



IR 629 GLOBAL POLITICAL ECONOMY

WORLD DYNAMICS AND DECISION SYSTEMS

Fall 2015

Instructor: Professor Orhan Güvenen
gorhan@bilkent.edu.tr
www.dsee.bilkent.edu.tr

Tel: 0 312 290 1660
0 312 290 2496
Fax: 0 312 266 4383

Class Hours: Tuesday 15.40 – 17.30 / Friday 13.40 – 14.30, T - 272

Office Hours: Tuesday 13:30 - 15:30, AZ-02 (FEASS)

Lecture Starts: September 15, 2015 Tuesday

Course Outline:

21st century decision systems, world dynamics, economies, technologies, nanotechnologies, globalization, regionalism, country interactions, liberalism and interdependence. World systems theory. International trade, monetary and financial markets. International Organizations: UN Systems, EU, OECD, IMF, World Bank, WTO, eg.. Transnational corporations, international production, technologies with specific references to nanotechnology, ICT, energy, water and environmental dynamics in their strategic context. Global Problematique Model System: GENle, INTERLINK Model System, EPA World Model, LIMITS TO GROWTH 2004 Model System, PROJECT LINK World Model System. Quantitative analysis and anticipative analysis.

- 1- **Some comments on the scientific methodology, scientific methodology in natural and social sciences. Comments on the quantification techniques in sciences, mathematical complexity, fuzzy mathematics, econometrics, statistics, and global political economy. Information systems, information distortion and science. Transdisciplinary methodology in science.**

GÜVENEN, O., (2015), "Knowledge, Data, Information Error Margins and Information Distortion Interactions", Conference on Statistics, Science and Public Policy, Volume: XIX, A.M. Herzberg, Editor, ISBN: 978 -1-55339-481-5 (bound), ISBN: 978-1-55339-482-2 (pbk), Queen's University, Kingston

GÜVENEN, O. (2015). Transdisciplinary Science Methodology. The European Scientific Journal, Vol. 03(February 2015), 1-5. Retrieved from <http://eujournal.org/index.php/esj/article/view/5200/4998>, ISBN: 1857 -7431

GÜVENEN, O., (2014), "Bilim ve Dünya Dinamikleri", Atatürk Üniversitesi Fahri Doktora Töreni, 17 Nisan 2014, Atatürk Üniversitesi, Erzurum.

GÜVENEN, O. (2013). 2008-2011 World Economic Crisis, New Paradigms, Science Methodology, Information Systems and Decision Systems, Chapter 1 in Technology and Financial Crisis: Economical and Analytical Views, Editors: A.S. Koyuncugil and N. Ozgulbaş, ISBN: 978-1466630062, IGI Global, Pennsylvania, USA

OECD, (2009), Global Science Forum – Applications of Complexity Science for Public Policy, OECD Publishing, Paris

ARIELY, Dan, (2008), Predictably Irrational, Harper and Collins Publishers, New York, (ISBN: 978-0-06-135323-3).

POPPER, K. R., (1980), The Logic of Scientific Discovery, Hutchinson, London, (ISBN 0-09-111721-6).

İNÖNÜ, Erdal, (2003), Bilimsel Devrim ve Stratejik Anlamı, Türkiye Bilimler Akademisi, Ankara.

MONTBRIAL, Thierry de, (2002), L'action et le système du monde, PUF, Paris, (22417024/02/02).

TÜBA, Geçmişten Geleceğe Türk Bilim Teknoloji Politikaları, Ankara 2005, (ISBN 975-8593-69-2)

BULUTAY, T., (1986), Bilimin Niteliği Üzerine Denemeler- Evrim ve Quantum Kuramları, Mülkiyeliler Birliği Vakfı Yayınları, Ankara.

GÜVENEN, O., (2008) "Economic Prosperity: Interaction with Science, Knowledge and Value Systems" in Statistics, Science and Public Policy, Volume XII: Measurement, Risk and Society, Queen's University, Kingston (ISBN 9781553391524)

GÜVENEN, O., (2000), "The Interaction Between Econometrics, Information Systems and Statistical Infrastructures: Anticipation and Comparative Analysis in a Decisional Structure", Journal of the Turkish Statistical Association, Volume: 3, Sayı: 1-2, 2000, pp.47-57, Ankara, (ISSN 1300-4077).

GÜVENEN, O. (2012). "Impact of Minimizing Data Error Margins and Distortion" presented at the Institute of Operations Research and the Management Sciences Annual Meeting 2012, INFORMS, , Phoenix, Arizona.

