

## **Part I (Why?): Selected References**

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### **1 Introductory readings (recent papers only)**

- Farmer, J.D. and Foley, D. (2009), The economy needs agent-based modeling, *Nature*, Vol 460, 6
- Colander, David, Goldberg, Michael, Haas, Armin, Juselius, Katarina, Kirman, Alan, Lux, Thomas and Sloth, Brigitte (2009), The financial crisis and the systemic failure of the economics profession, *Critical Review*, 21: 2, 249-267
- Blake LeBaron and Leigh Tesfatsion (2008), Modeling Macroeconomies as Open-Ended Dynamic Systems of Interacting Agents, *American Economic Review: Papers & Proceedings*, 98:2, 246–250

### **2 Order from disorder, invisible-hand metaphors, explain unintended consequences**

- Lesourne, J. (1991), *The Economics of Order and Disorder: The Market as Organizer and Creator*, Oxford University Press.
- Lane D.A. (1993), "Artificial worlds and economics, parts I and II", *Journal of Evolutionary Economics*, 3 (2 and 3), 89-108 and 177-197
- Aydinonat, N. E. (2008). *The invisible hand in economics: How economists explain unintended social consequences*. INEM advances in economic methodology. London: Routledge.
- Bruna Ingraio and Giorgio Israel, *The Invisible Hand - Economic Equilibrium in the History of Science*, The MIT Press (Cambridge, MA, 1990).

### **3 Critiques to the neoclassical approach**

#### **• Game theory**

- Hargreaves-Heap, S. and Y. Varoufakis (2004). *Game Theory: A critical text*, London and New York: Routledge.

#### **• Equilibrium**

- Arthur, W. B. (2006), Out-of-equilibrium economics and agent-based modeling, in L. Tesfatsion and K. L. Judd, eds, 'Handbook of Computational Economics', Vol. Volume 2: Agent-Based Computational Economics, North-Holland, chapter 32, pp. 1551-1564.
- Barnett, W., Gandolfo, G. and Hillinger, C., eds (1996), *Dynamic Disequilibrium Modelling*, Cambridge University Press, Cambridge, MA.
- Ellman, M. (1972), 'Review of Kornai: Anti-equilibrium', *Economic Journal*.
- Kaldor, N. (1972), "The irrelevance of equilibrium economics", *The Economic Journal*, 82, 1237-1255
- Hahn, F. (1982) "On the Notion of Equilibrium in Economics", in Hahn, F. *Macroeconomics and Equilibrium*, Cambridge, MA: MIT Press.
- Kornai, J. (1971) *Anti-Equilibrium*, New York: American Elsevier Publishing Company.
- Semmler, W. (2005), 'Introduction (multiple equilibria)', *Journal of Economic Behavior & Organization* 57, 381-38

