WASHINGTON UNIVERSITY IN ST. LOUIS

Department of Economics

Macroeconomics II (ECON 502)
Professor: Ping Wang
E-mail: pingwang@wustl.edu
Office: Seigle Hall 340
Office Hour: Tu/Th 12:20-1 PM & by appointment[1]

Spring 2024: Tu Th 1:00-2:20 PM, SH 103
Assistant in Instruction (AI): Stefan Song
E-mail: s.yingrui@wustl.edu
Office: Seigle Hall
Office Hour/Help Session: Same as Module 1

COURSE DESCRIPTION:

This course is the second of a two-module, second-semester graduate-core course in Advanced Macroeconomics, covering the last 7 weeks starting March 6, Wed 10-11:20 and over March 19-April 25 (on Tuesdays and Thursdays), with the first module covered by Professor Paco Buera. This module is devoted to dynamic general equilibrium fundamentals plus selected contemporary issues in growth theory as well as income, firm and world distribution. Topics include, but not limited to, macro dynamics, micro structures, and drivers of economic growth and development, income and wealth inequality, firm dispersion, and world disparities. An overview of quantitative macroeconomics focusing on basic principles will be provided at the end. The main purpose of this course is to help you strengthen essential core knowledge for Ph.D. learning and get ready for exploring the frontier of macroeconomic research should you elect to do so. Course materials will be uploaded in advance to my website: https://sites.wustl.edu/pingwang/courses/macroeconomics-ll/.

GRADING:

Your overall performance will be assessed based on (i) three homework assignments (20% each, about one every two weeks) and (ii) an 80-minute problem-solving quiz (40%; on April 26, time/location TBA). In observing the green paperless policy, all homework assignments should be submitted to me electronically via e-mail, copying your AI (be sure your photo/scan/e-file is legible). ***Honor code should be observed for all assignments and the quiz.*** As a general departmental policy, no reschedule of any deadlines will be given except medical or family emergency.

Your course grade will be the simple average of the grades received from the two modules.

I strongly encourage ***active participation*** by all of you throughout the semester as well as weekly discussion (as a habit) with your senior (AI) and class peers to ensure effective learning – ***peer learning has been found most rewarding*** in Ph.D. education.

TEXTS: (recommended but not required)

(AC) Daron Acemoglu, *Introduction to Modern Economic Growth*, Princeton University Press.

In addition, the following books may be useful at various occasions for methodologies and fundamentals (no more than one or two chapters per book though):

- Infinite-horizon continuous-time optimization: AH, BF, BS, GH
- Infinite-horizon discrete-time optimization: BF, SL
- Overlapping generations framework: AZ, GR
- Computational dynamic models: LS

(AH) Aghion, P. and P. Howitt (1998), Endogenous Growth Theory, MIT Press.
(AZ) Azaridis, C. (1993), *Intertemporal Macroeconomics*, Blackwell publisher.
(BF) Blanchard, O. and S. Fischer (1990), *Lectures in Macroeconomics*, MIT Press.

[1] Office hours start after the spring break, all in person.

(BC) Boldrin, M., B. Chen and P. Wang (2004), *Human Capital, Trade and Public Policy*, Edwards-Edgar.
(BS) Barro, R. and X. Sala-i-Martin (1995), *Economic Growth*, McGraw-Hill.
(DR) Romer, D. (1996), *Advanced Macroeconomics*, McGraw-Hill.
(DZ) Drazen, A. (2000), *Political Economy in Macroeconomics*, Princeton University Press.
(GR) Galor, O. (2007), *Discrete Dynamical System*, Springer.
(GH) Grossman, G. and E. Helpman (1991), *Innovation and Growth in Global Economy*, MIT Press.
(LS) Ljungqvist, L. and T. Sargent (2000), Recursive Macroeconomic Theory, MIT Press.
(SL) Stokey, N., R. Lucas, E. Prescott (1989), Recursive Methods in Economic Dynamics, Harvard Press.

TIMETABLE:

3/6	Wed	Lecture A-1: Exploring the World of Growth and Development	
3/19	Tue	Lecture A-2: Foundations of Dynamic Macroeconomic Analysis	
3/21	Thu	Lecture A-3: Endogenous Growth Theory	(HW#1 distributed)
3/26	Tue	Lecture A-3: Endogenous Growth Theory	(HW#1 due by 1 PM)
3/28	Thu	Lecture B-1: Technology and Growth	
4/2	Tue	Lecture B-1: Technology and Growth	
4/4	Thu	Lecture B-2: Human Capital and Growth	(HW#2 distributed)
4/9	Tue	Lecture B-2: Human Capital and Growth	(HW#2 due by 1 PM)
4/11	Thu	Lecture B-3: Demographic Transition and Growth	
4/16	Tue	Lecture C-1: Income and Wealth Distribution	
4/18	Thu	Lecture C-1: Income and Wealth Distribution	(HW#3 distributed)
4/23	Tue	Lecture C-2: Firm Distribution and Trade	(HW#3 due by 1 PM)
4/25	Thu	Lecture D: Quantitative Macroeconomics	
4/28	Fri	Quiz Coverage A-3 to C-2 excluding B-4	(Quiz 1-2:20)

READINGS: (* Required; + Recommended)[2]

A. Fundamentals in Growth Theory

1. Stylized Facts and Growth Empirics

*(AC), ch. 1.
+(BS), chs. 1, 2.
+(BC), ch. 1, "Introduction: A Quick Reference to Growth Theory."
+Levine, R. and Renelt, D. (1992), "A sensitivity analysis of cross-country growth regressions," AER, 82, 942-963.
Islam, N. (1995), "Growth empirics: a panel data approach," QJE, 110, 1127-1170.
de la Fuente (1997), "The Empirics of Growth and Convergence: A Selective Review," JEDC, 21, 23-73.
+Jones, L. and R. Manuelli (1997), "The Source of Growth," JEDC, 21, 75-114.
Sala-i-Martin, X., Doppelhofer, G. and Miller, R. (2000), "Determinants of long-run growth: a Bayesian Averaging of Classical Estimates (BACE) approach," NBER No. 7750.
Ghiglino, C. (2002), "Introduction to Economic Growth and General Equilibrium," JET, 105, 1-17.
Banerjee, A.V., Duffo, E. (2005), "Growth theory through the lens of development economics," *Handbook of Economic Growth*, 1, 473-552.
*Jones, C. (2015), "The Facts of Economic Growth," NBER working paper #21142.
Glandon, P., K. Kuttner, S. Mazumder and C. Stroup (2022), "Macroeconomic Research, Present

[2] The reading list is long, starting from many now-classic pieces to help you understand the originality of the ideas and the dynamic development of the literature. For the core knowledge, only refer to required papers marked with *'s.

and Past," NBER working paper #29628.
+Comin, D. A., J. Quintana, T. G. Schmitz and A. Trigari (2023), "Revisiting Productivity Dynamics in Europe: A New Measure of Utilization-Adjusted TFP Growth," NBER Working Paper No. 31006.
+Fernández-Villaverde, J., G. Ventura and W. Yao (2023), "The Wealth of Working Nations," NBER Working Paper No. 31914.
*Wang, P. (2024), "Exploring the World of Growth and Development," Lecture Notes, Washington University-St. Louis.

