TURKISH BANKING SECTOR PROFITABILITY
HOW TO ADJUST TO THE NEW LIFE STAGE
ACKNOWLEDGEMENTS

The ideas in this report reflect the collaborative effort of many contributors across Oliver Wyman.

Murat Abay is the primary author, supported by Bilal Okatan. In addition, the author received invaluable input from many partners across the firm, but in particular wishes to acknowledge the help of Claudio Torcellan, Gökhan Öztürk and Matthew Sebag-Montefiore.

Front cover photo of Osmanlı Bankası Head Office by Ayşe Ebru Yardımcı
EXECUTIVE SUMMARY

INTRODUCTION
- Since 1923, Turkish banking sector has gone through several stages of development
- Starting in 2003, Turkish banking sector was rebuilt under the close supervision of the BRSA
- By 2006, Turkish banking sector was performing at 20% annual growth rates and above 20% ROE
- Profitability of the Turkish banking sector has been steadily deteriorating since 2010

WHAT IS GOING WRONG
- In line with other maturing sectors, there has been a number of triggers that led to the sharp decline of revenues in Turkey – market interest rates have gone down from 25% in 2004 to 11% in 2015; competition has intensified; and regulation has become stricter, particularly in retail banking, traditionally the greatest source of bank revenue
- Between 2006 and 2013, the asset size of banks doubled in real terms, while operational efficiency improved by only 25%. For the three years 2011-2013, the Operating Expense ratio remained flat, while assets grew by around 20%
- While revenue margins have fallen since 2010, risk costs have not experienced an offsetting trend

WHAT SHOULD WE EXPECT GOING FORWARD
- In summary, given a number of structural changes highlighted in this paper, we would expect Turkish banking sector average ROE to converge to 17% over the long term

HOW SHOULD BANKS PREPARE FOR THE NEW LIFE STAGE
- In responding to the pressure on profitability, banks can achieve the greatest value by revamping their operating models and reevaluating risk-return trade-offs
- Banks should be looking into moving, merging, or closing branches with a low productivity outlook and a high geographical overlap
- Banks should be looking into building end-to-end capabilities in the digital space
- Banks should identify what is necessary to ensure required functionality (the survival minimum), what is additionally necessary to implement strategic objectives (the strategic minimum), and what constitutes unnecessary internal demand, or other non-value added activities
- Banks should aim to gain an edge by extracting and keeping more and improved customer data
- Banks should build methodologies and systems to calculate profitability per customer, channel and product, together with combinations of these categories
- Banks should make use of their risk quantification systems when pricing products for customers in different risk groups
- Banks should look into optimizing capital consumption by reassessing optimal risk appetite, reallocating capital to higher ROE products and segments, and fixing underlying systems infrastructure that calculate RWA to ensure the right amount of capital is held
INTRODUCTION

Since the foundation of the Turkish Republic in 1923, the country’s banking sector has gone through several stages of development.

At that time, the sector had 18 banks, inherited from the Ottoman Empire. One of these banks was Ziraat Bankası, which still exists today as a state-owned bank and continues to be the largest bank in the sector. Founded in 1924, İş Bankası was the first national bank to be established after the proclamation of the republic, and is today the largest private Turkish bank.

Between 1929 and 1945, a number of state-owned banks were founded to cope with the global Great Depression that lasted until the end of World War II. During the post-war years, the state incentivised the establishment of private banks in order to foster economic recovery. However, it was not until 1980, when the banking system was liberalised, that banks were given the right to determine interest rates in a free market.

Between 1980 and 2000, as entry barriers to the sector were lowered to create room for new competition, banks grew in asset size from US$20 billion to US$150 billion\(^1\), and in number from 43 to 79. However, most of the banking activity was still focused on collecting deposits and lending to the Turkish Government, a simple but risky model with inflation rates hovering around 100%.

In November 2000 and February 2001, the Turkish economy was hit by major blows. The currency devalued by 56%\(^2\) over one year, and customer deposit rates reached more than 7000%\(^3\). Many banks and corporations with open currency positions and lack of liquidity could not survive the crisis, and 18 banks either stopped operating or merged with other banks. Non-performing loan (NPL) rates in the banking sector reached 30%.