- Punzo, L. F. (2006), 'Towards a disequilibrium theory of structural dynamics. Goodwin's contribution', *Structural Change and Economic Dynamics* 17(4), 382-399.
  - Foley Duncan K., 1994. "A Statistical Equilibrium Theory of Markets," *Journal of Economic Theory*, Elsevier, vol. 62(2), pages 321-345, April.
  - Lindgren, K. (1992). "Evolutionary phenomena in simple dynamics". In: Langton, C.G., Taylor, C., Farmer, J.D., Rasmussen, S. (Eds.), *Artificial Life II*. Addison-Wesley, Reading, MA, pp. 295–312.
  - David Colander and Casey Rothschild (2010), Sins of the Sons of Samuelson: Vision, pedagogy, and the zig-zag windings of complex dynamics, *Journal of Economic Behavior & Organization*, 74: 277–290
- **Time and dynamics**
    - Kuran, T. (1988), "The tenacious past: theories of personal and collective conservatism", *Journal of Economic Behavior and Organization*, 10, 143-171
    - Robinson, J. (1980) "Time in Economic Theory", *Kyklos*, 33: 219-229.
    - L.A. Boland, Economics in time vs. time in economics, <http://www.sfu.ca/~boland/>
- **Rationality in economic models**
    - Leijohnhufvud, A. (1993), Towards a not-too-rational economics", *Southern Economic Journal*, June, 1-13
    - Conlisk, J. (1996), Why Bounded Rationality? *Journal of Economic Literature*, Vol. 34, No. 2, pp. 669-700
    - See section on irrationality below
- **Rational expectation hypothesis**
    - Charles F. Manski, Measuring Expectations, *Econometrica*, Vol. 72, No. 5 (Sep., 2004), pp. 1329-1376
    - Stahl Dale O. & Wilson Paul W., 1995, "On Players' Models of Other Players: Theory and Experimental Evidence," *Games and Economic Behavior*, Elsevier, vol. 10(1), pages 218-254, July.
    - Christopher D. Carroll , Macroeconomic Expectations of Households and Professional Forecasters, *The Quarterly Journal of Economics*, Vol. 118, No. 1 (Feb., 2003), pp. 269-298
    - William A. Branch, 2004. "The Theory of Rationally Heterogeneous Expectations: Evidence from Survey Data on Inflation Expectations," *Economic Journal*, Royal Economic Society, vol. 114(497), pages 592-621, 07.
- **Expected utility theory and maximization**
    - Chris Starmer , Developments in Non-Expected Utility Theory: The Hunt for a Descriptive Theory of Choice under Risk, *Journal of Economic Literature*, Vol. 38, No. 2 (Jun., 2000), pp. 332-382
    - Paul S. Carlin, Can the maximization principle be discarded? A Comment *Journal of Economic Behavior and Organization*, Vol. 29 (1996) 351-353
    - Pingle, Mark & Day, Richard H., 1996. "Modes of economizing behavior: Experimental evidence," *Journal of Economic Behavior & Organization*, Elsevier, vol. 29(2), pages 191-209, March.
    - Conlisk, J. (1996), Why Bounded Rationality? *Journal of Economic Literature*, Vol. 34, No. 2, pp. 669-700

- Pingle, Mark, 1995. "Imitation versus rationality: An experimental perspective on decision making," *The Journal of Socio-Economics*, Elsevier, vol. 24(2), pages 281-315
  - Mark Pingle, Costly optimization: An experiment, *Journal of Economic Behavior and Organization* 17 (1992) 3-30.
  - G. C. Archibald , *The Qualitative Content of Maximizing Models*, *The Journal of Political Economy*, Vol. 73, No. 1 (Feb., 1965), pp. 27-36
  - Dutta, Prajit K & Radner, Roy, 1999.
  - "Profit Maximization and the Market Selection Hypothesis," *Review of Economic Studies*, Blackwell Publishing, vol. 66(4), pages 769-98, October.
- **Representative individual hypothesis**
    - Kirman, A.P. (1992), "Whom or what does the representative individual represent ?", *Journal of Economic Perspectives*, 6, 2.
- **Micro-foundations**
    - Dosi, G., Nelson, R. (1994), "An introduction to evolutionary theories in economics", *Journal of Evolutionary Economics*, 4, 153-172
    - Dosi, G., Orsenigo, L. (1994), "Macrodynamics and microfoundations: an evolutionary perspective", in Granstrand, O. (Ed.), *The economics of technology*, North Holland, Amsterdam
    - Kirman, A.P. (1989), "The intrinsic limits of modern economic theory: the emperor has no clothes", *Economic Journal*, 99 (Conference 1989), 126-139

## 4 Economics Methodology

- **General**
  - Backhouse, R.E. (ed.) 1994, *New Directions in Economic Methodology*, London and New York, Routledge, ch. 1.
  - Blaug, M. 1980, *The methodology of economics*, Cambridge University Press, part I-II.
  - Hausman, D. 1989, "Economic Methodology in a Nutshell", *Journal of Economic Perspectives*, 3, 2, 115-127.
  - Hoover , K. 2001, *The Methodology of Empirical Macroeconomics*, Cambridge University Press
  - Hoover, K.D. 2001, *Causality in Macroeconomics*, Cambridge University Press
  - Blaug, M., 1998, "Methodology of Scientific Research Programmes," in J.B. Davis, D. Wade
  - Hands, and U. Mäki (eds.), *The Handbook of Economic Methodology*, Cheltenham, UK: Edward Elgar.
  - Friedman, M., 1953, *The Methodology of Positive Economics*, in *Essays in Positive Economics*, Chicago: University of Chicago Press.
  - Papineau, D. 1995, "Methodology: The elements of the Philosophy of Science", in A.C. Grayling (ed.), *Philosophy 1, A guide through the subject*, Oxford University Press, section V: "Explanation", pp. 148-158.
  - McCloskey, D.N. (1986), *The Rhetoric of Economics*, Sussex: Harvester Press.

