

# Syllabus

## Topics in Microeconomics

### 2023-2024

#### Learning outcomes

This course is designed to provide a coherent development of some important topics in microeconomic analysis at the graduate level, and provide the basic tools and concepts required to understand scientific papers at the research frontier. The course also aims at developing students' analytical and research skills, as well as improving written communication skills.

#### Module 1. Two-sided Matching

**Instructor: Joana Pais**

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In some markets, prices do not adjust or cannot be used to allocate resources. Consider the limitations imposed on schools and universities regarding tuition fee adjustments, the static nature of public high school teacher salaries irrespective of labor demand and supply, and the ethical prohibition against monetary payments for human organ transplants. Nonetheless, in these instances, as well as many others, resource allocation remains imperative. In this module, we delve into "two-sided matching," a class of models pioneered by Gale and Shapley (1962).

The background reference for this module is:

Roth, Alvin E. and Sotomayor, M. Two-Sided Matching: A Study in Game-Theoretic Modeling and Analysis, volume 18 of Econometric Society Monographs. Cambridge University Press, 1990 [RS].

A light overview of the field is:

Royal Swedish Academy of Sciences. Scientific background: Stable allocations and the practice of market design, 2012.

Specific references per lecture are below. Those marked with (\*) are recommended readings, the remaining are suggested readings.

#### Lecture 1 - One-to-one matching: The marriage model.

Stable matchings: The formal cooperative model. Stable matchings. The deferred-acceptance algorithm. Some properties of stable matchings. The structure of the set of stable matchings: The core of a game. Lattices and the structure of the set of stable matchings.

- \*RS, Chapters 1 and 2, and Chapter 3.1.
- Gura, Ein-Ya and Maschler, Michael, Insights into Game Theory: An Alternative Mathematical Experience, Cambridge University Press, 2008. [Introductory level]
- Gale, David and Shapley, Lloyd S. (1962). College admissions and the stability of marriage. American Mathematical Monthly, 69:9–15.
- Roth, Alvin E. (2008). Deferred acceptance algorithms: History, theory, practice, and open questions. International Journal of Game Theory, 36:537–569.
- Kominers, Scott, Teytelboym, A. and Crawford, V. (2017). An invitation to market design. Oxford Review of Economic Policy, Oxford University Press, 33: 541-571.

#### Lecture 2 - One-to-one matching: The marriage model (contd.).

Strategic questions: Dominant strategies. An impossibility result. The Gale and Shapley mechanism. The incentives facing the proposing side and the receiving side. Strategic equilibrium characterization.

- \*RS, Chapter 4
- Parag A. Pathak and Tayfun Sonmez (2008). Leveling the playing field: Sincere and sophisticated players in the Boston mechanism. *American Economic Review*, 98:1636–1652.

### **Lecture 3 - Many-to-one matching: The college admissions model.**

The formal model. Preferences over matchings. Connections with the marriage model. School choice.

- \*RS, Chapter 5
- Roth, Alvin E. (1984). The evolution of the labor market for medical interns and residents: A case study in game theory. *Journal of Political Economy*, 92:991–1016.
- Chen, Yan and Kesten, Onur (2019). Chinese college admissions and school choice reforms: Theory and experiments. *Games and Economic Behaviour* 115:83-100.
- Balinski, Michel and Sonmez, Tayfun (1999). A tale of two mechanisms: Student placement. *Journal of Economic Theory*, 84:73–94.
- Abdulkadiroglu, Atila and Sonmez, Tayfun (2003). School choice: A mechanism design approach. *American Economic Review*, 93:729–747.

### **Lecture 4 – Experiments in two-sided matching markets.**

- Chen, Yan and Sonmez, Tayfun (2006). School choice: An experimental Study. *Journal of Economic Theory* 127:202-231.
- Pais, Joana and Pintér, Ágnes (2008). School choice and information: An experimental Study. *Games and Economic Behaviour* 64: 303-328.
- Roth, Alvin E. (2002). The economist as engineer: Game theory, experimentation, and computation as tools for design economics. *Econometrica*, 70:1341–1378.
- Sonmez, T. and Unver, U (2009). Matching, allocation, and exchange of discrete resources. *Handbook of Social Economics*, 1:781–852.
- Hakimov, R. and Kubler, D., (2019). Experiments on matching markets: A survey. WZB Discussion Paper.

## **Module 2. Health Economics, an introduction.**

**Instructor: Aida Isabel Tavares**

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### **Contents and references**

#### **General topics on health economic: particularities of health economics and health systems.**

Unlike traditional economics, health economics grapples with the intricacies of healthcare delivery, including the role of government intervention, market failures, and the complex nature of healthcare as both a commodity and a public good. Moreover, health economics deals with asymmetric information and ethical considerations, as decisions regarding resource allocation directly impact individuals' health and well-being.