GÜVENEN, O., M.H. ÖZTÜRK, (2007) "Information Distortion in Decision Support Systems and Respective Alternative Costs in Decision Making Structures, paper presented at the "INFORMS"

Seattle, USA.

GÜVENEN, O. (2013), "Mathematical Complexity, Chaos, and the Impact of Information Distortion on Decision Systems in Social Sciences", Impact of Science and Technology on Society and Economy Conference, World Academy of Arts and Science (WAAS), Trieste, Italy.

2- Transnational Corporations and International Organizations Driven Globalization, Regionalism, Nation State and Country Interactions.

STIGLITZ, J. (2013). The price of inequality: How today's divided society endangers our future - with a new preface. New York: Norton & Company.

SACHS, J. (2005). *The end of poverty: Economic possibilities for our time*. New York: Penguin Press.

GÜVENEN, O., (2014), "World Dynamics, Global and Regional Changes in the Countries along the Silk Road", presented at the 5th Annual Convention of Eurasian Silk Road Universities Consortium (ESRUC), 25 June 2014, Mongolia National University, Mongolia

OECD, (2013), OECD Science, Technology and Industry, Outlook 2013, Paris, (ISBN: 978-92-64-17032-2).

STIGLITZ, J. E., (2010), The Stiglitz Report, The New Press, USA, (ISBN 978-1-59558-520-2)

ACEMOGLU, D., & Robinson, J. (2012). Why nations fail: The origins of power, prosperity, and poverty. New York: Crown.

OHMAE, Kenichi, (2005), The Next Global Stage, Challenges and Opportunities in our Borderless World, Wharton School Publishing, New Jersey, (ISBN: 0-13-147-944-X)

OECD, (1997), The World in 2020, OECD, Paris, (ISBN 92 - 64 - 15627 - 5)

GÜVENEN, O., (2005), "Bilim Metodolojisi, Teknolojiler ve Karar Süreçleri", Türkiye Bilimler Akademisi Forumu (TUBA), Konferans Tebliği, İstanbul.

BINDE, J. (Ed.), (2004), The Future of Values, UNESCO, Paris, (ISBN 92 - 3 - 103946 - 6)

LINKOV, I., & MOBERG, E. (2012). Multi-criteria decision analysis environmental applications and case studies. Boca Raton, FL: CRC Press.

3- World Dynamics, Technologies, Quantum Computing, Nanotechnologies; Their Impact on the Socio-Economic Structures, Global Economy and Decision Systems

GÜVENEN, O. (2015). Nanoteknolojilerin Toplum ve Ekonomi Yapılarına Etkileri. Tuncer Bulutay'a Armağan , s. 187 –198, Mülkiyeliler Birliği Yayınları, Ankara, ISBN: 978-975-01835-8-4

OECD, (2014), OECD Economic Outlook No: 95, May 2014, Paris, (ISBN 978-92-6420466-9)

OECD, (2014), "OECD Science, Technology and Industry Scoreboard 2014", OECD Publishing, Paris, (ISBN: 978-92-64-17039-1)

OECD, (2014), OECD Factbook, Paris, (ISBN: 9789264177062)

MEADOWS, D., J. RANBERS, Dennis MEADOWS, (2004), Limits to Growth, The 30-Year Update, Chelsea Green Publishing Company, Vermont, (ISBN 1 - 931498 - 51 - 2)

OECD, (2011), Attractiveness For Innovation, OECD, Paris, (ISBN:978-92-64-09880-0)

ÇIRACI, S., and colleagues publications, UNAM (Institute of Materials Science and Nanotechnology), Bilkent University.

GÜVENEN, O. (2013), "World Distribution of Wealth and Its Impacts on Equality and Global Stability", Conference on Statistics, Science and Public Policy, Queen's University, 18 April 2013, Kingston.

GÜVENEN, O. (2008), "Dünya Dinamikleri ve Nanoteknolojilerin Türkiye Sanayileşme Stratejilerinde Sağlayabileceği Katma Değerler", Küresel Riskler Karşısında Türk Sanayinin Geleceği Sempozyumu, Prof. Dr. Doğan Kargül'e Armağan, İstanbul Üniversitesi İktisat Fakültesi, ISBN : 978-605-89515-0-1, s : 43-58, İstanbul.

