

**WTO/ESCAP Third ARNET Capacity Building Workshop
on Trade Research**

**Analysis of the Potential Impact of the AFTA on Lao Economy
- Macroeconomic Model Approach -**

Phouphet KYOPHILAVONG

National University of Laos

Faculty of Economics and Management

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Outlines of presentation

Problem Statements

Literature Reviews, and Research Questions

Objective and Approach

Characteristics of model and model flowchart

Flowchart of Simulation

Simulation Results

Conclusion and Policy Suggestions

Constraints of model

Problems Statements(1)

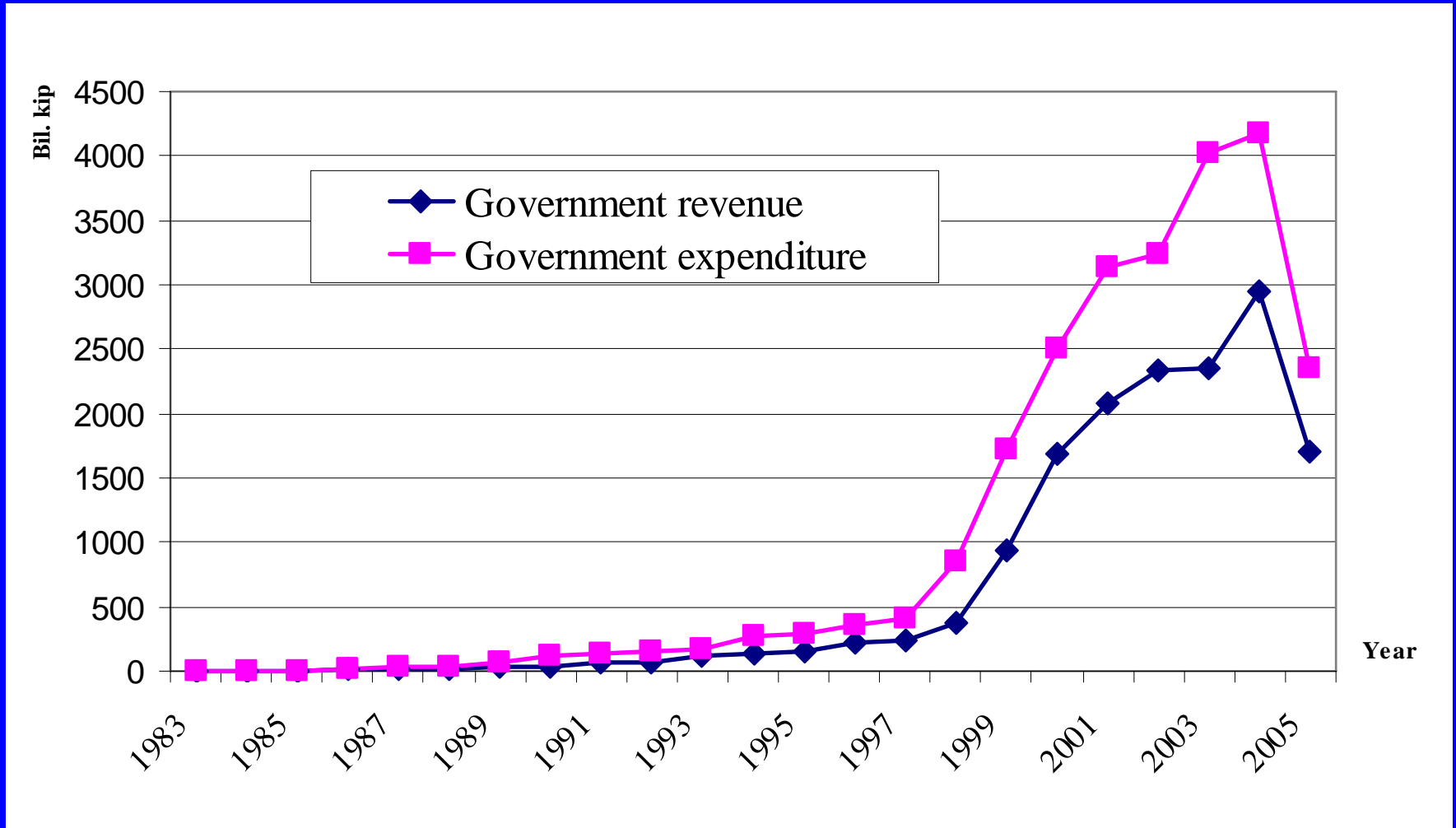
- **Lao PDR participated in ASEAN in July 1997 and joined the AFTA in 1998.**
- **Lao PDR has to reduce its tariffs rate to 0-5% by 2008.**
- **Lao PDR will join the WTO (World Trade Organization) by 2010.**
- **Lao government expects to gain benefit from trade liberalization:**
 - **Increase export, FDI (foreign direct investment)**
 - **Increase economic growth, reduce poverty, etc.**

