# Developing a financial inclusion index

**Malaysia's index of financial inclusion was created as a first step to increasing the depth of financial participation in the country, but more data is needed, says Zarina Abd Rahman.**

*Zarina Abd Rahman*

Malaysia aspires to become a progressive and high-income nation by 2020. Creating an inclusive financial system that best serves all members of society, including the underserved, by providing access to high-quality and affordable essential financial services will be central to achieving this goal.[1] Lack of access to financial services (from credit to banking and insurance services) may prevent the poor from taking advantage of potentially lucrative investment opportunities or from improving their financial security.

The issue of financial inclusion has received widespread attention in Malaysia in recent years as policy-makers acknowledge that one of the most important driving forces of growth stems from institutionalised financial services. While Malaysia is on a sustainable growth path overall, the bottom 40% of the population are still categorised as low-income households. This is neither desirable nor sustainable for the nation as the benefit of high growth will not be able to trickle down, meaning a large portion of the population will be unable to benefit if they are not financially included.

**Tracking technique**

As a result, Bank Negara Malaysia (BNM) has developed an index of financial inclusion (IFI) to measure the effectiveness of formal financial institutions in delivering financial products and services to all members of society. This is an essential tool in tracking the progress of initiatives and estimating the impact of policies to further deepen the reach of the financial sector. A nationwide IFI also provides a comprehensive view of the development of an inclusive financial

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system, further enhancing the transformation efforts made by the government.

Although the IFI is tailored to Malaysia's environment and specificities, it builds on the experiences and methodologies developed for the computation of some well-known development indexes such as the human development index, the multi-dimensional poverty index and the gender inequality index. The index also builds upon work undertaken by the Alliance for Financial Inclusion (AFI); however, it contains a number of new elements and that should provide a template that other countries might find useful.

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BNM uses the results as a practical tool to map out an actionable policy agenda, in consultation with relevant stakeholders. The IFI aims to inspire financial institutions to improve their service delivery and develop actionable business plans that benefit the general population – in particular, the underserved. It is hoped that the IFI will facilitate dialogue between the central bank, relevant ministries and financial providers, so allowing for greater participation by stakeholders in policy reform.

The results so far have shown there is a gap between the low-income segment and the general population. The index could help policy-makers focus on the causal dimensions of these gaps for further analysis, as well as help them introduce new policies and initiatives that could address related issues or assist to narrow such gaps. The IFI shows that the achievement of financial inclusion in Malaysia is relatively high, although improvements in respect of some dimensions must take place to ensure that financial inclusion has also had an economic and socio-political impact on society at large.

**Bolstering agent banking**

This conclusion supports the result of a financial inclusion demand-side survey that BNM conducted in 2011. The findings from the survey and mapping of access points were used to support the introduction of agent banking, which will further enhance access to financial services, especially in rural and remote areas. A proper agent banking model should be able to overcome the supply problems to a greater extent. However, simply providing financial services is not sufficient.

Significant numbers of rural people are still not aware of the availability of many financial products and, due to this ignorance, may not be able to take full advantage of the available financial facilities. The survey also revealed that the level of awareness of the various financial services and products on offer varies between the different segments of the population. This pointed towards the need to spread financial literacy. The need for financial education at all levels necessitates intervention by the relevant ministries and other stakeholders so that the public is better informed on how to benefit more effectively from financial services and products.

The IFI could also be used as a communication tool just as any other development index to indicate the level or performance of a country, which would enable the general public to be made aware of the achievements or outcomes of reforms in the area of financial inclusion and, in a broader sense, the development

of the financial sector over time. To make the IFI an effective tool for cross-country comparison, a common set of indicators and targets with a standard reporting structure should be agreed upon among the policy-makers and data compilers.

It is important to understand, however, that the IFI is a diagnostic tool and currently should not be used for the purposes of ranking and comparing regional or state performances due to a lack of data at a more granular level.

**Defining the indicators** Using the 'core set' of indicators formulated by the AFI financial inclusion data working group (FIDWG), Bank Negara Malaysia developed the financial inclusion key performance indicators by defining four dimensions of financial inclusion for Malaysia (see Figure 1).[2]

The index rates the level of financial inclusion, measuring the extent to which the general population has access to financial services by analysing access and usage of formal financial intermediaries and, to some extent, the quality of financial services. The sub-indexes that underlie the overall IFI indicate particular strengths and weaknesses within each dimension. Thus, they serve as a useful guide for policy-makers and other stakeholders to identify the strengths and weaknesses of the respective business environments and prioritise areas that need particular attention.