The Banking Regulatory and Supervisory Agency (BRSA), which was founded in September of 2000, was instrumental in a clean-up of the sector which lasted until 2003. After 2003, the Turkish banking sector was rebuilt under the close supervision of the BRSA, and reoriented to provide more financing to the real sector and individuals. The penetration of loans to GDP doubled from 15% in 2003 to 29% in 2006. By 2006, the Turkish banking sector had become an attractive investment opportunity, with annual growth rates and Return on Equity (ROE) both at more than 20%.

Following four consecutive spectacular years between 2006 and 2009, the profitability of the Turkish banking sector has been steadily falling since 2010. The last two years have been particularly concerning, as the ROE for the sector has fallen below the hurdle rate that investors would be expecting from the sector.

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1 Source: BRSA – Banking Sector Restructuring Report
2 Source: Ministry of Finance – Annual Economic Report 2001
3 Source: CBRT – Customer deposit rates for February 2001
Exhibit 1: Turkish banking sector life stage evolution

**FOUNDATION** 1923–1945
- 18 banks were inherited from Ottoman Empire
- İş Bankası was established in 1924
- Majority of new bank openings were public banks, aiming to cope with challenges of great depression and to incentivise development of particular sectors

**PRIVATISATION** 1945–1980
- Mostly oligopoly and cost inefficiency characterised the sector
- Interest rates and Fees/Commissions were regulated
- Banking focused on supporting industrialisation through private investments
- TSKB was established to support private investors
- Banking model shifted from regional banking to branch-based banking

**LIBERALISATION** 1980–2003
- High inflation was observed throughout the era
- Banks were allowed to determine interest rates in a free market
- International banks started entering the market
- Currency became convertible
- In 2000s, liquidity crisis led to consolidation in the sector
- BRSA was established, aiming to recover banks from financial turmoil and to monitor the sector

**GROWTH** 2003–2013
- Turkish banking sector was rebuilt under the close supervision of the BRSA
- Main aim was to provide more financing to the real sector and individuals
- Penetration of loans to GDP doubled from 15% in 2003 to 29% in 2006
- By 2006, Turkish banking sector was performing at 20% annual growth rates and above 20% ROE

**MATUREITY** 2014+
- Profitability of the Turkish Banking sector has been steadily deteriorating since 2010
- In the last two years, ROE for the sector has fallen below the hurdle rate investors would be expecting from the sector
- Banks are now shifting their focus to profitability after a decade of aggressive growth

Exhibit 2: Banking sector Return on Equity vs. Cost of Capital in Turkey (post-tax)

<table>
<thead>
<tr>
<th>Year</th>
<th>Return on Equity</th>
<th>Cost of Capital</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>30%</td>
<td>10%</td>
</tr>
<tr>
<td>2007</td>
<td>20%</td>
<td>20%</td>
</tr>
<tr>
<td>2008</td>
<td>10%</td>
<td>30%</td>
</tr>
<tr>
<td>2009</td>
<td>0%</td>
<td>40%</td>
</tr>
<tr>
<td>2010</td>
<td>5%</td>
<td>50%</td>
</tr>
<tr>
<td>2011</td>
<td>10%</td>
<td>60%</td>
</tr>
<tr>
<td>2012</td>
<td>15%</td>
<td>70%</td>
</tr>
<tr>
<td>2013</td>
<td>20%</td>
<td>80%</td>
</tr>
<tr>
<td>2014</td>
<td>25%</td>
<td>90%</td>
</tr>
<tr>
<td>2015</td>
<td>30%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: BRSA reports (RoE calculation), Bloomberg (5Y CCS and 5Y CDS rates), CBRT (BIST indices)
If we are to understand the factors behind the deterioration in profitability, a thorough analysis of the components of profitability is necessary. These components include revenues, operational expenses and risk costs, all of which have contributed to the problem in different ways.

