STRATEGIES FOR BANKING THE UNBANKED AND UNDERBANKED

Prepared for Master Card

by

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I. UNDERSTANDING THE COSTS OF CASH

Since the deregulation of the financial sector in the 1980s, the United States has seen an upsurge of fringe financial institutions that offer alternatives to mainstream banking.[1] These fringe establishments offer services such check cashing, payday lending, subprime lending, pawnshop exchanges, and non-bank-issued money orders. In the 1990s, payday lending was legalized in 31 states, leading to the establishment of 10,000 new payday lenders, triple-digit growth of deferred-deposit entities, and a burgeoning predatory lending sector. These alternative banking institutions have since become dominant players targeting low-income consumer markets across the country. Subprime lending, for example, increased by nearly 1,000% between 1993 and 1998.[2] Offering fast access and few requirements for service, fringe banks are highly convenient alternatives for customers that lack bank accounts—but at the expense of higher fees for such transactions.

Today, nearly 30% of U.S. households are unbanked or underbanked.[3] Over a third of total households lack checking accounts. Without access to mainstream banking, unbanked or underbanked consumers rely on often-costly fringe services to conduct everyday financial transactions. Over half of unbanked households and about 45% of underbanked households use alternative financial institutions for basic everyday needs, and many more use them for income supplements, household repairs or purchases, childcare, education, and health and legal expenses.[4] These fringe services typically charge high premiums for basic financial services, leading to debt spirals and inhibiting households from accumulating savings and building assets. The U.S. alternative banking industry is sizable, totaling $100 billion and including over 48,000 establishments.[5]

This report highlights the costs and impacts that households bear from being disenfranchised from mainstream banking. It first disaggregates the demographics of unbanked and underbanked populations to better understand the types of people affected by fringe banking. After exploring factors that have led to underbanking, the report then analyzes the monetary, time, and other premiums that paid by unbanked and underbanked

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[1] Steven. 2003. Landscapes of Predation, Landscapes of Neglect: A Location Analysis of Payday Lenders and Banks. The Professional Geographer, Vol. 55, No. 3, 303-317. http://dx.doi.org/10.1111/0033-0124.5503017.
[2] Stein, Eric. 2001. Quantifying the Economic Cost of Predatory Lending. Coalition for Responsible Lending.
[3] Federal Deposit Insurance Corporation (FDIC). 2012. 2011 FDIC National Survey of Unbanked and Underbanked Households. http://www.fdic.gov/householdsurvey/.
[4] Federal Deposit Insurance Corporation (FDIC). 2012. 2011 FDIC National Survey of Unbanked and Underbanked Households. http://www.fdic.gov/householdsurvey/.
[5] Fellowes, Matt and Mia Mabanta. 2008. Banking on Wealth: America's New Retail Banking Infrastructure and Its Wealth-Building Potential. Washington, DC: Brookings Institution Metropolitan Policy Program.

populations. Because many studies covering various aspects of these topics have been conducted—each with differing methodologies, sample sizes, and focuses—this report is meant to synthesize existing research to date and provide an overarching picture of the landscape of unbanked and underbanked communities.

WHO ARE THE UNBANKED AND UNDERBANKED?

An estimated 8-9% U.S. households comprising of 17 million adults are unbanked.[6, 7] Moreover, one in five U.S. households (or 51 million adults who live in 24 million households) are estimated to be underbanked.[8] Unbanked households do not hold any type of checking or savings account, while underbanked households have either checking or savings accounts, but still rely upon alternative financial services.[9] Underbanked households have been on the rise in recent years, with more households reporting greater reliance on alternative financial services since 2009.[10] The costs of being unbanked or underbanked are not equal among all demographic groups. The people who rely on alternative banking services generally tend to be disproportionately low income, low educated, younger, and non-Asian minorities.[11] Because many factors influence consumer financial circumstances, understanding who is unbanked or underbanked and why can help inform strategies for improving economic inclusion.

Race and Ethnicity

Black and Hispanic minorities make up a disproportionately high segment of unbanked and underbanked consumers. 26% of unbanked and underbanked households are African Americans, 19.6 are Hispanics. Further examining banked status within racial and ethnic categories demonstrates the extent to which underbanking affects minority groups. Over 55% of all African American households, 48.7% of all Hispanic households, and 36.4% of American Indian households are either unbanked or underbanked. In comparison, only 3% of white and Asian 3% are unbanked or underbanked.[12]

Immigrants make up a significant share of unbanked or underbanked households with limited English language abilities, financial situations, and cultural attitudes toward banking. Most unbanked immigrants are Hispanic. Hispanic and other immigrant communities also differ from other minority unbanked and underbanked populations in their barriers to

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[6] Federal Deposit Insurance Corporation (FDIC). 2012. 2011 FDIC National Survey of Unbanked and Underbanked Households. http://www.fdic.gov/householdsurvey/.

[7] Fellowes, Matt and Mia Mabanta. 2008. Banking on Wealth: America's New Retail Banking Infrastructure and Its Wealth-Building Potential. Washington, DC: Brookings Institution Metropolitan Policy Program.

[8] Federal Deposit Insurance Corporation (FDIC). 2012. 2011 FDIC National Survey of Unbanked and Underbanked Households. http://www.fdic.gov/householdsurvey/.

[9] Federal Deposit Insurance Corporation (FDIC). 2012. 2011 FDIC National Survey of Unbanked and Underbanked Households. http://www.fdic.gov/householdsurvey/.

[10] Federal Deposit Insurance Corporation (FDIC). 2012. 2011 FDIC National Survey of Unbanked and Underbanked Households. http://www.fdic.gov/householdsurvey/.

[11] Federal Deposit Insurance Corporation (FDIC). 2012. 2011 FDIC National Survey of Unbanked and Underbanked Households. http://www.fdic.gov/householdsurvey/

[12] Federal Deposit Insurance Corporation (FDIC). 2012. 2011 FDIC National Survey of Unbanked and Underbanked Households. http://www.fdic.gov/householdsurvey/

accessing bank accounts, as well as the alternative financial products they tend to use. For instance, immigrants are far more likely to use fringe products to send remittance payments back home.

Income

Income levels are a significant predictor of banked status. Low-income households are the most affected group, with about 40% of households earning less than $30,000 as unbanked.[13] The median income of households without checking accounts is $17,000.[14] Rates of un- and underbanking are even more pronounced for minority low-income groups. More than 66% of black and 51% of Hispanic unbanked households live in low-income communities, whereas only 10% of white unbanked households do.[15]

Geography

The distribution of the unbanked and underbanked is not even across the country. The highest percentage of both unbanked (45.4%) and underbanked (43.1%) U.S. households reside in the South.[16] Aside from national geography, rates of being unbanked or underbanked are highest in metropolitan areas, specifically in inner cities.[17]

Research shows that the choice to be unbanked is often made jointly with the decision to rely on fringe financial services.[18] Thus, paralleling the geography of the unbanked and underbanked, fringe financial institutions are also most densely concentrated in low-income urban areas. They are also located in wealthier neighborhoods, but at lower densities. Different fringe services demonstrate different geographical distribution patterns. Payday lenders are more likely to be in the South. As of 2000, half of all payday lenders were located in only six states: Mississippi, Missouri, Kentucky, Tennessee, North Carolina, and South

[13] Federal Deposit Insurance Corporation (FDIC). 2012. 2011 FDIC National Survey of Unbanked and Underbanked Households. http://www.fdic.gov/householdsurvey/

[14] Fellowes, Matt and Mia Mabanta. 2008. Banking on Wealth: America's New Retail Banking Infrastructure and Its Wealth-Building Potential. Washington, DC: Brookings Institution Metropolitan Policy Program.

[15] Rhine, Sherrie L.W., William H. Greene, and Maude Toussaint-Comeau. 2006. The Importance of Check-Cashing Businesses to the Unbanked: Racial/Ethnic Differences. The Review of Economics and Statistics, 88 (1, February): 146–157.

[16] The South is classified in the U.S. Census as the following states: Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia.

[17] Federal Deposit Insurance Corporation (FDIC). 2012. 2011 FDIC National Survey of Unbanked and Underbanked Households. http://www.fdic.gov/householdsurvey/

[18] Rhine, Sherrie L.W., William H. Greene, and Maude Toussaint-Comeau. 2006. The Importance of Check-Cashing Businesses to the Unbanked: Racial/Ethnic Differences. The Review of Economics and Statistics, 88 (1, February): 146–157.

Carolina.[19] Check-cashers, on the other hand, are more widespread and located in about one out of four neighborhoods.[20] Check-cashers, pawnshops, and payday lenders are heavily concentrated in poor neighborhoods: about three-quarters of all of these types of establishments are in low-income or lower middle income areas.[21]

History with banking services

Classifications of being unbanked or underbanked are not static. Consumers enter and exit mainstream financial services at various points in their lives. Different household surveys indicate that around 40-50% of unbanked households have previously held some sort of bank account in the past.[22, 23] In a narrower study of the Detroit area, over 70% of unbanked individuals who previously had accounts closed them by choice, as opposed to being forced by banks to do so.[24] Of the unbanked, three quarters were interested in re-opening bank accounts in the next year, further illustrating the degree to which changing financial situations can affect banking choices.

Employment

Employment status is not a consistent indicator of banking status. Unemployed individuals are not only 2.5 times more likely to pay for cash,[25] over half of households without checking accounts include full-time employed individuals.[26] In terms of employment type, employed underbanked consumers overwhelmingly work in small companies.[27] The Brookings Institution estimates that a if an underbanked full-time employee switched to a

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[19] Graves, Steven. 2003. Landscapes of Predation, Landscapes of Neglect: A Location Analysis of Payday Lenders and Banks. The Professional Geographer, Vol. 55, No. 3, 303-317. http://dx.doi.org/10.1111/0033-0124.5503017.

[20] Fellowes, Matt and Mia Mabanta. 2008. Banking on Wealth: America's New Retail Banking Infrastructure and Its Wealth-Building Potential. Washington, DC: Brookings Institution Metropolitan Policy Program.

[21] Fellowes, Matt and Mia Mabanta. 2008. Banking on Wealth: America's New Retail Banking Infrastructure and Its Wealth-Building Potential. Washington, DC: Brookings Institution Metropolitan Policy Program.

[22] Federal Deposit Insurance Corporation (FDIC). 2012. 2011 FDIC National Survey of Unbanked and Underbanked Households. http://www.fdic.gov/householdsurvey/

[23] Fellowes, Matt and Mia Mabanta. 2008. Banking on Wealth: America's New Retail Banking Infrastructure and Its Wealth-Building Potential. Washington, DC: Brookings Institution Metropolitan Policy Program.

[24] Barr, Michael. "Financial Services, Saving, and Borrowing Among Low- and Moderate-Income Households: Evidence from the Detroit Area Household Financial Services Survey." In Insufficient Funds: Savings, Assets, Credit and Banking Among Low- and Moderate-Income Households, edited by M.S. Barr and R.M. Blank, 66-96. New York: Russell Sage, 2009.

