

DEG Descomplica

**FIRMS IN MARKETS, WITH
RIVALS: what Industrial
Organization is about**

MARKETS



Industrial Organization concentrates on firms' interaction, under different oligopolistic **market structures** (characterized by number of rivals, relative size and market shares' distribution, eventual dominant positions, degree of substitutability or complementarity among rivals' products or services, demand elasticities, ...)

In markets

- Firms have rivals (unless the firm is a monopoly, which is rare)
- Firms should develop their own strategies taking into account what rivals do or will do, responses to those moves, responses to the responses, responses to the responses to the responses, ...
- If rivals are not too small, their responses will have an impact
- Look at **firms' interaction** as a GAME



Games apply to oligopolies

- Intermediate market structures, not extremely competitive nor monopolized
- Few sellers, influence each other
- Plenty of examples: telecommunications, airlines, pharmaceuticals, large food retailers, automobile industry, ...
- In sum, industries where the combination of costs and demand leave room for only a relatively small number of players





In: <https://suretyt.com.au/>

In oligopolies firms choose different strategies

- differentiation (through quality, CSR, etc., etc.)
- innovation
- pricing
- production capacity
- branding
- distribution channels
- marketing campaigns
- mergers and acquisitions
- ...

Model and formalize these choices mathematically with Game Theory, to predict the outcome of the game: is innovation going to increase? by whom? are prices going to fall? will some firms leave the market? ...

... trying to anticipate and incorporate expectations of rivals' reaction(s)

Industrial Organization also provides important insights for public policy

- ✓ Detect anti-competitive practices that hurt consumers and make the economy as a whole less competitive
- ✓ Punish cartels
- ✓ Pull down barriers to new entry into the market
- ✓ Prevent abuse of dominant position



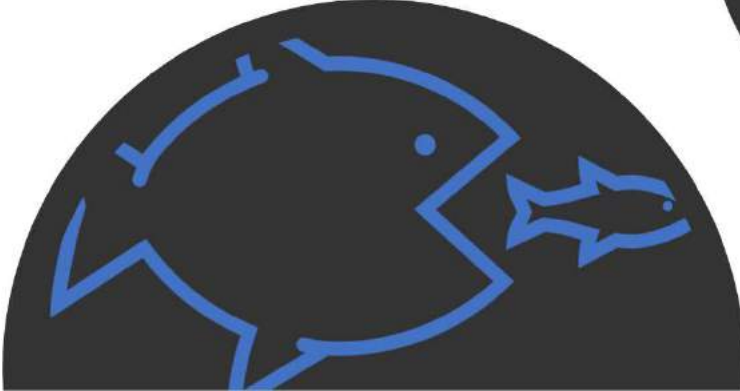
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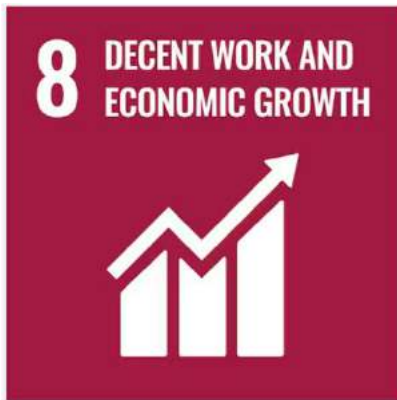
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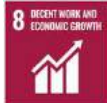


Sustainable Development Goals to which competition is related



Competition is a public good

Competition benefits society because



Companies win based on merit. Moreover, competition promotes exports. All this makes the economy grow and creates jobs.



Competition favours the creation of companies and ensures that everyone has the same opportunities. Competition promotes the right to create a business and enter the market.



Competition ensures better prices, higher quality, and more diversity for consumers.



Master Dissertations ongoing or recently supervised in DEG on Industrial Organization/Game Theory

The impact of product innovation on merging activity and vice-versa

Anti-competitive behavior in digital markets

Mergers and innovation – New theoretical insights with an application to the PSA/FCA merger case

How does bank risk-taking change according to regulation and competition? A game theory approach to green capital buffers

Innovation games – The impact of startup's product innovation degree and competition intensity on the incumbent's acquisition decision

Preventing anti-competitive behavior: Employing Game Theory to detect cartels and collusion - Cartel da Banca case

Improving pricing strategies. The Compracá Case

Responsabilidade social empresarial, dimensão e estrutura de mercado

Health care and Game Theory – An application to liver transplantation

INDUSTRIAL ORGANIZATION IS A COURSE OFFERED IN DEG MASTERS (MEGI AND MEGIE) AND IN OTHER IST MASTERS (AS OPTIONAL)



Selected publications in DEG on Industrial Organization/Game Theory

- Alventosa, A., Pinho, J., Jorge, S. F. and Catalão-Lopes, M. (2023): Vertical product differentiation in the lab: impact of consumers' preferences, *Applied Economics Letters*. <https://doi.org/10.1080/13504851.2023.2198189>
- Brito, D. and Catalão-Lopes, M. (2023), Profit raising entry under mixed behavior, *Journal of Economics* 138, 51–72. <https://doi.org/10.1007/s00712-022-00797-5>.
- Brito, D. and Catalão-Lopes, M. (2022), Cournot–Bertrand endogenous behavior in a differentiated oligopoly with entry deterrence, *Theory and Decision*. <https://doi.org/10.1007/s11238-022-09909-5>
- Catalão-Lopes, M. and Brito, D. (2021) Post-merger internal organization in multitier decentralized supply chains. *Journal of Economics* 132, 251-289. <https://doi.org/10.1007/s00712-020-00723-7>
- Pires, C. P. and Catalão-Lopes, M. (2020), Does asymmetric information always help entry deterrence? Can it increase welfare? *Journal of Economics and Management Strategy* 29(3), 463-723. <https://doi.org/10.1111/jems.12350>
- Acabado, D., Branca, A. S., Catalão-Lopes, M. and Pina, J. P. (2020), Do distinct CSR Categories have distinct determinants? The roles of Market Structure and Firm Size. *European Management Review* 17(1), 5-17, <https://doi.org/10.1111/emre.12341>
- Brito, D. and Catalão-Lopes, M. (2019), Are larger merger synergies bad news for consumers? Endogenous post-merger internal organization. *Scandinavian Journal of Economics* 121(4), 1728–1756, <https://doi.org/10.1111/sjoe.12303>.
- Pires, C. P. and Catalão-Lopes, M. (2013), Economies of scope, entry deterrence and welfare, *The B.E. Journal of Economic Analysis & Policy* 13(1) (Topics), 419-452, <https://doi.org/10.1515/bejeap-2012-0078>
- Brito, D. and Catalão-Lopes, M. (2011), Small fish become big fish: merger in Stackelberg markets revisited, *The B.E. Journal of Economic Analysis & Policy* 11(1) (Topics), 1-20, <https://doi.org/10.2202/1935-1682.2817>
- Pires, C. P. and Catalão-Lopes, M. (2011), Signalling advertising by multiproduct firms, *International Journal of Game Theory* 40(2), 403-425, <https://doi.org/10.1007/s00182-011-0279-5>
- Branca, A. S. and Catalão-Lopes, M. (2011), Strategic interaction and quality choice, *Total Quality Management and Business Excellence* 22(3), 265-273, <https://doi.org/10.1080/14783363.2010.530809>