

TOPICS FOR STATE FINAL EXAM

Environmental Economics (JEM115)

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1. Nonrenewable resources

Reserves and resource scarcity. Classify natural resources. Hotelling rule and with extraction costs, new discoveries, backstop technology, user costs, and further extensions of the model.

2. Renewable resource economics

Maximum sustainable yield and profit maximisation problem. Introducing time into problem solution and rule of optimal renewable resource use. What are the consequences of open access to renewable source?

3. Concept of sustainability

Sustainable development vs. sustainability. Sustainability in classic and neoclassic economics (incl. Ramsey, Hotelling, Stiglitz, Dasgupta and Heal, Sollow, Barro and Sala-i-Martin). Normative and positive perspective on sustainability. Main difference between so called weak and (very) strong form of sustainability. Sollow-Hartwick model.

4. Sustainability indicators

Discuss indicators to measure sustainability. Interpret the Hartwick rule. Focus specifically on GS indicator and interpret its positive and negative values.

5. Beyond the GDP

GDP and its critics (incl. defensive expenditures, capital depreciation and depletion, resource rent). Corrections of national account aggregate measures. Family of indicators (except GS).

6. EKC

What is EKC hypothesis? Encounter main factors which can determine the shape of EKC. Theoretical determinants of EKC. Critics.

7. Decomposition analysis

Logic and contrast with EKC testings, pros and cons. Decomposition methods. Interpret applications.

8. Externalities

Define externality; make a clear distinction between technological externality and pecuniary effect, unpriced external relations, spin-off effect and other benefits. Problem solution; when the solution without state intervention may fail?

9. Externality quantification

Logic of so called ExternE method and Impact Pathway Approach. Role of valuation of non-marketed goods. Theoretical underpinnings of non-market valuation.

10. Regulation: Pigouvian concept

Market-based instruments vs. command-and-control? Explain concept of Pigouvian taxation and optimal tax rate. Is zero negative externality economically optimal solution? Pigouvian solution in the case of positive externality. Explain 'static efficiency' and 'dynamic efficiency', briefly discuss how the shape of MAC curve can be in dynamic perspective (Bauman et al. 2008).

11. Regulation: Transferable property rights and policy mix

Logic of this instrument, types of the instruments. Time and scale flexibility of quantity-based instruments (compared them to price-based MBIs). Price-based or quantity based MBI?: Weitzman (1974) view, effectiveness and overall costs of both instrument types. Instruments assessment in brief: environmental effectiveness and price of emission (the economic costs)

12. Regulation: Incidence I

Direct compliance costs; partial equilibrium analysis; GE analysis; double dividend hypothesis (What is the role of so called the revenue-recycling and the tax-interaction effect (tax-interdependence effect)? Effect on employment.

13. Regulation: Incidence II

Price responsiveness of household demand and distributional Aspects of incidence. Rebound effect.

14. Economics of Climate Change

Getting a value of cost of inaction: any market price?, Marginal Abatement Costs, Social Costs of Climate Change. Focus on Social Costs of carbon - which are the main challenges when measuring the SCC by IAMs; reasons for SCC variation across the models (make special focus on equity considerations in the IA models, the role of discounting only in brief [see #15]).

15. Discounting

Role of discounting in assessment of climate change impacts. The consumption and the utility Ramsey discount rate. Exponential or hyperbolic discounting. Different perspectives on discounting with a declining rate.