Problems Statements(2)

- **Macroeconomic instability.**
 - **Trade deficits and budget deficits.**
 - **External debt (high).**
- **Weak financial systems.**
 - **NPLs (Non-Performanced Loans)- high.**
 - **Low financial depth.**
- **Big economic development gap between Laos and other ASEAN members.**
 - **Increase trade deficits and budget deficits.**
 - **Destroy domestic enterprises, etc.**

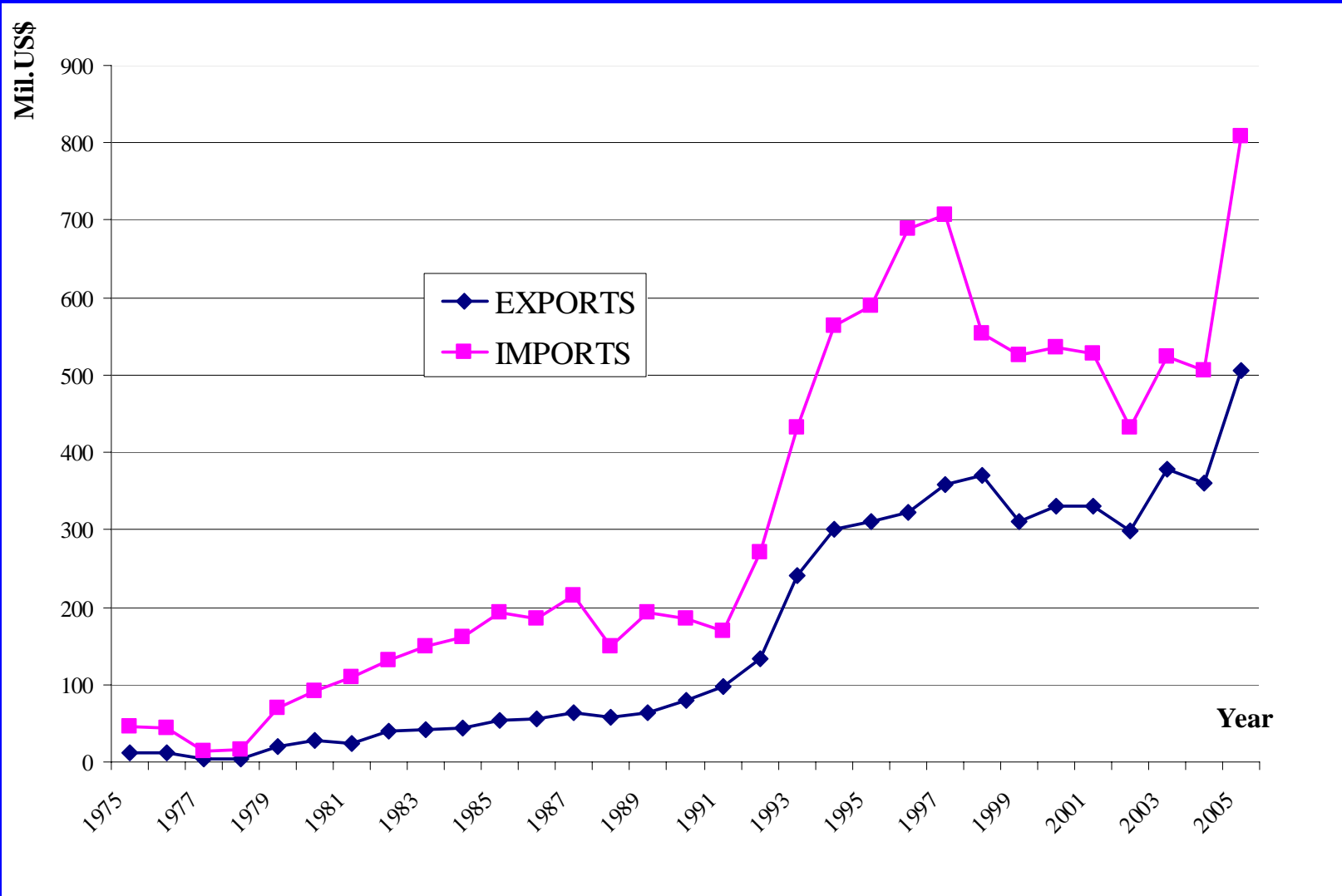
Problems Statements(2)