- Bruce J. Caldwell , Clarifying Popper, *Journal of Economic Literature*, Vol. 29, No. 1 (Mar., 1991), pp. 1-33
- L.A. Boland, *Critical Economic Methodology: A personal odyssey*, <http://www.sfu.ca/~boland/>
- **Realism and reality**
  - Davidson, P. (1996), "Reality and economic theory", *Journal of Post-Keynesian Economics*, 18, 4
  - Mäki, U., 1994, Reorienting the assumptions issue, in R. Backhouse (ed.), *New Directions in Economic Methodology*, Routledge, London and New York.
  - Mayer, T. (1999). "The Domain of Hypotheses and the Realism of Assumptions," *Journal of Economic Methodology*, vol. 6(3), pages 319-30.
  - Musgrave, Alan (1981) "Unrealistic Assumptions' in Economic Theory: The F-twist Untwisted', *Kyklos* 34, 377-87.
  - Eugene Rotwein, On "The Methodology of Positive Economics", *The Quarterly Journal of Economics*, Vol. 73, No. 4 (Nov., 1959), pp. 554-575
  - Rotwein, Eugene, 1973. "Empiricism and Economic Method: Several Views Considered",. *Journal of Economic Issues* 7:361-82.
  - Hodge, D., *Economics, Realism and Reality: A Comparison of Mäki and Lawson* (March 2008). *Cambridge Journal of Economics*, Vol. 32, Issue 2, pp. 163-202, 2008.
  - Thomas Mayer, The domain of hypotheses and the realism of assumptions, *Journal of Economic Methodology* 6:3, 319-330 1999
  - L.A. Boland, *Realism in Economic Models*, <http://www.sfu.ca/~boland/>
  - Grune-Yanoff, T. (2009). Learning from minimal economic models. *Erkenntnis*, this issue. doi:10.1007/s10670-008-9138-6.
  - Knuuttila, T. (2009). Isolating representations vs. credible constructions? Economic modelling in theory and practice. *Erkenntnis*, this issue. doi:10.1007/s10670-008-9137-7.
  - Alexandrova, A. (2007). Making models count. *Philosophy of Science*, 75, 383–404.
  - Menno Rol, Idealization, abstraction, and the policy relevance of economic theories *Journal of Economic Methodology*, 1469-9427, Volume 15, Issue 1, 2008, Pages 69 – 97
  - Morgan, M. (2001). Models, stories and the economic world. *Journal of Economic Methodology*, 8(3), 361–384
  - Aydinonat, N. E. (2007). Models, conjectures and exploration: An analysis of Schelling's checkerboard model of residential segregation. *Journal of Economic Methodology*, 14(4), 429–454.
  - Alexandrova, A. (2006). Connecting economic models to the real world. *Philosophy of the Social Sciences*, 36, 173–192.
- **Replication and validation**
  - Mirowski, Philip & Sklivas, Steven (1991). Why econometricians don't replicate (although they do reproduce). *Review of Political Economy*, 3 (2), 146-163.
  - Fagiolo, G., Moneta, A. and Windrum, P. (2007), "A Critical Guide to Empirical Validation of Agent-Based Models in Economics: Methodologies, Procedures, and Open Problems", *Computational Economics*, 30:195-226.
  - IZA DP No. 2760
  - Daniel Hamermesh, *Replication in Economics*, IZA DP No. 2760, 2007

