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Cashless Turkey by 2023



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INTRODUCTION

Turkey: The Ambition for 2023

Turkey has a long history of FinTech innovation and is home to a young population that already can access some of the best banking services in the world and is eager to adopt new technology. Mission cashless by 2023, seems to be an aspirational way to culminate several initiatives such as launch of chip-and-pin cards, cashless payments etc. to celebrate the 100th year of the Turkish Republic.

Turkey has some key advantages over other regions to be hopeful towards realizing the cashless dream. It has a young demographic base, high literacy rates, high smartphone penetration, very high card numbers, a native card payment network and a collaborative ecosystem of banks, FinTechs and technology vendors. The regulatory and government policies also seem to be aligned towards facilitating a digital future. There are some unique challenges as well: an underbanked

population, excessive dependency of some consumer segments upon cash and an ambitious deadline.

For the government, who has emerged as a strong supporter for cashless initiatives across regions, going cashless delivers benefits like transparency of economy, efficient tax collections, crime reduction, corruption control and a low cost business environment. Businesses across industries also stand to benefit by joining the cashless expedition. Banks are the first beneficiaries as it helps them bring down the cost of maintaining and moving cash. Other B2C industries such as e-commerce, travel and even retail stores stand to gain through easier accounting and real-time profitability tracking.

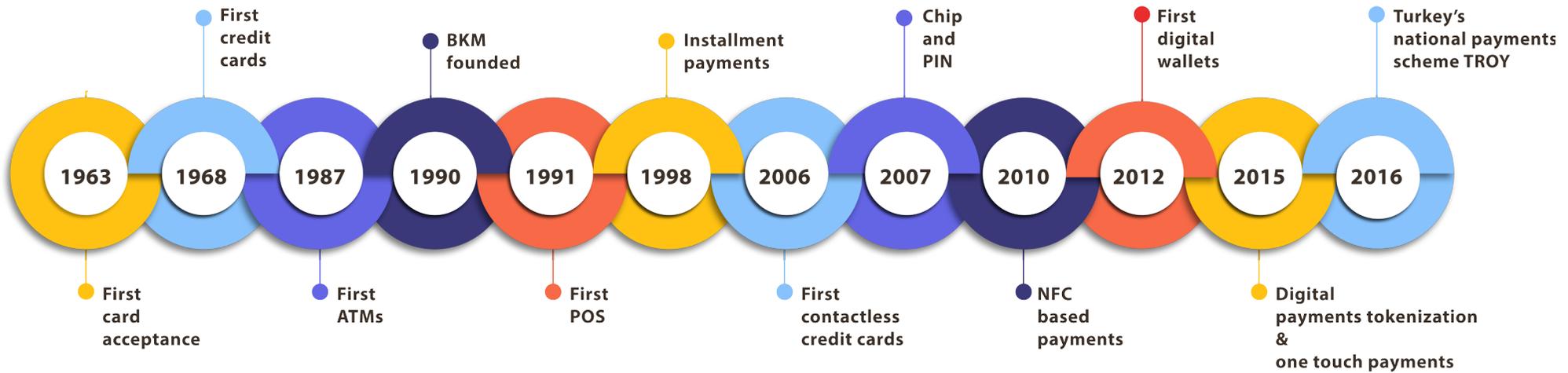
Consumers, especially in emerging economies, are resolute to march towards cashless as the early adopters are enjoying the benefits in terms of convenience and comfort. The ability to buy goods and services through a

click or a tap anytime of the day from anywhere gives the control back in the hands of consumers. Cashless mode of banking also brings financial inclusion to underbanked segments through incremental offerings of banking products through a digital banking app.

We look at where Turkey stands in this journey in this report. One of the biggest drivers for this cashless mission in Turkey can be Troy, a payments system developed by the Interbank Card Center of Turkey (BKM), a partnership of the biggest banks in Turkey, but also a collaboration of almost all banks in the card payments business. By providing and expanding the common framework for financial service providers both old and new to compete in, BKM aspires to create a national card scheme that can compete with and supplement already existing international system.



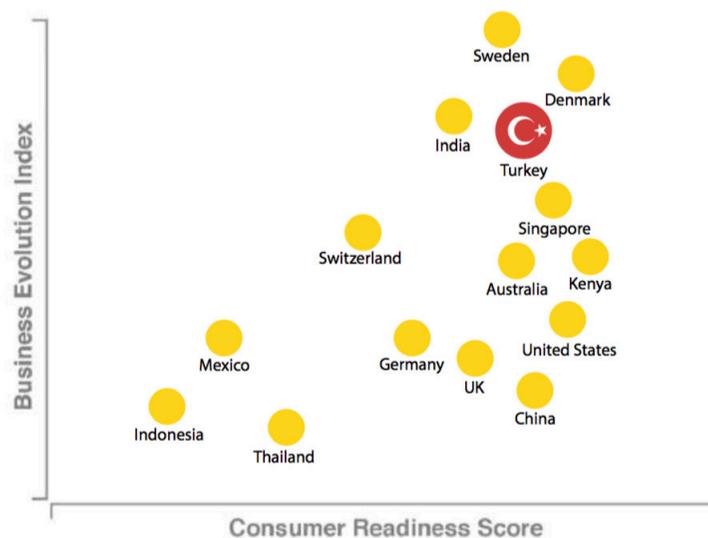
The History of Turkey's Payments Ecosystem





The journey to cashless

The trajectory of individual countries towards cashless will be shaped by consumers' willingness to ditch cash and businesses' readiness to accept and promote cashless transactions. Governments and regulators will be the key enablers to develop infrastructure and policies for businesses and consumers and facilitate the transition to a cashless future.



