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

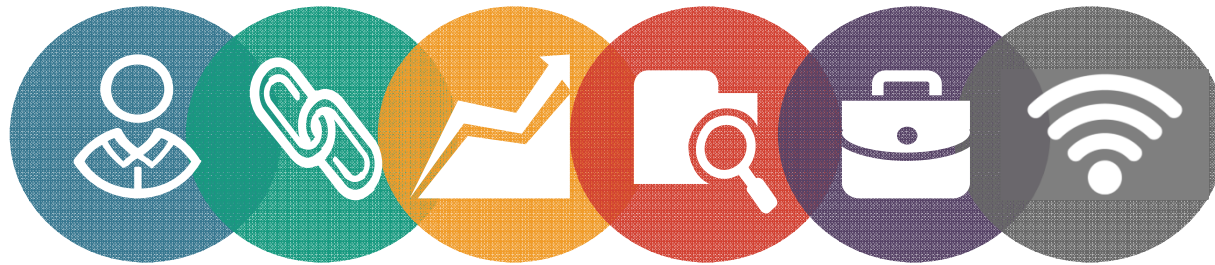Recommend policies in compliance with the ASEAN Economic Blueprint 2025

Income Inequality = a + % of Internet Users

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

Higher % of internet users → lower income inequality

Data Source: GINI Index (World Bank)
Internet User (Global Finance)

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

POLICY RECOMMENDATIONS

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

Software Literacy

Accessible Public Wi-Fi

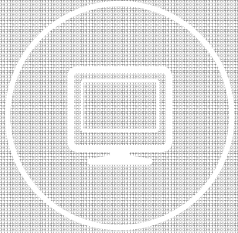## Trade Liberalization

POLICY RECOMMENDATION 1

Advancing Software Literacy Through the Implementation of Basic Software Education as part of the Basic Education Curriculum (BEC)
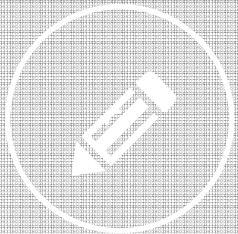
Software Literacy
Policy Recommendation 1

What is Software Literacy?

Lack of ICT Related Courses

Rollout for Technology Related Subjects

Software Literacy
Policy Recommendation 1

Main Takeaways

Catch up with modernization

Promote a knowledge based economy

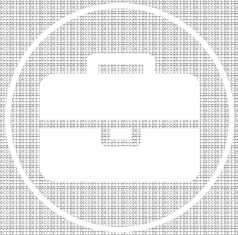Inline with the ASEAN Economic Blueprint 2025

POLICY RECOMMENDATION 2

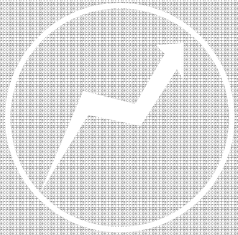**Making Public Wi-Fi Accessible through a Public-Private Partnership (PPP)**

Accessible Public Wi-Fi

Policy Recommendation 2

Why Public-Private Partnerships?