[25] Chakravorti, Bhaskar and Benjamin Mazzotta. 2013. The Cost of Cash in the United States. The Institute for Business in the Global Economy, The Fletcher School, Tufts University.

[26] Fellowes, Matt and Mia Mabanta. 2008. Banking on Wealth: America's New Retail Banking Infrastructure and Its Wealth-Building Potential. Washington, DC: Brookings Institution Metropolitan Policy Program.

[27] Chakravorti, Bhaskar and Benjamin Mazzotta. 2013. The Cost of Cash in the United States. The Institute for Business in the Global Economy, The Fletcher School, Tufts University.

low-cost checking account, he or she could save up to $40,000 over the duration of a 40-year career.[28]

Education Level

Around 40% of unbanked consumers and 15% of underbanked consumers have less than high school education.[29] People who have attained college degrees only make up 1.1% of the underbanked.[30]

Household type

Nearly 30% of unbanked or underbanked households are single-family households.[31] Single-mother households in particular have the highest rates of being unbanked than all other family types.

REASONS FOR BEING UNBANKED AND UNDERBANKED

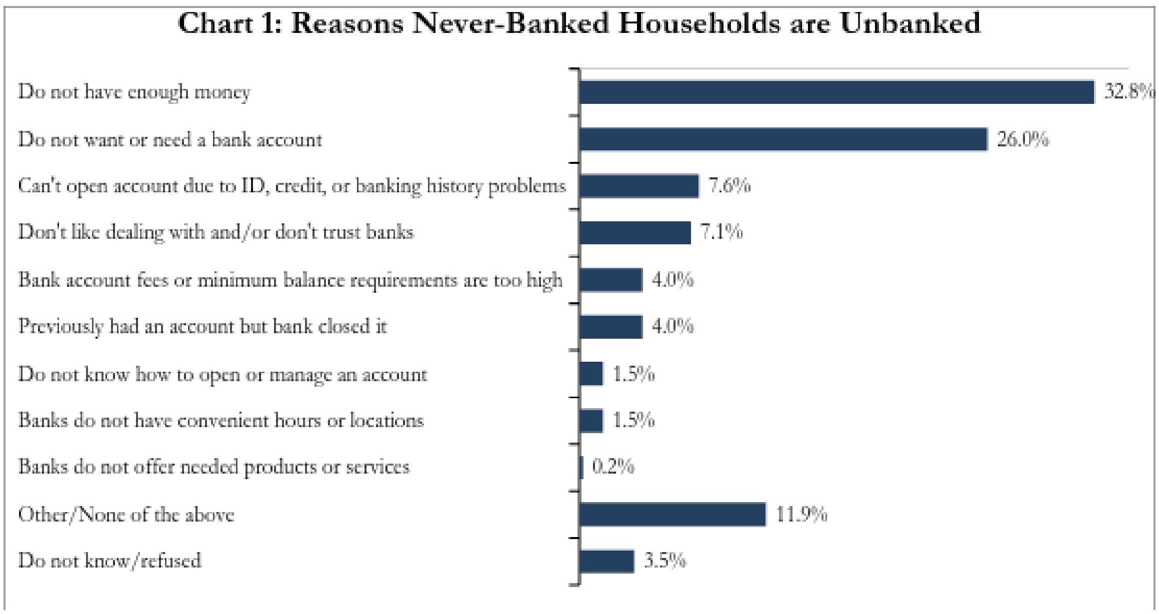
People are unbanked or underbanked for a variety of reasons. Some factors are circumstantial—for example, consumers lacking requirements or access to open bank accounts. Others intentionally choose to be unbanked or underbanked. From an institutional perspective, some banks deliberately avoid particular markets, due to perceptions that serving low-income customers is very risky and can lead to low return rates and profit margins and fraud.[32] This in turn disenfranchises some communities from mainstream banking, forcing them to turn to fringe institutions.

Consumer (demand-side)

Surveys of the unbanked and underbanked reveal a variety of reasons for not holding bank accounts. Consumers value the immediate and expedited process of loan or cash access at fringe institutions. Surveys from the FDIC, Federal Reserve, and other researchers show similar top reasons for being unbanked, though the degree of responses to each of these categories varied among the studies. These top reasons included: not having enough money for a bank account; not needing or wanting a bank account; inability to open accounts

[28] Fellowes, Matt and Mia Mabanta. 2008. Banking on Wealth: America's New Retail Banking Infrastructure and Its Wealth-Building Potential. Washington, DC: Brookings Institution Metropolitan Policy Program.
[29] Federal Deposit Insurance Corporation (FDIC). 2012. 2011 FDIC National Survey of Unbanked and Underbanked Households. http://www.fdic.gov/householdsurvey/
[30] Federal Deposit Insurance Corporation (FDIC). 2012. 2011 FDIC National Survey of Unbanked and Underbanked Households. http://www.fdic.gov/householdsurvey/
[31] Federal Deposit Insurance Corporation (FDIC). 2012. 2011 FDIC National Survey of Unbanked and Underbanked Households. http://www.fdic.gov/householdsurvey/
[32] Fellowes, Matt and Mia Mabanta. 2008. Banking on Wealth: America's New Retail Banking Infrastructure and Its Wealth-Building Potential. Washington, DC: Brookings Institution Metropolitan Policy Program.

because of identification, credit, or banking history; and disliking dealing with banks.[33],[34] High fees and minimum balances were also deterrents for around 5% across these surveys, but were not as predominant as the others listed above. These responses suggest that a significant number of people are unbanked by choice—and in large part due to the convenience and ease of using alternative financial services. The FDIC estimates that 85% of previously banked households closed their accounts by choice, whereas only 15% did not have accounts due to an institutional barrier beyond their direct control.[35]

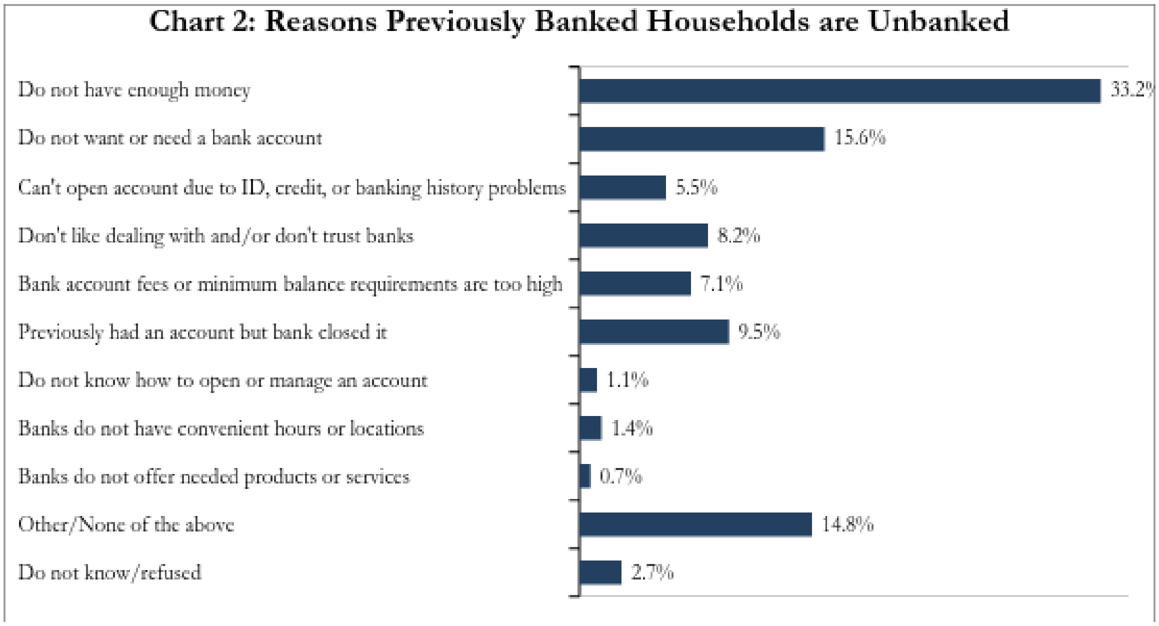


Source: Federal Deposit Insurance Corporation (FDIC). 2012. 2011 FDIC National Survey of Unbanked and Underbanked Households. http://www.fdic.gov/householdsurvey/

[33] Board of Governors of the Federal Reserve System. 2013. Consumers and Mobile Financial Services 2013. http://www.federalreserve.gov/econresdata/consumers-and-mobile-financial-services-report-201303.pdf.

[34] Federal Deposit Insurance Corporation (FDIC). 2012. 2011 FDIC National Survey of Unbanked and Underbanked Households. http://www.fdic.gov/householdsurvey/

[35] Federal Deposit Insurance Corporation (FDIC). 2012. 2011 FDIC National Survey of Unbanked and Underbanked Households. http://www.fdic.gov/householdsurvey/



Source: Federal Deposit Insurance Corporation (FDIC). 2012. 2011 FDIC National Survey of Unbanked and Underbanked Households. http://www.fdic.gov/householdsurvey/

It is important to remember that self-reported reasons for being unbanked or underbanked may not entirely capture all of the actual factors at play. In particular, low levels of financial literacy can lead to misperception about the costs of being banked versus unbanked. Thus, it is not only important to also consider the same question from the flip side: why unbanked or underbanked consumers chose to use alternative financial institutions. More than half of FDIC survey respondents cite the convenience as a primary reason for non-bank check cashing, getting non-bank money orders, and using non-bank remittances. Over 40% also identify the speed and ease of obtaining money as a primary reason for patronizing payday lenders and pawnshops.[36] According to another survey of low-income urban neighborhoods, about half of unbanked customers conduct check-cashing at mainstream banks or supermarkets because such establishments were cheaper than check cashers—suggesting that consumers may overestimate costs of bank account maintenance.[37] Both unbanked and underbanked respondents who did rely on check cashers overwhelmingly cited convenience as the most important factor in their decision.[38]

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[36] Federal Deposit Insurance Corporation (FDIC). 2012. 2011 FDIC National Survey of Unbanked and Underbanked Households. http://www.fdic.gov/householdsurvey/

[37] Berry, Christopher. "To Bank or Not to Bank? A Survey of Low-income Households." In Building Assets, Building Credit, edited by N. Retsinas and E. Belsky, 47-70, Joint Center for Housing Studies and Brookings Institution Press, 2005. http://www.jchs.harvard.edu/research/publications/bank-or-not-bank-survery-low-income-households.

[38] Berry, Christopher. "To Bank or Not to Bank? A Survey of Low-income Households." In Building Assets, Building Credit, edited by N. Retsinas and E. Belsky, 47-70, Joint Center for Housing Studies and Brookings

Below, additional details are provided for select factors of being unbanked or underbanked.