Source: Burnmark Proprietary Data

Country metrics driving cashless societies

Consumer readiness

Consumers, all over the world, have been adopting and benefiting from smartphones, internet and computers in their daily lives. The consumer readiness score is a metric that captures consumers' adoption propensity for these technologies. Consumer readiness score for individual countries is a function of several drivers like literacy rate, mobile penetration, banking penetration, internet and personal computer penetration. These technologies also bring new digital alternatives to cash such as mobile wallets and internet banking, in addition to the credit and debit cards, which are much more cost-effective and scalable in nature. A

recent mobile banking survey by a leading bank shows that about 34% of people in Europe are willing to go cashless if they had the choice. The proportion rises to a high of 42% in Turkey.

Business evolution

Businesses across industries are driving their digital transformation initiatives to remain relevant to the digital consumers. The ability to acquire customers cost-efficiently and serve them profitably, without compromising the quality of service, is critical. The ability to support cashless transactions is one of the key pillars in the digital transformation strategy. A country's

journey to cashless can be smooth and fast only when businesses, both physical and digital, offer and promote cashless mode of transaction to consumers. Business evolution index captures the ability of businesses to adopt technology to facilitate B2B and B2C transactions and the impact on their business models. Moreover, the index also captures regulatory vision and support towards driving technology adoption and policies for creating startups and the overall competitive landscape.



International Initiatives

In Colombia, the small town Concepcion is attempting to go cashless by introducing mobile money that can be charged in exchange for cash at various kiosks. The main goal is to reduce the safety risk of carrying cash. Key to this implementation is the immense ease with which merchants and customers could sign up for the text message-based system, so even the smallest of transactions could easily be handled via mobile phone. After an initial hype, usage has died down again as not all essential services could be paid for with the mobile money and the convenience of the universality of cash won out. However, the infrastructure exists, and the local government is confident that they will move towards being fully cashless by making all services cashless-enabled and convincing local businesses to pay the salaries as mobile money as well.

In Nigeria, the Central Bank has implemented daily limits on withdrawals in an effort to push people towards using some of the existing cashless channels. The policy is primarily driven by an effort to reduce the cost of banking services, improve the effectiveness of monetary policy, and to drive development of payments systems. It is notable in that it uses the simple measure of reducing the convenience of cash to move corporations and individuals towards developing and embracing cashless services.

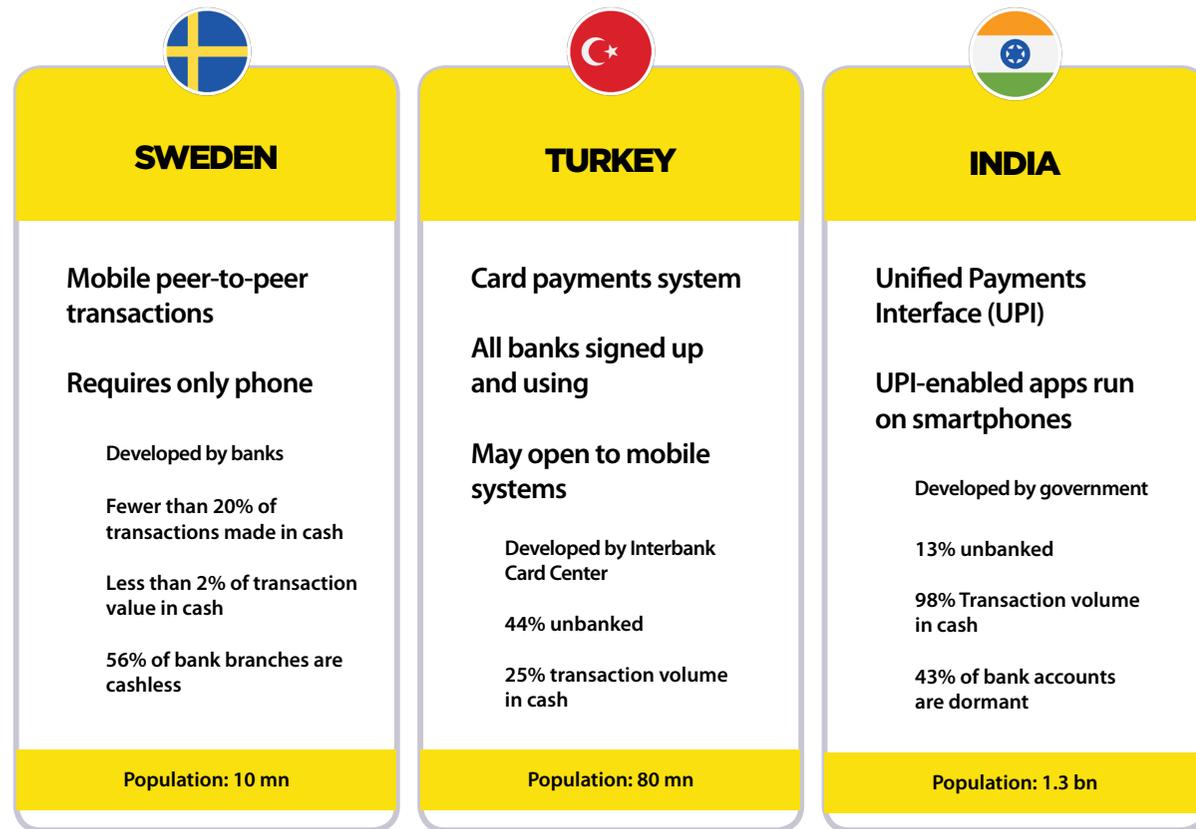
Korea is looking to become a cashless society, with the push coming primarily from the government. Unlike Turkey, the country is a little hesitant in its approach. The first milestone is the removal of all coins from circulation by 2020. Since coins are almost entirely distributed as change for cash payments, the approach is to compel supermarkets to allow for change to be loaded onto prepaid cards instead of as coins. In this way, an infrastructure will be created that Korea can use to further advance its cashless ambitions.

