

**UBS Global I/O®**

# Global Banks Reality Check

## UBS Evidence Lab: The rising mobility of banks

**Equities**

Global  
Banks

**Mobile banking usage undergoing exponential growth**

The adoption of mobile banking shows no signs of abating globally, with usage experiencing unprecedented growth. According to our latest UBS Evidence Lab mobile banking survey of 27,914 customers of over 210 banks in 24 countries, mobile banking penetration is now 64%, a sharp rise from the 42% registered by our survey last year (see: [Q-series: Mobile Banking "Is a Bank in Your Pocket The Next Best Thing?"](#)). Penetration remains higher in emerging markets, at 76% on average, than in developed markets, at 46%.

**Unrealised cost benefits – scope for branch footprint reduction**

Mobile offers potential cost benefits to banks. According to our latest survey of 61 banks globally, switching transactions from in-branch to mobile banking could lead to an average cost saving of 39%, culminating in a potential 7.6% reduction in operating expenses over the next three years. Surveyed banks anticipate a 7.3% reduction in branch footprint as a direct consequence of their mobile banking strategies, up from 5.6% in the previous survey.

**Rising revenue upside underpins earnings power**

As product advertisements (banking and third-party-related) via mobile apps become more visible and commonplace, the earnings power of mobile banking rises. Our latest survey indicates a potential 8.5% revenue uplift from mobile banking in three years (up from 6.8% previously). Assuming a 7.6% cost reduction and 8.5% revenue boost in retail banking, our analysis suggests a potential rise in global ROE of up to 110bps by 2019. First-movers could enjoy an advantage, but disruptive pressures could compete away revenues and returns (see: [Q-series: Is FinTech a threat or an opportunity?](#)).

**UBS scorecard: US and Indian banks rank top; Japanese and Korean banks lag**

We set up a proprietary scorecard to identify banks potentially best placed to benefit from the expansion in the mobile banking industry, ranking results by country. Reflecting our scorecard findings, our preferred mobile banking plays in developed markets are Bank of America, Unicredit, Swedbank, BNP and Santander, and in emerging markets they are HDFC Bank, ICICI, Garanti, Akbank, and Bank Mandiri.

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*\*UBS Evidence Lab provides our research analysts with rigorous primary research. The team conducts representative surveys of key sector decision-makers, mines the Internet, systematically collects observable data, and pulls information from other innovative sources. They apply a variety of advanced analytic techniques to derive insights from the data collected. This valuable resource supplies UBS analysts with differentiated information to support their forecasts and recommendations—in turn enhancing our ability to serve the needs of our clients.*

For this report, UBS conducted online studies among banking customers in a B2C study and among bankers responsible for FinTech and mobile banking strategy in a B2B study spanning across 24 countries. The two studies have provided deep insights into the current FinTech and mobile banking practices, behaviours as well as attitudes among banking customers and the FinTech and mobile banking strategy among major banks in these countries. To supplement these studies, UBS Evidence Lab performed an analysis of the rankings and download trends of mobile payments and mobile banking applications.

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# Global Banks

UBS Research THESIS MAP MOST FAVORED

LEAST FAVORED

**BAC, BNP, HDFC Bank, ICICI, Garanti, Mandiri, Santander, Swedbank, Unicredit**

**Banco do Brasil, Handelsbanken, NAB, Standard Bank, Wells, Zions**

## PIVOTAL QUESTIONS

### Q: Will mobile become the primary channel for banking transactions?

Mobile banking penetration is experiencing exponential growth and looks set to become the leading distribution channel for banking transactions. According to our latest UBS Evidence Lab survey, retail transactions by mobile banking have more than doubled in the past two years from 13% to 27%. By 2019, they are forecast to rise to 46%, considerably higher than in-branch transactions that are forecast at 26%.

### Q: Can mobile distribution drive cost savings and improved efficiency?

The mobile channel is offering banks opportunities to lower costs and improve efficiency. According to our survey, the cost of a banking transaction is on average 39% cheaper via mobile banking than in a branch. Increasing mobile usage also paves the way for cost savings from branch footprint reduction (our survey indicates a 7.3% reduction in branch footprint). Overall, bank management surveyed expects their mobile banking strategy to lower operating expenses in their retail business by 7.6% within three years.

### Q: Where are the revenue opportunities from mobile banking?

Product advertisements via mobile apps are becoming more visible and common place. In our UBS Evidence Lab Survey of 27,914 bank customers in 24 countries, 43% indicated seeing advertisements for banking products and 16% for thirty-party products although the purchase conversion rate was higher for non-banking products (48%) than for banking products (38%). The high conversion rates suggest considerable cross-selling opportunities and help support management expectations of a 8.5% revenue uplift in their retail banking business, within three years.

## WHAT'S PRICED IN?

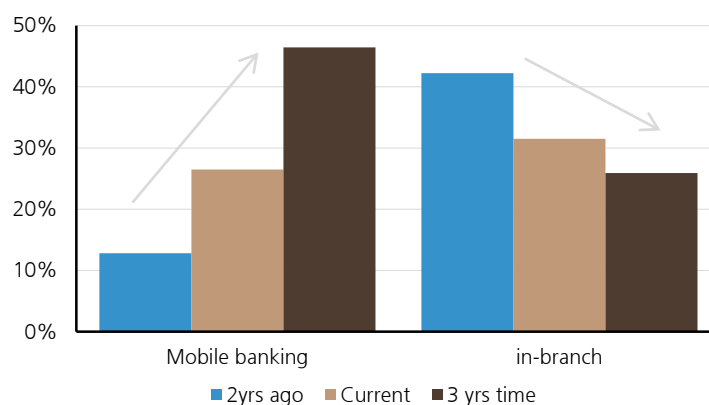
**Current prices do not reflect a potential 3-5% EPS uplift for our preferred mobile banking plays.** As the full implications of mobile on bank fundamentals have yet to be tangibly quantified or fully appreciated by the market, in our view, related earnings accretion has yet to be priced in by the market. For our preferred list of mobile banking plays (see Figure 5), we envisage the potential earnings impact from mobile banking to be "medium", defined as a 3-5% EPS uplift.

## UBS VIEW

**Mobile banking offers a glimmer of hope for banks in an otherwise challenging operating environment:** Global banks face challenges on multiple fronts: an uncertain macro outlook, low interest rates, volatility in capital markets, and increasing regulation. However, the increasing penetration of mobile banking provides opportunities for cost savings and revenue gains. While disruptive pressures could compete away upside potential, first movers should be best placed to benefit from improved efficiencies and higher returns.

## EVIDENCE

### Percentage of retail transactions: Mobile banking vs in-branch

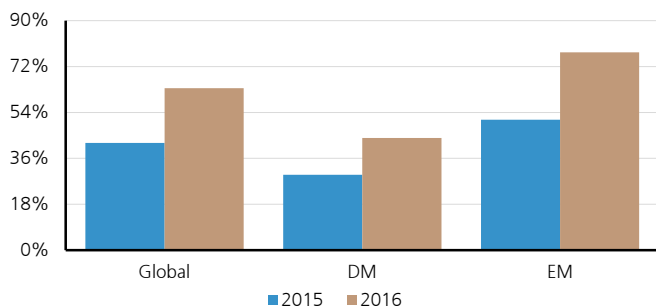


Source: UBS Evidence Lab

## OUR THESIS IN PICTURES

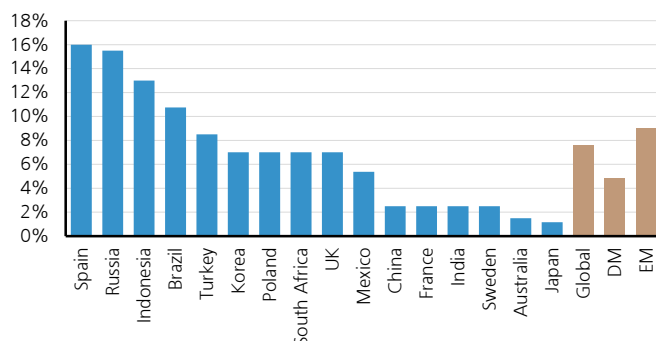
[return](#) ↑

## Mobile banking penetration



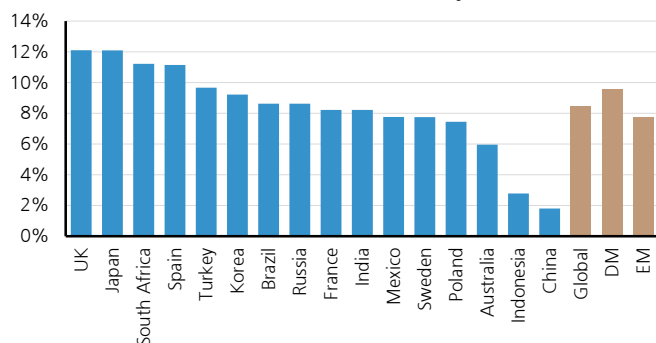
64% of survey respondents used mobile banking, a sharp rise from 42% last year. Usage remains higher in EM countries (76%) than DM (46%).

## Estimated cost savings from mobile over next three years



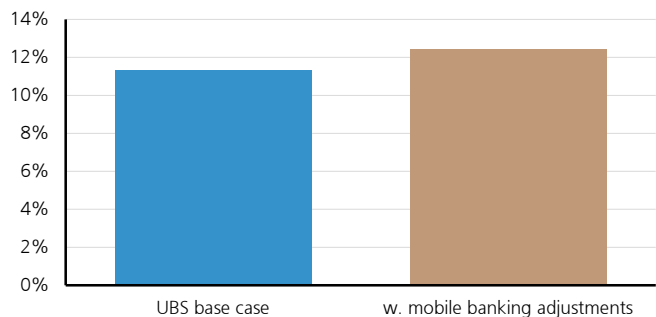
Respondents estimated a weighted average of 7.6% of cost reductions. EM banks remain more optimistic (seeing a 9.0% cost reduction on average) vs DM banks (4.8% on average).

## Incremental revenue from mobile over next three years



Respondents estimate revenue gains of c8.5% from mobile banking, on average

## 2019E global banks return on equity (%)



Based on our simulation analysis, and assuming our current forecasts have yet to incorporate any impact from mobile banking, these net revenue adjustments could take the 2019 global ROE from 11.3% to 12.4%

Sources for exhibits above: UBS Evidence Lab and UBS estimates.

# UBS Evidence Lab: what has changed?

Figure 1: UBS Evidence Lab surveys and app download analysis: what has changed?

	What was UBS Evidence Lab survey Y15's showing?	What was UBS Evidence Lab survey Y16's showing?	Change
<b>Consumer survey<sup>1</sup></b>			
<b>Behaviour and preferences of bank customers surveyed</b>	<ul style="list-style-type: none"> <li>42% of bank customers surveyed indicated they use mobile banking with the highest reading in China (63%) and the lowest in Japan (16%)</li> </ul>	<ul style="list-style-type: none"> <li><b>Mobile banking penetration has increased to 64%</b>; usage continues to be highest in China (88%) and lowest in Japan (23%)</li> </ul>	Increased
	<ul style="list-style-type: none"> <li>Among bank customers, mobile users with a net promoter score (NPS) of -2.7 had higher customer satisfaction than non-mobile users (NPS of -16.8), culminating in a net promoter difference of 14.1</li> </ul>	<ul style="list-style-type: none"> <li>NPS for mobile-users improved slightly to -1.1 but deteriorated for non-mobile users to -20.1, resulting in a net promoter difference of 19.0, underlying <b>increasing customer satisfaction among mobile users</b></li> </ul>	Increased
	<ul style="list-style-type: none"> <li><b>18% of bank customers indicated seeing non-banking products advertised on their mobile apps</b>, 48% of whom subsequently went ahead and purchased the product</li> </ul>	<ul style="list-style-type: none"> <li>Advertisements of non-banking products seen by bank customers fell to 16%, 48% went on make the purchase</li> </ul>	Decreased
	<ul style="list-style-type: none"> <li>Indian banks were considered to offer the best mobile banking experience; followed by US banks.</li> </ul>	<ul style="list-style-type: none"> <li><b>Revenue enhancement</b> was underpinned with 43% of customers seeing banking product commercials on apps, with a <b>38% purchase conversion rate</b></li> <li><b>Indian banks remained top ranked</b> overall, followed by banks in Nigeria and Kenya. In DM, US banks continued to be ranked top.</li> </ul>	Unchanged
<b>Management survey<sup>2</sup></b>			
<b>Perceptions and expectations of surveyed bank management</b>	<ul style="list-style-type: none"> <li>58% of banks surveyed considered themselves to be at the "mid stage" of implementing their mobile banking strategy, with 30% at an advanced stage</li> </ul>	<ul style="list-style-type: none"> <li>Although the level of implementation remains unchanged at 58%, <b>37% now at an advanced stage</b></li> </ul>	Increased
	<ul style="list-style-type: none"> <li><b>Cheaper transaction cost</b>: a transaction by mobile banking, on average estimated to be 37% cheaper than a similar one in-branch</li> </ul>	<ul style="list-style-type: none"> <li><b>Cost savings rising to 39%</b> by switching from in-branch to mobile transactions</li> </ul>	Increased
	<ul style="list-style-type: none"> <li>Mobile banking estimated to <b>lower operating expenses by 9.5%</b> in next three years</li> </ul>	<ul style="list-style-type: none"> <li>Beyond what was already achieved in the past 12 months, management survey still expect to achieve another 7.6% reduction in costs over next three years</li> </ul>	Increased
	<ul style="list-style-type: none"> <li>Banks expected a 5.6% reduction in branch footprint, as a direct consequence of their mobile banking strategy</li> </ul>	<ul style="list-style-type: none"> <li><b>Reduction in branch footprint increased to 7.3%</b></li> </ul>	Increased
	<ul style="list-style-type: none"> <li>Revenue opportunities arising from mobile banking estimated at 6.8% in three years' time.</li> </ul>	<ul style="list-style-type: none"> <li><b>Revenues from mobile banking could rise by 8.5%</b> over the next three years.</li> </ul>	Increased
<b>App download analysis</b>			
<b>An alternative view of mobile banking penetration</b>	<ul style="list-style-type: none"> <li>UBS Evidence Lab mobile app data analysis indicated that the market share of financials app downloads was 2.2% in 2015</li> </ul>	<ul style="list-style-type: none"> <li><b>Financial app market share has risen to 2.6%</b>, or an increase of 40bps</li> </ul>	Increased
	<ul style="list-style-type: none"> <li>As with the consumer survey, <b>China</b> was well represented, <b>dominating the finance application downloads with a 6.6% market share</b></li> </ul>	<ul style="list-style-type: none"> <li>By 2016, financials share of total app downloads up to 7.3% in China</li> </ul>	Increased
	<ul style="list-style-type: none"> <li><b>In DM, financial app penetration highest in Sweden</b> with a 3.5% share of total app downloads.</li> </ul>	<ul style="list-style-type: none"> <li>In Sweden, financials app market share has risen to 3.5%.</li> </ul>	Increased

