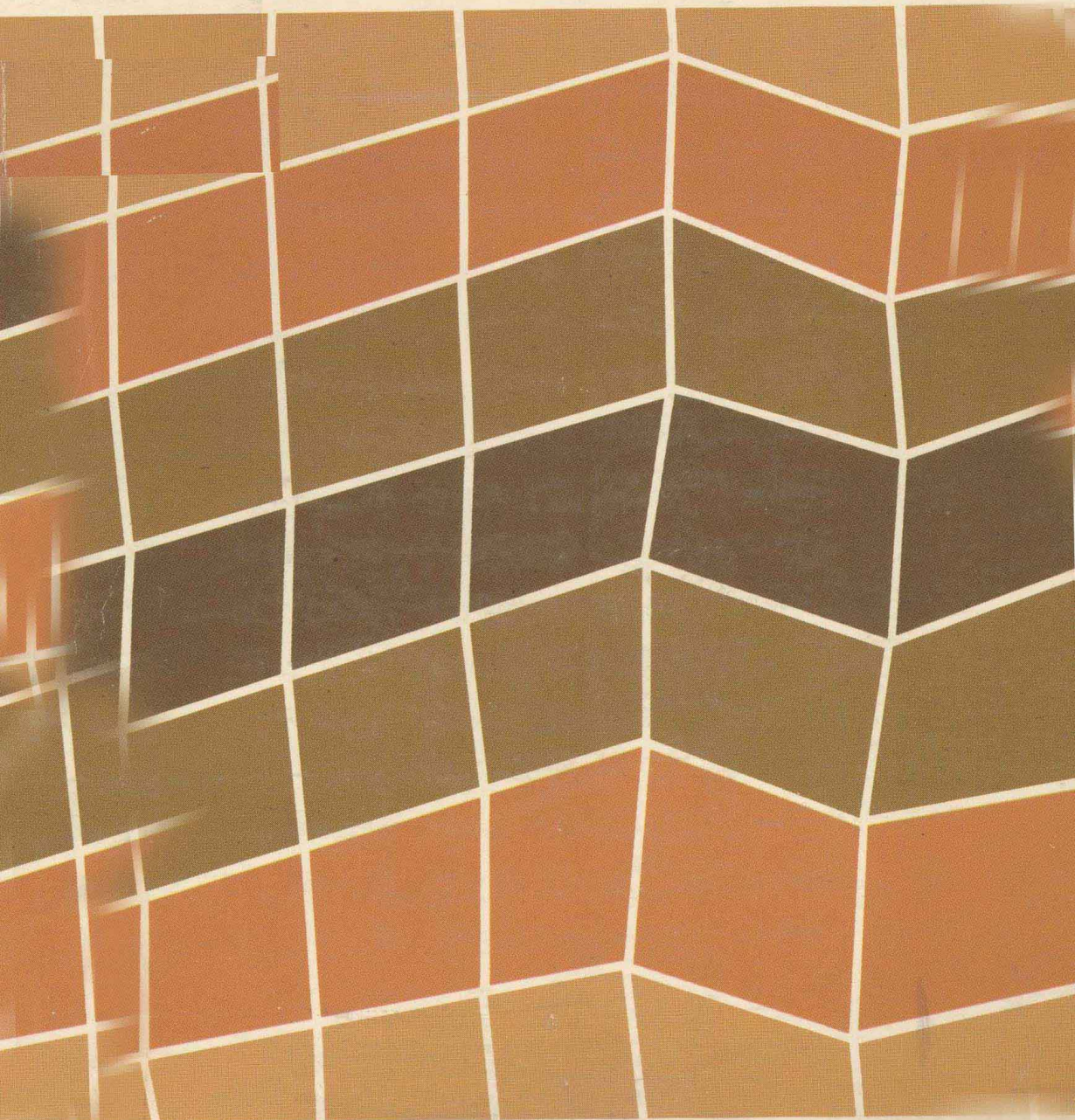


Enzo R. Grilli,  
Barbara Bennett Agostini,  
and Maria J. 't Hooft-Welvaars

# The World Rubber Economy

Structure, Changes, and Prospects



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*Enzo R. Grilli, Barbara Bennett Agostini,  
and Maria J. 't Hooft-Welvaars*

