Micro: Contracts, Bargaining, and Theories of the Firm

Reading List and Supplementary Bibliography

Hilary Term 2021, 9 Lectures

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www.nuffield.ox.ac.uk/teaching/Economics/Bargaining/bargainingindex.htm

I will make use of material from the following textbooks:

*Andreu Mas-Colell, Michael Whinston, and Jerry Green (henceforth MWG), *Microeconomic Theory*, Oxford University Press, 1995

*Patrick Bolton and Matthias Dewatripont, *Contract Theory*, MIT Press, 2005

Martin Osborne and Ariel Rubinstein, *Bargaining and Markets*, Academic Press, 1990 (available online at http://ww2.economics.utoronto.ca/osborne/bm/)

Abhinay Muthoo, *Bargaining Theory with Applications*, Cambridge University Press, 1999

Bernard Salanie, *The Economics of Contracts: A Primer*, MIT Press, 1997

Robert Gibbons, *A Primer in Game Theory*, Harvester Wheatsheaf, 1992

David Kreps, *A Course in Microeconomic Theory*, Harvester Wheatsheaf, 1990

Paul Milgrom and John Roberts, *Economics, Organization, and Management*, Prentice-Hall, 1992

SPECIFIC TOPICS AND SUGGESTED READINGS:

Hidden Information Models (Lectures 1-5)

Introduction to Adverse Selection and Self-Selection (Lecture 1)

Optimal Contracting/Mechanism Design (Lectures 1-3)

MWG, Ch. 13 A,B, Ch. 14 C, Ch. 23 A,B,D; Bolton and Dewatripont, Ch. 2; Salanie, Chs. 2, 3 (esp. pp. 41-59); Kreps, Ch. 18 (esp. 18.1-18.2)

Signaling Models (Lecture 4)

MWG, Ch. 13 C and Appendix A; Gibbons, Ch. 4 (esp. pp. 183-205, 233-244); Bolton and Dewatripont, Ch. 3; Salanie, Ch. 4 (esp. pp. 85-94); Kreps, Ch. 17 (esp. pp. 625-638, 645-649)

Screening in Markets (Lecture 5)

MWG, Ch. 13 D; Kreps, Ch. 17 (esp. pp. 638-654); Salanie, Ch. 3 (pp. 59-65); Eric Rasmusen, *Games and Information: An Introduction to Game Theory*, Basil Blackwell, 1989, Section 8.4

Hidden Action Models: Moral Hazard and Incentive Contracts (Lectures 5-8)

Milgrom and Roberts, Ch. 7; Bolton and Dewatripont, Ch. 4; MWG, Ch. 14 A,B; Salanie, Ch. 5; Kreps, Ch. 16

Bargaining (Lectures 8-9)

MWG, Appendix A of Ch. 9 and Ch. 22 E; Osborne and Rubinstein, Chs. 2, 3, 4 (esp. 3.1-3.11, 4.1-4.2, 4.6); Muthoo, Chs. 2, 3; Gibbons, pp. 68-71; Kreps, Ch. 15

Theories of the Firm (Lecture 9)—to be covered briefly

Gibbons, Robert, 2005, "Four Formal(izable) Theories of the Firm?" *Journal of Economic Behavior and Organization* 58: 202-247

Bolton and Dewatripont, Ch. 11.1,11.2

Problems: A very good source of problems (and answers) with which to test your understanding of the material covered, and your ability to analyze slightly different models, is "Solutions Manual to Accompany [Bolton and Dewatripont's] Contract Theory", by Campbell, Cohen, Ederer, and Spinnewijn, MIT Press, 2007. Other textbooks also have useful problems. In addition, past exams for this course are a rich source of problems.