Income- or cost barriers

Bank accounts are not geared toward low-income consumers. Minimum balance requirements and penalties for overdrawing or bounced checks can mean that the cost of maintaining a bank account is simply not worth it for many households. Consumers most commonly cited not having enough money as a top reason for not having a bank account. High service fees was also a factor, but to a much lesser degree. While account maintenance can indeed sometimes be costly, shame or reluctance can also factor into a perception that low-income customers do not have enough money to be served by mainstream banks.[39]

Identification barriers

Although almost 60% of banks accept non-traditional forms of identification (such as non-U.S. passports, foreign consulate identification, or individual taxpayer Identification numbers), around 7.6 consumers report lack of identification as a barrier to banking. This is particularly the case in Latino and immigrant communities.[40] Hispanic households attributed identification and credit history problems as the reason for being unbanked at over twice the rate of black or white households. Latino communities are particularly hindered by these language issues and are more likely than other groups to not understand the terms of papers that they have signed, or how to contest predatory practices when they do arise.[41] This was most acutely manifested during the 2009 mortgage crisis, where a disproportionate rate of Latinos were affected by predatory lending in large part due to the lack of understanding of loan terms.

Low financial education

Low financial literacy among unbanked and underbanked communities can be a major barrier to navigating complicated banking options and services.[42] More than 50% of unbanked households have never had a checking or savings account, suggesting that they have limited to no experience with banking.[43] Although only small portion of people directly attribute not being able to manage or open accounts as the primary reason for being

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Institution Press, 2005.
http://www.jchs.harvard.edu/research/publications/bank-or-not-bank-survery-low-income-households.

[39] Mullianathan and Shafir, Insufficient Funds

[40] St. Louis Fed, http://www.stlouisfed.org/publications/cb/articles/?id=2039">

[41] Jones, Greg. 2012. Mortgage Lending: Confusing in Every Language. Loyola Consumer Law Review, Vol. 24: 4, 661-680.

[42] St. Louis Fed, http://www.stlouisfed.org/publications/cb/articles/?id=2039">

[43] Federal Deposit Insurance Corporation (FDIC). 2012. 2011 FDIC National Survey of Unbanked and Underbanked Households. http://www.fdic.gov/householdsurvey/

unbanked, increased awareness of banking options and benefits has had a significant effect on encouraging people to open bank accounts.

Financial worthiness

Credit scores, which are used by lenders to assess the risk of lending to consumers, are used to determine loan eligibility and loan terms. Those who are unable to pay credit card bills on time, or who have not accumulated any credit history upon which to be evaluated, can have a difficult time accessing the financial services that they need. ChexSystems, or Chex score, is a similar, but often lesser known, database that banks use to determine whether to grant or deny bank accounts. Credit and Chex scores are based on a highly complex series of variables that evaluate a borrower's risk level and it can be opaque to borrowers why they have low scores. Although it is less common for banks to deny bank accounts than for people to choose not to have them, a sizeable number of unbanked consumers (15%) do not have accounts because banks turned them away. A third of the people who were denied bank accounts bad credit, and over 15% had no credit history at all.[44]

Cultural barriers

Language barriers and cultural preferences also factor into banking decisions. Unbanked rates are further elevated for immigrant Spanish-speaking households.[45] As with other practices, banking habits can be very strongly engrained in communities and informed by historical cultural preferences and experiences. 60% of Latinos, for example, have any sort of relationship with a bank. Given the historical financial marginalization and discrimination of black[46] and Hispanic communities, past negative or limited experiences with formal banking systems may lead to higher rates of distrust in financial institutions in these groups than among whites.[47]

[44] Berry, Christopher. "To Bank or Not to Bank? A Survey of Low-income Households." In Building Assets, Building Credit, edited by N. Retsinas and E. Belsky, 47-70, Joint Center for Housing Studies and Brookings Institution Press, 2005.
http://www.jchs.harvard.edu/research/publications/bank-or-not-bank-survery-low-income-households.

[45] Federal Deposit Insurance Corporation (FDIC). 2012. 2011 FDIC National Survey of Unbanked and Underbanked Households. http://www.fdic.gov/householdsurvey/

[46] For more complete perspective on the history of black wealth accumulation and predatory lending, see: Lewis Neir III, Charles. 2007-2008. The Shadow of Credit: the Historical Origins of Racial Predatory Lending and its Impact upon African American Wealth Accumulation. Journal of Law and Social Change, Vol. 11, 131-194.

[47] Rhine, Sherrie L.W., William H. Greene, and Maude Toussaint-Comeau. 2006. The Importance of Check-Cashing Businesses to the Unbanked: Racial/Ethnic Differences. The Review of Economics and Statistics, 88 (1, February): 146–157.

Institution (supply-side)

Limited services

The services that many mainstream banks offer are not designed to effectively accommodate low-income people. Nearly 50% of banks require at least a $100 initial deposit to open the most basic type of checking account.[48] The costs of maintaining a checking account declines as incomes rise, meaning it is more expensive for low-income consumers to maintain checking accounts.[49] Overdraft, penalty, and other service checking fees can be prohibitively costly for low-income earners. Low-income consumers are also more likely to be required to pay rent and other bills through money orders, rather than personal checks, further reducing the utility of checking accounts.[50]

Geographical access

Many studies to date have focused on understanding the landscape of fringe financial services and why they chose to locate where they do. A common conception is that mainstream banks are relatively absent from low-income or high-minority neighborhoods, leaving them no other alternatives than to rely upon fringe services. Although financial deregulation in the 1980s opened the market for fringe banking, geographic proximity is not empirically the main barrier for the unbanked and underbanked. In fact, mainstream banks have fairly full coverage across the country. Moreover, the distribution of banks and credit unions across neighborhoods of different income levels is quite equitable across income levels. Low-income, lower middle-income, higher middle-income, and high-income each contain about a quarter of all bank and credit union branches each, demonstrating that low income neighborhoods do not lack physical proximity to mainstream banking options. More banks or credit unions per capita are even located in low-income neighborhoods compared to high-income ones.

Racial targeting

Although proximal access to mainstream banking may not be an issue, fringe banking institutions do tend to be more densely located in low-income minority neighborhoods. The high degree residential racial segregation in the country has allowed predatory lenders to

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[48] Federal Deposit Insurance Corporation (FDIC). 2012. 2011 FDIC National Survey of Banks' Efforts to Serve the Unbanked and Underbanked. http://www.fdic.gov/unbankedsurveys/2011survey/2011report.pdf

[49] Berry, Christopher. "To Bank or Not to Bank? A Survey of Low-income Households." In Building Assets, Building Credit, edited by N. Retsinas and E. Belsky, 47-70, Joint Center for Housing Studies and Brookings Institution Press, 2005. http://www.jchs.harvard.edu/research/publications/bank-or-not-bank-survery-low-income-households.

[50] Jackson, Ann McLarty, Donna V.S. Ortega, Elizabeth Costle, George Gaberlavage, Naomi Karp, Neal Walters, and Vivian Vasallo. 2010. AARP. A Portrait of Older Underbanked and Unbanked Consumers: Findings from a National Survey. http://assets.aarp.org/rgcenter/ppi/econ-sec/underbank-economic-full-092110.pdf.

specifically target these communities for riskier loans. Degree of racial segregation of a neighborhood is, in fact, a good predictor of both This has, in effect, created two-tiered consumer markets.[51], [52] In fact, fringe financial institutions tend to be located near mainstream banks because co-location makes it easier to capture and serve underbanked consumers.[53] Underbanked customers that own bank accounts, but may have difficulty accessing other financial services can easily access nearby fringe establishments coming from mainstream bank branches.[54] Between 90-95% of payday lenders, check-cashers, and pawnshops are located within one mile of a bank or credit union.[55], [56] Nearly 80% of these providers even operate in the same direct neighborhoods as banks or credit unions—meaning that they directly compete with mainstream banks for their customer bases.[57] Co-location also serves a logistical function since payday lenders, for instance, often require post-dated checks, which consumers can easily acquire at their primary bank branch.[58]

Racial targeting is not necessarily spatial in nature. Research on mortgage loans showed that black borrowers were less likely to receive loan quotes, given less time with loan officers, given less information and guidance, and quoted higher interest rates than white counterparts.[59] Predatory lenders also often specifically direct marketing to low-income Latino communities with Spanish-language newspaper and television ads, as well as retaining Spanish translators on hand when selling financial products.[60] Despite readily available Spanish-language marketing, final paperwork and contracts will most often be in English, presenting a disconnect between what consumers may be told and what they actually sign up

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[51] Graves, Steven. 2003. Landscapes of Predation, Landscapes of Neglect: A Location Analysis of Payday Lenders and Banks. The Professional Geographer, Vol. 55, No. 3, 303-317. http://dx.doi.org/10.1111/0033-0124.5503017.

[52] Rugh, Jacob and Douglas Massey. 2010. Racial Segregation and the American Foreclosure Crisis. American Sociological Review 2010 75: 629. http://asr.sagepub.com/content/75/5/629.

[53] Kubrin, Charis, Gregory Squires, Stephen Graves, and Graham Ousey. 2011. Does fringe banking exacerbate neighborhood crime rates? Criminology & Public Policy. Volume 10, Issue 2.

[54] Kubrin, Charis, Gregory Squires, Stephen Graves, and Graham Ousey. 2011. Does fringe banking exacerbate neighborhood crime rates? Criminology & Public Policy. Volume 10, Issue 2.

[55] Fellowes, Matt and Mia Mabanta. 2008. Banking on Wealth: America's New Retail Banking Infrastructure and Its Wealth-Building Potential. Washington, DC: Brookings Institution Metropolitan Policy Program.

[56] Kubrin, Charis, Gregory Squires, Stephen Graves, and Graham Ousey. 2011. Does fringe banking exacerbate neighborhood crime rates? Criminology & Public Policy. Volume 10, Issue 2.

[57] Fellowes, Matt and Mia Mabanta. 2008. Banking on Wealth: America's New Retail Banking Infrastructure and Its Wealth-Building Potential. Washington, DC: Brookings Institution Metropolitan Policy Program.

[58] Kubrin, Charis, Gregory Squires, Stephen Graves, and Graham Ousey. 2011. Does fringe banking exacerbate neighborhood crime rates? Criminology & Public Policy. Volume 10, Issue 2.

[59] Pager, Devah and Hanah Shepherd. 2008. The Sociology of Discrimination: Racial Discrimination in Employment, Housing, Credit, and Consumer Markets. Annual Review of Sociology. January 1; 34: 181–209.

[60] Jones, Greg. 2012. Mortgage Lending: Confusing in Every Language. Loyola Consumer Law Review, Vol. 24: 4, 661-680.

for.[61]

Although it can be difficult to accurately pinpoint the causes for racial discrimination in lending,[62] analyses of lending rates to blacks and Hispanics show significant evidence of racial discrimination in lending practices.[63] There is a perception among lending institutions that lending to minority communities is more profitable than lending to whites. Minorities are consistently less likely to receive loan quotes, charged higher interest rates, and given less information from and time with from loan officers for mortgage, car, and other loans.[64]

THE IMPACTS OF BEING UNBANKED AND UNDERBANKING

Given the variety of high-cost fees associated with fringe financial services, unbanked and underbanked consumers pay significant financial costs for access to cash. But being unbanked or underbanked can take a significant toll on individuals beyond direct monetary impacts to include time and health costs as well. As this section shows, disenfranchisement from the mainstream banking system can take significant and persistent structural tolls on the lives of families.

