The application of Rohman-Stork price index to unlock the complexities of cellular price in Indonesia

Prepaid mobile pricing structure in Indonesia is complex and prevents a layman from making an informed decision. The complexity of product design and pricing is amplified by misleading advertising. Indonesian Telecommunication Regulation Agency (BRTI) should use price baskets to create transparency and monitor price developments in the market. Another measure BRTI could undertake is to prescribe that any advertisement has to include the cost for a price basket defined by BRTI.

The paper demonstrates the effectiveness of price baskets for regulatory purposes.

Introduction

Indonesia’s Telecommunication sector is a large market given Indonesia’s population of nearly 240 million and around 220 million active SIM cards at the end of 2010. Currently, eight mobile operators compete fiercely for market share, offering nearly 100 products and sub-products. Competition is only on the surface about price.

Prepaid mobile calling prices too complex

Prepaid mobile pricing structure in Indonesia is complex and prevents a layman from making an informed decision. Misleading advertising adds to the confusion.

Price Baskets as regulatory tool

BRTI should use price baskets to create price transparency and monitor price developments in the market.

Consumer protection

BRTI should require any advertisement to include the cost for a price basket defined by BRTI. This way consumers can immediately assess the attractiveness of an advertisement.

Online Pricing tool

BRTI could offer users an online tool that allows them to compare product prices for their actual usage. Such a tool would be able to factor in the network size.

Misleading Advertisement

The complexity of product design and pricing is amplified by misleading advertising. The common characteristics of cellular advertisement in Indonesia display a large heading with small font terms of references as shown in the following example.

Operator A claimed that the tariff for calling is only IDR 20 (0.002 USD) with a free 1000 SMS. Just looking at the heading, the tariff plan should be tempting for everybody to subscribe to. However, written in smaller font, it is stated how the tariff is actually applied. First, the tariff is only applied to on-net calls where IDR 20/30 minutes is only limited to certain accumulated time of 30 minutes. Hence, after 30 minutes expires, the tariff increases to IDR 300/30 per minute or IDR 10/second.

The time band is also another factor here; during the evening time, the tariff changes to IDR 55/30 minute in an accumulated time until 5 minutes and hikes again to IDR 330/30 seconds afterwards. Moreover the free 1000 SMS is offered only after sending the SMS as much as 1000 IDR (6 SMS).

Adding to this complexity is that operators reserve the right to change their prices without prior information as shown in the following example.

OECD Methodology

The Organisation for Economic Co-operation and Development (OECD) basket methodology was developed to allow to compare telecommunication prices across countries. The methodology goes back to 2002 and has seen major updates in 2006 and 2010. One key
difference between the 2006 and the 2010 mobile basket definition is
the range of operators to include. The 2006 definition included
dominant operators that together have 50% market share. The 2010
definition includes the two largest operators. Those countries with
just two licensed operators would automatically include all opera-
tors. Generally, the basket methodology has strength and weak-
nesses. Strengths include the ability to compare products of an oper-
ator, comparing cheapest products of operators and comparing cheapest
products available in a country. This allows benchmarking of coun-
tries, operators and products. The basket methodology applied con-
sistently allows consumers to compare products of an operator and
between operators. The weaknesses include:
• The OECD methodology of 2006 only includes dominant oper-
tors, the 2010 baskets only the two largest operators. Price changes
following regulatory interventions would mainly be expected from
small operators that attempt to gain market share through lower prices. On the other hand, dominant operators reflect what people
actually pay better than comparing the cheapest product available
in a country.
• OECD baskets do not take into account the number of people on
each package and actual minutes of use for each package. No one
is average and actual consumption patterns of an individual might
only poorly be reflected. An alternative would be web-based tariff
calculators that all users to input their actual consumption pat-
terns.
• The same basket is used for all operators while subscribers of
smaller operators are likely to have a different off-net/on-net ratio
compared to larger operators.

| Table 1: OECD mobile basket Definition 2006: Monthly call
distribution, minutes and SMS |
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<tbody>
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<td><strong>Destination</strong></td>
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<td>SMS On-Net</td>
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<td>SMS OFF-Net</td>
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Compensating for some of the weaknesses this paper applies the
basket methodology and adjusting to the complexity of Indonesian
retail pricing, the authors have developed a own price basket which
will be discussed in the next section.

The Rohman-Stork Price Basket
The Rohman-Stork index was developed to unlock these complexi-
ties and to allow a comparison of all products to establish price
transparency. The new index allows to track prices changes and
monitor the consequences of regulatory interventions. Instead of
monthly or annual baskets a daily basket has been developed for
Indonesia to account for time of the day discounts and accumulated
discounts.

Another modification compared to the OECD methodology is that all
prepaid products from all operators are considered not just dominant
operators. This allows better to reflect competitive pressure in the
industry and indicate which operators react in which way to regula-
tory interventions. The basket is defined as follows:
• All prepaid products are being priced for a basket constituting six
calls each for every hour of the day and night (24 hours).
• The distribution of calls consists of three calls of the length 35
seconds, 75 seconds and 200 seconds to the same network. The call
length was determined to best reflect the complexity of billing and
free callings for a certain time period (30 seconds in most cases), or
free calling after a required period (usually one minute).
• The calls are proportionally distributed between on-net and off-
net.
• The daily basket also includes one off-net and one on-net SMS per
hour.