Sweden is the poster-child for moving towards a cashless society. With merchants free to not accept cash and some bank branches no longer providing ATMs, as well a broad popular consensus that cash is less convenient than other modes of payment, Sweden is a useful role model

for any nation that seeks to transform its economy. Its final steps towards becoming fully cashless are currently halted as both banks and members of the government advocate for treating cash availability as a basic right of its citizens that should not be given up.

India made headlines in late 2016 when the prime minister announced the immediate

invalidation and replacement of around 85% of cash in an effort to weed out black money, setting people scrambling to convert their bank notes and creating chaos in parts of the country. The strategy of making a declaration without advance notice was unique in that it made it impossible for people to launder their illicit or untaxed cash money.





What makes Turkey unique?

Market Dynamics

Turkey is special insofar it starts from a place of lower penetration of digital services than its European peers. Even in the context of similarly developed economies, Turkey sees a far lower density of bank accounts, especially among women. It thus faces the unique challenge of not only having to make cashless transactions more attractive to those already equipped for them, but also to bring the very basics of banking to those currently underserved.

At the same time, there is a split between a part of the population that has access to banking services quite similar to and frequently better than the standard ones in Western Europe and a part that has virtually no such access. This division puts Turkey in a unique position of developing a solution that works for both. In this way, it can leverage its position as a hub between Europe, Asia, the Middle East, and North Africa to encourage FinTech businesses that can address each respective population on their own terms and build bridges between all of them. From this angle, the diversity in penetration of banking services within Turkey is a cultural asset for its goal of becoming a FinTech hub

Turkey is also unique in who's driving the FinTech efforts. Whereas other countries see small start ups shaking up their FinTech scene or large foreign companies expanding into the market, it is the incumbent players in Turkey that are driving innovation. Established banks, who together fund the BKM (Interbank Card Center of Turkey), developed and are now supporting Troy, and many small improvements in the day-to-day banking experience came from the incumbents themselves. They choose to compete on a product offering level while collaborating on infrastructure. This, together with the action plans of the government for advancing towards a cashless society and creation of Turkey as a FinTech hub, separate the Turkish FinTech ambitions from those in other, more venture capital-driven national environments.

Demographics

Turkey is situated well to embrace the digital age both because of its young population and the disproportionate excitement about technology in it. Almost a quarter of all Turks is younger than 14, and around half are under 30. Only 9% are 65 or older. In the aging European Union, 16% are 14 and, and 19% are 65 and

older. As the youngest population in Europe, Turkey starts with an advantage in the race to become a technology leader.

However, similar to the split between banked and unbanked customers, only about half of the Turkish connection is online. Reaching those without internet access will be a special challenge for the efforts to go cashless. It will be necessary to promote mobile payment solutions that only require a phone number. This, too, can be an advantage, skipping the arduous part of the banking cycle in which customers have to punch in card numbers everywhere and immediately moving to the device almost everybody has with them at all times: their phone.

For those Turks who do use the internet, excitement about technology is very high. Online Turks love social media and are very open to using their phones for a wide variety of actions. Almost all of online Turkish users are on Facebook, making the country, according to the Reuters Institute, the 4th largest market for Facebook in the world. According to a study by ING, 56% of the population in Turkey used a mobile payment app. This percentage is more than twice that in for example France or Germany (25% and 23% respectively). Turkey can rely on the

adoption of mobile payment technology by its population more than other countries, allowing its banks and startups to rapidly promote new technologies and quickly iterate solutions to cover all sectors of the economy.

The Banked



56%
bank account holders

 59 mn credit cards
120 mn debit cards

Drivers for cashless

- 65% smartphone penetration
- 53 banks with 12000+ branches
- 3 state owned banks with 4000+ branches nationwide
- E-commerce growth at 30% annually

Route to cashless

- Digital banking initiatives by banks
- Digital wallets by FinTechs and payment service providers
- Card schemes like loyalty and co-branding
- FinTech partnership ecosystem around BKM Express

The Unbanked



44%
unbanked

 27%
rural population

 17%
population below poverty line

Drivers for cashless

- 95% mobile phone penetration
- 95% literacy in country
- 55% of females are unbanked
- 3300 mobile operator stores
- 4500 Turkish postal system (PTT) branches

Route to cashless

- Partnership between banks, telecoms and postal offices
- Licenses to electronic money institutions
- Domestic remittances to unbanked
- Move government aids for digital initiatives



Turkey's unique demographics

44% of adults overall, including 55% of the female adult population, lack access to a bank account in Turkey. This evenly split population is a unique characteristic that defines the cashless journey of Turkey.