2. Fundamentals: Aggregate Production, Representative Agent, Welfare Theorems and Central Planner, Infinite-Horizon Optimization (Dynamic Programming and Optimal Control), Growth with Overlapping Generations, and Stochastic Growth

*(AC), chs. 5 (representative agent, welfare theorems and central planning)
*(AC), chs. 6-7 & 9 (dynamic programming, optimal control and growth with overlapping generations)
+(AC), chs. 16-17, appendix A,B (stochastic dynamic programming and stochastic growth)
(AZ), chs. 7, 13 (basic growth models in discrete time with finite or infinite lifetime)
(BS), ch. 2 (Solow-Swan-Ramsey exogenous growth models)
(DR), ch. 2 (Solow-Swan-Ramsey exogenous growth models)
(BS), secs. 4.1-4.3 (introduction to endogenous growth theory – AK model & variations)
+(SL), chs. 3-5, 9-10.
+ Daron Acemoglu, Martin Kaae Jensen (2015), "Robust Comparative Statics in Large Dynamic Economies," JPE, 123, 587–640.
*Wang, P. (2024), "Foundations of Dynamic Macroeconomic Analysis," Lecture Notes, Washington University-St. Louis.

3. Basic One-Sector Models: from Constant to Variable Returns

(AC), ch. 11.
(AH), ch. 5.
(BS), ch. 4.
+Rebelo, S. (1991), "Long Run Policy Analysis and Long Run Growth," JPE, 99, 500-521.
Romer, P. (1986), "Increasing Returns and Long-run Growth," JPE, 94, Oct. 1986, 1002-37.
Barro, R. J. (1988), "Government Spending in a Simple Model of Endogenous Growth," JPE, 98, S103-S125.
Barro, R. J. and X. Sala-i-Martin (1992), "Public Finance in Models of Endogenous Growth," RES, 59, 645-661.
*Jones, L. and R. Manuelli (1990), "A Convex Model of Equilibrium Growth: Theory and Policy Implications," JPE, 98, 1008-1038.
*Xie, D. (1991), "Increasing Returns and Increasing Rates of Growth," JPE, 99, 429-435.
*Wang, P. (2024), "Endogenous Growth Theory," Lecture Notes, Washington University-St. Louis.

4. Basic Multi-Sector Models: from Balanced to Nonbalanced Growth

(AH), ch. 10.
(BS), ch. 5.
(GH), chs. 3, 4.
*Lucas, R. E., Jr. (1988), "On the Mechanics of Economic Development," JME, 22, 3-42.
Syrquin, M. (1988), "Patterns of Structural Change," in Hollis Chenery and T.N. Srinivasan, eds., *Handbook of Development Economics*, Vol. 1, Amsterdam and New York: North Holland, 1988, chapter 7, pp. 203–273.

Rebelo, S. (1991), "Long Run Policy Analysis and Long Run Growth," JPE, 99, 500-521.
*Lucas, R. E., Jr. (1993), "Making a Miracle," Econometrica, 61, 251-272.
*Bond, E., P. Wang and C. Yip (1996), "A General Two-Sector Model of Endogenous Growth with Physical and Human Capital: Balanced Growth and Transitional Dynamics," JET, 68, 149-173.
+Kongsamut, P., Rebelo, S., Xie, D. (2001), "Beyond balanced growth," RES, 68, 869–882.
+Bond, E. W., K. Trask and P. Wang (2003), "Factor Accumulation and Trade: Dynamic Comparative Advantage with Endogenous Physical and Human Capitals," IER, 44, 1041-1060.
+Acemoglu, D. and V. Guerrieri (2008), "Capital Deepening and Nonbalanced Economic Growth," JPR, 116, 467-498.
*Wang, P. (2024), "Endogenous Growth Theory," Lecture Notes, Washington University-St. Louis.

5. Transitional Dynamics and Local Indeterminacy (Not to be lectured but for your reference only)

Boldrin, M. (1992), "Dynamic Externalities, Multiple Equilibria, and Growth", JET, 58, 198-218.
Galor, O. (1992), "A Two-Sector Overlapping-Generations Model: A Characterization of the Dynamical System", Econometrica, 60, 351-386.
Benhabib, Jess and Roger Farmer (1994), "Indeterminacy and Increasing Returns," JET, 63, 19-41.
Benhabib, J. and R. Perli (1994), "Uniqueness and Indeterminacy: On the Dynamics of Endogenous Growth," JET, 63, 113-142.
Boldrin, M. and A. Rustichini (1994), "Indeterminacy of Equilibria in Models with Infinitely-lived Agents and External Effects," Econometrica, 62, 323-342.
Xie, D. (1994), "Divergence in Economic Performance: Transitional Dynamics with Multiple Equilibria," JET, 63, 97-112.
+Bond, E., P. Wang and C. Yip (1996), "A General Two-Sector Model of Endogenous Growth with Physical and Human Capital: Balanced Growth and Transitional Dynamics," JET, 68, 149-173.
+Benhabib, J. Q. Meng and K. Nishimura (2000), "Indeterminacy under Constant Returns to Scale in Multisector Economies," Econometrica, 68, 1541-1549.
Mino, K., K. Shimomura and P. Wang (2005), "Occupational Choice and Dynamic Indeterminacy," RED, 8, 138-153.
+Mino, K., K. Nishimura, K. Shimomura and P. Wang (2008), "Dynamic Indeterminacy in a Discrete-time Socially Constant Returns Models," Economic Theory, 34, 1-23.
Hirano T. and J. Stiglitz (2022), "The Wobbly Economy: Global Dynamics with Phase and State Transitions," NBER working paper #29806.

B. Sources of Economic Growth

1. Technological Changes, Adoption and Long-Run Growth
*(AC), sec. 21.4.
(AC), chs. 15, 18.
(AH), chs. 2, 3.
(GH), chs. 3, 4, 11, 12.
*Romer, P. (1990), "Endogenous Technological Change," JPE, 98, 71-102.
Rustichini and Schmitz (1991), "Research and Imitation in Long-Run Growth," JME, 271-292.
Segerstrom, P. (1991), "Innovation, Imitation and Growth," JME, 25.
*Aghion, P. and P. Howitt (1992), "A Model of Growth Through Creative Destruction," EC, 60, 323-351.
+Parente, S. and E. Prescott (1994), "Barrier to Technology Adoption and Development," JPE, 102, 298-321.
Jones, C. (1995), "R&D-based Models of Economic Growth," JPE, 103, 759-784.
Jones, R. and A. Newmark (1995), "Adoptive Capital, Information Depreciation and Schumpeterian Growth," EJ, July, 897-915.

