



» 2020 Report

Up and to the right:
payment card issuing grows
in the 21st century

If the success of a product can be measured in terms of consistent growth decade after decade, then the humble payment card is one of the most successful products of all time.

Since Bank of America launched the first consumer credit card in 1958, card payments have grown to make up more than 45% of all point-of-sale payments made each year, according to the World Bank. And depending on the country, payment card penetration can be much higher. For example, in the United States card payments make up more than 75% of all payments made each year, according to the U.S. Federal Reserve.¹

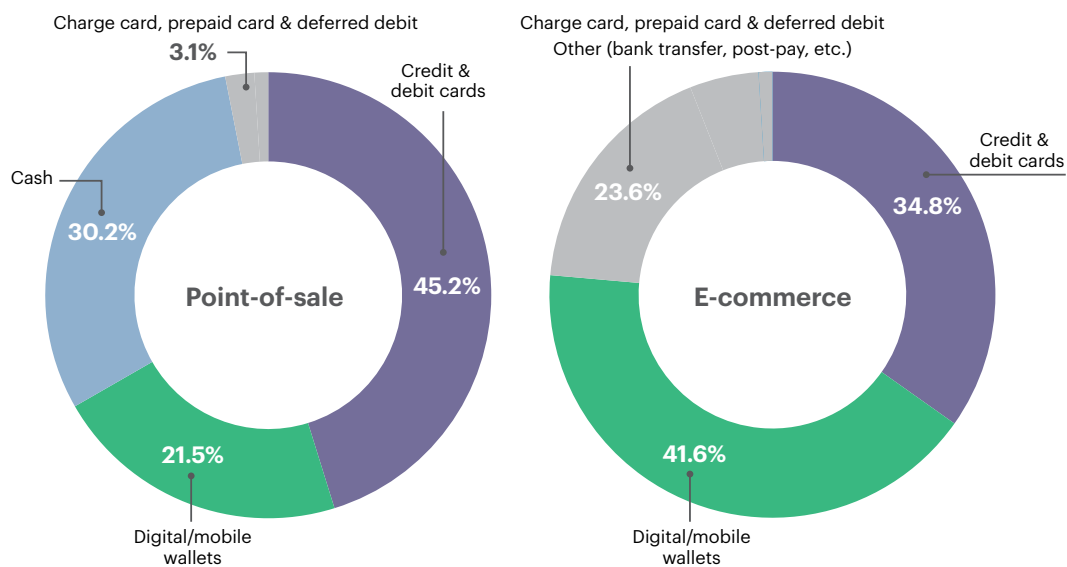
The business of payments seems to be immune to the law of large numbers. During the most recent decade for which data is available, the number of transactions processed by the five largest U.S.-based card networks increased by 224%. The volume of those transactions, measured in billions of dollars, grew 143%. During that same period, the U.S. real gross domestic product (GDP) increased just 39%.

In 2018, the volume of payments and cash advances processed by the five big American card networks was \$18.94 trillion — larger than the real GDP of the European Union.² And payment cards may have yet to hit their stride. Trends such as an increased emphasis on financial inclusion, the rise of modern card issuing and processing platforms, the minimization of fraud, the growing popularity of digital wallets, and the flight from cash into cards will support strong growth well into the 21st century.