The banked population in Turkey has access to some of the best digital banking initiatives in Europe, and were offered NFC based payments, social media payments and contactless cards well before most countries in Europe. This population is well and truly on its way to being fully cashless.

For the unbanked population, it is a longer journey to being cashless without access to these initiatives. However, there are innovative ways to move beyond bank accounts and cards to introduce cashless to the unbanked population.

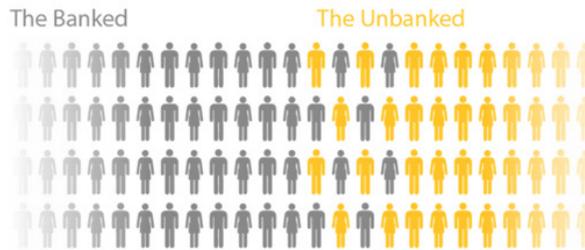
Banks can partner with mobile network operators and postal services with extensive branch networks to reach out to customers struggling with access. In fact, a number of prepaid card programmes have already been launched like Cep-T paracard, Cep-T Neo and Paycell. Paycell was launched by Turkcell as a wallet in which all banks' cards can be added and payments made via Turkcell monthly bill. Vodafone has a wallet called Cep Cüzdan and Turk Telekom has a mobile payments service called Mobil Ödeme (payments via Turk Telekom monthly bill

as well, like Paycell, but bank cards cannot be added for now). The telecom operators also operate large store networks: Turk Telecom has over 800 stores in Turkey; Turkcell has 1200 stores and Vodafone has 1300 stores.

A few banks have already launched domestic remittance products to enable customers to transfer money anywhere in the country, even to non-customers.

Over 1.6 million students, 3 million families and many farmers receive aid from government for student loans, social aids and agriculture loans. There is an opportunity here to introduce cashless in the lives of these unbanked consumers by providing these government aids through digital modes.

In 2013, regulatory change has enabled Electronic Money Institutions (EMIs) to provide payments services and issue electronic money. More than 30 institutions have already applied for licenses and 8 licenses have been issued. EMIs are more promising from a financial inclusion perspective, as they allow customers to open electronic wallets as an alternative to traditional bank accounts.



BANKS, TELECOM OPERATORS, CARDS, THE POSTAL SYSTEM AND PAYMENTS INFRASTRUCTURE PROVIDERS ARE EXPECTED TO COME TOGETHER TO CONVERT THE UNBANKED POPULATION TO A CASHLESS SOCIETY BY 2023



Traditional Alternatives for a Cashless Economy

Data

Turkey has the highest number of cards (over 170 million) in Europe, according to BKM data. Only China, USA, India, Brazil, Korea, Russia and Mexico have more number of cards. The number of cards per capita in Turkey has also gone up from 1.7 in 2011 to 2.2 in 2016 and is seconded only by the UK in Europe which has 2.7 cards per capita. Turkey also has the highest number (2.3 million) of card acceptance terminals in Europe.

As per BKM data, Turkey has 58 million credit cards out of which only 24 million credit cards get used for internet transactions. Cashless shopping transactions on debit and credit cards have gone up by 147% during 2008-2016. Cashless shopping transactions value on bankcards has grown 3.5 times during 2008-2016. Cash related transactions, debit card ATM withdrawals and credit card cash advances, have marginally increased by 89% during 2008-16.

The BKM data also shows a stark difference in the usage pattern of debit cards from that of credit cards. Debit cards are primarily used for cash withdrawals and the value of cash withdrawals stands at TL 530 billion in 2016 which is more than 10 times the value of cashless

shopping transactions. On the flipside, credit cards emerge as the primary mode of cashless transactions carrying out 3.1 billion cashless shopping transactions worth a value of TL 537 billion. Credit cards are sparingly used for a meagre 90 million cash advance transactions with a value of TL 65 billion.

What can be done

The 34 million credit cards, which are not used for internet transactions so far presents a huge potential for Turkey to take a giant stride towards a cashless society by reviving these dormant credit cards. Troy can emerge as a key catalyst in driving the use of credit and debit cards in Turkey, by ensuring the digital transactions are processed in a secure, rapid and accurate manner. Leveraging the standardization that Troy brings across cards, a comprehensive rewards program can also be developed to enable consumer collect and redeem reward points across different bankcards.