+Stokey, N. (1995), "R&D and Economic Growth," RES, 62, 469-489.
Laing, D., T. Palivos and P. Wang (1995), "R&D in a Model of Search and Growth," AER, Papers & Proceedings, May, 291-295.
+Jovanovic, B. and Y. Nyarko (1996), "Learning by Doing and the Choice of Technology," Econometrica, 64, 1299-1310.
Kortum, S. S. (1997), "Research, patenting, and technological change," Econometrica, 1389-1419.
+Basu, S., Weil, D. (1998), "Appropriate technology and growth," QJE, 113, 1025-1054.
+Galor, O. and O. Moav (1998), "Technological Progress, Mobility, and Economic Growth," AER, 87, 363-382.
Caselli, F. (1999), "Technological Revolutions," AER, 89, 78-102.
+Jovanovic, B. and D Stolyarov (2000), "Optimal adoption of complementary technologies," AER, 90, 15-29.
Thesmar, D. and M. Thoemig (2000), "Creative Destruction and Firm Organization Choice," QJE, 115, 1201-1237.
Chen, B., J. Mo and P. Wang (2002), "Technology Adoption, Matching and Economic Growth with Market Frictions," JEDC, 26, 1927-1954.
+Eeckhout, J. and B. Jovanovic (2002), "Knowledge Spillovers and Inequality," AER, 92, 1290-1307.
Acemoglu, D. (2003), "Labor-and-capital-augmenting technical change," JEEA, 1, 1-37.
Boldrin, M. and D. K. Levine (2004), "Rent-seeking and Innovation," JME, 127-160.
+Aghion, P., N. Bloom, R. Blundell, R. Griffith, and P. Howitt (2005), "Competition and Innovation: An Inverted-U Relationship," QJE, 120, 701-728.
*Atkeson, A. and P. Kehoe (2005), "Modeling and Measuring Organization Capital," JPE, 113, 1026-53.
Bellettini, G. and G. I. P. Ottaviano (2005), "Special Interests and Technological Change," RES, 72, 43-56.
+Jones, C. (2005), "The shape of production functions and the direction of technical change," QJE, 120, 517-549.
Mokyr, J. (2005), "Long-term Economic Growth and the History of Technology," in P. Aghion and S. Durlauf (eds.), *Handbook of Economic Growth*, North-Holland.
*Samaniego, R. M. (2006), "Organizational capital, technology adoption and the productivity slowdown," JME, 53, 1555-1569.
Clark, G. (2007), *A Farewell to Alms: A Brief Economic History of the World*, Princeton Univ. Press.
+Acemoglu, D., P. Aghion, and F. Zilibotti (2006). "Distance to Frontier, Selection, and Economic Growth," JEEA, 4, 37-74.
+Aghion, P. and P. Howitt (2006), "Appropriate Growth Policy: A Unifying Framework," JEEA, 4, 269-314.
+Caselli, F., Coleman, J. (2006), "The World Technology Frontier," AER, 96, 499-522.
Acemoglu, D. and V. Guerrieri (2008), "Capital Deepening and Nonbalanced Economic Growth," JPR, 116, 467-498.
Pastor, L. and P. Veronesi (2009), "Technological Revolutions and Stock Prices," AER, 99, 1451-1483.
Chen, B., J. Mo and P. Wang (2012), "A Micro-Matching Foundation of Neutral Technical Progress," Economic Theory, 50, 445-462.
Acemoglu, D., U. Akcigit, N. Bloom and W. Kerr (2012) "Innovation, Reallocation and Growth," working paper.
+Jess Benhabib, Jesse Perla and Christopher Tonetti (2012), "Catch-Up and Fall-Back through Innovation and Imitation," Econometrica.
Wang, P. (2013), "Distance to Frontier, Technological Choice and Growth," work in progress.
Acemoglu, D. (2014), "Localized and Biased Technologies: Atkinson and Stiglitz's New View, Induced Innovations and Directed Technological Change," NBER Working Paper.
Bianchi, F. and H. Kung (2014), "Growth, Slowdowns, and Recoveries," NBER Working Paper.
Thomas J. Holmes, Ellen R. McGrattan, and Edward C. Prescott (2015), "Quid Pro Quo: Technology

Capital Transfers for Market Access in China," RES, 82 (3): 1154-1193.
Ana Maria Santacreu (2015), "Innovation, diffusion, and trade: Theory and measurement," JME, 75, 1-20.
*Acemoglu, D. and P. Restrepo (2018), "The Race between Man and Machine: Implications of Technology for Growth, Factor Shares, and Employment," AER, 108(6), 1488–1542.
*Wang, P., T.N. Wong and C. Yip (2018), "Technology Assimilation and Aggregate Productivity," NBER working paper # 24960.
Atkeson, A. and A. Burstein (2019), "Aggregate Implications of Innovation Policy," JPE, 127, 2625-2683.
+Aghion, P., A. Bergeaud, T. Boppart, P.J. Klenow, and H. Li (2019), "Missing Growth from Creative Destruction." AER, 109, 2795-2822.
+Dessein, W. and A. Prat (2022), "Organizational Capital, Corporate Leadership, and Firm Dynamics," JPE, 130, 1477-1536.
+Trefler, D. and R. Sun (2022), "AI, Trade and Creative Destruction: A First Look," NBER working paper #29980.
Acemoglu, D. and J. Loebbing (2022), "Automation and Polarization," NBER working paper #30528.
*Crouzet, N., J. Eberly, A. Eisfeldt and D.s Papanikolaou (2022), "A Model of Intangible Capital," NBER working paper #30376.
+Ding, X., T. Fort, S. Redding and P. Schott (2022), "Structural Change Within versus Across Firms: Evidence from the United States," NBER working paper #30127.
+Ball, L. and G. Mankiw (2023), "Market Power in Neoclassical Growth Models," REStud (forthcoming).
*Acemoglu, D., D. Autor and C. Patterson (2023), "Bottlenecks: Sectoral Imbalances and the US Productivity Slowdown," NBER working paper #31427.
*Celik, M. A. (2023), "Does the Cream Always Rise to the Top? The Misallocation of Talent in Innovation," JME, 133, 105-128.

