R&D Sector as a Vehicle for Development:  
An Application of an R&D-Based Model on South Korea

A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of  
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by

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DEDICATION

To My Little Daughter, Dalia

and

To My Beloved Parents and Husband

I can never thank you enough
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This thesis attempts to determine whether and to what extent research and development (R&D) has played a significant role in the growth process of South Korea during the period from 1970 to 2004. Empirical investigation has been carried out to evaluate the contribution of R&D, and look for the best model specification explaining South Korea's growth over the same period. Based on our empirical results, evidence showed that human capital was the true vehicle of the Korean growth, rather than its R&D efforts or stock of capital. However, significance has been detected for R&D, represented in the cumulative number of scientists and engineers, over the sub-period from 1980 to 2004, but we could not detect a significant role of R&D towards economic growth in Korea, over the sample period as a whole. In addition, it seems from our theoretical analysis that the government's growth policies in reforming industry, education and institutions, and its dedication to the attainment of its targets substantially contributed to Korea's distinguished record of growth on its path to development.
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