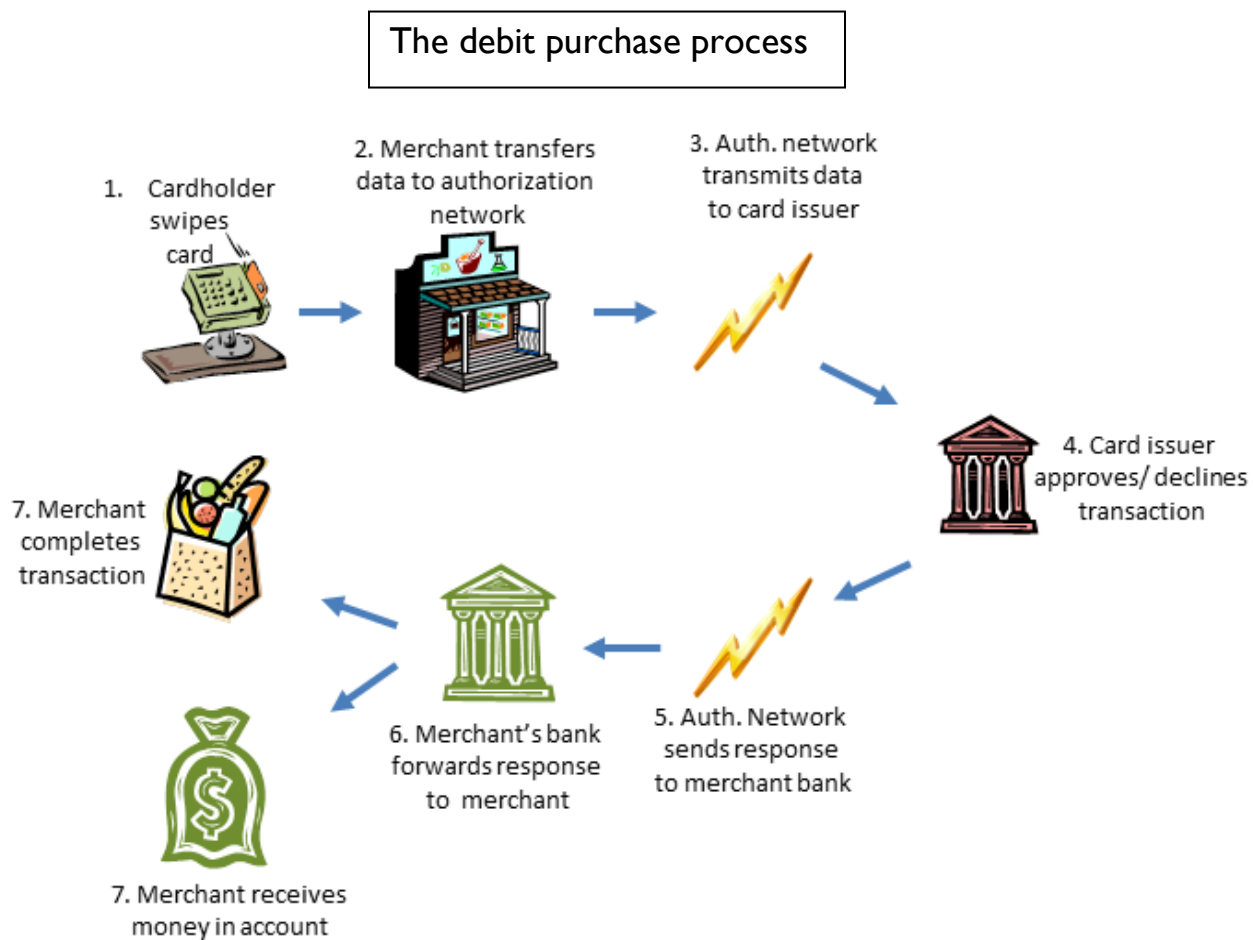
What is an interchange fee?

Each time a consumer swipes his or her debit card at a merchant, a complex series of events is put into motion. The ultimate result is a transfer of funds between the purchaser's bank account and the merchant's account (usually also at a bank). The first thing that happens is that the consumer chooses to either enter a PIN for the transaction (often referred to as an online debit payment) or sign for the payment. In the recent past, consumers were often encouraged to choose a PIN transaction because of reduced cost to the merchant. Regardless of the method used, the authorization process then begins.

Banks do not communicate directly with each other; a card-authorization network acts as a middleman. The network transmits the data to the card issuer and then returns the response to the merchant. A

fee for the service is imposed upon the merchant by the card network. Part of the fee goes to cover the costs of the card-authorization network; and a portion of the fee is paid to the card-issuing bank and is referred to as the interchange fee.