2. Skills, Health and Long-Run Growth

*(AC), secs. 10.3 & 10.8.
Lucas, R. E., Jr. (1988), "On the Mechanics of Economic Development," JME, 22, 3-42.
Jovanovic and Rafael Rob (1989), "The Growth and Diffusion of Knowledge," RES, 56, 569-582.
Romer, P. (1990), "Human Capital and Growth: Theory and Evidence," CR, 32, 251-286.
Azariadis, C. and A. Drazen (1990), "Threshold Externalities in Economic Development," QJE, 105, 501-526.
Stokey, N. (1991), "Human Capital, Product Quality, and Growth," QJE, 106, 587-616.
+Lucas, R. E., Jr. (1993), "Making a Miracle," Econometrica, 61, 251-272.
Young, A. (1993), "Invention and Bounded Learning by Doing," JPE, 101, 443-472.
Benhabib, J. and Spiegel, M.M. (1994), "The role of human capital in economic development: evidence from aggregate cross-country data," JME, 34, 143-173.
Tallman, E. and P. Wang (1994), "Human Capital Evolution and Endogenous Growth: Evidence from Taiwan," JME, 34, 101-124.
*Laing, D., T. Palivos and P. Wang (1995), "Learning, Matching and Economic Growth," RES, 62, 115-129.
Bond, E., P. Wang and C. Yip (1996), "A General Two-Sector Model of Endogenous Growth with Physical and Human Capital: Balanced Growth and Transitional Dynamics," JET, 68, 149-173.
+Acemoglu, D. (1996), "A Microfoundation for Social Increasing Returns in Human Capital Accumulation," QJE, 111, 779-804.
Ferschtman, C., K. Murphy and Y. Weiss (1996), "Social Status, Education, and Growth," JPE, 104, 108-132.

Redding, S. (1996), “Low-Skill, Low-Quality Trap: Strategic Complementarities between Human Capital and R&D, EJ, 106, 458-471.
Topel, Robert (1999), “Labor markets and economic growth, in *Handbook of labor economics*. Volume 3C, Amsterdam; New York and Oxford: North-Holland, 2943-2984.
Bils, M. and Klenow, P. J. (2000), “Does schooling cause growth?,” AER, 90, 1160-1183.
Hanushek, E. A. and Kimko, D. D. (2000), “Schooling, labor-force quality, and the growth of nations,” AER, 90, 1184-1208.
*Tamura, Robert (2001), “Teachers, growth, and convergence,” JPE, 109, 1021-1059. 369-393.
Galor, O. and O. Moav (2004), "From Physical to Human Capital Accumulation: Inequality and the Process of Development," RES, 71, 1001-1026.
+Laing, D., T. Palivos and P. Wang (2003), “The Economics of New Blood,” JET, 112, 106-156.
*Grossman, G. (2004), “The Distribution of Talent and the Pattern and Consequences of International Trade,” JPE, 209-239.
+MacDonald, G. and M. Weisbach (2004), “The Economics of Has-Beens,” JPE, 112, S289-S310.
Acemoglu, D. and S. Johnson (2007), “Disease and Development: The Effect of Life Expectancy on Economic Growth,” JPE, 115, 925-985.
Cunha, F. and J. Heckman (2007), “The Technology of Skill Formation,” AER, 97, 31-47.
Ghatak, M., M. Morellib and T. Sjostromc (2007), “Entrepreneurial talent, occupational choice, and trickle up policies,” JET, 137, 27-48.
Newman, A. (2007), “Risk-bearing and entrepreneurship,” JET, 137, 11-26.
Weil, David N. (2007), “Accounting for the Effect of Health on Economic Growth,’’ QJE, 122, 1265-1306.
Chen, B., S. Peng, and P. Wang (2009), “Intergenerational Human Capital Evolution, Local Public Good Preferences, and Stratification,” JEDC, 33, 745-757.
Kambourov, G. and I. Manovskii (2009), “Occupational Mobility and Wage Inequality,” RES, 76, 731-759.
+Erosa, A., Koreshkova, T., Restuccia, D. (2010), “How important is human capital? a quantitative theory assessment of world income inequality,” RES, 77, 1421-1449.
+Manuelli, R., A. Seshadri and Y. Shin (2010), “Lifetime Labor Supply and Human Capital Accumulation,” Working Paper.
+Chen, B., H. Chen and P. Wang (2011), “Public Policy and Human Capital Accumulation in an Endogenously Growing Economy with Labor-Market Frictions,” IER, 52, 131-160.
+Bowlus, Audra J., and Chris Robinson, (2012) “Human Capital Prices, Productivity, and Growth,” AER, 102, 3483-3515.
Schoellman, T. (2012), “Education quality and development accounting,” RES, 79, 388-417.
+Jones, Benjamin F. (2014) "The Human Capital Stock: A Generalized Approach." American Economic Review, 104(11): 3752-77.
*Karabarbounis, L. and B. Neiman (2014), “The Global Decline of the Labor Share,” QJE, 129:1, 61-103.
Ventura, G., Ravikumar, B., Cubas, G. (2014), “The allocation of talent, economic development and skill premia,” Working Paper.
Ehrlich, I. and J. Kim (2015), “Immigration, Human Capital Formation and Endogenous Economic Growth,” NBER #21699.
+Murphy, K. and R. Topel (2015) “Human Capital Investment, Inequality and Economic Growth NBER #21841.
+Wang, Y. and P. Wang (2016), “Barriers to Health and Poverty Trap,” NBER #19263.
+Charles I. Jones (2016), “Life and Growth,” JPE, 124, 539–578.
*Grossman, G. E. Helpman, E. Oberfield, and T. Sampson (2017), “Balanced Growth Despite Uzawa,” AER, 107(4): 1293–1312.
+Lise, J. and J.-M. Robin (2017), “The Macrodynamics of Sorting between Workers and Firms,” AER, 107, 1104-35.