Another way to revive dormant cards for internet transactions could be through partnerships between e-commerce players and card issuers to provide promotional offers to consumers on products purchased through card payments. FinTechs are also offering micro-

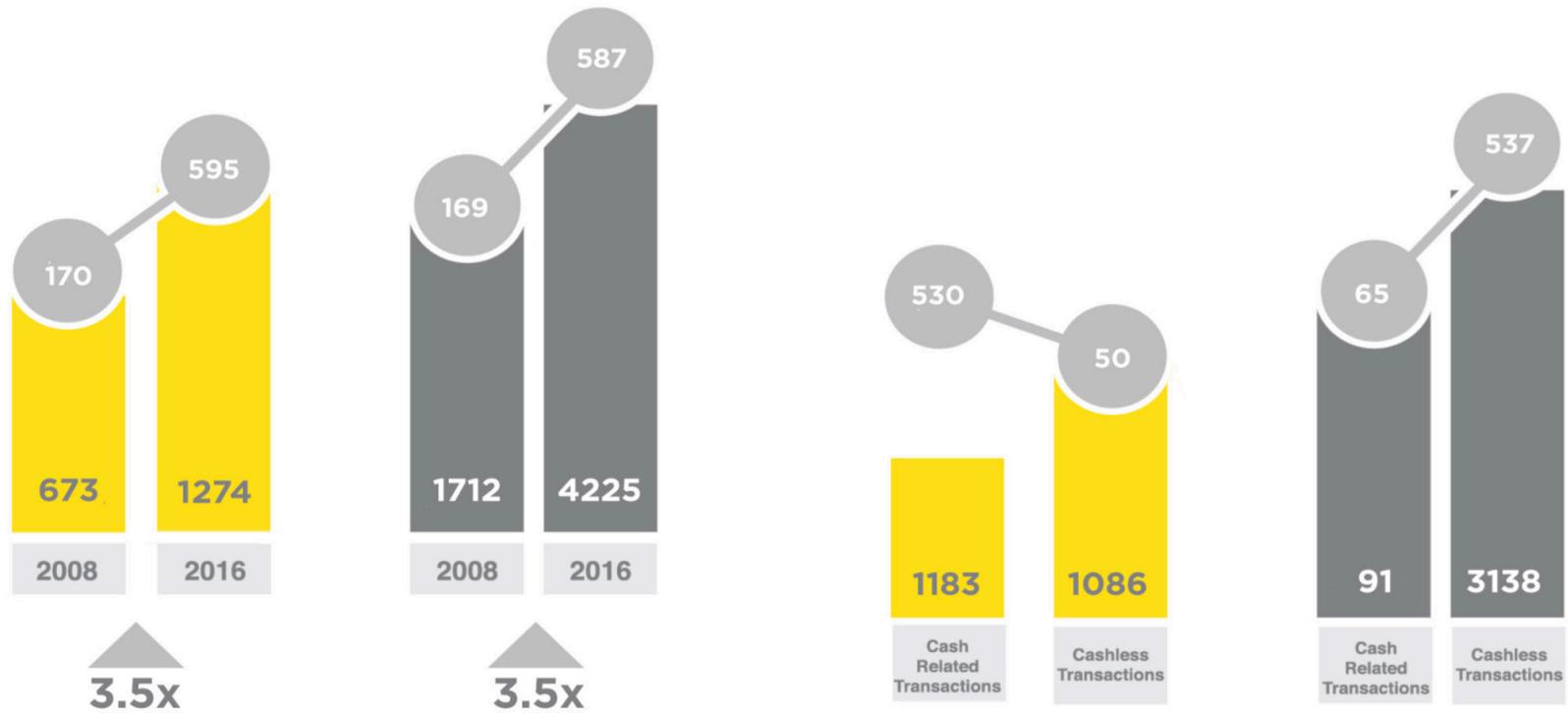
payment services secure ways to use cards for internet transaction through pre-paid cards with recharge capabilities.

Regulators may also consider some initiatives such as: Enforcement of card acceptance for merchants or transportation, reducing cash payment limits, and promoting card acceptance on government payments.



Insights

Turkey is advancing towards cashless with a steep rise in cashless transactions on debit and credit cards from 2008 to 2016, according to BKM figures. The digitalization of other industries like e-commerce, travel, transportation etc. seem to contribute to this growth in cashless transactions. In Turkey, credit cards are primarily used by consumers for online shopping rather than cash withdrawals from ATMs. Debit cards are still primarily used for cash withdrawal, serving as a cost-efficient alternative for branch-based cash withdrawals.



- Overall cash-related transactions on local debit and credit cards (mn)
- Overall cashless shopping transactions on local debit and credit cards (mn)
- Total value of transactions on local debit and credit cards (TL bn)

- Overall transactions on local debit cards in 2016 (mn)
- Overall transactions on local credit cards in 2016 (mn)
- Total value of transactions (TL bn)

Source: BKM Payments Data

Cashless transaction drivers indicate customers well on the way to a cashless society



Digital Alternatives for a Cashless Economy

Data

As per the CIA World Fact Book, Turkey has 41% of population under 25, 95% mobile penetration and 95% adult literacy rates. Turkey is one of the most attractive markets for mobile banking. In online retail, Turkey has surpassed USA, Spain and Germany in mobile payment transactions share during 2016. Mobile banking has grown three times faster than online commerce and Turkey ranks third in the world for online purchases made from a mobile device.

Turkey has the highest percentage of internet users who use digital banking (65%), compared to other European countries according to an ING Bank survey. Turkey is leading the mobile money revolution with 62% of

smartphone owners in Turkey making mobile payments. Looking at BKM's data, Turkey's share of mobile payment transactions in online retail has seen a steep growth from 28% in 2014 to 37% in 2016. In BKM express, a cross-industry payments system, mobile has surpassed web transactions in 2016.