Card authorization networks employ a multi-tiered model of debit card transaction processing, where different issuers cards incur different levels of fees. The primary argument that community banks mounted against the amendment to limit interchange fees was that the card-authorization networks would promote the multi-tiered interchange revenue model, and merchants, in an effort to reduce costs, would favor large-bank-issued debit cards because of the lower interchange cost. According to economists at the Federal Reserve Bank of Boston, an effort to discriminate among card issuers would be impractical (Schuh, Shy, Stavins, and Triest, 2012). It could conceivably force small banks to either



accept the lower interchange revenue so that their debit-card offerings remained competitive with those of the large banks, or pass the cost on to the consumer transparently in the form of fees, resulting in significantly less debit card revenue (Stavins, 2012). An additional concern of smaller banks is that the compliance surrounding interchange fee limits placed on larger banks would become accepted as “best practices” among bank regulators and smaller banks would be encouraged to conform, increasing their compliance costs.

The Board of Governors of the Federal Reserve found in the first of several reports that the regulation lowered the interchange fees that *non-exempt* banks received from \$0.50 prior to the implementation of the amendment in 2011, to \$0.24 after. During the same period, *exempt* issuers saw their average interchange fee decline from \$0.45 to \$0.43 (Board of Governors of the Federal Reserve System, 2012).

The Durbin Amendment³

Senate Amendment 3989, which became known as the Durbin Amendment to the Dodd-Frank Act, addressed several issues, but one especially stands out: it limited the interchange income for large banks. While interchange fees are largely invisible to consumers, they are important to merchants, banks, and the card networks, as evidenced by the revenue numbers reported by banks. Banks have been required to report interchange revenue since 2008 only. During the period of September 2008 to September 2011, the total interchange revenue reported rose 69 percent, from \$14B to more than \$23B.⁴ For comparison purposes, during the same period, the total revenue that banks received from loans (interest income) decreased more than 20 percent, from \$487B to \$382B.

The actual text of the act that pertains to banks’ interchange income is similar to the purpose stated above (see page 1) and is remarkably benign, with words like “reasonable and proportional to the actual cost.” Following the passage of the act, many

³ This section is purely descriptive and should not be read as an official description or compliance guide for Regulation II.

⁴ Total interchange revenue as reported on quarterly FDIC call reports filed 3Q 2008 and 3Q 2011.

in the banking industry felt that it would (and still might) doom community banks, as a major source of revenue was cut off by a regulation imposed to protect the interests of merchants and consumers.

Banks posit that the pre-Dodd-Frank interchange fee offset the costs that they incurred from fraudulent debit transactions; however, since banks are not required to report specific data regarding actual fraud costs (including preventive measures), fraud costs to banks are difficult to estimate. The interchange-fee limit established under the rule took into account only estimated fraud costs.

The final rule, officially called Regulation II, was released by the Federal Reserve on June 29, 2011, and limited interchange fees to \$0.21 plus 0.05 percent of the transaction with \$0.01 available if the issuers met some specific standards set out to prevent fraud. Regulation II was implemented October 1, 2011.

The Durbin Amendment also addressed several issues that were unrelated to interchange fees, including the following:

- It limited the exclusivity of routing networks (authorization networks) by requiring two unaffiliated networks to handle the PIN-based and signature-based transactions.
- It specified the exemption of government-administered payment programs (EBT cards, for example) and prepaid cards from the fee schedule.
- It clarified the terms under which a merchant could offer discounts for specific payment types.
- It set credit-card minimum-payment restrictions so that they could not exceed \$10.

While Regulation II undoubtedly had some effect on the compliance costs to banks beyond the limitation of interchange revenue, more specifically in the labor and indirect costs related to compliance and regulation review of the regulation, this report examines only the effect on the interchange revenue of community banks in the first district of the Federal Reserve system in the fourth quarter of 2011 and the first two quarters of 2012.

Methodology

Since credit- and debit-interchange revenue has been reported on bank call reports only since 2008, the data set for exploring the pre-Dodd-Frank interchange- income trends is limited. To isolate the interchange-revenue changes from other changes, a sample of 203 community banks was selected to represent the population of community banks. These 203 banks were chosen based on the following criteria:

1. The bank's headquarters as well as a majority of its branches were located in the Federal Reserve System's first district.
2. The bank's assets were less than \$10B in both 2008 and 2011 (not corrected for inflation).
3. The bank reported interchange data between 2008 and 2011. (This included banks that reported zero interchange income but excluded banks that did not report an amount.⁵)
4. The bank reported no outstanding credit-card loans for the period 2008–2012⁶.