FURTHER READING (this list includes surveys, classics, articles further developing the abstract models, and articles exploring specific applications (theoretically, empirically, or experimentally)):

Adverse Selection

Akerlof, "The Market for Lemons: Quality Uncertainty and the Market Mechanism", *Quart. J. of Econ.*, 1970

Genesove, "Adverse Selection in the Wholesale Used Car Market", *J. of Pol. Econ.*, 1993

Hendel and Lizzeri, "Adverse Selection in Durable Goods Markets", *Amer. Econ. Review*, 1999

Philippon and Skreta, "Optimal Interventions in Markets with Adverse Selection", *Amer. Econ. Rev.*, 2012

Morris and Shin, "Contagious Adverse Selection", *AEJ: Macro*, 2012

Einav and Finkelstein, "Selection in Insurance Markets: Theory and Empirics in Pictures", *J. of Econ. Persp.*, 2011

Ely and Siegel, "Adverse Selection and Unraveling in Common-Value Labor Markets", *Theor. Econ.*, 2013

Gavazza, Lizzeri, and Roketskiy, "A Quantitative Analysis of the Used-Car Market", *Amer. Econ. Rev.*, 2014

Blundell, R., Gu,R., Leth-Petersen, S., Low, H and C. Meghir, "Durables and Lemons: Private Information and the Market for Cars" NBER W.P. 26281, 2019

Handel, Hendel, and Whinston, "Equilibria in Health Exchanges: Adverse Selection vs. Reclassification Risk", Econometrica, 2015

Cabral, "Claim Timing and Ex Post Adverse Selection", *Rev. of Econ. Stud.*, 2017

Garcia and Tsur, "Information Design in Competitive Insurance Markets", *J. of Econ. Theory*, 2021

The Design of Optimal Contracts for a Single Privately-Informed Party

Sappington, "Incentives in Principal-Agent Relationships", *J. of Econ. Persp.*, 1991

Armstrong and Sappington, "Recent Developments in the Theory of Regulation", in Armstrong and Porter (eds.), *Handbook of Industrial Organization, Volume III*, North Holland, 2007. Available at http://www.sciencedirect.com/science/handbooks/1573448X

Laffont and Tirole, *A Theory of Incentives in Regulation and Procurement*, MIT Press, 1992

Mirrlees, "The Economics of Carrots and Sticks", Nobel Prize Lecture, *Econ. J.*, 1997.

Mirrlees, "An Exploration in the Theory of Optimum Income Taxation", *Rev. of Econ. Stud.*, 1971

Mussa and Rosen, "Monopoly and Product Quality", *J. of Econ. Theory*, 1978

Maskin and Riley, "Monopoly with Incomplete Information", *Rand J. of Econ.*, 1984

Courty and Li, "Sequential Screening", *Rev. of Econ. Stud.*, 2000

Hart, "Optimal Labour Contracts under Asymmetric Information", *Rev. of Econ. Stud.*, 1983

Beaudry, Blackorby, and Szalay, "Taxes and Employment Subsidies in Optimal Redistribution Programs", *Amer. Econ. Rev.*, 2009

Stantcheva, "Optimal Taxation and Human Capital Policies over the Life Cycle", *J. of Pol. Econ.*, 2017

Foster and Young, "Gaming Performance Fees by Portfolio Managers", *Quart. J. of Econ.*, 2010

Eliaz and Spiegler, "Contracting with Diversely Naive Agents", *Rev. of Econ. Stud.*, 2006

Grubb, "Selling to Overconfident Consumers", *Amer. Econ. Rev.*, 2009

Schmitz and Hoppe, "Do Sellers Offer Menus of Contracts to Separate Buyer Types?", *Games and Econ. Behav.*, 2015

Gary-Bobo and Trannoy, "Optimal Student Loans and Graduate Tax under Moral Hazard and Adverse Selection", *Rand J. of Econ.*, 2015

Benabou and Tirole, "Bonus Culture: Competitive Pay, Screening, and Multitasking", *J. of Pol. Econ.*, 2016.

Strausz, "A Theory of Crowdfunding—A Mechanism Design Approach with Demand Uncertainty and Moral Hazard", *Amer. Econ. Rev.*, 2017

Farhi and Gabaix, "Optimal Taxation with Behavioral Agents", *Amer. Econ. Rev.*, 2020

Martimort and Stole, "Nonlinear Pricing with Average-Price Bias", *AER Insights*, 2020

Attanasio and Pastorino, "Nonlinear Pricing in Village Economies", *Econometrica*, 2020

The Design of Optimal Contracts/Mechanisms for Interacting Parties

Goldluecke and Troeger, "The Multiple-Volunteers Principle", CEPR Disc. Pap. 15580, 2020.

