Poverty in Singapore:
A Measure of Measures

Group 2-14

A project by:
Christopher Lum 4A1
See Tow Zi Hsien 4A1
Objective:

To critically evaluate economic standards of measurement used to measure relative and absolute poverty and suggest an alternative economic measure to better identify the poor in Singapore so as to improve the welfare benefits to the genuine needy.
Thesis statement:

Despite Singapore’s standing as a first world country with one of the strongest economies in the world, governmental measures in the form of welfare benefits to alleviate poverty are not as effective as they can be due to a lack of a set definition.

Thus, there is a need to critically evaluate economic standards of measurement used to measure absolute and relative poverty and suggest an alternative economic standard of measure to better identify the poor in Singapore so as to improve the allocation of welfare benefits.
Data collection

Qualitative:

Interviews with academics and organisations such as the Lien Centre For Social Innovation and Singapore Management University

Quantitative:

Preliminary analysis of publicly available statistics have largely been completed.

Further in-depth analysis is planned to study the possible underlying correlations between variables.
Research Questions
Research Questions:

1. What definition of poverty is appropriate for Singapore?

2. How does the Singapore government identify lower-income individuals in the allocation of welfare benefits?

3. How far has this basis of identification been effective in helping to tackle growing inequality?

4. What standards of measurement could be adapted for Singapore to augment the effectiveness of government assistance schemes?
What is Poverty?
Absolute Poverty:

A condition characterised by severe deprivation of basic human needs, including food, safe drinking water, sanitation facilities, health, shelter, education and information

Relative Poverty:

The condition in which people lack the minimum amount of income needed in order to maintain the average standard of living in the society in which they live in.
Much of the research on Singapore focuses on its high inequality levels rather than measuring the extent of poverty in Singapore. This is mainly because there is no official poverty line and the government does not measure or report trends in poverty reduction.
Singapore has rejected the use of a poverty line because of differing nature of needs and fear of the ‘cliff’ effect.
Singapore’s stand

“A single official poverty line to identify the “poor” or to assess the efficacy of our schemes is one-dimensional. It has limitations in informing policies as it does not take into account the differing nature of needs such as housing, health, employment, family issues.”

– Chan Chun Sing, Minister for Social and Family Development, on why Singapore does not have a poverty line
Chan Chun Sing, has repeatedly emphasised the importance of having multiple lines of assistance to help needy families ‘kueh lapis approach’) by addressing unmet social needs instead of a single poverty line.
However, many academics, scholars and organisations have **argued that there are reasons to define and measure poverty**
Criticism

“Singapore has always adopted a firmly anti-welfare approach in its social and economic policy, however its minimalist approach to addressing the long term needs of the poor runs the danger of perpetuating a substantial population of chronically poor.”

- Jacqueline Loh of Lien Centre for Social Innovation, in her 2011 study, “Bottom fifth in Singapore”
“Bottom Fifth in Singapore”

By Jacqueline Loh, previous director of Lien Centre of Social Innovation

Jacqueline Loh paints a numerical picture of the poor and cautions that without concerted interventions, many households could remain chronically poor.

In the run up to a watershed General Election earlier this year, concerns about Singapore’s widening income divide was one of the dominating issues. Without concerted government effort, the structural conditions that have given rise to this disparity will only be further entrenched. Singapore has always adopted a firmly anti-welfare approach in its social and economic policy, however its minimalist approach to addressing the long term needs of the poor runs the danger of perpetuating a substantial population of chronically poor. Here I provide a brief overview of some of the salient data on the extent of inequality in Singapore as well as the underlying conditions that have given rise to this divide.