**Figure 1. Graphical presentation for calculating the index of financial inclusion**
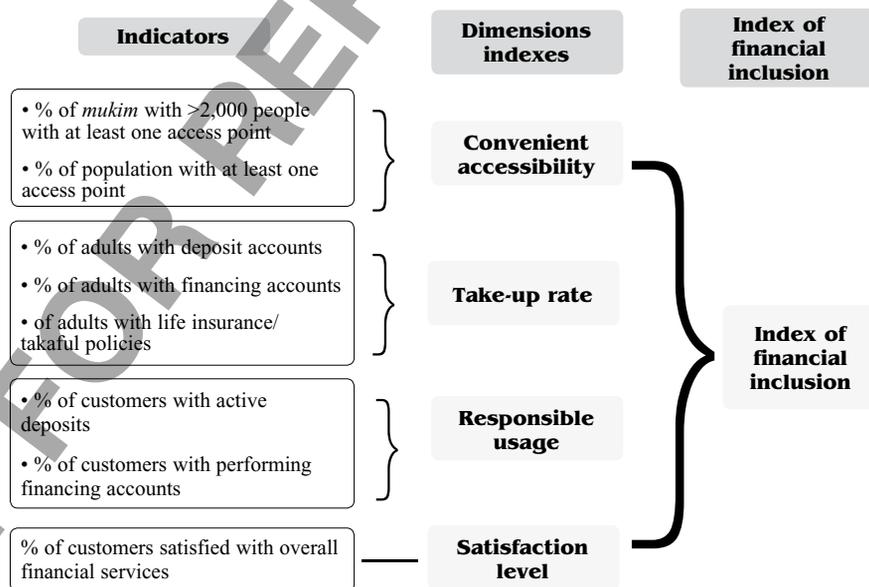


Source: Bank Negara Malaysia

**Dimension 1: convenient accessibility**
Under an inclusive financial system, financial services should be easily available to all potential users. A measure of availability is the number of access points, such as bank branches/outlets, ATMs or banking agents (BAs) in a given area.

Access points are defined as facilities that allow both cash in and cash out, and BNM measures this using two indicators: (i) percentage of *mukim* (sub-districts) with a population of at least 2,000 people with an access point; and (ii) percentage of adult population living in *mukim* with at least one access point.[3] These indicators capture the outreach of financial services, with a target of having access points spread widely across the country.

**Table 1. Index of financial inclusion for general population in Malaysia**

| Dimension | Indicators | Data (%) | Target (%) | Index of each indicator | Weight | Index of each dimension | Equal weighted dimension | Equally distributed FII |
|---|---|---|---|---|---|---|---|---|
| **Convenient accessibility** | • % of *mukim* with at least 2,000 population with at least one access point | 46 | 90 | 0.51 | 0.5 | 0.64 | 0.25 | 0.77 |
| | • % of population living in *mukim* with at least one access point | 82 | 95 | 0.86 | 0.5 | | | |
| **Take-up rate** | • % of adult population with deposit accounts | 92 | 95 | 0.97 | 0.5 | 0.7 | 0.25 | |
| | • % of adult population with financing accounts | 36 | 50 | 0.72 | 0.25 | | | |
| | • % of adult population with life insurance/takaful policies | 18 | 40 | 0.45 | 0.25 | | | |
| **Responsible usage** | • % of customers with active deposits | 87 | 90 | 0.97 | 0.5 | 0.98 | 0.25 | |
| | • % of customers with performing financing accounts | 97 | 97 | 1.0 | 0.5 | | | |
| **Satisfaction level** | • % of customers who are satisfied – overall financial services | 61 | 80 | 0.76 | 1.0 | 0.76 | 0.25 | |
| Index ranges from 0-1, with 1 being perfect financial inclusion<br><br>0    0.25    0.5    0.75    1<br>Low   Moderate   Above average   High | | | | | | | 1.00 | 0–1.00 |

Source: Bank Negara Malaysia

**Dimension 2: take-up rate of financial products**

The size of the banked population, that is, the number of adult population with a bank account over the total number of the adult population, is a measure of the banking penetration of the system. Thus, if every adult person in an economy has a deposit and/or credit account, then the value of this measure would be equal to one. The BNM's financial inclusion demand-side survey revealed that about 92% of individuals had deposit accounts with regulated financial institutions in Malaysia. The survey also provided insight into the take-up of loans and insurance policies by the Malaysian adult population.