Source: UBS Evidence Lab. Note: The above figure compares data from our 2015 UBS Evidence Lab survey (Apr-May 2015) with our 2016 survey (Apr-May 2016), and our previous app download analysis (June 2015) with our updated app download analysis (June 2016).

<sup>1</sup> Consumer survey: In 2015, UBS Evidence Lab consumer survey involved 20,681 bank customers in 18 countries. In 2016, The scope of the survey was expanded to 27,914 in 24 countries.

<sup>2</sup> Management survey: In 2015, 67 bank management teams out of 152 participated in our UBS Evidence Lab survey. In 2016, 61 banks (out of 177 approached) participated in our latest management survey.

# Executive summary

The adoption of mobile banking shows no signs of abating, with usage undergoing exponential growth. According to our latest UBS Evidence Lab mobile banking survey, mobile banking penetration has now increased to 64% globally, a sharp rise from the 42% revealed in our survey last year (see: Q-series: Mobile Banking "[Is a Bank in Your Pocket The Next Best Thing?](#)").

**Mobile banking penetration now 64%, up from 42% last year, according to our most recent UBS Evidence Lab survey**

The proliferation of highly innovative products and services that are transforming the customer experience, alongside an increasingly competitive landscape, will create both challenges and opportunities for the banking industry. Banks that are quick to invest in mobile and other technology-led capabilities will be well placed to maximise opportunities to improve revenues and efficiency, while mitigating disruptive pressures. Laggards, on the other hand, are at risk of losing their competitive strength, market positioning and ultimately their earnings power.

In trying to assess the potential challenges and opportunities for the banking industry, this report looks at mobile banking from two perspectives – that of bank managements and of consumers – and compares the latest survey findings with those from last year's survey ([click here](#)).

Via UBS Evidence Lab app download analysis, the report tracks financial category apps in 22 countries to understand the traction and success of mobile banking by market, and concludes by synthesising these trend implications for specific securities in the banking industry. Our [interactive model](#) allows market share trends for the countries to be studied, including cross-country comparisons for a selected time period.

At the consumer level, we surveyed 27,914 consumers in 24 countries via an analysis of mobile user behaviour, preferences and satisfaction levels in an attempt to identify and rank by country those banks with the best mobile banking experience.

At the bank management level, we examined banks' strategies towards mobile banking, penetration levels, as well as cost-reduction and revenue-enhancing potential by surveying 61 bank management teams (out of 177 banks approached).

## UBS Evidence Lab consumer survey

Our consumer survey involved 27,914 bank customers in 24 countries. The key findings are as follows:

- **Mobile banking penetration:** 64% of survey respondents used mobile banking, a sharp rise from 42% last year. The highest reading remains in China (88% vs 63% previously) and the lowest in Japan (23% vs 16% previously). Penetration remains higher in emerging (78%) than developed markets (44%).
- **UBS Evidence Lab mobile app download share** is steadily increasing, showing growing acceptance of mobile banking. For the countries under study, mobile banking app share of total app downloads grew from 2.2% in 2015 to 2.6% so far in 2016, or an increase of 40bps.
- **Customer satisfaction:** Mobile customers reported a higher likelihood that they would recommend a bank to a friend, with a net promoter score that was

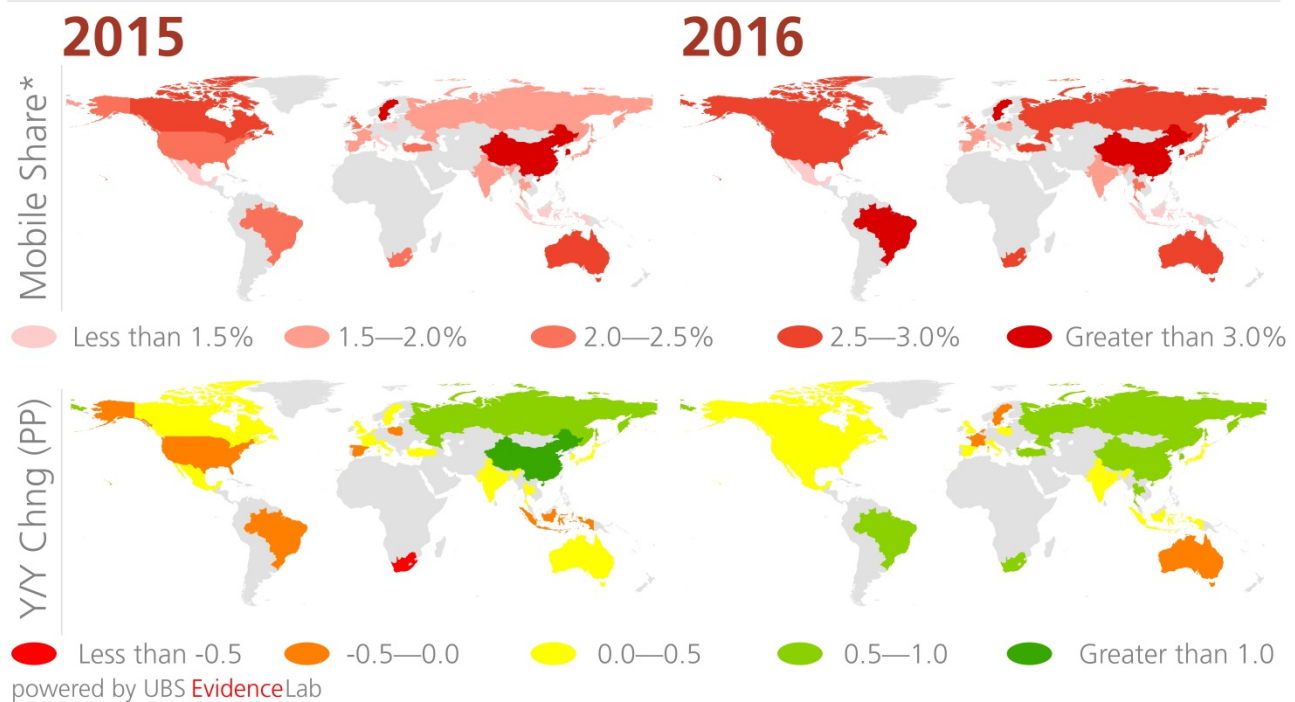
19.0 higher than that for non-mobile customers, also a considerable increase from the NPS difference of 14.1 observed last year.

- **Revenue enhancement potential:** Customers surveyed indicated seeing advertisements for both banking products (43%) and third-party products (16%) although the purchase conversion rate was higher non-banking products (48%) versus banking products (38%).
- **Best mobile banking experience:** By country, banks in India remained on top, followed by those in Nigeria and Kenya. Among developed-market (DM) countries, US was highest ranked, followed by Canada and Italy. In contrast, banks in Japan continue to register the lowest customer satisfaction performance.

**Figure 2: Mobile banking: Financial App Download share: 2015 vs 2016**



## Mobile Banking: Financial App Download Share



\*Financial category app downloads (excluding mobile payments) as share of all app downloads by country; iOS and Google Play. Data as of the end of June 2016. Source: UBS Evidence Lab, Sensor Tower. Issued by UBS AG or affiliates to professional investors for information only and its accuracy/completeness is not guaranteed. All opinions may change without notice and may differ to opinions/recommendations expressed by other business areas of UBS. UBS may maintain long/short positions and trade in instruments referred to. Unless stated otherwise, this is not a personal recommendation, offer or solicitation to buy/sell and any prices/quotations are indicative only. UBS may provide investment banking and other services to, and/or its employees may be directors of, companies referred to. To the extent permitted by law, UBS does not accept any liability arising from the use of this communication. © UBS 2016. All rights reserved.

Source: UBS Evidence Lab, Sensor Tower; \*Financial category app downloads (excluding mobile payments) as share of all app downloads by country; iOS and Google Play

## UBS Evidence Lab bank management survey

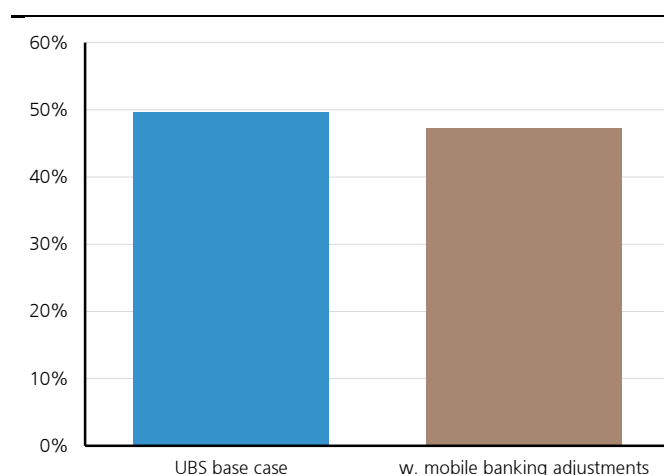
The key findings of our bank management survey are as follows:

- **Strategy implementation:** 58% of surveyed banks continued to consider themselves to be at the "mid stage" of implementing their mobile banking strategy, unchanged from last year. The key difference is that now 37% (up from 30% last year) claimed to be at an advanced stage. Our survey indicated that EM banks are at a more advanced stage than DM banks, averaging 41% versus 30%. India, Poland and Spain stood out as being the most advanced.

- **Mobile banking usage:** Overall, the proportion of bank customers using mobile banking has increased from 14% two years ago to 30% today, and is expected by surveyed banks to rise to 55% within three years, by which time mobile channel usage is expected to be higher than internet channel usage. Current mobile banking penetration remains higher in DM (35%) than EM banks (26%); however, in three years' time, it is expected to be slightly higher in EM (at 56%) than DM (at 54%).
- **Cheaper transaction costs:** For respondents who replied (67%), average cost savings of 39% (vs. 37% last year) could materialise by switching from in-branch transactions to transactions via mobile banking, culminating in a 7.6% cost reduction on a weighted average basis over the next three years, slightly below the 9.5% observed last year. EM banks remained more optimistic (with 9.0% cost reduction on average) than DM banks (4.8% on average).
- **Branch footprint reduction:** Surveyed banks expected to see a 7.3% reduction in branch footprint, on average (from 5.6% previously), as a direct consequence of their mobile banking strategy. DM banks remained more optimistic (8.6% reduction on average) than EM banks (6.5%).
- **Enhanced revenue opportunities:** Revenues from mobile banking could rise by 8.5% (on a weighted average basis) over the next three years, above the 6.8% rise anticipated in our previous survey. On the revenue front, DM banks are more optimistic (9.6% on average) than EM banks (7.7% on average).
- **Potential threats:** Surveyed banks see potential threats to their mobile banking strategy coming largely from non-bank providers, notably internet payment firms (49% of respondents) and FinTech companies (37%). For more details on potential disintermediation risk from FinTech companies, please see: [Q-series - Global Banks "Is FinTech a threat or an opportunity"](#).