Myerson and Satterthwaite, "Efficient Mechanisms for Bilateral Trade", *J. of Econ. Theory*, 1983

Cramton, Gibbons, and Klemperer, "Dissolving a Partnership Efficiently", *Econometrica*, May 1987

d'Aspremont and Gerard-Varet, "Incentives and Incomplete Information", *J. of Pub. Econ.*, 1979

Bulow and Roberts, "The Simple Economics of Optimal Auctions", *J. of Pol. Econ.*, 1989

Jehiel, Moldovanu, and Stachetti, "How (Not) to Sell Nuclear Weapons", *Amer. Econ. Rev.*, 1996

Jackson and Sonnenschein, "Overcoming Incentive Constraints by Linking Decisions", *Econometrica*, 2007

Meirowitz, Morelli, Ramsay, and Squintani, "Dispute Resolution Institutions and Strategic Militarization", *J. of Pol. Econ.*, 2019

Signaling Models

Spence, "Job Market Signaling", *Quarterly J. of Economics*, 1973

Spence, *Market Signaling*, Harvard University Press, 1974

Cho and Kreps, "Signaling Games and Stable Equilibria", *Quart. J. of Econ.*, 1987

Kreps and Sobel, "Signaling", Ch. 25 in Aumann and Hart (eds.), *Handbook of Game Theory with Economic Applications, Vol. 2*, North Holland, 1994, available at http://www.sciencedirect.com

Milgrom and Roberts, "Limit Pricing and Entry under Incomplete Information: An Equilibrium Analysis", *Econometrica*, 1982

Myers and Majluf, "Corporate Financing and Investment Decisions When Firms Have Information that Investors Do Not Have", *J. of Fin. Econ.*, 1984

Gertner, Gibbons, and Scharfstein, "Simultaneous Signalling to the Capital and Product Markets", *Rand J. of Econ.*, 1988

Vickers, "Signalling in a Model of Monetary Policy with Incomplete Information", *Ox. Econ. Pap.*, 1986

Weiss, "Human Capital vs. Signalling Explanations of Wages", *J. of Econ. Persp.*, 1995

Chevalier, Harmon, Walker, and Zhu, "Does Education Raise Productivity or Just Reflect It?", *Econ. J.*, 2004

Clark and Martorell, "The Signaling Value of a High School Diploma", *J. of Pol. Econ.*, 2014

Hopkins, "Job Market Signaling of Relative Position, or Becker Married to Spence", *J. of the Eur. Econ. Assoc.*, 2012

Kubler, Muller, and Normann, "Job-Market Signaling and Screening: An Experimental Comparison", *Games and Econ. Behav.*, 2008

Andreoni and Bernheim, "Social Image and the 50-50 Norm: A Theoretical and Experimental Analysis of Audience Effects", *Econometrica*, 2009

Hansen and McMahon, "First Impressions Matter: Signalling as a Source of Policy Dynamics", *Rev. of Econ. Stud.*, 2016

Feltovich, Harbaugh, and To, "Too Cool for School? Signalling and Countersignalling", *Rand J. of Econ.*, 2002

Daley and Green, "Market Signaling with Grades", *J. of Econ. Theory*, 2014

Kurlat and Scheuer, "Signaling to Experts", *Rev. of Econ. Stud.*, 2020

Chandrasekhar, Golub, and Yang, "Signaling, Shame, and Silence in Social Learning", W.P. 2019

Waldman and Zax, "Promotion Signaling and Human Capital Investments", *AEJ: Micro*, 2020

Screening in Markets

Rothschild and Stiglitz, "Equilibrium in Competitive Insurance Markets: An Essay on the Economics of Imperfect Information", *Quart. J. of Econ.*, 1976

Attar, Mariotti, and Salanie, "Nonexclusive Competition in the Market for Lemons", *Econometrica*, 2011

Bester, "Screening vs. Rationing in Credit Markets with Imperfect Information", *Amer. Econ. Rev.*, 1985

Dubey and Geanakoplos, "Competitive Pooling: Rothschild-Stiglitz Reconsidered", *Quart. J. of Econ.*, 2002.

