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Akhirnya tak lupa pula diucapkan banyak terima kasih atas partisipasi, perhatian dan kerjasama yang baik dari berbagai pihak sehingga dapat menerbitkan Jurnal Manajemen dan Keuangan ini.

Bandarlampung, Maret 2004

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ANALYSIS PERFORMANCE OF INCOME AND EXPENDITURE OF SOCIAL HEALTH INSURANCE IN INDONESIA: LEGAL DESCRIPTION AND DATA FRAME FOR INDONESIA FINANCE HEALTH CARE PROJECTION

Firmansyah Y. A.¹

ABSTRAK


Kata kunci: Efisiensi, kesinambungan, beban biaya, kontribusi

ABSTRACT

The objective of this research was to analyze the performance of Social Health Insurance in Indonesia that applied to the efficiency and sustainability of the scheme. Whereas, it covered the compulsory and voluntary members from the public employee and all Indonesian people, therefore the program should be matched to the covered people as a beneficiary and cost of program on the one side to the income from the contribution on the other side. Documentation, literatures, interview, and manual books are used on this research. Beside that some international standards such as Socia National Account 1993 (SNA 1993), and Population Model by UN and ILO are also referred, when the projections were done. The results showed that the projection methods, which used 50 years projection, indicated an increasing of employed people followed by the covered people, and demand for health services continues rise. However, since economic crisis in 1997, evidenced in dramatic reductions in GDE growth rates, the emphasis in some countries especially in Indonesia has shifted from expanding services and improving quality to attempting simply to maintain the level of existing services. Thus, the sustainability and cost containment efforts of health systems have become the major challenges, and financing is a critical element in meeting these challenges. The emphasis in health care financing today has shifted to cost containment through efficiency gains in existing systems, while finding effective mechanism for funding the overall system in a long-term, sustainability fashion. Therefore, the scheme and program performance are able to support the government in order to apply a policy.

Key Words: Efficiency, sustainability, cost containment, contribution

INTRODUCTION

Indonesia has social health insurance, since 1968, the health scheme was in the status of a certain body, known as BPDK (Badan Penyelenggara Dana Pemeliharaan Kesehatan) under the join control of the Ministry of Health and Ministry of Finance. In 1984: BPDK was converted into a state corporation named Perum Husada Bhakti, and in 1992: Perum Husada Bhakti became a state-owned limited liability company, named PT (Persero) Asuransi Kesehatan Indonesia.

The scheme provides a comprehensive health care including promotion, preventive, curative, and rehabilitation care, secondary care and hospitalization. The Numbers of clients as December, 2001 are almost 15 millions consists of 14 millions compulsory members and 1 millions voluntary members. According to the legal description which Indonesia government regulation No. 69 Year 1991 are included:
Coverage
The scheme covered 12.5% (public servants including dependants) of total population

Eligibility persons
Askes managed the system for the government employees, the retirees of government employees, the retirees of armed forces, the veterans, Indonesia Independence pioneers and their dependants

Benefit packages
The packages are including: primary care services, specialist physician, hospital inpatient care, drugs, dental prostheses, ambulatory, rehabilitation, and ancillary services.

Mobility

Utilization

Remuneration of providers
Trough the Government (Ministry of Health), the service providers are paid for services provided to public employees by fee for service

Financed
The public employees pay compulsory contribution, which is responsible for collecting contribution from employees

Contribution rate
The contribution rate is 2% of contributor’s salary each month

Expenditure and revenue
The importance of research on financial performance shows that the program can be proposed for the future policy. The legal description point out the programs has systems in order to implement the projections. Based on background and condition, there are some problems that is able to affect on capability and sustainability. Here some problems:

1. How much the contribution rate, which suppose to be in program in order to cover the expenditure.
2. How much the benefit expenditure that suppose to be in program
3. How much the PAYG rate that suppose to be in program in order to finance the program

Based on historical data, the scheme has major problem that is indicated by its performance. Therefore, the research objective would be assessed and analyzed program performance which uses 50 years projections.
DATA STRUCTURE

To assess the projection, some of data would be followed as:

- Demography: Total population and mortality rate by age and sex, age specific fertility rate or TFR
- Economy: GDP nominal and GDP real increase rate, average rate and real wage, growth rate, inflation rate, productivity real increase rate
- Labour supply: labour force participation rate by age and sex, number of employed by sex and age, public employees, unemployed rate
- Income: No. of contributors, catchment ratio, compliance rate, other income, Government subsidies
- Expenditure: Covered population by sex and age, mobility rate and utilization rate by sex and age, average cost per case (by sex and age if possible), administrative cost

ASSUMPTIONS

A. Demographic model:
   a. Migration
      The net international migration will be constant from 2000 to 2050 which is 0;
   b. Fertility rate
      The fertility rates are taken from UN which are divided to 3 variants which are: low, medium, high.
      - Low variant: 2.6 in 2000 then 1.6 in 2050;
      - Medium variant: 2.0 in 2000 then 2.1 in 2050;
      - High variant: keep constant 2.6
   c. The ratio of new born for male and female is the same;
   d. Mortality rate
      Mortality rate is taken from UN projection.

B. Labor force
   a. Labor force participation rate is divided by sex, as following:
      - Male: keeps constant 80% for 20 years then will be increase to 82% for the rest of projection
      - Female: keep constant 50% for the next 10 years later then will be increase to 52% for 10 years, then increase to 54% for the rest of projection.
   b. Working age is assumed from 15 years old to 100 years old.
   c. I divided employment as public employed and others employed.
   d. I assumed for each public employed has 3 dependants.
C. Economic
a. GDP. Real GDP growth rate: keep constant as 3% for 50 years;
b. Labor productivity is 3% for 20 years then decreases to 2% afterwards;
c. Exchange rate to US dollar is equivalent to 9000 for 5 years then become 7500 afterwards; (we assumed the political situation is better in the next 5 years)
d. Public employed has the same growth rate with labor force.
e. Real growth wage keeps constant for 3% in 20 years then decrease to 2% afterwards;
f. CPI will be 13% for 20 years then decrease to 9% for the next 10 years, continue to 7% afterwards;

METHODOLOGY

The methodology, which will be used to assess the projections are:

- Demography and economy
  1. GDP real increase rate: GDP(t) * (1+inflation rate(t))
  2. Real wage growth rate: Average wage(t) * (1+inflation rate(t))
  3. Productivity real increase rate: Productivity (t) * (1+inflation rate (t))
  4. Labour force: LF(t) = Population Active (t) * Labour Force Participation Rate (t)

Labour Supply:
1. Labour Force Participation Rate: Labfrr = LF(t)/ Total Population in active age (t)
2. Employment; E(t) = GDP (t) / Labour Productivity (t)
3. Wages: W (t) = GDP (t) * wage share in GDP (t) / Employment (t)

- Income
1. No. of contributors: Cont (t) = Contributor 1 (t) + Contributor 2 (t) + contributor 3 (t)

Where:
Cont 1 (t) = Employment (t) * coverage rate for category i of contributors (t) * contributor rate for category i of contributors (t)
Cont 2 (t) = (LF - Employment (t)) * coverage rate for category i of contributors (t) * contributor rate for category i of contributors (t)
Cont 3 (t) = Inactive population (t) * coverage rate for category i of contributors (t) * contributor rate for category i of contributors (t)
2. Assessment Base: \( AB \, (t) = \text{Wage} \, (t) \times \text{Catchment ratio for category} \, i \, (t) \times \text{Compliance rate for category} \, i \, (t) \)

3. Total Insurable Earning:
\[
\text{TIE} = \sum_{i=1}^{3} \text{contribution} \, i \, (t) \times \text{assessment Base} \, i \, (t)
\]

4. Contribution Income: \( CI = \text{TIE} \, (t) \times \text{Compliance rate} \, (t) \)

5. Total Income: \( TI = CI \, (t) \times \text{Other Income} \, (t) \)

- Expenditure
  1. Covered population:
\[
\text{Covpop} \, (t) = \sum_{i=1}^{3} \text{Contributors categ i of contribu} \, (t) \times \text{depend ratio category I} \, (t)
\]