Health economics and health systems in Europe exhibit specific characteristics shaped by diverse political, economic, and social factors. One prominent feature is the presence of universal healthcare systems in many European countries, where access to healthcare services is guaranteed to all citizens regardless of their ability to pay. This commitment to universal coverage reflects a strong emphasis on equity and social solidarity, ensuring that healthcare services are accessible to everyone.

European health economics often intersects with broader debates around social welfare and public policy. Governments play a significant role in financing and regulating healthcare provision, with public spending accounting for a substantial portion of total healthcare expenditure in many European countries. Additionally, European health systems are characterized by a mix of public and

private sector involvement, varying across countries. While most European nations uphold the principle of universal coverage through publicly funded healthcare systems, some countries incorporate elements of private insurance or healthcare provision alongside the public sector. These differences in the degree of public-private involvement contribute to variations in healthcare access, quality, and efficiency across Europe, highlighting the complexity of health system governance.

-Fuchs 1996. What every philosopher should now about Health Economics. *Proceedings of the American Philosophical Society* 140(2).

-Mushkin 1958. Toward a definition of health economics. *Public Health Rep* (1896). 1958 Sep;73(9):785-93.

-Williams 1987. Health Economics: the cheerful face of the dismal science? In *Health and Economics*.

-Zweifel P. (2022). Health economics explained through six questions and answers. *Economic Affairs*.

-Zwack CC, Haghani M, de Bekker-Grob EW (2024). Research trends in contemporary health economics: A scientometric analysis on collective content of specialty journals. *Health Economics Review*, 14.

### **Demand for health and health care.**

The demand for health encompasses various factors, including lifestyle choices, preventive measures, and access to healthcare resources. Individuals may invest in activities such as exercise, proper nutrition, and regular medical check-ups to maintain or improve their health status, reflecting a demand for both current and future well-being. On the other hand, the demand for healthcare services is influenced by factors such as income, education, age, and health insurance coverage. Higher income individuals may have greater financial resources to access healthcare services, while those with lower incomes may face barriers due to cost concerns. Education levels also play a role, with more educated individuals often exhibiting greater awareness of health issues and seeking preventive care. Age is another significant determinant of healthcare demand, as older individuals typically require more medical attention due to age-related health conditions. Additionally, health insurance coverage can significantly impact healthcare utilization patterns, with insured individuals more likely to seek medical care compared to those without coverage. Finally, cultural and social factors also influence healthcare demand, as attitudes towards health, illness, and treatment vary across populations.

-Grossman, Michael. On the Concept of Health Capital and the Demand for Health. *Journal of Political Economy* 80 (1972): 223-255

-Dahlgren G, Whitehead M. 1991. *Policies and Strategies to Promote Social Equity in Health*. Stockholm, Sweden: Institute for Futures Studies.

-Andersen RM. (2008). National health surveys and the behavioral model of health services use. *Med Care*, 46(7):647–53

### **Demand for (private vs public) health insurance.**

In health care markets, asymmetric information, adverse selection, and moral hazard play central roles, raising difficulties to allocate resource efficiently resource allocation. Adverse selection and moral hazard alter the market conditions and agent's behavior. Insurance companies wish to minimize claims will cream the market for best clients. People when insured bear a smaller share of medical costs and so they may be inclined to consume more healthcare services, leading to increased expenditures.

The demand for health insurance is influenced by various factors, including individual preferences, economic considerations, and government policies. Health insurance may be public or private and it may be compulsory or voluntary. Private health insurance may offer individuals greater choice, quality, and flexibility in selecting healthcare providers and services, often with shorter waiting times for treatments. However, the affordability of private insurance premiums can be a significant barrier for many individuals, particularly those with lower incomes or pre-existing health conditions. Public or compulsory insurance programs typically operate on a principle of solidarity, where healthier

individuals subsidize the healthcare costs of sicker or more vulnerable populations through taxes or premiums. This redistributive approach promotes social equity and helps mitigate the financial burden of healthcare expenses for disadvantaged groups.

-Arrow K (1963) Uncertainty and the welfare economics of medical care. *American Economic Review* 54(5): 941-973.

-Einav L and Finkelstein A (2011) Selection in insurance markets: theory and empirics in pictures. *Journal of Economic Perspectives* 25(1):115-38

-Rothschild M and Stiglitz (1976) Equilibrium in competitive insurance markets. *Quarterly Journal of Economics* 90(4): 629-49.

#### **Background reference:**

Bhattacharya, Jay, Timothy Hyde, Peter Tu. *Health Economics*. Houndmills, Basingstoke, Hampshire; New York, NY: Palgrave Macmillan, 2014.

