

# Financial analyses of EMIs

This additional example is part of the CGAP Technical Guide, [Digital Financial Services for Financial Inclusion: Tools for Supervisors](#). It provides a practical illustration produced during CGAP's work with several country supervisors on DFS supervisory frameworks. This document is part of the Technical Guide's collection of Additional Examples and Guidance. Its utility and applicability to specific country contexts depends on factors such as the availability of data and other resources, the stage of development of DFS markets, experience with risk-based supervision, and institutional arrangements for supervision.

## Introduction

### WHY ANALYZE EMI FINANCIAL INDICATORS?

Not all DFS supervisors assess the financial health of e-money issuers (EMIs). They typically focus on analyzing operational data instead, such as transaction volume and values and number of customers. This is because most EMIs do not pose a risk to the financial system and the consequences of their failure are quite limited in many cases. However, even if an EMI is small in terms of assets and has limited interlinkages with the banking sector, its failure would impact an important constituency: customers.

If supervisors have the means to periodically collect quality financial data from EMIs (see the Technical Guide, section 4.6: Improving supervisory data), running basic analyses could help in timely identification of imminent financial troubles that could potentially impact consumers or other financial institutions. Even if an EMI is not considered important to the risk-based approach implemented by the supervisor (see the Technical Guide, section 3.1: Creating a risk-based approach to supervision), visibility into its financial soundness can lead to supervisory actions to ensure that consumers are protected and other potential damages contained in case of failure. For instance, the supervisor may decide to conduct a special assessment of the EMI's fund safeguarding practices and prepare for a potential resolution process where its operations, including funds in float accounts, would be promptly transferred to a viable EMI, if needed (see the Technical Guide, section 4.8: Resolution of DFS providers).

If the supervisor does not possess quality financial data (e.g., only has data in paper or PDF files, has incomplete or outdated data), conducting financial analyses as part of offsite monitoring may be counterproductive. It could shift scarce resources away from analyses considered more important to the risk-based methodology (e.g., thematic reviews of fund safeguarding and agent network management).

## UNDERSTANDING THE EMI BUSINESS

To analyze any business's financial figures, supervisors first need a sound understanding of how the business works. An EMI is an institution that is dedicated to collecting customer funds, storing them, and making them available on demand for transactions such as peer-to-peer (P2P) transfers and payments for goods and services. The EMI business is simple from a financial perspective. But it is important to understand why it is often difficult to achieve profitability: fees gained from each transaction need to cover almost all the costs of running an EMI business, including fees paid to the agents facilitating each transaction. Profit margins can be slim and only become more robust when the EMI substantially increases transaction volume and keeps operational costs down.

In cash-based societies, this requires expanding agent networks to serve customers in their cash-in/cash-out (CICO) needs. Expansion increases costs for EMIs. Supervisors need to keep this in mind when imposing regulatory compliance costs and requirements that affect transaction fees or agent network expansions.

Another aspect to consider is the business's current phase of development since expectations for key performance indicators (KPIs) differ according to each EMI's maturity level. According to the GSMA, mobile money businesses go through three distinct phases:

- 1. Start-up, early stage.** The investment equivalent of six to eight times the EMI's revenue. Low earnings before interest, taxes, depreciation, and amortization (EBITDA) or losses. Operational expenses (OPEX) rise.
- 2. High growth, remittance-based stage.** Both OPEX and revenue increase due to rising transaction volumes. Modest positive margins (2 to 5 percent). Efforts to transition from over-the-counter to account-based transactions to reduce costs. Heavy investment in customer acquisition.
- 3. Mature, ecosystem-based stage.** More digital, less cash-based, healthier profit margins of over 20 percent from transactions. Potential additional revenue from other services (e.g., credit scoring, data analytics).

The following summary can be useful in setting KPI expectations for EMIs at various stages of business maturity.