In 2008 there were 302 community banks (those with assets less than \$10B) in the first district, with assets ranging from \$11m to \$8.1B. These 302 banks represented just 50 percent of the branches and 35 percent of the branch deposits in the district.⁷

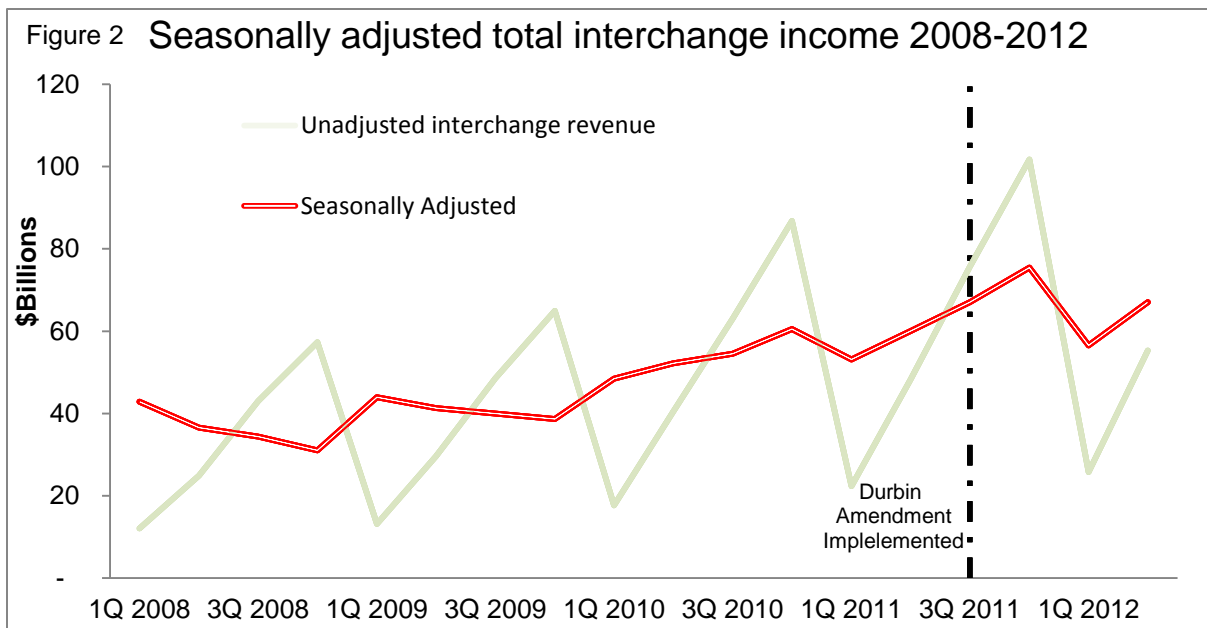
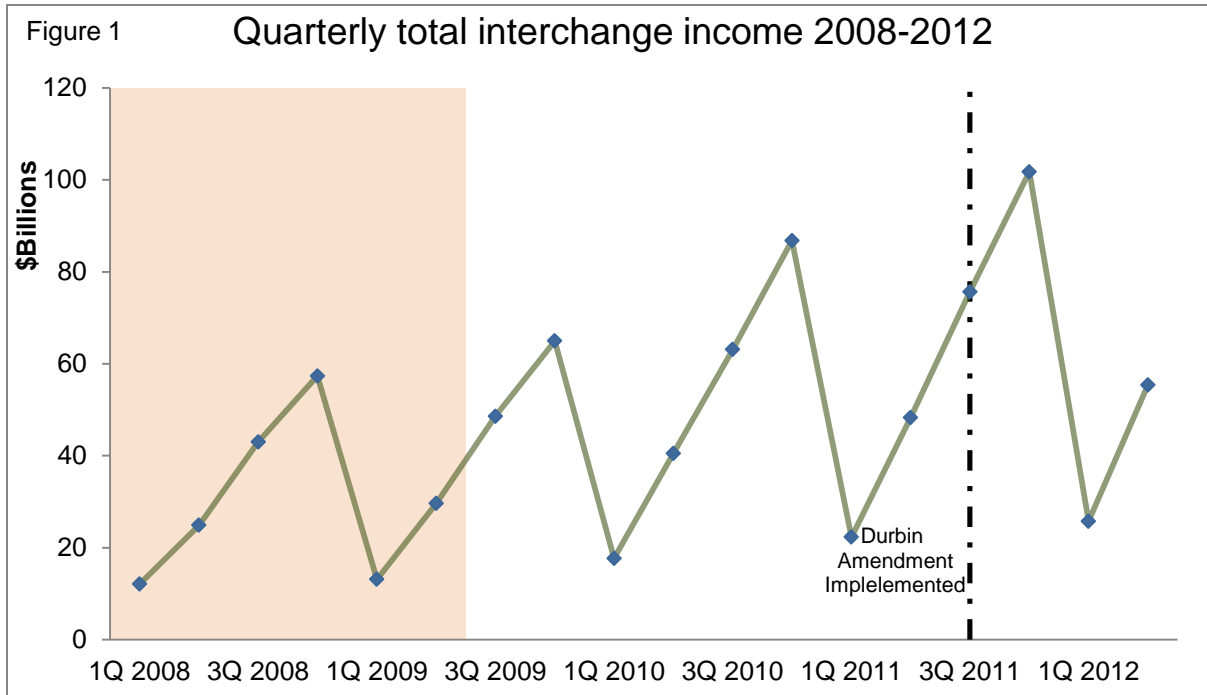
This methodology exposes the results to survival bias, which would suggest that a lack or decline of interchange revenue would lead to the termination of a financial institution. A bank termination is defined as a cessation of a bank's operations under the original FDIC identifier. Terminations can be due to outright failure, a merger, a shift in core-business strategy, or any other of a number of reasons. Over the period of time researched (the first quarter of