Chen, L., P. Wang, and Y. Yao (2017), “Smoking, Health Capital, and Longevity: Evaluation of Personalized Cessation Treatments in a Lifecycle Model with Heterogeneous Agents,” NBER working paper #23820.
+Cheng, W.J. (2017), “Explaining Job Polarization: The Role of Heterogeneity in Capital Intensity,” Academia Sinica working paper.
+Lester, B., A. Shourideh, V. Venkateswaran, and A. Zetlin-Jones (2019), “Screening and Adverse Selection in Frictional Markets,” JPE, 127, 338-377.
Abbott, B. G. Gallipoli, C. Meghir, and G. L. Violante (2019), “Education Policy and Intergenerational Transfers in Equilibrium,” JPE, 127, 2569-2624.
Fudenberg, D., and L. Rayo (2019) "Training and Effort Dynamics in Apprenticeship" AER, 109, 3780-3812.
+Lee, S.Y. and A. Seshadri (2019), “On the Intergenerational Transmission of Economic Status,” JPE, 127, 855-921.
+Zimmerman, S.D. (2019), "Elite Colleges and Upward Mobility to Top Jobs and Top Incomes." American Economic Review, 109 (1): 1-47.
+Lazear, E.P. (2019), “Productivity and Wages: Common Factors and Idiosyncrasies Across Countries and Industries,” NBER working paper #26428.
Yuen, K. and P. Wang (2019), “Minimum Wage in a Multi-Tier Search and Wage-Posting Model with Cross-Market Substitutions,” NBER working paper #26378.
Bilal, A.G., N. Engbom, S. Mongey, and G.L. Violante (2019), “Firm and Worker Dynamics in a Frictional Labor Market, NBER working paper #26547.
*Acemoglu, D. and P. Restrepo (2019), “Automation and New Tasks: How Technology Displaces and Reinstates Labor,” JEP, 33(2), 3–30.
+Cette, G., L. Koehl, and T. Philippon (2019), “Labor Shares in Some Advanced Economies,” NBER working paper #26136.
*David E. Bloom, D. Canning, R. Kotschy, K. Prettner and J. J. Schünemann (2019), “Health and Economic Growth: Reconciling the Micro and Macro Evidence,” NBER working paper #26003.
+Wang, P. and Y. Wang (2020), “Health and Economic Development from Cross-Country Perspectives,” Economic Review, Federal Reserve Bank of St. Louis.
*Eichenbaum, M.S., S. Rebelo and M. Trabandt (2020), “The Macroeconomics of Epidemic,” NBER working paper #26882.
Acemoglu, D., V. Chernozhukov, I. Werning and M.D. Whinston (2020), “A Multi-Risk SIR Model with Optimally Targeted Lockdown,” NBER working paper #27102.
+Kaplan, G., B. Moll and G.L. Violante (2020), “The Great Lockdown and the Big Stimulus: Tracing the Pandemic Possibility Frontier for the U.S.,” BFI Working Paper.
+Lise, J. and Fabien Postel-Vinay (2020), “Multidimensional Skills, Sorting, and Human Capital Accumulation,” AER.
*Grossman, G. E. Helpman, E. Oberfield, and T. Sampson (2021), “The Productivity Slowdown and the Declining Labor Share: A Neoclassical Exploration,” AER: Insights.
Fan, X., A. Seshadri and C. Taber (2022), “Estimation of a Life-Cycle Model with Human Capital, Labor Supply and Retirement,” NBER working paper #29905.
*Deming, D. (2022), “Four Facts about Human Capital,” NBER working paper #30149.
Vogel, J. (2022), “The Race Between Education, Technology, and Institutions,” NBER working paper #30311.
Stantcheva, S. (2022), “Inequalities in the Times of a Pandemic,” NBER working paper #29657.
*Braxton, J. and B. Taska (2022), “Technological Change and the Consequences of Job Loss,” AER, 113, 279-316.
Liao, P., P. Wang, Y. Wang, and C.K. Yip (2022), “Educational Choice, Rural-urban Migration and Economic Development,” *Economic Theory* 74, 1-67.

+Garriga, C., A. Hedlund, Y. Tang and P. Wang (2023), “Rural-Urban Migration, Structural Transformation, and Housing Markets in China,” American Economic Journal: Macroeconomics 15, 413-440.

+Hu, Y., T. Kunieda and K. Nishmura and P. Wang (2023), “Flying or Trapped?” Economic Theory 75, 341-388.

Wang, P. and Y. Yao (2023), “Shelter-in-Place in the Pandemic of COVID-19: A Quantitative Lifecycle Framework for Policy Evaluation,” (in progress).

3. Fertility Choice, Demographic Transition and Long-Run Growth

+(AC), sec. 21.2.

(BS), sec. 9.2.

Razin, A. and U. Ben-Zion (1975), “An Intergenerational Model of Population Growth,” AER, 65, 923-33.

Galor, O. (1986), “Time Preference and International Labor Migration,” JET, 38, 1-20.

+Barro, R. J. and G. S. Becker (1989), “Population Growth and Economic Growth,” EC, 57, July.

*Becker, G. S., K. Murphy and R. Tamura (1990), “Human Capital, Fertility, and Economic Growth,” JPE, 98, S12-S37.

Kremer, M. (1990), “Population Growth and Technological Change: One Million B.C. to 1990,” QJE, 108, 681-716.

*Wang, P., C. Yip and C. Scottes (1994), “Fertility Choice and Economic Growth: Theory and Evidence,” REStat, 71, 255-266.

Scottes, C. and Wang, P. (1995), “Can Government Enforcement Permanently Alter Fertility? The Case of China,” EI, 552-570.

Palivos, T. (1995), “Endogenous Fertility, Multiple Growth Paths and Economic Convergence,” JEDC, 19, 1489-1510.

+Galor, Oded and Weil, David (2000), “Population, technology and growth: from Malthusian stagnation to the demographic transition and beyond,” AER, 90, 806-828.

de la Croix and M Doepke (2003), “Inequality and Growth: Why Differential Fertility Matters,” AER, 93, 1091-1113.

+Galor, O. (2005), "From Stagnation to Growth: Unified Growth Theory," in *Handbook of Economic Growth*, North-Holland, 171-293.

*Greenwood, J., A. Seshadri, and G. Vandenbroucke (2005), “The Baby Boom and Baby Bust,” AER, 95, 183–207.

Mullin, C. and P. Wang (2005), “The Timing of Childbearing among Ability Heterogeneous Women in Dynamic General Equilibrium,” working paper.

+Golosov, M., L. Jones and M. Tertilt (2006), “Efficiency with Endogenous Population Growth,” Econometrica, 75, 1039-1071.

Guryan, J., E. Hurst, and M. S. Kearney (2008), “Parental Education and Parental Time With Children,” JEP, 22, 23–46.

Bara, M. and O. Leukhina (2009), “Demographic transition and industrial revolution: A macroeconomic investigation,” RED.

Jayachandran, S. and A. Lleras-Muney (2009), “Life Expectancy and Human Capital Investments: Evidence from Maternal Mortality Declines,” QJE, 124, 349-397.

Manuelli, R. and A. Seshadri (2009), “Explaining International Fertility Differences,” QJE, 124, 771-807.

+Bailey, M. J., M. E. Guldi, and B. J. Hershbein (2013), “Is There A Case for a Second Demographic Transition? Three Distinctive Features of the Post-1960 U.S. Fertility Decline,” NBER WP.

Aaronson, Daniel, Fabian Lange and Bhashkar Mazumder (2014) "Fertility Transitions along the Extensive and Intensive Margins." American Economic Review, 104(11): 3701-24.

+Baudin, Thomas, David de la Croix and Paula E. Gobbi (2015) "Fertility and Childlessness in the United States." American Economic Review, 105(6): 1852-82.

+Doepke, M., M. Hazan and Y. Maoz (2015), "The Baby Boom and World War II: A Macroeconomic Analysis," RES, 82, 1031-73.

+Cervellati, Matteo and Uwe Sunde (2015) "The Economic and Demographic Transition, Mortality, and Comparative Development." American Economic Journal: Macroeconomics, 7(3): 189-225.

Lien, H.M. and P. Wang (2016), "Work, Education and Timing of Childbearing: Theory and Evidence".

Cheung, T. (2018), "Schooling, Skill Demand and Differential Fertility in the Process of Structural Transformation," working paper.

