Socio-Economic Impact of Mobile Financial Services

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Telenor Group
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One of the world’s major mobile operators

More than 203 million mobile subscribers*

Almost 33,200 employees

Markets of 2 billion people

*111 mill in consolidated operations Q4
92 mill in Vimpelcom Ltd Q3
Telenor Group holds an economic share of 39.6 per cent in VimpelCom Ltd., operating in 10 markets: Russia, Ukraine, Kazakhstan, Georgia, Uzbekistan, Tajikistan, Armenia, Kyrgyzstan, Cambodia and Vietnam. VimpelCom Ltd. has 92 million mobile subscribers (Q310)
MFS could enhance the lives of 2 bn. people

Over 2.5B adults (~72%) in developing world are unbanked

Almost 2.5B people in developing world have mobile phones

Up to 2B unbanked mobile phone users

Potentially two billion unbanked mobile users could be served through MFS

Source: World Bank; ITU; BCG analysis
Unbanked have FS needs, but lack access

<table>
<thead>
<tr>
<th>Need ways to:</th>
<th>Current solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manage short-term volatility of cashflows</td>
<td>Borrow or lend to friends and relatives</td>
</tr>
<tr>
<td>Manage low-frequency, high cost risks</td>
<td>Obtain short-term credit from landlords, shopkeepers, employers</td>
</tr>
<tr>
<td>Build lump sums for major occasions</td>
<td>Informal savings clubs</td>
</tr>
<tr>
<td>Receive money transfers</td>
<td>Illegal moneylenders</td>
</tr>
<tr>
<td></td>
<td>Informal remittance channels</td>
</tr>
</tbody>
</table>

Informal options often costly, non-transparent, uncertain

Source: Portfolios of the Poor; BCG analysis
Multiple reasons for low financial inclusion

- No perceived need
- Cultural / religious issues / indirect access
- Contractual / informational framework
- Discrimination
- High perceived cost
- Unsuitable product features
- Lack of access
- Insufficient income / High risk

Typical percentages

- 15-30%
- 70-85%

Banks typically ignore 'long tail'

Profitability per customer (Indexed)

- Top 20% of customers = 80% of profits
- Long tail of unprofitable customers

Source: World Bank; CGAP; Press search; BCG analysis
Mobile-enabled access to financial services

**Branchless banking through mobile**

- **Basic payments and remittance services**
  - Facilitate transactions while saving time, effort and cost for users, e.g.,
    - Domestic (and international) remittances
    - Utility and other bill payments
    - Micro-payments

- **Savings, credit and insurance**
  - Drive financial inclusion of the unbanked and underbanked
    - M-wallet solutions
    - Micro-loans
    - Micro-insurance for health or crop failures

**Mobile as channel**

- **Access portal for financial services**
  - Enhance convenience and richness of interactions with financial providers
    - Mobile banking
    - Internet applications on smartphones
MFS helps unbanked access FS they need

Two main challenges ...

High income volatility

Severe expense shocks

... can be addressed by FS

Smooth out cash flow

- Build buffer – savings
- Increase inflow – remittance
- Build lump sum for major expenses – credit and savings

Help provide funds when negative event occurs

- Overcome short-term shortfalls with
  - Credit
  - Remittances
  - Insurance

MFS can help overcome barriers to FS

- Access for (almost) everyone
- Access 24/7
- Access from anywhere
- Low cost
- Secure

Source: Portfolios of the Poor; BCG analysis
Telcos brings five unique advantages

- Focus on all customers
- Secure device already in customer's hands
- Existing customer relationship
- Trusted and familiar brands
- Large distribution network

Source: World Bank; Telenor; BCG experience
The study: assess impact of MFS in 5 countries

1. Adoption model

2. Individual benefits
   - Economic benefits
   - Social benefits

3. Economic benefits

4. Regulatory requirements
Create a positive yet conservative picture of MFS

Model adoption

- Project possible evolution of adoption of each service over the next 10 years

Assess economic impact

- Assess impact of MFS adoption on key economic indicators, leveraging cutting edge academic research
  - Increase domestic capital formation
  - Draw credit into banking system
  - Time and cost savings for individuals and firms
  - GDP growth
  - Entrepreneurship
  - Jobs

Assess social impact

- Identify key social issues and articulate potential MFS contributions
  - Supplementing of incomes through remittances
  - Safe means to store incomes in good times
  - Access to insurance
  - Reduction in exclusion
  - Increase resilience of poor to shocks
  - Keep children in school