Armstrong and Vickers, "Competitive Price Discrimination", *Rand J. of Econ.*, 2001

Santos and Scheinkman, "Competition Among Exchanges", *Quart. J. of Econ.*, 2001

Chiappori and Salanie, "Testing for Asymmetric Information in Insurance Markets", *J. of Pol. Econ.*, 2000

Chiappori, Jullien, Salanie, and Salanie, "Asymmetric Information in Insurance: General Testable Implications", *Rand J. of Econ.*, 2006

Cutler, Finkelstein, and McGarry, "Preference Heterogeneity and Insurance Markets: Explaining a Puzzle of Insurance", *AER Papers and Proceedings*, 2008

Sandroni and Squintani, "Overconfidence, Insurance, and Paternalism", *Amer. Econ. Rev.*, 2007

Hendren, "Private Information and Insurance Rejections", *Econometrica*, 2013

Boone and Schottmueller, "Health Insurance without Single Crossing: Why Healthy People Have High Coverage", *Econ. J.*, 2017

Farinha Luz, "Characterization and Uniqueness of Equilibrium in Competitive Insurance", *Theor. Econ.*, 2017

Lester, Shourideh, Venkateswaran, and Zetlin-Jones, "Screening and Adverse Selection in Frictional Markets", *J. of Pol. Econ.*, 2019

Moral Hazard and Incentive Contracts

Holmstrom and Milgrom, "Multi-Task Principal-Agent Analyses: Incentive Contracts, Asset Ownership, and Job Design", *J. of Law, Econ., and Orgn.*, 1991

Gibbons, "Incentives Between Firms (and Within)", *Management Sci.*, 2005

Holmstrom, "Pay for Performance and Beyond", Nobel Lecture, *Amer. Econ. Rev.*, 2017

Prendergast, "Agency Issues", *J. of Pol. Econ.*, 2017

Hart and Holmstrom, "The Theory of Contracts", in Bewley (ed.), *Advances in Economic Theory, Fifth World Congress*, Cambridge University Press, 1987

Prendergast, "The Provision of Incentives in Firms", *J. of Econ. Lit.*, 1999

Holmstrom, "Moral Hazard and Observability", *Bell J. of Econ.*, 1979

Grossman and Hart, "An Analysis of the Principal-Agent Problem", *Econometrica*, 1983

Holmstrom, "Moral Hazard in Teams", *Bell J. of Econ.*, 1982

Holmstrom, "Managerial Incentive Problems: A Dynamic Perspective", *Rev. of Econ. Stud.*, 1999

Gibbons and Murphy, "Optimal Incentive Contracts in the Presence of Career Concerns: Theory and Evidence", *J. of Pol. Econ.*, 1992

Meyer and Vickers, "Performance Comparisons and Dynamic Incentives", *J. of Pol. Econ.*, 1997

Stein, "Efficient Capital Markets, Inefficient Firms: A Model of Myopic Corporate Behavior", *Quart. J. of Econ.*, 1989

"Symposium on Organizations and Economics", *J. of Econ. Persp.*, 1991

Baker, Gibbons, and Murphy, "Subjective Performance Measures in Optimal Incentive Contracts", *Quart. J. of Econ.*, 1994

Prendergast, "The Tenuous Trade-Off between Risk and Incentives", *J. of Pol. Econ.*, 2002

Prendergast, "What Trade-Off of Risk and Incentives?", *Amer. Econ. Rev.*, 2000

Raith, "Specific Knowledge and Performance Measurement", *Rand J. of Econ.*, 2008

DeVaro and Kurtulus, "An Empirical Analysis of Risk, Incentives and the Delegation of Worker Authority", *Indus. and Labor Relations Rev.*, 2010

Ackerberg and Botticini, "Endogenous Matching and the Empirical Determinants of Contract Form", *J. of Pol. Econ.*, 2002

Serfes, "Risk Sharing vs. Incentives: Contract Design under Two-Sided Heterogeneity", *Econ. Letters*, 2005.