This point of view paper aims to identify what is going wrong, predict what is likely to happen from now on, and what the stakeholders—both banks and regulators—should be doing to tackle the situation. As with all complex problems, the solution to the problem of Turkish banking profitability will necessarily involve significant change in the years to come.
WHAT IS GOING WRONG

A number of factors have negatively affected the profitability of the banking sector. Revenue margins have been going down consistently for the last ten years, except for a temporary increase during the credit crunch of 2009. Despite this drop in revenue margins, operational and risk costs have not improved a great deal. Consequently, profitability has hit historically low levels.

REVENUE MARGINS HAVE BEEN GOING DOWN

Revenue margins (measured as revenues over average assets) have almost halved in the period from 2004 to 2015. The decrease in revenue is observable in both components of income (net interest income and fee income).

We do expect to see this trend in maturing sectors. In the UK over the last twenty five years, revenue margins have fallen from 4.7% to 1.6%, and have remained at around that level for the last five years.

In line with other maturing sectors, there has been a number of triggers that led to the sharp decline in Turkey – market interest rates have gone down from 25% in 2004 to 11% in 2015; competition has intensified; and regulation has become stricter, particularly in retail banking, traditionally the greatest source of bank revenue.

Exhibit 3: Revenue margin in Turkish banking sector

Source: BRSA reports
The number of players with significant power indicates the level of competition in a market. Monopoly, defined as a market with just one such player, is the lowest level of competition. As the number of powerful players increase, competition intensifies. By this measure, Turkey has the highest level of competition in the banking sector among key European countries, with seven banks that have significant asset market share. A smaller number of banks lead the sector in many countries such as Spain, Italy, Netherlands and Germany.
The level of competition in Turkey had been low for many years, with only a few banks above the 7.5% asset market share threshold. Following the 2001 financial crisis that led to the consolidation of the sector, competition intensified considerably. During this consolidation, Garanti, Akbank, Yapı Kredi and Halkbank emerged as new powerhouses, and have continued to hold their positions since.

Exhibit 6: Evolution of banking sector competitiveness in Turkey

Source: BRSA Bank Solo financial reports
OPERATIONAL EFFICIENCY HAS NOT IMPROVED MUCH, DESPITE INCREASING SCALE

Between 2006 and 2013, the asset size of banks doubled in real terms, while operational efficiency improved by only 25%. For the three years 2011-2013, the Operating Expense (OPEX) ratio remained flat, while assets grew by around 20%.

Exhibit 7: Evolution of total assets in Turkey (real – inflation adjusted, indexed to 2006 assets of 429 billion TL) vs. OPEX/average assets

Banks finally acted to fix the OPEX problem in 2014 and 2015, when the profitability levels fell below the hurdle rate. In an effort to cut costs in these years, the growth in number of branches and number of employees dropped to a historical low of 1%. For the first time, these metrics have remained relatively flat for three years in a row.
However, the recent reductions in the cost base are not sufficient to return Turkish banks to their historical profitability levels. They still have much higher OPEX ratios than European peers. In the Netherlands and Germany, for example, these ratios are as low as 1.3%.
RISK COSTS HAVE BEEN HIGH RELATIVE TO RETURNS

While revenue margins have fallen since 2010, risk costs have not experienced an offsetting trend. On the contrary, risk costs have increased from 0.68% in 2011 to 0.93% in 2015. While it may represent the historical average, this level is no longer sustainable.

Exhibit 10: Risk vs. Return in Turkish banking sector (%)

Source: BRSA reports

Exhibit 11: Provision expenses / assets in Turkish banking sector (%)

Source: BRSA reports
WHAT SHOULD WE EXPECT GOING FORWARD

In the medium to long term, four main market factors are expected to impact the Turkish banking sector.

STABILISING REVENUE MARGINS AT EUROPEAN LEVELS

Turkish banks have been generating revenues well above European levels. While of course a significant portion of this can be explained by the differences in risk premiums of the different markets, that is not the whole story. When we add the difference between the provision expenses of EU banks and Turkish banks, and the impact of free demand deposits we arrive at a 3% level in revenues, indicating that a further decrease of the margins should be expected in the long run.