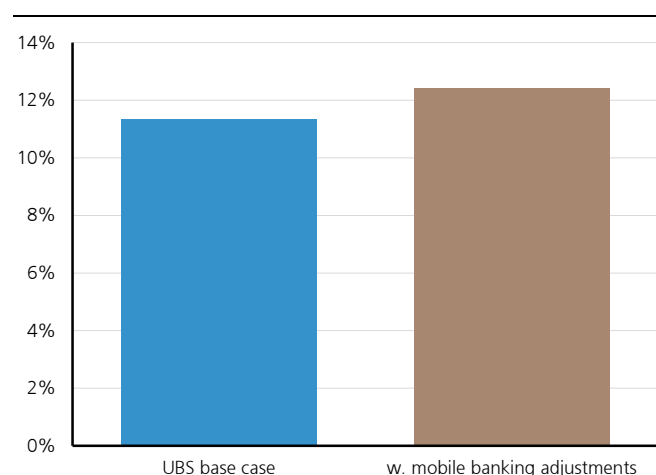
## Economic impact

**Figure 3: 2019E global banks' cost/income ratio (%)**



Source: UBS estimates

**Figure 4: 2019E global banks' return on equity (%)**



Source: UBS estimates

A simulation analysis suggests that a cumulative 7.6% cost reduction and a 8.5% revenue boost, as indicated in our bank management survey, could potentially lower the global sector's cost/income ratio from 49.6% in 2019 to 47.3%, and lift RoE from 11.3% to 12.4%. Although there could be an advantage for first-movers and those with more capable IT systems, we would caution against anticipating

such a windfall in profitability, as it would likely to attract competition and create disruptive pressures, putting pressure on revenues and returns (see [Q-series – Global Banks "Is FinTech a threat or an opportunity?"](#)). It could also attract heightened regulatory scrutiny.

## Mobile banking scorecard

**Figure 5: Developed markets – mobile banking scorecard (lower score is better)**

	Cost-efficient interactions	Behavioural opportunity	Mobile client loyalty	Revenue enhancement potential	Final Score
<b>US</b>	38.6	56.4	32.7	15.9	<b>35.9</b>
<b>Italy</b>	29.5	33.6	50.9	56.8	<b>42.7</b>
<b>Sweden</b>	38.6	22.7	41.8	70.5	<b>43.4</b>
<b>Australia</b>	50.0	55.5	45.5	40.9	<b>48.0</b>
<b>Spain</b>	43.2	39.1	60.0	52.3	<b>48.6</b>
<b>UK</b>	54.5	51.8	49.1	45.5	<b>50.2</b>
<b>France</b>	50.0	60.0	60.0	50.0	<b>55.0</b>
<b>Netherlands</b>	50.0	54.5	47.3	75.0	<b>56.7</b>
<b>Canada</b>	70.5	63.6	36.4	65.9	<b>59.1</b>
<b>Japan</b>	75.0	62.7	76.4	27.3	<b>60.3</b>

Source: UBS research analysis (based on UBS Evidence Lab survey findings)

In order to identify banks that are potentially best placed to benefit from an expansion in the mobile banking industry, we set up a mobile banking scorecard, based on the findings of our consumer survey. The scorecard comprised four equally-weighted metrics: (1) cost-efficient interactions; (2) behavioural opportunity; (3) mobile client loyalty; and (4) revenue enhancement potential

In developed markets, US banks ranked first in our mobile banking scorecard, coming top in both revenue enhancement potential and mobile client loyalty; 38% of US bank customers surveyed indicated they had seen a banking product advertised on their mobile apps, of whom 58% disclosed that they went ahead and purchased the product, the highest conversion rate in DM. At the same time, US respondents were the most likely to recommend their bank to a friend given its mobile banking capabilities, while rating their banks as offering the best mobile experience.

In contrast, Japanese banks came last on our scorecard rankings, similar to the scorecard findings of last year's survey ([click here](#)), scoring poorly in terms of mobile client loyalty, with Japanese bank customers surveyed being least likely to recommend their bank to a friend. The consumer survey also showed that in Japan infrequent mobile banking users were the least likely to increase mobile banking usage in the immediate future.

In emerging markets, Indian banks came out on top of our mobile banking scorecard, with 58% of respondents indicating that they had seen a banking product advertised on their mobile apps, 59% of whom subsequently proceeded with a purchase, the highest level in EM. Indian bank customers surveyed also indicated the highest mobile, internet and SMS usage, and came second-highest for internet interactions, although branch visits remained highly frequent.

**Figure 6: Emerging markets – mobile banking scorecard (lower score is better)**

	Cost-efficient interactions	Behavioural opportunity	Mobile client loyalty	Revenue enhancement potential	Final Score
India	28.3	48.0	50.7	13.3	35.1
Kenya	53.3	31.3	29.3	43.3	39.3
Turkey	28.3	37.3	50.7	53.3	42.4
Indonesia	53.3	43.3	48.0	28.3	43.3
Thailand	55.0	42.7	60.0	16.7	43.6
Nigeria	50.0	36.7	24.0	70.0	45.2
Brazil	30.0	51.3	53.3	48.3	45.8
South Africa	41.7	55.3	32.0	58.3	46.8
China	65.0	56.0	61.3	16.7	49.8
Mexico	51.7	53.3	48.0	66.7	54.9
Poland	48.3	59.3	61.3	68.3	59.3
Russia	58.3	55.3	44.0	81.7	59.8
Singapore	70.0	68.0	58.7	70.0	66.7
South Korea	66.7	62.0	78.7	65.0	68.1

Source: UBS research analysis (based on UBS Evidence Lab survey findings)

## Investment conclusion

We have identified a list of 10 banking stocks from the 24 markets surveyed that we believe represent attractive mobile banking plays. The list partly reflects the country scorecard findings as well as inputs from UBS bank analysts who assessed the potential earnings impact of the mobile banking themes and whether this opportunity has been priced in.

**Figure 7: UBS top mobile banking plays**

	Country	Rating	Price target (local curr.)	Mobile banking EPS potential impact	Priced in?
Bank of America	US	Buy	18.0	Medium	No
Unicredit	Italy	Neutral	2.05	Medium	Yes
Swedbank	Sweden	Buy	187	Medium	Yes
BNP	France	Buy	47.0	Medium	No
Santander	Spain	Neutral	3.7	Medium	No
HDFC Bank	India	Buy	1,550	Medium	No
ICICI	India	Neutral	260	Medium	No
Garanti	Turkey	Buy	9.1	Medium	No
Akbank	Turkey	Neutral	9.2	Medium	No
Mandiri	Indonesia	Neutral	12,750	Medium	No

Source: UBS research analysis (based on UBS Evidence Lab survey findings)

# Consumer survey

## Key findings

Our UBS Evidence Lab consumer survey set out to gain detailed insights into the profile and behaviour of mobile users. It also aimed: (i) to better understand the customer experience of mobile users relative to non-mobile users; (ii) to identify which banks are considered to provide the best mobile banking experience; and (iii) to compare the results with our first UBS Evidence Lab mobile banking survey, conducted in May-June 2015 ([click here](#)). The consumer survey involved 27,914 respondents who evaluated more than 210 banks across 24 countries (for details on methodology, see Appendix 1). The key findings are as follows:

**Our Evidence Lab consumer survey involved 27,914 respondents, who evaluated over 210 banks across 24 countries**

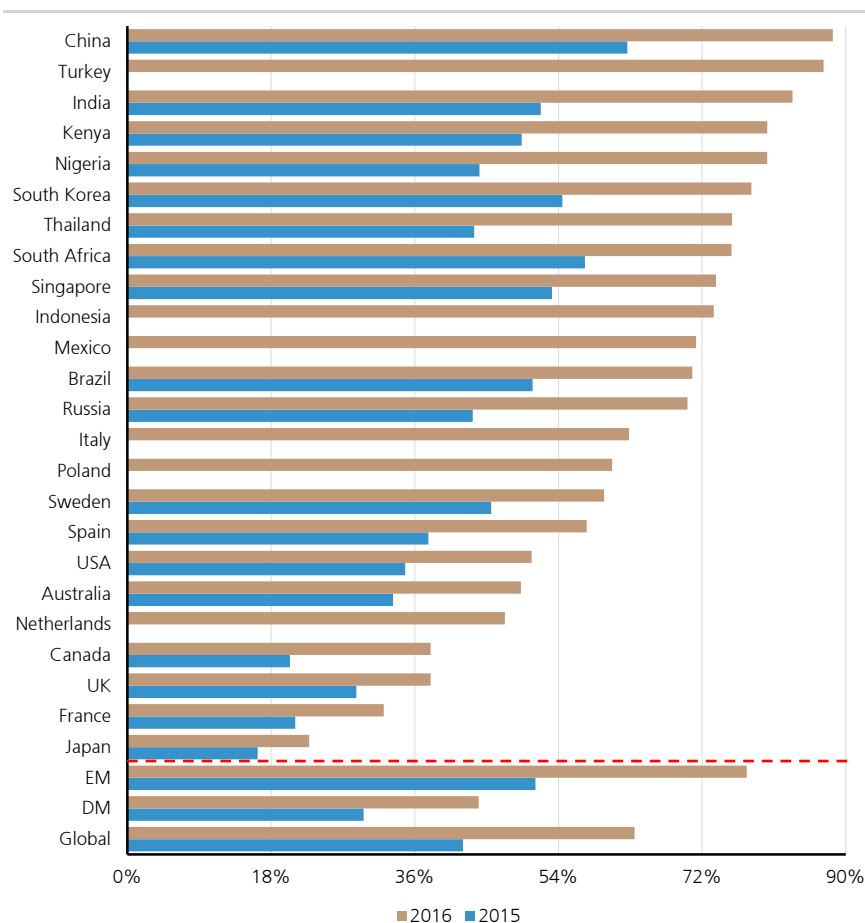
- **Mobile banking penetration:** 64% of survey respondents used mobile banking, a sharp rise from 42% last year. The highest reading remains in China (88% vs 63% previously) and the lowest in Japan (23% vs 16% previously). Usage remains higher in EM countries (78%) than DM (44%).
- **UBS Evidence Lab mobile app download share** is steadily increasing, showing growing acceptance of mobile banking. For the countries under study, mobile banking app share of total app downloads grew from 2.1% in 2015 to 2.4% by June 2016, or by 16% over 6 months.
- **Customer satisfaction:** Mobile customers reported a higher likelihood that they would recommend a bank to a friend, with a net promoter score that was 19.0 higher than that for non-mobile customers, and also a considerable increase from the NPS of 14.1 observed last year.
- **Revenue enhancement potential:** Customers surveyed indicated seeing advertisements for both banking products (43%) and third-party products (16%) although the purchase conversion rate was higher for non-banking products (48%) than for banking products (38%).
- **Best mobile banking experience:** By country, banks in India remained on top, followed by those in Nigeria and Kenya. Among DM countries, US banks ranked highest, followed by banks in Canada and Italy. In contrast, banks in Japan continue to register the lowest customer satisfaction performance.

## Mobile banking penetration: meaningful evolution since last year

Global aggregate mobile banking penetration has risen sharply to 64% from the 42% observed in last year's survey. The improvement was across the world, although it continues to vary considerably, ranging from as high as 88% in China to as low as 23% in Japan (see Figure 8). Mobile banking penetration remains highest among the EM countries (78% on average). The highest penetration level in DM (44% on average) is in Italy, at 63%, but most developed markets are skewed very much to the bottom, low-penetration part of the chart below.

**Our survey showed that mobile banking penetration was around 64%, well above the 42% observed last year**

**Figure 8: Mobile banking penetration by country (2016 vs 2015)**



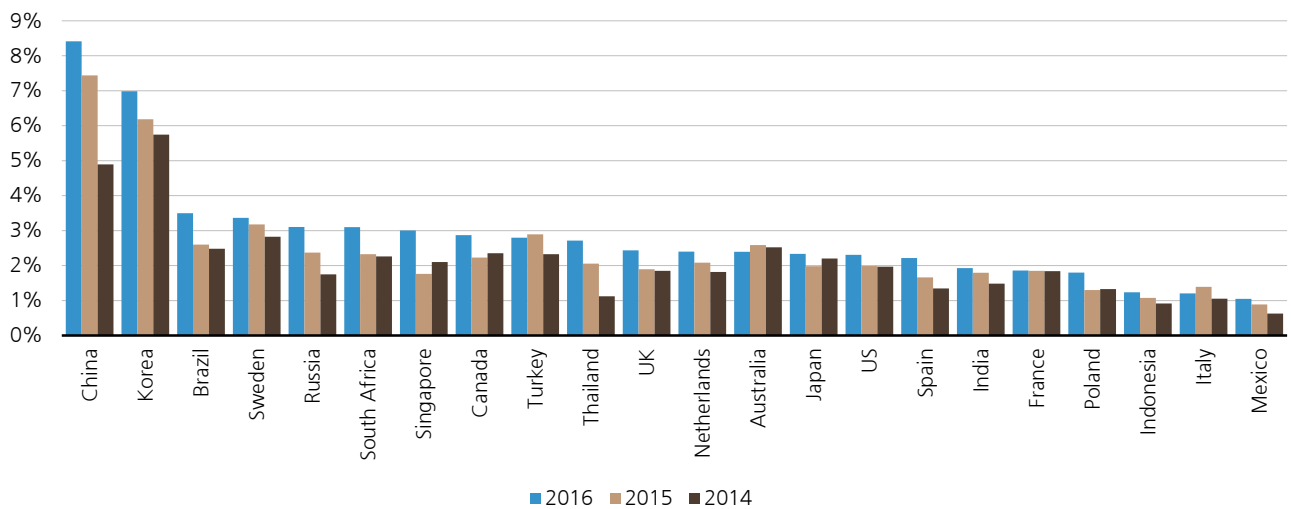
Source: UBS Evidence Lab, UBS research analysis. Note: Indonesia, Italy, Mexico, Netherland, Poland and Turkey were newly added in our 2016 UBS Evidence Lab mobile banking survey

We note that penetration levels look very high in certain emerging markets, especially in Africa, which we suspect is partially a function of the survey method (internet-based), but we think it is reasonable to argue that access to the internet in these markets would correlate with higher levels of affluence and profitability.