Liao, P., P. Wang, Y. Wang, and C.K. Yip (2021), "Fertility and Internal Migration," Economic Review, Federal Reserve Bank of St. Louis.

Liao, P., P. Wang, Y. Wang, and C.K. Yip (2021), "To Stay or to Migrate? When Becker Meets Harris-Todaro," NBER Working Paper No. 27767.

*Jones, C. (2022), "The End of Economic Growth? Unintended Consequences of a Declining Population," AER, 112, 3489-3527.

Doepke, M., A. Hannusch, F. Kindermann and M. Tertilt (2022), "The Economics of Fertility: A New Era," NBER Working Paper No. 29948.

+Acemoglu, D. and P. Restrepo (2023), "Demographics and Automation," REStud (forthcoming).

Jiang, H., H. Lien, P. Wang and Y. Wang (2024), "Ability Heterogeneity, Labor Market Activity and Timing of Childbearing in Dynamic General Equilibrium," (in progress).

4. Money, Finance and Long-Run Growth (Not to be lectured but for your reference only)

(AC), secs. 21.1, 21.6.

Stiglitz, J. E. and A. Weiss (1981), "Credit Rationing in Markets with Imperfect Information," AER, 71, 393-410.

+Greenwood and Jovanovic (1990), "Financial Development, Growth and Distribution of Income," JPE, Aug., 827-852.

++Bencivenga, V. and B. Smith (1991), "Financial Intermediation and Endogenous Growth," RES, 58, 195-209.

++Tssidon, D. (1992), "A Moral Hazard Trap to Growth," IER, May, 299-321.

+Wang, P. and C. Yip (1991), "Alternative Approaches to Money and Growth," JMCB, 24, 553-562.

Wang, P. and C. Yip (1992), "Examining the Long-Run Effect of Money on Economic Growth," JMacro, 14, 359-369.

Bencivenga, V. and B. Smith (1993), "Some Consequences of Credit Rationing in Endogenous Growth Model," JEDC, 17, 97-122.

Gomme, P. (1993), "Money and Growth Revisited," JME, 32, 51-77.

King, R. and R. Levine (1993), "Finance and Growth: Schumpeter Might Be Right," QJE, 717-737.

Ireland, P. (1994), "Money and Growth: An Alternative Approach," AER, 84, 47-65.

Van der Ploeg, F. and G. Alogoskoufis (1994), "Money and Endogenous Growth," JMCB, 26, 771-791.

Jones, L. and R. Manuelli (1995), "Growth and the Effects of Inflation," JEDC, 19, 1405-1428.

Roubini, N. and Sala-i-Martin, X. (1995), "A growth model of inflation, tax evasion, and financial repression," JME, 35, 275-301.

+Acemoglu, D. and Zilibotti, F. (1997), "Was Prometheus unbound by chance? Risk, diversification and growth," JPE, 105, 709-751.

++Aghion, P. and P. Bolton (1997), "A Theory of Trickle-Down Growth and Development," RES, 64, 151-72.

+Kiyotaki, N. and J. Moore (1997), "Credit Cycles," JPE, 105, 211-248.

Levine, R. and Zervos, S. (1998), "Stock markets, banks, and economic growth," AER, 88, 537-558.

Rajan, R. G. and L. Zingales (1998), "Financial Dependence and Growth," AER, 88, 559-586.

+Aghion, P., M. Dewatripont, and P. Rey (1999), "Competition, financial discipline and growth," RES, 66, 825-852.
Becsi, Z., P. Wang and M. Wynne (1999), "Costly Intermediation, the Big Push and the Big Crash," JDE, 59, 175-193.
Cooley, T. F. and V. Quadrini (2001), "Financial markets and firm dynamics," AER, 91, 1286.
+Jha, S., P. Wang and C.K. Yip (2002), "Dynamics in a Transactions-Based Monetary Growth Model," JEDC, 611-635.
++Wasmer, E. and P. Weil (2004), "The Macroeconomics of Labor and Credit Market Imperfections," AER, 94, 944-963.
Aghion, P., P. Howitt, and D. Mayer-Foulkes (2005), "The Effect of Financial Development on Convergence: Theory and Evidence," QJE, 120, 173-222.
Becsi, Z., V. Li and P. Wang (2005), "Heterogeneous Borrowers, Liquidity and the Search for Credit," JEDC, 29, 1331-1360.
Levine, R. (2005), "Finance and Growth: Theory, Evidence, and Mechanisms." In *Handbook of Economic Growth*, edited by P. Aghion and S. Durlauf, Amsterdam: North-Holland.
+Berentsen, A., G. Camera, and C. Waller (2007), "Money, Credit and Banking," JET, 135, 171-195.
Chang, J., W. Chang, C. Lai and P. Wang (2007), "Equilibrium Dynamics in an Endogenous Growth Model of Money and Banking," JMCB, 39, 1683-1710.
Laing, D., V. Li and P. Wang (2007), "Inflation, Trade Frictions, and Productive Activity in a Multiple-Matching Model of Money," JME, 54, 1949-1961.
+Matsuyama, K. (2007), "Credit Traps and Credit Cycles," AER, 97, 503-516.
+Buera, F., J. Kaboski and Y. Shin, Y. (2009), "Finance and development: A tale of two sectors," NBER Working Paper No. 14914.
Guerrieri, V., R. Shimer, and R. Wright (2010), "Adverse Selection in Competitive Search Equilibrium," Econometrica, 78, 1823-1862.
Silveira, R. and R. Wright (2010), "Liquidity and the Market for Ideas," JET, 145, 1550-1573.
Farre-Mensa, J. and A. Ljungqvist (2013), "Do Measures of Financial Constraints Measure Financial Constraints?" NBER Working.
Laing, D. V. Li and P. Wang (2013), "Money and Prices in a Multiple-Matching Decentralized Trading Model," Macroeconomic Dynamics, 17, 54-88.
+Wang, P. and D. Xie (2013), "Real Effects of Steady Inflation in the Presence of Search Frictions: Might Mundell-Tobin Be Right?" JMCB, 1517–1546.
Becsi, Z., V. Li and P. Wang (2013), "Mismatch in Credit Markets," EER, 109-125.
++Coeurdacier, N., S. Guibaud and K. Jin, (2015) "Credit Constraints and Growth in a Global Economy." American Economic Review, 105(9): 2838-81.
+Adrian, T., N. Boyarchenko, and D. Giannone (2019) "Vulnerable Growth." American Economic Review, 109 (4): 1263-89.
Chang, J., W. Chang, H. Tsai and P. Wang (2019), "Inflation Targeting, Pattern of Trade and Economic Dynamics in a Heckscher-Ohlin Monetary Economy," Mcroeconomic Dynamics, 23, 2748-2786.
Di Tella, S. (2019) "Optimal Regulation of Financial Intermediaries." American Economic Review, 109 (1): 271-313.

