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***Going for Growth: A Mathematical Economic Perspective***

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In this paper, models of Gross Domestic Product and Employment of two interacting nations are derived. It is a hereditary differential game of pursuit. It utilizes the principles of supply and demand and of rational expectation. A theory of interaction via net export is postulated. The net export function may include trade, debt repayment, etc. International employment can also be included. The UN and IMF data for two nations are used to validate the theory and test for the degree of cooperation and competition. MATLAB and Maple programs are exploited. The consequences of cooperation and competition are studied, and controllability questions answered. Once the system is proved controllable it can be made sufficiently cooperating, and sustained growth of GDP and employment can be guaranteed.