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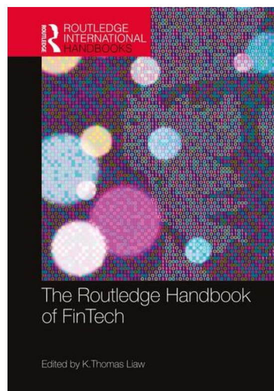

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CONSUMER PAYMENT PREFERENCES AND THE IMPACT OF TECHNOLOGY AND REGULATION

Insights from the Visa Payment Panel Study

Tom Akana[1]

I Introduction

On August 7, 2018, the Consumer Finance Institute hosted a workshop featuring Michael Marx, senior director at Visa, Inc., to discuss recent findings from the Visa Payment Panel Study (Panel). This workshop represented Marx's third update of Panel data to this audience; he had visited Philadelphia in 2009 and 2014 and presented Visa's observations of consumer payment behavior leading into the Great Recession and during the early years of the recovery. In the 2018 presentation, Marx discussed recent trends revealed through the Panel data and evaluated the permanence of certain behaviors that manifested themselves in consumer activities postrecession.

The data presented during the three workshops represent consumer payment metrics and trends at key points in the business cycles during the past 18 years. The first workshop covered Panel results from 2001 through 2008 and identified how consumer payment habits changed markedly during the maturation of the Internet economy leading into the Great Recession. The second workshop covered results between 2007 and 2012, revealing shifts in payment patterns arising in response to the Great Recession and changes to consumer regulations enacted between 2009 and 2011. This workshop summary identifies trends and key insights into consumer payment preference from the most recent report and presents data from 2013 to 2017.

Key observations made by Marx based on the recent data included the following:

- After expanding rapidly and outpacing credit card growth since the early 1990s, the growth of debit card ownership and usage has slowed since 2013. New regulations specific to debit card programs combined with continued focus on high-value reward program credit cards by both consumers and issuers may have contributed to this trend.

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- Paper checks continue to shrink in both usage (frequency) and volume (dollar amount) measures; generally, paper checks are now concentrated primarily in business-to-business (B2B) payments. Consumers are replacing them with both card-based payments and electronic funds transfer (EFT),[2] depending on the payment acceptance practices of different merchants.
- The growth of person-to-person (P2P) payment platforms is providing insight into segments of the "underground" payments landscape because previously untracked small dollar transactions are now recorded and available for analysis.
- Young consumers show a shift in payment behavior in the past five to eight years, using debit more frequently than credit. However, by their mid-20s, most have started to increase their credit usage and begin to resemble prerecession consumers.
- Credit card ownership, usage, and balances are highly concentrated on rewards-based credit card products. This trend emerged in 2005, and by the most recent Panel, well over 80 percent of credit card usage is on a product with rewards.

Marx believes that the most intriguing information revealed in this panel relates to payment channel preferences (e.g., face-to-face, mobile, internet, P2P) and the implications for adoption of new payment products. Banks have an opportunity to affect a consumer's payment preference with a strong message. Consumer satisfaction (or lack of dissatisfaction) with current payment methodologies, however, presents significant challenges to adoption.

This chapter, which provides an overview and discussion of Marx's presentation, is organized as follows: Section II describes the Visa Payment Panel Study and highlights changes since 2012. Section III reviews the primary data presented from the most recent results, focusing on trends noted in the 2009 and 2014 presentations. Section IV discusses several key observations in detail from the data and suggests implications for further research. Section V summarizes the key takeaways and proposes future work to be conducted based on this material.

II About the Visa Payment Panel Study[3]

Since 1990, the Visa Payment Panel Study has collected detailed, self-reported information about consumers' spending habits across all cash and noncash payment tenders and more than 100 merchant categories. The Panel is unique in that it includes an examination of the consumers' full payments wallet, including checks, cash, cards, and (increasingly) electronic (e.g., PayPal or mobile wallets). Visa uses the information derived from the Panel to provide input for Visa's internal research teams as well as to generate reports and insights for Visa's bank and merchant partners on the behaviors of U.S. consumers.

The data are collected through electronic diaries completed by panelists over a month-long period, four times during the year (e.g., each panelist completes a diary once each quarter). Panel participants are consumers 18 years or older and must have at least one card-based payment product, such as a credit, debit, or prepaid card. In addition to spending data, panelists also provide demographic information that allows for the examination of trends by gender, age, income, and other key variables. Housing (mortgage and rent), personal loan, and tax payments are collected in the diaries but are not reported within the spend metrics to avoid distorting the payment method distribution. Overall, the panel collects more than 19,000 diaries annually; collectively, panelists are reflective of approximately 85 percent of the population that meets the participation criteria. Marx noted that unbanked and underbanked populations are not fully represented because of the participation criteria (e.g., the

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existing payment product requirements effectively limit the participation of unbanked or underbanked individuals).

The diaries were completed on paper until 2013, at which time the Panel eliminated the paper-based collection process in favor of an electronic process (electronic collections were tested between 2010 and 2013). The new methodology allows more granular detail to be obtained, including, for example, information about cash transactions that were less than $5 in value, which were not collected under the paper methodology. Marx's 2014 presentation reflected the last data collected on paper diaries because Visa was still in the process of evaluating the impact of the shift. For the 2018 workshop, Marx presented only data gathered electronically (since 2013). He indicated that, while he is comfortable the new collection process produces consistent trend results, it has led to a noticeable movement in some of the values generated. For that reason, Marx only provided verbal comparisons and trends including pre-2013 data during the presentation, and that information will be shared later in this chapter when relevant.

III Overview of Panel data

Marx summarized the high-level observations of this edition of the Panel by noting that the biggest changes have come in the realm of electronic and P2P payments. For many of the metrics reported in previous workshops, trends that appeared to be developing through 2012 directionally continued through Q1 – 2018.