A Tale of Two Cities

Inequitably, over the last 46 years, Singapore has been a remarkable story of economic growth and is now one of the highest income, highest wealth countries in the world. In comparisons with the G10 countries which are among the world’s most developed, Singapore ranks:

- 1st in GDP per capita on a purchasing power parity basis of US$52,100, far exceeding the 2nd ranked US at US$51,200
- 2nd in wealth per adult of US$255,082, exceeded only by Switzerland
- 10th ahead of the UK and Italy in GNI per capita of US$40,000

In an unwelcome parallel to Singapore’s exceptional economic performance however are also exceptional indicators of inequality in comparison with the G10:

- Highest Gini coefficient, indicating highest level of inequality, for income distribution of .478
- Highest Gini coefficient for wealth distribution of .893

2nd lowest median wealth per adult, which is a mere US$30,092, in stark contrast to the high average wealth figure of $1.5 million. A household income level of $1,500 is the threshold level specified by the Ministry of Community, Youth and Sports (MCYS) that determines household eligibility for many of the support programmes funded through the Community Care Endowment Fund (CCF).

Sizing the Issue

While Singapore has no official poverty line, there are several different numbers commonly discussed that can provide a frame of reference. It has been estimated that a family of four would need $1,700 to cover basic costs of living, but $2,500-3,000/month to meet a “social inclusion” level of income. A household income level of $1,500 is the threshold level specified by the Ministry of Community, Youth and Sports (MCYS) that determines household eligibility for many of the support programmes funded through the Community Care Endowment Fund (CCF).

Based on the most recent 2007/2008 household expenditure survey, which measures monthly income for all households rather than only employed households, the average monthly income of the bottom 20% of households is only $1,274. As the median is never more than the average, likely 12-14% of Singapore households live under the most conservative unofficial poverty line of $1,500. With 1.09m Singapore households in 2008, that’s more than 131,000 Singapore households living in deprived circumstances. As well, besides this large number living below the $1,500 threshold, the full bottom fifth of households manage on substantially less than the social inclusion level of income.

From Gap to Chasm

The other characteristic of Singapore’s income distribution across quintiles is how the recent decade has seen a marked worsening for the poorest households. Singapore’s steadily increasing Gini coefficient belies this pattern as does the uneven income growth story across quintiles. Between 1997/98 and 2007/08, nominal monthly income for the bottom fifth actually declined at an annual
“Measuring Poverty In Singapore”

Joint collaboration between the
SMU School of Social Sciences and
The Lien Centre for Social Innovation (LCSI)

Over the past ten years, Singapore has registered robust economic growth and consistently ranked amongst countries with the highest GDP per capita in the world. Over the same period, inequality has risen sharply. Singapore does not have an official poverty line. However, the living conditions and incomes of the poorest amongst the Singapore resident population, while not reaching the level of destitution experienced in developing countries, nonetheless suggest that Singapore needs to reassess the way in which poverty is acknowledged, defined and addressed. This concern was reiterated in a dialogue session on poverty in Singapore held in August 2013. Over 20 representatives from non-profit organisations working with poor communities were present, and most concurred that more clearly defining and measuring poverty would be an important step towards more effectively addressing the needs of the poor.

The Lien Centre for Social Innovation (LCSI) at Singapore Management University (SMU) together with John Donaldson (School of Social Sciences, SMU) and Yeoh Lam Keong (Adjunct Senior Research Fellow, Institute of Policy Studies), have embarked on a research project designed to inform strategies to address the complex issues that Singapore faces in this area. Our research collates views on domestic poverty from a range of sources, and analyses various conceptual frameworks used for defining and measuring poverty. This project will provide a basis for further research into the extent and nature of poverty in Singapore.

This article summarises the key findings on the prevalence of poverty in Singapore from our research to date, and discusses the merits and drawbacks of the use of various approaches to measuring poverty that could be particularly relevant for Singapore.
In their conclusion, the authors argued that “it is time for Singapore to join comparable developed nations in officially defining and measuring poverty.”

(Donaldson, Loh, Mudalier, Md Kadir, Wu, Yeoh, 2013)
“Our ongoing research in this area suggests that although monetary measures of poverty have their limitations, there is still a simple and effective way to assess the depth of need in the population as a whole as well as to identify specific groups of people who are most unable to meet basic needs. “

(Donaldson, Loh, Muralier, Md Kadir, Wu, Yeoh, 2013)
Interview with Professor Donaldson

“While the kuih lapis approach is a more subtle and nuanced approach to tackling poverty, there is still a need for an official definition and measurement of poverty which need not be a poverty line.”