## UBS Evidence Lab mobile app analysis

To get an alternative view of mobile banking penetration, our UBS Evidence Lab team also examined mobile app downloads for 22 countries out of the 24 countries in our consumer survey (there was insufficient data for Nigeria and Kenya.) Data for all countries is based iOS and Google Play downloads, with the exception of China (iOS only.) The metric provided is financial category app downloads ex-payments as a percentage of total app downloads ex-games. We believe this metric serves as a good proxy for the traction/popularity of mobile payments in a given country and can be leveraged to assess the traction of mobile banking across countries.

**Figure 9: iOS financial category app downloads as a share of total app downloads**



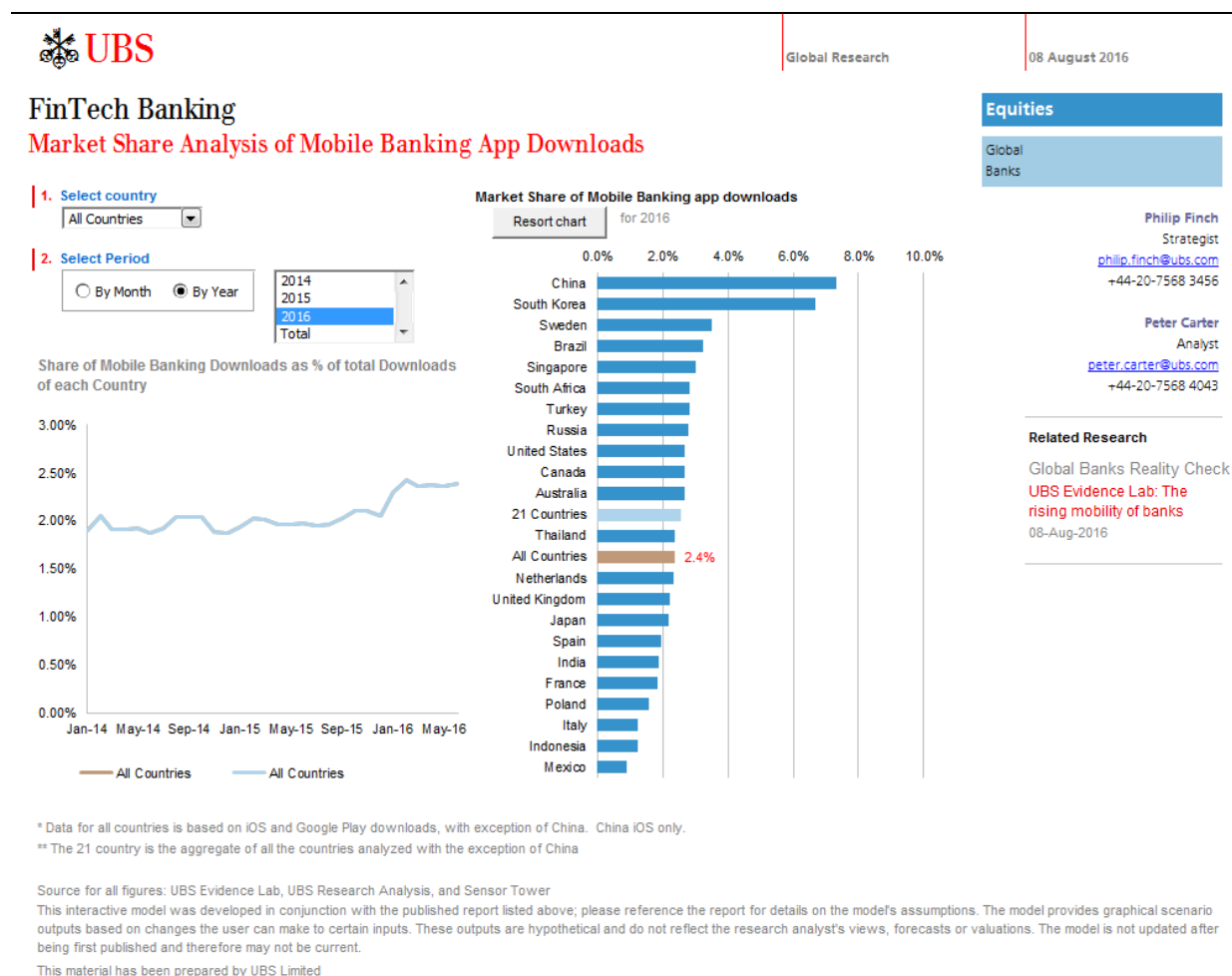
Source: UBS Evidence Lab, Sensor Tower; Note: Data for all countries is based iOS and Google Play downloads, with the exception of China. China is iOS only.

The mobile app data analysis indicated that the share of financial app downloads for the 22 countries reviewed rose from 1.9% in 2014 to 2.2% in 2015 and 2.6% so far in 2016. Most countries showed the share of financial app downloads steadily increasing, indicating growing acceptance of mobile banking: our [interactive model](#) shows market share trends for the countries under study and allows cross-country comparisons for the selected time period.

**Mobile banking app share of total app downloads increased 40bp**

As with the consumer survey, China was well represented, dominating the finance application downloads in the past two years, while also showing rapid growth, suggesting that banks in China are likely to be leaders in mobile banking. Korea was also extremely well represented, which fits with our view of mobile banking usage as expressed in our consumer survey (see Figure 8).

Figure 10: UBS interactive model (click to open)



Source: UBS

## Customer satisfaction

### Higher likelihood of recommending their bank

When we looked at customer satisfaction levels of mobile customers versus non-mobile, we found that mobile customers were considerably happier with their banks. As one measure of customer satisfaction, mobile and non-mobile banking customers were asked about the likelihood they would recommend their bank to a friend, based on a score from 10 to 0, where 10 meant "would definitely recommend" and 0 meant "would definitely not recommend".

**Figure 11: Customer satisfaction – based on "recommending your bank to a friend"**

Country	Mobile customer "recommend to a friend" mean score	Non-mobile customer "recommend to a friend" mean score	"Recommend to a friend" difference	Mobile net promoter score	Non-mobile net promoter score	Net promoter difference
China	7.0	5.8	1.2	-9.1	-43.1	34.0
South Africa	7.9	6.8	1.1	26.2	-7.9	34.1
Indonesia	7.5	6.5	1.0	7.0	-20.1	27.2
Thailand	7.1	6.2	0.9	-8.1	-33.8	25.8
Japan	5.5	4.7	0.8	-68.6	-79.2	10.6
Singapore	6.9	6.2	0.7	-19.4	-40.1	20.8
Kenya	7.8	7.2	0.7	24.4	9.8	14.7
Spain	6.3	5.7	0.6	-30.5	-43.5	13.0
India	8.1	7.4	0.6	33.5	16.4	17.1
South Korea	6.0	5.4	0.6	-53.2	-67.8	14.5
Turkey	7.0	6.5	0.6	-5.9	-18.2	12.2
Sweden	6.5	6.0	0.5	-21.1	-24.9	3.8
UK	7.2	6.8	0.4	1.7	-8.1	9.8
Nigeria	8.1	7.7	0.4	35.4	20.4	15.1
Mexico	7.8	7.4	0.4	20.4	6.9	13.5
Netherlands	6.2	5.8	0.4	-30.5	-38.1	7.6
Poland	6.8	6.5	0.4	-13.9	-21.9	8.0
Italy	7.0	6.7	0.3	-11.7	-21.1	9.5
Australia	7.0	6.7	0.3	-6.7	-12.0	5.3
USA	7.8	7.5	0.3	21.4	14.2	7.2
Russia	7.4	7.2	0.3	8.7	-1.2	9.8
France	6.6	6.5	0.2	-19.6	-25.3	5.7
Canada	7.2	7.1	0.1	-2.9	3.3	-6.2
Brazil	7.4	7.5	-0.1	8.4	11.2	-2.8
Global (2016)	7.2	6.5	0.7	-1.1	-20.1	19.0
Global (2015)	7.1	6.6	0.5	-2.7	-16.8	14.1

Source: UBS Evidence Lab, UBS research analysis. Note: "recommend to a friend" score is calculated using the weighted average of the number of respondents per score (from 0 to 10)

Mobile customers had a net promoter score difference that was 19.0 higher than that for non-mobile customers – a considerable evolution from the 14.1 observed in our previous survey. The country with the largest difference was China while Brazil was the only country where the score was higher for non-mobile customers (based on the "recommend to a friend" metric).

**Mobile customers had a net promoter score difference that was 19.0 higher than that for non-mobile customers**

Using a "net promoter"<sup>1</sup> scoring system also showed the potential for considerable improvement in customer satisfaction levels, although countries at the bottom of the "weighted average score" showed the potential for negative changes to the net promoter scores, underlining the importance of getting mobile banking right.

## Revenue enhancement: Cross-selling opportunities

Besides cost reduction, for 88% of the surveyed banks, mobile banking is also expected to provide opportunities to enhance revenues. In order to try and gauge whether banks could achieve revenue enhancement, we asked again the respondents whether their bank offered non-banking products via advertisements

<sup>1</sup> A net promoter scoring system works by allocating those who chose scores of 10-9 to the "promoter" basket, those with scores of 8-7 to "passives" and "6-0" to "detractors". The NPS score can then be calculated as (promoters – detractors)/(promoters + passives + detractors) \* 100.

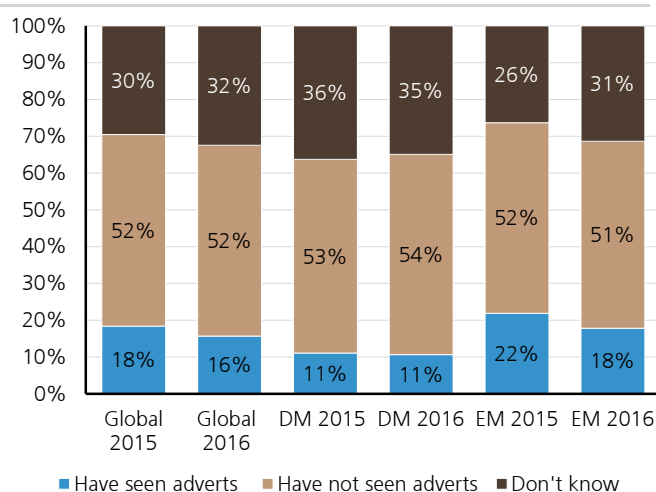
within their mobile banking applications and, in addition, whether they offered banking products.

Our survey showed that 43% of mobile banking customers were aware of seeing applications offering advertisements for banking products – well above the 16% (from 18% previously) for non-banking products.

Consumer recognition of product advertisements within mobile banking applications remained higher among EM respondents (18% for non-banking offerings and 51% for banking) versus DM respondents (11% non-banking and 26% banking).

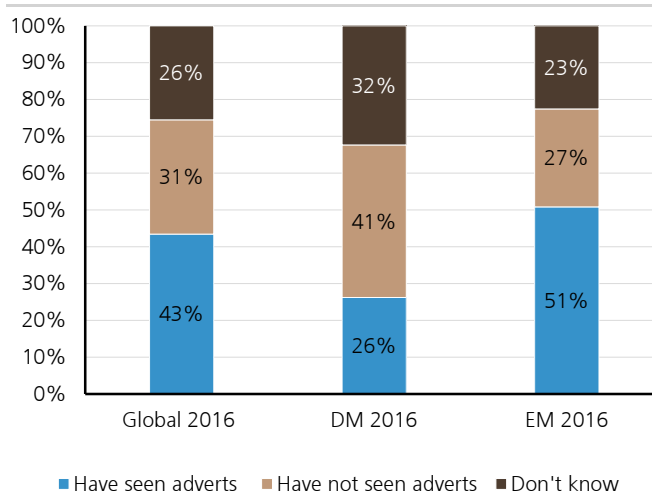
**43% of mobile banking users were aware of seeing applications offering advertisements for banking products versus 16% for non-banking products**

**Figure 12: Consumer recognition of non-banking product advertisements within mobile banking apps**



Source: UBS Evidence Lab, UBS research analysis

**Figure 13: Consumer recognition of banking product advertisements within mobile banking apps (2016)**



Source: UBS Evidence Lab, UBS research analysis

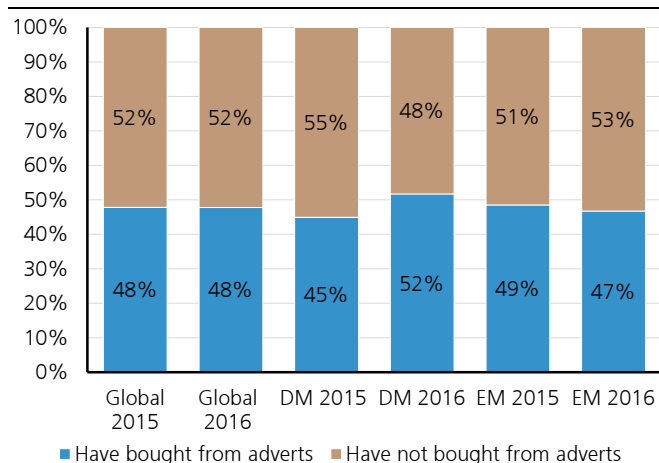
Among consumers who had seen banking products advertised, 38% indicated that they subsequently went ahead with the purchase. By region, EM consumers had a slightly higher conversion rate with 39% of those seeing commercials on banking products going ahead with the purchase versus 34% among DM customers.