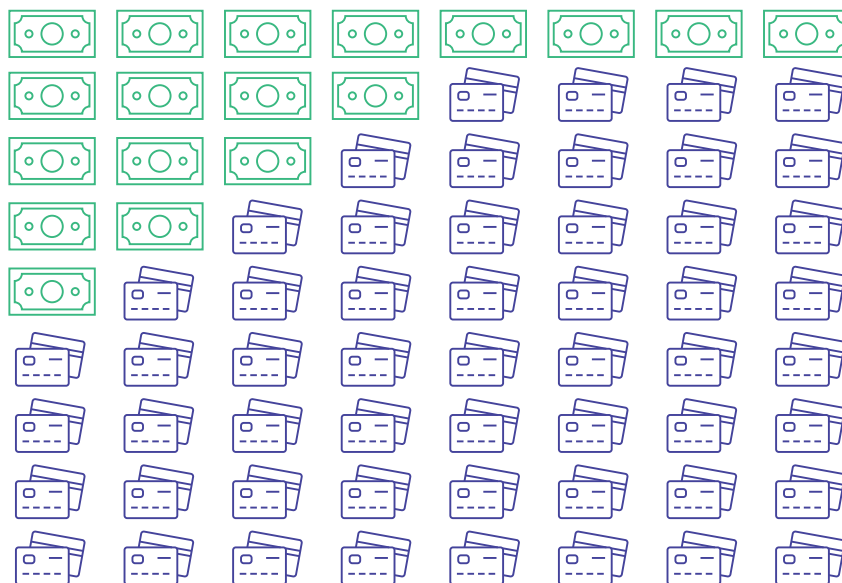


Payment cards have become the world's most popular way to pay

Global payment methods online and in-store in 2019*

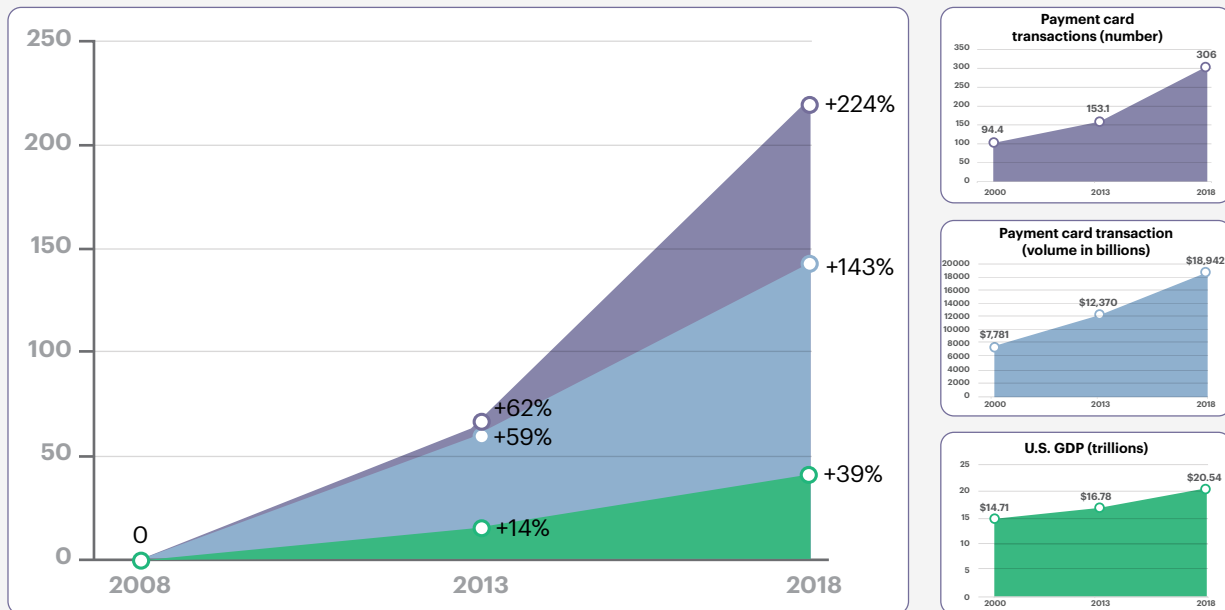


Three out of every four payments in the U.S. are made with a payment card*

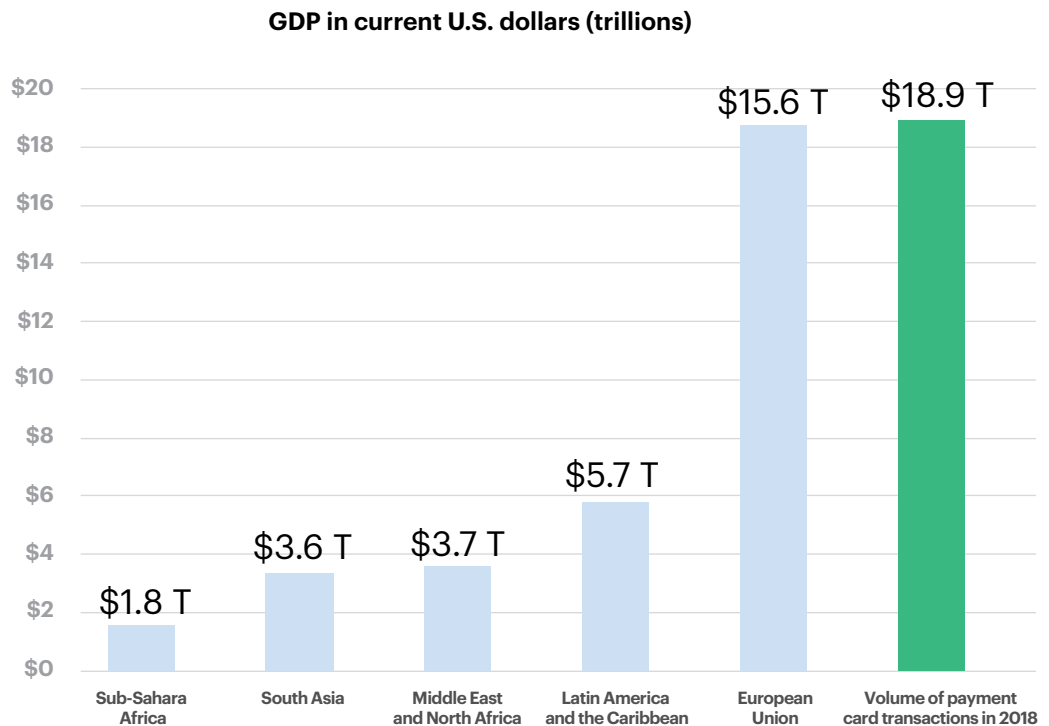


* Sources: FIS:Worldpay, Global Payments Report, January 2020 and The 2019 Federal Reserve Payments Study

Payment card use is growing almost 6x faster than the U.S. GDP**



The volume of payment transactions exceeds the GDP of most regions of the world**



** Sources: FIS:Worldpay, *Global Payments Report*, January 2020; Visa, 10-K for the fiscal year ended September 30, 2019; data.un.org; The World Bank Group, data.worldbank.org/indicator/NY.GDP.MKTP.CD; and *The 2019 Federal Reserve Payment Study*

Everywhere you want to be

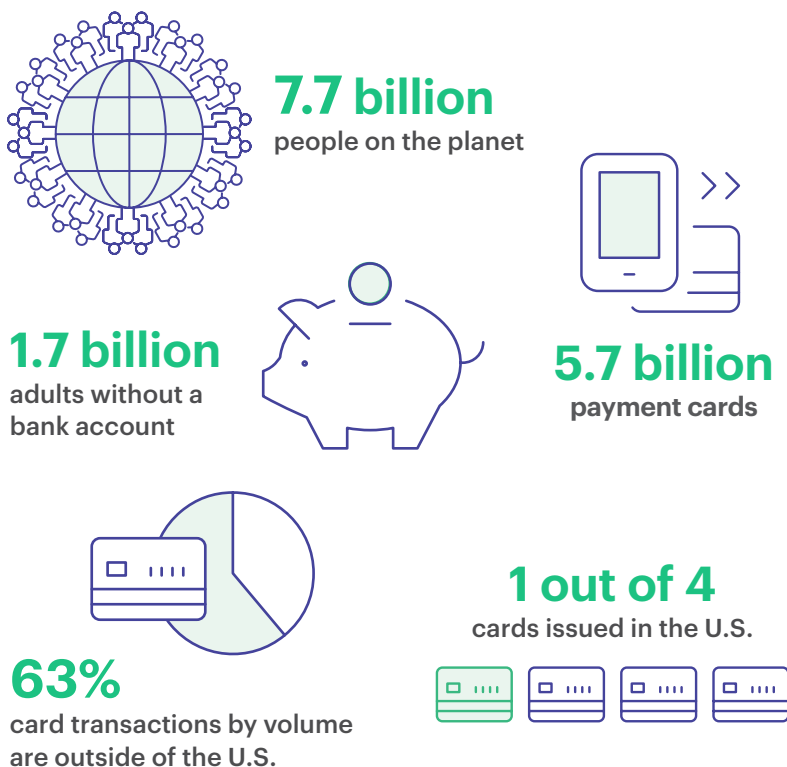
This classic Visa slogan, which debuted 35 years ago, today sums up the global nature of the payment card market. While credit cards are closely associated with the American lifecycle, payment cards are popular all over the world. Out of the 5.7 billion cards registered for use by the big five card networks in 2018, only one out of every four cards was issued in the United States. The volume processed in the United States — \$6.991 trillion — represented 37% of the worldwide volume.³