A General payment trends

The average monthly spend has been steady since 2014 at an index value of 106 (2013 = 100) with a slight dip in 2017 to 104. For comparison purposes, the 2007 average monthly spend was 90 on the same index and dropped as low as 85 during the recession. The average dollar amount of monthly spend has remained around $2,000 for the last five quarters (+/- $100) and is consistent with previously reported data.

Similarly, the relationship between average monthly spend on the two primary card-based tenders (credit and debit) is consistent for the past five quarters. The average transaction sizes for credit cards are consistently twice that of debit cards; a lower frequency of credit usage leads to average monthly spend that is consistently 1.5 times larger for credit than for debit. One notable shift occurred between 2014 and 2015, when the debit usage growth rate markedly decreased (Figure 16.1), while credit usage continued to rise through the most recent year. Section IV describes several potential drivers behind this shift that were discussed during the workshop.

Generally, the overall share of spend on cards continued to increase between 2013 and 2017, with credit increasing faster than debit in most segments. The cash share of spend, both in transaction volume and in value, remained flat. Check usage (defined for panelists as traditional paper checks) continued its many years-long decline. From 2007 to 2013 to 2017, the percentage of panelists who used paper checks decreased precipitously (75 percent, 56 percent, and 47 percent, respectively), matched by a decrease in the dollar share of monthly payments over the same period (25 percent, 17 percent, and 12 percent, respectively). Some of the loss in volume by traditional checks has shifted to EFT, data which was not explicit in 2007 but increased from 14 percent to 18 percent of payment dollars between 2013 and 2017. This reflects a long-run general shift toward electronic or automatic means of payment because merchants who traditionally required payment by check have made EFT or cards available as a more efficient alternative.

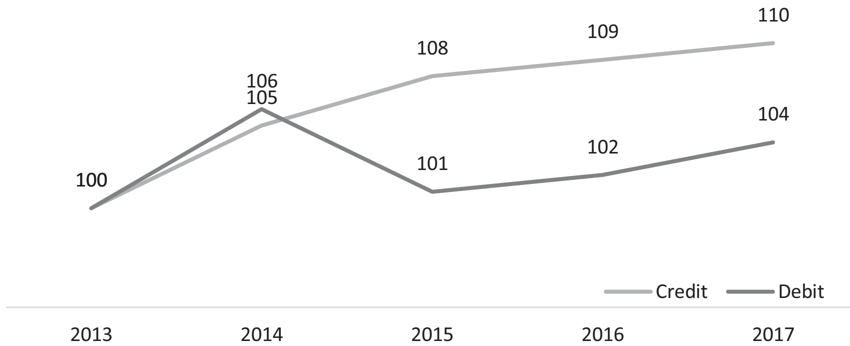

Figure 16.1 Overall average monthly spending — by payment methods
Source: Visa Payment Panel 1Q 2018

B *Credit versus debit ownership and usage*[4]

Recent panel results indicate a reversal in the previously observed trend for credit card ownership post-Great Recession. In 2007, 81 percent of the panelists reported owning a credit card; however, that rate had fallen to 74 percent by 2013 and 2014 as consumers and issuers deleveraged in the aftermath of the Great Recession. Credit card ownership began to rebound in 2015 and reached 79 percent in 2017. In contrast to credit, debit ownership rose from 79 percent to 85 percent during the 2007–2013 period of credit ownership decline, but it leveled off over the last four years as credit began its rebound (Figure 16.2). In both cases, users of credit and debit products showed strong preferences in the survey results for those products over other payment instruments.

Credit card users grew to 61 percent of the panelists in 2017, after dipping to 56 percent in 2013; usage rates had remained steady around 60 percent between 2000 and 2007 until

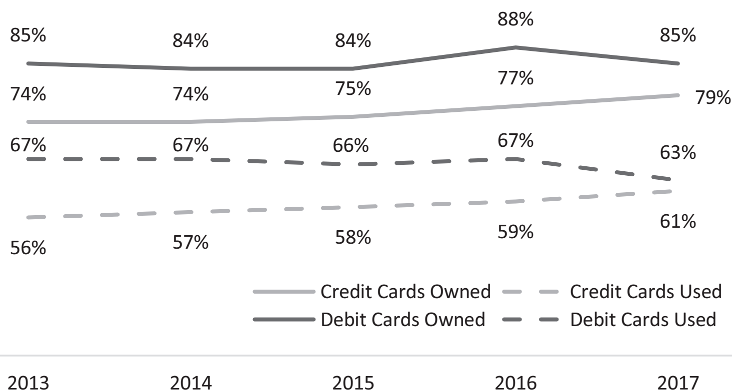

Figure 16.2 Rates of card-based payment ownership and usage (among total)
Source: Visa Payment Panel 1Q 2018

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Table 16.1 The growth of general purpose credit and debit payments, 2003–2015 (transactions in billions)

	# Credit	*# Debit*	*Credit CAGR**	*Debit CAGR*
2003	15.2	15.6		
2006	19.0	25.0	7.7 percent	17.0 percent
2009	19.5	37.5	0.9 percent	14.5 percent
2012	23.8	47.0	6.9 percent	7.8 percent
2015	31.0	59.0	9.2 percent	7.9 percent

Source: Federal Reserve Payment Study (2014, 2017)
Note: CAGR* = compound annual growth rate

decreasing at the start of the Great Recession. The recent increase in the percentage of credit users in the Panel appears to be partially driven by a decrease in debit users, a figure that fell from 67 percent to 63 percent between 2013 and 2017 after rising steadily since the launch of the Panel. These trends are seen in other consumer payment studies; data from the triennial Federal Reserve Payments Study (FRPS) reports show similar changes in the growth rates of credit and debit (Table 16.1). Based on the FRPS data collected between 2003 and 2015, the growth rate of credit card usage dropped significantly during the height of the Great Recession (2006–2009) before recovering and accelerating after 2009. Conversely, while debit growth rates remained high through 2009, they slowed considerably and have leveled off since then.

