



Course and Examination Fact Sheet: Spring Semester 2022

10,360: Aggregate Implications of Firm Heterogeneity

ECTS credits: 4

Overview examination/s

(binding regulations see below)

Decentral - examination paper written at home (individual) (50%)

Examination time: term time

Decentral - Presentation (individual) (50%)

Examination time: term time

Attached courses

Timetable -- Language -- Lecturer

[10,360,1.00 Aggregate Implications of Firm Heterogeneity](#) -- Englisch -- [Boppart Timo](#)

Course information

Course prerequisites

Students should be enrolled in the PhD program or at least have completed their undergraduate studies (with the possible exception of writing a MA thesis). Having done a core first year PhD program in Gerzensee or similar is an asset but not required.

Learning objectives

The course is targeted towards students that plan to write a PhD thesis in macroeconomics generally defined or in microeconomics as well as finance with an interest in heterogeneity on the production side (firm heterogeneity).

The goals of the course are fourfold:

- (i) Getting a good knowledge about the core theoretical tools that allow to discuss firm heterogeneity in macro models.
- (ii) Getting to know the key stylized facts on firm heterogeneity and how theoretical concepts like TFPR, TFPQ, allocative efficiency, markups are quantified in the data.
- (iii) Practicing the reading and discussion of recent macro papers, including writing a referee report style discussion of it.
- (iv) Getting to know each other and what all the people in the group are working on

Course content

Modern macroeconomics is taking heterogeneity very seriously both on the producer as well as on the consumer side. This course focuses on the producer side, i.e., deviation from the representative firm assumption. We first study core frameworks of firm heterogeneity (Hopenhayn, Melitz, etc.). Second we discuss various concepts like TFPR, TFPQ, allocative efficiency, markups and how they are measured in the data. Third, we study application of firm heterogeneity in the modern macroeconomic in the long and short run (i.e., in growth and business cycle contexts). To this end we study recent papers in the literature that study among other things: input-output linkages across firms, misallocation, firm dynamics, nominal price adjustment, market power, frictional investment decisions, etc. and the consequences thereof at the aggregate level.

Course structure and indications of the learning and teaching design

The first part of the course consists of lectures about the theoretical and empirical literature of firm heterogeneity.

A second part features a discussion of the research interests of all the participants.



A third part consists of student presentations of referee report like discussion of selected papers. The papers can be selected from the second list below under "Literature" beginning of March.

Course literature

The main readings are:

- Foster, Lucia, John Haltiwanger, and Chad Syverson. "Reallocation, firm turnover, and efficiency: Selection on productivity or profitability?" *American Economic Review* 98.1 (2008): 394-425.
- Hopenhayn, Hugo A. "Entry, exit, and firm dynamics in long run equilibrium." *Econometrica: Journal of the Econometric Society* (1992): 1127--1150. \item[\$\star\$] Hopenhayn, Hugo, and Richard Rogerson. "Job turnover and policy evaluation: A general equilibrium analysis." *Journal of political Economy* 101.5 (1993): 915--938.
- Hsieh, Chang-Tai, and Peter J. Klenow. "Misallocation and manufacturing TFP in China and India." *The Quarterly journal of economics* 124.4 (2009): 1403--1448.
- Melitz, Marc J. "The impact of trade on intra-industry reallocations and aggregate industry productivity." *econometrica* 71.6 (2003): 1695--1725.

In addition the course literature consists of a longer reading list with recent papers in this area. The reading list is given by:

- Aghion, Philippe, Antonin Bergeaud, Timo Boppart, Peter J. Klenow, and Huiyu Li. "A theory of falling growth and rising rents." No. w26448. National Bureau of Economic Research, 2019.
- Atkin, David, Benjamin Faber, and Marco Gonzalez-Navarro. "Retail globalization and household welfare: Evidence from Mexico." *Journal of Political Economy* 126.1 (2018): 1--73.
- Autor, David, David Dorn, Lawrence F. Katz, Christina Patterson, and John Van Reenen. "The fall of the labor share and the rise of superstar firms." *The Quarterly Journal of Economics* 135, no. 2 (2020): 645--709.
- Baqaee, David Rezza, and Emmanuel Farhi. "Productivity and misallocation in general equilibrium." *The Quarterly Journal of Economics* 135.1 (2020): 105--163.
- Baqaee, David, and Emmanuel Farhi. "The darwinian returns to scale." No. w27139. National Bureau of Economic Research, 2020.
- Davis, Steven J., and John Haltiwanger. "Gross job creation, gross job destruction, and employment reallocation." *The Quarterly Journal of Economics* 107.3 (1992): 819--863
- De Loecker, Jan, Jan Eeckhout, and Gabriel Unger. "The rise of market power and the macroeconomic implications." *The Quarterly Journal of Economics* 135, no. 2 (2020): 561--644.
- Decker, Ryan, et al. "The role of entrepreneurship in US job creation and economic dynamism." *Journal of Economic Perspectives* 28.3 (2014): 3--24.
- Edmond, Chris, Virgiliu Midrigan, and Daniel Yi Xu. How costly are markups?. No. w24800. National Bureau of Economic Research, 2018.
- Gilchrist, Simon, et al. "Inflation dynamics during the financial crisis." *American Economic Review* 107.3 (2017): 785--823.
- Haltiwanger, John, Ron S. Jarmin, and Javier Miranda. "Who creates jobs? Small versus large versus young." *Review of Economics and Statistics* 95.2 (2013): 347--361.
- Hsieh, Chang-Tai, et al. "The allocation of talent and us economic growth." *Econometrica* 87.5 (2019): 1439-1474.
- Hsieh, Chang-Tai, and Peter J. Klenow. "The life cycle of plants in India and Mexico." *The Quarterly Journal of Economics* 129.3 (2014): 1035--1084.
- Kehrig, Matthias, and Nicolas Vincent. "The micro-level anatomy of the labor share decline." *The Quarterly Journal of Economics* 136, no. 2 (2021): 1031--1087.
- Kehrig, Matthias, and Nicolas Vincent. Good dispersion, bad dispersion. No. w25923. National Bureau of Economic Research, 2019.
- Restuccia, Diego, and Richard Rogerson. "Policy distortions and aggregate productivity with heterogeneous establishments." *Review of Economic dynamics* 11, no. 4 (2008): 707--720.