2008 to the second quarter of 2012), there were 39 community bank terminations in the population (with four in the sample group). With regard to this report, a survivor bias would imply that some portion of the 35 bank terminations not included in the sample was due *in part* to the banks' lack of interchange income and that their exclusion from the sample creates a positive influence on the sample. This report assumes that no bank terminated operations or was forced into a merger due to insufficient interchange income. This point is supported by the fact that 34 of the 35 terminated institutions merged or closed prior to the implementation of the Durbin Amendment. While some amount of compliance costs could have been incurred prior to the implementation of the regulation, this report assumes that these pre-compliance costs were not sufficient to cause bank termination. All four of the terminated banks in the sample group merged with other banks in the sample group. Any effects to the sample aggregate due to the termination of an interchange-revenue-producing institution are assumed to be reflected in the distribution of interchange-revenue within the sample, and the aggregate is assumed to remain relatively unaffected. This report also assumes that much of the intra-year movement of interchange revenue is due to its seasonality. The seasonality assumption emerges from an underlying assumption tying debit-card usage to consumer spending and subsequently to the seasonality of consumer spending. (See the appendix for a closer look at the seasonality of consumer spending.) Consequently, a quarter-to-quarter approach could falsely represent nonexistent trends, so instead, annual quarterly share, year-to-year quarterly change, and seasonal adjusted comparisons are used. While a ratio of interchange income to net income would be an attractive benchmark by which to compare interchange income among banks, many of the banks in the sample reported either negative net income or zero interchange income. Consequently, the comparability of the sample as a whole was reduced. Negative net income can arise if the accounting methods used include noncash expenses, such as depreciation, prepaid expenses, and debt write-off. These expenses can all affect a bank's net income negatively without having a significant impact on its cash flow. Interchange income can be reported as zero if a bank does not break into separate categories the noninterest income received.

⁵ There are many reasons that a bank may not have reported interchange revenue.

⁶ Banks reported interchange revenue also includes revenue gained from credit cards issued by the bank. By excluding banks that issue credit cards, the majority of their interchange revenue would come from debit cards

⁷ Branch deposits are the deposits reported in a specific branch of a bank. Using branch deposits provides more specificity of deposit location than using an institution's entire deposits.



Total Bank Revenue

This report analyzes only three post-Durbin Amendment quarters of call reports (the fourth quarter of 2011 and the first and second quarters of 2012), and consequently, there are limited ways to examine the data. The lack of historical data (there is no data before 2008) makes it difficult to elicit long-term trends; however, some tendencies are visible when the data is broken out in different ways. Figure

1 shows the quarterly total interchange income reported for the banks in the sample. A couple of things can be seen clearly in figure 1: first, the interchange revenue is closely related to seasonality; and second, the first full quarter following the Durbin Amendment displays the largest drop in the period examined.

The extreme seasonality of interchange income (shown in figure 1) makes any trend analysis

difficult. Due to the limited historical data, a linear regression/residual method is used to generate a simple seasonal adjustment, as opposed to the standard method of seasonally adjusting data (X-12-ARIMA).⁸ Figure 2 shows the total interchange income for the sample after the seasonal adjustment. The green and red lines show the non-seasonally adjusted and seasonally adjusted quarterly interchange income respectively. A modest decline following the Durbin Amendment can still be seen; however, there was an immediate recovery, which would not be likely if the Durbin Amendment had had a permanent downward effect on interchange revenue.