Budget Deficits



Problems Statements(2)

Trade Deficits



Problems Statements(2)

Government Revenues

	2003	2004	2005
Tax revenue	82.53	85.42	82.80
Profit tax	13.17	10.06	8.12
Income tax	6.61	7.37	6.53
Land tax	0.92	0.87	0.78
Business licences	0.05	0.05	0.05
Minimum tax	1.16	0.38	0.36
Turnover tax	17.21	20.80	21.96
Excise taxes	14.68	16.75	18.11
Import duties	11.85	13.19	13.28
Export duties	2.42	2.69	0.69
Registration fees	0.58	0.63	0.59
Other fees	4.92	4.72	4.78
Natural Resources taxes	0.60	0.90	1.46
Timber royalties	6.25	5.32	4.49
Hydro-power royalties	2.12	1.68	1.60
Nontax revenues	17.47	14.58	17.20
Total	100.00	100.00	100.00

Research Questions

- **Can Laos gain the benefit from joining AFTA ?**
- **How much the impact of AFTA on:**
 - **General price ?**
 - **Trade ?**
 - **Government tax revenues ?**
 - **GDP ?**
- **What is the policy suggestion for gaining more benefit ?**

Literature Reviews

There are few studied of quantitative analysis for the Lao economy.

- Phouphet KYOPHILAVONG (2003) built first Lao macroeconomic model to analyze the impact of monetary/fiscal policy, FDI and AFTA on Lao economy.**
- Fukase and Martin (1999) built a simple CGE model to analyze the economic effect of joining the AFTA.**
- Peter Warr (2004) built a two sectors, multi-household CGE Model to analyze the impact of the hydropower dam (NT2).**

Research Objective

Research Background

Joined ASEAN, AFTA (1998)