C. Contemporary Issues in Income, Wealth and Firm Distribution and Distributive Politics

1. Income and Wealth Distribution

*Glomm, G. and B. Rivikumar (1992), "Public vs. Private Investment in Human Capital Endogenous Growth and Income Inequality," JPE, 100, 813-834.
Banerjee, A. and A. Newman (1993), "Occupational Choice and the Process of Development,"JPE, 101, 274 - 98.

*Benabou, R. (1996), "Heterogeneity, Stratification and Growth," AER, 86, 584-609.
+Galor and Weil (1996) "The Gender Gap, Fertility and Growth," AER, June, 374-387.
Acemoglu, D. (1998), "Why do new technologies complement skills? Directed technical change and wage inequality," QJE, 113, 1055-1089.
Galor, O. and O. Moav (2000), "Ability-biased Technological Transition, Wage Inequality, and Economic Growth," QJE, 115, 469-497.
+LLoyd-Ellis, H. (2000), "Public Education, Occupational Choice and the Growth-Inequality Relationship," IER, 41, 171-201.
Acemoglu, D. (2002), "Technical change, inequality and labor market," JEL, 7-72.
*Aghion, P. (2000), "Schumpeterian Growth Theory and the Dynamics of Income Inequality," Econometrica, 70, 855-882.
Ghiglino, C. and G. Sorger (2002), "Indeterminacy, Wealth Distribution and Poverty Traps," JET, 105, 120-139.
*Violante, G. (2002), "Technological Acceleration, Skill Transferability and the Rise in Residual Inequality," QJE, 117, 297-338.
+Fender, J. and P. Wang (2003), "Educational Policy in a Credit Constrained Economy with Skill Heterogeneity," IER, 44, 939-964.
Galor, O. and O. Moav (2004), "From Physical to Human Capital Accumulation: Inequality and the Process of Development," RES, 71, 1001-1026.
+Grossman, G. (2004), "The Distribution of Talent and the Pattern and Consequences of International Trade," JPE, 209-239.
Krueger, D. and F. Perri (2006), "Does income inequality lead to consumption inequality? Evidence and theory," RES, 73, 163-193.
+Manuelli, R. and A. Seshadri (2007), "Human Capital and the Wealth of Nations," Working Paper, University of Wisconsin.
Rogerson, R. (2008), "Structural Transformation and the Deterioration of European Labor Market Outcomes," JPE, 116, 235–259.
Valentinyi, A. and B. Herrendorf (2008), "Measuring Factor Income Shares at the Sectoral Level," Review of Economic Dynamics, 11, 820–835.
*Acemoglu, D. and M. Dell (2009), "Productivity Differences between and within Countries," NBER working paper #15155.
+Jovanovic, B. (2009), "The Technology Cycle and Inequality," RES, 76, 707-729.
+Jiang, N., P. Wang and H. Wu (2010), "Ability Heterogeneity, Entrepreneurship and Growth," JEDC 34, 522-541.
Huggett, M., G. Ventura and A. Yaron (2011), "Sources of Lifetime Inequality," AER, 101, 2923-54.
Greenwood, J., N. Guner, G. Kocharkov, and C. SantosMarry (2014), "Your Like: Assortative Mating and Income Inequality," NBER Working Paper.
+Per Krusell, Anthony A. Smith Jr. (2015), "Is Piketty's 'Second Law of Capitalism' Fundamental?" JPE, 123, 725–748.
Lawrence E. Blume, Steven N. Durlauf (2015), "Capital in the Twenty-First Century: A Review Essay," JPE, 123, 749–777.
*De Nardi, M. (2015), "Quantitative Models of Wealth Inequality: A Survey," NBER Working Paper #21106.
+Weil, David (2015), "Capital and Wealth in the 21st Century," NBER Working Paper #20919.
+Barış Kaymak, Markus Poschke (2016), "The evolution of wealth inequality over half a century: The role of taxes, transfers and technology," JME, 77, 1-25.
Stokey, N. (2016), "Technology, Skill and the Wage Structure," NBER working paper #22176.
+Benhabib, J. and A. Bisin (2016), "Skewed Wealth Distributions: Theory and Empirics," NBER working paper #21924.
Tang, Y. and P. Wang (2017), "Job Reallocation and Within-the-Skilled-Group Inequality," (in progress).

*Annamaria Lusardi, Pierre-Carl Michaud, and Olivia S. Mitchell (2017), "Optimal Financial Knowledge and Wealth Inequality," JPE, 125, 431-477.
Wong, H. (2018), "Firm Heterogeneity and Wealth Distribution," working paper.
Piketty, T., L. Yang, and Ga. Zucman (2019), "Capital Accumulation, Private Property, and Rising Inequality in China, 1978–2015." AER, 109, 2469-96.
*Moll, B., L. Rachel and P. Restrepo (2019), "Uneven Growth: Automation's Impact on Income and Wealth Inequality," working paper.
Guvenen, F., B. Kuruscu, S. Tanaka and D. Wiczer (2020), "Multidimensional Skill Mismatch," AER.
+Lagakos, D. (2020), "Urban-Rural Gaps in the Developing World: Does Internal Migration Offer Opportunities?" JEP.
Tang, R., Y. Tang and P. Wang (2021), "Within-Job Wage Inequality: Performance Pay and Job Fitness," NBER working paper.
Blanden, J., M. Doepke and J. Stuhler (2022), "Educational Inequality," NBER working paper #29979.
Fagereng, A., L. Guiso and L. Pistaferri (2022), "Assortative Mating and Wealth Inequality," NBER working paper #29903.
Haltiwanger, J., H. Hyatt and J. Spletzer (2022), "Industries, Mega Firms, and Increasing Inequality," NBER working paper #29920.
Smith, M., O. Zidar and E. Zwick (2023), "Top Wealth in America: New Estimates Under Heterogeneous Returns," QJE, 138, 515-573.
+Achdou, Y. J. Han, J. Lasry and B. Moll (2023), "Income and Wealth Distribution in Macroeconomics: A Continuous-Time Approach," REStud (forthcoming).
*Erosa, A., L. Fuster, G. Kambourov and R. Rogerson (2023), "Wage and Earnings Inequality Between and Within Occupations: The Role of Labor Supply," NBER Working Paper No. 31665
*Gottlieb, J. D., D. Hémous, J. Hicks and M. G. Olsen (2023), "The Spillover Effects of Top Income Inequality," NBER Working Paper No. 31366.
*Oberfield, E. (2023), "Inequality and Measured Growth," NBER Working Paper No. 31096.
Wang, P., H. Wong and Y. Yao (2024), "Vital Health Shocks and Wealth Distribution," (in progress).