Financial impacts

Many studies have tried to capture the monetary value that the unbanked or underbanked spend on various financial transactions. The estimated dollar costs of various financial services are compiled below.

It should be noted, however, that these estimates may not capture the extent to which unbanked or underbanked statuses can affect an individual household or borrower. Concurrent use of multiple alternative banking services likely exacerbates the cumulative effects of being unbanked. Often, unbanked or underbanked households use multiple alternative financial products at the same time. While a majority of unbanked and underbanked consumers use at least one type of alternative financial service, a greater

[61] Jones, Greg. 2012. Mortgage Lending: Confusing in Every Language. Loyola Consumer Law Review, Vol. 24: 4, 661-680.

[62] For a more in-depth sociological analysis of factors leading to racial discrimination in lending, see Pager, Devah and Hana Shepherd. 2008. The Sociology of Discrimination: Racial Discrimination in Employment, Housing, Credit, and Consumer Markets. *Annual Review of Sociology*, Vol. 34, 181-209.

[63] Pager, Devah and Hanah Shepherd. 2008. The Sociology of Discrimination: Racial Discrimination in Employment, Housing, Credit, and Consumer Markets. Annual Review of Sociology. January 1; 34: 181–209.

[64] Pager, Devah and Hanah Shepherd. 2008. The Sociology of Discrimination: Racial Discrimination in Employment, Housing, Credit, and Consumer Markets. Annual Review of Sociology. January 1; 34: 181–209.

proportion of unbanked households use multiple fringe financial products. According to the 2011 FDIC survey of the unbanked, over 35% of unbanked households had used two or more of such services in the last year, and 11.8% of unbanked households have even used more than three alternative financial services in the past year. (In comparison, the overall usage rate of fringe financial services in the country as a whole is less than 10%.[65]) Yet, because data is not often available to pinpoint the suite of fringe banking products used by a single household, it can be difficult to understand the financial, spatial, and even societal interrelationships among these services. Moreover, a significant minority of unbanked households do not report using any alternative financial services, suggesting a reliance on informal financial arrangements whose costs are not captured in the studies.[66]

ATM and check-cashing fees

The fees that result from obtaining immediate access to cash from ATMs or check-cashing services may not be very high per each transaction, but overall add up to a significant total, particularly for those in most financial need. Not only do low-income groups pay the highest (in absolute terms) for accessing cash,[67] the unbanked are 3.7 times more likely to incur fees during to access to cash than banked consumers. Check-cashing is one of the most commonly used alternative financial services for both the unbanked and underbanked. Nearly half of unbanked households and about 30% of underbanked households have used non-bank check-cashing services.[68] The check-cashing industry itself reports processing over $55 billion of checks a year.[69] A significant majority of these checks (80%) are payroll checks; government benefit checks make up almost all of the remainder. The fees associated with those transactions, which cost about 1.5-3.5% of the value of a withdrawal, add up to over $200 million in annual revenue.[70]

Money orders

Low-income households commonly use money orders for bill payments. The FDIC reports non-bank money orders as the number one most popular alternative financial product for

[65] Federal Deposit Insurance Corporation (FDIC). 2012. 2011 FDIC National Survey of Unbanked and Underbanked Households. http://www.fdic.gov/householdsurvey/

[66] Federal Deposit Insurance Corporation (FDIC). 2012. 2011 FDIC National Survey of Unbanked and Underbanked Households. http://www.fdic.gov/householdsurvey/

[67] Chakravorti, Bhaskar and Benjamin Mazzotta. 2013. The Cost of Cash in the United States. The Institute for Business in the Global Economy, The Fletcher School, Tufts University.

[68] Federal Deposit Insurance Corporation (FDIC). 2012. 2011 FDIC National Survey of Unbanked and Underbanked Households. http://www.fdic.gov/householdsurvey/

[69] Barr, Michael and Rebecca Blank. "Savings, Assets, Credit, and Banking among Low-income Households: Introduction and Overview." In Insufficient Funds: Savings, Assets, Credit and Banking Among Low- and Moderate-Income Households, edited by M.S. Barr and R.M. Blank, 66-96. New York: Russell Sage, 2009.

[70] Christine Bradley et al. 2009. Alternative Financial Services : A Primer. FDIC Quarterly 3, no. 1 (2009): 39–47.

both unbanked and underbanked households.[71] Non-bank money orders are used relatively frequently, with over a third of underbanked households reporting use of non-bank money orders within the past month.

Predatory loans

Predatory lending is the practice of using purposely deceitful or fraudulent tactics to pressure borrowers into abusive loans. Predatory lending can encompass a range of products and services from car loans and mortgages to payday loans, While loans from fringe bankers may promise lower rates than bank loans, they often come with hidden charges that make up a significant percentage—or even exceed—the actual loan amount. Sometimes, consumers do not fully realize the full terms of these high-cost loans, but other times they may see these loans as the only options during times of financial hardship.

Predatory practices cumulatively costs $9.1 billion per year in the United States.[72] Table 1 disaggregates this total below. Equity stripping entails attaching of excessive fees to loans upfront, as payment penalties, or as other hidden fees. Prepayment penalities for subprime loans make up the largest cost of equity stripping and affect the largest number of households annually. Predatory lenders are typically not forthcoming about hidden fees and penalties when they are trying to close loans, giving consumers false impressions of low interests and minimal payment responsibilities. Pushing multiple and unnecessary loan refinances with high associated refinancing fees, also known as flipping, is another way to tack on excessive fees. Hidden penalties and transaction fees can follow borrowers for years, even if principal and interest amounts are paid off or loans are refinanced. Financed credit insurance, which adds a several-year insurance policy term to the loan in case the borrower should die or become disabled, is also a major vehicle for stripping equity. In this practice, the full cost of insurance premiums are added to principal loan amounts, creating extremely steep interest and inflating principal amounts far more than borrowers realize. Predatory lenders, who receive on average a 30% commission for selling credit insurance, are often purposeful deceitful when selling credit insurance: about 40% of borrowers do not even realize that they have purchased the product. Equity stripping practices are five times as likely to occur in black neighborhoods than white ones.[73]

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[71] Federal Deposit Insurance Corporation (FDIC). 2012. 2011 FDIC National Survey of Unbanked and Underbanked Households. http://www.fdic.gov/householdsurvey/

[72] Stein, Eric. 2001. Quantifying the Economic Cost of Predatory Lending. Coalition for Responsible Lending. Federal Deposit Insurance Corporation (FDIC). 2012. 2011 FDIC National Survey of Unbanked and Underbanked Households. http://www.fdic.gov/householdsurvey/.

[73] Stein, Eric. 2001. Quantifying the Economic Cost of Predatory Lending. Coalition for Responsible Lending. Federal Deposit Insurance Corporation (FDIC). 2012. 2011 FDIC National Survey of Unbanked and Underbanked Households. http://www.fdic.gov/householdsurvey/.

In addition to various means of equity stripping, predatory lenders also commonly charge customers much higher interest rates than their credit scores and financial histories warrant. Fannie Mae estimates that as much as 50% of subprime borrowers could have qualified for a lower cost loan.[74] Lender pressuring, often combined with low financial literacy, contributes to the borrower reliance on such high-cost loans.

Table 1: Costs of predatory lending practices

Source	Predatory practice	Annual cost (billions)	Households affected annually
Equity stripping	Prepayment penalties	$2.3	850,000
	Financed credit insurance	$2.1	500,000
	Upfront fees	$1.8	750,000
Rate-risk disparities	Excess interest	$2.9	600,000
Total		**$9.1**	**2,700,000**

Source: Stein, Eric. 2001. Quantifying the Economic Cost of Predatory Lending. Coalition for Responsible Lending.

Credit cards

Credit card usage has skyrocketed from $800 billion in 1990 to $750 billion in 2006. In comparison, cash usage has only increased moderately while check usage has declined.[75] Recognizing a huge untapped market potential, many credit card companies have developed advanced marketing strategies to capture low-income consumers at higher interest rates. Unbanked or underbanked households utilize credit cards as alternatives to other lenders for getting cash advances.[76] Not all of this marketing is predatory in nature—some lenders are exploring uses of credit cards that can minimize transaction costs or prevent borrowers from incurring overspending (see more information on these strategies from the Latino Community Credit Union in the next section).

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[74] Stein, Eric. 2001. Quantifying the Economic Cost of Predatory Lending. Coalition for Responsible Lending. Federal Deposit Insurance Corporation (FDIC). 2012. 2011 FDIC National Survey of Unbanked and Underbanked Households. http://www.fdic.gov/householdsurvey/.

[75] Mann, Ronald. "Patterns of Credit Card Use among Low-Income and Moderate-Income Households. In In Insufficient Funds: Savings, Assets, Credit and Banking Among Low- and Moderate-Income Households, edited by M.S. Barr and R.M. Blank, 66-96. New York: Russell Sage, 2009.

[76] Barr, Michael. "Financial Services, Saving, and Borrowing Among Low- and Moderate-Income Households: Evidence from the Detroit Area Household Financial Services Survey." In Insufficient Funds: Savings, Assets, Credit and Banking Among Low- and Moderate-Income Households, edited by M.S. Barr and R.M. Blank, 66-96. New York: Russell Sage, 2009.

Financial Worthiness
While low financial worthiness can be a reason why people are unbanked or underbanked, diminished financial worthiness can also be an outcome of the costs of being unbanked or underbanked. People who rely upon fringe financial services tend to have significantly higher rates of credit card late fees.[77] Overreliance on high-cost and/or predatory services can greatly lower borrowers' credit or Chex scores, causing debt spirals and further restricting access to cash.