Key assumptions

- Supportive ecosystem in place
- Take-up rate similar to previous technologies

Today → Users → Time
Impact assessments based on well-acknowledged studies

Selected examples of studies

• Ang (2008): "Finance and Inequality – The Case of India"
• CGAP (2007): "Is Microfinance an Effective Strategy to Reach MDG"
• CGAP (2010): "Financial Access"
• Collins et al. (2009): "Portfolios of the Poor"
• IBRD/World Bank (2009): "Banking the Poor"
• Financial Access Initiative (2009): "Half the World is Unbanked"
• King and Levine (1993): "Finance, entrepreneurship and growth"
• World Bank (2007): "Finance, Inequality and the Poor"
• World Bank (2008): "Finance for All?"
• World Bank (2009): "Shocks, Coping, and Outcomes for Pakistan’s Poor"
• World Bank (2009): "The impact of banking the unbanked"

Economic and social impact examples

Economic impact
• Ang (2008): 1% increase in financial development reduces predicted Gini by 0.066% in India
• World Bank (2009): 15% increase in financial inclusion increases employment 1%
• World Bank (2009): 1% increase in financial inclusion increases business creation 0.5%
• King and Levine (1993): 1% change in financial inclusion increases annual GDP per capita growth by ~0.03%
• World Bank (2007): Financial development reduces income inequality, increases growth of income of lowest quintile and accelerates poverty alleviation

Social impact
• World Bank (2009): Buffering against financial shocks critical as they cause:
  – Food shortages (32%)
  – Withdrawal from school (7%)
  – Increase in child labor (9%)
Significant variation in current financial inclusion

% of adult population

- **Unbanked**
  - No access to financial services
- **Under-banked**
  - Basic access, e.g. savings account
- **Fully banked**
  - Use full range of financial services

<table>
<thead>
<tr>
<th>Country</th>
<th>Year</th>
<th>Unbanked (%)</th>
<th>Under-banked (%)</th>
<th>Fully banked (%)</th>
<th>Mobile (SIM) penetration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pakistan</td>
<td>2009</td>
<td>10</td>
<td>25</td>
<td>60</td>
<td>60%</td>
</tr>
<tr>
<td>India</td>
<td>2010</td>
<td>20</td>
<td>39</td>
<td>41%</td>
<td>62%</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>2009</td>
<td>27</td>
<td>30</td>
<td>45%</td>
<td>41%</td>
</tr>
<tr>
<td>Serbia</td>
<td>2009</td>
<td>27</td>
<td>30</td>
<td>43%</td>
<td>151%</td>
</tr>
<tr>
<td>Malaysia</td>
<td>2010</td>
<td>20</td>
<td>25</td>
<td>55%</td>
<td>119%</td>
</tr>
</tbody>
</table>

1. 2010
Source: Asia Development Bank; CGAP; Gartner; GSMA; IE Market Research; IFC; Ovum; World Bank; Wireless Intelligence; BCG Analysis
MFS could serve 351M in study countries by 2020

Bring benefits of banking to 216M previously unbanked or underbanked

<table>
<thead>
<tr>
<th>Country</th>
<th>MFS Users by 2020 [M]</th>
<th>% of adults</th>
<th>% of mobile users</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serbia</td>
<td>1</td>
<td>17%</td>
<td>38%</td>
</tr>
<tr>
<td>Malaysia</td>
<td>10</td>
<td>22%</td>
<td>48%</td>
</tr>
<tr>
<td>Pakistan</td>
<td>41</td>
<td>35%</td>
<td>35%</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>45</td>
<td>47%</td>
<td>37%</td>
</tr>
<tr>
<td>India</td>
<td>253</td>
<td>19%</td>
<td>19%</td>
</tr>
</tbody>
</table>

1. Based on mobile penetration forecasts
2. High penetration due to earlier launch of mobile banking services and 2011 adult penetration of 7%
Source: BuddeCom; Gartner; OVUM; IE Market Research; ITC; Wireless Intelligence; BCG analysis
MFS may reduce financial exclusion 5-20% by 2020

Note: Baseline of financial inclusion assuming growing with GDP/FI ratio as developed by World Bank/Honohan (2008), adjusted to peer countries.
Source: ADB; BuddeCom; CGAP; Gartner; OVUM; IE Market Research; ITC; Wireless Intelligence; World Bank; Country statistics units; BCG analysis.
Impact on GDP could range between 0.3 - 5%

1. Assuming 1% change in financial development increases growth in real per capita GDP 3.6%. E.g. per GDP/capita of 1,000 growing at 1% p.a. will be increased to 1,010.36


Source: EIU; World Bank; BCG experience
India: New business activity could create 4M new jobs by 2020

Financial inclusion and access to finance spurs entrepreneurship and new business...