Exhibit 12: Revenues / Assets (%)

NII+NFC / ASSETS

<table>
<thead>
<tr>
<th>Year</th>
<th>EU-All</th>
<th>Domestic</th>
<th>Turkey</th>
<th>Turkey-adjusted</th>
<th>EU-All domestic</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>2.0%</td>
<td>4.5%</td>
<td>5.7%</td>
<td>5.7%</td>
<td>4.5%</td>
</tr>
<tr>
<td>2010</td>
<td>1.9%</td>
<td>3.0%</td>
<td>3.0%</td>
<td>3.0%</td>
<td>3.0%</td>
</tr>
<tr>
<td>2011</td>
<td>1.9%</td>
<td>2.9%</td>
<td>1.8%</td>
<td>1.8%</td>
<td>2.9%</td>
</tr>
<tr>
<td>2012</td>
<td>2.9%</td>
<td>2.9%</td>
<td>1.8%</td>
<td>1.8%</td>
<td>2.9%</td>
</tr>
<tr>
<td>2013</td>
<td>3.0%</td>
<td>3.0%</td>
<td>1.9%</td>
<td>1.9%</td>
<td>3.0%</td>
</tr>
<tr>
<td>2014</td>
<td>2.0%</td>
<td>3.1%</td>
<td>3.0%</td>
<td>3.0%</td>
<td>3.1%</td>
</tr>
<tr>
<td>2015</td>
<td>4.7%</td>
<td>4.5%</td>
<td>4.5%</td>
<td>4.5%</td>
<td>4.5%</td>
</tr>
</tbody>
</table>

Revenue margins in Turkey are expected to continue decreasing towards European levels.

Note: Adjustment incorporates risk spread and free demand deposit gains for Turkey
Source: BRSA report, ECB – Consolidated Banking Data
REDUCTION OF RISK COSTS IN THE LONG TERM, WITH UPWARD PRESSURES IN THE SHORT TERM

In the long term, banks need to find a new equilibrium of risk level in their portfolios to offset the lower revenues. Given European benchmarks, we believe that average annual risk costs should go down from 0.93% to around 0.60%.

Exhibit 13: Provision expense/Assets by country (2014)

<table>
<thead>
<tr>
<th>Country</th>
<th>Provision Expense/Assets (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greece</td>
<td>2.7%</td>
</tr>
<tr>
<td>Turkey</td>
<td>0.9%</td>
</tr>
<tr>
<td>Spain</td>
<td>0.9%</td>
</tr>
<tr>
<td>Italy</td>
<td>0.7%</td>
</tr>
<tr>
<td>Netherlands</td>
<td>0.4%</td>
</tr>
<tr>
<td>France</td>
<td>0.2%</td>
</tr>
<tr>
<td>Germany</td>
<td>0.1%</td>
</tr>
<tr>
<td>UK</td>
<td>0.1%</td>
</tr>
</tbody>
</table>

Source: BRSA reports, SNL database

While this is the long-term goal, banks will have significant upward pressure on risk costs in the short term, given the continued worsening of macroeconomic indicators. Exhibit 14 below describes the relationship between real GDP growth, unemployment and quarterly default rates. Given current unemployment levels of above 10% and GDP growth at around 3%, we are closer to a downturn in the credit cycle in the short term.

Exhibit 14: Sector default rates vs. macro factors
(Default rate for respective quarter presented in parenthesis)

NEW DEFAULTS IN THE QUARTER/TOTAL LOANS

<table>
<thead>
<tr>
<th>Real GDP Growth (%)</th>
<th>Unemployment (%)</th>
<th>Default Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;6%+</td>
<td>&lt;9%</td>
<td>0.58%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2005Q3 (0.45%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2006Q2 (0.49%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2011Q2 (0.29%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2011Q3 (0.39%)</td>
</tr>
<tr>
<td>0-6%</td>
<td>&lt;9%</td>
<td>0.42%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2008Q4 (1.05%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2009Q1 (1.18%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2009Q2 (1.03%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2009Q3 (1.19%)</td>
</tr>
<tr>
<td>&lt;0%</td>
<td>&lt;9%</td>
<td>0.11%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Not observed in the last decade</td>
</tr>
<tr>
<td></td>
<td>&gt;9%</td>
<td>0.11%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Not observed in the last decade</td>
</tr>
</tbody>
</table>