GÜVENEN, O., (2008), "Socio Economic Impacts of Nanotechnology and Value Added in the World and in Turkey", presented at Faculty of Materials Science and Nanotechnology Graduate Seminar, Bilkent University, Institute of World Systems, Economies and Strategic Research, Ankara

GÜVENEN, O., M.H. Öztürk, (2008), "Impacts of Nanotechnology on Socio-Economic Structures from an Operational Perspective", presented at the Institute of Operations Research and the Management Sciences, INFORMS, Seattle, USA

GÜVENEN, O., "Dünya Dinamikleri ve Türkiye Stratejileri Kapsamında Nanobilim ve Nanoteknolojilerin Türkiye'ye Sağlayabileceği Katma Değerler", NANOTR III, Nanobilim ve Nanoteknoloji Konferansı, "Savunma, Sağlık ve Tekstil Panelleri" Açılış Konuşması, Bilkent Üniversitesi, Ankara

SHASHA, D., (2010) Natural Computing: DNA, Quantum Bits, and the Future of Smart Machines, W. W. Norton & Company, Seattle, (ISBN 13: 978-0393336832)

4- Theory and Practice of Global Political Economy.

COHN, T. H., (2008), Global Political Economy, Theory and Practice, Fifth Edition, Addison Wesley Longman, New York, (ISBN 13: 978-0-205-74470-1)

GILPIN, Robert, (2001), Global Political Economy: Understanding the International Economic Order, Princeton University Press, Princeton, (ISBN 0 - 691 - 08677 - 7)

SEITZ, J.L., (2008), Global Issues, Blackwell, Massachusetts, USA

OECD, (2014), OECD Employment Outlook 2014, OECD Publishing, Paris, (ISBN: 978-92-64-20128-6)

SCHMID, D., (2011), La Turquie au Moyen-Orient, Paris, (ISBN: 978-2-271-07352-5)

SACHS J., (2009)., Common wealth : economics for a crowded planet. New York: Penguin Group USA. (ISBN: 978-0143114871)

5- Liberalism and Interdependence

STIGLITZ, J. (2012). *The Price of inequality: How today's divided society endangers our future*. New York: W.W. Norton &.

ACEMOGLU, D., & ROBINSON J. (2012). *Why nations fail: The origins of power, prosperity, and poverty*. New York: Crown.

SEITZ, J.L. (2008), *Global Issues*, Blackwell, Oxford, ISBN 978-1-4051-5497-0

CLARK, E., J.B. Lesourd and R. Thiéblemont, (2001), *International Commodity Trading*, John Wiley, New York, (ISBN: 0471-852104).

KEOHANE, R.O. and J.S. Nye, (1996), *Realism and Complex Interdependence* in C.R. Goddard, J.T. Paasé-Smith and J. Conklin, *International Political Economy*, MacMillan Press, London, ISBN: 0-333-64625-8.

DRUCKER, P.F., (1996), *Trade Lessons from the World Economy* in C.R. Goddard, J.T. Passé-Smith and J. Conklin, *International Political Economy*, MacMillan Press, London, ISBN: 0-333-64625-8.

6- World Systems Theory, Strategic Modeling, Global Problematique and Decision Making.

MESAROVIC, M.D., D.L. Mc GINNIS, D.A. WEST (1996), *Cybernetics of Global Change*, UNESCO, Paris.

FORRESTER, J. W., (1973), *World Dynamics*, Wright Allen Press, Cambridge, Massachusetts.

MAYOR, F., (2002), *The Future Ahead*, UNESCO, Paris, (ISBN 92 - 3103 - 634 - 3)

GÜVENEN, O., (1999), *Türkiye'nin Orta ve Uzun Dönem Stratejik Hedefleri: TC 2007-15, TC 2017-9 Genel Yorumlar*, PP:104, Devlet Planlama Teşkilatı Yayını, Ankara.

GÜVENEN, O., S. BABÜR, (2003), "Information Systems for Strategic Planning and its Socioeconomic Impacts", in *7th World Conference on Systemics, Cybernetics and Informatics Proceedings*, International Institute of Systems Analysis and Cybernetics, Orlando, USA.

7- International Financial Markets, Monetary Policies and World Real Economy, International Trade, Transnational Corporations and Globalization Interactions

Güvenen, O., (2014), *World Dynamics, Global Wealth and Income Distribution*, Proceedings of Eurasian Silk Road Universities Consortium, Editors: H. Koçak, S. Tüzemen, A. Ç. Güllüce, p.p: 152 – 172, ISBN: 978-659-24400-1, Lap Lambert Academic Publishing, Germany

OECD, (2013), *Economic Policy Reforms – Going for Growth*, Paris, (ISBN: 978-92-64-16837-4)

OECD, (2011), Economic Surveys, Special Feature: Integration with Global Market , OECD Publishing, Paris, ISBN: 0376-6438

FRIEDMAN, M., (1953), The case for Flexible Exchange RatesaEvidence from Latin America.

SPRINGER, B., The March Toward Monetary Integration: Europe and the Maastricht Treaty.