FIGURE 1. Summary of KPIs in three distinct phases

	1: Start-up early-stage (1-2 years of operation)	2: High-growth, remittance- based (4-5 years)	3: Mature, ecosystem-based (>5 years)
<b>Transaction Margins</b>	31%	55%	65%
<b>Non-transaction costs</b>	<b>Cost as % of revenue</b>	<b>Cost as % of revenue</b>	<b>Cost as % of revenue</b>
<b>Commercial costs</b>	650%	29%	25%
Customer registration	300%	9%	3%
Agent acquisition and management costs	300%	8%	7%
Ecosystem acquisition and management costs	0%	2%	10%
Marketing costs	50%	10%	5%
<b>Operating costs</b>	107%	24%	20%
Personnel	50%	10%	8%
F&S	2%	1%	1%
Technology	20%	8%	5%
G&A	25%	3%	3%
Customer Care	10%	2%	3%
<b>Total OPEX</b>	<b>826%</b>	<b>98%</b>	<b>80%</b>
<b>EBITDA margins</b>	<b>-726%</b>	<b>2%</b>	<b>20%</b>
<b>Total CAPEX</b>	<b>USD 1-3M</b>	<b>8%</b>	<b>3%</b>
<b>Cash flow margins</b>	<b>NA</b>	<b>-6%</b>	<b>17%</b>

Source: GSMA 2014.

## ASSETS AND REVENUE

EMIs have few sources of revenue. Most depend almost entirely on transaction fees, which include fees paid by customers and partners (e.g., credit providers and insurers distributing their products via the EMI platform). EMIs have several other assets that can generate revenue, such as returns from investing in available liquidity (e.g., reserves, deposits) and returns from investments in other firms. One exception is interest income from investment of float accounts. In many jurisdictions, EMIs are allowed to keep the interest gained and use it as they wish. In others, they are subject to specific rules on how to use the income.<sup>1</sup> In many countries, EMIs are not permitted to hold many types of assets (e.g., real estate) and their participation in other companies may be limited by regulation. Monitoring fee revenue behavior is one of the most important aspects of offsite monitoring of an EMI's financial performance because its survival depends on fees.

## LIABILITIES AND EXPENSES

EMIs are not complicated in regard to liabilities and expenses. A large percentage of liability for many EMIs is likely the money they owe customers or the total e-money

<sup>1</sup> See Dias and Kerse (2021) to learn more about regulatory approaches to float interest.

issued. In most countries this liability is also reflected on the asset side by float account balances. Yet EMIs have other creditors, such as staff, services providers, and rent. Their main cost centers include:

- For EMIs operating through large agent networks, the cost of maintaining the network. More specifically, the fees paid to agents each time they conduct a transaction (e.g., opening a new client account) and facilitating CICO transactions. The costs of operating through an agent network manager may also be reflected in the liability side of the balance sheet (either variable or fixed fees).
- Staff salaries and benefits.
- Maintaining and updating the technology platform.

FIGURE 2. **Key revenue and expenses of mobile money deployments**

Fee revenue	Operational expenses (OPEX)	Capital expenses (CAPEX)
<ul style="list-style-type: none"> <li>• Airtime top-up</li> <li>• Balance inquiry</li> <li>• On-net and off-net P2P transfers</li> <li>• CICO</li> <li>• Bill payment</li> <li>• Bulk disbursements</li> <li>• Merchant payment</li> <li>• International remittances</li> </ul>	<ul style="list-style-type: none"> <li>• Salaries, rent, utilities, etc.</li> <li>• Agent commission</li> <li>• Agent network support</li> <li>• Advertising/promotion</li> <li>• Platform maintenance</li> <li>• Customer care</li> <li>• Other overhead costs</li> </ul>	<ul style="list-style-type: none"> <li>• Hardware</li> <li>• Software</li> <li>• Buildings</li> <li>• Furniture</li> <li>• Vehicles</li> <li>• Other equipment</li> </ul>

Source: GSMA 2014.