Source: BAT, TURKSTAT
FURTHER REDUCTIONS IN OPERATIONAL COSTS IN AN EFFORT TO REGAIN PROFITABILITY

Although Turkish banks have taken steps to improve their cost base in the last couple of years, current levels are by no means sufficiently competitive or profitable for the sector. In order to help banks stabilise the cost base at a new competitive level, we expect to see more cost optimisation and a critical examination of operations in the short to medium term. In the long term, we would expect convergence towards European levels at around 1.8% of assets.

Exhibit 15: Opex/Assets (%)

Source: BRSA reports, ECB – Consolidated Banking Data

BETTER USE OF CAPITAL TO IMPROVE LEVERAGE

Turkish banks operate with very low leverage ratios, as a result of the lower share of assets with low capital consumption (mortgages make up around 6% of assets in Turkey vs. around 17% in Europe), high risk weights for retail loans (150% for General Purpose Loans (GPL) with 12-24 months tenure in Turkey, vs. 75% in Europe), and high overall capital adequacy requirements of 12% set by the BRSA. In line with Turkey’s convergence with Basel II and III regulations, we expect improvements in the leverage ratio of the Turkish banking sector to 12x. This is of course conditional on a series of changes that need to be introduced by the BRSA.

At the beginning of 2016, BRSA took its first steps to reduce relatively high risk weights for retail loans by effecting a change in regulation.

4 Source: ECB – Consolidated Banking Data
6 Source: Basel II standards Framework document – Minimum Capital Requirements
In summary, given a number of structural changes highlighted in this paper, we would expect Turkish banking sector average ROE to converge to 17% over the long term. We would also expect:

- Revenue margins to decline to 4.00% level
- OPEX ratio to improve to 1.80% level
- Risk costs to improve to 0.60% level
- Leverage to improve to 12x level
HOW SHOULD BANKS PREPARE FOR THE NEW LIFE STAGE

In responding to the pressure on profitability, banks can achieve the greatest value by revamping their operating models and reevaluating risk-return trade-offs.

REVAMP THE OPERATING MODEL

OPTIMISE THE PHYSICAL NETWORK

There are 12,197 branches in Turkey. Of these, 3,504 are located in Istanbul. At a bankable population of 3,241 (aged 15 and above) per branch, Istanbul has the lowest population per branch among all Turkish cities, followed by Ankara at 3,565. If you take any of the top ten banks in any of the three largest cities, you would find another branch of the same bank within a proximity of 500 meters 30% of the time, and within a proximity of one kilometer 50% of the time. This has to change.

Banks should be looking into moving, merging, or closing branches with a low productivity outlook and a high geographical overlap. A critical examination of the cost of doing business in a location, set against the revenue potential, is essential. Advanced analytics involving Big Data makes it possible for banks to optimise their geographical footprint, securing up to a 10% cost reduction, while still maintaining the same level of productivity.

MAXIMISE DIGITAL CAPABILITIES

Attracting customers through traditional media channels costs 20 times more than selling the same product through online channels. On average, a typical Turkish bank receives six applications per branch on a given day, while banks with advanced digital capabilities receive up to 7,500 applications per day, equivalent to the outcome for 1,250 branches.

Banks should be looking into building end-to-end capabilities in the digital space. This process starts with search engine optimisation, which not only defines how much you sell but also what risk profile you attract. It then goes on to build dedicated risk-decision engines and customised physical processes to comply with regulatory requirements.

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7 Source: BAT, Participation Banks Association of Turkey, TURKSTAT
GET BACK TO ZERO COST BASE

Our studies indicate that, over time, banks build layers of complexity in how they do business. This adds on at least 20% of excess cost in comparison with a zero-based design that would include only the value-added essentials.

