The purpose of this section is to demonstrate the methodology and quantify the intangible attributes that clients build up as they access financial services, and which are rarely considered when measuring the impacts of financial inclusion. In earlier reports, and on a recurring basis, we have measured how clients develop by analyzing several tangible dimensions, such as sales, assets, revenues, income earned, etc, as well as the impact of these on people’s living standards.

Financial inclusion has a dimension which is generally not assessed: the generation of financial attributes which are built up as people start to interact with the financial system, every time they have contact with it, whether through loans, savings, insurance or other products and services they use.

To make an analogy, it is similar to measuring how students build up their knowledge and skillset as they progress with their academic careers and as their curricular activities become more sophisticated during their university years.

Trying to measure how their employability builds up and how they increase their future incomes is a similar process to that which takes place with individuals as they gain access to the financial system and intensify their relationship with it. While they are restricted to interacting only with the “informal financial market”, these intangible attributes are not evaluated.

Exclusion factors such as geographical dispersion, lack of supply and high transaction costs when they have contact with financial institutions increase the likelihood that they will be excluded from the formal financial system. However, other financial isolation factors are just as important, such as the lack of collateral, absence of the necessary paperwork and references, as well as having no understanding of basic personal finance. All this results in a huge asymmetry and/or lack of information on the part of potential clients and also about them, which translates into higher costs and uncertainty, leading to greater risk.

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It also creates a climate in which a percentage of the population has to look to the informal financing sector if they want to make the most of productive opportunities. Furthermore, they find themselves obliged to use alternative sources of financing/saving to channel short-term revenue surpluses (savings) or to find ways of mitigating the risk and uncertainty in their lives and how they earn their living (insurance). These alternative routes, outside the financial system, are more expensive, tend to be insufficient and insecure, and may reduce still further these households’ standards of living.

There is mounting evidence that as vulnerable people access financial services and interact with them several times, they are better placed to improve their standard of living, deal with risks better and increase the productivity of their economic activities.

As people who have been included for the first time in the financial system move forward along its different iterations, this process acts as a hands-on model for building up attributes and growing capabilities.
Client Cycles

Our opening premise is that the intangible attributes measurement represents a proxy for the “financial abilities value” that Aggregate clients build up incrementally at each iteration. To that end, we need to know the number of interactions that they have already had within the financial system as a measurement of the degree of maturity or attributes “already obtained”, thus differentiating between those that are being generated in the current period (or the current iteration) from those they already possess.

Intangible attributes are a proxy for the “financial abilities value” that clients acquire and construct over time.

A higher number of attributes are built in the first iteration, while the marginal construction of attributes at each additional iteration decreases until it reaches a number of interactions where no further attributes are aggregated. By the end, clients have converged with the attributes of “mature” segments in the financial system. We defined this threshold as the cycle during which clients’ average returns converge with that of “mature” clients and stabilizes. This is achieved after cycle 10, at which point no further intangible attributes are aggregated.

When we examine the stock of Aggregate credit clients, 77% have built up some degree of intangible attributes, accounting for 50% of all clients, during the phases with the fastest aggregation of attributes (that is, at the beginning of their relationship with the formal financial system). In the case of savings clients, 82% of these are in these initial phases, in which they build up intangible attributes.

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2 Advanced clients who are no longer building up intangible financial attributes.