2. Benefit expenditure; \( BE \, (t) = \sum \text{BE for category j of care} \, (t) \), Where;
\( \text{BEj} \, (t) = \text{Covered population for category j of care} \, (t) \times \text{Adm expenditure} \, (t) \) + Other expenditure \( (t) \)

3. Catchment ratio; \( \text{Catchr} \, (t) = \text{Total Earning} \, (t) \) / payment of contribution \( (t) \)

4. Compliance rate: \( \text{Compr} \, (t) = \text{no. Of contributor} \, (t) \) / no. of covered people \( (t) \)

5. PAYG rate: \( \text{PAYGr} \, (t) = \frac{\text{(total Expenditure} \, (t) - \text{Other Income} \, (t))}{\text{Total Assessment Base} \, (t)} \)

**RESULTS OF THE RESEARCH**

1. **Economy Projections**

The result of analyses of the economy projections can be shows on the Table 1. As shows on the Table 1, that the GDP assumed to increase every year, either through nominal and also real. Tough if we will see from growth of its GDP seen to be assumed not happened growth (stagnant) started from year 2010 until 2050. The CPI (consumer price index) also assumed to decrease from 1998 to 2000 around 58 percent then stabilize for ten year, and finally it would be projected to be decrease on the last year projections until 5 percent. It affected to the amount of wage (whether nominal or growth rate). Therefore, the wage will increase in every year, due to the price of consumption decreases.

The labour productivity growth assumed to increase followed by increase in level of education and additional skill of labour. Hence, it influence to amount of labour productivity in currency unit (rupiah). Finally, I assumed
that the increasing of total population not too significant, however by using some other assumption such as perception that resident majority [is] Moslem. Hence, the program of family planning enough to overcome resident explosion with number which [do] not too big its degradation. Therefore, it affect to the increasing of total wages and wage share of GDP.

Table 1. Economy projections

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP Nominal (trillion Rps)</td>
<td>955.75</td>
<td>1297.81</td>
<td>1811.27</td>
<td>17836.44</td>
<td>50945.16</td>
<td>119866.51</td>
<td>283383.27</td>
</tr>
<tr>
<td>GDP real (Trillion 1993 price)</td>
<td>376.89</td>
<td>367.93</td>
<td>598.04</td>
<td>871.92</td>
<td>1290.66</td>
<td>1910.84</td>
<td>2527.59</td>
</tr>
<tr>
<td>GDP real growth rate</td>
<td>-1.2%</td>
<td>5.3%</td>
<td>4%</td>
<td>4%</td>
<td>4%</td>
<td>4%</td>
<td>4%</td>
</tr>
<tr>
<td>Nominal wage annual (thousand Rps)</td>
<td>3367.00</td>
<td>5162.40</td>
<td>17524.11</td>
<td>59486.79</td>
<td>140826.86</td>
<td>277027.75</td>
<td>544965.52</td>
</tr>
<tr>
<td>Nominal Wage growth rate</td>
<td>17.25</td>
<td>23.99</td>
<td>13.00%</td>
<td>13.00%</td>
<td>9.00%</td>
<td>7.00%</td>
<td>7.00%</td>
</tr>
<tr>
<td>CPI</td>
<td>67.16%</td>
<td>9.16%</td>
<td>10.00%</td>
<td>10.00%</td>
<td>7%</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>Real Wage growth rate</td>
<td>-49.91%</td>
<td>14.63%</td>
<td>3.00%</td>
<td>3.00%</td>
<td>2%</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>Employed population (thousand)</td>
<td>87672</td>
<td>89888</td>
<td>99955</td>
<td>141424</td>
<td>132315</td>
<td>150005</td>
<td>176839</td>
</tr>
<tr>
<td>Labour Productivity (thousand Rps per person)</td>
<td>4285.89</td>
<td>4429.46</td>
<td>5662.83</td>
<td>7620.12</td>
<td>9754.40</td>
<td>12466.46</td>
<td>15083.72</td>
</tr>
<tr>
<td>Labour Productivity Growth</td>
<td>-13.62%</td>
<td>4.09%</td>
<td>3.00%</td>
<td>2.50%</td>
<td>2.50%</td>
<td>2.50%</td>
<td>2.50%</td>
</tr>
<tr>
<td>Total Wages (Trillion)</td>
<td>296.95</td>
<td>463.78</td>
<td>1734.03</td>
<td>6866.70</td>
<td>18633.58</td>
<td>42386.61</td>
<td>96418.69</td>
</tr>
<tr>
<td>Wage share of GDP</td>
<td>31.07%</td>
<td>36.74%</td>
<td>36.04%</td>
<td>36.16%</td>
<td>36.79%</td>
<td>35.35%</td>
<td>33.97%</td>
</tr>
<tr>
<td>Exchange rate</td>
<td>9875</td>
<td>8527</td>
<td>7500</td>
<td>7500</td>
<td>7500</td>
<td>7500</td>
<td>7500</td>
</tr>
</tbody>
</table>