The template of the scenarios are then translated into Excel sheet as
shown in the following Table 2

<table>
<thead>
<tr>
<th>Table 2: Rohman-Stork Price Basket</th>
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<tbody>
<tr>
<td><strong>Time</strong></td>
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<td>10 pm-11 pm</td>
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<td>11 pm-12 am</td>
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</tbody>
</table>

Figure 1 displays the cost of the Rohman-Stork usage basket for most
prepaid product for all eight operators in Indonesia. As presented
earlier, all operators have claimed in advance that that their products
are the cheapest or even stating that they offer a zero cost service.
From the figure 1 it can be seen that the range of price is quite wide
from around USD 5.5 to nearly 40 USD. The price comparisons show
that despite operators claiming that their product is the cheapest, or
even free, this may be a huge misleading. There is no particular dif-
fERENCE between large operators and small operators in pricing pol-
ICY.
3-Super3 | 5.4 |
Telkomsel-AS-Madura | 6.6 |
Telkomsel-AS-Lombok | 6.6 |
Telkomsel-AS-Pantura | 6.7 |
Axis-gratis nelpon 24 jam | 7.6 |
Smart free call | 8.5 |
Smart fixed cost | 9.1 |
Smart basic tariffs | 9.4 |
IM3 Semuanya murah Papua | 9.7 |
IM3 Semuanya murah Bali | 9.8 |
IM3 Semuanya murah Kalimantan | 10.6 |
3-Mu | 11.1 |
IM3 Semuanya murah Sumatera | 11.9 |
Telkomsel-AS-2000 SMS | 12.8 |
Telkomsel-AS-nol | 13.3 |
Flexi off local non Jakarta | 13.5 |
Axis-normal plan | 13.7 |
Telkomsel-AS-Ampuh | 13.8 |
XL-Balikpapan | 14.0 |
XL-Jayapura | 14.2 |
Flexi off interlocal non Jakarta | 14.3 |
XL-Jakarta | 14.4 |
Indosat-Mentari-Obral-Obrol | 15.5 |
Flexi off local Jakarta | 15.8 |
Esia off-net local minimum | 16.4 |
Telkomsel-Simpati-Basic | 16.5 |
Flexi off interlocal Jakarta | 16.8 |
Esia off-net local maximum | 17.2 |
IM3 Bingo | 17.7 |
Telkomsel-AS-Basic | 22.1 |
IM3 Semuanya murah basic | 22.7 |
Indosat-Mentari-free talk 5000 | 25.8 |
Esia off-net zona 1 minimum | 30.7 |
Esia off-net zona 1 maximum | 31.7 |
Indosat mentari paket sakti detik | 37.4 |
Esia off-net zona 2 minimum | 38.1 |
Esia off-net zona 2 maximum | 40.0 |

**Figure 1: Price in USD for Rohman-Stork Usage Basket November 2011**

The general conclusion can be derived that both, incumbent and new entrants, discriminate the price at different levels. For instance, Indosat (the second largest operator) offers “Indosat Mentari paket sakti detik”, which according to the price basket, costs USD 31.7, but they also offer “IM3 semuanya murah Papua” which only costs USD 9.7 for the Rohman-Stork usage basket. It can be inferred that operators are aware of different price elasticity of demand based on regions. In Papua and Madura, for example, prices are cheaper but this coincides also with lower average per capita income.

Figure 2 displays the comparison of the cheapest products available from all eight operators for the Rohman-Stork usage basket. Hutchison 3 is clearly operator followed by Telkomsel and Axis. While Hutchison and Axis are smaller operators, Tekomsel is the dominant operator with nearly 50% market share.

### Conclusion

Indonesia’s operators offer a wide range of different prepaid products with high differences in cost to consumers with some products costing as much as seven times that of the cheapest product available for the Rohman-Stork usage basket.

Requiring operators to cost a predefined user basket for each product and include this information in any advertisement would allow consumers to make better choices and lead to operators competing on prices more effectively, leading to lower prices in the medium to long run.

Under competitive price pressure some operators may choose to compete rather on quality of service or innovate other services, which is equally appreciated from a regulatory perspective.

In Kenya, Telkom Kenya Orange have deployed HSPA+, which gives subscribers high-speed wireless with download speeds of up to 21 Mbps. While Safaricom build on its mobile money product MPESEA as a competitive advantage. MTC in Namibia offers among the first countries in Africa already 4G LTE services with up to 100 Mbps.

Indonesia’s Telecom Regulatory Body (BRTI) could, offer users an online tool that allows them to compare product prices for their actual usage, as has been done by regulatory authorities in Europe; for instance, in Sweden. Such a tool would also be able to factor in the network size because subscribers from large operators usually make more on-net and less off-net calls compared to subscribers of smaller operators.

This finding suggested the importance of price transparency to ensure that consumers are well-informed concerning the range of services and prices available. To do so, BRTI could use price baskets to create transparency and monitor price developments in the market. BRTI may even prescribe that any product advertisement would need to carry a public interest notice indicating the cost for a specific user basket, similar to cigarette advertisements having to mention potential harm caused by smoking. This would allow ordinary people, regardless of their education level, to make sense of product offerings.

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**Figure 2: Cheapest product available from each operator for the Rohman-Stork Usage Basket in November 2011 in USD**