

Tech Liberty

A Threefold Policy Recommendation
on Technology Liberalization
in ASEAN Countries and
the Effect on Income Inequality



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INTRODUCTION



9 out of 10

ASEAN countries experience high digital and income inequality
(Paschalidou, Georgia, 2011)



35%

Smartphone Penetration in the ASEAN region but is growing rapidly
(Kearney, 2015)



2025

ASEAN has the potential to enter the top 5 digital economies in the world
(Kearney, 2015)

RELATIONSHIP:

Digital Inequality & Income Inequality

Digital Gap is just as extreme and profound as the Income Gap in many countries around the world

(Cunningham, 2015)



This study seeks to:

1

Determine the relationship between Income Inequality and Digital Inequality in the ASEAN-10

2

Recommend policies in compliance with the ASEAN Economic Blueprint 2025

DISCUSSION/ANALYSIS

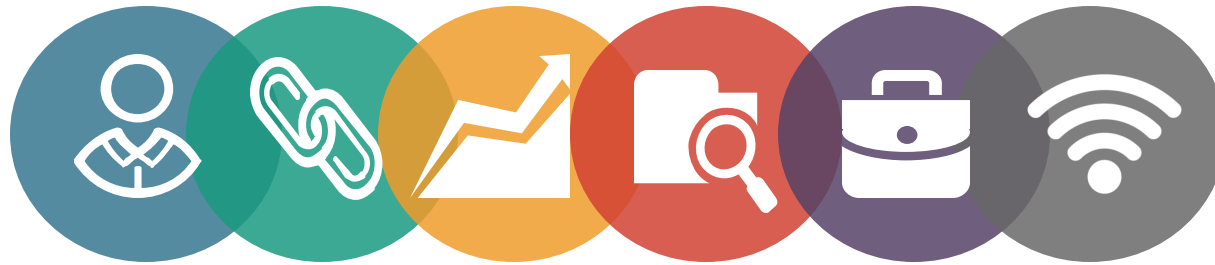
Income Inequality = a + % of Internet Users

5



Income Inequality is **negatively associated** with Internet User

Higher % of internet users →
lower income inequality



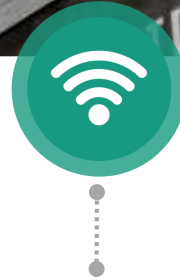
*Due to the presence of
this relationship, we
recommend these policies*

POLICY RECOMMENDATIONS

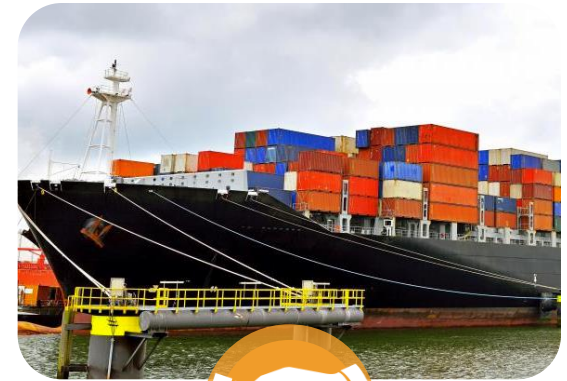
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**Software
Literacy**



**Accessible
Public Wi-Fi**



**Trade
Liberalization**

POLICY RECOMMENDATION 1



**Advancing Software Literacy
Through the Implementation
of Basic Software Education
as part of the Basic Education
Curriculum (BEC)**

Software Literacy

Policy Recommendation 1

9



What is **Software Literacy**?



Lack of **ICT Related Courses**



Rollout for **Technology Related Subjects**

Software Literacy

Policy Recommendation 1

10



Main Takeaways



Catch up with **modernization**



Promote a **knowledge based economy**



Inline with the **ASEAN Economic Blueprint 2025**

POLICY RECOMMENDATION 2



**Making Public Wi-Fi
Accessible through a
Public-Private Partnership
(PPP)**

Accessible Public Wi-Fi

Policy Recommendation 2

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Why **Public-Private Partnerships**?