2. Demography Projections

As the economy projections, the Table 2 below shows us that the population increase not too significant (with some considerations of the social situation in this country). It also influence to number of working age, employment and labour force. Number of labour force participation rate taken away from UN (United Nation) Population Prospects 1996: The 1996 revision, 1996, and it is used to calculate number of labour force. After, find the number of labour force, we can look for number of unemployment after Labour Force Participation Rate minus amount of employment.

The Table 3 shows a result of income and expenditure projections, whereas the GDP nominal and real increase because of the increasing of GDP growth (as we can see from the economic projection above), these are also happened to the average wage which depend on the increasing of GDP growth. As we can see, total employments are counted by GDP real times employed population (where the employed populations are referred by UN projections), this results are able to count how many people are covered by program which is assumed about 80 percent of contributors coming from public employed, and the rest are others (private employed and informal sector). It also shows total contribution which are calculated by the catchment ratio times contribution rate.
times average wage times number of covered people (here, I assumed that the catchment ratio 80% and contribution rate 2% of the salary/wages).

Table 2. Result of the demography projections analysis

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2010</th>
<th>2020</th>
<th>2030</th>
<th>2040</th>
<th>2050</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP at constant price(in trillions)</td>
<td>397.9</td>
<td>534.8</td>
<td>718.7</td>
<td>965.9</td>
<td>1,298.1</td>
<td>1,744.5</td>
</tr>
<tr>
<td>GDP growth rate (%)</td>
<td>5.3%</td>
<td>3.0%</td>
<td>3.0%</td>
<td>3.0%</td>
<td>3.0%</td>
<td>3.0%</td>
</tr>
<tr>
<td>Population (thousand)</td>
<td>212,091</td>
<td>242,280</td>
<td>273,764</td>
<td>303,193</td>
<td>328,494</td>
<td>348,433</td>
</tr>
<tr>
<td>Population growth (%)</td>
<td>1.33%</td>
<td>1.31%</td>
<td>1.12%</td>
<td>0.91%</td>
<td>3.22%</td>
<td>-</td>
</tr>
<tr>
<td>Working age (in thousand)</td>
<td>146,859</td>
<td>177,440</td>
<td>204,219</td>
<td>231,113</td>
<td>255,884</td>
<td>275,973</td>
</tr>
<tr>
<td>Labour force (thousand)</td>
<td>95,200</td>
<td>115,251</td>
<td>134,600</td>
<td>156,739</td>
<td>173,263</td>
<td>186,619</td>
</tr>
<tr>
<td>Labour force participation rate</td>
<td>65%</td>
<td>65%</td>
<td>66%</td>
<td>66%</td>
<td>66%</td>
<td>66%</td>
</tr>
<tr>
<td>Employment (in thousand)</td>
<td>89,838</td>
<td>89,838</td>
<td>89,838</td>
<td>90,045</td>
<td>109,195</td>
<td>120,385</td>
</tr>
<tr>
<td>Labour productivity (in thousand)</td>
<td>4,429</td>
<td>5,953</td>
<td>8,000</td>
<td>9,752</td>
<td>11,888</td>
<td>14,491</td>
</tr>
<tr>
<td>Labour productivity growth (%)</td>
<td>4.03%</td>
<td>3.00%</td>
<td>3.00%</td>
<td>2.00%</td>
<td>2.00%</td>
<td>2.00%</td>
</tr>
<tr>
<td>Unemployment (in thousand)</td>
<td>5,362</td>
<td>25,413</td>
<td>44,762</td>
<td>57,694</td>
<td>64,068</td>
<td>66,234</td>
</tr>
</tbody>
</table>