Banks should identify what is necessary to ensure required functionality (the survival minimum), what is additionally necessary to implement strategic objectives (the strategic minimum), and what constitutes unnecessary internal demand, or other non-value added activities. Once this demand-side mapping is completed, banks should investigate the supply side levers, such as organisation, process, systems and people, in order to optimise the cost base.

CASE EXAMPLE: ZERO-BASED COSTING

Zero-based analysis challenges the thinking about which capabilities are truly strategic and value-adding. It does so by deconstructing existing services to identify the minimum “survival” capabilities required. Activities are classified across three levels:

- Survival
- Strategic
- Discretionary

Our approach goes far beyond simple cost reduction. It challenges the fundamental way different functions deliver against a defined strategic proposition (e.g. flexibility/agility or high quality). There are three ways to challenge the strategic minimum:

1. Best Practice: Applying best practice case examples/benchmarks against the as-is to identify opportunities for productivity uplift
2. Inside out: Functional owner views on how to increase productivity by focusing on the service catalogue
3. Outside in: Assessment of the service catalogue and “supplier” delivery model from the internal client perspective
We have been successful in identifying initiatives that would generate savings between 20-40% of total addressable costs, more than half of which could be realised within a year of implementation.

Exhibit 18: Zero-based Costing approach

**SURVIVAL MINIMUM**
- “What is necessary to ensure the survival of the business?”
- Survival defined as minimum regulatory compliance, core functions only
- “No frills”, no comfort zones, no break-outs

**STRATEGIC MINIMUM**
- “What are true value-adding capabilities required for delivering on our strategy”
- Linked to clear mid-to long-term targets
- Also “no frills”, but targeted strategic investments

**SUSTAINABLE STRUCTURAL AND COST OPTIMISATION**
- Strategy, value creation
- Processes, organisation
- Infrastructure, systems
MAKE BETTER RISK-RETURN TRADE-OFFS

INVEST IN BETTER DATA AND TOOLS

Advances in analytical capabilities and digital platforms have enabled access to massive amounts of data about customers. This includes credit card payment information on where and how much someone spends on which products, deposit account information on income and wealth, credit information on past and current delinquencies, geolocation information on where someone spends their time, and social media data on demographics, social networks, and even on the personalities of customers.

Advanced modelling techniques now make it possible to aggregate such data, enabling improved credit decisions through new generation tools. Such tools make it possible for banks to monitor the riskiness of a business customer on a daily basis, assess the riskiness of an unbanked retail customer, or improve the reachability of a customer who is delinquent on payments to the bank.

Banks typically use less than 10% of the data that they already possess in making critical business decisions. In addition to what banks already have at their disposal, there is a seemingly infinite sea of alternative data that remains unexplored. Banks should aim to gain an edge by extracting and keeping more and improved customer data. Most of this data would come from uncategorised data that the bank already owns, but some will emanate from new sources such as Facebook, Linkedin, or other online platforms. Partnerships with analytics and data service providers and social media platforms can be an effective way of gaining access to new sources of data.

CASE EXAMPLE: HOW TO CREATE MOST OUT OF CUSTOMER DATA FROM SOCIAL MEDIA

With the emergence of the Internet of Things and the increasing online presence of customers, a new generation of data has been created. Simultaneously, analytics capabilities have evolved towards more advanced algorithms, such as machine learning and ensemble algorithms. We believe that banks can exploit the untapped potential in both data and analytics, and that leveraging insights from social media is key to benefiting from new generation data and analytics.

In our experience with leading European financial institutions, we generated benefits through social media in four key areas: Targeting, Sales, Portfolio Management and Collections
Targeting: Many banks face challenges in correctly identifying the extent of its affluent customer base. Currently, customer assets under management (AUM) and income levels are considered major indicators of affluence. However, social media can help banks in refining their affluent customer segmentation. Social media possesses valuable information such as customer interests, location check-ins and travel activity. Each can be interpreted to improve assessment of customer behaviour. To make the most of social media, banks can develop social graphs and identify social media attributes and triggers, using these tools to refine their segmentation and value propositions.