**48% had actually bought non-banking products and 38% banking products**

As for non-banking products, although fewer respondents recognized seeing advertisements for third-party products in the latest survey (16%) compared with last year's survey (18%), conversion rates remained extremely high, with 48% affirming that they had actually bought those products (unchanged from our previous survey). Looking by region, it is interesting to note that conversion rates are higher for DM respondents (52%) compared with EM respondents (47%).

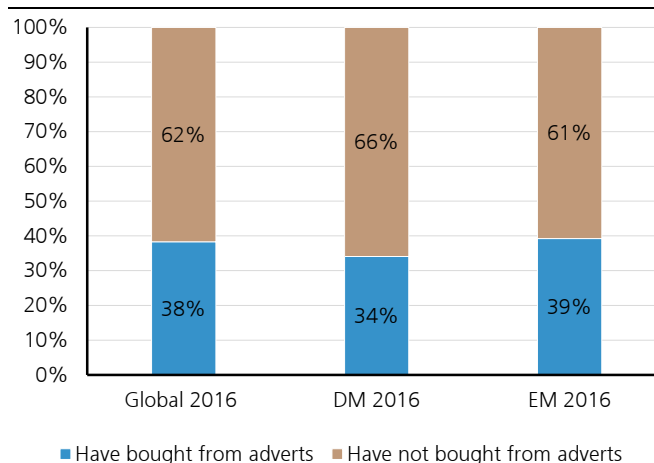
The significantly high conversion rates could potentially offer a significant revenue stream to banks. This underlined to us the fact that customer engagement was high through the use of mobile banking platforms and that, if banks used their mobile banking platform sensibly (and did not alienate customers with badly targeted or intrusive advertisements), there were significant opportunities for selling third-party products, as well as opportunities for cross-selling the banks' own products.

**Figure 14: Consumers who have bought non-banking products from advertisements within a mobile banking application**



Source: UBS Evidence Lab, UBS research analysis

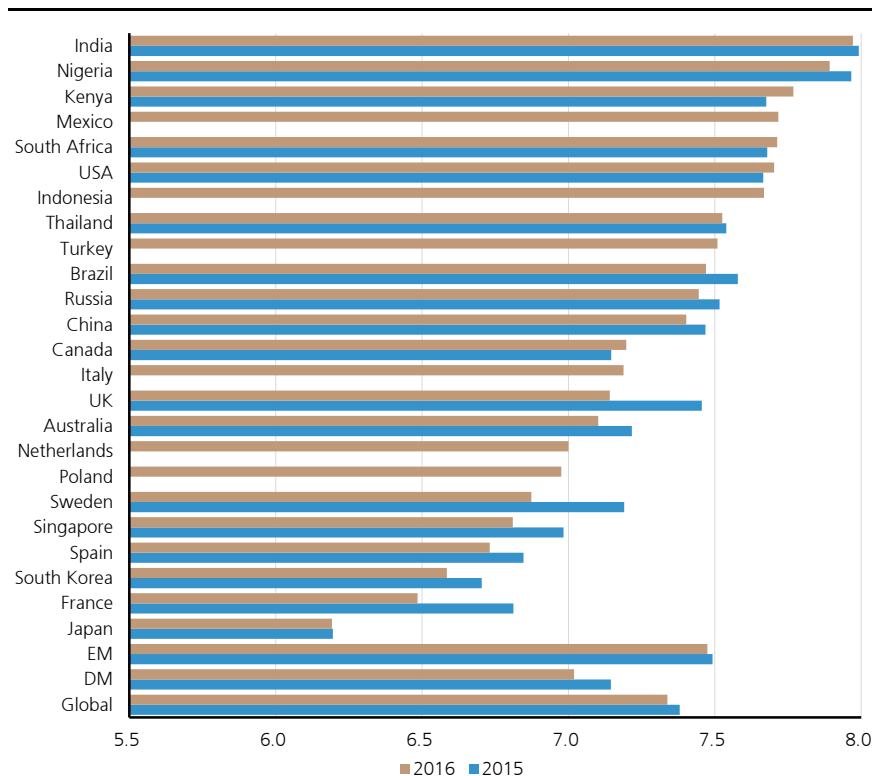
**Figure 15: Consumers who have bought banking products from advertisements within a mobile banking application**



Source: UBS Evidence Lab, UBS research analysis

## Best mobile bank experience

**Figure 16: Mobile banking satisfaction mean rating by country (out of 10)**



Source: UBS Evidence Lab, UBS research analysis.

Note: Based on all banks in our survey sample excluding those where the bank had less than two respondents.  
Scale from 1 to 10, where 1 = very poor and 10 = excellent

We asked our survey participants who used mobile banking which banks provided the best mobile experience. By country, banks in India remained on top, followed by those in Nigeria and Kenya. Among DM countries, the US was highest ranked followed by Canada and Italy. In contrast, banks in Japan continue to offer the lowest customer satisfaction performance.

**In EM, banks in India offered the best mobile banking experience; in DM, US banks gained top rank**

# Bank management survey

## Key findings

In our UBS Evidence Lab bank management survey, we asked bank management, or those best placed to understand the company's mobile banking strategy, a number of questions, to: (1) understand mobile banking from the position of management; (2) understand their objectives, targets and expectations; and (3) compare the latest results with our survey conducted in May-June 2015 (see Q-series: Mobile banking "[Is a bank in your pocket the next best thing?](#)") In total, 61 banks across 24 countries participated in our survey (for more details on the methodology, please see Appendix 1). The key findings were:

**We surveyed bank managements on their mobile banking strategy and compared the results with our previous survey**

- **Strategy implementation:** 58% of surveyed banks still consider themselves to be at the "mid stage" of the implementation of their mobile banking strategy, unchanged from last year. The key difference is that now 37% (up from 30% last year) claimed to be at the "late stage". Our survey suggested that EM banks are at a more advanced stage than DM banks, with 41% at a "late stage" versus 30%, respectively. India, Poland and Spain stood out as being the most advanced.
- **Mobile banking usage:** Overall, the proportion of bank customers using mobile banking has increased from 14% two years ago to 30% today, and is expected to rise to 55% within three years. By then, mobile channel usage is expected to be higher than internet channel usage. Current mobile banking penetration remains higher among DM (35%) versus EM banks (26%). However, in three years' time, it is expected to be slightly higher in EM (at 56%) versus DM (at 54%).
- **Cheaper transaction costs:** For respondents who replied (67%), average cost savings of 39% (versus 37% last year) could materialise by switching from in-house transactions to transactions via mobile banking, culminating in a 7.6% cost reduction on a weighted average basis over the next three years – slightly below the 9.5% observed last year. EM banks remained more optimistic (with a 9.0% cost reduction on average) versus DM banks (4.8% on average).
- **Branch footprint reduction:** Surveyed banks expected to see a 7.3% reduction in the branch footprint, on average (from 5.6% previously), as a direct consequence of their mobile banking strategy. DM banks remained more optimistic (8.6% reduction on average) versus EM banks (6.5%).
- **Enhanced revenue opportunities:** Revenues from mobile banking could rise by 8.5% (on a weighted average basis) over the next three years, above the 6.8% rise anticipated in our previous survey. On the revenue front, DM banks are more optimistic (9.6% on average) versus EM banks (7.7% on average).
- **Potential threats:** Surveyed banks view potential threats to their mobile banking strategy to come largely from non-bank providers, notably, internet payment firms (49% of respondents) and FinTech companies (37%). For more details on the potential disintermediation risk from FinTech companies, please see: [Q-series - Global Banks "Is FinTech a threat or an opportunity"](#).

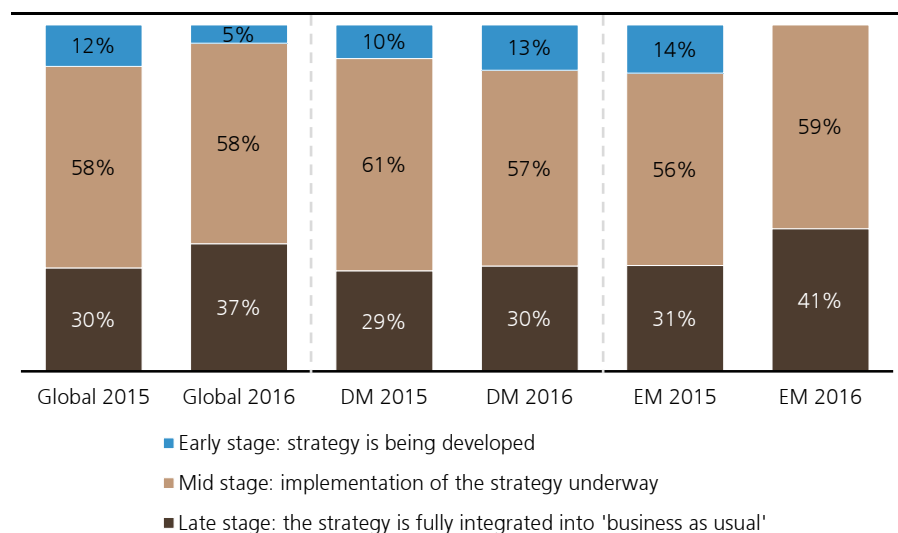
## Strategy position: Mobile bank integration on track

Our bank management survey revealed that the majority of banks (58%) still consider themselves to be at the "mid-stage" of the implementation of their mobile banking strategy – the same level observed in our previous UBS Evidence Lab survey last year (see Q-series: Mobile Banking "[Is a bank in your pocket the next best thing?](#)").

The difference now is the increase in the proportion of respondents that claim to be at the late stage of implementation (mobile banking implementation fully integrated into their business) to 37% (from 30% previously), while only 5% (from 12%) now considers themselves to be in the early stage (strategy being developed). Only in Australia, Japan and the UK did some bank management consider themselves to be still at an early stage.

We observe a larger evolution in emerging market banks, where 41% of respondents now claim to be at the late stage (versus 31% previously), while no respondent claimed to be at the early stage (versus 14% before). For developed market banks, respondents at the late stage remained relatively unchanged at 30%.

**Figure 17: Global banks' strategy position (2015 vs 2016)**



Source: UBS Evidence Lab

On a country-weighted-score basis, India, Poland and Spain stood out as being the most advanced (see Figure 18), where all respondents claimed that their mobile banking implementation was fully integrated into their business (versus just Spain last time). In Brazil and Russia, 67% of respondents were in a similar position with 33% considered to be at the "mid-stage".

At the other end of the scale, the survey findings suggest that implementation of a mobile banking strategy still remains at the development stage in Japan, where 80% of respondents believed they were at the "mid stage" (from 67% previously) and 20% (from 33% previously) at the "early stage". Japan's low development position is also consistent with its relatively low rankings in many of the consumer survey analyses.

From a global banks sector perspective, we view the high proportion of banks at the mid-stage as mildly positive, indicating that many banks are currently at an investment stage, and are likely not yet seeing the full effect of the cost reductions

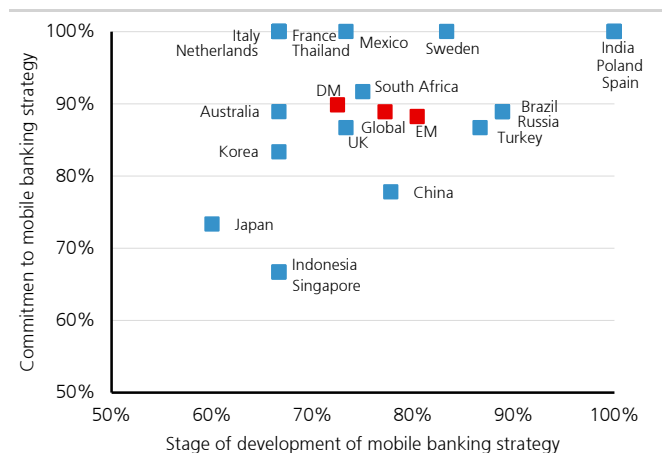
**India, Poland and Spain stood out as being the most advanced countries**

**Japan remains at the low end of the scale**

**Many banks may not yet be seeing the full benefits that we believe mobile banking offers**

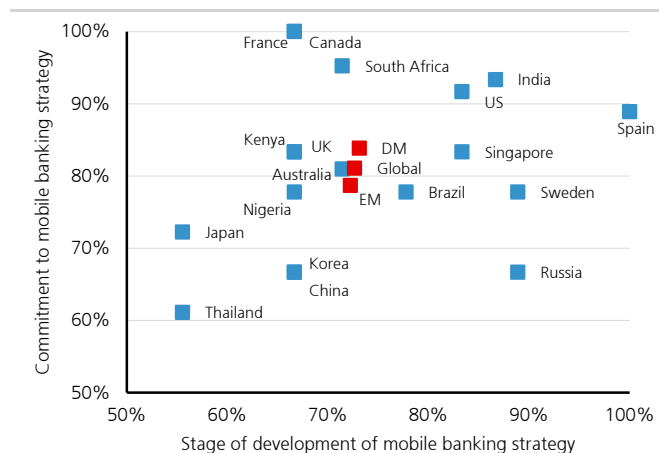
and revenue enhancement that we believe mobile banking potentially offers the industry.