Low asset accumulation

Disenfranchisement from mainstream financial services makes it more difficult for unbanked or underbanked communities to accumulate assets. It is already difficult for low-income households who live paycheck to paycheck to save for home purchasing, college, emergencies, or retirement. But being unbanked or underbanked also means fewer options for saving, or converting their savings into non-liquid assets.[78] Of one surveyed group of low-income households around Detroit, for instance, 42% had never saved and reported relying heavily on borrowing from alternative financial institutions, as well as friends and families, during times of financial hardship.[79]

According to one study, not only do whites as a whole possess twelve times the wealth of blacks, the lowest income whites are still generally better off than relatively high-income blacks.[80] While assets can take many liquid and non-liquid shapes, homeownership is one of the most important mechanisms of asset accumulation. Most unbanked households are renters,[81] and the general difficulty for unbanked or underbanked households to secure loans affects home ownership rates. The recent U.S. housing bubble, which burst in 2008, was

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[77] Barr, Michael. "Financial Services, Saving, and Borrowing Among Low- and Moderate-Income Households: Evidence from the Detroit Area Household Financial Services Survey." In Insufficient Funds: Savings, Assets, Credit and Banking Among Low- and Moderate-Income Households, edited by M.S. Barr and R.M. Blank, 66-96. New York: Russell Sage, 2009.
[78] Beverly, Sondra, Amanda Moore, and Mark Schreiner. 2001. A Framework of Asset-Accumulation Stages and Strategies. http://microfinance.com/English/Papers/Asset_Stages_and_Strategies.pdf.
[79] Barr, Michael. "Financial Services, Saving, and Borrowing Among Low- and Moderate-Income Households: Evidence from the Detroit Area Household Financial Services Survey." In Insufficient Funds: Savings, Assets, Credit and Banking Among Low- and Moderate-Income Households, edited by M.S. Barr and R.M. Blank, 66-96. New York: Russell Sage, 2009.
[80] Oliver, M.; Shapiro, T. 1997. Black Wealth, White Wealth: A New Perspective on Racial Inequality. New York: Routledge.
[81] Berry, Christopher. "To Bank or Not to Bank? A Survey of Low-income Households." In Building Assets, Building Credit, edited by N. Retsinas and E. Belsky, 47-70, Joint Center for Housing Studies and Brookings Institution Press, 2005.
http://www.jchs.harvard.edu/research/publications/bank-or-not-bank-survery-low-income-households.

fueled by predatory targeting of high volume of subprime and risky mortgages to households that could not afford them. As target market segments, black and Latino communities were heavily affected by the subprime mortgage crisis. Considerable literature exists on the relationship between race and home ownership and equity. A foreclosure study by United for a Fair Economy estimated that between 2000 and 2008, minorities spent up to $213 billion on subprime loans. The study further projects that, given current trends, it would take 594 years for blacks to achieve equal levels of median household net wealth to whites, and 5,423 years to achieve equal homeownership rates as whites.[82] Holding other factors constant, home equity and ownership rates are also lower in immigrant populations.

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Time costs

Despite the quite and convenient initial exchange to obtain a fringe financial service, unbanked and underbanked pay significant overall time premiums for financial transactions. While the average adult spends 28 minutes per month accessing cash, the unbanked are 50% more likely to pay higher time-costs for cash access.[83]

Reliance on other non-financial establishments for financial services

With limited access to financial services, unbanked and underbanked also rely upon non-financial institutions to make financial ends meet. Store credit and rent-to-own centers, which are not bound by the same regulatory standards as mainstream or even alternative financial institutions, can have significant impacts on consumer finances. Low credit availability is positively correlated with the use of store credit as substitutes for cash, credit, and bankcards.[84] Store cards tend to have higher interest and delinquency rates than bankcards, and many stores engage in tactics that encourage consumers to take on more debt.[85] Similarly, rent-to-own establishments can gouge borrowers with excessively high interest rates or fees for renting everyday appliances that they may need. According to the 2011 FDIC survey of underbanking, 12% of unbanked household and 13% of underbanked households had used rent-to-own services in the past.[86]

Mental and physical health

Sudden medical conditions can spur a household to unexpectedly deplete their funds and become unbanked or underbanked.[87] Rising healthcare costs are responsible for significant debt for many U.S. households, and may in part drive borrowers to alternative financial institutions to make ends meet. Even in the 1990s, medical costs factored into nearly 20% of bankruptcy cases.[88] Minority communities tend to feel the health impacts of financial hardship most severely. It is 13% more likely for banked black families, 11% more likely for

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[83] Chakravorti, Bhaskar and Benjamin Mazzotta. 2013. The Cost of Cash in the United States. The Institute for Business in the Global Economy, The Fletcher School, Tufts University.

[84] Lee, Jinook and Kyoung-Nan Kwan. 2002. Consumers' Use of Credit Cards: Store Credit Card Usage as an Alternative Payment and Financing Medium. Journal of Consumer Affairs, Vol. 36, No. 2.

[85] Higgins, Kevin. 1993. Ho Hum to High Rates. Credit Card Management, 6(1): 22-28.

[86] Federal Deposit Insurance Corporation (FDIC). 2012. 2011 FDIC National Survey of Unbanked and Underbanked Households. http://www.fdic.gov/householdsurvey/

[87] Rhine, Sherrie L. W. and William H. Greene. 2013. Factors that Contribute to Becoming Unbanked. Journal of Consumer Affairs, Spring 2013: 27-45.

[88] Jacoby, Melissa. 2002. Does Indebtedness Influence Health? A Preliminary Inquiry. Journal of Law, Medicine, and Ethics, 30(2002): 560-571.

banked Hispanic families, and 5% more likely for banked Asian families to become unbanked than white families due to sudden medical illnesses.[89]

Uninsured or underinsured populations were, unsurprisingly, most likely to have high medical debt. Medical debt was also found to be most common Hispanics, who also have the highest rates of being unbanked of all immigrant groups.[90] An in-depth study of medical debt among Hispanics found that respondents commonly were confused about the terms of their healthcare coverage, paid for medical bills with multiple predatory loans, and had anxiety about the debt that followed. Most of the medical debt was due to emergency room visits, although other uses of predatory loans ranged from non-emergency necessities like diabetes treatment to mundane items like buying contact lenses. Most respondents reported having foregone prior health treatments when they first noticed problematic symptoms due to lack of available funds at the time. Putting off early or preventative treatment only escalated the severity and costs of treatment when they did seek help.[91] In addition to original medical ailments, these respondents described feeling anxious and stressed over their medical costs. As one participant put, "I'm traumatized by bills." Some even required medication for the anxiety, though they could not always afford it.

But the relationship between health and finances can also go both ways. Researchers have also found that the tolls of financial hardship can have significant consequences for mental and physical health.[92] The relentless and high-pressure tactics of debt collectors—particularly from predatory lenders—for even small infractions can cause significant stress and anxiety, and lead to other stress-induced illnesses over time.[93] In another study by David Caplovitz of in-debt borrowers, roughly half of respondents reported experiencing health troubles and over 20% felt that their ailments were serious enough to warrant a visiting the doctor.[94] Many debtors also stop medical treatments to be able to make loan payments. A nationwide study found that mortgage delinquency increased the chances by 8.7 of debtors terminating medications.[95]

[89] Rhine, Sherrie L. W. and William H. Greene. 2013. Factors that Contribute to Becoming Unbanked. Journal of Consumer Affairs, Spring 2013: 27-45.
[90] Rhine, Sherrie L.W. and William H. Greene. 2006. The Determinants of Being Unbanked for U.S. Immigrants. Journal of Consumer Affairs, 40 (1, Summer): 21–40.
[91] Gray, Karen and Susy Villegas. 2012. The Intersection of Medical Debt and Predatory Lending among Hispanics. Social Work in Health Care, 51:2, 173-181.
[92] Ross, Lauren and Gregory Squires. 2011. The Personal Costs of Subprime Lending and the Foreclosure Crisis: A Matter of Trust, Insecurity, and Institutional Deception. Social Science Quarterly, Vol. 92, No. 1, 140-163.
[93] Jacoby, Melissa. 2002. Does Indebtedness Influence Health? A Preliminary Inquiry. Journal of Law, Medicine, and Ethics, 30(2002): 560-571.
[94] Jacoby, Melissa. 2002. Does Indebtedness Influence Health? A Preliminary Inquiry. Journal of Law, Medicine, and Ethics, 30(2002): 560-571.
[95] Alley from Squires

Relying upon alternative financial services can also affect health in more subtle ways. For example, dealing with debt can reduce borrowers' abilities to make health-conscious choices, such as seeking preventative treatments, buying nutritious foods, or exercising.[96] Medical troubles are also manifest in mental health conditions. People who are unable to make mortgage payments, for instance, were nearly 9 times likelier to have depression.[97], [98]

Crime

While empirically, individual consumers face a relatively low risk of cash theft due to personal crime, there is a correlation of property crime,[99] examining the greater ecology of alternative financial institutions reveals a correlation between fringe banking and neighborhood crime. Because fringe financial institutions are disproportionately located in low-income and minority communities that do display higher crime rates, it is difficult to pinpoint the degree to which fringe banking contributes to crime, but there are many theories about the relationship between underbanking and crime. First, neighborhoods with a high concentration of check cashers, payday lenders, and pawnshops are more likely to be targeted for crime because of the greater likelihood that homes and businesses may have a lot of cash on hand.[100]

More indirectly, others theorize that payday lenders and other alternative financial establishments are indicators of general neighborhood disorganization and decline. The disintegration of local institutions, economic distress, and societal instability in turn drives higher rates of neighborhood crime.[101]

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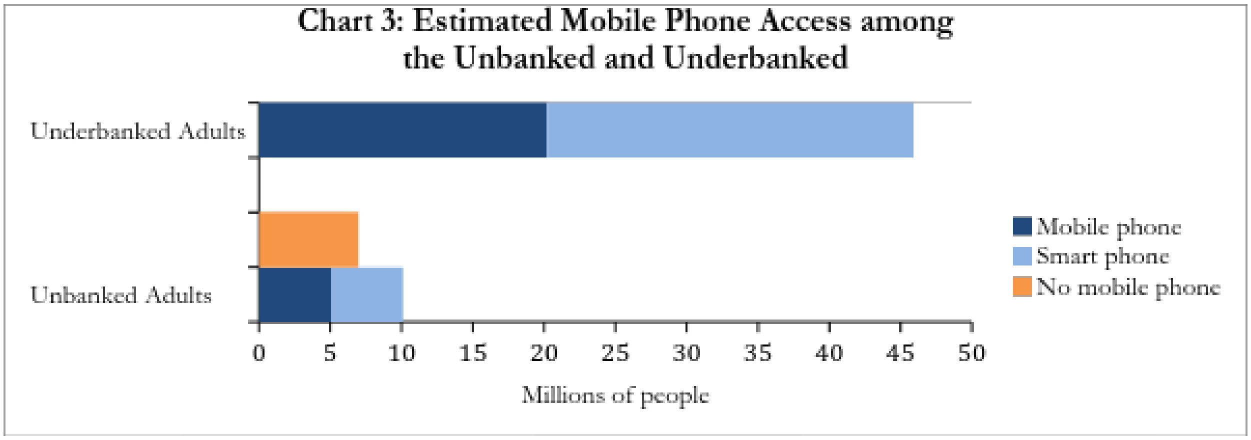
II. BANKING THE UNBANKED: THE PROMISE OF NEW TECHNOLOGY

THE USE OF ELECTRONIC FINANCIAL SERVICES IN UNBANKED AND UNDERBANKEDCOMMUNITIES

Electronic and mobile banking services have emerged as new mechanisms for reducing costs of being unbanked or underbanked. Electronic and mobile banking allows unbanked consumers to access lower cost financial services to leapfrog over mainstream financial institutions. Mobile banking allows consumers to interact with financial institutions and conduct financial transactions electronically. Electronic and mobile services can be used for money management, peer-to-peer (P2P) money transfers, bill payments, and retail transactions. These services can, but do not have to originate from, the mainstream banking industry. Credit card lenders, retail stores, and non-profit organizations currently offer various forms of mobile banking.