“A poverty line can be used to give an approximate assessment of the depth of poverty but should be complemented by other thresholds to avoid pitfalls as mentioned by Minister Chan Chun Sing”
Absolute measures of poverty
Ministry of Social and Family Development (MSF) measurements

The MSF cites the number of families under the long-term Public Assistance scheme as an indicator of Singapore’s most disadvantaged, around 3,000.
Jacqueline Loh, former Director of LCSI developed another way based on the eligibility criteria for many support schemes which was less than SGD 1,500 per month. (Loh, 2011)

Using the 2007/2008 Household Expenditure Survey (HES), Loh estimated that 12% to 14% of all resident households exist under this line, which she noted was conservative given that the criteria itself is conservative. (Loh, 2011)
AHEBN Measure

An official measure that comes closest to identifying a level of absolute poverty in Singapore is the **Average Household Expenditure on Basic Needs (AHEBN)**, a monetary measure calculated by the Singapore government’s Department of Statistics (DOS).
AHEBN Measure

What is somewhat frustrating for those interested in research in this area is that the AHEBN is not easily available in the public domain. The one official reference the study team was able to locate is in the *2012 Singapore Parliament Reports* (Hansard). In response to a question posed in parliament, it was noted that the AHEBN in 2011 was **S$1,250 per month for a four-person household.**

*(Donaldson, Loh, Mudalier, Md Kadir, Wu, Yeoh, 2013)*

The most recent available estimate was calculated to be **SGD 1,250 per month for a four-person household.***
Factors considered:

- Average expenditure on food, clothing and shelter
- Poor household living (HDB two-room flat)
- Multiplied by a factor of 1.25 to account for other household needs.
- Varies for different household sizes
Criticism of the AHEBN

Yeoh Lam Keong, former chief economist of GIC, argues that the AHEBN calculation does not account for investments in human capital such as education and training which are necessary for minimal social mobility and to allow people to climb out of poverty (Yeoh, mimeo).
Criticism of the AHEBN

Applying the AHEBN range to the 2011 DOS KHCHIT report, Yeoh estimates that approximately 110,000 to 140,000 resident households face great difficulty in meeting basic needs. (Yeoh, mimeo)

Given that it does not account for families living in 3 or 4-room flats on assistance schemes and investments in human capital, it is at best an extremely conservative estimate.
Overall, it likely accounts for a fraction of families living in absolute poverty
Relative measures of poverty
Yeoh also points out that if the AHEBN calculation was adjusted to include the cost of transport, education, health care and training necessary for social inclusion (relative poverty), the bottom 20% to 30% of working households would be considered to be in relative poverty (Yeoh, mimeo).
Use of Median Income

A common way of estimating relative poverty is by taking the median income as the benchmark and then halving it.
However, this method is **difficult to use in Singapore** as pointed out by Irene Ng, associate professor at NUS, as income distribution is reported in deciles.

Nonetheless, by assuming that the mean incomes are at the midpoint of each decile, she estimates **around 20% of working households are poor.** (Ng, 2013)
Use of Median Income

SMU-LCSI also used this as a measure in their paper:

As this figure is S$5,480 for the 41st-60th quintile, the overall median income would not be more than this and could be reasonably estimated to be about S$5,000, suggesting that households with monthly incomes of less than S$2,500 are living in relative poverty. In 2007/08,

(Donaldson, Loh, Mudalier, Md Kadir, Wu, Yeoh, 2013)
Hui Weng Tat in his paper, “Economic growth and inequality in Singapore: The case for a minimum wage” sets this relative poverty line at 60% of the national median income which would result in 35% of working households being considered poor. (Hui, 2013)
“SPM is a more complex statistic incorporating additional items such as tax payments and work expenses in its family resource estimates on basic necessities (food, shelter, clothing and utilities) and will be adjusted for geographic differences in the cost of housing. The new measure will serve as an additional indicator of economic well-being and will provide a deeper understanding of economic conditions and policy effects”

– US Census Bureau
It was originally created to supplement the official poverty line in the USA because of the many problems associated with it.