Much of the global payment volume is currently concentrated in high-income economies where at least 80% of the adult population said they used a debit or credit card to make at least one purchase in the prior 12 months. That number dropped to 22% in developing countries.⁴

The low use of debit or credit cards reflects the high number of people without a bank account in countries like China, India, Pakistan, and Indonesia. According to the World Bank, there were 1.7 billion adults without an account at an institution or through a mobile money provider as of 2017.⁵

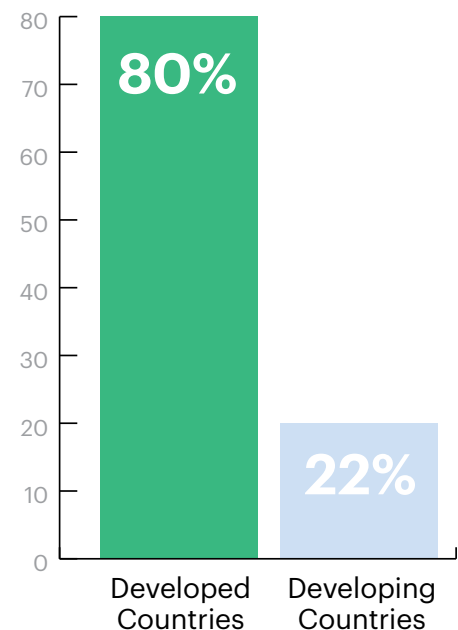
The future of payment cards is global, since most cards are issued outside of the United States

People, payment cards, and bank accounts

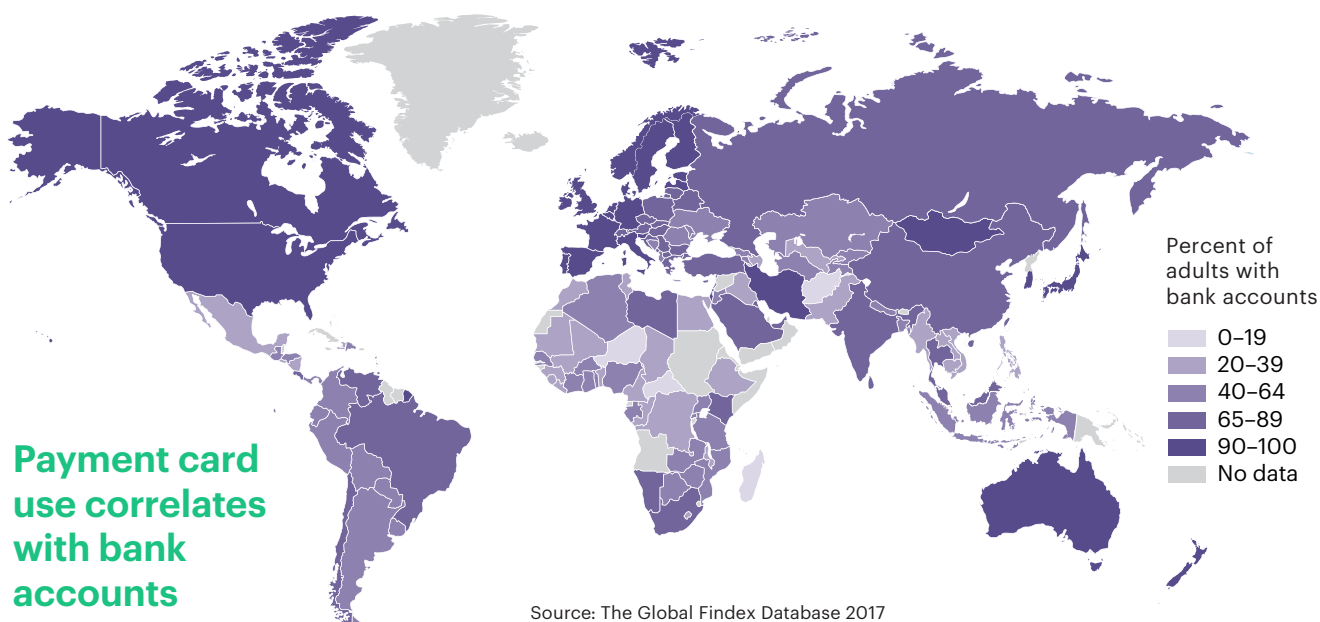


Use of payment cards varies by stage of development

Use of debit or credit cards in developed and developing countries



Sources: Visa, 10-K for the fiscal year ended September 30, 2019; World Bank Group, *The Global Findex Database 2017*; and *The Nilson Report*, February 2020, Issue 1169, p. 7



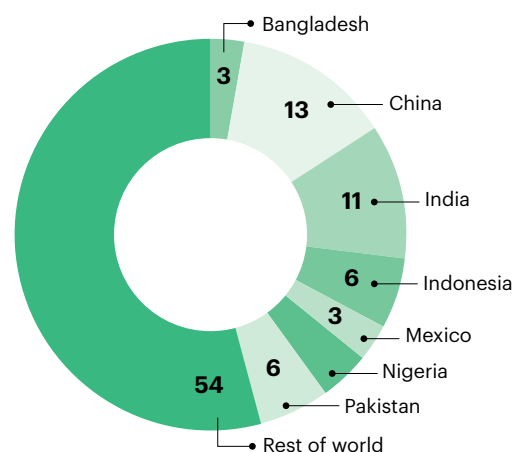
Payment cards promote financial inclusion

Financial services play a critical role in lifting families out of poverty. Bank accounts, coupled with payment cards, whether virtual or physical, free up time and open doors that would otherwise remain closed. For example, people without a bank account can spend hours on simple tasks such as settling a monthly utility bill, which for many banked customers happen automatically. The unbanked also pay more to send or receive remittances, making it harder to get ahead. They face obstacles in obtaining a cell phone and find it nearly impossible to rent a car. Online activities that require electronic payments — like e-commerce and e-learning — are often out of reach.