3. Income and expenditure Projections

Result of income and expenditure projections analysis can be shown on the Table 3 below

Table 3. Result of income and expenditure projections

<table>
<thead>
<tr>
<th>years</th>
<th>2001</th>
<th>2010</th>
<th>2020</th>
<th>2030</th>
<th>2040</th>
<th>2050</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP Nominal (trillion Rps)</td>
<td>1237.81</td>
<td>2468.62</td>
<td>4811.27</td>
<td>17838.44</td>
<td>50854.16</td>
<td>119555.51</td>
</tr>
<tr>
<td>GDP at constant price (in trillions)</td>
<td>397.99</td>
<td>494.15</td>
<td>559.04</td>
<td>671.92</td>
<td>1231.68</td>
<td>1910.46</td>
</tr>
<tr>
<td>Labour force (thousand)</td>
<td>95,200</td>
<td>105,756</td>
<td>115,251</td>
<td>134,603</td>
<td>156,739</td>
<td>173,263</td>
</tr>
<tr>
<td>Employment (in thousand)</td>
<td>89,838</td>
<td>94,265</td>
<td>98,951</td>
<td>114,424</td>
<td>132,315</td>
<td>155,000</td>
</tr>
<tr>
<td>Average wage (thousands)</td>
<td>5,162.4</td>
<td>9,511.4</td>
<td>17,524.1</td>
<td>59,465.6</td>
<td>140,883.6</td>
<td>277,027.8</td>
</tr>
<tr>
<td>Number of covered persons (Public employees)</td>
<td>4,020.0</td>
<td>4456.0</td>
<td>4867.0</td>
<td>5694.0</td>
<td>6519.0</td>
<td>7316.0</td>
</tr>
<tr>
<td>catchment ratio</td>
<td>80%</td>
<td>80%</td>
<td>80%</td>
<td>80%</td>
<td>80%</td>
<td>80%</td>
</tr>
<tr>
<td>contribution rate</td>
<td>2%</td>
<td>2%</td>
<td>2%</td>
<td>2%</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>contribution (billions)</td>
<td>332.0</td>
<td>678.5</td>
<td>1,364.6</td>
<td>5,409.7</td>
<td>14,913.2</td>
<td>32,429.3</td>
</tr>
<tr>
<td>other incomes (Subsidies)</td>
<td>332.0</td>
<td>678.5</td>
<td>1364.6</td>
<td>5409.7</td>
<td>14913.2</td>
<td>32429.3</td>
</tr>
<tr>
<td>Total income (billions)</td>
<td>664.0</td>
<td>1,357</td>
<td>2,722</td>
<td>10,819</td>
<td>28,832</td>
<td>64,839</td>
</tr>
<tr>
<td>PAYG</td>
<td>4.23%</td>
<td>4.73%</td>
<td>5.77%</td>
<td>6.21%</td>
<td>7.28%</td>
<td>7.99%</td>
</tr>
<tr>
<td>Income as a share of GDP (nominal)</td>
<td>0.06%</td>
<td>0.06%</td>
<td>0.06%</td>
<td>0.06%</td>
<td>0.06%</td>
<td>0.06%</td>
</tr>
</tbody>
</table>

As our objective to evaluate the program, we need to calculated rate of Pay As you Go (PAYG rate) which is necessary to know how much money that suppose to be available (funded) on this program every year. It counted by total expenditure (benefits and operation cost) minus other income divided to total income (total of contribution), here the table are also shows us that the
PAYG rate increase every year because of the increasing of income (by the increasing of number of contributor). Finally, total income calculated by amount of contribution plus other income, then we can find how much income as a share of GDP in every year (for 50 years projections).

CONCLUSION

Based on projection and its results that the Programs are projected and assumed as followed:
1. Contribution rates are constant, due to the increasing of average rate and no. of covered persons
2. Number of public employees increases at the same rate of labour force
3. The Average wage increase at the same rate followed by inflation
4. Pay As You Go (PAYG) payment increase followed by the contribution rate, income and expenditure

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