Decreasing Tariff to 0~5%



Lack of Research on the effect of AFTA to Lao economy



The effect of AFTA on Lao economy is unclear



Research Objective

Build
Macroeconomic
Model

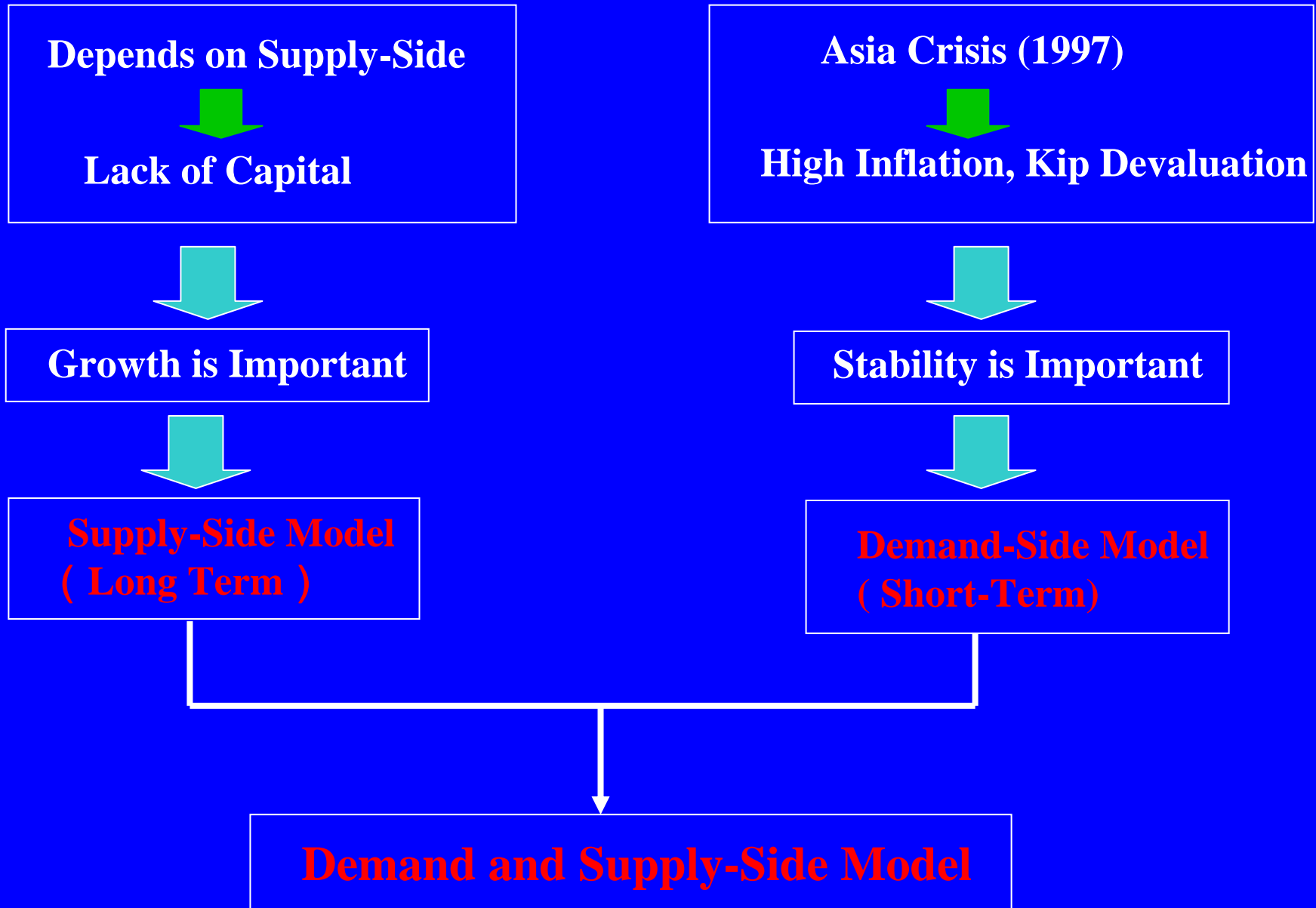


Analyze the potential impact of AFTA



Suggest Economic Policy

Choosing Laos's Model

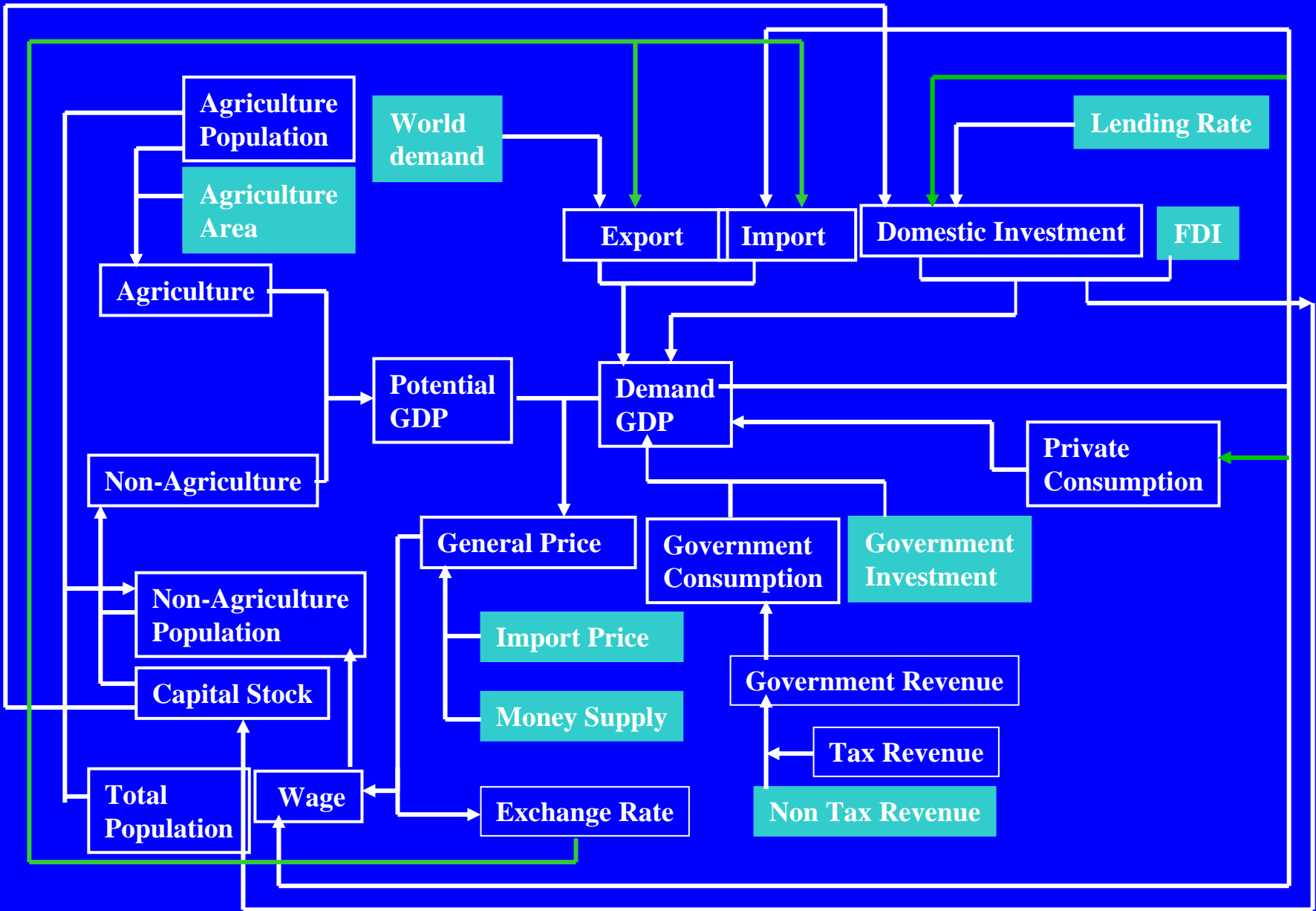


Characteristics of Model

Assumptions

- 1. Structure of the Lao economy likes of capitalism countries.**
- 2. The Lao data system is nearly the same as SNA.**
- 3. This model base on demand and supply side.**
- 4. The supply side GDP is divided into agricultural GDP and non-agricultural GDP.**
- 5. This model consists of 10 structural equations and 15 definitions and statistic equations.**
- 6. Two stages OLS for estimation, used Newton method to solved the model- Using TSP software.**