According to the Federal Reserve Bank of St. Louis, a U.S. household with an annual net income of \$20,000 can spend up to \$1,200 a year cashing their paychecks and buying money orders to pay their bills. But for many unbanked households the cost of not having a bank account is preferable to high and unpredictable bank fees. For these households, prepaid debit cards that do not require an account can be an economical alternative. Readily available, prepaid cards can be obtained at retailers like Walgreens or CVS and spent wherever debit or credit cards are accepted, including online.

The unbanked are concentrated in seven countries

Percent of adults without an account, 2017



Source: The Global Index Database 2017

Like the unbanked, prepaid card users tend to have lower incomes. A survey by The Pew Charitable Trusts found that 64% of prepaid card users earned less than \$50,000 a year, and 80% of the unbanked prepaid card users earned less than \$50,000. Cardholders, particularly those that were unbanked, told Pew researchers that they used prepaid cards to stay within their budget, stay out of debt, and avoid overdraft fees.⁶

As both existing and challenger banks focus on making banking services more affordable and more widely available, the percent of unbanked and underbanked people is falling around the world. Incomes are rising, with more than 50% of the planet's population moving into the middle class in 2018. In this way, the growth of payment cards creates a positive feedback loop. The unbanked and underbanked use cards to reduce their transaction costs. As their financial situation improves, they expand their use of payment cards, establish credit histories, and fuel further payment card growth.

Prepaid cards create possibilities for the unbanked and underbanked

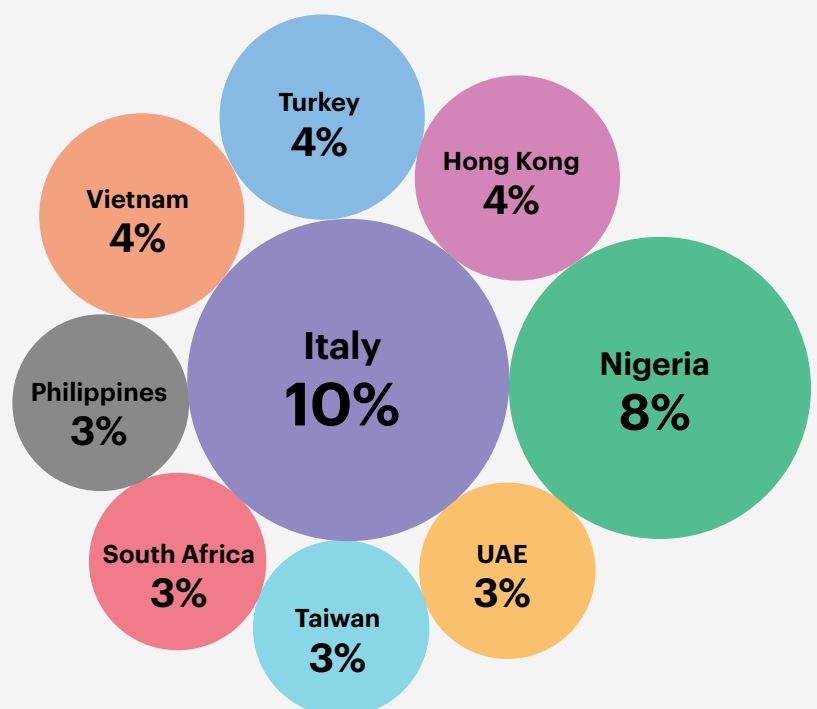
The lack of a payment card can be costly



\$1200
is the annual cost of
check cashing and money
orders for a family with
an income of \$20,000

Sources: Federal Reserve Bank of St. Louis, "In-Depth: Reaching the Unbanked and Underbanked" by Marth Perine Beard, January 1, 2010; FIS:Worldpay, *Global Payments Report*, January 2020

Where prepaid cards are most popular



One out of 11

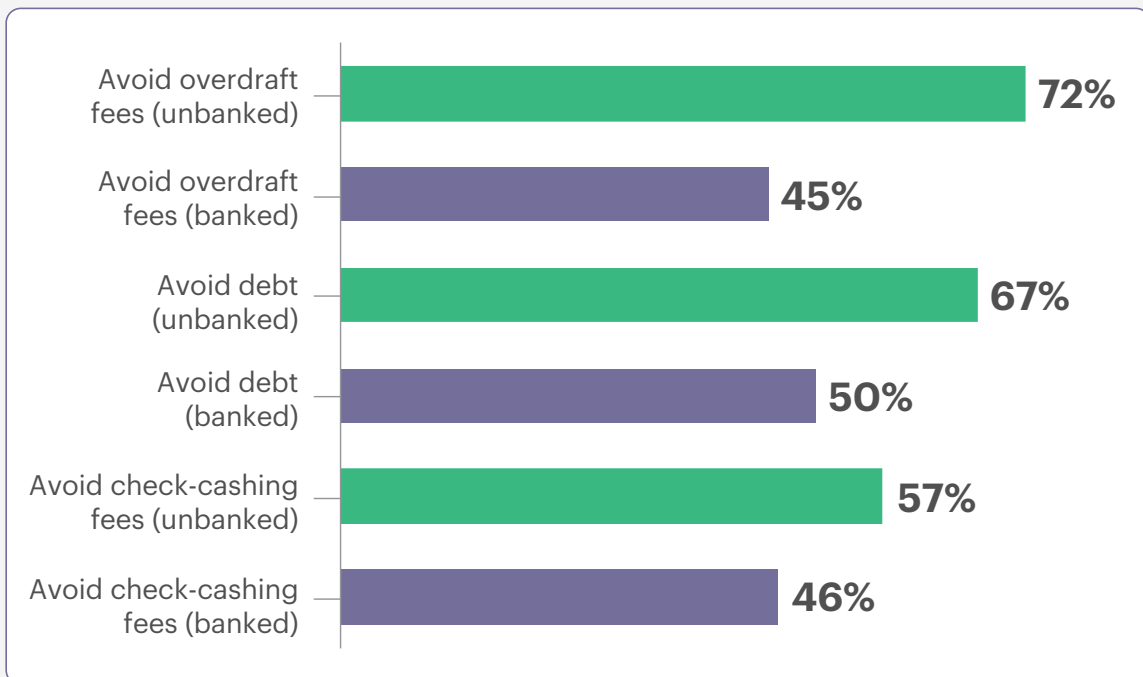
American consumers used a prepaid card at least once a month