Despite being predominantly lower income households, a significant portion of the unbanked and underbanked have mobile phones. The Federal Reserve Board's 2013 analysis of mobile phone use among consumer groups showed that 87% of U.S. adults owned mobile phones. Within unbanked and underbanked communities, 90% (or 46 million adults) of the underbanked and 59% (or 10 million adults) of the unbanked have access to mobile phones. Rates of smartphone ownership (around 50%) are relatively constant among all mobile phone owners regardless of banking status.[102] As Table 3 illustrates, there is significant potential for unbanked and underbanked consumers to tap into mobile banking and reduce reliance on high-cost fringe services.

[102] Federal Reserve Board 2013.



Data calculated using FDIC 2012 and Federal Reserve Board

Overall, mobile banking is a common, but growing tool. While only 28% of all U.S. banks have mobile banking services, it is much more widespread in large banks, where 88% offer mobile banking options.[103] However, most banks with such services have not used mobile banking to specifically target the unbanked, demonstrating that significant opportunities to engage underbanked communities through mobile banking remain untapped.

Significant efforts to apply mobile banking tools to unbanked communities are also taking place overseas. U.S. institutions interested in addressing unbanked consumers through mobile banking may find that international efforts can shed more light on innovative and best practices. Internationally, there is a strong positive correlation between per capita GDP and usage of financial services. Over half of the global adult population (2.5 billion adults) do not use formal banking services. 62% of these adults reside in the Global South, where financial, governance, and broadband infrastructure are relatively underdeveloped, mobile phone usage is high.[104]

Bridging connections among international mobile or brick-and-mortar financial services is particularly important for U.S. households that send remittances back home. The Pew Hispanic Center reports that 42% of foreign-born Latinos (about 6 million adults) send regular remittance payments, and 70% of those rely on Western Union, MoneyGram, and other such companies to wire those funds.[105] If designed effectively, mobile financial platforms can offer the unbanked and underbanked remittance and other financial transactions at far lower costs than the alternative establishments they currently use.

[103] http://www.financial-mobility.com/articles/banking-the-unbanked-with-mobile-cash.html
[104] http://www.microfinancegateway.org/gm/document-1.9.40671/25.pdf
[105] http://pewhispanic.org/files/reports/23.pdf

EXISTING ELECTRONIC BANKING SERVICES

Mobile banking encompasses a variety of products and services at varying levels of accessibility to the unbanked. This report provides an overview of services that are already available on the market and highlight examples of some service providers in operation today. It is important to note that these services are mutually exclusive, and many are and can be integrated.

Mobile money

Mobile money is a form of virtual currency that can be used to make financial transfers or transactions. Mobile money can be connected to actual funds in bank or credit card accounts, but some platforms allow users to store financial credits and values separate from any existing accounts from financial institutions. Platforms based on mobile money can come in many shapes and sizes and include a wide variety of functions, payment methods, and money storage systems. Some primary types of platforms and examples of current providers are described below.

Partnerships with mobile carriers
Because mobile banking inherently entails the use of cell phones, some mobile banking services have originated from partnerships with mobile carriers. One of the most effective mobile platforms to come out of mobile carriers is **M-Pesa**, a branchless banking and microfinancing service currently operating in 5 countries. Originally the brainchild of the UK's Commonwealth Telecommunications Orgaisation and a poverty alleviation organization called Gamos, M-Pesa is operated by Safaricom and Vodacom, the largest mobile networks in Kenya and Tanzania. Users can deposit, withdraw, or transfer funds, as well as receive and repay low interest rate loans, giving microfinance lenders a competitive advantage in the market. Without the need to connect funds to existing bank accounts, M-Pesa quickly became the primary banking service for many previously unbanked consumers in East Africa. It has since expanded from just Kenya and Tanzania to also include Afghanistan, South Africa, and India.

Mobile banking through mobile operators is not very prevalent in the United States, although AT&T smart phones now all come preloaded with Isis, a mobile wallet company described in more detail in the following section.

Mobile operators can also help the unbanked and underbanked access electronic and mobile financial provision by providing customers with a **direct carrier billing** option to pay other types of bills. Rather than receiving separate bills for purchases or other transactions, customers enrolled in direct carrier billing will be charged these costs as part of a monthly mobile phone bill. Direct carrier billing can generally only be used for digital purchases and is mostly commonly available for charity donations or online store purchasing, but can have the potential to cover a wider array of transactions in the future.[106]

Mobile wallets

Aimed at reducing the cost and increasing the convenience of financial transactions, mobile wallets allow consumers to pay for goods and services through mobile phone devices without having to rely upon cash, checks, or bank cards. Mobile wallets, which store virtual versions of existing payment instruments (typically bank and credit cards, but also including coupons, store cards, and transit tickets), can offer a range of services. Some of these services include money transfer to friends and family, money management, retail purchasing, and loyalty and retail discount programs. The virtual funds contained in mobile wallets are secured by unique PIN and ID numbers that must be entered before completing a transaction. The security verification and fraud monitoring that accompanies mobile wallets makes it safer to carry than physical wallets, whose contents can more easily be spent or misused in the case of theft.

Usually, mobile wallets entail partnerships with a set of payment cards, such as major credit cards, retail stores, and banks. Some products, such as Google Wallet and Isis (a mobile wallet available in Austin and Salt Lake City), only work by connecting existing bank and credit card accounts to mobile apps, and therefore cannot be used to serve the unbanked. But not all mobile wallets require bank accounts.

PayToo is one such mobile wallet that can accommodate unbanked consumers. Unlike many other mobile wallets, PayToo does not rely upon bank or credit card accounts (although consumers can also connect their accounts to the mobile wallet). Customers can make direct cash or check deposits to their PayToo accounts. The funds are then available for withdrawal at over 1 million ATMs across the world with a PayToo card, or at physical PayToo cash-out stations; free money transferring and wiring in 200 currencies to other PayToo accounts or regular bank accounts; shopping at participating retail stores; and even VoIP calling. Their international presence allows customers to also easily send remittances to home countries.

[106] http://www.bostonfed.org/bankinfo/payment-strategies/publications/2012/mobile-phone-technology.pdf

PayToo has rolled out other specific programs for unbanked customers, including a partnership with Grand Prix Motors, a New York-based car company.[107] Through this partnership, customers who may otherwise face difficulty or high fees to secure auto loans are able to access credit to buy, trade, or lease new and used vehicles. Grand Prix Motors even provides at-home vehicle delivery for customers who do not live near their four dealerships that accept the mobile wallet.

GCASH is another mobile wallet service in the Philippines that can serve the unbanked. Like many other mobile wallets, GCASH customers can transfer funds, pay bills, and send remittances or donations through both mobile and computer platforms. GCASH is accepted at 7,000 vendors in the Philippines and can be used for most major utility, credit card, and phone bills. With no service fees for basic banking, and a 1% fee for peer-to-peer money transferring, GCASH is very affordable, but has recently instituted a P50 ($1.16 USD) account monthly maintenance fee.

Mobile bill payments

Many mobile banking services, including some of the products covered above, allow customers to pay certain bills via mobile phones. Many entities are re-thinking how they can move from paper bills to mobile payments, thereby reducing labor, transaction, and material costs of billing.

In the spring of 2013, **US Bank** introduced a photo mobile bill pay service allowing users to capture photos of bill stubs with cell phone cameras, add billing accounts to their mobile devices, and pay those bills from mobile US Bank accounts.[108] While this service is part of a major U.S. bank, there are many other mobile bill payment options that can bypass banks and these services do not need to be initiated through banks themselves. Payment-collecting institutions, including government agencies, have also been leaders in mobile bill payment. Many researchers have floated the idea of moving to electronic direct deposits of Earned Income Tax Credit (EITC) funds.[109] In 2012, the Dubai Smart Government Department in the United Arab Emirates launched a mobile app for paying government bills and fines. Dubbed mPay, the app currently has 13,000 users who have made AED 15 million ($4 million USD) of payments to the Dubai Police, Dubai Electricity and Water Authority,

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107 http://www.prnewswire.com/news-releases/unbanked-consumers-access-to-auto-leasing-or-financing-thanks-to-the-paytoo-mobile-wallet-205962561.html

108 http://bucks.blogs.nytimes.com/2013/03/14/next-in-mobile-banking-photo-bill-payments/?_r=0

109 Sherrie L. W. Rhine, William H. Greene and Maude Toussaint-Comeau. 2006. The Review of Economics and Statistics, Vol. 88, No. 1 (Feb., 2006), pp. 146-157.

Roads and Transportation Authority, and Emirates Telecommunications for various bills and fines.[110]

Prepaid cards

Mobile money can also be extended to unbanked consumers through prepaid cards. The **Walmart Mobile Money Card** is a reloadable prepaid card that allows customers to receive direct deposit payments, conduct online money transfers, reload the card, and manage funds via mobile phone. The phone app also allows customers to locate nearest Walmart locations, where they can also access services at the physical stores. Since funds are stored through the money card, no bank accounts are required to use the product. Walmart does not require proof of citizenship to open a money card. Moreover, since many rely upon Walmart for basic check-cashing services, the store is well-positioned to bring unbanked and underbanked markets into mobile banking.[111] A more detailed analysis of prepaid cards follows in the "Comparison of Cards" section.

Peer-to-Peer Lending

Peer-to-peer (P2P) lending has radically transformed loan opportunities for many people around the world by creating a new method for making and receiving personal loans. P2P lending makes loans more accessible to the unbanked by circumventing financial institutions that typically serve as providers or intermediaries of lending. Instead, individual lenders and borrowers are connected through online platforms. P2P lending entails virtual community building, typically around social issues, that connects borrowers with a wide network of investors. Features on many P2P platforms, such as profile postings and message boards, are aimed at fostering a sense of community such that investors can learn about borrowers' livelihoods and needs on a more personal level. P2P loans also tend to be small-scale, and many investors can contribute to a single project, decreasing investment risks for any single lender.

Many P2P lending platform are aimed at international development lending. **Kiva** is one of the largest international P2P non-profit. Founded in 2005, Kiva's mission is to alleviate global poverty through P2P microfinancing. In Kiva's model, vetted local microfinance institutions located around the world, serve as Kiva Field Partners to identify, assess, and select individuals or communities seeking funds for local initiatives. Once selected, borrowers post descriptions of their loan needs to the Kiva website, where investors can browse and select projects to which they would like to contribute. Most borrowers request

[110] http://www.futuregov.asia/articles/2013/oct/07/dubai-revamps-government-bill-payment-mobile-app/
[111] http://www.financial-mobility.com/articles/banking-the-unbanked-with-mobile-cash.html

funds for a range of needs, including making capital investments in start-ups (such as buying agricultural supplies to start small-scale commercial agriculture), undertaking local infrastructure construction or improvement projects (such as building wells, latrines, or water treatment facilities), and financing education for promising rural students.