Model Flowchart



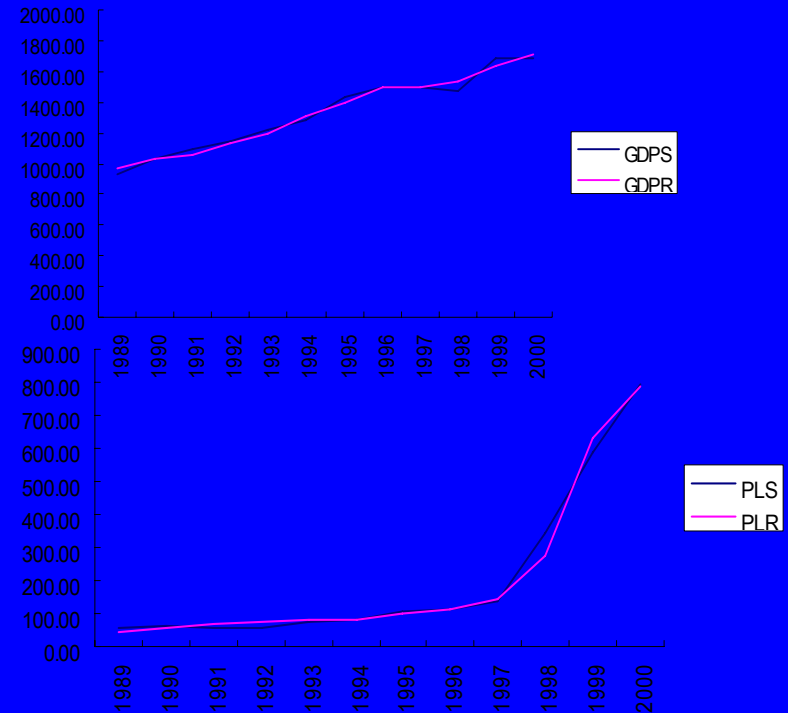
■ Exogenous □ Endogenous

Source: the author

Model Evaluation

Table1 RMSE of Total Test			
Variable	RMSE	Variable	RMSE
GDP	2.47	WAGE	2.19
PL	12.38	LN	0.29
CP	3.60	NP	0.06
CG	8.93	DTAX	16.41
EXT	14.47	ITAX	10.40
EXA	12.50	TAX	5.04
EX	8.71	REV	3.80
IMT	20.05	DI	15.26
IMA	11.83	IG	12.08
IM	10.20	FDI	12.08
GDPP	10.58	I	8.39
GNP	2.50	K	1.56
NI	2.49	GDPNS	0.08
PDI	2.37	GDPS	0.03
GDPAS	0.00		

Fig 1 Real Value and Calculate Value



GDP, Price of RMSE is Low

Real Value and Calculated Value are Similar

This Model Can be Applied to Analyze the Lao Economy

Analysis the Effect of AFTA (assumption)

Joined in ASEAN, AFTA (1998)