FRANKEL, J. A., (1997), Regional Trading Blocs in The World System, Institute of International Economics, Washington DC., (ISBN 0 - 88132 - 202 - 4)

KRUGMAN, P. and M. OBSTFELD, (2003), International Economics, Theory and Policy, 6th International Edition, Addison - Wesley, Boston, (ISBN 0 - 321 - 11639 - 9)

8- Internatipnal Organizations : Un System, OECD, EU, IMF, World Bank, Council of Europe Development Bank, WTO,e.g.

LATEEF, K. S., The World Bank: Its First Half Century.

OECD, EU, IMF, Council of Europe, WTO publications

9- Technologies With Specific Reference to Nanotechnologies, ICT, Information Distortion, Global Population, World Energy Outlook, Water and Environmental Issues.

GÜVENEN, O., (2015), Some Comments on Technological Competitiveness, Inequality, World Population and Energy Security” in of Bureaucrats, Politicians and Statesman, Alexandre Muns Rubiol, Aresta, Washington, pp 145-149 (Electronic Book is released in Amazon, the published book format is forthcoming)

FOSTER, Lynn, E., (2005) Nanotechnology, Science, Innovation and Opportunity, New York, ISBN: 0-13-192756-6.

OECD/IEA, (2013), World Energy Outlook 2013, Paris, ISBN: 978-92-64-20092-

KAPITZA, Sergey, P., (2006), Global Population Blow-Up and After, The Demographic Revolution and Information Society, Club of Rome, Moscow, ISBN: 3-9809723-5-6.

GÜVENEN, O., (2009), "World Dynamics, Perspectives on Energy and Environment", "Conference on Statistics, Science and Public Policy, Energy, Food and Water“, Volume XIII, Queen’s University International Study Centre, Herstmonceux Castle, Hailsham, U.K.

STRANGE, T. & BAYLEY,, A., (2008), Sustainable development : linking economy, society, environment, OECD, Paris,

OECD, (2007), Science, Technology and Innovation Indicators in a Changing World, Paris, ISBN: 978-92-64-03965-0

GÜVENEN, O., (2005), "ICT as a Factor in Human Development", Boğaziçi University / UNDP Publications, İstanbul.

GÜVENEN, O., (2008), Socio-Economic Impacts of Nanotechnology and Value Added in the World and in Turkey, Faculty of Science Materials and Nanotechnology Graduate Program, Seminar, Bilkent University, Ankara.

BİNDE, J., (2001), Keys to the 21st century. New York Paris: Berghahn Books UNESCO.

MONTBRIAL. & DEFARGES, P., (2011), RAMSES. rapport annuel mondial sur le système économique et les stratégies. Paris Paris: Dunod IFRI. Institut français des relations internationales.

TÜBİTAK, (2010), "Science, Technology and Innovation in Turkey", Tübitak, Ankara

10- PROJECT LINK Model System, INTERLINK Model System, EPA Model System, Limits to Growth Model, Quantitative Analysis and Anticipative Analysis

KLEIN. Lawrence R., B.G. HICKMAN and Peter PAULY Publications, EPA Publications, Tokyo

WILLIAMS, B. & HUMMELBRUNNER, R., (2011), Systems concepts in action : a practitioner's toolkit, Calif: Stanford Business Books, Stanford

MILLER, RIEL and POLI, ROBERTO, Eds. (2010), "Anticipatory Systems and the Philosophical Foundations of Future Studies", Foresight, Vol. 12, No. 3.

MILLER, RIEL, "Anticipation: The Discipline of Uncertainty", The Future of Futures, Association of Professional Futurists, 2012.

LIMITS TO GROWTH 2004 Model System

MEADOWS, D., J. RANBERS, Dennis MEADOWS, (2004), Limits to Growth, The 30-Year Update, Chelsea Green Publishing Company, Vermont, (ISBN 1 - 931498 - 51 - 2)

11- Ethics: A Necessary Condition in System Optimal, World Dynamics and Decision Systems

GÜVENEN, O. (2012). "Ethics as a Necessary Condition in Optimal Systems: Risks, Rights" and Regulations in Statistics, Science and Public Policy, Volume: XVI, Chapter 9, A.M. Herzberg, Editor, ISBN: 978-1-55339-382-5 (bound), ISBN: 978-1-55339-383-2 (pbk.), Queen's University, Kingston

GÜVENEN, O. (2011). "World Dynamics, Ethics, Security and Society in Statistics, Science and Public Policy", Volume XV, Chapter 7, A.M. Herzberg, Editor, ISBN: 978-1-55339-375-7, ISBN:

978-1-55339-375-0, Queen's University, Kingston

GÜVENEN, O. (2011). Ethics, System Optimal, Education and University Sports, Winter Universiade 2011 (Keynote Speaker), International University Sports Federation (FISU) Conference, s. 23-24, Jan. 24-27, 2011, Atatürk University, Erzurum

GÜVENEN, O., (2013), "Anticipative Analysis, Information Systems and Social Responsibility Driven Decision Analysis", presented at the Institute of Operations Research and the Management Sciences Annual Meeting 2013, INFORMS, 4 October 2013, Minneapolis.