Lenders receive period progress updates on any projects they have funded and receive the loans back in the form of Kiva Credit, which can either be re-invested or withdrawn from the Kiva platform. Kiva has a 99.03% rate of repayment, and requires Field Partners to adhere to the Client Protection Principles code of conduct for loan collection, although Field Partners are generally given the discretion to use loan collection methods of their choosing. Throughout the process, Kiva is responsible for conducting due diligence on governance, management, personnel, auditing, liquidity, and transparency for Field Partners, as well as continued monitoring and rating of Field Partner operations. Table 1 provides a snapshot of Kiva's performance to date.

Table 2: Kiva lending snapshot	
Total amount lent	$480,475,550
Number of loans made	616,569
Kiva lenders	1,000,875
Borrowers funded	1,141,060
Field Partners	225
Countries where Field Partners are located	72
Repayment rate	99.03%
Average loan amount	$409.38
Average number of loans made per lender	9.93

In April 2012, Kiva launched a new pilot program called **Kiva Zip** for membership-based direct lending through mobile money. Currently, the program is only available in Kenya and the United States. It allows for the instant transfer of as little as $5 of funds with 0% interest. Kiva Zip differs from the regular Kiva platform in that Zip members can be borrowers, lenders, or trustees. Trustees are individuals who identify and endorse borrowers based on creditworthiness, character, and other criteria. Unlike the more rigid credit scores, Kiva Zip credit worthiness assessments are more holistic to account for people who have no credit history or do not participate in formal banking services. So far, the program has been fairly successful: in the first year of operation, Kiva Zip conducted over $1 million of transactions. The repayment rates are 91.3% in Kenya and 85.5% in the United States.

The community-building aspects of P2P lending are very apparent in Kiva and Kiva Zip's platforms. Kiva investors make an average of about 10 loans, and the trustee function of Kiva Zip is based upon creating a member-based network that relies on personal vouching for borrowers.

While Kiva is a major player in the P2P sector, there are also many other platforms available. **Prosper** offers an alternative model in which investors can specify the type of loan they would like to make from a set of criteria and select borrowers that match those requirements. Prosper does not have a social justice mission. The types of loans funded on Prosper include: debt consolidation, home improvement, auto, small business, baby/adoption, engagement ring, wedding, green, military, and personal loans. As the intermediary, Prosper requires documents, such as proof of employment, sources of income, and credit bureau data to provide tiered levels of borrower verification. Prosper also rates borrowers through Prosper Ratings, which indicate the risk level of lending to individual borrowers based on credit worthiness. Prosper's current interest rates range from 6.73%-35.36% APR, depending on a borrower's Prosper Rating. Currently, Prosper includes 1.9 million members and has funded $650 million totally in loans.

Lending Club is another platform that aims to develop alternatives to mainstream banks. Lending Club allows members to directly invest in and borrow from each other, eliminating the banking system from the equation. There are no prepayment penalties or hidden fees. It also allows investors to directly capture interest on loans. To date, $2.6 billion of loans have been funded through Lending Club, generating $232 million in interest to investors.

P2P lending can be a particularly effective forum for the unbanked by facilitating below market-rate loans within a group of people. Because P2P lending does not have to rely upon credit score, it can allow unbanked or underbanked borrowers to access funds they might not otherwise be able to through mainstream banking, or that they could have gotten at a high cost through subprime lenders. Lending through these platforms is highly contingent on creating a sense of community. P2P lending may be a way to more effectively allow communities that already exist—for example, religious groups, organizations, and friends—to conduct low-cost transactions. Alternatively, P2P platforms can actively foster a virtual community by personalizing loan requests. Even P2P lenders that use credit scores often supplement credit scores with alternative determinations of financial worthiness, such as trustee vouching in Kiva Zip.

This can be a challenge, however, for borrowers with limited resources or literacy. Successfully attracting funds can require a significant degree of marketing savvy to attract a high volume of small lenders. Writing compelling descriptions of project ideas or borrower profiles is a skill. Many borrowers also supplement text with videos and photos. As such, P2P lending can fall into a trap of favoring borrowers with more access to resources.

Because loan amounts come from many sources and are usually not very large, risk is spread across multiple lenders. At the same time, assessing credit worthiness can be tricky. Prosper, for instance, excluded lowest-quality borrowers after many could not pay back the loans. After doing so, default rates have since improved.

CHALLENGES OF ELECTRONIC BANKING FOR THE UNBANKED AND UNDERBANKED

Although mobile banking can have great potential to help alleviate burdens of un/underbanking, many logistical and operational challenges remain. Because they are meant to supplant participation in mainstream banking, effective electronic or mobile financial platforms should allow the unbanked and underbanked to use a range of services for financial transactions and overall money management. The following are some key considerations and challenges in applying electronic and mobile banking to the unbanked and underbanked.

- *Technological access*: Because access to the Internet is a critical component of most types of mobile banking, many unbanked and underbanked people will not be able to use mobile banking services. Rates of smartphone access are particularly low among unbanked communities, who would benefit most from mobile banking.

- *Cooperation*: As the many examples of existing electronic banking services show, some of the most effective services have come out of strong partnerships among banks, mobile operators, third party payment providers, and government agencies, who do not necessarily interact with each other on a regular basis. Creating opportunities for these disparate groups to develop solutions for the unbanked and underbanked requires innovative thinking about how to strengthen service provision and extensive logistical coordination.

- *Institutional adaptation*: Implementing mobile banking across banking institutions, government agencies, and retail institutions will require significant updates to web and technological infrastructure, as well as regulatory changes to govern a new process for conducting commerce and financial transactions. For example, using mobile transfers to deliver EITC payments will entail new systems of data collection and record-keeping from the federal government that may take years to accomplish. Thus, while there are countless places that might benefit from allowing mobile banking options, it may take significant capital and labor investments to make this mobile banking a more widespread and convenient option for the unbanked and underbanked.

- *Education and outreach*: Efforts to spread awareness and build financial literacy will still be necessary to reach those who have access to the required technology. Electronic and mobile banking are still relatively nascent ideas—even for the general public. Working with people with low literacy rates or lack of familiarity with mobile technology will be a challenge. Key to engaging higher rates of unbanked and underbanked consumers will be developing clear, user-friendly interfaces for electronic and mobile banking that are intuitive and easy to use.

- *Security*: Entrusting personal finances to mobile platforms that may be targeted by hacking and fraud is no trivial commitment. Issues of securing personal financial information on the cloud are not unique to unbanked and underbanked consumer segments. But because levels of distrust in financial institutions tend to be higher among the unbanked and underbanked, service providers must take extra care to build trust with these communities.

COMPARISON OF CARDS

Prepaid cards constitute a large and growing segment of consumer transactions, particularly among minority, low-income, and other underserved communities. In 2009, 6 billion prepaid card transactions were conducted in the U.S., valued at more than $140 billion.[112] The use of prepaid cards rose by 18% in 2011; by contrast, ownership of traditional checking accounts, savings accounts, credit cards, and debit cards decreased during the same period.[113]

Financial service providers offer a wide range of prepaid cards with different features that target unbanked and underbanked consumers. In the U.S., 8.2% of households are unbanked, while 20.1% are underbanked.[114] These groups may not use bank accounts for a number of reasons, including insufficient funds or liquidity to open or maintain an account, lack of banks in their community, distrust of financial institutions, and lack of information. In addition, some people may not be able to qualify for a standard credit card, or otherwise have bad credit or no credit history.

Accordingly, prepaid cards available on the market differ in terms of the services offered and the value to consumers. In the context of prepaid cards, value covers the dimensions of price and convenience. The common service that prepaid cards provide is that they enable cardholders to make electronic financial transactions for purchases and bill payment. In addition, many cards permit users to obtain cash from automated teller machines (ATMs).

This report presents findings on the cost of obtaining and using popular prepaid debit cards. The study is based on an analysis of over 20 prepaid cards offered by major financial institutions and 7 prepaid cards that are endorsed by celebrities.

REPORT

Scope

This study is not intended to be a comprehensive list of all prepaid cards available to consumers. Indeed, new cards are constantly appearing on the market, so a complete list may not be possible. Instead, this report examines selected cards across categories that are broadly representative of the range of cards available to

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[112] "Report to the Congress on Government-Administered, General-Use Prepaid Cards." (2012). Board of Governors of the Federal Reserve System. Washington, DC.

[113] "Prepaid Cards and Products in 2012: Enabling Financial Access for Underbanked and Gen Y Consumers." (2012). Javelin Strategy and Research. Pleasanton, CA.

[114] "Prepaid Cards and Products in 2012: Enabling Financial Access for Underbanked and Gen Y Consumers." (2012). Javelin Strategy and Research. Pleasanton, CA.

consumers. The intent is to provide an accurate snapshot of the types of cards that are commonly used by consumers.

Evaluation Criteria

Prepaid cards can be evaluated along multiple dimensions from the standpoint of consumers, financial service providers, and businesses. This analysis adopts the perspective of consumers to compare and evaluate available cards. The study employs commonly used criteria, including price and convenience.

Price consists of the range of fees involved in: a) card activation, b) card use, and c) card maintenance. Additional fees can be charged for reloading money onto a card, withdrawing cash from an ATM, inquiring about the available balance, and making a purchase without sufficient funds on the card. It is important to note that actual price will vary for consumers based on how frequently they use a prepaid card and what services it is used for.

Convenience includes factors such as the ease at which cards can be acquired and used. Consumers are interested in obtaining cards in a simple and straightforward manner. In addition, cardholders may have questions or experience problems that require assistance from customer service representatives.

ASSESSMENT

In evaluating the best prepaid cards for consumers, this study considers cards in two categories: 1) standard cards, typically offered by major financial institutions, and 2) cards endorsed by celebrities. In general, standard cards are better for consumers than celebrity-endorsed cards, many of which charge high fees. The report also includes an extended description of a government-sponsored prepaid card that is exclusively available to recipients of federal benefits.

1) Standard Cards

Excellent

Overall, the American Express Prepaid Card and the American Express Bluebird Prepaid Card feature some of the lowest fees on the market. For both of these cards, there is no fee for card activation, monthly account maintenance, or account inactivity. In addition, cardholders are not charged a fee for declined purchases, calls to customer service, or paper account statements. ATM withdrawal fees are relatively low, in comparison to other cards.

Cardholders can add funds to their cards online or by phone, using direct deposit, an existing checking or savings account, or cash. There is one drawback for cardholders who want to load funds using cash: card users must purchase a Green Dot MoneyPak or Vanilla Prepaid Reload for a fee of $3.95-$4.95. The major disadvantage of these cards is that American Express is not as widely accepted by retailers as MasterCard or Visa.

