ACKNOWLEDGMENTS

First, I would like to express my sincere appreciation and gratitude to my advisor Dr. Joel A. Nachlas for the many enjoyable and profitable hours that we spent discussing the bivariate modeling. I am eternally grateful to Dr. Nachlas for doing his best to help me finish this dissertation. I am also indebted to him for his excellent guidance and sound advice in my research, and for his enthusiastic and continuous support and encouragement during the writing of this dissertation and throughout my graduate studies.

I gratefully acknowledge the invaluable advice, help, and encouragement that I received from my committee members. I owe them a debt of gratitude. In particular, I thank Professor Benjamin S. Blanchard for his continuous support and encouragement, and I thank Dr. John E. Kobza for his continuous help and assistance in numerous ways during my studies. I thank Dr. C. Partick Koelling and Dr. Keying Ye for serving on my committee and for offering constructive suggestions and comments, and sound advice.

Finally, I must thank my wife, Catherine Yu-hsia, and my lovely daughter, San, for their constant encouragement, support, help, sacrifice, and love throughout my studies. This dissertation would not have been finished without the blessing of them. I wish to dedicate this work to them. They helped to transform countless hours of depression into strong motivational impulses.