3 Returns measured as clients’ net surplus over their assets.

### Intangible financial attributes

#### Cycle nº when return stabilizes and converges with mature clients

<table>
<thead>
<tr>
<th>Cycle</th>
<th>Return (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cycle 1</td>
<td>136.3%</td>
</tr>
<tr>
<td>Cycle 2</td>
<td>127.9%</td>
</tr>
<tr>
<td>Cycle 3</td>
<td>114.8%</td>
</tr>
<tr>
<td>Cycle 4</td>
<td>111.2%</td>
</tr>
<tr>
<td>Cycle 5</td>
<td>101.3%</td>
</tr>
<tr>
<td>Cycle 6</td>
<td>85.4%</td>
</tr>
<tr>
<td>Cycle 7</td>
<td>76.8%</td>
</tr>
<tr>
<td>Cycle 8</td>
<td>68.7%</td>
</tr>
<tr>
<td>Cycle 9</td>
<td>61.9%</td>
</tr>
<tr>
<td>Cycle 10</td>
<td>57.0%</td>
</tr>
<tr>
<td>Cycle 11</td>
<td>52.3%</td>
</tr>
<tr>
<td>Cycle 12</td>
<td>51.9%</td>
</tr>
<tr>
<td>Cycle 13</td>
<td>51.4%</td>
</tr>
<tr>
<td>Cycle 14</td>
<td>50.9%</td>
</tr>
<tr>
<td>Cycle 15+</td>
<td>50.5%</td>
</tr>
</tbody>
</table>

#### AGGREGATE CLIENTS

Return on assets by cycle (%)

<table>
<thead>
<tr>
<th>Cycle</th>
<th>136.3%</th>
<th>127.9%</th>
<th>114.8%</th>
<th>111.2%</th>
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<th>50.9%</th>
<th>50.5%</th>
</tr>
</thead>
</table>

#### FINANCIAL INSTRUMENTS

- **CLIENTS**
  - deposit or receive resources

- **Intangible impacts**
  - Sales growth, growth of surpluses, profitability, financial health, etc.

- **Tangible impacts**
  - Cost of a basket of products (poverty line)

- **Credit**
  - Effect of more capital access premium

- **Savings**
  - Liquidity premium (no impairments)

- **Insurance**
  - Less uncertainty smoothing of spending, collateral productivity

- **Attribute units**
  - USD
DEFINING INTANGIBLE ATTRIBUTES

Credit
With no access to credit, clients are forced to use informal sources of financing, ranging from family members and friends (social networks) to loan sharks (payday lenders). If we assess the cost of borrowing, using the median cost in those markets where BBVAMF has its footprint, it is around 16% a month, representing an annual interest rate of 474%.

The minimum cost of financial resources in the informal market is around 150%.

When people access the financial system for the first time, there is what we might term an “access premium” – the difference between the informal market interest rate and the financial (formal) system rate they can get. This access premium is highest in the first iteration and falls at a rate of 1/10 from the initial rate with each subsequent iteration, until it disappears.

The second component is the effect of availability of more credit based on the performance of clients’ activities, linked to more capital and recurrence, which allows a greater advantage to accrue for this factor, than they would be able to access in the informal market.

The proportion of transactions that go into default has to be discounted from both of these effects, calculated by the rate of non-performing loans or the likelihood of default based on the sector’s track record for each transaction.

To simplify the analysis, the second-round and spillover effects into other sectors have not been considered, nor the long-term impacts on revenues as a result of the improvement in the family’s attributes (education, health, etc).

When these impacts are quantified, we see that each Aggregate client with access to credit generates an average of 2.9 units of intangible financial attributes, equivalent to USD 252 per client per capita.

ATTRIBUTES GENERATED PER CAPITA

USD 251.8

Credit

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5 The median is generally used to restore the central trend in the event of biased numerical distributions, as is the case in these markets.
6 We have only considered Colombia, Peru and Dominican Republic in the calculations for this section.
7 Rates weighted by financing sources. Based on Asobancaria data for Colombia, Asbanc for Peru and several media sources for the Dominican Republic.
8 In this section, per capita refers to “for each client”.

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Quantifying clients’ intangible financial attributes
Saving
Formal saving enables people to manage increases in their cashflow, organize their spending and accumulate working capital. It makes it easier to use net incomes appropriately, avoiding unwished-for consumption, which is often linked to short-term decision making and problems with self-restraint.

When there is no access to formal saving, clients use other sources to channel their surpluses, which they need to cope with volatile incomes and to smooth their consumption. Restrictions on access to instruments for formal saving forces people to have recourse to other sources, including keeping cash, building up unwished-for inventory, household appliances, furniture and other assets. These are imperfect substitutes given that when people accumulate them, they are unlikely to retain their value in the face of contingencies should they need to be made liquid.