... and could create up to 4M new jobs by 2020\(^1\); an increase of 1%

Up to 0.6M new businesses could be created by 2020
- Predominantly among informal entrepreneurs, as existing business owners mostly already have access to finance

Both establishment of new businesses and expansion of current business will contribute to provide new jobs
- Value chain for serving MFS will also contribute to job creation

1. Assuming 15% increase in financial inclusion increases employment 1%
Source: EIU; World Bank; BCG experience; BCG analysis
India: MFS could increase government tax revenues US$ 50B by 2020

New business creation will induce corporate tax on profits and employee income tax

Corporate tax on profit from new business activities
• Revenue from both new formally registered companies and new business creation within existing companies
• GDP contribution per company seen as aggregate of value creation throughout the company's value chain

Income tax from new jobs created
• Job creation from new business and expansion of existing companies

50B could be added to government revenues by 2020, an increase of 5%¹

1. Based on World Bank estimate of tax/GDP ratio of 12.9%
Source: EIU; World Bank; BCG analysis
Financial inclusion promotes inclusive growth
Country example: Malaysia

**Malaysian inequality can be reduced 5% by 2020**

- **Gini coefficient by country**
  1. Sweden 25.0%
  2. Norway 25.8%
  3. Finland 26.9%
  4. Bulgaria 29.2%
  5. Ethiopia 29.8%
  6. Hungary 30.0%
  7. Bangladesh 31.0%
  8. Slovenia 31.1%
  9. Pakistan 31.2%
 10. Egypt 32.1%
 11. Canada 32.6%
 12. Lao PDR 32.6%
 13. Belgium 33.0%
 14. Switzerland 33.7%
 15. Greece 34.3%
 16. Guinea-Bissau 35.5%
 17. Malaysia 2011 est. 35.6%
 18. Lithuania 35.8%

**Benefits accrue to poorest**

- Support entrepreneurs with savings and credit
- Reduce 'leakages' and costs imposed by middlemen
- Facilitate domestic and international remittances and transfers

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1. The Gini coefficient is the most commonly used measure of inequality. The coefficient varies between 0, which reflects complete equality and 1, which indicates complete inequality (one person has all the income or consumption, all others have none).
2. 1.8 absolute reduction, relative reduction is 5.0%, based on World Bank rating from 2005
3. Based on countries’ latest recorded Gini value 2005-2010
Source: Human Development Index; UNDP; World Bank; BCG analysis
MFS can help poor avoid worst outcomes
Country example: Bangladesh – flood relief

Disasters put a severe financial burden on poor families

- Floods in Bangladesh on average
  - Occur every 5 years
  - Last 35 days
  - Affect up to 75% of population
- Average flood damage is US$365 (30% of annual household income)
- Most damage affects crops and property

MFS can help respond to and prepare for natural disasters

<table>
<thead>
<tr>
<th>Relief payment distribution</th>
<th>Insurance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pakistan EasyPaisa/Tameer Bank</strong></td>
<td><strong>Kenya MPesa/UAP insurance</strong></td>
</tr>
</tbody>
</table>

- During floods EasyPaisa used its platform to
  - Solicit donations
  - Distribute donations
- Pakistan concept has been used for Haiti earthquake relief
- Poor farmers insure crop against inclement weather through mobile phone
- Claims are disbursed as soon as weather information is verified

1. As in 1998  
2. Incurred by floodplain households according to 2007 study  
3. Especially property and unemployment insurance  
4. As opposed to physical collection

Source: Akter- Introducing a Micro-Flood Insurance Market in Bangladesh; CGAP; WHO – Flood Flurry
Pakistan: MFS can help improve health care access

Health shocks have a devastating effect on poor households

Health issues are a leading source of financial shocks for the poor
• Health care costs account for 70% of financial shocks suffered by households
• Only 26% of population have health care coverage
• 73% of health payments out-of-pocket

Impact of health shocks can be significant, leading to
• Food shortage in 35% of cases
• School drop out in 10% of cases
• Child labor in 11% of cases