Very good

The Americas Card, H&R Block Emerald Prepaid MasterCard, and Western Union MoneyWise Prepaid card are very good choices for most consumers. These cards are similar to the American Express cards in that there are no fees for card activation or monthly account maintenance. Fees for ATM withdrawals are comparable. However, these cards will deduct between $2.50 and $3.00 per month from cardholders accounts for prolonged periods of inactivity.

Good

The AchieveCard Prepaid MasterCard, Stagecoach Prepaid Card, and Netspend Visa Prepaid Debit card all feature no card activation fees or monthly maintenance fees. ATM withdrawal fees are also similar to the cards mentioned above. The major difference is that these cards charge higher fees for periods of account inactivity or, in the case of the AchieveCard, will close the account altogether.

2) Celebrity Cards

Despite their popularity, celebrity cards are a bad choice for most consumers because of the high fees charged. Among the celebrity cards considered in this study, only the MYPLASH Teen Card and SpendSmart Teen Card do not charge activation fees. All of the celebrity cards charge account maintenance fees, which can reach up to $9.95 per month. ATM transaction fees are similar to those charged by standard prepaid cards. A notable exception is the MAGIC Prepaid MasterCard, which allows cardholders to use in-network ATMs for free. Many of the cards do not offer live customer support to deal with problems, or charge for this service.

3) Government Card

The U.S. Treasury Department now offers its own debit card, called the Direct Express card. The card is available only to individuals who receive federal benefits or their representative payees. The Direct Express card was developed in response to new rules that require the Treasury Department to make all federal benefit payments electronically. (Examples of federal benefits include Social Security payments, Supplemental Security Income, and Veterans Administration compensation.)

Federal benefit recipients may receive their payments by direct deposit to a bank or credit union account. For those recipients that do not have a bank account, the Treasury Department offers the option to receive payments through the Direct Express card. (Benefit recipients who have a bank or credit union account are still eligible to receive their payments through the Direct Express card.)

The Direct Express card, which was developed in partnership with MasterCard and carries the MasterCard logo, operates like a standard prepaid debit card. Cardholders can make purchases, pay bills, and obtain cash from ATMs or financial institutions, provided that the vendor accepts Debit MasterCard.

The Direct Express card is the cheapest card available. There are no fees for card activation, monthly account maintenance, or cash-back with purchase. Cardholders are not charged a fee for ATM balance inquiries, ATM denials, or calls to customer service. In addition, the card offers many other services free of charge, including deposit notification and low balance notification by phone, e-mail, or text message. (Monthly paper statements are available for a fee of $0.75).

Cardholders are entitled to one free ATM cash withdrawal in the U.S. for each deposit to their Direct Express card account. Additional ATM cash withdrawals in the U.S. are charged at $0.90 per withdrawal. (ATM cash withdrawals outside of the U.S. are charged a $3.00 fee plus 3% of the withdrawn amount.)

Despite the extremely low usage cost, the Direct Express card has some limitations. First of all, the card is limited to federal benefit recipients. Individuals who do not receive cash assistance from the federal government are not eligible to obtain the Direct Express card. Second, individuals cannot deposit personal funds onto the card. Therefore, card use is limited to the amount of federal benefits that a cardholder receives, regardless of other sources of income.

To sign up for this service, benefit recipients must call the Treasury Department or visit the Direct Express website and provide their 12-digit federal benefit check number and the amount of their most recent federal benefit check.

EXAMPLES OF NEW TECHNOLOGIES

Given how competitive cards are on the higher end of the spectrum, a key advantage for MasterCard would be in developing partnerships with organizations and institutions able to make creative use of credit card technology in new areas such as crowd financing and bulk purchasing, supporting sustainable businesses, online education, selling locally manufactured 3D printed products, and so on. Some examples of such new technologies are featured below.

1. B CORPORATION (www.bcorporation.net)

B Lab is a non-profit dedicated to using the power of business to address social and environmental problems. Their website states, "B Corp certification is to sustainable business what Fair Trade certification is to coffee or USDA Organic certification is to milk. B Corps are certified by the nonprofit B Lab to meet rigorous standards of social and environmental performance, accountability, and transparency. Today, there is a growing community of more than 840 Certified B Corps from 27 countries and 60 industries.

B Lab is the entity that certifies B Corporations. B Lab is building a global movement to, "compete not only to be best in the world, but best for the world." Those companies have over 30,000 mission-aligned employees and over 20 million committed followers and consumers. B Lab is engaging member businesses through its "B the Change" campaign to celebrate and reward people who support using business as a force for good. We met with the co-founder of B Lab, Andrew Kassoy, to discuss MasterCard. Andrew would like to create a mission-aligned credit card that can engage all of those people in thinking more deeply about their consumption, employment, and investment decisions. B Lab would market the card to their existing business partners and through them to their costumers.

2. NEW MANUFACTURING (INCLUDING FAB LAB)

Digital technology is entering its third wave. The first wave was the transition from huge computers the size of UHaul trucks to today's laptop computers. The second wave focused on social media. The third phase is focusing on manufacturing. The developments in this area are at least as dramatic as the first two, although this revolution is at a very early stage. To get an idea of the range of applications of digital technology for manufacturing, please see the MIT Fab Lab website (http://fab.cba.mit.edu/about/faq/). The technology that has grabbed the most headlines is 3D printing. 3D printing, also called additive manufacturing, is a process for making solid three dimensional objects by the successive laying of material in different shapes. A materials printer usually works through commands coming from a computer. The market for 3D printers jumped 30 percent last year to $2.2 billion. 3D printing is currently being used in many industries from foods to architecture, construction, automotive, aerospace, bio-engineering, footwear, engineering, and many other areas. The Economist (4/27/13) wrote that, "additive-manufacturing machines, popularly known as three-dimensional (3D) printers. . .run unattended day and night, seven days a week. Though it is not yet ready for use in mass production (building things up is slower than trimming them down), 3D printing is excellent for making prototypes, customised jobs and short production runs, for there is no need to retool each time the specification changes. All that need be done is to alter the software that controls the print heads. Western countries led the development of 3D printing, and the technique has been praised by Barack Obama as a way to revive America's manufacturing industries. It may yet do so." Many argue that 3D printing will become a large mass market because of the dramatically lower cost of producing objects via open source (or non-open source) 3D printing. For example, broken parts on appliances that cost $40 to purchase from retailers like Sears can be produced with 3D machines for less than $1. Houses can be constructed using digital technology (sending instructions to a router rather than a 3D machine) that fit together like Lego, not requiring nails or screws, and requiring only a mallet to assemble. The cost of such houses may be one tenth or less than current construction costs, while offering superior quality.

The new technology in manufacturing is sometimes called "distributed manufacturing" because the barriers to entry into this kind of production are so low that manufacturing can take place at a community level (in garages and basements). An opportunity for MasterCard could be to partner with an emerging force in the field such as FabLab to eventually become the preferred platform for 3D manufacturers to sell their products.

3. GREEN BANKING

In addition to the Rosebud program, there are also networks of "green banks" that might be promising partners for MasterCard in developing its brand as a progressive community partner. The Global Alliance for Banking on Values, for example, is committed to using finance to deliver sustainable development for unserved people, communities, and the environment. The network includes dozens of banks worldwide. A representative of this group works with CoLab and is interested in meeting MasterCard at MIT.

4. CROWD FINANCING

Crowd funding websites such as kiva.org, kickstarter.com, and prosper.com are proliferating. They typically use credit cards or PayPal to solicit contributions and investments or loans for projects or businesses. What could be developed through MasterCard technology are raising funds for discrete group based projects such as raising equity for building food markets in low-income communities, working with labor unions and churches with large immigrant populations to fundraise for projects in their home countries, or many other potential group projects.

An organization using this approach to organize community block purchasing (thereby securing better prices for consumers) is called Groundswell (http://www.groundswell.org/about/). We met with Will Byrne, one of the founders of Groundswell, who would be interested in pursing potential partnerships with MasterCard.

5. ONLINE EDUCATION

Another rapidly moving area of digital expansion is online education. For example, EdX is a non-profit created by Harvard and MIT that has expanded to a growing number of leading universities. EDX promises to "bring the best of higher education to students around the world. EdX offers MOOCs and interactive online classes in subjects including law, history, science, engineering, business, social sciences, computer science, public health, and artificial intelligence (AI)." (https://www.edx.org/how-it-works) EDX is expanding so rapidly that they anticipate reaching millions of students through online courses in the near future. MIT and the other universities have not yet decided on revenue models. However, most universities are leaning towards charging a low fee for online courses while enhancing their revenues by reaching far, far greater numbers of students than they currently reach. It is not hard to imagine MasterCard partnering with universities to offer payment services for online education through a MasterCard platform. Such conversations could be initiated with MIT.

6. LOW-WAGE WORKERS

Large organizations of low wage workers such as janitors, homecare workers, security guards, or restaurant workers include trade unions such as SEIU, HERE, and AFSCME as well as emerging "worker center" organizations such as National Day Laborers Organizing Network (NDLON), the Domestic Workers Alliance (DWA), and the Restaurant Opportunities Center (ROC). The members of these groups are precisely those who are frequently victimized by predatory financial services. It is likely that many of these organizations would be interested in partnering with MasterCard to sign up employers to use MasterCard's platform to enable their members to avoid costly financial services while improving their credit status. Many of the leaders of the above organizations are already engaged in a collaborative process to improve their effectiveness being coordinated by the Community Innovators Lab at MIT (CoLab). CoLab could serve as a platform for MasterCard to collaborate with these groups to generate joint projects and agreements.

7. REMITTANCES

Remittances from the US constitute a major source of income for many nations in the Caribbean and Central America. Remittances to Haiti, for example, are close to $2 billion a year. The elected leader of Haitians in the US is a Miami attorney named Maggie Austin. It might be possible to partner with the Diaspora network to use the MasterCard platform as a preferred means of transferring money to Haiti. If successful in Haiti, it could be replicated elsewhere. An added benefit for the Diaspora might be to use the MasterCard platform to crowd-source funding for development projects or other initiatives in Haiti.

8. NATURA

Natura Cosméticos S.A. is the Brazilian manufacturer and marketer of beauty products, household, and personal care, skin care, solar filters, cosmetics, perfume and hair care products. The company sells products through representatives in many countries across the world, but primarily markets its products through 700,000 sales "consultants" in Brazil, with 300,000 "consultants" in Mexico and Columbia. Natura is very committed to environmental sustainability. Istoé Magazine named Natura as its "The most valuable brand in Brazil [in] 2008," and according to the company, its business is "ethics and aesthetics." Natura's CEO is an active participant in a 'transformative leadership' program connected to CoLab at MIT. In addition to ecological sustainability, he is interested in improving the material welfare of his network of "consultants" and their communities. One potential partnership for MasterCard might be to connect with Natura. Natura could potentially use MasterCard to process transactions through their "consultants," the MasterCard platform might then potentially serve as a crowdsourcing mechanism to enable "green" improvements in neighborhoods where the consultants live.