Absolute numbers, like those in figure 3, can sometimes fail to show a longer-term pattern. The point-to-point lines take into account the year-over-year interchange-income change, which can be affected by many factors, including how the economic recovery may have driven up spending, offsetting any loss in interchange income from the Durbin Amendment. One way to adjust for the possible upticks due to the recovery would be to look at ratios that combine pre- and post-Durbin Amendment quarters. Assuming the economic recovery would affect quarterly interchange revenue equally, the annual share of the interchange revenue

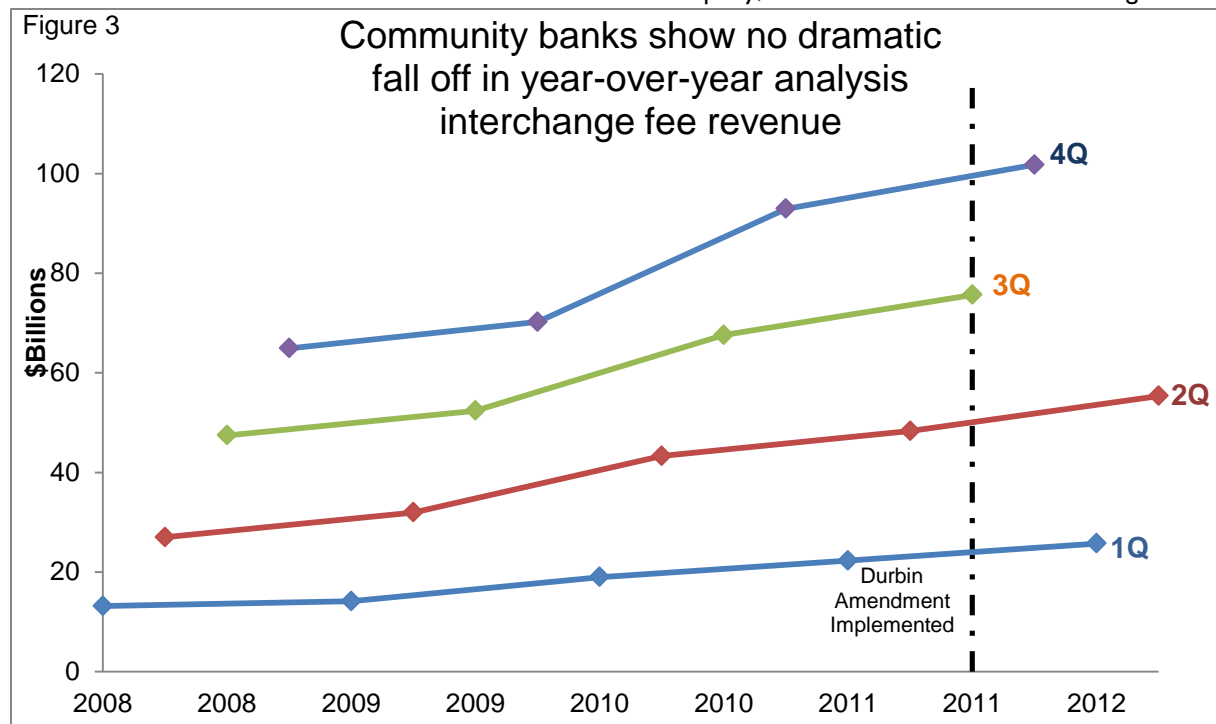


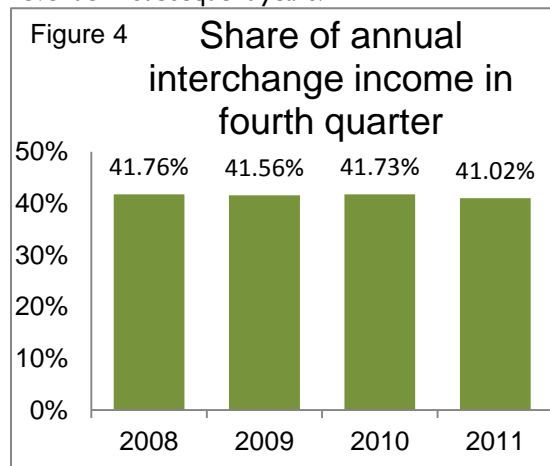
Figure 3 breaks out each quarter and then connects each quarter to the matching quarter the following year (also called year-over-year analysis). This analysis allows some of the seasonality shown in figure 1 to be disregarded. Using the aggregate interchange income in each quarter in 2011 dollars, each quarter shows an upward trend that demonstrates no dramatic decline in the quarters reported post-Durbin Amendment implementation.

in the fourth quarter would remain consistent from year to year. Figure 3 demonstrates that the fourth quarter of 2011 showed an increase in the interchange revenue relative to 2010. If the Durbin Amendment had had any effect, the fourth quarter of 2011, in which the final two months were post-Durbin Amendment, would show a marked decline in its annual share of interchange revenue.

