ABSTRACT

In order to develop a theory of endogenous growth in an incomplete market set up, the first step would be to probe into the relation between the asset structure and research and development in the economy. The basic question addressed in this thesis is how the total investment in R&D in an economy relates to the degree of market incompleteness. This question is analyzed using two models. Both these models are two time-period models and use the framework of general equilibrium with incomplete markets.

Research in the first model is defined as an additional sector where investment in the first time period may or may not yield any returns in the next time period. Research here has the properties of non-excludability and non-rivalry. We find that when markets are incomplete there might be positive investment in research sector by risk averse agents who do so to further diversify their portfolio. Investment in the research sector is more, higher the degree of market incompleteness.

In the next model R&D is performed by all sectors and there is excludability. In this model there are agents with two different types of risk preference, risk averse and risk neutral, in contrast to the first model which is populated only by risk averse agents. Here, inspite of the fact that the decision to invest in R&D is taken by the risk neutral agents, we find that degree of market incompleteness affects the amount of investment in the R&D. We show that under certain conditions, if the degree of market incompleteness is high then the proportion of investment in R&D is more than when degree of incompleteness is low.