Sales: Many banks currently rely on predictive models in their underwriting decisions. Most of the banks strive to improve the predictive power of their models by fine-tuning and re-interpreting currently available data. Beyond the traditional data, social media provides further insights about detailed bio-data, privacy preference, mobile presence, interest areas, social circle, and so on. Our experience shows that, if effectively used, social media can complement traditional data sources, and can significantly improve the Gini of the predictive models.

Portfolio Management: Identifying probability of default and establishing early warning mechanisms are important capabilities for banks. Many banks use traditional data, such as balance sheet information, external behaviour data and qualitative information from relationship managers. However, social media can help refining these crucial capabilities. Social media data can provide banks with further insights about brand visibility for customers, changes in mentions and the characteristics of mentions. Accordingly, we observed that customer behaviour on social media changes significantly in advance of potential default.

Collections: Tracing defaulted customers is challenging for many banks. Social media can help in finding these delinquent customers through their social media profiles and social circles. Automatic algorithms can help to match the customer with the right social media profile.

Exhibit 19: Delinquent customers can be automatically found and contacted through social media messaging platforms
MEASURE PROFITABILITY MORE ACCURATELY

As banking profitability has declined, the share of both risk and operational costs has become more prominent in the breakdown of a bank’s profit and loss statement. Additionally, with the growth of number of different channels such as online, mobile and third parties, it has become very important to pinpoint the precise source of profitability at a granular level. For example, a term deposit account opened and renewed online for a year involves 1/30 of the cost of a similar account opened and renewed in the branch.

Banks should build methodologies and systems to calculate profitability per customer, channel and product, together with combinations of these categories. This requires having a solid funds transfer pricing methodology, process-based costing, and state-of-the-art risk quantification systems that combine to produce risk-adjusted profitability (RAROC or economic profit). Once these systems have been successfully built, with the strategic focus moving from aggressive growth to profitability, banks should rethink their performance metrics for the sales network and business units.

CASE EXAMPLE: VALUE MAXIMISATION OPPORTUNITIES FOR GENERAL PURPOSE LOANS

Measuring and managing value that is generated through general purpose loans has become even more important for banks. In order to realise the full potential value, banks need to better understand and manage the levers that drive value in general purpose loans, together with the processes linked to those levers. Due to the increase in the number of channels, understanding the differences in these levers by channel has become instrumental in solving the profitability puzzle.

Opportunities for value creation exist at every stage of the GPL life-cycle, from lead generation to collections.

When exploited successfully these opportunities could double the profitability of the GPL. The first step in this journey is to improve the value measurement framework, and measure value created in each step of the life-cycle more accurately.
**Exhibit 20: Opportunities for value creation in the GPL life-cycle**

Product: General Purpose Loans, 12M term, 1.66% interest rate
Channel: Online 3rd party lead generator
Avg. ticket: 8,000

<table>
<thead>
<tr>
<th>Stages</th>
<th>Lead generation</th>
<th>Application processing</th>
<th>Underwriting</th>
<th>Disbursement</th>
<th>Arrears management</th>
<th>Closure</th>
<th>Total</th>
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<tr>
<td>NII</td>
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<td>-619</td>
</tr>
<tr>
<td>NFI</td>
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</tr>
<tr>
<td>OPEX</td>
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<td>-13,500</td>
<td>-3,750</td>
<td>9,375</td>
<td>-712</td>
<td>-46,088</td>
<td></td>
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<tr>
<td>Risk cost</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-37,500</td>
</tr>
</tbody>
</table>

**Assumptions**
- 2.5 TL fee per application
- 3% manual underwriting
- 25 TL per manual U/W
- 1 TL per auto U/W
- 10 TL process cost per disbursement
- 25 TL coll. cost per delinquent loan
- 300 TL coll. cost per NPL
- 50% LGD
- 2 TL process cost per closure
- 41,130
- 7.7% NIM
- 0.5% net fee margin

**Value creation opportunities**
- Illustrative example
- ROA 2.74%

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**Exhibit 21: Opportunities for value creation in the GPL life-cycle**

**ROA IMPACT**

- ROA (starting)
- Increase approval rate while keeping risk cost flat
- Improve conversion
- Optimise processes
- Improve collections
- Increase ticket size while keeping risk cost flat
- Employ risk based pricing
- Reduce manual U/W

- ROA (improved)
- 0%
- 1%
- 2%
- 3%
- 4%
- 5%
- 6%
BUILD ANALYTICAL DISCIPLINE INTO PRICING

In most customer segments, except for Corporate and perhaps Commercial, the overwhelming majority of banks do not differentiate their pricing according to customer risk levels. For many banks, we have seen that 10-20% of their general purpose loans actually lose money, even before considering any operational cost or capital charge.