Increase infrastructure development for ICT initiatives

Accessible Public Wi-Fi

Policy Recommendation 2

Start Small, Dream Big

1 — **Middle Income**

2 — **Low Income**

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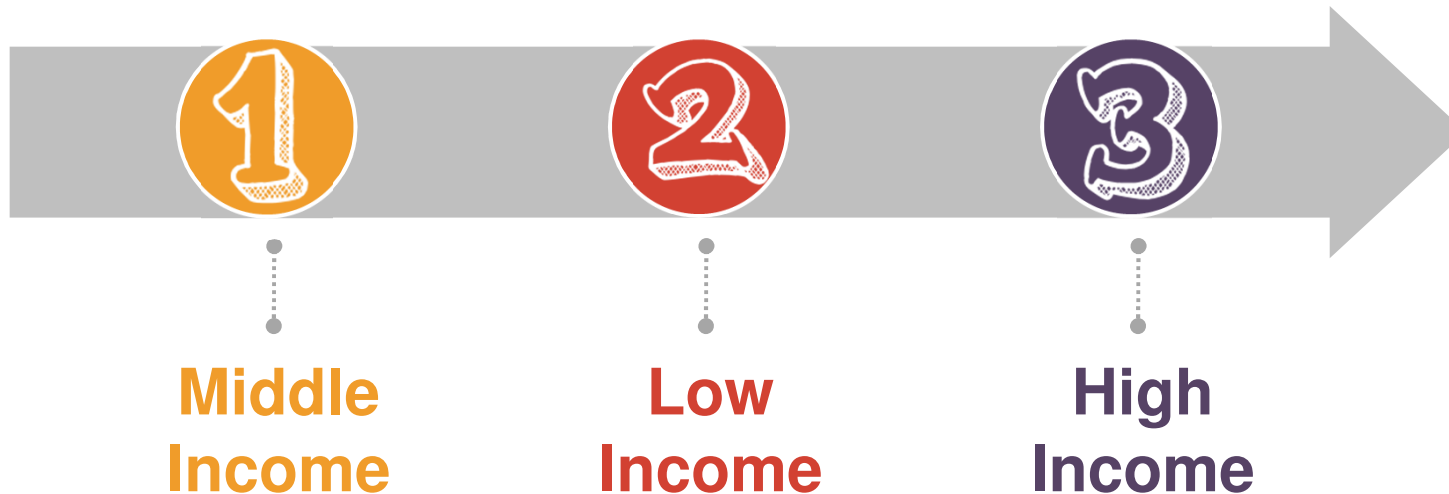
Rationale: Take into account the **lag** that is present between the rich and the poor *(Greenwood, 2010)*

Accessible Public Wi-Fi
Policy Recommendation 2

Main Takeaways

Win-win-win situation

Gradual Rollout: Micro → Macro

Utilize knowledge gained from software literacy programs

POLICY RECOMMENDATION 3

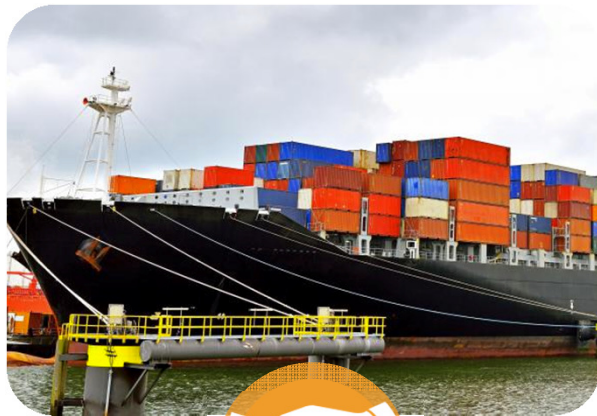**Trade Liberalization through the lowering of technology importations customs tax, trade barriers on technological goods and telecommunications tax**

Trade Liberalization
Policy Recommendation 3
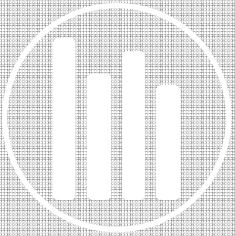
Presence of higher taxes and fees for technological goods
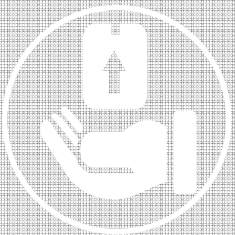
Unaffordability of technological goods

Trade Liberalization
Policy Recommendation 3

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

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

Independent /Dependent Variable	A-priori Expectation	Definition
Income Inequality (Dependent)	+/-	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). 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.
Percentage of the Population with Access to the Internet	-	Measured in percent, this percentage measures the relative percentage of the population able to connect and use the internet over a period of time. 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).

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 Soruce
Income Inequality (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 (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)

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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			Number of obs	=		216
Group variable: **countrynum**			Number of groups	=		54

R-sq: within = 0.0281   Obs per group: min =   4
        between = 0.1202   avg =   4.0
        overall = 0.1151   max =   4

                                          Wald chi2(**1**)   =   7.38
corr(u_i, X)   = 0 (assumed)   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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