50% increase in the use of prepaid cards in the United States between 2012 and 2014

Source: The Pew Charitable Trusts, "Banking on Prepaid: Survey of motivations and views of prepaid card users," June 2015

Reasons for using prepaid cards



Source: The Pew Charitable Trusts, "Banking on Prepaid: Survey of motivations and views of prepaid card users," June 2015

Payment cards help fuel the move to the middle class

In 2018, for the first time, more than half of the world's population could be classified as middle class



Modern payment infrastructure creates new business opportunities

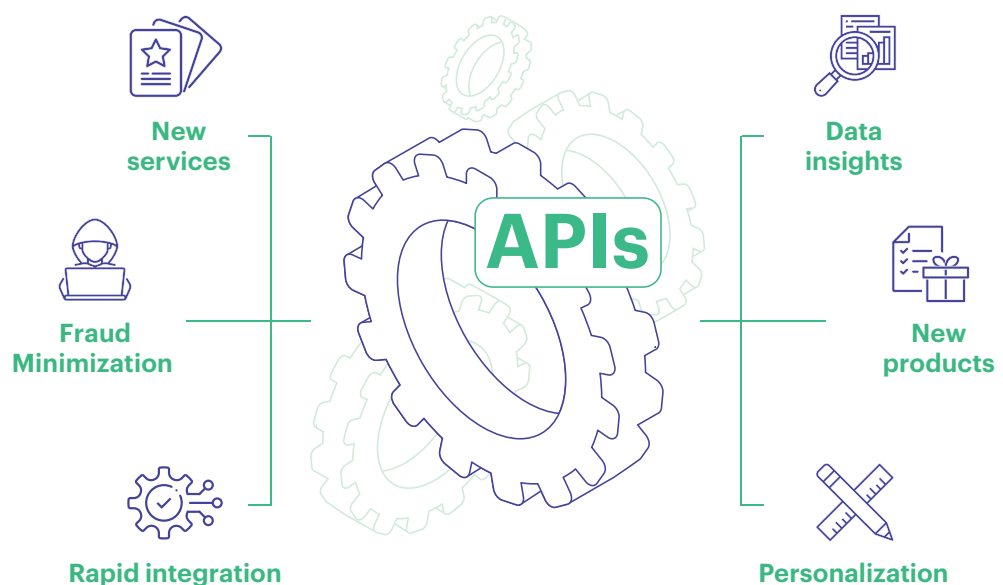
When payment cards were introduced in the 1960s, the United States became one of the first countries to realize the benefits of faster payments. According to economists, electronic payments cost between one-third and one-half that of a paper payment. Credit cards didn't just offer a more convenient way to pay; they kicked commerce into a higher gear. Businesses sold more goods and increased their working capital, while at the same time saving on the cost of processing cash and checks.⁷

As payment cards became a default way of transacting business, however, these gains were taken for granted. Payment cards were seen as a commodity, issued and processed on legacy hardware and software. Businesses digitized around their payment solutions, adapting themselves to their limitations. Then, in 2014, Marqeta released the first open API issuing and processing payment platform. For the first time, organizations could build payment solutions on top of modern infrastructure without having to directly invest in the infrastructure themselves. They could also easily issue virtual cards.

The value of open API payment platforms was demonstrated by early adopters — companies like DoorDash, Uber, and Instacart — whose explosive growth was enabled by their modern payment solutions. For the first time, payments were not an obstacle to creating new, highly agile logistics businesses. As demand for their services skyrocketed, companies could quickly onboard contract workers and give them a card to use with minimal risk of fraud.

The use cases for payment cards created on modern issuing and processing platforms multiplied. New, flexible payment cards are now relied on for everything from smart expense control to point-of-sale lending. These new payment solutions give owners of branded card programs unprecedented, real-time control over the authorization and funding of transactions. They also make it easy to create virtual cards and provision them to digital wallets. According to Credit Suisse, virtual cards are one of the fastest-growing areas of payments. This year they are expected to account for \$240 billion in payment volume and to grow to \$286 billion by 2021.⁸

The business value of open payment APIs



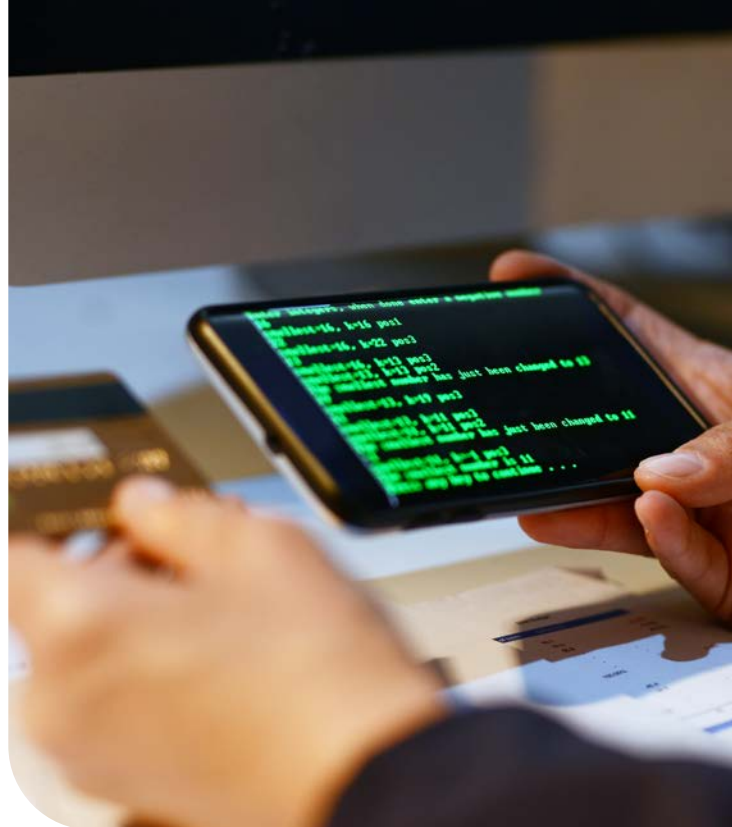
An impediment to credit card fraud

Since their inception, payment cards have been plagued by fraud. As the number of payment cards climbed past 30 million in the late 1960s, banks began bombarding each other with daily sales drafts. There were, one banker recalled, “millions of dollars floating all over hell’s half-acre in back rooms.” In Chicago, postal clerks intercepted credit cards and resold them on the black market for \$50 each. Organized crime families launched a new “business” around the wholesale theft of cards and their use by dishonest merchants.⁹

The formation of the first payment network — National BankAmericard Inc., the forerunner of Visa — finally enabled card issuers to reduce fraud to manageable levels. But the rise of e-commerce in the 1990s brought another great wave of fraudulent transactions. This was checked, somewhat, by the adoption of secure protocols like the Secure Sockets Layer (SSL).

