MEASUREMENT OF FISIM IN MALAYSIA

Abstract

Financial services represent the output of financial intermediaries where the fees charged by these corporations can be both explicitly and implicitly priced. Financial intermediation services indirectly measured or FISIM is an estimate of the implicitly priced financial services. This measures the services paid for as part of the margin between rates applied to depositors and borrowers. Prior to System of National Account (SNA) 2008, FISIM was incorporated in compilation of Malaysia’s GDP based 2000=100 but not yet allocated to the economic sectors accordance to SNA 1993. This paper review the implementation of FISIM measurement recommended by SNA 2008 in the compilation of Malaysia’s GDP based 2005=100 and further enhanced in based 2010=100. In SNA 2008, FISIM was calculated using a reference rate and applies only to loans and deposits which were provided by, or deposited with, financial institutions. FISIM was allocated to industry, government and household based on loans and deposits data obtained from Bank Negara Malaysia as this was essential recommendation in SNA 2008.
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2. Introduction

Financial Intermediation Services Indirectly Measured (FISIM) is a significant component to the financial intermediaries output in Malaysia with the share of 78 per cent in 2015\(^1\). The objective of this paper is to share Malaysia experience in implementation of FISIM with the changes of System of National Accounts (SNA) from 1968 to 2008 version.

Initially, the compilation of financial intermediaries’ activities was based on imputed banking services charges (IBSC) which were recommended by SNA 1968. The concept of FISIM is to measure output for financial intermediaries especially bank was one of major changes introduced in SNA 1993. SNA 2008 elaborates further on reference rate and emphasised FISIM to be allocated to the institutional units or economic sectors.

Malaysia used IBSC to calculate the financial intermediaries output until 2005. The concept of FISIM as suggested by SNA 1993 was incorporated in Gross Domestic Product (GDP) base year 2000 which was released in 2007. However, the FISIM was not allocated to economic sectors at that point of time. In year 2012 with GDP rebasing exercise base year 2005, FISIM was allocated to the economic sector as recommended in SNA 2008.

FISIM calculation methods were differs from concept of imputed banking services charges and due to this, FISIM remained subjected to debate and an extensive research has been done by National Statistical Offices and international task force.

Output for banking activities consist of implicit and explicit charges. The explicit charges likewise services fees, commission on foreign exchange, asset management costs and account charges

\(^1\) Based on author calculation
are easily measurable. However, the implicit charges are included financing and services charges together. Concept of FISIM was introduced to measure the implicit charge, where FISIM will decompose total interest payment into a service and financing elements (Osborne-Kinch, Jenny, et al, 2014). The calculation of FISIM is difference between the lending (or borrowing) rate applicable to customers and a risk-free reference rate which is the interest rate financial intermediaries would charge or offer in case their services were charged directly (Osborne-Kinch, Jenny, et al, 2014).

The paper is organised as follows. Section 3 sets background of financial intermediaries in Malaysia. Section 4 examines the current measurement of FISIM in Malaysia, while Section 5 discusses challenges in implementation of FISIM and Section 6 concludes.

3. Background Financial Intermediaries in Malaysia

The financial intermediaries in Malaysia are regulated by Bank Negara Malaysia (Central Bank) through Financial Services Act 2013, Islamic Financial Services Act 2013 and Development Financial Institutions Act 2002 (Act 618) (Bank Negara Malaysia, 2016). Financial Services Act 2013 deal with conventional commercial bank and investment bank activities, meanwhile Islamic Financial Services Act 2013 supervised the Islamic banking activities, this include full fledge Islamic bank and window Islam activities. The window Islam activities referred to conventional commercial bank, investment bank and Development Financial Institutions (DFIs) offering Islamic banking services using their existing facilities but the account strictly must be segregated between Islamic banking and conventional banking. The DFIs are specialised financial institutions established by the Government with specific mandate to develop & promote key sectors and regulated through Development Financial Institutions Act 2002 (Act 618).²

² Total DFIs are 13 but only 6 regulated under Development Financial Institutions Act 2002(Act 618)
The structure of financial intermediaries in Malaysia is a mix of local and foreign players offering a wide range of banking and financing products. There are conventional and Islamic commercial banks offering services such as loans, deposits, currency exchange and etc. except capital market activities. On the other hands, investment bank offered products related to capital market such as underwriting activities for equity and debt (bond or sukuk) markets, stock broking and on top of providing loans and taking deposits activities. The DFIs activities similar to conventional and Islamic commercial banks but the mostly loans give out to certain sector outlined by the government likewise agriculture, small and medium enterprises, infrastructure, maritime, export-oriented sector, capital-intensive and high-technology industries of strategic importance to the country.