Increase **infrastructure development**
for ICT initiatives

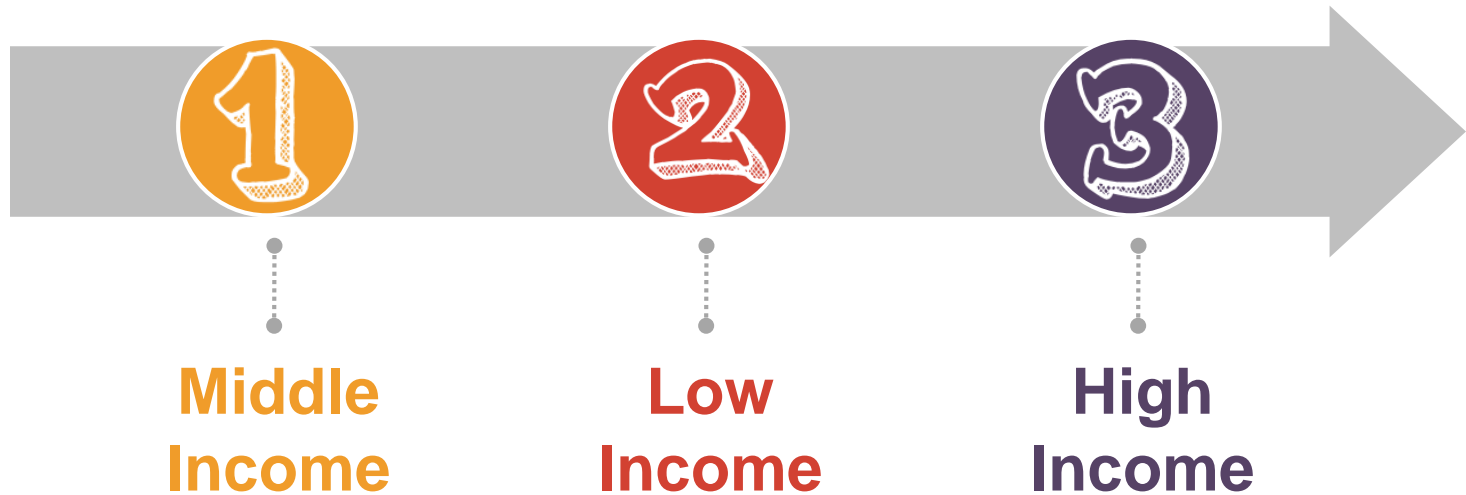
Accessible Public Wi-Fi

Policy Recommendation 2

13



Start Small, Dream Big



Rationale: Take into account the **lag** that is present between the rich and the poor (Greenwood, 2010)

Accessible Public Wi-Fi

Policy Recommendation 2

14



Main Takeaways



Win-win-win situation

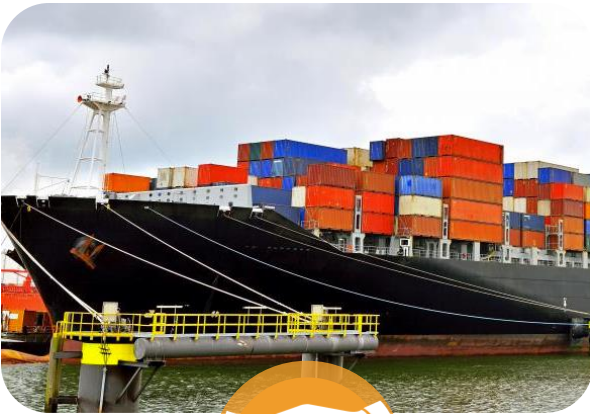


Gradual Rollout: Micro → Macro



Utilize knowledge gained from software literacy programs

POLICY RECOMMENDATION 3



Trade Liberalization through the lowering of technology importations customs tax, trade barriers on technological goods and telecommunications tax

Trade Liberalization

Policy Recommendation 3

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Presence of higher taxes and fees
for technological goods



Unaffordability of technological goods

Trade Liberalization

Policy Recommendation 3

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Main Takeaways



Lower trade barriers → **Lower** technological good prices



Firms → sell at lower prices while maintaining same profit
Consumers → purchase at lower prices



Lessen monopoly power of existing oligopolies and monopolies

CONCLUSION



THANK YOU!

Terima Kasih



Table 1
Definition Independent and Dependent Variables
with their A-priori Expectations

| Independent /Dependent Variable | A-priori Expectation | Definition |
|--|----------------------|--|
| Income Inequality (Dependent) | +/- | <p>Measured in USD, the income inequality presents a picture in how even or uneven wealth in the form of income is distributed in a particular country (Charlton, 2012).</p> <p>This particular variable is measured by the Gini Index and is an index which ranges from 1 to 100. This variable is the dependent variable in the particular model dependent on the other variables presented below.</p> |
| Percentage of the Population with Access to the Internet | - | <p>Measured in percent, this percentage measures the relative percentage of the population able to connect and use the internet over a period of time.</p> <p>This has a negative effect on income inequality due to the increase in productivity associated with adequate access to the internet to execute day to day tasks and other workloads (Greenwood, 2010).</p> |

Econometric Model

$$ineq_i = \beta_0 + \beta_1 intuser_i \quad \text{with } ineq_i, intuser_i \in \mathbb{R}^+$$

| Variable Name | Description and Data Source |
|--|---|
| Income Inequality <small>[SEP]</small> (Dependent Variable) | Measures the difference of groups, populations and countries between the highest income and lowest income Source of Data: World Bank |
| Percentage of Internet Users <small>[SEP]</small> (Independent Variable) | Measures the percentage of the population which are daily internet users Source of Data: Global Finance |

Pooled OLS

Figure 1 Regression Results using Robust Standard Errors (Pooled OLS)

Linear regression

Number of obs = 216
F(1, 214) = 11.51
Prob > F = 0.0008
R-squared = 0.1151
Root MSE = 7.9352

| ineq | Coef. | Robust Std. Err. | t | P> t | [95% Conf. Interval] | |
|-----------|-----------|---------------------|-------|-------|----------------------|-----------|
| lnintuser | -4.631782 | 1.365376 | -3.39 | 0.001 | -7.32309 | -1.940474 |
| _cons | 53.63397 | 5.563833 | 9.64 | 0.000 | 42.66704 | 64.6009 |

Random Effects: GLS

Figure 2 Random Effects GLS Regression

Random-effects GLS regression
 Group variable: **countrynum**

Number of obs = **216**
 Number of groups = **54**

R-sq: within = **0.0281**
 between = **0.1202**
 overall = **0.1151**

Obs per group: min = **4**
 avg = **4.0**
 max = **4**

corr(u_i, X) = **0** (assumed)

Wald chi2(1) = **7.38**
 Prob > chi2 = **0.0066**

| ineq | Coef. | Std. Err. | z | P> z | [95% Conf. Interval] | |
|-----------|------------------|-----------------------------------|--------------|--------------|----------------------|------------------|
| lnintuser | -1.198462 | .4411025 | -2.72 | 0.007 | -2.063007 | -.3339166 |
| _cons | 40.30125 | 2.03309 | 19.82 | 0.000 | 36.31646 | 44.28603 |
| sigma_u | 7.9725172 | | | | | |
| sigma_e | .94876102 | | | | | |
| rho | .98603582 | (fraction of variance due to u_i) | | | | |

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