In the Visa data, credit users chose credit cards for 45 percent of their payment spend in 2017. That rate has been consistent since 2013 after rising from ~38 percent in 2007, and it is more than triple the rate of the next highest tender types — checks at 13 percent of share and debit at 12 percent. The data also demonstrate that, while debit users show a preference for debit at 38 percent of their payment transactions in 2017, the lead over the second preference is only double with credit coming in at 18 percent. Marx theorized that debit card owners may demonstrate lower preference for the product in part due to daily spending caps that exist on most debit cards and would limit consumers to making smaller purchases on average or choosing to use an alternative payment product.[5]

C Merchant category spending trends[6]

The Payments Panel tracks spending patterns at the merchant category level; trends reported in the 2017 study were generally consistent with previous observations:

- Gas station, discount store, and grocery store spend is heavily concentrated in cards (69 percent to 75 percent of volume) with debit volume appearing to shift toward credit since 2013. Cash remains steady at around 15 percent to 18 percent of the volume.
- Check volume has nearly disappeared in grocery stores; it historically comprised upward of 35 percent of the volume, but it fell to 2 percent in 2017. This important source of growth in debit transaction volume and share of payments has been tapped out.
- Department stores are the "last stand of private label" (a quote from Marx during the workshop) card products, which contributed 18 percent of spend in 2017 for this category; this is the only merchant category in which private label is noticeable. Many department stores continue to use private label programs aggressively as part of their loyalty and rewards programs, encouraging ongoing, in-store use.[7]

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- Hotels, along with other travel-related industries not shown, maintain a significant rate of credit spend (81 percent in 2017), aided by common requirements to use cards for reservations and purchase through these industries.
- Restaurant spend tendencies are closely linked to the size of the bill, with high-priced restaurants favoring credit over debit and cash (65 percent, 15 percent, and 15 percent, respectively), midpriced restaurants closing the credit/debit gap with a larger portion of cash (49 percent, 26 percent, and 20 percent, respectively), and quick-service restaurants (QSRs) flipping the relationship between credit, debit, and cash (26 percent, 29 percent, and 39 percent, respectively). Increasing acceptance of credit as a form of payment at QSRs has driven the boost in the share of credit, which grew from 21 percent to 26 percent between 2013 and 2017.

Marx identified bill payment as a category of spend that shows the potential for change in the near future. Since 2000, merchants have steadily increased their acceptance of credit cards for bill payments that traditionally would have been made through paper checks or EFT (for instance, cable, utilities, or the like). Between 2000 and 2007, the percentage of bill payment volume being made on credit cards rose from the midteens to between 35 percent and 40 percent. However, after reaching 44 percent in 2013, the rate flattened out through 2017. Marx noted that credit card share growth in this category is constrained by merchant acceptance; often the transaction cost coupled with the cost of enabling credit payments prevents merchants from making credit available as an option, even considering consumer preference and ease of use. It is possible the nature of the firms' relationship to their customers and the type of service being provided contributes to the availability of card acceptance; however this would require more specific study to confirm.[8]

D Characteristics of debit card users

While the percentage of consumers who identify as nonusers of debit has trended up since 2013 (from 20 percent to 25 percent), the relative distribution of heavy–medium–light users within the debit-user population has remained consistent. Approximately 26 percent of debit users are heavy users of the product (19-plus transactions per month), with 38 percent and 36 percent falling into the medium and light user categories, respectively. There has been little variation in that distribution since 2013. Demographically speaking, heavy debit users tend to be slightly older (47 versus 43) and have higher levels of full-time employment (54 percent versus 48 percent) than light users. In contrast, the subset of debit cardholders who are nonusers skews both older (50 versus 45) and higher-income ($105,000 versus $73,000) than debit users overall; this population is more heavily credit-oriented in their payment tendencies.

E Rewards credit card usage

One of the key trends identified within the credit card segment is the continued rapid shift of share (both in cards and spend) into rewards-based products. Historically, 2005 was the first year in the Panel when rewards cards equaled nonrewards cards in the share of wallet; in every year since then, the share of rewards has increased until it reached 84 percent in 2017 (this equates to 89 percent of credit cardholders having a rewards product). The shift in card spend has been even more drastic, with 95 percent of credit card spend reported by the 2017 Panel being made on rewards cards. Rewards products are so ubiquitous that the

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vast majority of revolving card balances are now on rewards products (83 percent in 2017 compared with 71 percent in 2013); this reflects a shift from prior years when the value of rewards products were primarily with heavy transactors.

The rise in popularity of rewards products has proved less popular with retailers than with consumers. A recent *Wall Street Journal* article (Andriotis, 2018) described retail industry efforts to address concerns about the cost of accepting credit cards, particularly premium rewards products that generally come with the highest interchange rates. Retail industry groups have challenged Visa/Mastercard network rules requiring that merchants who accept Visa- or Mastercard-branded products honor all cards issued on the network. The card networks and a number of large issuing banks agreed in September 2018 to a $6.2 billion settlement of a class-action suit brought by a variety of merchant groups relating to interchange fees and competition; however, it is likely that large companies (e.g., Amazon, Target) will opt out of the settlement. A separate but related putative class-action lawsuit challenging a variety of Visa and Mastercard network rules, including honor all cards rules, remains pending (Chin, 2018 and Surane, 2018).

F Online payments

Lastly, the Panel continues to reveal the rapid acceptance and growth of online commerce. In 2007, only 32 percent of the Panel made an online purchase. For the past four years, that rate has averaged just over 80 percent. Likewise, the percentage of spend made online has increased from 7 percent in 2007 to over 25 percent in 2017. While credit and debit comprise 54 percent of the online spend from a payment instrument perspective, EFT remains a high contributor at 41 percent, primarily through the services (for example, utilities) and bill pay categories. This reflects a stage of evolution away from paper checks as observed earlier; as merchants and service providers look for efficiencies in their payment acceptance processes, they are generally moving to EFTs as an alternative.