Based on the survey, 36% have at least a loan/financing account and 18% have life insurance/takaful policies. These three indicators together are used to estimate the take-up rate dimension for the main financial products offered to the general population.

### Dimension 3: responsible usage

This input emerges from the concept of 'under-banked' or 'marginally-banked', whereby some people with bank accounts use the services provided very sparingly. Thus having a bank account does not ensure inclusivity; it is also imperative that the banking services are utilised adequately.[4] To incorporate the responsible usage dimension in the IFI, the central bank considers two basic banking services (deposit and credit) by using indicators on percentage of customers with active deposits and percentage of customers with performing financing accounts.

**Table 2. Index of financial inclusion for low income group in Malaysia**

| Dimension | Indicators | Data (%) | Target (%) | Index of each indicator | Weight | Index of each dimension | Equal weighted | Equally distributed FII |
|---|---|---|---|---|---|---|---|---|
| Convenient accessibility | • % of *mukim* with at least 2000 population with at least 1 access point | 46 | 90 | 0.51 | 0.5 | 0.64 | 0.25 | 0.68 |
| | • % of population living in mukim with at least one access point | 82 | 95 | 0.86 | 0.5 | | | |
| Take-up rate | • % of adult population with deposit accounts | 89 | 95 | 0.94 | 0.5 | 0.32 | 0.25 | |
| | • % of adult population with financing accounts | 10 | 50 | 0.20 | 0.25 | | | |
| | • % of adult population with life insurance/takaful policies | 8 | 40 | 0.20 | 0.25 | | | |
| Responsible usage | • % of customers with active deposits | 87 | 90 | 0.97 | 0.5 | 0.98 | 0.25 | |
| | • % of customers with performing financing accounts | 97 | 97 | 1.00 | 0.5 | | | |
| Satisfaction level | • % of customers who are satisfied − Overall financial services | 60 | 80 | 0.75 | 1 | 0.75 | 0.25 | |
| Index ranges from 0 – 1, with 1 being perfect financial inclusion | | | | | | | 1 | 0 – 1.00 |

| 0 | 0.25 | 0.5 | 0.75 | 1 |
|---|---|---|---|---|
| | Low | Moderate | Above average | High |

Source: Bank Negara Malaysia

### Dimension 4: satisfaction level

This dimension attempts to illustrate the quality dimension, which is more complex, both conceptually and in terms of measurement. The indicator BNM selected is a qualitative indicator obtained via responses collected in a demand-side survey. In the Malaysia case, we use the percentage of customers who are satisfied with overall financial services as the only indicator for measuring this dimension. This approach can be enhanced in the future, providing that some

common indicators for the quality dimension are agreed upon based on the AFI FIDWG initiatives.

Using data from all four dimensions for Malaysia, the IFI computation is shown **The index** in Table 1. In the Malaysian case, the targets are set based on the consensus **in practice:** view of the financial inclusion working group at Bank Negara Malaysia, which **results** were benchmarked against the results of global findex for some of the more developed countries.[5] We chose the higher benchmark, as Malaysia aspires to reach higher income status by 2020. The weight for each indicator is set to reflect the importance of the indicators at this point in time, but the dimensions are weighted equally.

Depending on the values of IFI, the results are categorised into the four following categories:

(i)   $0.75 < \text{IFI} \leq 1$ – high financial inclusion
(ii)  $0.5 \leq \text{IFI} < 0.75$ – above average financial inclusion
(iii) $0.25 \leq \text{IFI} < 0.5$ – moderate financial inclusion
(iv)  $0 \leq \text{IFI} < 0.25$ – low financial inclusion