What can be done

Government and regulators may join hands to create a favorable environment for the FinTech industry to accelerate the mobile banking and digital payments adoption in the country. In 2016, almost 50% of the digital banking initiatives are being launched by banks themselves, there is room for FinTechs to join the revolution of branchless banking. Banks and enterprises

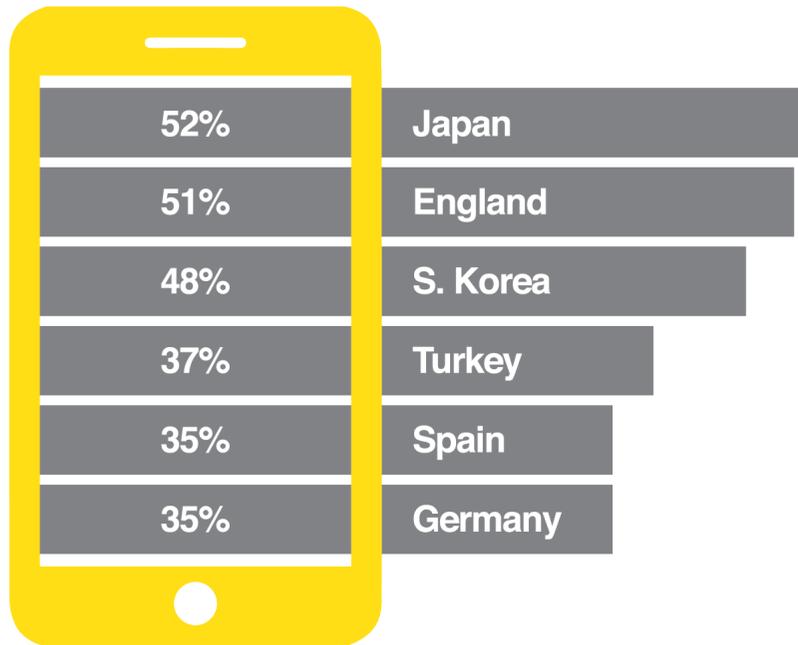
from other digital industries can collaborate with over 70 FinTechs in the payment segment in Turkey to facilitate cashless transactions.



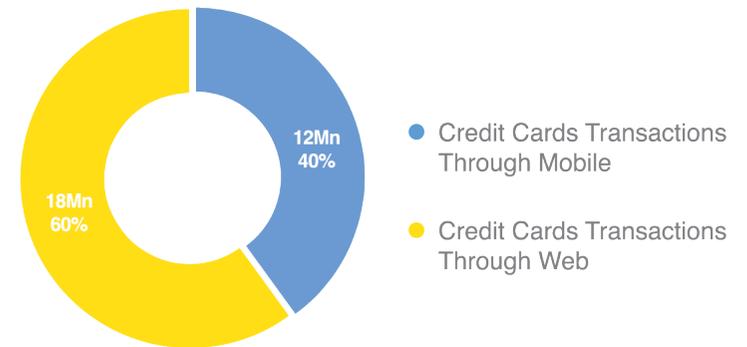
Insights

In contrast to countries like the US and UK, Turkey has demonstrated considerable innovation skills with digital banking initiatives. The largest banks have effectively managed to deliver digital services that meet high consumer expectations. DenizBank brought social media and banking together when it launched the world's first Facebook banking application in 2012. In 2013, Garanti bank launched the iGaranti iPhone app targeted at young professionals with innovative features - a money transfer capability via social media (no bank details required), customized offers through geo-location technology, a money manager to assist with cash flow forecasting and card-less ATM withdrawals. BNP Paribas subsidiary, TEB and QNB Finansbank have launched branchless "digital only" banking solutions which offers P2P payments, small loans, card-less ATM cash withdrawals, etc. İşBank ParaKod have launched QR code based banking solutions. YKB Cüzdan, Akbank Direkt & Maximum Mobil introduced mobile payment function with HCE technology. Ziraat Bank is bringing biometric solutions using palm veins authentication for ATM transactions.