Figure 4 shows that the fourth quarter of 2011, while marginally lower than the previous years, continued the same four-year slightly downward trend. This difference could be attributed to factors other than just the limitation of interchange revenue. Since the fourth quarter accounts for more than 40

⁸ Since the seasonal adjustment chart is used solely for visual demonstrative purposes, issues related to heteroskedasticity of the data are ignored.

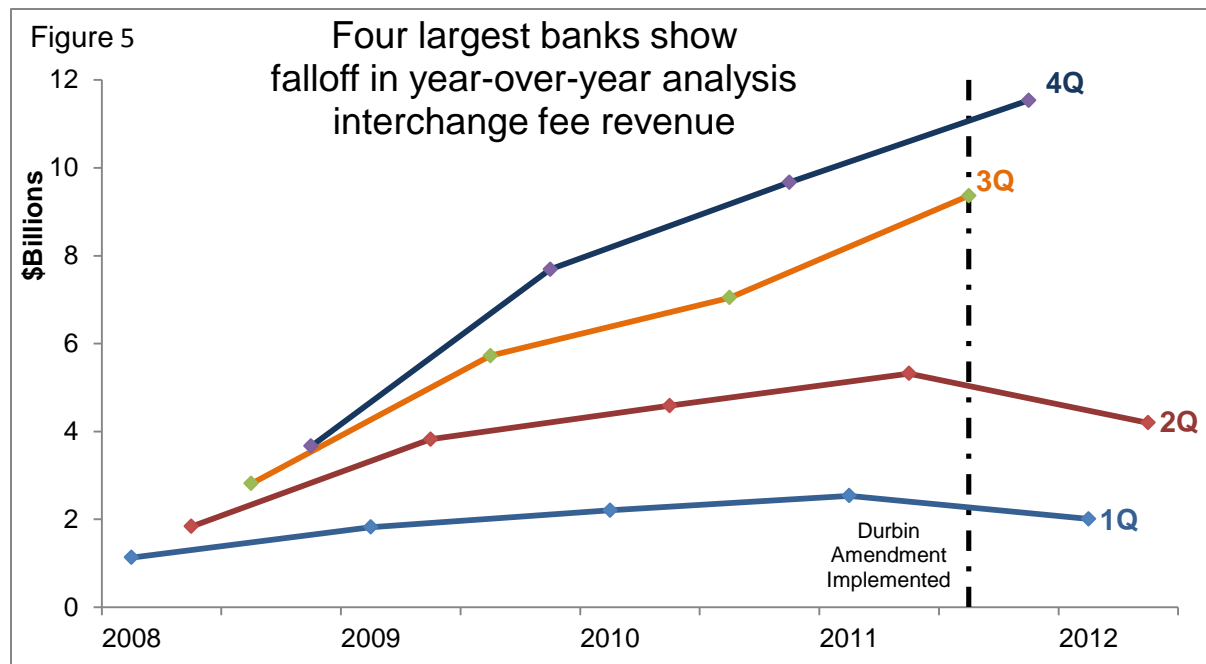
percent of interchange fees, any external effects due to consumer spending could have a greater impact on the interchange revenue than in other quarters. *The 2008 Survey of Consumer Payment Choice* (Foster, Meijer, Schuh, and Zabek, 2009) specifically notes that there was a decline in consumer payment with debit or credit cards. While the data is limited to 2008 and 2009, it does offer a possible partial explanation for the decline in bank interchange revenue in subsequent years.