**Figure 2. Comparing the results of general population with low income group**

Source: Bank Negara Malaysia
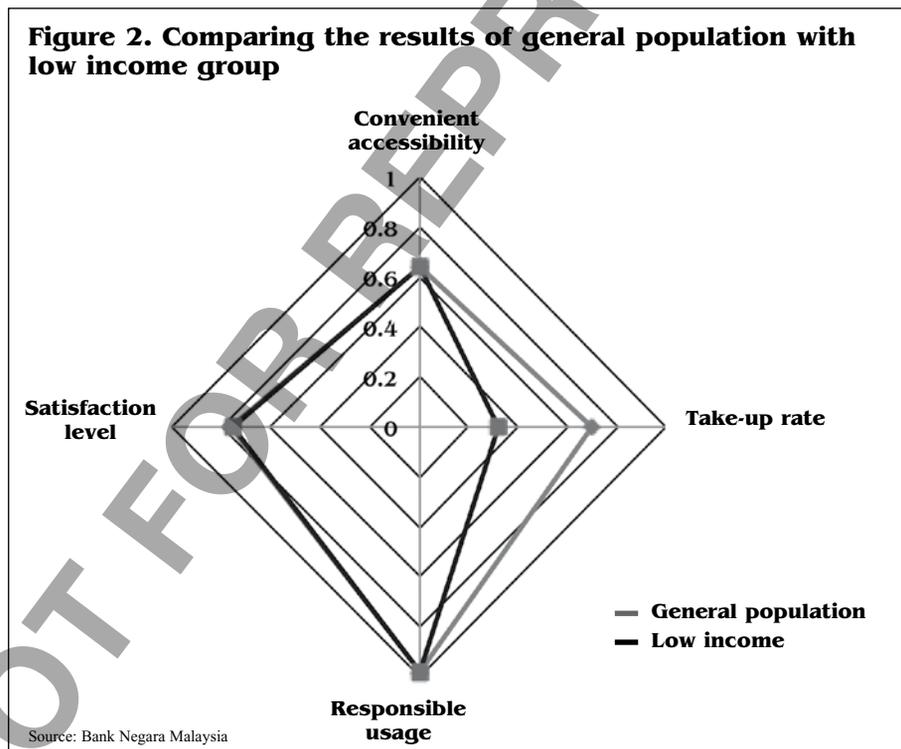
The importance of the indicators used can change over time with amendments in policy emphasis and priority, while the weight for each dimension may vary as the country progresses in terms of financial development. For example, access and usage of financial services now go beyond the physical access points to include internet and mobile banking facilities.

As shown in Table 1, the level of financial inclusion in Malaysia as measured by the IFI is high, at 0.77. However, activities contributing to lower values may require attention from the policy point of view to ensure improvement. We can isolate such dimensions, as the financial inclusion index enables us to calculate the percentage contributions made by each indicator to the overall level of financial inclusion.

In Table 2, we used the low-income group data for Malaysia to illustrate how the IFI can be used to confirm whether there is a need for specific policy intervention to cater for different levels of income. In this scenario, low income is defined as the segment of population that earns less than 1,000 ringgit ($330) per month. The results showed that low-income customers have a lower score for IFI compared with the general population in Malaysia.

**More data needed**
However, due to limitations on the availability of data we could only conduct in-depth analysis on the take-up rate dimension. The data on take-up is based on findings from the demand-side survey, while the data for the other indicators are mainly from the supply side, which could not be segregated by income group. This shows that more granularity in data collected is required from the supply side for better assessment. Nonetheless, using this method we have been able to demonstrate how the index could be enhanced and expanded, provided we have adequate data for each segment of the population.

**Future developments**
The IFI is limited by the availability of data and a more detailed data collection from the supply side, segregated by income group, would improve the index. Nonetheless, using this method can help to tackle weaknesses in terms of financial inclusion in Malaysia. We have also been able to demonstrate how the index can be enhanced and expanded, provided we have adequate data for each segment of the population. The index can also be adjusted and expanded after a certain period to reflect structural changes in the financial landscape by replacing some indicators or by including more indicators and/or dimensions as they become more relevant for the financial inclusion agenda of the country.

## Notes

1. Bank Negara Malaysia (2011), Financial Sector Blueprint 2011.
2. Alliance for Financial Inclusion (2011), "Measuring Financial Inclusion: Core Set of Financial Inclusion Indicators", Financial Inclusion Data Working Group Report, April 2011.
3. A *mukim* is a sub-district in Malaysia or the fourth-level administrative unit (refer to AFI core set indicators definition on administrative unit) where the first level is defined as the national level, followed by the second as the state and third as the district. The *mukim* is the smallest administrative unit with available population data in Malaysia.
4. Chattopadhyay, Sadhan Kumar (2011), "Financial Inclusion in India: A Case-Study of West Bengal", WPS (DEPR) 8 / 2011, RBI Working Paper Series.
5. Demirguc-Kunt, Asli & Klapper, Leora (2012), "Measuring Financial Inclusion: The Global Findex Database", Policy Research Working Paper No. 6025. Washington, DC, World Bank.