IV Key themes

Several larger observations relating to the payment market evolution that warrant more attention became apparent in the most recent results of the Payment Panel Study.

A Consumer payment habits shifting clearly to credit cards

There has been a clear shift in the past five years from debit usage to credit usage among consumers. While the percentage of debit users' spend on debit has trended slightly upward and remains a significant portion of overall spend, debit as a share of almost every merchant category has shrunk in relation to credit. There are two factors to explore as potential drivers of this shift: regulatory changes in the debit space that limited interchange, making debit rewards less financially viable for depository institutions and a change in preference by both card issuers and consumers for more and richer rewards as incentives for using a particular form of payment.

The key regulatory change affecting debit card payments was the Durbin Amendment to the Dodd–Frank Wall Street Reform and Consumer Protection Act of 2010[9] (Dodd–Frank Act), the relevant components of which were implemented by the Federal Reserve Board in June 2011 and became effective on October 1, 2011. The rule capped the interchange fees for large debit card issuers (with assets greater than $10 billion) at $0.21 plus 0.05 percent of

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the transaction value (an additional $0.01 fraud prevention fee is also permitted). Additionally, all debit issuers were required to process transactions through at least two unaffiliated networks, which allowed merchants a greater ability to direct debit transactions through the lowest cost network available. These changes effectively reduced the interchange fee income for issuing banks by 28 percent, [10] forcing them to make changes in other portions of their balance sheet to offset the loss of income.

Common theories regarding actions that issuing banks would take in response to this change are described in detail by Kay, Manuszak, and Vojtech (2014, 2018) and focus on: 1) passing the revenue impact through to the customer in the form of increased account fees or lower interest rates on deposits, 2) reducing expenses through the cancellation of ancillary benefits such as rewards programs or broader reductions in overall operating expense, or 3) shifting of customers into alternative products that are not fee-constrained (e.g., credit card products). Kay et al. (2014) examined these potential responses through analysis of issuing bank financial statements and regulatory reporting. Of the three potential responses, they found evidence of scenarios (1) and (2), with banks appearing to eliminate or reduce the value of debit-based rewards programs in conjunction with small increases in deposit account fees. They observed that these changes did not appear to fully offset the reduction in interchange income, which would lead to the final theory (3) that the debit's attractiveness to banks as an income-generating product has reduced, causing them to reduce their marketing emphasis and growth targets for the product, thus shifting consumer focus to alternative products as well.

Visa's data appear consistent with this theory. The growth rate of debit both in share of usage and share of spend value slowed noticeably after 2011, whereas the growth rates for credit card remained fairly consistent. Still, debit remains an attractive payment instrument as evidenced in the 2018 Survey of Consumer Payment Choice (SCPC).[11] In 2018, it was ranked in the top three of eight payment methods in Acceptance, Acquisition and Setup, Convenience, Cost, and Payment Records (it was in the top two for all of those categories the prior year). The only category in which it ranked lower was Security (where it came in fourth), likely because of the perception that the consumer's money is directly at risk with a debit card breach.

Given the apparent popularity of the product with consumers, the slowing growth rate of debit card usage could be influenced by changes in issuer practice. Data reported by Mintel Comperemedia that tracks direct mail and email solicitations for banking products indicate that, after the implementation of the Durbin Amendment, banks decreased the rate at which they mentioned card products in their direct marketing (Figure 16.3).[12] The 2013 PULSE Debit Issuer Study noted that "large issuers are investing less time and effort to grow their debit portfolios" as a consequence of the drop in debit's contribution to revenue.

As bank marketing decreased the visibility of debit as a feature of deposit accounts and as reductions in rewards programs made it less valuable to end users, consumers have shifted their spend to other instruments. Koulayev, Rysman, Schuh and Stavins (2016) observed that a higher regulation of debit products makes them less attractive, with consumers substituting other tenders based largely on income and education levels (higher income and education levels tend to replace debit with credit, lower income, and education levels with cash and checks). Both the Visa Panel and the SCPC show that credit card usage has continued to increase, and cash and check usage have continued to steadily decline since the Durbin Amendment became effective. This implies that the movement away from debit may be concentrated in the higher income and education brackets, which appear to be moving heavily into rewards-based credit card products.

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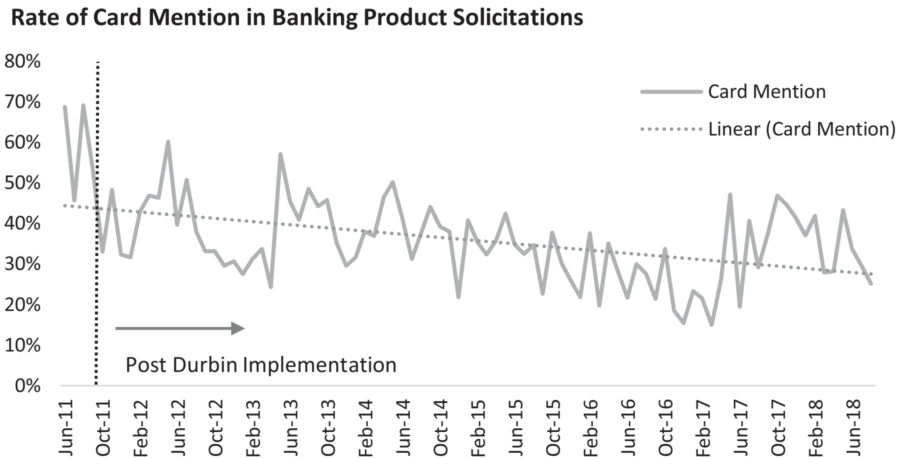

Figure 16.3 Rate of card mention in banking solicitations
Source: Mintel Comperemedia

B Spend preferences for younger consumers

During the presentation, Marx highlighted data showing that, in recent years, younger consumers start out more heavily weighted to debit usage but seem to revert to trend in credit card use by their mid-20s. Heavier early debit usage represents a change from historical observations of this age range. Changes in regulatory rules for young borrowers likely drove the early life shift in payment preference from credit to debit for younger consumers.