Large national banks

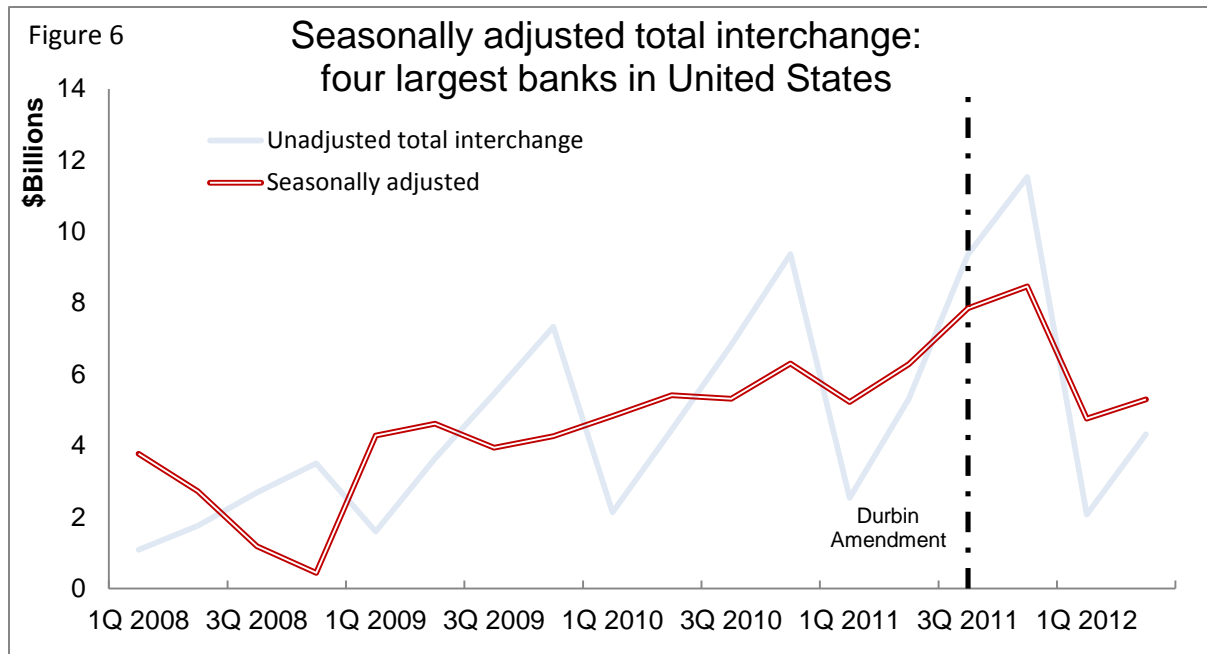
The effect of the Durbin Amendment on community banks can be contrasted to the effect on large national banks. Large national banks were specifically targeted by the Durbin Amendment, and the data shows a mixed outcome for them. The current data does not allow for the separation of credit-card interchange revenue and debit-card interchange revenue. However, because credit-card interchange fees remained static during the period in question, the majority of change in interchange revenue is assumed to be due to the change in debit-card interchange revenue.

In the fourth quarter of 2011, the four largest banks in the United States (and the only banks with more than \$1T in assets) accounted for 34 percent of all domestic deposits in dollars.⁹ Because of their large market share, this report uses the aggregate data from the top four institutions as a proxy for examining the effect of the Durbin Amendment on large banks in general.



⁹ The four largest banks in order are:

1. JPMorgan Chase (\$1.8T)
2. Bank of America (\$1.5T)
3. Citigroup (\$1.3T)
4. U.S. Bank (\$1.2T)



Among the top four institutions, there were two gainers and two losers in terms of interchange revenue. JPMorgan Chase showed a modest \$370M interchange-income growth over the previous year, and Citibank posted \$1.8B growth in interchange income (a 128 percent growth rate) over the same period. On the other hand, Bank of America and U.S. Bank posted \$244M and \$88M declines respectively.

The early 2012 data presents an altogether different picture. Figure 5 shows the aggregate interchange income of the top four banks during the periods in question. We know that only one bank (Citibank) posted a gain in interchange revenue and that the other three banks had steep declines in year-over-year interchange revenue. Figure 5 shows an unexpected rise in the fourth quarter of 2011, followed by drops in the first and second quarters of 2012. Based on this analysis, the targeted regulation appears to be affecting the revenue of the largest four banks.

Using similar seasonal-adjusting methodology to that used with the community banks, the precipitous drop-off is even more apparent in figure 6. Tellingly, the quarter following the drop-off shows a shallower recovery than is shown in figure 2.

The difference in scale of the community banks and the largest banks can be lost in the figures on the charts. The average community bank in the sample had assets of almost \$700M, and while that might

seem like a lot, the average asset size of the largest four banks (charted here) was \$1.4T, roughly 2,000 times the size of the average community bank.¹⁰ The stark difference is even more clearly demonstrated in the average quarterly interchange revenues; during the second quarter of 2012, 25 cents of every interchange dollar reported by all banks in the United States went to the four largest banks.

Conclusions

The Durbin Amendment is just a small part of the much larger Dodd-Frank Wall Street Reform and Consumer Protection Act. The act comprises several thousand pages, and the amendment (§1075) is a mere seven pages. The data is not exhaustive, and an examination of future data will demonstrate better the effect that the Durbin Amendment had on both the exempt (community, or small) banks and the nonexempt (large) banks. The Federal Trade Commission (FTC) and the Federal Reserve System have both noted that the regulation has had some tangible effect on interchange fees received. Whether that effect has resulted in any change in prices or reduction in the level of debit card fraud protection provided by banks remains unclear. These questions can be addressed as future data becomes available. However, due to the lack of

¹⁰ Asset and interchange figures are given as of 6/30/2012.

extensive interchange data prior to the Durbin Amendment, as well as its implementation during the recovery period of a recession, it will be difficult, even with more data as the regulation matures, to pinpoint the amendment's short-term effects on community banks. In the sample of community banks examined in this report, it is not immediately apparent that the Durbin Amendment resulted in any short-term loss in interchange revenue. The question of total cost remains unanswered and will remain so until further data on true compliance costs becomes available.