60% of households do not recover

MFS provides access to three main levers

<table>
<thead>
<tr>
<th>Savings</th>
<th>Insurance</th>
<th>Care payments</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPesa and Changamka (Kenya)</td>
<td>First Micro Insurance Agency¹</td>
<td>Tested by Heartfile Health Financing²</td>
</tr>
<tr>
<td>• Poor women make mobile micro-payments for a pre-determined period to save for childbirth</td>
<td>• Micro health insurance initiatives already exist</td>
<td>• Donors can allocate their funds to pay for vouchers on behalf of patients in need</td>
</tr>
<tr>
<td>MFS simplifies the saving process and account access</td>
<td>MFS can simplify premium payments and claims process</td>
<td>Other potential uses</td>
</tr>
<tr>
<td>Simple /safe ways of savings make health accessible</td>
<td>Simple payment systems encourage insurance payments</td>
<td>• Patient payments</td>
</tr>
<tr>
<td></td>
<td>MFS offers instant access to funds for payment</td>
<td>Immediate fund transfer simplifies process of obtaining funds for payment</td>
</tr>
</tbody>
</table>

1. FMiA collaborates with New Jubilee Life, products available through First Microfinance Bank and Buksh 2. Testing integration of mobile technology into distribution of health equity funds payments

Source: WHO- Protecting the poor against health impoverishment in Pakistan; World Economic Forum; World Bank Group – Agricultural shocks in Pakistan; Acumenfund, press research
Multiple elements need to be in place

- Regulations
- Business model
- Distribution network
- Consumer education

Successful MFS ecosystem
Supportive regulatory regime is vital first step

Three tiers of branchless banking regulation...

- Ancillary
- Necessary
- Vital

... addressing a wide variety of regulatory domains

1. Regulation of use of agents
2. Controls: AML, CTF, KYC, etc.
3. Electronic money issuance
4. Consumer protection
5. Payment systems
6. Competition
7. Prudential regulations
8. Data privacy
9. Foreign exchange controls
10. E-commerce and E-security
11. General telecommunications
12. General banking
13. Taxation

Source: CGAP Branchless Banking Self Assessment, September 2010
Pakistan: significant regulatory progress, but scope remains to improve flexibility

<table>
<thead>
<tr>
<th>Element</th>
<th>Status quo</th>
<th>Potential way forward</th>
</tr>
</thead>
<tbody>
<tr>
<td>AML / risk management</td>
<td>Current anti-money laundering/combating the financing of terrorism regime, which covers banks only, presents obstacles to the rapid growth of MFS/branchless activities</td>
<td>Consider tiered approach to KYC requirements that match documentation to transaction volumes</td>
</tr>
<tr>
<td></td>
<td>Stringent registration requirements a possible hurdle to both agents and customers</td>
<td>Transaction limits should be reviewed, and, at the minimum, linked to inflation, to ensure that real value is maintained</td>
</tr>
<tr>
<td></td>
<td>Limits on transactions reduce attractiveness of mobile accounts, relative to OTC agent transactions</td>
<td></td>
</tr>
</tbody>
</table>

1. Projected to return to long-term average 7-10% by 2013, 20% spike in 2008-2009, 14% 2009-2010
Source: EIU; IMF
Summary: The Opportunity and the Challenge

Over 2.5B adults in developing world financially excluded ... but many already have mobile phones

MFS potentially most powerful tool for economic and social development, for all countries studied

Multiple elements need to be put in place for MFS to take off

Regulators must create supportive environment that manages risk ... but also allows flexibility and innovation as MFS ecosystem evolves
Extending the role of mobile

Bringing financial services to the unbanked
the easypaisa service

Services
• Utility Bill Payment
• Money Transfer
• Mobile Top-Up
• Donations
• International Transfer
• Salary disbursement
• Micro loan repayment

Over-the-counter (agents assisted) or handset (self serve)

For everyone!

Offered by Telenor and Tameer Microfinance Bank
partnership with Tameer

Microfinance Banking License

Banking experience and competency

Shared vision and strategy

Agent Agreement

51%

Virtual joint venture
Common Project
Integration of value chain

National Outreach at Low Cost

Strong Brand Image

Large Existing Customer Base
commercial highlights

8 million transactions over last 6 months with a value of around USD 150 mill

1 million unique customers in February, majority on money transfer service

11,000 agents in 600 cities

Brand awareness >80% and brand consideration >50%

Received the MMT award for “Best Mobile Money Transfer of the Year in 2010
thank you