Country-Wise Mobile Trade Share in Online Retail in 2016

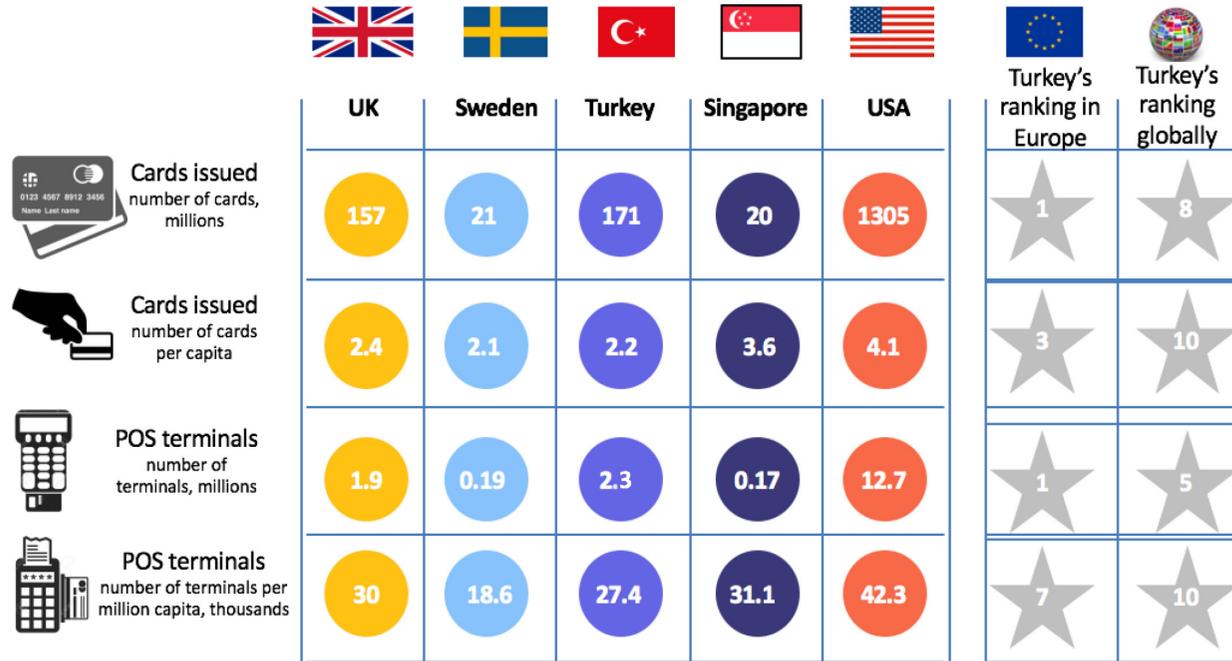


2016 Q3 Credit Card Transactions- Internet & Mobile Channels



Source: BKM Payments Data

Card transactions indicate unique capability of Turkey to go cashless

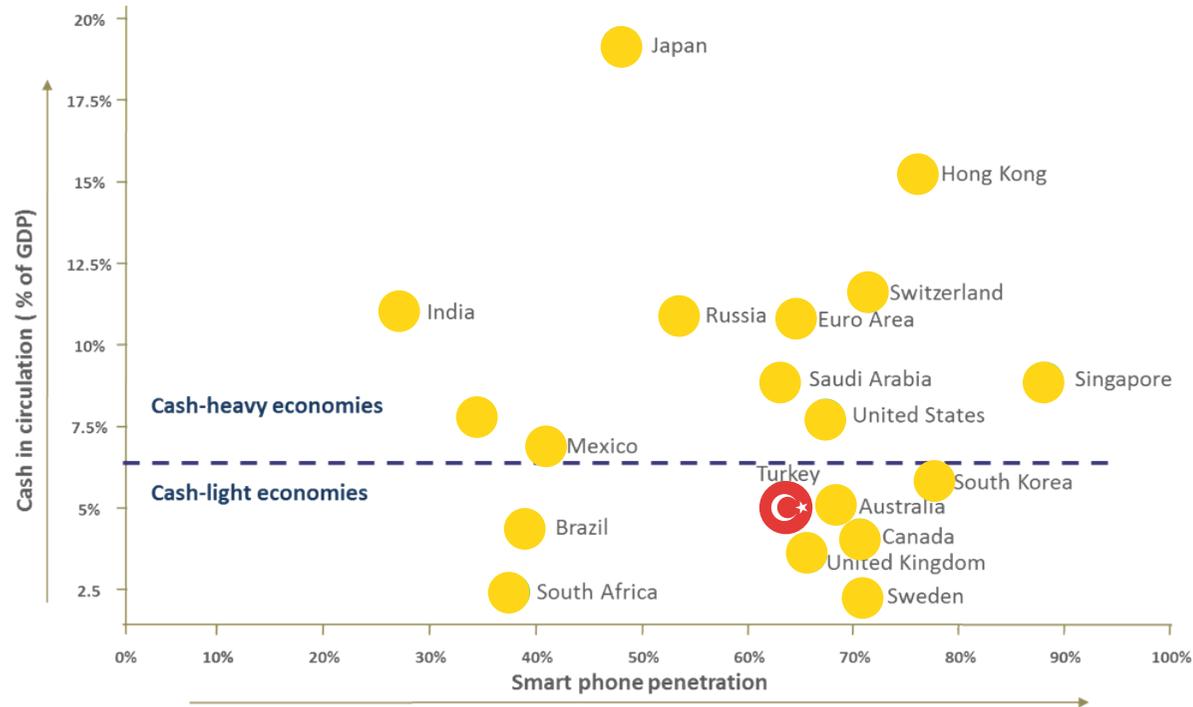


Source: BKM and Burnmark Proprietary Data

Turkey's position amongst key global players for card usage



A sweet spot for digital



Source: Burnmark Proprietary Data



Insights

Turkey is among the few cash-light economies with a cash circulation volume of 5.3% of GDP and enjoys a higher smartphone penetration (over 65%). Only UK, Sweden, Canada and Australia are better placed overall in terms of smartphone penetration and cash circulation volumes.

As per the BKM data online shopping trends are also pointing towards a cashless future with 82% m-commerce shopping happening through smartphone and 18% through tablet. 25% of online shopping is happening through iOS devices which is significantly higher and reinforces the tech-savviness of affluent online shoppers in Turkey. In terms of number of cards and number of POS terminals, Turkey holds the pole position in Europe and belongs to the elite top 10 countries globally. Turkey also holds 3rd rank in Europe in terms of number of cards per inhabitant with only Luxembourg and UK ahead.



The Payments Ecosystem

BKM

BKM is a partnership of the largest private and public banks of Turkey, founded to develop and promote a common infrastructure for card payments. Through BKM, the banks can collaborate on network-level technology while continuing to compete on a product level. Some of the results of this collaboration are a shared ATM platform, a shared POS management system, and of course Troy.