Gayle and Miller, "Has Moral Hazard Become a More Important Factor in Managerial Compensation?", *Amer. Econ. Rev.*, 2009

Edmans and Gabaix, "Executive Compensation: A Modern Primer", *J. of Econ. Lit.*, 2016

Benabou and Tirole, "Bonus Culture: Competitive Pay, Screening, and Multitasking", *J. of Pol. Econ.*, 2016

Acemoglu, Kremer, and Mian, "Incentives in Markets, Firms, and Governments", *J. of Law, Econ., and Orgn.*, 2008

Ederer, Holden, and Meyer, "Gaming and Strategic Opacity in Incentive Provision", *Rand J. of Econ.*, 2018

Budish, Roin, and Williams, "Do Firms Underinvest in Long-Term Research? Evidence from Cancer Clinical Trials", *Amer. Econ. Rev.*, 2015

Lazear, "Performance Pay and Productivity", *Amer. Econ. Rev.*, 2000

Fehr, Klein, and Schmidt, "Fairness and Contract Design", *Econometrica*, 2007

Gneezy, Meier, and Rey-Biel, "When and Why Incentives (Don't) Work to Modify Behavior", *J. of Econ. Persp.*, 2011

Ellingsen and Johannesson, "The Human Side of Incentive Theory", *Amer. Econ. Rev.*, 2008

Bartling, Fehr, and Schmidt, "Use and Abuse of Authority: A Behavioral Foundation of the Employment Relation", *Eur. Econ. Rev.*, 2013

Ghatak and Wahhaj, "Guilt, Esteem, and Motivational Investments", CEPR Disc. Pap. 15172, 2020.

Myerson, "A Model of Moral-Hazard Credit Cycles", *J. of Pol. Econ.*, 2012

Charness, Villeval, and Kuhn, "Competition and the Ratchet Effect", *J. of Lab. Econ.*, 2011

Chan, "Teamwork and Moral Hazard: Evidence from the Emergency Department", *J. of Pol. Econ.*, 2016

Klein, Lambertz, and Stahl, " Market Transparency, Adverse Selection, and Moral Hazard", *J. of Pol. Econ.*, 2016

Buchardi, Gulesci, Lerva, and Sulaiman, "Moral Hazard: Experimental Evidence from Tenancy Contracts", *Quart. J. of Econ.*, 2019

Bargaining

Sutton, "Non-Cooperative Bargaining Theory: An Introduction", *Rev. of Econ. Stud.*, 1986

Binmore, Rubinstein, and Wolinsky, "The Nash Bargaining Solution in Economic Modeling", *Rand J. of Econ.*, 1986

Binmore, Osborne, and Rubinstein, "Noncooperative Models of Bargaining", Ch. 7 in Aumann and Hart (eds.), *Handbook of Game Theory with Economic Applications, Vol. 1*, North Holland, 1992, available at http://www.sciencedirect.com

Ausubel, Cramton, and Deneckere, "Bargaining with Private Information", Ch. 50 in Aumann and Hart (eds.), *Handbook of Game Theory with Economic Applications, Vol. 3*, North Holland, 2002

Kennan and Wilson, "Bargaining with Private Information", *J. of Econ. Lit.*, 1993

Rubinstein and Wolinsky, "Equilibrium in a Market with Sequential Bargaining", *Econometrica*, 1985

Baron and Ferejohn, "Bargaining in Legislatures", *Amer. Pol. Sci. Review*, 1989

Bulow and Rogoff, "A Constant Recontracting Model of Sovereign Debt", *J. of Pol. Econ.*, 1989

Ochs and Roth, "An Experimental Study of Sequential Bargaining", *Amer. Econ. Review*, 1989

Sieg, "Estimating a Bargaining Model with Asymmetric Information: Evidence from Medical Malpractice Disputes", *J. of Pol. Econ.*, 2000

Abreu and Gul, "Bargaining and Reputation", *Econometrica*, 2003

Manea, "Bargaining in Stationary Networks", *Amer. Econ. Rev.*, 2011

Babcock and Loewenstein, "Explaining Bargaining Impasse: The Role of Self-Serving Biases", *J. of Econ. Persp.*, 1997