There are 63 financial intermediaries as at March 2016 where 56 per cent are local financial intermediaries. Conventional commercial bank accounted for 43 per cent while Islamic commercial bank contributed 25 per cent to the total of financial intermediaries.

<table>
<thead>
<tr>
<th>Type of financial intermediaries</th>
<th>Local</th>
<th>Foreign</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conventional commercial bank</td>
<td>8</td>
<td>19</td>
<td>27</td>
</tr>
<tr>
<td>Islamic commercial bank</td>
<td>10</td>
<td>6</td>
<td>16</td>
</tr>
<tr>
<td>International Islamic bank</td>
<td>-</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Investment bank</td>
<td>11</td>
<td>-</td>
<td>11</td>
</tr>
<tr>
<td>DFIs</td>
<td>6</td>
<td>-</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>35</strong></td>
<td><strong>28</strong></td>
<td><strong>63</strong></td>
</tr>
</tbody>
</table>

*Source: Bank Negara Malaysia*
4. Measurement of FISIM in Malaysia

4.1 Data Sources

The data used for measuring FISIM were extracted from the financial intermediaries provided by Bank Negara Malaysia in quarterly and annual basis. Besides that, annual companies report also used in compiling the annual data. The Department Statistics of Malaysia through economic census which will be carry out once in every five years used to update input output ratio (IO) for the financial intermediaries.

4.2 Estimation of FISIM

Since year 2000, Malaysia has calculated FISIM as one of element in GDP based on SNA 1993. The method for calculating FISIM has been refined in the light of experience in implementing SNA 1993 recommendations. The SNA 2008 recommends that FISIM applies to loans and deposits and only when those loans and deposits are provided by, or deposited with, financial intermediaries. Furthermore, financial intermediaries own fund also included in the calculation of FISIM.\(^3\)

FISIM is calculated using the following formula:

\[
\begin{align*}
\text{FISIM} & = \text{FISIM on Loans} + \text{FISIM on Deposits} \\
\text{FISIM on Loans} & = \text{Stock of Loans} \times [\text{Lending Rate} – \text{Reference Rate}] \\
\text{FISIM on Deposits} & = \text{Stock of Deposits} \times [\text{Reference Rate} - \text{Deposits Rate}]
\end{align*}
\]

As mentioned in SNA 2008, the reference rate should contain no service element and reflect the risk and maturity structure of deposits and loans. The midpoint between the loan and deposit rate is used as the reference rate (Davies, 2010; Grovell and Wisniewski, 2008).

\(^3\) SNA 2008, page 115, paragraph 6.164
The advantage of using midpoint as reference rate is less volatile which benefit the FISIM values with greater transparency and being more closely connected to the value of loans and deposits held by financial intermediaries (Statistics New Zealand, 2012).

### 4.3 Allocation of FISIM

Prior to SNA 2008, FISIM were not allocated to the industries and were published as aggregated value as shown in Table 2.

<table>
<thead>
<tr>
<th>Kind of Economic Activity</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>43,854</td>
<td>50,436</td>
<td>64,946</td>
<td>75,611</td>
<td>64,724</td>
<td>81,400</td>
</tr>
<tr>
<td>Mining and quarrying</td>
<td>75,062</td>
<td>85,566</td>
<td>92,402</td>
<td>123,978</td>
<td>84,102</td>
<td>96,131</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>154,657</td>
<td>168,736</td>
<td>178,355</td>
<td>194,324</td>
<td>173,558</td>
<td>200,028</td>
</tr>
<tr>
<td>Construction</td>
<td>15,680</td>
<td>15,976</td>
<td>18,177</td>
<td>20,605</td>
<td>22,436</td>
<td>24,773</td>
</tr>
<tr>
<td>Services</td>
<td>244,136</td>
<td>266,167</td>
<td>300,934</td>
<td>340,010</td>
<td>348,887</td>
<td>377,715</td>
</tr>
<tr>
<td><strong>less</strong> Undistributed FISIM</td>
<td>17,314</td>
<td>18,099</td>
<td>18,736</td>
<td>19,589</td>
<td>20,733</td>
<td>21,751</td>
</tr>
<tr>
<td><strong>plus</strong> Import duties</td>
<td>6,372</td>
<td>5,659</td>
<td>5,969</td>
<td>7,531</td>
<td>6,964</td>
<td>7,669</td>
</tr>
<tr>
<td><strong>GDP at Purchasers’ Prices</strong></td>
<td><strong>522,445</strong></td>
<td><strong>574,441</strong></td>
<td><strong>642,049</strong></td>
<td><strong>742,470</strong></td>
<td><strong>679,938</strong></td>
<td><strong>765,965</strong></td>
</tr>
</tbody>
</table>

*Source: Department of Statistics Malaysia*

SNA 2008 recommends that the consumption of FISIM should be allocated between users (lenders as well as borrowers) treating the allocated amounts either as intermediate consumption by enterprises or as final consumption.