Banks should really make use of their risk quantification systems when pricing products for customers in different risk groups. This is easier to execute for Corporate and Commercial, where the price is not publicised and one-to-one pricing discussion is possible, but more difficult for mass segments where these factors do not apply. Digital platforms make it easier for banks to deliver differentiated offers to customers, but many customers are still serviced through physical channels and will continue to be so in the near future. Banks need solutions for delivering the differentiated messages to the mass public and small businesses. While this is mostly a communications challenge, banks should ensure that the analytical framework is implemented, is bullet proof, and leads to more value for the bank if the offer is successfully delivered to the customer.

OPTIMISE CAPITAL CONSUMPTION

Turkish banks operate with half the leverage as their European peers (9x vs 18x). Keeping other things equal, this would translate to half the ROE, increasing pressure on the return side to reach competitive ROE levels. Banks need to take capital consumption into consideration when making lending decisions to create a holistic view of value generation. Products with similar revenue margins may yield different ROE results when capital is taken into consideration.

Banks should look into optimising capital consumption by:

- Reassessing optimal risk appetite, i.e. what is the lowest capital adequacy we should be targeting? Holding 13% capital adequacy level vs. 16% has a ~2% impact on ROE level
- Reallocating capital to higher ROE products and segments. Not all products require the same level of capital and increasing balance sheet share in such products would lead to increased leverage, while maintaining required capital adequacy levels
- Fixing underlying systems infrastructure to ensure the right amount of capital is held for each transaction. Tactical levers to gain savings from RWA include review of models, recognition of collaterals, classification of customers, fixing data issues and optimization of product mix and features
GLOSSARY

TURKISH BANKING MARKET FIGURES USED IN THE DOCUMENT ARE FORMULATED AS FollowS:

PROFIT/LOSS ITEMS

Revenues: Net Interest (Profit Share) Income (Expense) + Fees and Commissions from Total Loans + Revenues from Banking Activities – Fees and Commissions Paid

OPEX: Personnel Expenses + Provision for Termination Indemnities + Depreciation + Taxes, Duties, Charges and Funds + Other Non-Interest (Other) Expenses

Risk Cost: Special Provisions for Non-performing Loans + Provision for General Loan Losses + Provision for Securities Impairment

Other non-interest income: Dividend Income + Income from Sale of Assets + Other Non-Interest (Other) Income

Other non-interest expense: Provision for Affiliates, Subsidiaries and Joint Ventures Impairment + Other Provisions – Total Other Non-Interest (Other) Income (Expense)

BALANCE SHEET ITEMS

Average assets: Monthly average of assets between December of a given year and December of previous year.

Average equities: Monthly average of equities between December of a given year and December of previous year
EU – ALL DOMESTIC BANKS FIGURES USED IN THE DOCUMENT ARE AS DEFINED BY ECB CONSOLIDATED BANKING DATA AS FOLLOWS:

Revenues: Net interest income (% of total assets) + Net fee and commission income (% of total assets)

Risk/Assets: Income sheet items – Provisions (% of assets) + Income sheet items – Impairments (% of assets)

Assets/Equity: 1/Value of equity (% of total assets)

OPEX/Assets: Total operating expenses (% of total assets)

SNL FINANCIAL FIGURES FOR COUNTRY BENCHMARKS ARE CALCULATED AS FOLLOWS:

Provision expenses/Assets: Loans and Credit Commitment Impairments/Total Assets

Total assets share is calculated for banks for assessing level of competition in European countries.

OPEX/Assets: Operating expenses/Total Assets
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