GÜVENEN, O. (2010). "İstatistik Bilimi, Etik, Dünya Dinamikleri, Bilgi Tahrifatı ve Karar Sistemlerine Etkileri", ODTÜ, İstatistik Sempozyumu, Ankara

12- Bringing The Gap Between Science, Decision-Making, Public Governance and Corporate Governance:

- a. Strategic research and strategy evaluation,**
- b. Science, technology, patent, innovation, demand, production structure and decision systems**
- c. Critical thinking and problem solving**
- d. Future worlds and integrated assessment analysis and research.**
- e. Nanotechnology as an integral part of world dynamics and daily life**

OECD, (2012), Attractiveness for Innovation, OECD, Paris, (ISBN:978-92-64- 09880)

HAND, David, J., (2007), Information Generation, OneWorld Publications, Oxford, ISBN: 978-1851684458

OECD, (2007), Understanding the Brain in the Birth of a Learning Science, Paris ISBN: 978-92-64-02912-5.

OECD, (2011), Business Innovation Policies: Selected Country Comparisons, OECD Publishing, Paris

OECD, (2011), Intellectual Assets and Innovation: The SME Dimension, OECD Studies on SMEs and Entrepreneurship, OECD Publishing, Paris

OECD, (2011), The Space Economy At a Glance 2011, OECD Publishing, Paris

OECD, (2010), OECD Innovation Strategy, (ISBN:978-92-08470-4)

OECD (2014), OECD Economic Surveys: Turkey, September 2014, OECD, Paris, (ISBN978-92-64-08304-2)

STIGLITZ, J. E., (2006), Making Globalization Work, The Next Steps to Global Justice, W.W. Norton & Company, USA, (ISBN 13 - 978 - 0-713-99909-9)

GÜVENEN, O., (2007) "Geleceğe Yönelik Öngörüler ve İzlenmesi Muhtemel Politikalar (2030'ların perspektifi), Üçüncü Oturum Değerlendirmesi, Dördüncü Uluslararası Sempozyum Bildirileri, Genelkurmay Askeri Tarih ve Stratejik Etüt Başkanlığı Yayınları, 2007, Ankara.

GÜVENEN, O., (2006), "2023 Dünya Dinamikleri ve Türkiye Stratejileri" (özet): Stratejik Öngörü 2023, TASAM.

GÜVENEN, O., (2008), "World Dynamics, International Comparisons: Economic Prosperity", Institute of World Systems Economies and Strategic Research, Bilkent University, Ankara.

GÜVENEN, O., (2009), "World Dynamics and Science Methodology, Technologies, Innovation, Production Structures, Information Systems and Strategic Decision Making", Institute of World Systems, Economies and Strategic Research, Ankara.

TURBAN, E., SHARDA, R., DELEN, D., (2011), Decision Support and Business Intelligence Systems 9th Edition, Prentice Hall, New York, (ISBN: 0-13-610729-X)

Grading Policy:¹

Midterm examination 30 %

Research paper 35 %

Final examination¹ 35 %

¹Please note that attendance may count toward final exam visa. If participation is assessed, assessment criteria and/or rubric should be provided. It is not desirable for attendance alone to be a part of student grading.

¹ Please see: Madde 4: Yarıyıl boyunca gerçekleştirilen değerlendirme etkinliklerinin kendi aralarındaki ağırlığı ile final sınavına girme hakkını elde etmek için gerekli en düşük başarı düzeyi ve devam zorunluluğu oranı, dersi veren öğretim elemanı tarafından belirlenir ve ilan edilir. Ancak, final sınavının toplam not içindeki ağırlığı %40'ı geçemez. Hangi öğrencilerin final sınavına girme hakkı elde edemediğini dersi veren öğretim elemanı belirler ve vize alamamış bu öğrencilere akademik takvimde belirtilen tarihler içinde FZ notu verir. FZ notu alan öğrenciler

dersin final sınavına alınmaz. (2012-2013 Bahar yarıyılından başlayarak uygulanacaktır.)”
http://www.bilkent.edu.tr/bilkent-tr/admission/vize_butunleme_esaslari.html.