**Figure 18: Mobile banking – development stage vs commitment to strategy (2016)**



Source: UBS Evidence Lab

**Figure 19: Mobile banking – development stage vs commitment to strategy (2015)**



Source: UBS Evidence Lab

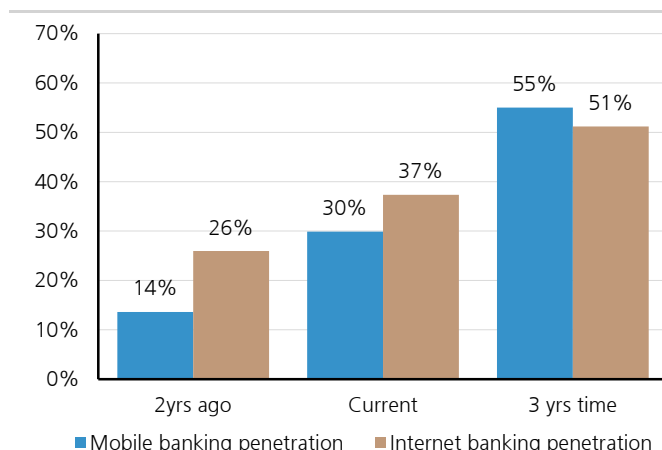
## Mobile banking penetration

Adoption of mobile banking as an alternative channel looks set to rise further. In our latest survey, 30% of customers surveyed are currently using mobile banking, up from 14% two years earlier, and this is projected to rise to 55% within three years.

The latest survey also shows the penetration gap between the two channels of mobile banking and internet banking at 7% – the same as in the previous survey. The fact that respondents believe usage of both these channels is set to increase over time suggests that in general the internet banking story is not over and that cost savings from both channels could be possible.

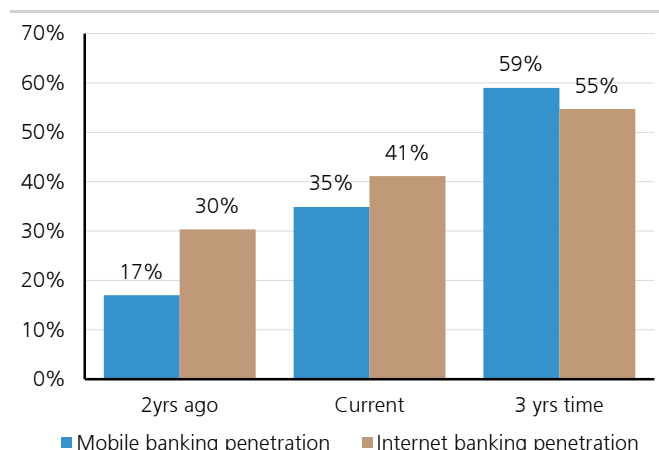
**Respondents expect usage of both channels to grow – possibly driving further cost savings**

**Figure 20: Global mobile banking penetration – customers using mobile and internet channels (2016)**



Source: UBS Evidence Lab

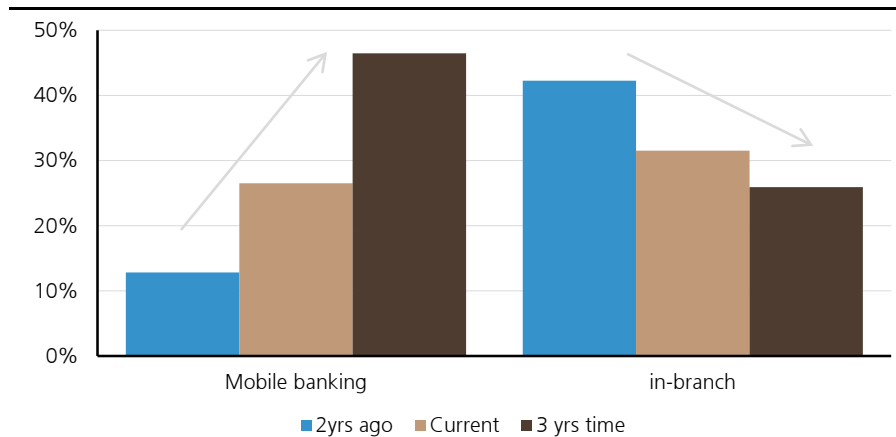
**Figure 21: Global mobile banking penetration – customers using mobile and internet channels (2015)**



Source: UBS Evidence Lab

## Mobile versus branch transactions

Figure 22: Percentage of retail transactions – mobile banking vs in-branch



Source: UBS Evidence Lab

The current level of mobile banking transactions is slightly higher when compared with our last survey at 27% (from 24% previously). From our previous survey, we note a larger evolution for developed market banks to 34% currently (from 23% previously), which is now above the level observed for emerging market banks (at 23% from 26% previously).

Going forward, as mobile banking penetration increases, we expect that the share of mobile banking-related transactions using that platform should also increase. Our survey findings indicated that, within three years, 46% of all banking transactions are expected to be mobile related, up from 27% today and 13% two years ago. In this period, the percentage of mobile banking transactions is expected to reach 49% in DM banks, still above the 45% in EM banks.

In contrast, in-branch retail transactions appear to be in structural decline on the back of the potential sharp increase in mobile banking penetration over the next few years. According to our survey, the percentage of retail transactions taking place in-branch is expected to decline to 26% in three years' time from 32% today, having already fallen from 42% two years ago. The largest declines are expected to occur in South Africa (from 70% to 47%), Japan (from 80% to 60%) and Brazil (from 31% to 12%).

**With mobile banking penetration set to rise sharply, in-branch transactions are expected to undergo a structural decline**

## Cost and revenue opportunities

### Mobile transaction costs: Better perception

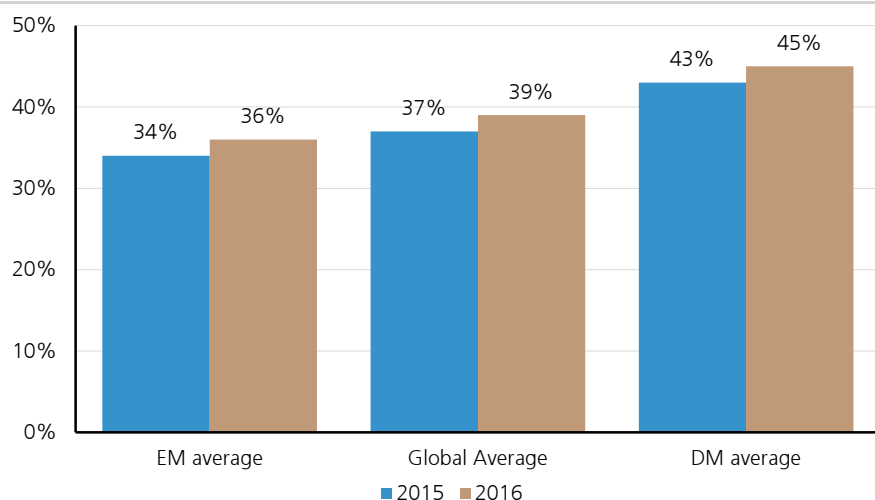
It is a consensus among the banks surveyed that the cost of a mobile transaction is cheaper than an equivalent transaction at a bank branch. While there is a large number of "not sure" responses (33% of responses from 39% last year), for those that replied (67% of responses), most expected to see quite significant cost savings from their customers migrating from in-branch to mobile transactions. According to our survey, average cost savings of 39% (from 37% in our last survey) could potentially be achieved by switching from in-branch transactions to mobile-based transactions.

**Average cost savings of 39% could materialise by switching transactions from in-branch to mobile banking**

Developed market banks are more optimistic than emerging market banks, with an average cost saving of 45% versus 36% switching from in-branch to mobile banking transactions.

**DM banks more optimistic on cost savings versus EM banks**

**Figure 23: Average cost saving from in-branch to mobile banking transactions**

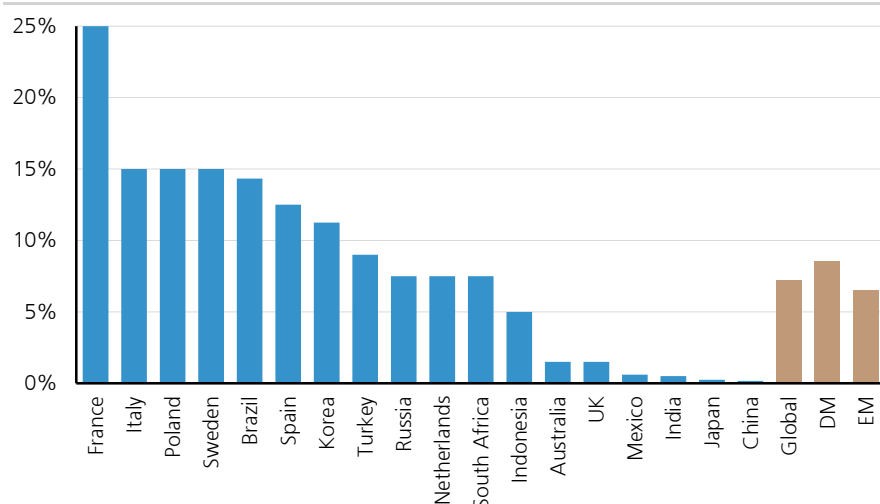


Source: UBS Evidence Lab

## Branch footprint – one element of cost reduction

One obvious route to cost savings in the future is through branch reductions (both in number and size). Our survey suggests that this is becoming clearer to banks, with an increase to 72% (from 66% previously) of the respondents agreeing that the increased use of mobile banking should lead to a reduction in branches. Developed market banks continue to agree more (78% from 74%) than emerging market banks (68% from 58%).

**Figure 24: Expected branch footprint reduction from mobile implementation**



Source: UBS Evidence Lab

Our survey also shows that the reduction in branch footprint that banks expect as a direct consequence of their mobile banking strategy is slightly higher now, at 7.3% on average vs 5.6% last year. Developed-market banks remain more optimistic, and expect a bigger reduction than they did last year, at 8.6% (from 6.6%), while emerging-market banks are expecting a 6.5% reduction on average (from 4.9%).

**Banks expected to see a 7.3% reduction in branch footprint, on average, as a direct consequence of their mobile banking strategy**

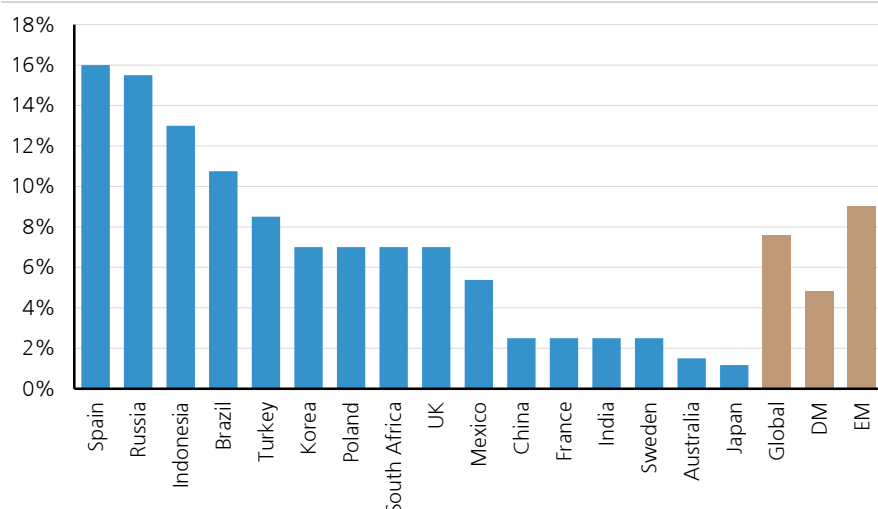
## Cost savings

Respondents were also asked to estimate the cost savings they expected to see from mobile banking over the next three years. When compared to last year, we observe a meaningful reduction in the number of respondents that did not know or did not answer (to 38% from 54%), suggesting better visibility now.

**Better visibility on cost savings, but lower expectations**

Those who replied are still positive about the cost outlook – respondents estimated a weighted average of 7.6% of cost reductions – although that figure was slightly lower than the 9.5% estimated in our last survey. This could be related to the progress of mobile banking implementation and reflect the fact that a portion of the cost savings had been already captured. A breakdown by region indicates that EM banks remain more optimistic (seeing a 9.0% cost reduction on average) vs DM banks (4.8% on average).