Thus, we have decided to apply the SPM to the Singaporean context in order to have a better economic measure of poverty.
<table>
<thead>
<tr>
<th>Measurement Units</th>
<th>All related individuals who live at the same address, (SPM Resource Units)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poverty Thresholds</td>
<td>The <strong>21st to 40th percentile of expenditures</strong> on food, clothing, housing, and utilities (FCHU)</td>
</tr>
<tr>
<td>Threshold Adjustments</td>
<td><strong>Geographic adjustments</strong> for differences in housing costs</td>
</tr>
<tr>
<td>Updating Thresholds</td>
<td><strong>Five year moving average</strong> of expenditures on FCHU</td>
</tr>
<tr>
<td>Resource Measure</td>
<td>Sum of cash income, plus in-kind benefits that families can use to meet their FCHU needs, minus taxes and other out-of-pocket expenses</td>
</tr>
</tbody>
</table>
Measurement of Poverty

The measurement of poverty involves two main components:

1.) A budget or threshold below which people are considered poor
2.) An estimate of resources available to people to compare with the threshold

It is important that they are defined in a consistent manner so that they can be analysed and statistically defendable
Data Sources

- Household Expenditure Report
- Key Household Trends Report by Department of Statistics
- Comcare Annual Report
Poverty Thresholds

• There are two main types of poverty thresholds discussed in academic literature: **Absolute and Relative**

• Both have their **individual strengths and weaknesses**.

• Therefore, the SPM employs a hybrid approach that **leverages the strengths of both** while **reducing the drawbacks of using them individually**. (Citro and Michaels, 1995)
Absolute Poverty Thresholds

• Fixed at a point in time
• Updated only for price changes
• Generally developed by “experts” with reference to basic needs (e.g. food) with reference to budget elements
• Based on notion of minimum standards go physical needs
Relative Poverty Thresholds

• Updated regularly for changes in real consumption

• Developed with reference to actual expenditures of the population
Criticism of Poverty Thresholds

• Often criticised for being subjective rather than reflecting an objective standard of economic deprivation

• Criticised for not providing a stable target to measure the effects of government efforts

• Both not differ much in practice because both thresholds have similar problems with subjectivity and relativity
Reducing Drawbacks

• Applying a multiplier reduces the number of specific decisions that must be made.

• However, it introduces new problems because there is no precise method of obtaining a multiplier.

• Thus, it is necessary to examine expenditures as a reference point to reduce the problems associated with independent determination.
Poverty Thresholds in SPM

• Represent a **dollar amount spent on a basic set of goods**

• Includes **food, clothing, housing and utilities (FCHU)**

• **A multiplier is added to account for additional costs** outside of the basic bundle.

• **Calculated with five years of expenditure data** for families with exactly two children using consumer expenditure data
• Food* (f)
• Clothing* (c)
• Utilities* (u)
• Housing* (h)
• Multiplier (m)

*Pegged at expenditure of 21st to 40th quintile according to HES 2012/2013

• No. of people in household (n)
• Disposable Income (i)
• Gov. Subsidies (s)
• Child Care Expenses (v)
• Work-related Expenses (w)
• Medical Out-of-Pocket Expenses (k)
• CPF (q)
• Tax payment (t)

SPM Equation

Let x represent family resources
Let y represent poverty threshold

$$SPM = x - y$$

$$x = i + s - v - w - k - q - t$$

$$y = m(h + nc + nf + u)$$

If SPM<0, household is deemed to be in poverty
**Basic Bundle (FCHU) for a 4-person Household**

Average expenditure on basic bundle (FCHU) in the 21st to 40th income quintile / dollars

<table>
<thead>
<tr>
<th>Food</th>
<th>Clothing</th>
<th>Housing</th>
<th>Utilities</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>457.6</td>
<td>105.6</td>
<td>238.0</td>
<td>240.7</td>
<td><strong>1041.9</strong></td>
</tr>
</tbody>
</table>