- William G. Dewald; Jerry G. Thursby; Richard G. Anderson, Replication in Empirical Economics: The Journal of Money, Credit and Banking Project, The American Economic Review, Vol. 76, No. 4. (Sep., 1986), pp. 587-603.
  - Windrum, P., Fagiolo, G. and Moneta, A. (2007), "Empirical Validation of Agent-Based Models: Alternatives and Prospects", Journal of Artificial Societies and Social Simulation, 10, 2, available at: <http://jasss.soc.surrey.ac.uk/10/2/8.html>.
  - Fagiolo, G. and Roventini, A. (2009), "On the Scientific Status of Economic Policy: A Tale of Alternative Paradigms", Knowledge Engineering Review, forthcoming.
- **Models**
    - Special issue on problems of methodology, The American Economic Review, Vol. 53, No. 2, Papers and Proceedings of the Seventy, Fifth Annual Meeting of the American Economic Association (May, 1963)
    - Robert Sugden, Credible worlds: the status of theoretical models in economics, Journal of Economic Methodology 7:1, 1–31, 2000
    - Allan Gibbard and Hal R. Varian, Economic Models, The Journal of Philosophy, Vol. 75, No. 11 (Nov., 1978), pp. 664-677
    - Donald N. McCloskey , The Rhetoric of Economics, Journal of Economic Literature, Vol. 21, No. 2 (Jun., 1983), pp. 481-517
    - Ariel Rubinstein, A sceptic's comment on the study of economics, The Economic Journal, 116 (March), C1–C9.
    - Ariel Rubinstein, Dilemmas of an Economic Theorist, Econometrica, Vol. 74, No. 4 (July, 2006), 865–883
    - Intriligator, M. D. 1983, "Economic and Econometric Models", in Z. Griliches, and M.D. Intriligator, Handbook of Econometrics, North Holland: Amsterdam.
    - Tjalling C. Koopmans , Measurement Without Theory, The Review of Economics and Statistics, Vol. 29, No. 3 (Aug., 1947), pp. 161-172
    - Tjalling C. Koopmans, Koopmans on the Choice of Variables to be Studied and the Methods of Measurement: A Reply. The Review of Economics and Statistics, Vol. 31, No. 2 (May, 1949), pp. 86-91
    - Hugo A. Keuzenkamp and Michael McAleer , Simplicity, Scientific Inference and Econometric Modelling, The Economic Journal, Vol. 105, No. 428 (Jan., 1995), pp. 1-21

## 5 Complexity in nature, social and hard sciences

- Gladwell, M.: "The Tipping Point: How Little Things Can Make a Big Difference", Back Bay Books, 2002
- Rosser, B. (Ed.) (2004), Complexity in Economics, Edward Elgar, 2003 (esp. Introduction)
- Schelling, T.: "Micro motives and macro behaviors", New York, W.W. Norton, 1978.
- Stewart, I.: "Che forma ha un fiocco di neve?", Bollati-Boringhieri, 2004.
- Waldrop, M.: "Complexity: The Emerging Science at the Edge of Order and Chaos", Simon & Schuster; 1992

## 6 Schelling's segregation model

- Schelling, T., 1969. Models of segregation. *American Economic Review* 59, 488–493.
- Schelling, T., 1971a. Dynamic models of segregation. *Journal of Mathematical Sociology* 1, 143–186.
- Schelling, T., 1971b. On the ecology of micromotives. *The Public Interest* 25, 61–98.
- Schelling, T., 1978. *Micromotives and Macrobehavior*. W.W. Norton and Company, New York
- Fagiolo, G., Valente, M. and Vriend, N. (2007), "Segregation in Networks", *Journal of Economic Behavior and Organization*, 64: 316-336 and refs therein
- Pancs, R., & Vriend, N.J. (2007). Schelling's Spatial Proximity Model of Segregation Revisited. *Journal of Public Economics*, 91, 1-24.