Keeping cash leads to undesired spending, with problems of self-control, involving an estimated impairment of around 25%, while the building up of unwished-for inventory, in the event of an unscheduled liquidation due to contingencies, implies impairment of around 15% in rural areas and about 20% in urban areas. Liquidating household appliances and furniture entails higher rates of impairment, given the swift depreciation and discounting in the second-hand goods markets.

Using informal saving channels represents a potential weighted impairment of 24% of the value of the saving.

In weighted terms, the shrinkage suffered by savers using all these informal sources is around 25% for rural areas, while in urban areas it is slightly lower, at around 24%.

The intangible attributes that come with access to formal savings channels mean this loss can be avoided. There is an “access value or liquidity premium” associated with the use of instruments that protects the saving value, even without considering the yields that they provide.

When these intangible attributes that are intrinsic to formal saving are quantified, we calculate that, on average for every Aggregate client given access to financing, 0.43 units of intangible financial attributes, equivalent to USD 41 per capita, are generated.

ATTRIBUTES GENERATED PER CAPITA

Savings

USD 40.6

9 On average 35% of “informal savings” are kept in cash, 25% go on building unwished-for inventory and the rest on durable goods, including furniture and household appliances.

10 For more on informal saving, see: Financial Decisions of Households and Financial Inclusion: Evidence for Latin America and the Caribbean, Centro de Estudios Monetarios Latinoamericanos, CEMLA (Center for Latin American Monetary Studies).
Quantifying clients’ intangible financial attributes

INSURANCE

Vulnerable segments of the population normally live and work in conditions of greater risk than others and are particularly prone to illness. Time off work and the resulting small losses of assets have a disproportionately heavy impact on their incomes, as do unexpected setbacks. Exposure to these risks subjects vulnerable households to a permanent state of uncertainty that reduces the likelihood that they can make the most of opportunities to generate income, that could potentially help to improve their situation.

The absence of protections such as insurance means that an adverse situation is likely to have a greater impact on these segments’ spending. Furthermore, on many occasions, since they cannot rely on other mechanisms such as saving, this triggers a situation of serious frailty.

Insurance works as collateral, that lets people access credit under better terms and leads to a move towards sectors with higher productivity and returns but linked to greater risk. Conversely, when they do not change sector, insurance encourages an increase in the amounts that can be invested, since part or all of the risk associated with the activity is covered.

As such, access to insurance entails a “collateral premium”, since it generates a productivity factor by virtue of its lower uncertainty, associated with changes of sector and greater investment.

When these intangible attributes that insurance brings are quantified, we see that Aggregate clients with access to insurance generate on average the equivalent of 0.3206 attribute units, that is, USD 28 per capita.
**TOTAL INTANGIBLE ATTRIBUTES**

When the attributes generated by these three sources—credit, saving and insurance—are aggregated, aggregate intangible attributes per capita are estimated at 3.65 attribute units, equivalent to **USD 321 per client**. 75% of the total is generated by credit transactions, revealing that there is still scope to build more attributes by extending the penetration of saving and insurance in the formal sector.

Looking at all products (credit, saving and insurance), clients manage on average around **USD 1,938 per capita**, with the intangible attributes accounting for around 17% of the resources managed by each of them.

**ATTRIBUTE UNITS GENERATED PER CAPITA**

<table>
<thead>
<tr>
<th>Source</th>
<th>Units Generated Per Capita</th>
<th>USD Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credit</td>
<td>2.90</td>
<td>USD 251.8</td>
</tr>
<tr>
<td>Savings</td>
<td>0.43</td>
<td>USD 40.6</td>
</tr>
<tr>
<td>Insurance</td>
<td>0.32</td>
<td>USD 28.2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3.65</strong></td>
<td><strong>USD 320.7</strong></td>
</tr>
</tbody>
</table>

**ATTRIBUTES GENERATED PER CAPITA**

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