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# **The World Rubber Economy**

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## Foreword

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I would like to explain why the World Bank does research work and why this research is published. We feel an obligation to look beyond the projects that we help finance toward the whole resource allocation of an economy and the effectiveness of the use of those resources. Our major concern, in dealings with member countries, is that all scarce resources—including capital, skilled labor, enterprise, and know-how—should be used to their best advantage. We want to see policies that encourage appropriate increases in the supply of savings, whether domestic or international. Finally, we are required by our Articles, as well as by inclination, to use objective economic criteria in all our judgments.

These are our preoccupations, and these, one way or another, are the subjects of most of our research work. Clearly, they are also the proper concern of anyone who is interested in promoting development, and so we seek to make our research papers widely available. In doing so, we have to take the risk of being misunderstood. Although these studies are published by the Bank, the views expressed and the methods explored should not necessarily be considered to represent the Bank's views or policies. Rather, they are offered as a modest contribution to the great discussion on how to advance the economic development of the underdeveloped world.

ROBERT S. McNAMARA  
*President*  
*The World Bank*

## *Preface*

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This study represents the result of joint research between the World Bank and the United Nations Food and Agriculture Organization (FAO) on the future prospects for natural rubber. It was begun after a seminar at the Bank on the effects of the energy crisis on the competitive position of natural rubber. The authors worked closely throughout the entire period of the research and did field work in all the major rubber producing and consuming countries.

In completing this study the authors received help and advice from a great number of organizations, private individuals, and government officials throughout the world. This study would not have been possible without their direct and generous help, which is here gratefully acknowledged. Thanks are also due to many in the World Bank, FAO, and the Economic and Social Institute of the Free University in Amsterdam (ESI), particularly to Vera Klein, Werner A. Lamade, Charles W. Brookson, Maurizio de Negrìs, Enrico Oppes, and Luciana Cattaneo of FAO; to Shamsheer Singh, Peter Pollak, Pee Teck Yew, Ray Helterline, Gajinder Ahuja, and Stephen Huete of the World Bank; and to Paul J. Vennedal of ESI Amsterdam, who made substantial contributions. Finally, acknowledgements are due to Jean Lombardo and Barbara Thompson for their patience and skills in typing the various drafts of this study.

Virginia deHaven Hitchcock edited the manuscript for publication and coordinated production of the book, Raphael Blow prepared the figures, and Chris Jerome (through the Word Guild) read and corrected proof.

ENZO R. GRILLI  
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MARIA J. 'T HOOFT-WELVAARS

## *Acronyms and Definitions*

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ANRPC, Association of Natural Rubber Producing Countries  
BR, polybutadiene rubber  
c.i.f., cost-insurance-freight  
CR, polychloroprene rubber  
EPM, EPDM, ethylene-propylene rubbers  
FAO, United Nations Food and Agriculture Organization  
FELDA, Federal Land Development Authority (Malaysia)  
f.o.b., freight-on-board  
GDP, gross domestic product  
GNP, gross national product  
IISRP, International Institute of Synthetic Rubber Producers  
IR, polyisoprene rubber  
IRR, butyl rubber  
IRSG, International Rubber Study Group  
MBER, Michigan Bureau of Economic Research  
MITI, Ministry of International Trade and Industry (Japan)  
MRRDB, Malaysian Rubber Research and Development Board  
NBR, nitrile rubber  
NR, natural rubber  
OECD, Office of Economic Cooperation and Development  
OPEC, Organization of Petroleum Exporting Countries  
RRIM, Rubber Research Institute of Malaysia  
SBR, styrene-butadiene rubber  
SIR, Standard Indonesian Rubber (technically specified rubber)  
SMR, Standard Malaysian Rubber (technically specified rubber)  
SR, synthetic rubber  
UNCTAD, United Nations Conference on Trade and Development



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# The World Rubber Economy

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