**Figure 25: Estimated cost savings from mobile over next three years – by country**



Source: UBS Evidence Lab

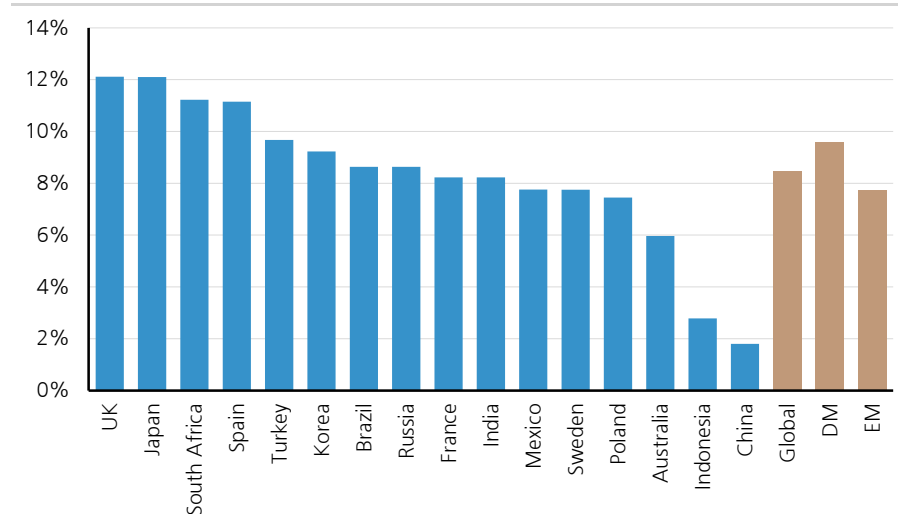
## Revenue opportunities: rising expectations

For 89% of the surveyed participants, mobile banking is also expected to provide opportunities to enhance revenues. Asked what they believed the incremental revenue from mobile banking could be in three years' time, respondents remained reasonably upbeat, with the aggregate additional revenue estimated at around 8.5% (weighted average, based on count of respondents), up from 6.8% in our previous survey.

**Respondents estimate revenue gains of c8.5% from mobile banking, on average**

The higher expectations were driven mainly by DM bank respondents, where the revenue enhancement expectation from mobile has risen to 9.6% from 4% previously. For EM respondents, it remained unchanged at 7.7%.

**Figure 26: Incremental revenue from mobile over next three years – by country**



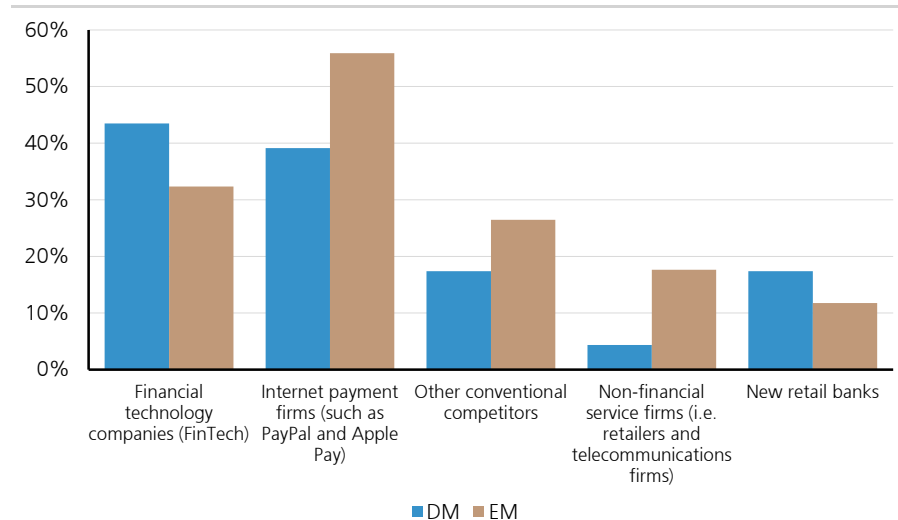
Source: UBS Evidence Lab

## Potential threats

When asked about potential threats to their mobile banking strategy, 49% of banks surveyed indicated that internet payment firms (such as PayPal and Apple Pay) are a severe threat, while 37% highlighted FinTech companies (for more details see: [Q-Series - Global Banks "Is FinTech a threat or an opportunity?"](#)). Other banks or new retail banks are considered to be a severe threat by only 23% and 14% of respondents, respectively. By region, the highest risks are seen from FinTech companies for DM banks (43%) and internet payment firms for EM banks (56%).

**49% indicated internet payment firms are a severe threat to mobile banking strategies; 37% highlighted FinTech companies**

**Figure 27: Potential threats to mobile banking strategy**



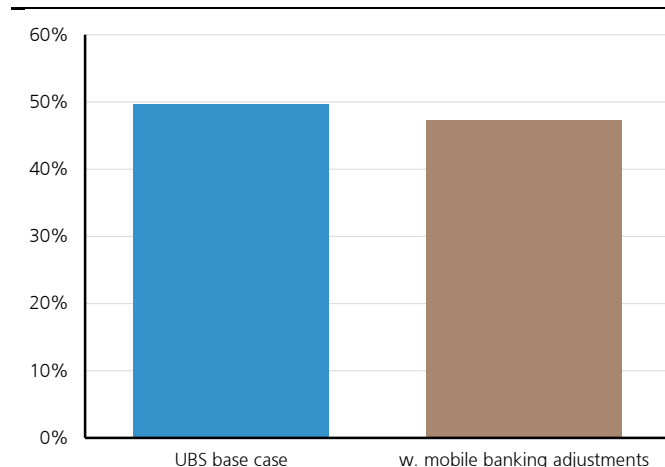
Source: UBS Evidence Lab

# Economic impact

## Simulation analysis

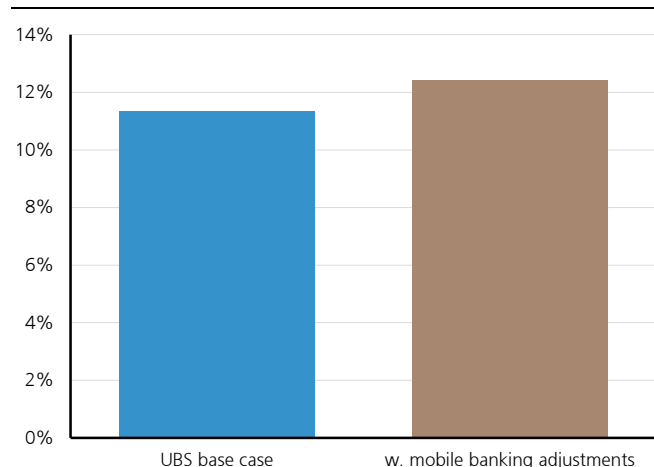
### Potential impact on sector efficiency and returns

Figure 28: 2019E global banks cost/income ratio (%)



Source: UBS estimates

Figure 29: 2019E global banks return on equity (%)



Source: UBS estimates

Our survey of bank management indicated that, over three years, mobile banking could offer the opportunity for a cumulative 7.6% reduction in costs and an 8.5% cumulative revenue boost. To quantify this potential impact, we adjusted UBS 2019 base-case estimates for global banks in aggregate.

**Mobile banking could offer the opportunity for a cumulative 7.6% reduction in costs and a 8.5% cumulative revenue boost**

As the management survey also suggested that retail transactions made up 29% of total operating costs on average (from 33% in our previous survey), we applied the cost and revenue impacts to only 29% of the P&L on a group basis (i.e., 2.3% cost cut and 2.0% revenue boost to group profits). We assumed constant loan-loss provisions, effective tax rate and dividend pay-out ratio over the years 2016-19E.

Based on our simulation analysis, and assuming our current forecasts have yet incorporate any impact from mobile banking, these net revenue adjustments could take the 2019 global cost-income ratio from our current estimate of 49.6% to 47.3%, and our forecast of global ROE from 11.3% to 12.4%.

Looking at similar projections for DM banks, our simulation suggests that ROE could be lifted from 9.8% to 10.7%, and from 14.2% to 15.4% for EM banks (whose managements seem much more optimistic).

Although there could be an advantage for first-movers and those with more capable IT systems, we would caution against anticipating such a windfall in profitability, which is likely to attract competition – which in turn could put pressure on revenues and returns. It could also attract heightened regulatory scrutiny, which could put returns at risk.

# Mobile banking scorecard

To assess how banking sectors are potentially placed to benefit from the opportunities arising from mobile banking, we devised a scorecard based on the findings of consumer surveys of almost 28,000 respondents in 24 countries. We then synthesised these trend implications for specific securities in the banking industry. Countries are subsequently ranked according to the survey findings.

## Scorecard methodology

The mobile banking scorecard is based on four equally weighted parameters: (1) cost efficiency of interactions; (2) behavioural opportunity; (3) mobile client loyalty and (4) revenue enhancement potential. The analysis is split into two groups: developed markets (DM) and emerging markets (EM). Within each group, we examined a number of metrics and assigned each bank a percentile rank. Each rank was then aggregated within a group according to a weight (i.e., a weighted average), and each group aggregated to arrive at a final country score reflecting an average percentile rank. In our methodology, a lower percentile rank is better.

Our scorecard was based on four equally-weighted metrics

**Figure 30: Scorecard methodology, metrics and weights**

Variables assessed per bank	Assessment	Weight
<b>Cost-efficient interactions</b>		<b>1.00</b>
- Branch visit frequency per year	Lower is better	0.25
- Internet contact per year	Higher is better	0.25
- Mobile contact per year	Higher is better	0.25
- SMS contact per year	Higher is better	0.25
<b>Behavioural opportunity</b>		<b>1.00</b>
- Infrequent mobile users who intend to use more mobile banking in immediate future	Higher is better	0.50
- Last branch visit was to: withdraw money	Lower is better	0.10
- Last branch visit was to: deposit money	Lower is better	0.10
- Last branch visit was to: provide documentation or sign documents	Lower is better	0.10
- Last branch visit was to: obtain a cashier's cheque/bank draft	Lower is better	0.10
- Last branch visit was to: consult on loan or other financial product (pre-sales)	Higher is better	0.10
<b>Mobile client loyalty</b>		<b>1.00</b>
- Likelihood of mobile customers to change primary bank in next 6 months	Lower is better	0.20
- Likelihood of mobile customers to recommend the bank to a friend or colleague	Higher is better	0.20
- Customer rating of mobile banking service	Higher is better	0.20
- Since starting mobile banking have you increased/decreased # of financial transactions	Higher is better	0.20
- Likelihood of switching to a competitor if better mobile banking offered	Lower is better	0.20
<b>Revenue enhancement potential</b>		<b>1.00</b>
- Seen banking product advertised on mobile apps	Higher is better	0.25
- Seen non-banking product advertised on mobile apps	Higher is better	0.25
- Purchased banking product advertised on mobile apps	Higher is better	0.25
- Purchased non-banking product advertised on mobile apps	Higher is better	0.25

Source: UBS research analysis (based on UBS Evidence Lab survey findings)

## Country scorecard performance

### Developed markets

**Figure 31: Developed markets mobile banking scorecard (lower score is better)**

	Cost-efficient interactions	Behavioural opportunity	Mobile client loyalty	Revenue enhancement potential	Final Score
US	38.6	56.4	32.7	15.9	35.9
Italy	29.5	33.6	50.9	56.8	42.7
Sweden	38.6	22.7	41.8	70.5	43.4
Australia	50.0	55.5	45.5	40.9	48.0
Spain	43.2	39.1	60.0	52.3	48.6
UK	54.5	51.8	49.1	45.5	50.2
France	50.0	60.0	60.0	50.0	55.0
Netherlands	50.0	54.5	47.3	75.0	56.7
Canada	70.5	63.6	36.4	65.9	59.1
Japan	75.0	62.7	76.4	27.3	60.3

Source: UBS research analysis (based on UBS Evidence Lab survey findings)

In developed markets, US banks ranked first on our mobile banking scorecard, with an aggregate score of 35.9. Based on our methodology, US banks performed well on three of our four parameters: "revenue enhancement potential" (ranked first with a score of 15.9); "mobile client loyalty" (first with a score of 32.7), and "cost-efficient interactions" (joint second with a score of 38.6).

**In developed markets, US banks ranked first on our mobile banking scorecard...**

Under revenue enhancement potential, 38% of US bank customers surveyed indicated they had seen a banking product advertised on their mobile apps – the second highest among DM countries – while 22% had seen non-banking product commercials (second highest). Moreover, among those who had seen banking product commercials, 58% said they actually went ahead and purchased the products – the highest conversion rate.

In terms of mobile client loyalty, US bank customers were the most likely to recommend a friend to the bank, given its mobile banking capabilities. They also had the best mobile customer experience and the highest net increase in financial transactions since starting to use mobile banking, while being less likely to switch banks.

In contrast, Japanese banks came last on our scorecard rankings. According to our consumer survey, they scored poorly on the "mobile client loyalty" variable (ranked last), with bank customers surveyed least likely to recommend their bank to a friend and rating their bank's mobile offering with the lowest score.

**...while Japanese banks came last**

In terms of cost-efficient interactions, Japanese respondents appear to have the fewest mobile, SMS and internet interactions, although they were also the third least-frequent branch visitors. Our consumer survey also showed that in Japan infrequent mobile banking users were the least likely to increase mobile banking usage in the immediate future.