Prior to the implementation of the Credit Card Accountability Responsibility and Disclosure (CARD) Act in 2010, it was common for credit card issuers to market their products to consumers as soon as they turned 18; the college market generated a significant percentage of new account growth as issuers competed to be the first-in-wallet with newly independent consumers. Marketing efforts included everything from cobranding agreements with universities to on-campus tabling (including freebies such as T-shirts or free pizza for applying) to heavy direct mail marketing (often in spite of the consumer's lack of previous credit). In the early 2000s leading up to the Great Recession, the perceived targeting of young consumers and the growth of unsecured revolving debt in that segment led to provisions in the CARD Act intended to limit banks' ability to mine this group for new accounts.

Specifically, the CARD Act addressed the young consumer market (defined as consumers who are less than 21 years old) by putting the following key rules in place (CARD Act of 2009, **15 U.S.C. §1601**):

- Applicants for new or additional credit are required to demonstrate that they can independently repay the debt or they must add a parent/guardian as a cosigner to the account.
- Banks may no longer access young consumers' credit data for prescreening purposes.
- Banks are no longer permitted to conduct application tabling events or provide incentives to apply for card products on college campuses.
- Banks must publish their credit card issuing agreements with colleges and universities on an annual basis.

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As required by the act, the U.S. Government Accountability Office (U.S. Government Accountability Office, 2014) published a review and analysis of the impact these restrictions had on the marketing of credit cards to college students ("Marketing to College Students Appears to Have Declined," GAO-14–225). The GAO indicated that, between 2009 and 2012, the total number of card issuing agreements and the total number of cardholders in university affinity programs had decreased by 40 percent or more. The volume of new cardholders in those programs over the previous 12 months had decreased by 18 percent.[13] The GAO determined that this information coupled with data collected from other sources such as Student Monitor indicated that the changes made in the CARD Act had the intended effect of reducing the targeted marketing of college students, which also led to reductions in the number of credit card accounts being opened and the amount of student credit card debt.

The combined effect of these rules reduced banks' penetration of the young consumers segment significantly beginning in 2010, increasing the age at which many consumers obtain their first credit card. Debbaut, Ghent, and Kudlyak (2016) found that young borrowers were 15 percent less likely to have a credit card after the passage of the CARD Act, leading to a significant difference in the rate of credit use in that segment. Likewise, data from the Federal Reserve Bank of New York (FRBNY)/Equifax Consumer Credit Panel (CCP) data set show that the prevalence of credit card tradelines on the credit reports of 18–21-year-old consumers dropped further than other age cohorts and has not returned to the same levels observed in older cohorts since the Great Recession and the CARD Act (Figure 16.4).

With that change in access to credit, young consumers would need to turn to alternate forms of payment, including debit, to make card-based payments. An examination of data collected through the Federal Reserve's annual SCPC supports the theory that younger consumers are more likely to have adopted and used debit cards since the passage of the CARD Act. This is contrary to the overall debit growth trends observed in the overall consumer data (Figures 16.1–16.2, Table 16.1).

Marx noted that there is evidence that the decrease in credit usage in the youngest age group of Visa's data may begin to reverse as these consumers age out of the "young consumers" category. Additional Visa data show that, as of 2018, the young consumers' age cohort first impacted by the CARD Act now has similar credit and debit transaction shares (e.g., the percentage of payments made using a credit or debit card each month) to cohorts never

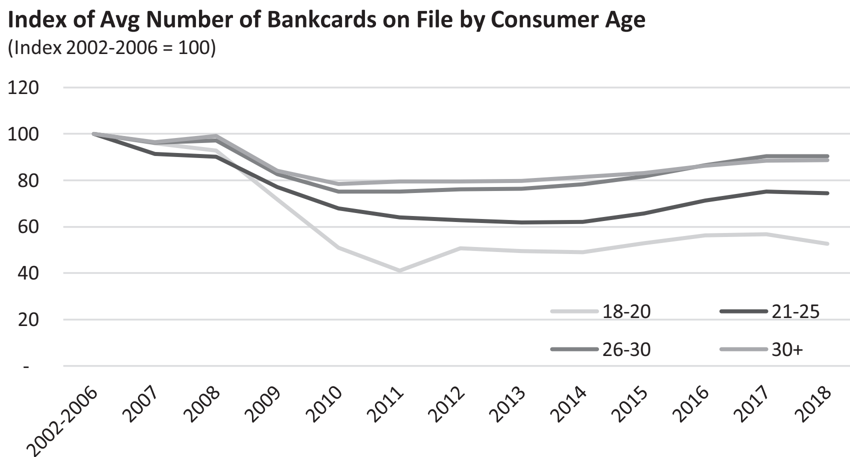

Figure 16.4 Index of average number of credit card accounts on file by consumer age