Source: HES Report 2012/2013
Applying Multipliers

- A multiplier is applied to the calculation to account for additional expenses such as investments in human capital which are necessary for minimum social mobility.
### Applying Multipliers

**Additional expenditure outside of the basic bundle at the 21st to 40th quintile/ dollars**

<table>
<thead>
<tr>
<th></th>
<th>Health</th>
<th>Education</th>
<th>Transport</th>
<th>Household Maintenance</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>216.4</td>
<td>221.6</td>
<td>513.6</td>
<td>174.8</td>
<td>1126.4</td>
</tr>
</tbody>
</table>

*Source: HES Report 2012/2013*
Applying Multipliers

The multiplier is calculated as shown:

\[(1041.9 + 1126.4) \div 1041.9 = 2.08\]

Therefore, a value between 2.05 to 2.10 is concluded to be a suitable multiplier of use in the calculation of the poverty threshold.
Poverty Threshold for 4-person Household

2.10 \times 1041.9 = 2187.9

\approx \text{SGD2,190/month}
Defining Family Resources

- Defined as the value of disposable money or near-money income from all sources
- Includes the value of in-kind benefits that are available to buy the basic bundle of goods (FCHU)
- Deducts out-of-pocket expenses
- Deducts taxes
## Resource Estimates

**SPM Resources = Money Income From All Sources**

<table>
<thead>
<tr>
<th>Add</th>
<th>Deduct</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Disposable Income</td>
<td>• Child Care Expenses</td>
</tr>
<tr>
<td>• Government Subsidies (e.g.</td>
<td>• Work-related Expenses</td>
</tr>
<tr>
<td>Workfare Income Scheme,</td>
<td>• Medical Out-of-Pocket Expenses</td>
</tr>
<tr>
<td>Comcare, Edusave)</td>
<td>• CPF</td>
</tr>
<tr>
<td></td>
<td>• Tax payment</td>
</tr>
</tbody>
</table>
### Sample Calculation of Family Resources for 4-member household

<table>
<thead>
<tr>
<th>Category</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Gross Income</strong></td>
<td>SGD 5,000/month</td>
</tr>
<tr>
<td>(Father: $3000, Mother: $2000)</td>
<td></td>
</tr>
<tr>
<td><strong>Government Subsidies</strong></td>
<td>SGD 800</td>
</tr>
<tr>
<td><strong>Child Care Expenses</strong></td>
<td>SGD 1,500</td>
</tr>
<tr>
<td><strong>Work-related Expenses</strong></td>
<td>SGD 900</td>
</tr>
<tr>
<td><strong>Out-of-Pocket Medical Expenses</strong></td>
<td>SGD 170</td>
</tr>
<tr>
<td><em>Inclusive of dental</em></td>
<td></td>
</tr>
<tr>
<td><strong>Taxes:</strong></td>
<td>SGD 490</td>
</tr>
<tr>
<td>Father: $200 + 3.5% x 6000 = $410</td>
<td></td>
</tr>
<tr>
<td>Mother: 2% x 4000 = $80</td>
<td></td>
</tr>
<tr>
<td><strong>CPF Contributions:</strong></td>
<td>SGD 1,000</td>
</tr>
<tr>
<td>Father: $600</td>
<td></td>
</tr>
<tr>
<td>Mother: $400</td>
<td></td>
</tr>
</tbody>
</table>
Sample Calculation of Family Resources for 4-member household

SPM = (poverty threshold) – (family resources)

= x – y

x = 5,000 + 800 – 1,500 – 900 – 170 – 490 – 1,000

= $1,740

y = $2,190 (calculated previously)

SPM = $2,190 – $1,560

= –$630

Since SPM < 0, household is in economic poverty
A note before we continue...

• The final decision as to where the line is exactly is a political judgement that is not within our capacity to define.

• The value that we offer is not intended to be in any way, precise or exact. It is an approximation and a range is expected.