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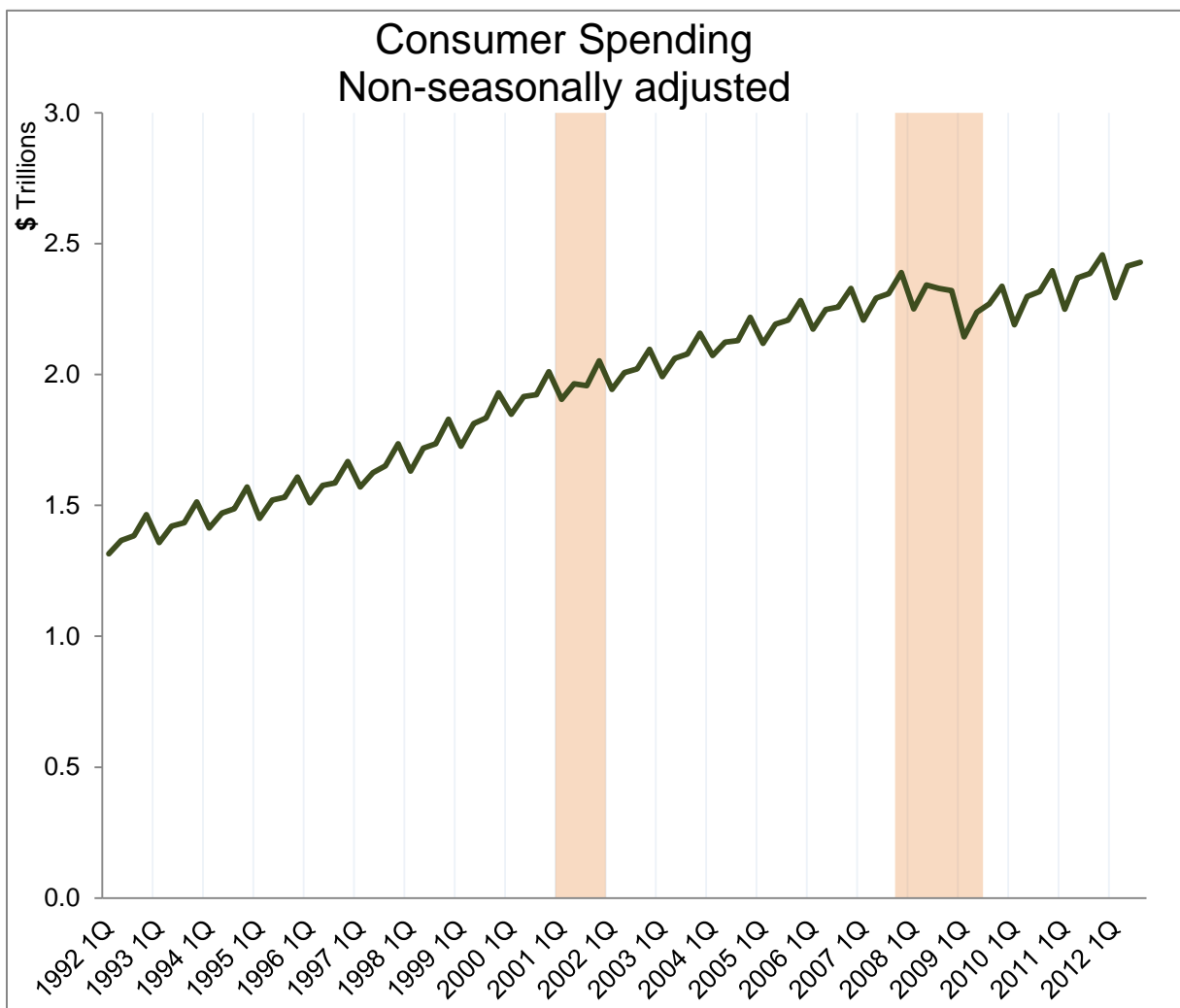
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Appendix

In the graph below, the first quarter of each year represents a local minimum, while the preceding point shows a local maximum.

The graph also shows the magnitude of the consumer-spending decline during the recession of 2007-2009. Although the second quarter of 2008 displayed typical growth, both the third and fourth quarters of 2008 declined, followed by a much larger decline than in previous years into the first quarter of 2009. The fact that the quarterly bank-interchange income does not display similar patterns may signal that debit-card usage was not affected to the same degree by the recession at the same time, but that is a topic for another report.



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