Macroeconomic modelling and appraisal of alternative economic development policies for Thailand

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MACROECONOMIC MODELLING AND APPRAISAL
OF ALTERNATIVE ECONOMIC DEVELOPMENT POLICIES FOR THAILAND

This thesis is submitted in fulfilment of the requirements for the award of the degree of
Doctor of Philosophy

from

THE UNIVERSITY OF WOLLONGONG

by

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Department of Economics

The University of Wollongong, AUSTRALIA, 1996
AUTHOR'S CERTIFICATION

I certify that the substance of this thesis has not already been submitted for any degree and is not being currently submitted for any other degrees.

I certify that any help received in preparing this thesis, and all sources used have been acknowledged in this thesis.

Bhantinee Sootsukon
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<tr>
<td>AD</td>
<td>Aggregate Demand Schedule</td>
</tr>
<tr>
<td>ADB</td>
<td>Asian Development Bank</td>
</tr>
<tr>
<td>AFTA</td>
<td>Asean Free Trade Area</td>
</tr>
<tr>
<td>AIDS</td>
<td>The Acquired Immune Deficiency Syndrome.</td>
</tr>
<tr>
<td>APEC</td>
<td>The Asian-Pacific Economic Co-operation</td>
</tr>
<tr>
<td>AS</td>
<td>Aggregate Supply Schedule</td>
</tr>
<tr>
<td>ASEAN</td>
<td>Association of South East Asian Nations</td>
</tr>
<tr>
<td>BM</td>
<td>Buiter-Miller Model</td>
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<tr>
<td>BOI</td>
<td>Board of Investment</td>
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<tr>
<td>BOT</td>
<td>Bank of Thailand</td>
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<tr>
<td>BP</td>
<td>Buiter-Purvis Model</td>
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<td>CH</td>
<td>Charles Harvie Model</td>
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<tr>
<td>EEC</td>
<td>European Economic Community</td>
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<td>EV</td>
<td>Eastwood-Venables Model</td>
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<td>FDI</td>
<td>Foreign Direct Investment</td>
</tr>
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<td>FEER</td>
<td>Far Eastern Economic Review</td>
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<tr>
<td>GDP</td>
<td>Gross Domestic Products</td>
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<td>GNP</td>
<td>Gross National Products</td>
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<tr>
<td>HG</td>
<td>Harvie-Gower Model</td>
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<tr>
<td>IFS</td>
<td>International Financial Statistics</td>
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<tr>
<td>IMF</td>
<td>International Monetary Funds</td>
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<tr>
<td>NESDB</td>
<td>The National Economic and Social Development Board of Thailand</td>
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<tr>
<td>NICs</td>
<td>The Newly Industrialising Countries</td>
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<td>NSOT</td>
<td>The National Statistics Office of Thailand</td>
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<tr>
<td>NW</td>
<td>Neary and Wijnbergen Model</td>
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<tr>
<td>OECD</td>
<td>Organization for Economic Co-operation and Development</td>
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<tr>
<td>OPEC</td>
<td>Organization of Petroleum Exporting Countries</td>
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<tr>
<td>TDRI</td>
<td>Thailand Development Research Institute</td>
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<td>VAT</td>
<td>The Value Added Tax</td>
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ABSTRACT

The development of a long run macroeconomic model for analysing the macroeconomic consequences of the oil related shocks for a net-oil importing economy such as Thailand is a major objective in this thesis.

The model enables the identification of the ways in which the oil related shocks have been transmitted their effects to the domestic economy, and will enable the exploration of the future shocks to the Thai economy and the policy implications which flow from them. The oil related shocks emphasised in this thesis are that an increase in the price of oil and an increase in domestic oil requirements.

The model developed contained a number of key assumptions. The domestic economy produces only a non-oil output, which can be consumed domestically and is an imperfect substitute for the imported good equivalent. The price of this good is domestically determined. The deterministic framework of the model combined with economic agents possessing rational expectations, is equivalent to the case of perfect foresight. Financial markets are assumed to be in continual equilibrium, whilst non-financial markets are subject to sticky price and quantity adjustment. In addition the model developed emphasised the long run nature of adjustment process, since the oil related shocks will have a long run effect upon the Thai economy. This arises from allowing for physical capital stock accumulation and developments in the current account balance. Finally, the economy operates under a fixed nominal exchange rate, and the government exercises control over the capital market.

The model developed also provides the identification of alternative, and appropriate, governmental policy in response to the oil related shocks, in order to maintain and improve the long run economic development of the economy. Three major alternative policy options presented in this thesis are as: (1) the adoption of trade liberalisation to improve the trade performance, focusing upon a reduction in trade barriers; (2) the expansionary of public infrastructure capital stock to enhance domestic investment and to alleviate the shortage of infrastructures in Thailand, and (3) the change in nominal exchange rate from a fixed to a flexible, and the deregulation of financial markets.

The simulation results suggest that in both cases of the oil related shocks, more public capital spending can produce beneficial effects upon foreign asset stocks, private capital stock, non-oil output, real income, and domestic private sector real wealth. There is however an adverse impact upon the non-oil trade balance. This is offset by an increase in real income, causing a higher demand for imports, and consequently leading to a deterioration of the trade balance. Whilst either the adoption of a flexible nominal exchange rate and perfect capital mobility and trade liberalisation policy can produce a larger depreciation of the real exchange rate, resulting in a noticeable improvement in the trade balance, stimulating an improvement of demand for non-oil output and real income. There are however a number of losers from such policy options. These are the foreign asset stocks, private capital stock, and domestic private sector real wealth.