The intermediate consumption element is the implicit service charge on loans to, and deposits from, business industries. In this case, business industries include households in their role as providers of housing services. Final consumption is principally the FISIM of
households from deposits and non-property related loans. Final consumption contributes directly to GDP under the expenditure approach. Under the production approach, total FISIM increases the output and gross value-added of the financial sector. However, the value added of other sectors is reduced by the intermediate consumption of FISIM. Figure 2 shows the contribution of annual FISIM to the total GDP.

![Percentage share of FISIM in GDP at current prices](chart)

Figure 1: Percentage share of FISIM in GDP at current prices

Based on SNA 2008, FISIM must be allocated to industry, government, household and export and import. However, in Malaysia’s implementation, FISIM were allocated to industry, government and household only. The allocation of FISIM for industry, government and household are based on loans and deposits data obtained from Bank Negara Malaysia.

FISIM on Loans which was allocated to industries are considered as intermediate consumption while FISIM spent by the government is classified as final consumption. Meanwhile, FISIM on Loans for household is classified as intermediate consumption and
final consumption. This was because there are household loans which are classified into the Owner Occupied Dwelling industry using the loans on residential property. The share for intermediate consumption and final consumption for household were based on the 2010 Population Census between occupied house and rented house which carry 69.6 per cent and 30.4 per cent respectively. FISIM on Loans were allocated to industry, government and household based on Classification of Loans by Sector data which was obtained from Bank Negara Malaysia.

FISIM on Deposits which was allocated to financial institutions and business enterprises are considered as intermediate consumption. Meanwhile, FISIM on Deposit for government and household are classified as financial consumption. FISIM on Deposits were allocated based on Deposit by Holder data obtained also from Bank Negara Malaysia. FISIM on Deposits for business enterprises where then allocated to the industries based on the value added by each industry.

After the allocation of FISIM on Loans and Deposits are compiled separately, the value of FISIM on Loans and Deposits were added based on the industry to obtained total allocation of FISIM by each activity.

5. Challenges

There are many challenges in implementation of FISIM in Malaysia. One of the challenges faced is single reference rate has been used for the short term and long term maturity of loans and deposits (Peter van de Ven, 2013). The short term rates normally lower than long term rates due to uncertainty and degree of risk pose by the long term loans but sometimes inverted yield curve exits due to market perception on economic growth.
Furthermore, there are different loans rates or some of loans taken out slightly lower than market rates due to grant provided by government to boost a certain industry such as agriculture sector and small and medium enterprises but due to data aggregation the single reference rate has been used.

Another challenge is to measure Islamic intermediaries output as there is no international manual as a guideline to measure the output for these activities. Generally the Islamic banking activities were differ from conventional banking and therefore using FISIM to estimate the output of Islamic banking may or may not be applicable. Due to this, estimations of Islamic banking value added may not comparable among the countries.

The Services Producer Price Index (SPPI) for banking activities are not yet fully develops but nevertheless Malaysia currently looking into to produce quarterly SPPI in the near futures.

The other challenge is FISIM calculation supposedly includes domestic and rest of the world transaction (Nadim, 2011). At the moment, exports and imports of FISIM not yet incorporated in the FISIM calculation as more comprehensive data needed to derive these data. However, further study on methodology and knowledge sharing with other countries will be undertaken to tackle this matter.

6. Conclusion

FISIM is an estimate of the implicitly priced financial services. This measures the services paid for as part of the margin between rates applied to depositors and borrowers. The
calculation of FISIM is difference between the lending (or borrowing) rate applicable to customers and a risk-free reference rate where midpoint between the loan and deposit rate is used as the reference rate. In Malaysia’s implementation, FISIM were allocated to industry, government and household based on classification loans and deposits by each activities as FISIM are considered as intermediate consumption or as final consumption. Malaysia still faced few challenges in implementation of FISIM which require further study to improve the estimation of FISIM in national accounts.
7. References