Reduce Tariff Rate to 0 ~ 5%



Model does not Include Tariff Rate



Assume Import Price Decreases to 5%



Using Model to Simulate

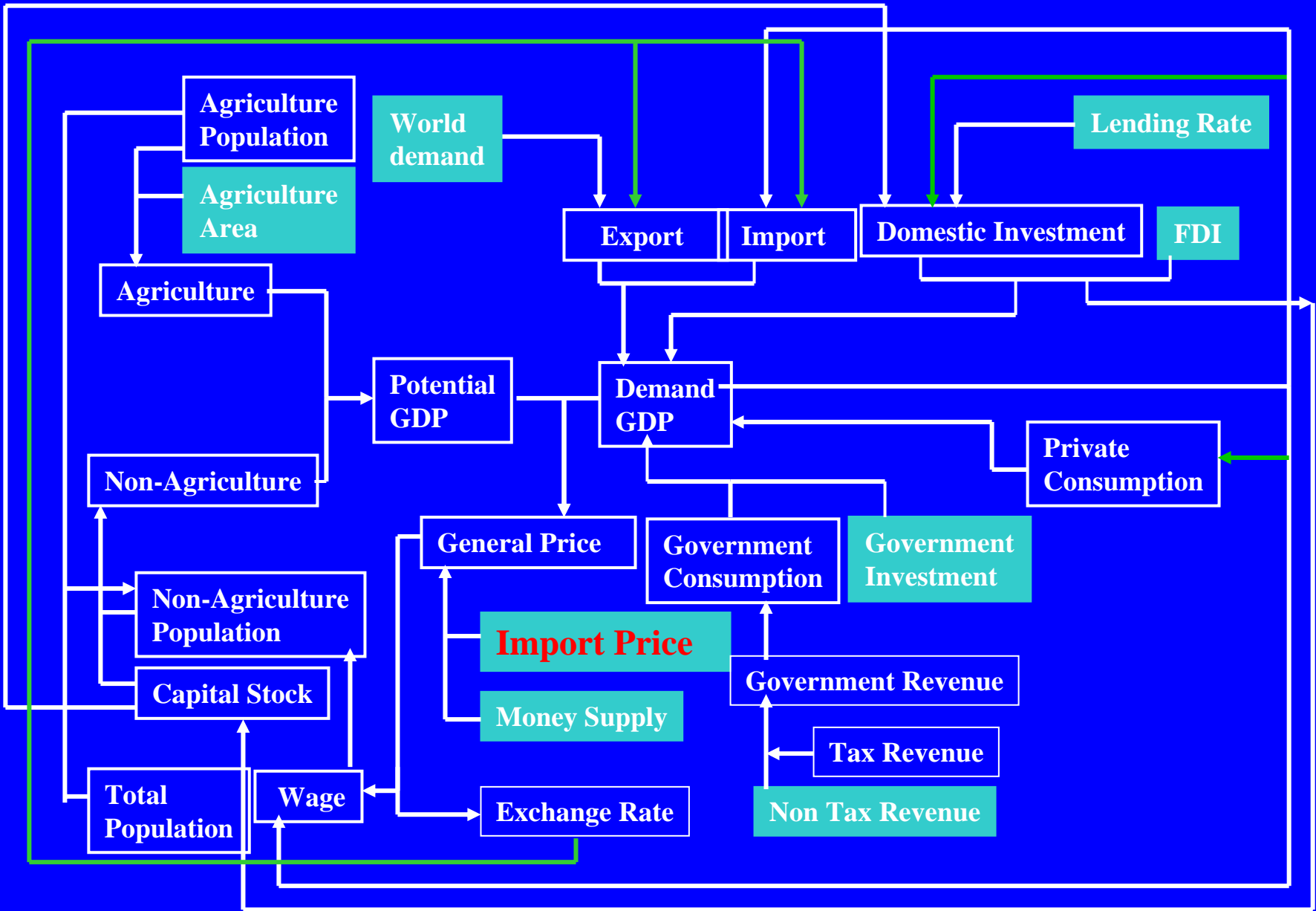


Make Clear the Effect of AFTA on the Lao Economy



Policy Suggestions

Simulation Flowchart



■ Exogenous □ Endogenous

Source: the author

Simulation Result

	(%)		
	Year 1	Year 2	Year 3
CP	0.12	0.19	0.28
EX	-0.06	-0.07	-0.08
GDP	0.14	0.16	0.24
IM	0.38	0.39	0.52
I	0.38	0.30	0.47
PL	-0.51	-0.59	-0.71
WAGE	0.14	0.14	0.21



- **The Effect on Price** → **Decrease**
- **The Effect on Export** → **Low Decrease**
- **The Effect on Import** → **Low Increase**
- **The Effect to GDP** → **Low Increase**

Conclusion

The AFTA will lead to

- **increase import and decrease export.**
- **larger trade and budget deficits.**
- **decrease general price.**
- **increase GDP growth, but small.**



It is difficult to say that Laos will gain substantial benefits from the AFTA. Moreover, the benefit of the AFTA will be negative.

Policy Suggestions

- **Promote and support small and medium enterprises (SMEs) to improve their comparative advantage for increasing exports.**
- **Provide more incentives to increase FDI in the long run for increasing exports.**
- **Reform the domestic tax and collection system to promote greater efficiency.**
- **Solve non-tariff barrier (NTB) in domestic and neighbor Countries.**
- **Solve transport oligopoly that governs transit trade though neighbor countries.**

Constraints of model

1 . Market Economy



- Transitional Economy
- Natural Economy

2 . Data



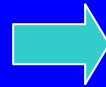
- Lack of Data
- Accuracy is Low

3. ASIA Crisis



- Effect of AFTA is not accurate

4 . Model



- Does not include debt
- Monetary Sector, linking-macro model

Thank You Very Much for Attention