### **Module 3. Topics in International Economics**

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International Trade – and Globalization – is a fascinating area which is constantly evolving and has implications for economic policy and people's living standards. Brexit, the tariff war between the United States and China, and the Covid-19 pandemic are recent examples of how international economic integration affects economies. This module will focus on introducing selected topics in international trade, which are active areas of research, and provide students with insights on the theories and empirics of international trade. It will aim to develop critical understanding of cutting-edge research and the current policy debate in international trade and investment.

The readings for this module consist of recent and/or landmark research papers.

References marked with (\*) are recommended readings, the remaining are suggested readings.

#### **Lecture 1 - Firm heterogeneity in trade and gravity model of trade.**

- \*Anderson, J. and E. van Wincoop. (2003) "Gravity with Gravitas: A Solution to the Border Puzzle." *American Economic Review* 93, 170-192.
- \*Bernard, A., Eaton, J., Jensen, B. and S. Kortum (2003). "Plants and Productivity in International Trade." *American Economic Review* 93(4), 1268-90.
- \*Bernard, A., Jensen, B., Redding, S. and P. Schott (2007). "Firms in International Trade." *Journal of Economic Perspectives*, 21, 105-130.
- Fernandes, A. and H. Tang (2014). "Learning to Export from Neighbors." *Journal of International Economics*, 94(1), 67-84.
- Fernandes, A. and L. A. Winters (2021). "Exporters and Shocks: The Impact of the Brexit Vote Shock on Bilateral Exports to the UK." *Journal of International Economics*, 131, 103489.
- \*Melitz, M. (2003). "The Impact of Trade on Intra-Industry Reallocations and Aggregate Industry Productivity." *Econometrica* 71(6), 1695-725.
- Melitz, M. and G. Ottaviano (2008). "Market Size, Trade and Productivity." *Review of Economic Studies* 75(1), 295-316.

#### **Lecture 2 - Trade, FDI, and financial frictions.**

- \*Antras, P., Desai, M. and F. Foley (2009). "Multinational Firms, FDI Flows and Imperfect Capital Markets." *Quarterly Journal of Economics* 124, 1171-219.
- Fernandes, A. and J.-L. Duanmu (2023). "Foreign Banks and Firms' Export Dynamics: Evidence from China's Banking Reform." Mimeo.

- \*Foley, F. and K. Manova (2015). "International Trade, Multinational Activity, and Corporate Finance." *Annual Review of Economics* 7, 119-46.
- \*Manova, K. (2013). "Credit Constraints, Heterogeneous Firms and International Trade." *Review of Economic Studies* 80, 711-44.
- \*Manova, K., Wei, S.-J. and Z. Zhang (2015). "Firm Exports and Multinational Activity under Credit Constraints." *Review of Economics and Statistics* 97, 574-88.

### **Lecture 3 - Global value chains and production networks.**

- \*Antras, Pol, and Davin Chor (2022). "Global Value Chains." *Handbook of International Economics*. Vol. 5. Elsevier.
- Antras, P., Fadeev, E., Fort, T., and F. Tintelnot (2023). "Exporting, Global Sourcing, and Multinational Activity: Theory and Evidence from the United States." forthcoming, *Review of Economics and Statistics*.
- \*Bernard, A. and A. Moxnes (2018). "Networks and Trade." *Annual Review of Economics* 10, 65-85.
- \*Bernard, A., Dhyne, E., Magerman, G., Manova, K. and A. Moxnes (2022). "The Origins of Firm Heterogeneity: A Production Network Approach." *Journal of Political Economy* 130: 1765-1804.
- Fernandes, A. and H. Tang, (2012). "Determinants of Vertical Integration in Export Processing: Theory and Evidence from China." *Journal of Development Economics*, 99(2), 396-414.
- Huang, H., Manova, K., Perello, O. and F. Pisch (2022). "Firm Heterogeneity and Imperfect Competition in Global Production Networks." Mimeo.

### **Lecture 4 - Trade and labour markets.**

- \*Autor, D. H., Dorn, D. and Hanson, G. H. (2013). "The China Syndrome: Local Labor Market Impacts of Import Competition in the United States." *American Economic Review* 103(6), 2121-2168.
- \*Autor, D., Dorn, D. and Hanson, G. (2016). "The China Shock: Learning about Labor Market Adjustment to Large Changes in Trade." *Annual Review of Economics* 8, 205-240.
- \*Dix-Carneiro, Rafael, and Brian K. Kovak (2017). "Trade Liberalization and Regional Dynamics." *American Economic Review* 107: 2908-46.
- Dix-Carneiro, Rafael, Pinelopi K. Goldberg, Costas Meghir, and Gabriel Ulyssea (2021). "Trade and Informality in the Presence of Labor Market Frictions and Regulations." NBER Working Paper 28391.