Under the umbrella of BKM, the Turkish banking market has remained comparatively unfragmented, allowing for rapid technological change. With a common payments system in place, members now primarily compete in innovation around the customer experience.



TROY

Troy is the newly created domestic card scheme which will be an important element in the country's plans to become cashless by 2023. It was announced in 2015 and launched in 2016 with the backing of the Turkish banks, all of whom have already become members of the Troy network, either to participate in the network or to give out Troy cards.

Troy is an entrenched local alternative to players like Visa and MasterCard, targeting the 90%+ transactions in which both sides are within Turkey. Troy is working on expanding its Technologies around contactless, HCE, mobile wallet and mobile payments for Turkish bank customers.

Troy is also unique in that it is an effort driven by the established banks to innovate themselves rather than waiting for startups and FinTech firms to drive progress. It is likely that in 2023, Troy and related services will be at the heart of the cashless economy.

BKM Express

BKM Express is the digital wallet developed by BKM. Its functionalities include online shopping, one-click payment, face-to-face transfers, and even donations. At the moment, 17 banks support BKM express, and it has 1.4 million users. More than 21 thousand retail members partook in over 3.8 million transactions since the launch in 2012 to May 2017. This is twice the number of transactions from 2015. BKM is heavily focused on increasing the share of mobile payments, and in 2016, for the first time, more than half of payments on the platform were mobile.



Turkey FinTechs are on a roll

Turkey is witnessing continuous growth in the FinTech industry with 2015 emerging as the year with the most number of FinTech launches. The number of B2C FinTechs is also on a high with 2015 witnessing a launch of 13 B2C FinTechs. Bank initiatives in the segment is also seeing a positive trend with 4 launches in 2015.

The payments game is on!

The payments segment is clearly the leading space in Turkey with 72 FinTechs belonging to the category. 2015 witnessed a launch of 13 payment FinTechs and 3 digital banking FinTechs. Almost 65% of FinTechs are focusing on providing digital alternatives to cash for consumers.

Co-opetition and collaboration

The Turkey FinTech industry is different from other regions with its great mix of initiatives from incumbent banks, new entrants and existing technology vendors. With 42% of FinTechs offering a business solution and 10% of FinTechs launched by banks, existing banks have the opportunity to offer a superior digital experience to customers. B2C FinTechs are also gaining ground since 2014 and will collaborate with banks to acquire customers quickly and cost-efficiently.

Sharp focus on digital experience

Banks have a clear focus on the digital experience with almost 65% of FinTech initiatives in the payments and digital banking segments. Many banks are also leveraging B2B FinTechs to offer digital channels and products to their customers.

Regulatory Players

The Central Bank of Turkey (TCMB) defines the monetary policy for Turkey to guide the Turkish economy and regulate the banking system to align with these policies (full authority lies with BDDK). Under the Payment System Law of 2013, TCMB has the authority to regulate audit clearing and settlement systems, putting BKM directly within its purview.

The Banking Regulation and Supervision Agency (BDDK) has the full authority to regulate the banking system. It assigns the licenses to e-money and payments companies that fall under the Payment System Law. It sets all regulations that apply to credit cards and periodically audits banks for compliance.

Besides these two main regulators, **Revenue Administration, Ministry of Development, Ministry of Customs and Trade and the Turkish Competition Authority** are involved in regulations of the cards payments industry.

Conclusion



In 2017, Turkey stands at an interesting juncture: a large base of digital natives and businesses are ready to unleash and adopt innovative business models. Add to this the government's intent to promote card payments to diminish the shadow economy in Turkey and BKM's multi-fold initiatives from ATM standardization to BKM Express to Troy, and the stage is set to unveil a cashless economy for Turkey by 2023.

Turkey, despite being a bankcard heavy market, remains a host to a significant portion of underutilized credit and debit cards. A slew of synchronized set of initiatives are required from regulators, government, BKM, banks, and FinTechs to revive these dormant cards and take the first giant stride towards cashless before 2018.

Leveraging the high literacy rates among the Turks and an even higher internet and smartphone penetration, banks can offer a cost-efficient and scalable way to on-board and serve customers on their digital banking

platform through innovative authentication and biometrics tools.

FinTechs also need to take note of the large segment of millennials - the young population of Turkey demands a highly sophisticated digital experience and this can be offered through B2C FinTech startups rather than solely through banks.

2023 does not seem too far away now, but it is 45 years from the launch of the first credit card in Turkey, 32 years from the launch of the first POS, 16 years from the full chip & PIN migration and 11 years from the launch of the first national wallet. Let's get ready to the next phase in the Turkish payments economy and say Hello to Cashless! ■

When
in Turkey,
do as
Turks do.



Buy with
cards,
not with
cash.



Turks love cards.
170 million cards
are in use.
Almost
all retailers,
large and small
accept cards.
In Turkey,
cards are better
than cash.
Use yours too.

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(Also, don't forget to enjoy a warming black Turkish tea :)

When
in Turkey,
do as
Turks do.



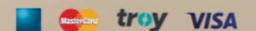
Buy with
cards,
not with
cash.



Turks love cards.
170 million cards
are in use.
Almost
all retailers,
large and small
accept cards.
In Turkey,
cards are better
than cash.
Use yours too.

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