Source: Federal Reserve Bank of New York (FRBNY)/Equifax Consumer Credit Panel

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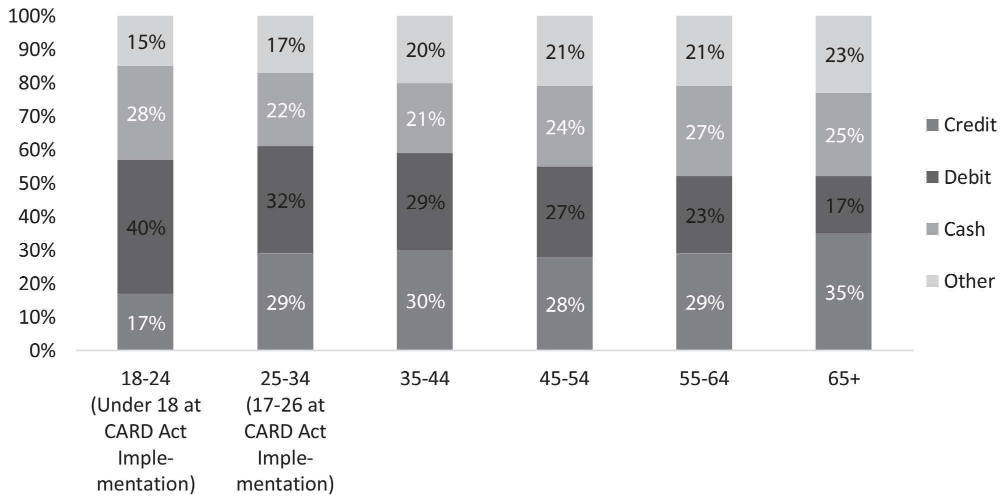

Figure 16.5 Payment method share of transactions by age range
Source: Visa Payment Panel 1Q 2018

impacted by the rules. In the chart above (Figure 16.5), the 25–34-age group would have been between 17 and 26 in 2010 when the CARD Act rules were implemented. Only half of the cohort was directly impacted by the drop in access to credit, but as the data in Figure 16.4 indicate, consumers below the age of 25 experienced the largest reduction in credit accounts after 2010. Visa's data indicate that, as those consumers have moved into older age ranges, their proportional debit/credit usage on a transaction basis now resembles more mature cohorts (32 percent and 29 percent, respectively, versus 29 percent and 30 percent, respectively, in the next highest age bracket), while the youngest ages continue to show a significant weighting toward debit (40 percent and 17 percent, respectively).

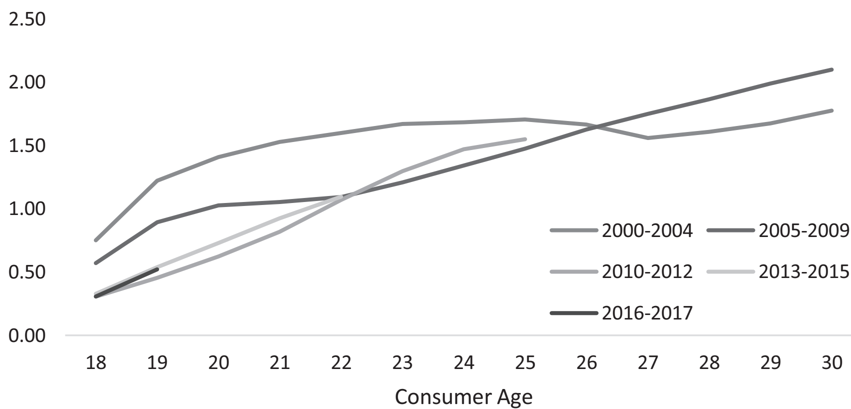

Figure 16.6 Average number of bankcards by age and year of credit entry
Source: FRBNY/Equifax Consumer Credit Panel

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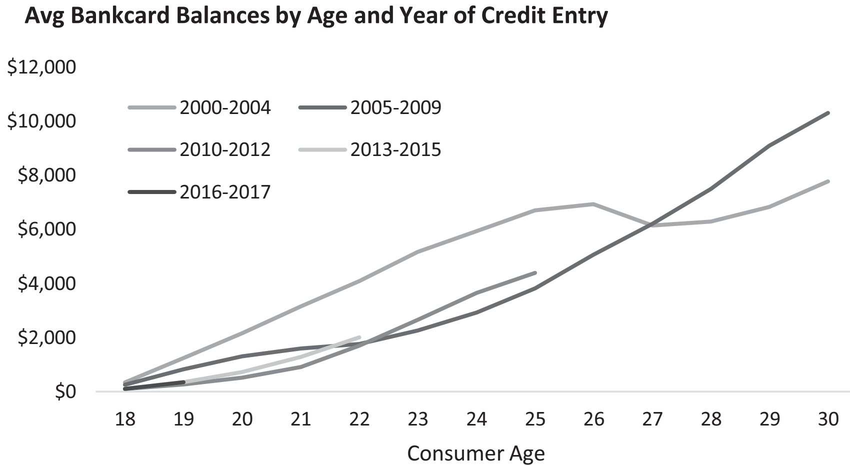

Figure 16.7 Average bankcard balance by age and year of credit entry
Source: FRBNY/Equifax Consumer Credit Panel

Additional support for this observation is found in the CCP data. Consumers who entered the CCP at the age of 18 after the 2010 CARD Act was implemented show less than 0.35 bankcards on file (Figure 16.6) in the first year they appear, which is well below the average of the population entering the data prior to 2010. By age 22, however, this group's volume of bankcards now equals that of consumers who turned 18 just prior to 2010, and they are on a trajectory similar to 18-year-olds from the turn of the millennium. A similar trend is seen in the average bankcard balances (Figure 16.7). These data indicate that the CARD Act appears to delay the adoption of credit cards by young consumers but does not seem to permanently alter payment preferences later in life.

C New payment channels reveal more detail about the payments landscape

Marx used the Panel data to analyze usage by tender type (cash, credit, debit, and check) and, separately, by payment channel (mobile, face-to-face, Internet). He found that a combination of consumer preference, technical restrictions, and financial institution economics influences consumer usage of both tender and channel. New technologies that create innovative means of using existing payment instruments have the opportunity to directly influence consumer preferences and to supplant existing tenders or channels with which consumers perceive weaknesses. One growing example of this is in the P2P mobile payments space.