## Conducting the financial analysis

### MAIN TYPES OF FINANCIAL ANALYSES

Supervisors may conduct several analyses using EMI financial data, depending on the quality and level of detail of the reported data as well as the existence of a solid historical series. Supervisors overseeing a newer, younger EMI market may be limited to basic analyses due to a lack of historical data. When the data becomes more robust, supervisors may conduct the following types of analyses:

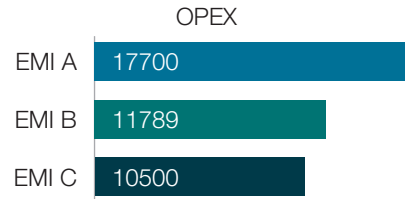
- Trend and growth analysis. Understand developments by individual EMIs and the market
- Peer comparisons. How EMIs compare to each other in terms of KPIs
- Exception analysis. Identify spikes or large variations, interruptions in a trend, significant variations from the business plan
- Compliance checks. Whether regulatory requirements that impact financial accounts are met (e.g., minimum initial capital, capital adequacy, fund safeguarding)

FIGURE 3. Examples of types of analyses

**Trend and growth analyses**



**Peer comparisons and exception analyses**



**Examples of analyses:**

- The liability towards clients (total e-money issued) has grown an average of 50% in the last 3 years
- Fee revenues from over-the-counter transactions are slowly reducing, indicating that customers are increasingly adopting account-based transactions
- Return over assets (ROA) is expected to remain stable for the next few years
- Operational expenses increased to worrisome levels in the last year

**Examples of analyses:**

- EMI A has lower ROI than peers
- EMI A is the only one in the peer group that is not moving towards account-based transactions
- EMI A stands out as having the highest operational expense ratio
- In EMI B expenses with agent fees are much higher than in the peer group, which could signal an unsustainable strategy to gain market share

**Compliance checks**

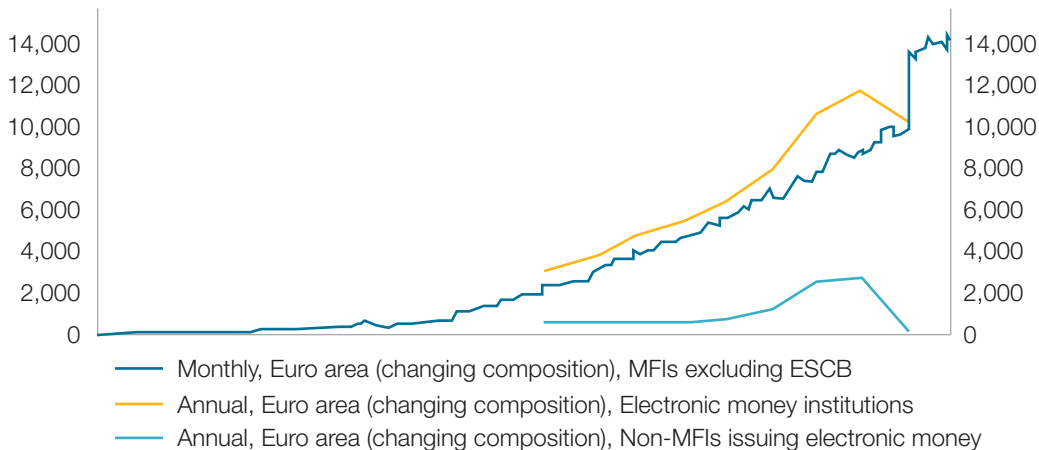
**Examples of analyses:**

- EMI A has fallen short of complying with the minimum required capital
- Judging by the fee revenues reported, EMI A is providing remittances, but does not have authorization to do so
- EMI B consistently shows differences between the balance in float account and the total e-money issued



Trends and other analyses are easily visualized when the data is plotted in charts, like the European Central Bank example reporting on total e-money issued in Europe (see Figure 4).

FIGURE 4. Total e-money issued in Europe between 2001–2019



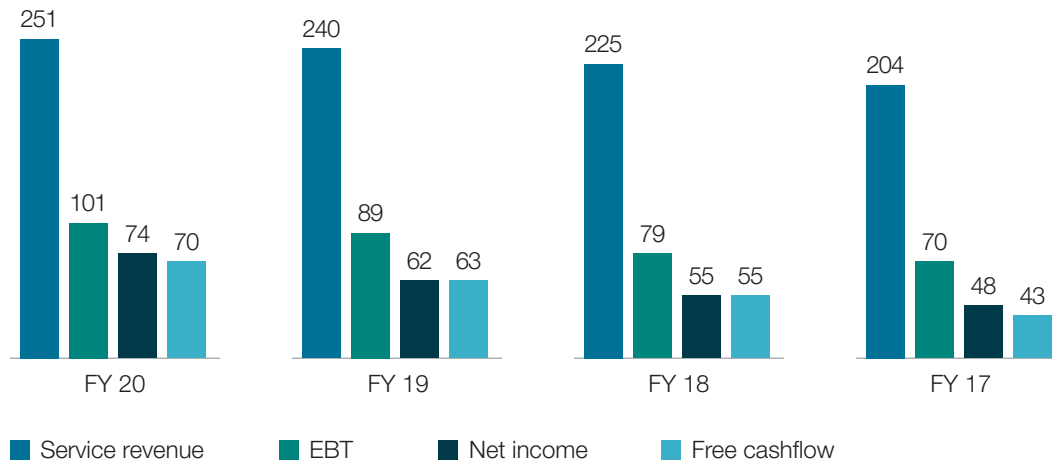
Source: European Central Bank.