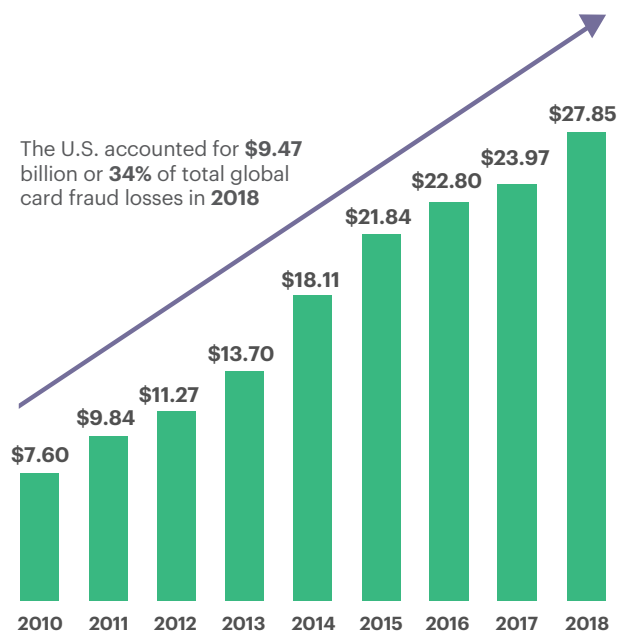
Another big decrease in fraud came with the widespread use of EMV chip cards. Between 2015, when EMV chip card compliance rules took effect, and 2018, losses from counterfeit cards fell 87%.¹⁰

The increased use of dynamic spend controls — made possible by modern cards — brought another blow. These controls allow managers of card programs to restrict when, where, and how cards were used. Fraud rates on a modern issuing and processing platform like Marqeta are ten times lower than overall payments card fraud rates measured by the Federal Reserve.¹¹



Modern card issuing can cut fraud as much as 80%

Fraud losses continue to grow for traditional card issuing



Sources: The Nilson Report, November 2019 and October 2016



The surprising security of digital wallets

Consumers initially found claims that digital wallets were more secure than a traditional bifold hard to believe. The security of digital wallets was the result of a process known as tokenization, which could be hard to understand. Tokenization replaced the primary account number (PAN) on a card with a string of surrogate data. This surrogate data was stored in the digital wallet in place of the PAN and provided to a merchant. In this way, cardholders' credentials were protected from exposure in the event a device holding the digital wallet was lost or stolen or if a merchant they did business with suffered a data breach.

As the benefits of digital wallets became more widely known, more people became comfortable using them. According to research sponsored by Deutsche Bank, 13% of American consumers use a digital wallet and 33% plan to use one in the next six months. Meanwhile, the popularity of contactless cards, which like wallets allow for proximity payment, indicates that broader adoption of digital wallets is not far off. Nearly half of consumers said they preferred to shop in stores that allowed them to tap to pay with a contactless credit card. Their responses are backed up by their actions. According to Mastercard, consumers who received contactless cards increased their spending by 30%.

While contactless cards share some technology with digital wallets, they do not come close to the near bulletproof protection offered by tokenization, which is required whenever a card is inserted into a digital wallet.

Research firms like McKinsey & Company expect in-person use of digital wallets to grow at a compound annual growth rate (CAGR) of 45%, reaching \$400 billion in annual flows by 2022. McKinsey forecasts credit cards alone will add \$160 billion of revenue by 2024 as digital payments solutions continue to spread.¹²

2018 New EMV chip card compliance rules take effect



75%
of U.S. storefronts
accept chip cards



76%
decline in losses from
counterfeit cards

2020 Modern card issuing platforms power 140 million + cards

.069%
portion of total payment card
volume that is fraudulent

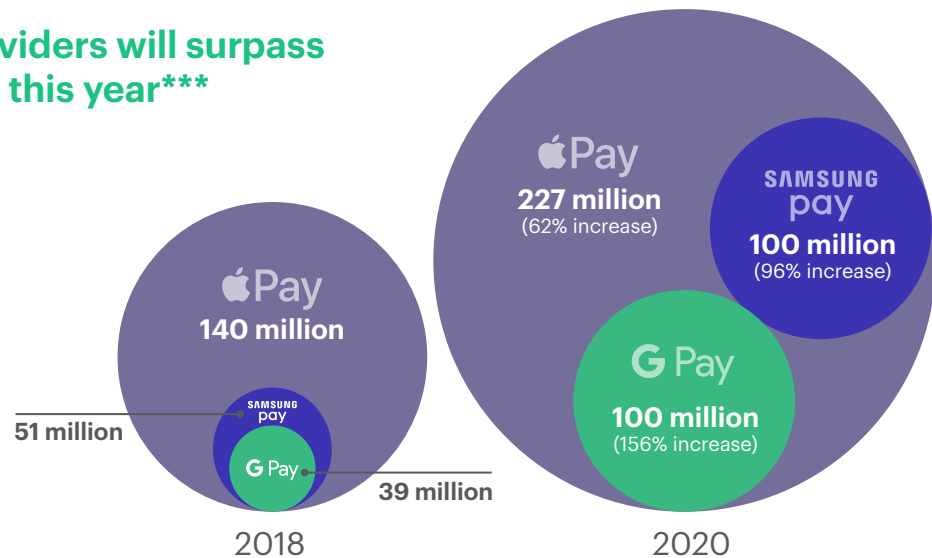


0.003% — 0.014%
portion of total payment card volume
that is fraudulent when cards are
issued and processed via modern
card issuing and processing platforms