**Figure 32: Emerging markets mobile banking scorecard (lower score is better)**

	Cost-efficient interactions	Behavioural opportunity	Mobile client loyalty	Revenue enhancement potential	Final Score
India	28.3	48.0	50.7	13.3	35.1
Kenya	53.3	31.3	29.3	43.3	39.3
Turkey	28.3	37.3	50.7	53.3	42.4
Indonesia	53.3	43.3	48.0	28.3	43.3
Thailand	55.0	42.7	60.0	16.7	43.6
Nigeria	50.0	36.7	24.0	70.0	45.2
Brazil	30.0	51.3	53.3	48.3	45.8
South Africa	41.7	55.3	32.0	58.3	46.8
China	65.0	56.0	61.3	16.7	49.8
Mexico	51.7	53.3	48.0	66.7	54.9
Poland	48.3	59.3	61.3	68.3	59.3
Russia	58.3	55.3	44.0	81.7	59.8
Singapore	70.0	68.0	58.7	70.0	66.7
South Korea	66.7	62.0	78.7	65.0	68.1

Source: UBS research analysis (based on UBS Evidence Lab survey findings)

In emerging markets, Indian banks came out on top of our mobile banking scorecard, where they performed well on two parameters: "revenue enhancement potential" and "cost-efficient interactions" that were both ranked first.

**In emerging markets, Indian banks came out on top of our mobile banking scorecard...**

Under revenue enhancement potential, 58% of Indian bank customers surveyed indicated they had seen a banking product advertised on their mobile apps – the fourth highest among EM countries; 29% had seen non-banking product commercials (ranked second). Moreover, among those who had seen banking product commercials, 59% said they actually went ahead and purchased the product, the highest conversion rate, while for non-banking products 70% made the purchase (first).

In terms of cost-efficient interactions, Indian bank customers surveyed also indicated the highest mobile, internet and SMS usage and the second-highest internet interactions, although branch visits remained highly frequent.

In contrast, and in line with our scorecard findings from last year's survey ([click here](#)), Korean banks came last on our EM scorecard, performing poorly on three parameters: "mobile client loyalty", "cost-efficient interactions", and "behavioural opportunity".

**...while Korean banks came last**

In the consumer survey, Korean respondents were the least likely to recommend their bank to a friend, and were among the most likely to switch banks while giving their banks the lowest rating for mobile experience among EM banks. As far as cost-efficient interactions were concerned, Korean bank respondents appear to have the fewest mobile, internet and SMS interactions, although they were also the sixth least-frequent branch visitors.

## UBS mobile banking plays

We have identified a list of banking stocks from the 24 surveyed countries that we believe represent attractive mobile banking plays. The list partly reflects the country scorecard findings, as well as inputs from UBS banks analysts, who assessed the potential earnings impact from the mobile banking themes and whether this opportunity has been priced in.

**Figure 33: UBS top mobile banking plays**

	Country	Rating	Price target (local curr.)	Mobile banking EPS potential impact	Priced in?
Bank of America	US	Buy	18.0	Medium	No
Unicredit	Italy	Neutral	2.05	Medium	Yes
Swedbank	Sweden	Buy	187	Medium	Yes
BNP	France	Buy	47.0	Medium	No
Santander	Spain	Neutral	3.7	Medium	No
HDFC Bank	India	Buy	1,550	Medium	No
ICICI	India	Neutral	260	Medium	No
Garanti	Turkey	Buy	9.1	Medium	No
Akbank	Turkey	Neutral	9.2	Medium	No
Mandiri	Indonesia	Neutral	12,750	Medium	No

Source: UBS research analysis (based on UBS Evidence Lab survey findings)

Our top mobile banking plays are banks that have put considerable investment into developing a mobile banking platform that sets out to enhance the customer experience. In many cases, these banks are market leaders in this area, supported by strong in-house capabilities.

- **Bank of America (Buy):** We view BofA's U.S. retail franchise as a strength and note the benefits that it provides from a funding standpoint. A key component of maintaining the bank's strong retail brand is taking a leading role on new innovations such as mobile banking, so it is not surprising to see BofA perform well in the survey. However, we expect the growth of mobile banking to be a positive trend that benefits all of the moneycenter banks roughly equally.
- **UniCredit (Neutral)** has been focusing on the digital transformation of its retail multi-channel offering, aiming to increase quality, speed of service and customer experience. The target is to have over 90% of transactions carried out on remote channels by 2018. UniCredit is also implementing "buddybank", its banking offering accessible solely via smartphone devices, with customer service available 24/7. Finally, Fineco, one of Italy's leading direct banks with more than 1m clients and operating since 1999, is also part of the UniCredit group.
- **Swedbank (Buy)** has been very focused on building out its omni-channel product offering which aims to achieve full digitalisation of basic banking services across its retail network. The strategy aims to achieve smooth digital self-service experience, while simultaneously freeing up employee resources to provide high value add advice to customers in branches.
- **BNPP (Buy)** is our top pick when it comes to the mobile banking theme in France. Similarly to other French bank, BNPP has chosen a multi-channel approach and launched a pure digital banking offer, "Hello Bank", back in 2013. The bank is rapidly developing its online/mobile banking capacity looking to provide the subscription of its entire product range remotely by the end of the year. Online/mobile transactions have quadruple at BNPP over the last three years representing as much 20% of individual banking transactions in France in 2015. By 2020, BNP is aiming for 50%, the most ambitious target of all the French Retail banking networks.
- **Santander (Neutral):** Digitalisation has been a key priority for Santander for almost a decade and it is now impacting the way the bank is managing the retail branch network mostly in Spain; it has also had implications for top

management changes. In addition, the Spanish bank has invested in a number of start-ups and bought several niche specialists in digitalisation, which has helped build an in-house capability unlike many peers.

- **HDFC Bank (Buy):** Built data warehouse capabilities and has been running customer analytics for a decade, and is now aggressively launching digital products including mobile banking and mobile wallets, etc. The bank has 37.7m (Q4FY16) customers, and 71% (Q4FY16) of retail transactions are done through digital channels. The bank has reduced the turnaround time to 15 seconds for personal loans to its existing customers.
- **ICICI Bank (Neutral):** Digitization is a key focus area for ICICI, and the bank has been ahead of peers in digitization of the customer acquisition process, payments, and the customer experience. Currently, 65% (Q1FY17) of its retail transactions go through digital channels. Turnaround times for opening savings accounts have been reduced to less than 1 day from 4 days, and currently around 85% of savings accounts are opened by using tablets [mobiles]. The bank has extended the use of tablets (mobile) to book retail lending products such as mortgages as well.
- **Garanti (Buy):** Garanti has a 25% market share in retail internet and mobile banking. Some 92% of the bank's non-cash transactions are done through digital channels (37% through mobile). As of April 2016, trend growth in the number of mobile banking transactions was a strong 30%. The bank calculates that transaction costs via mobile banking are 43x lower than for in-branch banking. Consequently, Garanti stopped branch expansion as of YE15, and may consider a branch rationalization program, in our view.
- **Akbank (Neutral):** The bank closed c.10% of its branches in FY15 and focused its efforts on digital banking for cost-efficient growth. Consequently, the number of customers using digital channels increased 26% YoY (61% for mobile customers), and the bank currently originates 37% of its unsecured consumer loans through digital channels. Akbank's opex contracted 4% YoY in 1H16.
- **Bank Mandiri (Neutral):** More than 90% of retail transactions are done through electronic channels such as ATMs, mobile banking and internet banking. Retail transaction fees (cUSD180m) have grown by a 24% CAGR in the past three years, and now make up 20% of all Mandiri's fees, up from 15% three years ago. Retail transactions fees represent c25bp of the bank's assets. Its mobile banking platform has narrowed the gap to BCA's. With close to 700m mobile banking transactions, Mandiri had the highest number of mobile banking transactions in Indonesia in 2015.

# Appendix

For this report, UBS Evidence Lab conducted three studies: a consumer survey; a survey of banks' management or decision makers (bank management survey) in the mobile banking space within the business; and a mobile apps download analysis.

## UBS Evidence Lab consumer survey

The UBS Evidence Lab consumer survey was sent out via an online methodology to a representative panel of adult (18+ years of age) consumers across 24 countries in April-May 2016. In total, 27,914 respondents completed the survey. The qualification criteria were based on holding a bank account with one of the banks in the survey. The margin of error for whole sample responses is between +/-0.59 (total sample) and +/-2.99 (individual countries).

The 24 countries surveyed comprised Australia, Brazil, Canada, China, France, India, Indonesia, Italy, Japan, Kenya, Mexico, the Netherlands, Nigeria, Poland, Russia, Singapore, South Africa, South Korea, Spain, Sweden, Thailand, Turkey, the UK and the US.

## UBS Evidence Lab bank management survey

The UBS Evidence Lab bank management survey was sent out via an online methodology to a selection of banks across the same countries included in the UBS Evidence Lab consumer survey (apart from Kenya and Nigeria) in April-May 2016. Out of the 177 banks approached, 61 responded, giving a response rate of 35%. The survey was conducted in both English and local languages on an anonymous basis.

## UBS Evidence Lab mobile apps download analysis

To get an alternative view of mobile banking penetration, our UBS Evidence Lab team also examined mobile app downloads for 22 countries out of the 24 countries in our consumer survey (there was insufficient data for Nigeria and Kenya.) Data for all countries is based iOS and Google Play downloads, with the exception of China (iOS only.) UBS Evidence Lab tracks daily rankings for thousands of mobile applications in the iOS and Google Play store across 40+ countries. Data presented in this report is current through the end of June 2016.

The metric provided is financial category app downloads ex-payments as a percentage of total app downloads ex-games. Note that games are excluded as they are the largest category and share of downloads for the games category varies widely across countries. We also note that the finance category includes non-mobile banking apps –such as mobile payments apps, credit card apps, investing apps, and non-mobile banking apps provided by banks. We identified and removed the app downloads of ~150 leading mobile payments apps from the financials category; though the downloads of the other non-mobile banking apps in that category remain. With these normalizations in mind, we believe this metric serves as a good proxy for the traction/popularity of mobile banking in a given country and can be leveraged to assess the traction of mobile banking across countries.

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Investing in global equities poses currency, country, industry, and company-specific risks. Valuations can be impacted by company-specific factors, investor risk appetite, as well as changes in the macroeconomic landscape and financial market stability.

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<b>Buy</b>	FSR is > 6% above the MRA.	47%	32%
<b>Neutral</b>	FSR is between -6% and 6% of the MRA.	38%	25%
<b>Sell</b>	FSR is > 6% below the MRA.	15%	21%
Short-Term Rating	Definition	Coverage <sup>3</sup>	IB Services <sup>4</sup>
<b>Buy</b>	Stock price expected to rise within three months from the time the rating was assigned because of a specific catalyst or event.	<1%	<1%
<b>Sell</b>	Stock price expected to fall within three months from the time the rating was assigned because of a specific catalyst or event.	<1%	<1%

Source: UBS. Rating allocations are as of 30 June 2016.

1:Percentage of companies under coverage globally within the 12-month rating category.

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Company Name	Reuters	12-month rating	Short-term rating	Price	Price date
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<b>Banco do Brasil</b> <sup>5, 7, 20</sup>	BBAS3.SA	Sell (CBE)	N/A	R\$21.22	05 Aug 2016
<b>Bank Mandiri</b> <sup>7</sup>	BMRI.JK	Neutral	N/A	Rp11,650	08 Aug 2016
<b>Bank of America Corp.</b> <sup>2, 4, 6a, 6b, 6c, 7, 16, 18, 22</sup>	BAC.N	Buy	N/A	US\$15.05	05 Aug 2016
<b>BNP Paribas</b> <sup>2, 4, 5, 6a, 7, 22</sup>	BNPP.PA	Buy	N/A	€44.39	08 Aug 2016
<b>Garanti Bank</b> <sup>6b, 6c, 7</sup>	GARAN.IS	Buy	N/A	TRY7.87	08 Aug 2016
<b>Handelsbanken</b> <sup>4, 7, 22</sup>	SHBa.ST	Sell	N/A	SKr106.20	08 Aug 2016
<b>HDFC Bank</b> <sup>6b, 6c, 7, 16</sup>	HDBK.BO	Buy	N/A	Rs1,249.90	08 Aug 2016
<b>ICICI Bank</b> <sup>6b, 6c, 7, 16</sup>	ICBK.BO	Neutral	N/A	Rs245.25	08 Aug 2016
<b>National Australia Bank</b> <sup>2, 4, 5, 7, 22</sup>	NAB.AX	Neutral	N/A	A\$26.24	08 Aug 2016
<b>Santander</b> <sup>2, 4, 5, 7, 12, 16</sup>	SAN.MC	Neutral	N/A	€3.77	08 Aug 2016
<b>Standard Bank Group Ltd</b> <sup>4, 5, 7</sup>	SBKJ.J	Sell	N/A	RCnt14,713	08 Aug 2016
<b>Swedbank</b> <sup>2, 4, 6a, 7</sup>	SWEda.ST	Buy	N/A	SKr183.40	08 Aug 2016
<b>UniCredit</b> <sup>2, 3, 4, 5, 7, 20</sup>	CRDI.MI	Neutral (CBE)	N/A	€2.01	08 Aug 2016
<b>Wells Fargo &amp; Company</b> <sup>2, 4, 5, 6a, 6b, 6c, 7, 16, 22</sup>	WFC.N	Sell	N/A	US\$48.68	05 Aug 2016
<b>Zions Bancorporation</b> <sup>4, 5, 6b, 6c, 7, 16</sup>	ZION.O	Sell	N/A	US\$28.89	05 Aug 2016

Source: UBS. All prices as of local market close.

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