Marx noted the growth in adoption of P2P and mobile technology by students as well. More than 75 percent of students surveyed had tried at least one form of electronic/mobile payment tool, with the largest portion (50 percent) using Venmo. Marx observed that tools that enable small-dollar payments between individuals (P2P) or between individuals and small businesses (P2B) are providing a window into a portion of the payments ecosystem that was previously unavailable. Until recently, the "underground" flow of cash between individuals was largely unobservable. However, as products such as these grow in popularity, it will become easier to track and analyze this portion of the economy. To continue to gain acceptance, P2P tools must demonstrate that they provide a preferable alternative to existing payment channels or tenders. To see how this is possible, we look to evidence from other panel and consumer testing sources.

Between 2015 and 2018, the SCPC panel reported cash as the highest-rated payment instrument in both "Acquisition and Setup" and "Cost" categories. These assessments are

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sensible because cash usage does not generally come with additional costs (e.g., transaction fees, potential for interest charges), and it is relatively simple to obtain and use compared with other payment methods. At the other end of the scale, cash was rated at or near the bottom for "Security" and "Payment Records". Again, these assessments are logical because there is no recourse or protection for losing cash, and any tracking of cash usage is primarily manual and time consuming (consider that the Visa Panel collected partial cash records for many years because of the complexity of tracking and recording the transactions). Additionally, in an increasingly digital and mobile consumer environment, the volume of merchants who prefer noncash tenders or those who accept only electronic and card payments is growing.[14]

For consumers with limited or without access to credit (either by preference or not), checks and debit cards are alternate means of accessing liquid resources and can alleviate some of the concerns that consumers have regarding cash. Indeed, the 2018 SCPC rates checks as better than cash in both "Security" and "Payment Records", albeit not by a significant amount (checks rank fifth out of eight payment methods in both categories). Debit cards rate third in "Payment Records" and fourth in "Security."[15] In both cases, consumers indicate that checks and debit cards are preferred alternatives to cash when necessary, but there are still gaps in capability and security that new payment products could address.

Internet and mobile P2P and P2B tools allow consumers to perform small-dollar transactions that previously would have required cash. While the underlying funds used in the transactions are supplied by existing payment instruments,[16] the tracking, convenience, and security that the technology provides make it a strong alternative to cash for payments between individuals. In a study performed by the Aite Group, researchers tracked P2P transfers in use cases ranging from birthday and holiday gifts to splitting restaurant bills and purchasing services from an individual (Baker, 2018). The authors of the 2018 SCPC summary noted that mobile banking and payment adoption in general has increased from 40 percent to 60 percent of consumers since 2015; over the same period, the percentage of consumers making a mobile payment of any sort increased from 25 percent to 33 percent (Foster, Green and Stavins, 2019).

There is a strong debate whether these applications are revealing previous consumption that was not visible in a traditional cash environment (by creating electronic records of historically recordless transactions) or are driving incremental consumption (by encouraging additional spend through the creation of a lower-friction channel). While the general opinion appears to be that it is revealing previously untracked consumption as opposed to driving new consumption, Marx pointed out a scenario whereby the convenience and ease of using a mobile device to exchange money would create new spend. It is plausible that in situations in which cash was previously required or preferred to pay a merchant or a friend (e.g., a group of friends dining out and splitting the check), individuals without ready cash would be excluded from spending. With mobile payment apps, however, those individuals are able to spend without needing access to cash. Further study of this idea would likely be fruitful.

V Conclusions

There have a been a number of notable shifts in the landscape of customer payment preferences as revealed by the Visa Payment Panel Study since it was last shared in 2014. In particular, these are some of the major highlights:

- Card-based payment instruments (primarily credit and debit cards) continue to outpace other payment instruments in usage and value growth, as they have since the early years

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of the study, largely at the expense of paper checks. Cash usage remains steady, with only minor shifts in some market segments.

- While the two primary forms of card payments (credit and debit) have continued to increase their share of consumer payment usage and volume, debit growth has slowed in relation to credit. This appears to be driven by the regulatory impact to debit revenue streams and a conscious shift in focus by banks.
- The CARD Act rules relating to young consumers slowed the penetration of credit products into the post-high school population. However, there is early evidence that young consumers adopt and use credit products nearly as frequently as previous generations; they simply do so a few years later in their life cycle.
- Newer digital and mobile payment channels, particularly P2P and P2B platforms are being adopted at a higher rate by younger consumers as a viable alternative to traditional payments (cash and credit); however, the overall penetration of the payments space remains small.
- The growth of lower-friction mobile P2P and P2B payment channels has the potential to reveal new data points relating to previously murky parts of the payment environment. The relationship between these payment channels and the future of cash as a payment instrument for the next generation of consumers is a potentially fruitful path for study.

Since the late 2000s, the consumer payments landscape has absorbed the impact of a number of significant legal (e.g., the CARD Act, the Dodd–Frank Act), economic (the Great Recession), and cultural (the rise of mobile technology) shifts. Long-term data sets such as the Visa Payment Panel Study provide valuable insights into the impact that such events have on consumer habits.

Notes

1 Federal Reserve Bank of Philadelphia, Ten Independence Mall, Philadelphia, PA. The author would like to thank Bob Hunt and Julia Cheney for their valuable feedback during the development of this chapter and Stephanie Wilshusen for her review and input on the initial drafts. Disclaimer: This Philadelphia Fed discussion paper represents preliminary research that is being circulated for discussion purposes. The views expressed in these papers are solely those of the authors and do not necessarily reflect the views of the Federal Reserve Bank of Philadelphia or the Federal Reserve System. Nothing in the text should be construed as an endorsement of any organization or its products or services. Any errors or omissions are the responsibility of the authors. No statements here should be treated as legal advice. Philadelphia Fed discussion papers are free to download at https://www.philadelphiafed.org/consumer-finance.

2 Paper checks are often converted to an electronic funds transfer (EFT) for processing. Instructions to panelists clearly distinguish between payments that are initiated with a paper check versus those that are initiated electronically with a vendor. Therefore, for the purposes of the Panel, it is immaterial if a paper check is processed electronically; it will be recorded as a paper check. If the vendor collects routing and account number information from the customer to process a payment, it will be recorded as an EFT.