Additional course information

In the case of the President's Board having to implement new directives due to the SARS-CoV-2 pandemic in SpS2022, the course information listed above will be changed as follows:

- The course is conducted online via the platform Zoom;
- The recordings of the course will not be saved;
- The lecturer informs via StudyNet on the changed implementation modalities of the course-

The examination information listed below would be changed as follows:



- The presentation are conducted online on Zoom.
- There are no other changes necessary to the examination information.

Examination information

Examination sub part/s

1. Examination sub part (1/2)

Examination time and form

Decentral - examination paper written at home (individual) (50%)

Examination time: term time

Remark

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Examination-aid rule

Term papers

Written work must be written without outside help according to the known citation standards, and a declaration of authorship must be attached, which is available as a template on the StudentWeb.

Documentation (quotations, bibliography, etc.) must be carried out universally and consistently according to the requirements of the chosen/specified citation standard such as e.g. APA or MLA.

The legal standard is recommended for legal work (cf. by way of example: FORSTMOSER, P., OGOREK R., SCHINDLER B., Juristisches Arbeiten: Eine Anleitung für Studierende (the latest edition in each case), or according to the recommendations of the Law School).

The reference sources of information (paraphrases, quotations, etc.) that has been taken over literally or in the sense of the original text must be integrated into the text in accordance with the requirements of the citation standard used. Informative and bibliographical notes must be included as footnotes (recommendations and standards e.g. in METZGER, C., Lern- und Arbeitsstrategien (latest edition)).

For all written work at the University of St.Gallen, the indication of page numbers is mandatory, regardless of the standard chosen. Where page numbers are missing in sources, the precise designation must be made differently: chapter or section title, section number, article, etc.

Supplementary aids

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Examination languages

Question language: English

Answer language: English

2. Examination sub part (2/2)

Examination time and form

Decentral - Presentation (individual) (50%)

Examination time: term time

Remark

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Examination-aid rule

Presentations

In presentations, aids for visual presentation can be used. These aids can be specified or restricted by the lecturers.



Supplementary aids

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Examination languages

Question language: English

Answer language: English

Examination content

Students are supposed to present a recent article from the reading list. The discussion of this article should be based on the concepts and tools learned in the course. Furthermore the students have to write and hand in a referee report on the selected paper.

Examination relevant literature

The main readings are again:

- Foster, Lucia, John Haltiwanger, and Chad Syverson. "Reallocation, firm turnover, and efficiency: Selection on productivity or profitability?." *American Economic Review* 98.1 (2008): 394-425.
- Hopenhayn, Hugo A. "Entry, exit, and firm dynamics in long run equilibrium." *Econometrica: Journal of the Econometric Society* (1992): 1127--1150. \item[\$\star\$] Hopenhayn, Hugo, and Richard Rogerson. "Job turnover and policy evaluation: A general equilibrium analysis." *Journal of political Economy* 101.5 (1993): 915--938.
- Hsieh, Chang-Tai, and Peter J. Klenow. "Misallocation and manufacturing TFP in China and India." *The Quarterly journal of economics* 124.4 (2009): 1403--1448.
- Melitz, Marc J. "The impact of trade on intra-industry reallocations and aggregate industry productivity." *econometrica* 71.6 (2003): 1695--1725.

Please note

Please note that only this fact sheet and the examination schedule published at the time of bidding are binding and takes precedence over other information, such as information on StudyNet (Canvas), on lecturers' websites and information in lectures etc.

Any references and links to third-party content within the fact sheet are only of a supplementary, informative nature and lie outside the area of responsibility of the University of St.Gallen.

Documents and materials are only relevant for central examinations if they are available by the end of the lecture period (CW21) at the latest. In the case of centrally organised mid-term examinations, the documents and materials up to CW 12 are relevant for testing.

Binding nature of the fact sheets:

- Course information as well as examination date (organised centrally/decentrally) and form of examination: from bidding start in CW 04 (Thursday, 27 January 2022);
- Examination information (regulations on aids, examination contents, examination literature) for decentralised examinations: in CW 12 (Monday, 21 March 2022);
- Examination information (regulations on aids, examination contents, examination literature) for centrally organised mid-term examinations: in CW 12 (Monday, 21 March 2022);
- Examination information (regulations on aids, examination contents, examination literature) for centrally organised examinations: two weeks before the end of the registration period in CW 15 (Monday, 11 April 2022).