

Topics of State Doctoral Examination valid from January 1st 2013

Economic Theory Economics

Dynamic Models in Economics – Selected Issues

1. Intertemporal Model of Capital Assets Prices: stochastic discount factor, CCAPM, linkages to traditional portfolio selection models, i.e. Sharpe-Lintner-Mossin's and Merton's model
2. Intertemporal Model of Interest Rate: stochastic discount factor, models of term structure of interest rates, effects of changes in interest rate on economic agents behavior
3. Models of Derivative Assets Prices: model of Black and Scholes, model of Cox and Rubinstein, principles of risk-neutral pricing, model of Black, Derman and Toy, model of Ho and Lee
4. Financial Market Effectivity: key concepts, hypotheses testing, financial assets prices and macroeconomic variables within intertemporal models, e.g. MIU and CIA model, „bubbles“ on financial markets
5. Simulation Models: key mathematical and statistical concepts, use of simulation models for modeling capital assets prices and interest rates, use for modeling prices of derivative instruments
6. Intertemporal Models of Economic Growth: model of Cass and Koopmans as intertemporal version of Solow model, Romer's models (1986, 1990) of endogenous growth
7. Dynamic Models of Exchange Rate: traditional parity conditions and hypotheses testing, monetary models, Dornbusch's model of overshooting, exchange rate within Obstfeld and Rogoff's model
8. Dynamic Models of Current Account: traditional income, exchange rate and monetary mechanisms of current account balancing within dynamic context, intertemporal models of current account, effect of productivity shocks on current account
9. Two-Country Dynamic Models: formulation of Obstfeld and Rogoff's Model, steady state analysis, monetary and fiscal policy analysis, effect of productivity shocks, effects of nontradable sector
10. Dynamic Models of Business Cycles: basic RBC model, formulation of new keynesian intertemporal model of inflation targeting for small open economy, monetary and fiscal policy analysis

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In the follow-up to the subject IT_910 Research Methods for Managers

1. Scientific knowledge and scientific thinking: Critical thinking, relativity in scientific work, moral assumptions for scientific work.
2. Approaches to scientific examination: normative and descriptive approach, exploratory and explanatory research, positivism, constructivism, and phenomenology.
3. Research questions and hypotheses: descriptive, explanatory, and prediction questions, investigative pentagram, hypothesis and its policy formulation.

4. Methods of scientific examination: induction, deduction, Kolb's Experiential Learning Cycle, methodological triangulation.
5. Specifics of research in the area of economics and management: basic and applied research, theory, methodology, methods and techniques, deepnesses and tricks of managerial research.
6. Systems approach to scientific examination: system hierarchy, system complexity, system dynamics, system thinking and scientific paradigm.
7. Models and systems modeling: mental and explicit models, mind maps, model bias, validity and reliability of a model.
8. Statistical methods for scientific research: data collection and preparation, hypothesis testing.
9. Ethics of scientific work: compilations and paraphrases, generally known facts, accuracy, usability, consistency and neutrality.
10. Citation standards and systems: ISO 690, Harvard style, citation generators, Zotero, etc.

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