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Seyed Komail Tayyebi

University of Wollongong

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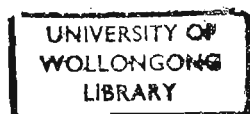
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ECONOMETRIC MODELLING OF IMPORT DEMAND IN DEVELOPING COUNTRIES: THE CASE OF IRAN (1970-1993)



A thesis submitted in fulfilment of the requirements

for the degree of

Doctor of Philosophy

from



University of Wollongong

Department of Economics
New South Wales
Australia

by

Seyed Komail Tayyebi

B.Sc. (Economics, University of Isfahan, Iran)
M.Sc. (International Economics, University of Isfahan, Iran)

March, 1996

DECLARATION

I hereby certify that this thesis has not been submitted previously as part of the requirements of another degree and that it is the result of my own independent research.

Seyed Komail Tayyebi

DEDICATION

TO THE MEMORY OF MY BROTHER
SEYED MOHAMMAD REZA TAYYEBI
(1966-1987)

and

To my Parents, my wife, and my daughters for the devotion and support given during
the research project.

ACKNOWLEDGMENTS

I would like to express my sincere gratitude to Professor Tran Van Hoa, my first supervisor, whose invaluable suggestions and advice helped me direct and focus the research and for his guidance throughout the dissertation process.

Special appreciation is also extended to my second supervisor, Professor Charles Harvie, who patiently encouraged, supervised, and guided me in the process of developing this thesis. I am indebted as his comments and suggestions were invaluable in the writing of this thesis.

I am also appreciative of Professor Rob Castle, Head of Department of Economics University of Wollongong, who provided a considerable number of valuable comments and suggestions on the improvement of the content and presentation of the dissertation.

Many thanks to Professor Don Lewis, the Acting Head of Department of Economics University of Wollongong, and Ms Di Kelly for the friendly working environment they created, to Wolfgang Brodesser who assisted me with computing needs, to Ms. Sophie Abercombie and Ms. Julie Chin who were invaluable in assisting with administrative needs and in the provision of their friendship, and to many of my friends, for moral support throughout my study.

I would like to express my thanks to the Head of Department of Scholarship, the Ministry of Culture and Higher Education of Iran, for giving me the opportunity to do this study and providing me with a scholarship.

The moral support I received from my wife, Sedigheh, and my daughters, Zeinab and Farzaneh, is inexpressible. Their patience and cooperation helped me to complete the thesis on time. It is hard to express in words the encouragement and support I received from my parents, my brother, and my sister, and my other relatives towards the completion of this thesis. They tried to overcome my absence at home for the sake of my career development.

ABSTRACT

The linkage between changes in economic variables, such as relative prices, exchange rates, and income, and import demand has many implications. The major objective of this thesis is to develop and estimate an econometric model explaining such a relationship for a developing country. The thesis contributes significantly to analytical and empirical work on the Iranian economy. It focuses on the behavior of Iranian import demand through estimation of linear econometric models.

Imports are considered at both aggregate and disaggregate levels. The behavior of the Iranian aggregate import demand function is considered within the framework of a macroeconomic model, identifying applicable relationships between the demand for aggregate imports and such economic variables. Disaggregated imports appear in the form of the import composition (consumer goods, intermediate goods, and capital goods imports), various imported commodity groups, and imports by country of origin. The macro-model developed in this thesis as well as three different import models are estimated over the period 1970-1993. The estimation results for all stochastic import equations are mostly obtained by OLS, and other appropriate empirical techniques.

The estimation results indicate that there is a strong negative relationship between import demand and the relative price of imports to domestic goods, but a positive relationship between import demand and an activity variable. The results reveal that Iranian aggregate import demand is relatively inelastic with respect to income and relatively elastic with respect to prices, and this contrasts with results found in the literature for other developing countries. In the case of disaggregated imports, however, the demand for a number of essential imports are inelastic or even insignificant with respect to prices.

The most important results obtained from the estimations provide evidence of an insignificant coefficient for the official exchange rate in the estimated aggregate import demand and many of the disaggregated import demand equations. This is likely to arise from the existence of an important parallel (black) foreign currency market. The empirical results indicate that the parallel market exchange rate premium has a significantly negative effect on Iranian import demand, but a significantly positive effect on import prices. In general, a comparison of the results shows that consumer goods imports are more sensitive with respect to the black market premium than imports of intermediate and capital goods.

A historical simulation of the macro-model as well as an import demand model is performed to test the validity and the fitness of these models as a whole. Several policy experiments are conducted to show the dynamic response of each model to changes in key policy variables. The simulation results, arising from changes in the black market premium and non-oil exports as policy variables, indicate that the elimination, or reduction, of the black market exchange rate premium increases imports substantially, while its price effect is disinflationary. The private sector is significantly influenced by the performance of the parallel market premium policy whereas its effect on the government sector is rather small. Although an increase in non-oil exports, as another policy experiment, increases imports, its price effect is inflationary. Overall, the policy of the elimination of the black market exchange rate premium seems to be more effective than the others, conducted in this study, if the country's major objective is a reduction in prices. But if the country puts more emphasis on the achievement of economic growth, the promotion of non-oil exports policy looks more effective.

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