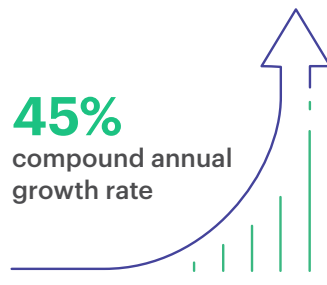
Sources: Visa, Research and Insights; *The Nilson Report*, February 2020, Issue 1169; Marqeta research

Consumers turn to digital wallets to protect personal information

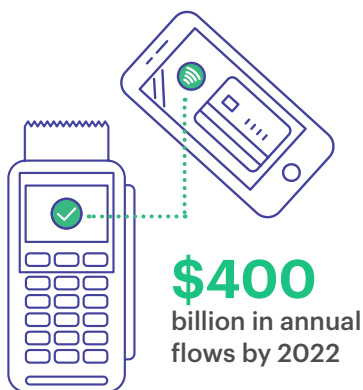
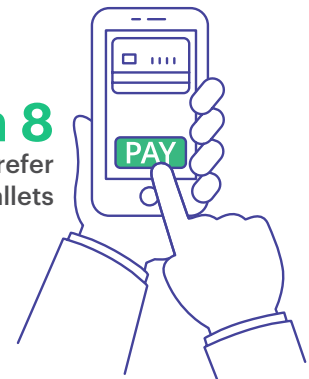
Digital wallet providers will surpass 100 million users this year***



Digital wallet use grows***



1 in 8
U.S. consumers prefer using digital wallets



1 in 3
plan to use a digital wallet in the next six months



*** Sources: Juniper Research; McKinsey & Company, "Global payments 2018: A dynamic industry continues to break new ground;" Deutsche Bank research

The flight from cash

Slowly but surely, payment cards are making cash obsolete. Leading the way is Scandinavia with the highest use of payment cards in the world. Among the three Nordic countries, Norway has the lowest percent of transactions conducted in cash, while Sweden is expected to be the first to go completely cashless, possibly as soon as 2023. Scandinavia and other countries with the lowest cash use are distinguished by two primary characteristics. Collectively, they are among the wealthiest countries in the world — they include countries with the highest GDP per person — and they also have very high internet penetration.

Among the top ten countries with the lowest cash use, the United States ranked 10th. According to the Federal Deposit Insurance Corporation, cash was used for one out of three payments in the U.S. in 2017. But whereas the move away from cash

was accelerated in Scandinavia by governmental policies intended to combat tax evasion and money laundering, authorities in the United States are increasingly trying to slow down the trend. New York City, Philadelphia, San Francisco, and the states of New Jersey and Massachusetts have banned cashless stores out of concern that a cashless economy will further marginalize low-income people.¹³

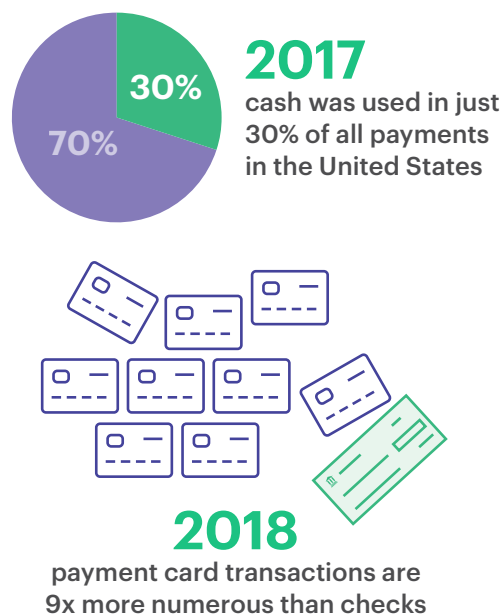
There is no such concern around the declining use of checks, which have been falling in number compared to payment cards since 2007. Once the most popular form of noncash payment, checks fell below non-prepaid debit cards in frequency of use in 2007 and were superseded by credit cards in 2010. Today, payment card transactions are nine times more numerous than checks.

The final days of the cash economy

The United States has been moving away from cash and checks for years

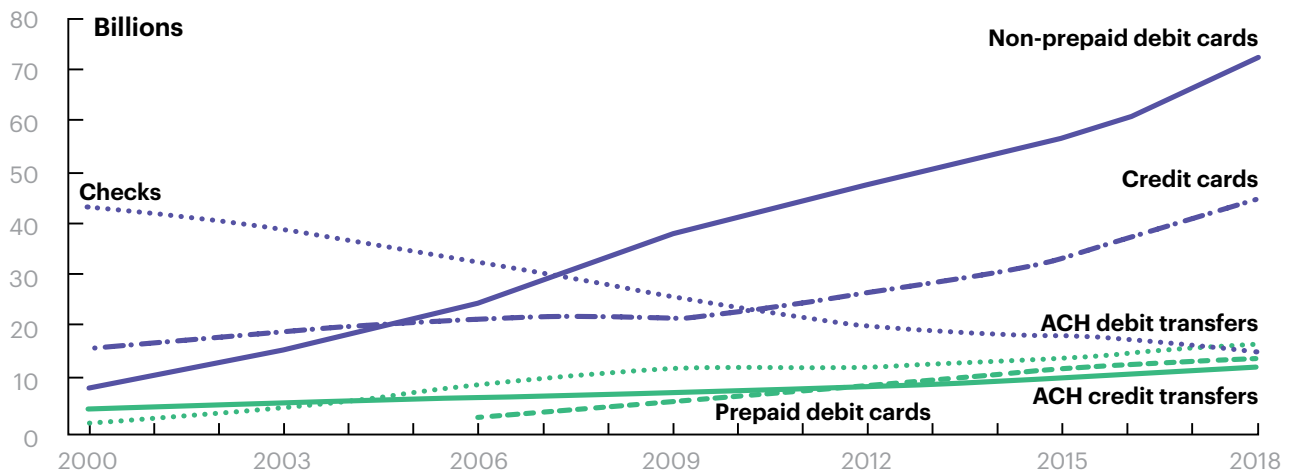
“The rapidly growing use of credit cards is hastening the day when America will be a checkless and ‘cashless’ society... a majority of leading bankers and economists believe that in five years the volume of checks will be greater than it is today, but that in about 10 years the economy will be rapidly moving toward a paperless payments system.”

