Energy Economics
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Energy economics is a growing field in economics. The availability of new data sources and the interest of policy makers make this field an interesting topic for research. Moreover, many deep challenges in Iran are routed in energy policies. The country wastes about 20% of its GDP every year for energy subsidies, and at the same time lack any resources to spend for infrastructure, health and education. Additionally, about half of government income is funded by oil revenue in which it seems that the government has no strategic plan for its development. Recently, the dominance of petrochemical industry has changed the shape of manufacturing sectors and political lobbies.

This course is actually empirical energy economics and part of sequences will be presented in the near future. Advanced econometrics methods will be discussed in the course and homework are based on actual data and replication of recent papers in top journals. I advise you to take the course “Industrial Organization” and “Applied Econometrics. You have to referee two job market papers. The Two referee reports are due as indicated in the schedule. Two papers are:


In addition, there will be four homework that you need to hand in them individually by strict deadline. You are also required to submit a research proposal under the topics of energy economics. I suggest you to pick a topic and reading all papers under the topic in the reading list. At the end of class I will ask one student to discuss the reading paper for the class. If you are absent you will miss the grade of the paper, if you are present in the class but not reading the paper beforehand, you will get half mark. The reading paper is marked with ✶. You need to answer these question when I call your name:

- What is the main question of the paper?
- What is the contribution of the paper?
- What method is used in the paper to answer the question?
- What data is employed to answer this question?
- What are findings of the paper?
- If you have any critique of the paper, you are welcome to highlight them at the end of your discussion.

There will be a research proposal that I will discuss during the classes: So, the grading is as follows:
Two referee reports (2 grades)
Four homework (2 grades)
Class presence (2 grades)
One midterm (4 grades)
Final (6 grades)
Research proposal (4 grades)
Syllabus:

Class 1: Hotelling model, 1397/6/26

Class 2: Ordering of extraction, 1397/6/31

Class 3: Drilling economy, 1397/7/2

Class -: Oil Transportation, 1397/7/7

Class 4: Dutch disease, 1397/7/9
Class 5: OPEC, 1397/7/14

Class 6: Oil price, 1397/7/16

Class: Oil upstream contract, 1395/12/10

Class: Expropriation, 1395/12/15
Class 7: Lease auctions, 1397/7/21. Due homework 1


Class 8: Natural Gas, 1397/7/23


Class 9: Electricity Competition, 1397/7/28, Due homework 2

- Iran structure market, lecture note

Class 10: Electricity market, 1397/7/30, Due referee report 1

  - Puller, Steven L. "Pricing and firm conduct in California’s deregulated electricity market." The Review of Economics and Statistics 89.1 (2007): 75-87

Class 11: Electricity supply, 1397/8/5


Class 12: Electricity demand, 1397/8/7


Class 12: Midterm Exam, 1397/8/12

Class 13: Subsidy, 1397/8/14


Class 14: Gasoline supply, 1397/8/19

Class 15: Gasoline demand, 1397/8/21
• Levin, Laurence, Matthew S. Lewis, and Frank A. Wolak. High frequency evidence on the demand for gasoline. Working paper, Ohio State University, 2009
• Rahmati, Tavakoli, Vesal, “What One Hundred Million Transactions Tell Us about Gasoline Elasticity of Demand”, 2018
• Gillingham, Kenneth. "Selection on anticipated driving and the consumer response to changing gasoline prices." Workin Paper, Yale University, School of Forestry & Environmental Studies (2012)

Class 16: Gasoline policy, 1397/8/26, Due homework 3

Class 17: Gasoline price, 1397/8/28

No class on 1397/09/03

Class 18: Efficiency, 1397/09/05, Due referee report 2

Class 19: Pollution and Health, 1397/09/10

Class 20: Emission and market, 1397/09/12

Class 21: Environment, regulation, welfare, 1397/09/17

  Ryan, Stephen P. "The costs of environmental regulation in a concentrated industry." Econometrica 80.3 (2012): 1019-1061

Class 22: Water and regulation, 1397/09/19


Class 23: Water and health, 1397/09/24


Class 24: Agriculture economics, 1397/09/26


Class 25: Agriculture and climate change1397/10/01, Due homework 4


Class 26: Renewable Energy, 1397/10/03

Class -: Solar Electricity
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Class -: R&R and Innovation in Energy Industry
  ❖ Popp, David, Richard Newell and Adam Jaffe, 2010. “Energy, the environment, and technological change,” in Hall, Bronwyn H. and Nathan Rosenberg, eds., Handbook of the Economics of Innovation, North Holland,

Class 27: Nuclear Energy, 1397/10/08
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Research proposal due date is 1397/10/30