3 From the 2018 Visa presentation materials: “Developed in 1990, this on-going Visa-commissioned study is designed to monitor consumers’ usage of all plastic and non-plastic payment methods in over 100 merchant categories. The Payment Panel Study is conducted by a major, independent global research firm, TNS, and is administered in English to participants who own at least one payment card and are 18 years of age or older. Results are weighted on multiple demographic variables — household composition, age, gender, race, geographic region, income, credit and debit card ownership — to ensure the sample is representative of US consumers. The information within the study is self-reported on a monthly basis in a purchase diary — the diary captures

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spending on a transaction by transaction basis from approximately 1,600 respondents per month, totaling almost 20,000 per year. Respondents are asked to record transactions over the course of a month. Information captured on each transaction includes date, merchant category, dollar amount, payment method used, if payment was made over the internet, and if it is an on-going automatic payment — for all debit card transactions panelists also record whether a PIN was used in the transaction. Respondents are asked not to include credit/charge card bill payments, taxes, loan payments, ATM withdrawals (or any other form of cash-back), purchase of travelers checks or prepaid cards, investment products or services, or personal checks made out to themselves."

4 Based on their reported wallet composition and usage, panelists receive "owner" and/or "user" designations for each type of payment instrument. For instance, panelists who have a credit card but have not used it during the diary period are considered "owners" of credit cards, but they would not be categorized as "users." A given panelist may appear in the data as both an owner and a user of multiple products.

5 Banks will generally place daily limits on ATM withdrawal and purchase amounts that vary by institution, product, and customer. Based on online aggregations (https://www.valuepenguin.com/banking/atm-withdrawal-limits-daily-debit-purchase-limit) of fees from U.S. banks, purchase limits range from $100 to $30,000, with a median value of $3,000.

6 The electronic diary provides panelists with a list of merchants from which to select. This allows Visa to categorize spend into merchant categories consistent with the Merchant Category Code (MCC) associated with each entry. The MCC is a four-digit number used by networks, merchants, and banks to identify the type of merchant or transaction. Tracking diary entries by merchant name whenever possible relieves the panelist of the need to determine the appropriate merchant category for each item, ensuring that the Panel output will match to MCC reporting from internal Visa sources.

7 The Federal Reserve Payments Study (2010, 2013, and 2017) reports that private label credit card transaction volume significantly outpaced both credit and debit growth in the postrecession years between 2009 and 2012 (CAGR of 17 percent compared with 6.9 percent and 7.8 percent, respectively) after experiencing negative growth over the prior six years.

8 When merchants accept a payment that is processed over a card-based payment network, they are guaranteed that an approved transaction will be paid. Because of the delays inherent in the check-clearing process, accepting a paper check as payment increases the risk that the merchant will ultimately not receive funds. If the particular service being provided has a high intrinsic value to the customer, the merchant may have higher confidence in check payments. Therefore, it is not incentivized to accept card-based payments.

9 The full text of the Dodd–Frank Act can be found through the US Government Printing Office (https://www.govinfo.gov/content/pkg/PLAW-111publ203/pdf/PLAW-111publ203.pdf); the relevant text for the Durbin Amendment is in Section 1075 (page 2068) of the act. The final regulation went into effect through the Federal Reserve Board in 2011 (https://www.govinfo.gov/content/pkg/FR-2011-07-20/pdf/2011-16861.pdf).

10 See Kay et al. (2018) and Evans et al. (2015).

11 The Survey of Consumer Payment Choice (SCPC) has been conducted annually since 2008 through the Federal Reserve Bank of Boston and since 2017 through the Federal Reserve Bank of Atlanta. The SCPC measures the ownership and usage of consumer payment options. Detailed reviews of the most recent SCPC can be found in Greene and Stavins (2018). For detailed reports on earlier versions of the SCPC, see Foster, Meijer, Schuh, and Zabek (2009, 2011); Foster, Schuh, and Zhang (2013); Schuh and Stavins (2014, 2015); Greene and Schuh (2017); and Greene, Schuh, and Stavins (2016, 2017).

12 Source: Mintel Comperemedia data reflecting solicitations for Checking, Savings, and Debit Card products between June 2011 and August 2018. "Card mention" indicates solicitations in which a card product was referenced using a brand name (Mastercard, Visa) or as an additional feature of the account being offered.

13 Based on data from the publicly available database on College Credit Card Marketing Agreements (https://www.consumerfinance.gov/data-research/student-banking/marketing-agreements-and-data/) at the Consumer Financial Protection Bureau through 2016, the total number of college affinity agreements has decreased 78 percent since 2009 and the total number of accounts covered by those agreements has decreased 64 percent. New account volumes have remained relatively steady since 2012.

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14 The New Jersey Senate commerce committee temporarily shelved a bill in September 2018 that would have required New Jersey brick-and-mortar retailers to accept cash as a form of payment (Hetrick, 2018). Chicago's City Council has also considered a similar ordinance (Heilweil, 2018). Sponsors of the regulations cite the risk of economically excluding consumers with no access to card or mobile banking tools in a cashless environment. Merchants who have converted to a cash-less stance cite increased efficiency, lower robbery risk, and simpler accounting practices as positive outcomes of the change. Massachusetts is currently the only state that requires cash acceptance, which has been the law since 1978.

15 Consumer concern about the security of debit cards compared with similar credit card products is likely connected to the fact that debit cards access the cardholder's liquid assets, making the perceived consequence of fraud higher. While debit cards generally carry the same zero-liability fraud protections as credit cards, the risk of a fraudster emptying a bank account, even temporarily, outweighs that of a credit limit being maxed out in many consumers' minds.

16 Mobile payment applications require users to link their account with a verified Demand Deposit Account (DDA), credit card, or prepaid card as a source of funds used in the transfers.

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