## 7 Cellular automata

- Stephen Wolfram web page: [www.stephenwolfram.com/](http://www.stephenwolfram.com/)
- Stephen Wolfram: *A new kind of science*, Wolfram Media Inc (September 1, 2002)

## 8 Irrationality

- Ariely, D. (2008), *Predictably Irrational: The Hidden Forces That Shape Our Decisions*, Harper Collins.
- Bernasconi, M. (2005), "L'economia degli esperimenti", in Viale, R. (a cura di), *Le nuove economie*, Milano: Il Sole 24 Ore.
- Bonini, N. (2005), "L'intuizione nelle decisioni economiche", in Viale, R. (a cura di), *Le nuove economie*, Milano: Il Sole 24 Ore.
- Devetag, M.G. (1999), "From utilities to mental models", *Industrial and Corporate Change*, 8: 289-352
- Egidi, M. (2005), "Dalla razionalità limitata all'economia comportamentale", in Viale, R. (a cura di), *Le nuove economie*, Milano: Il Sole 24 Ore.
- Frederick, S. (2005), "Cognitive reflection and decision making", *Journal of Economic Perspectives*, 19, 4: 25-42.
- Gigerenzer, G.: "Quando i numeri ingannano. Imparare a vivere con l'incertezza", Cortina, 2005.
- Motterlini, M.: (2006) "Economia emotiva", Rizzoli, Milano.
- Piattelli Palmarini, M.: "L'illusione di sapere", Mondadori, 1995.
- Shafir, E., Diamone, P. and Tversky, A. (1997), "Money illusion", *Quarterly Journal of Economics*, 112, 2: 341-374.
- Simon, H.A: "Models of bounded rationality", Cambridge, MIT Press, 1981.
- Simon, H.A: "The Sciences of the Artificial", Cambridge, MIT Press, 1982.
- Thaler, R. (1994), "The psychology of choice and the assumptions of economics", in Thaler, R., *Quasi-Rational Economics*, New York: Russel Sage.
- Thaler, R. "Quasi-Rational Economics", Russel Sage, 1994.

## 9 Networks

- Special issue: Complex Systems and Networks, *Science*, Vol. 325 (24 July 2009)
- Jackson, M.O., *Social and Economic Networks*, 2008, Princeton University Press
- Newman, M.E.J. (2010), *Networks: An Introduction*, Oxford University Press
- Barrat, A., Barthelemy, M. and Vespignani, A. (2008), *Dynamical Processes on Complex Networks*, Cambridge University Press
- Sanjeev Goyal (2009), *Connections: An Introduction to the Economics of Networks*, Princeton University Press
- M. E. J. Newman, A.-L. Barabási, and D. J. Watts, *The Structure and Dynamics of Networks*, Princeton University Press (2006).
- Albert, R. and Barabasi, A.-L. (2002), “Statistical Mechanics of Complex Networks”, *Rev. Mod. Phys.*, 74: 47–97.
- Barabasi, A.-L.: “*Linked: How Everything Is Connected to Everything Else and What It Means*”, Plume, 2003.
- Buchanan, M.: “*Nexus: Small Worlds and the Groundbreaking Science of Networks*”, W. W. Norton & Company, 2002.
- Newman, M. (2003), “The Structure and Function of Complex Networks”, *SIAM Review*, 45: 167–256.
- Watts, D.: “*Six Degrees: The Science of a Connected Age*”, W. W. Norton & Company, 2004.
- Articles on the World-Trade Web: See <http://www.lem.sssup.it/fagiolo/>

## 10 Learning

- Dosi, G., Marengo, L. and Fagiolo, G. (2005), "Learning in Evolutionary Environments", in Dopfer, K. (Ed.), *Evolutionary Principles of Economics*, Cambridge, Cambridge University Press.

## 11 Heterogeneity

- Caves (1998), “Industrial organization and new findings on the turnover and mobility of firms”, *Journal of Economic Literature*, 36:1947-82.
- Dosi (2005), “Statistical regularities in the evolution of industries”, LEM working paper, 2005-17.
- Gallegati M. and Kirman A.P. (Eds.) (1999), *Beyond the Representative Agent*, Edward Elgar.
- Kirman A.P. (2006), “Heterogeneity in Economics”, *Journal of Economic Interaction and Coordination*, 1, 89-117.