• Finally, it is not expected to be used to determine eligibility for assistance schemes but rather to offer a more nuanced and comprehensive gauge of poverty rates.
Comparison of Measurements
<table>
<thead>
<tr>
<th>Yeoh Lam Keong</th>
<th>Lien Centre analysis based on HES 2007/2008</th>
<th>SPM</th>
<th>Hui Weng Tat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjusted by Yeoh to include costs of transport, education and healthcare, etc</td>
<td></td>
<td>Substitutes median income for family resources ((y)) according to 2011 Key Household Trends Report</td>
<td>Economic growth and inequality in Singapore: The case for a minimum wage (2013)</td>
</tr>
<tr>
<td>20 – 30%</td>
<td>20 – 22%</td>
<td>23 – 25%</td>
<td>35%</td>
</tr>
</tbody>
</table>
% of households in absolute poverty

* Does not include Comcare contribution, tax and CPF

Yeoh Lam Keong
mimeo (2013)

*NOT ADJUSTED to include costs of transport, education and healthcare, etc

*Based on 2011 DOS Key Household Trends report

10 – 12%

110,000 – 140,000 of Singapore Resident Households

Jacqueline Loh
Social Space, “Bottom Fifth in Singapore” (2011)

12 - 14%

130,000 – 150,000 of Singapore Resident Households
<table>
<thead>
<tr>
<th>Indicator</th>
<th>Limitations</th>
</tr>
</thead>
</table>
| AHEBN           | • Not publicly available  
• Conservative  
• Does not account for investments in human capital (Yeoh, mimeo)  
• Does not account for all types of housing (Yeoh, mimeo)  
• Not updated since 2011  
• Does not account for individual factors (e.g., transport, education, healthcare, etc) |
| MSF             | • Limited to those under Public Assistance  
• Extreme poor only  
• Unknown criteria  
• Does not account for individual factors (e.g., transport, education, healthcare, etc) |
| Median Income   | • Broad approximation  
• Not representative because of the extremely wealthy  
• **Difficult to apply in Singapore (Ng, 2013)**  
• Does not account for individual factors (e.g., transport, education, healthcare, etc) |
Advantages of using SPM

• Provides a fair and statistically defendable value (Each step in the calculation process is explained comprehensively with clear indication of data sources)

• Establishes transparent and multi-dimensional measurement that extends beyond the extreme poor.

• Additional factors can be added into the equation if deemed necessary

• Can be calculated accurately year on year to account for yearly changes in expenditure due to inflation and other factors.
Limitations

There is a greater need for more data on the needy and for sharing of the data that exists.
Existing research conducted by non-profit organisations do not have the scope of government studies and cannot yield as large and as representative of a data set.

**Hence, these current standards of measurements are at best estimates.**
Limitations

Multiple organisations and parties such as the Lien Centre have *voiced their desire for disaggregated data* which would add valuable detail to measurements.

Limitations

As such, without raw data, studies that attempt to measure poverty and income inequality in Singapore often acknowledge the paucity of data and discuss approximations made to compensate for this absence (Abeysinghe, 2011).

The accuracy of our measurement is nonetheless reduced by this lack of raw data.
Conclusion
There is a pressing need for increased acknowledgement and awareness of the real problems faced by a considerable percentage of society so that the government and social sector can make greater and more focused efforts to address these needs.
Hence, there is a need for an alternative standard of measurement to address the issues with the current measures employed by academics.
While the poverty line has its pitfalls, it has been shown that by supplementing it with the SPM and other non-monetary measures, a more complete understanding of poverty can be achieved.
Benefits of an Official Measure of Poverty

1. Increases awareness and acknowledgement of the extent of poverty in Singapore

2. More nuanced and comprehensive understanding of the poor.

3. Provides a measure of the effectiveness of policies so that improvements can be made to meet the needs of vulnerable groups in society.
Thank you.
References:


References:


References:


Reach,. (2013). Tackling Poverty the ‘Kuih Lapis’ Way. Retrieved from https://www.reach.gov.sg/YourSay/DiscussionForum/tabid/101/mode/1/Default.aspx?ssFormAction=%5B%5BssBlogThread_VIEW%5D%5D&tid=%5B%5B14168%5D%5D


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