## ANALYSIS OF KEY PERFORMANCE INDICATORS

Some KPIs estimate a business's financial health. Figures (see below) from Safaricom's 2020 Annual Report, for example, show strong growth in service revenue, EBIT, net income, and free cash flow—although the figures include Safaricom's whole business, with M-PESA inserted into it (Safaricom 2020).<sup>2</sup>

FIGURE 5. Safaricom's KPIs over the years

Key performance indicators  
KShs billions



source: Safaricom PLC 2020.

As a general rule, conclusions should be drawn based on a set of indicators rather than one particular indicator.

The main indicators can be divided into three areas:

### 1. Revenue (the result of selling transactions and other services):

- Gross revenue
- Fee revenue (a subset of gross revenue)
- Interest income (from capital gain, not from lending)
- Net revenue

### 2. Operational efficiency

- OPEX
- OPEX ratio (operational expenses/revenue) shows revenue generated per dollar spent on the operation

2 In the rare cases where EMI regulation allows a mobile network operator (MNO) to conduct e-money business without creating a separate legal entity, the DFS supervisor needs to require separate reporting for the e-money business line.

### 3. Profitability

- EBITDA—net income before interest, taxes, depreciation, and amortization
- EBITDA margin—EBITDA over revenue, which shows how much of each dollar earned becomes profit; also known as net margin
- Cash flow margin—shows how much cash is left after operational expenses. A proxy can be the EBITDA minus CAPEX
- ROA—return over assets (net income/total asset) shows how much profit is generated per dollar of asset
- ROE—return over investment (net income/equity) shows how much profit is generated per dollar allocated by investors who contributed with equity
- CAPEX ratio (CAPEX/revenue) shows how much revenue is generated per dollar spent on capital investment

Supervisors need to cover all three of these areas in their offsite monitoring. The more complete the reporting, the better the monitoring. It also requires specific attention to reporting requirements. For example, if not specified in reporting guidance, the level of detail in the reporting of revenue sources may not be sufficient enough for meaningful analyses. For instance, the supervisor may specifically require fee revenue reporting broken down by fee type. To do so, the supervisor or the authority responsible for establishing accounting standards may choose to create standard account lines in EMI financial statements. Simply “adopting” an existing accounting manual that corresponds to the banking sector may not be enough.

For any indicator, supervisors can plot the data in charts to show growth rates and trends and to highlight abnormal results. The analysis should not look into KPIs in isolation from the broader context of the EMI and the local e-money market. An EMI’s level of maturity is an important aspect, as is the local context. Local context also matters. For instance, due to labor costs, a certain country’s OPEX may be high relative to a neighboring country.

Finally, certain useful analyses combine financial data and operational data collected from EMIs (see Additional Examples and Guidance 7: Data collection template for EMIs, and 8: Reporting guidance for EMIs). For instance, given that most EMIs rely on agent networks, “revenue or EBITDA per total number of agents” is an indicator of operational efficiency that shows results per agent. A similar indicator would use total number of employees instead of agents. “Total expense in agent fees per total number of agents” is another interesting indicator. When compared over time and against other EMIs, this indicator could show, for example, an excessive increase in agent fees with the intent to gain market share and grow the customer base. But it could also lead to abuse and even fraud perpetrated by agents to gain fees. Combining financial data with operational data can produce valuable insights so supervisors may want to synchronize the reporting of these two data types.

## References

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