Source: *The Morning Herald* (Uniontown, Pennsylvania), July 24, 1968



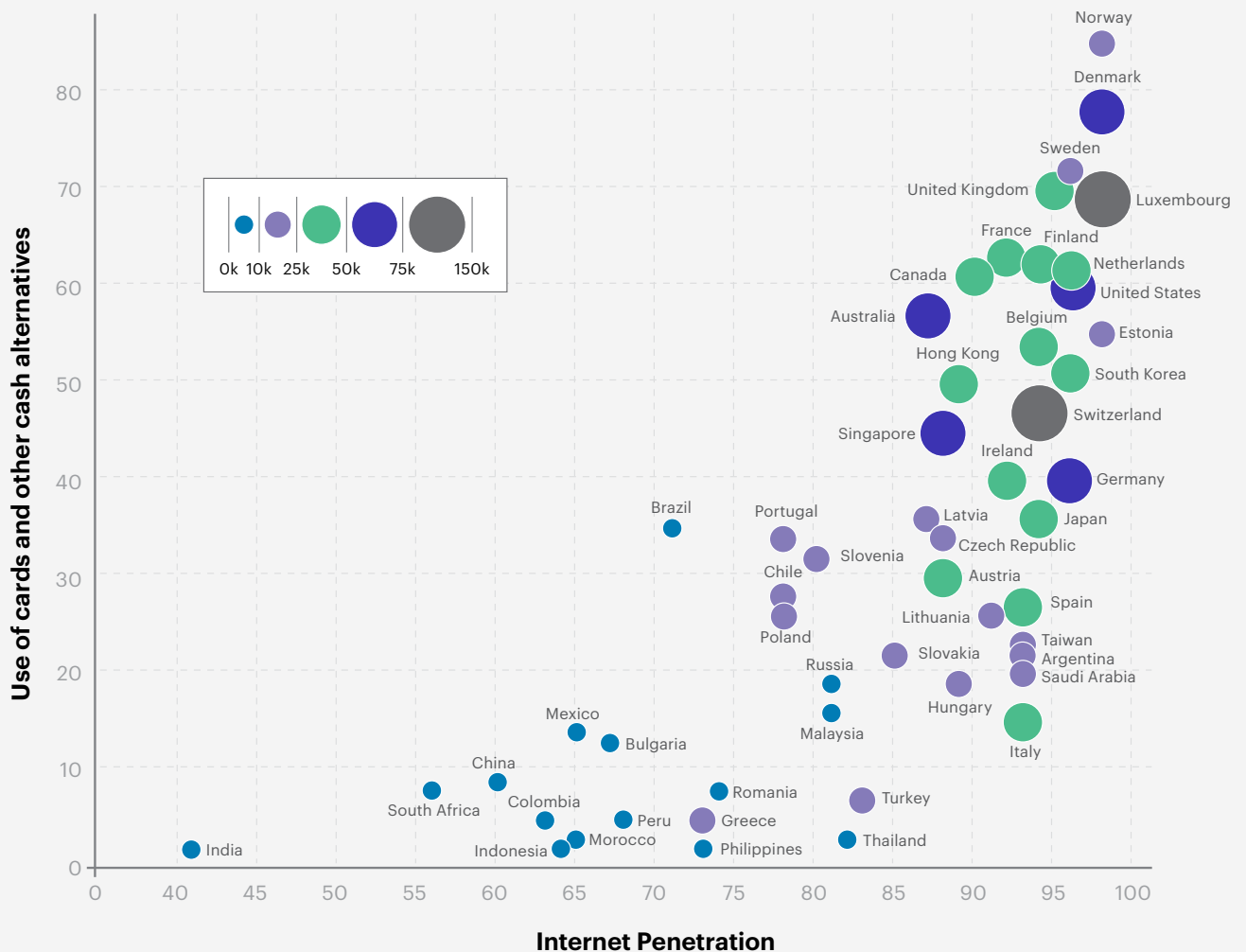
Sources: *Harvard Business Review*, “Is the U.S. on Its Way to Becoming a Cashless Society?” by Shelle Santana, July 22, 2019; *The 2019 Federal Reserve Payments Study*

The use of checks fell as the use of payment cards rose 2000-2018



Note: All estimates are on a triennial basis. Card payments were also estimated for 2016 and 2017. Credit card payments include general-purpose and private-label versions. Prepaid debit card payments include general-purpose, private-label, and electronic benefits transfer (EBT) versions. Estimates for prepaid debit card payments are not displayed for 2000 and 2003 because only EBT was collected.

Higher internet penetration correlates with payment card use



Final thoughts:

It is rare to find payment cards included in the lists of products that have changed people's lives. Typically taken for granted, we use payment cards in good times and in bad when the availability of credit can be a lifeline. An expanding economy generates more payments and so do increases in the world population, whether driven by longer lifespans or higher birth rates.

But the persistent growth in card usage outpaces these measures and is likely to continue to do so in the foreseeable future.

In the developing world, where payment card penetration is low compared to the United States and Europe, the adoption of digital payments is

accelerating at the same time that the middle class is growing and seeking additional financial services. Together with these changes, modern card issuing and processing is enabling new business models that are spreading around the world.

Increased security will make cards even more popular, and the easy availability of virtual cards will hasten the cashless transition. But even as plastic cards become rare, the idea of the payment card will persist. Credentials will proliferate. Transactions will multiply, and the graphical representation of payment card activity will continue to move up and to the right.

About Marqeta

Marqeta is the first global modern card issuing platform, providing advanced infrastructure and tools for building highly configurable payment cards.

With its open API, the Marqeta platform is designed for businesses who want a simple and tailored way of managing payment programs so that they can create world-class experiences and power new modes of commerce.

SOURCES

- 1: FIS:Worldpay, Global Payments Report, January 2020 <https://worldpay.globalpaymentsreport.com/#/>; The 2019 Federal Reserve Payments Study, p. 1, <https://www.federalreserve.gov/paymentsystems/2019-December-The-Federal-Reserve-Payments-Study.htm>
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- 4: World Bank Group. The Global Findex Database 2017, p. 58
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