Hall and Milgrom, "The Limited Influence of Unemployment on the Wage Bargain", *Amer. Econ. Rev.*, 2008

Abreu and Pearce, "A Dynamic Reinterpretation of Nash Bargaining With Endogenous Threats", *Econometrica*, July 2015

Bar-Gill and Persico, "Exchange Efficiency with Weak Ownership Rights", *AEJ: Micro*, 2016

Schweighofer-Kodritsch, "Time Preferences and Bargaining", *Econometrica*, 2018

Friedenberg, "Bargaining Under Strategic Uncertainty: The Role of Second-Order Optimism", *Econometrica*, 2019

Hernandez-Arenaz and Iriberri, "Gender Differences in Alternating-Offer Bargaining: An Experimental Study", CEPR Disc. Paper 12561, 2018

Ambrus, Chaney, and Salitskiy, "Pirates of the Mediterranean: An Empirical Investigation of Bargaining with Asymmetric Information", *Quantitative Econ.*, 2018

Mitra, Mookherjee, Torero, and Visaria, "Asymmetric Information and Middleman Margins: An Experiment with Indian Potato Farmers", *Rev. of Econ. and Stat.*, 2018

Collard-Wexler, Gowrisankaran, and Lee, " 'Nash-in-Nash' Bargaining: A Microfoundation for Applied Work", *J. of Pol. Econ.*, 2019

Larsen, "The Efficiency of Real-World Bargaining: Evidence from Wholesale Used-Auto Auctions", *Rev. of Econ. Stud.*, 2020

Ravid, "Ultimatum Bargaining with Rational Inattention", *Amer. Econ. Rev.*, 2020

Nalebuff, "A Perspective-Invariant Approach to Nash Bargaining", *Management Sci.*, 2020.

Theories of the Firm

Surveys

Gibbons, "Four Formal(izable) Theories of the Firm?", *J. of Econ. Behav. and Orgn.*, 2005

Holmstrom and Roberts, "The Boundaries of the Firm Revisited", *J. of Econ. Persp.*, 1998

Tirole, "Incomplete Contracts: Where Do We Stand?", *Econometrica*, 1999

Aghion and Holden, "What is a Firm? 25 Years of Property Rights Theory", *J. of Econ. Persp.*, 2011

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Aghion, Dewatripont, Legros, and Zingales, eds., *The Impact of Incomplete Contracts on Economics*, Oxford Univ. Press, 2016.

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Lafontaine and Slade, "Vertical Integration and Firm Boundaries: The Evidence", *JELit*, 2007

Transaction cost economics

Klein, Crawford, and Alchian, "Vertical integration, appropriable rents, and the competitive contracting process", *J. of Law and Econ.*, 1978

Williamson, *Markets and Hierarchies: Analysis and Antitrust Implications*, Chs. 4,5, Free Press, New York, 1975

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The property rights approach

Hart, *Firms, Contracts and Financial Structure*, Ch. 2, Clarendon Press, Oxford, 1995

Moore, "The Firm as a Collection of Assets", *Eur. Econ. Rev.*, 1992

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The incentive system approach

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Holmstrom and Milgrom, "The Firm as an Incentive System", *Amer. Econ. Rev.*, 1994

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Empirical evidence

Joskow, "Vertical Integration and Long-Term Contracts: The Case of Coal-Burning Electric Generation Plants", *J. of Law, Econ., and Orgn.*, 1985

Whinston, "Assessing the Property Rights and Transaction-Cost Theories of Firm Scope", *Amer. Econ. Rev.*, 2001

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Alfaro, Bloom, Conconi, Fadinger, Legros, Newman, Sadun, and Van Reenen, " Come Together: Firm Boundaries and Delegation", CEPR Disc. Pap., May 2018

Other approaches

Meyer, Milgrom, and Roberts, "Organizational Prospects, Influence Costs, and Ownership Changes", *J. of Econ. and Mgt. Strat.*, 1992

Riordan, "What is Vertical Integration?", in Aoki, Gustafsson, and Williamson (eds.), The Firm as a Nexus of Treaties, London: Sage, 1990.

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Hart and Holmstrom, "A Theory of Firm Scope", *Quart. J. of Econ.*, 2010.

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