2. Firm Distribution, Growth and Cycles, and International Trade

+Jovanovic, B. (1979), "Firm-specific Capital and Turnover," JPE, 87, 1246-1260.
+Hopenhayn, H. (1992), "Entry, exit, and firm dynamics in long run equilibrium," Econometrica, 60, 1127-1150.
+Aghion, P. and P. Howitt (1994), "Growth and Unemployment," RES, 61, 477-494.
+Mortensen, D. T. and C. A. Pissarides (1994), "Job Creation and Job Destruction in the Theory of Unemployment," RES, 1994, 397-415.
Boucekkine, R., M. Germain, and O. Licandro (1997), "Replacement Echoes in the Vintage Capital Growth Model," JET, 74, 333-348.
Cooley, T. F., J. Greenwood, and M. Yorukoglu (1997), "The replacement problem," JME, 40, 457-499.
+Kortum, Samuel S. (1997), "Research, Patenting, and Technological Change," EC, 65, 1389-1419.
+Eaton, Jonathan and Kortum, Samuel (1999), "International technology diffusion: theory and measurement," IER, 40, 537-570.
Matsuyama, K. (1999), "Growing Through Cycles," Econometrica, 67, 335-347.
+Eaton, J. and S. Kortum (2002), "Technology, Geography, and Trade," Econometrica, 70, 1741-1779.
*Bernard, A. B., J. Eaton, J. B. Jensen, and S. Kortum (2003), "Plants and Productivity in International Trade," AER, 93, 1268-1290.
*Melitz, M. J. (2003), "The Impact of Trade on Intra-Industry Reallocations and Aggregate Industry Productivity," Econometrica, 71, 1695-1725.
Boucekkine, B., O. Licandro, L. Puch and F. del Rio (2004), "Vintage capital and the dynamics of the AK model," JET, 39-72.
Klette, T. J. and S. Kortum (2004), "Innovating Firms and Aggregate Innovation," JPE, 112, 986-1018.

*Ghironi, F. and M. J. Melitz (2005), “International Trade and Macroeconomic Dynamics with Heterogeneous Firms,” QJE, 120, 865-915.
Alvareza, F. and R. E. Lucas, Jr. (2007), “General equilibrium analysis of the Eaton–Kortum model of international trade,” JME, 54, 1726-1768.
Luttmer, Erzo (2007), “Selection, Growth and the Size Distribution of Firms,” QJE, 122, 1103-1144.
+Matsuyama, K. (2007), “Beyond Icebergs: Towards a Theory of Biased Globalization,” RES, 74, 237-253.
Atkeson, A. and A. Burstein (2009), “Innovation, Firm Dynamics, and International Trade,” NBER wp.
*Hsieh, C. T. and P. Klenow (2009), “Misallocation and Manufacturing Productivity in China and India,” QJE (NBER version: 2007).
Lucas, R. E., Jr. (2009), “Trade and the Diffusion of the Industrial Revolution,” AEJ-Macro.
Luttmer, Erzo G. J. (2011), “On the Mechanics of Firm Growth,” RES, 78, 1042-1068.
*Arkolakis, Costas, Arnaud Costinot, and Andrés Rodríguez-Clare (2012), “New Trade Models, Same Old Gains?” AER, 102, 94-130.
Asturias, J., S. Hur, T. Kehoe and K. Ruhl (2012), “Firms, Frictions, and Barriers to Growth,” WP.
+Bilbiie, F. O., F. Ghironi, and M. J. Melitz (2012), Endogenous Entry, Product Variety, and Business Cycles, JPE, 120, 304-345.
+Hsieh, C., E. Hurst, C. Jones and P. Klenow (2012), “The Allocation of Talent and U.S Economic Growth,” working paper.
Hsu, W.T. and P. Wang (2012), “Trade, Firm Selection and Industrial Agglomeration,” Regional Science and Urban Economics, 42, 975-986
Luttmer, E.G.J. (2012), “Technology diffusion and growth,” JET, 147, 602-622.
+John Asker, Allan Collard-Wexler, Jan De Loecker (2014), “Dynamic Inputs and Resource (Mis)Allocation,” JPE, 122, 1013–1063.
+Adamopoulos, T. and Restuccia, D. (2014), “The Size Distribution of Farms and International Productivity Differences,” AER.
Hopenhayn, H.A. (2014), “On the Measure of Distortions,” NBER working paper #20404.
+Burstein, A. and M. Melitz (2015), “Trade Liberalization and Firm Dynamics,” in Handbook of International Trade.
+Coşar, A. Kerem, Nezih Guner and James Tybout (2016) "Firm Dynamics, Job Turnover, and Wage Distributions in an Open Economy." AER, 106(3): 625-63.
+ David, J.M., H.A. Hopenhayn, and V. Venkateswaran (2016), “Information, misallocation, and aggregate productivity, QJE, 131(2): 943–1005.
Impullitti, G., and O. Licandro (2016), “Trade, Firm Selection, and Innovation: the Competition Channel,” EJ.
+Bento, P. and D. Restuccia (2016), “Misallocation, Establishment Size, and Productivity,” NBER working paper #22809.
Uras, B. and P. Wang (2017), “Techniques Choice, Misallocation and Total Factor Productivity,” NBER working paper #23970.
*Lise, J. and J.-M. Robin (2017), “The Macrodynamics of Sorting between Workers and Firms,” AER, 107, 1104-35.
Chen, C., W. Cheng, S. Peng, R. Riezman and P. Wang (2019), “Trade Wars, Technology and Productivity,” NBER Working Paper No. 26468.
+ Bernard, A.B., A. Moxnes, and Y.U. Saito (2019), “Production Networks, Geography, and Firm Performance,” JPE, 127, 639-688.
Rotemberg, M. (2019) "Equilibrium Effects of Firm Subsidies." AER, 109, 3475-3513.
+David, J.M., and V. Venkateswaran (2019), "The Sources of Capital Misallocation." AER, 109, 2531-67.
Carvalho, V. M., and B. Grassi (2019), "Large Firm Dynamics and the Business Cycle." AER, 109 (4): 1375-1425.

Giorcelli, M. (2019), "The Long-Term Effects of Management and Technology Transfers." American Economic Review, 109 (1): 121-52.
Hsu, W., R. Riezman and P. Wang (2019), “Innovation, Growth, and Dynamic Gains from Trade,” NBER Working Paper No. 26470.
Cheng, W., R. Riezman and P. Wang (2021), “The Dynamics of Outsourcing: From Labor Cost-Saving to Preference-Based Outsourcing,” IJET.
Cheng, W. and P. Wang (2022), “Sectoral Impacts of Trade Wars,” Federal Reserve Bank of St. Louis Review Q1.
Benzell, S., L. Kotlikoff, M. Kazakova, G. LaGarda, K. Nesterova, V. Ye and A. Zubarev (2022), “The Future of Global Economic Power,” NBER Working Paper No. 30556.
+Cogley, T. and B. Jovanovic (2023), “Structural Breaks in an Endogenous Growth Model,” REStud (forthcoming).
Elsby, M. (2023), “Firm Dynamics, On-the-Job Search and Labor Market Fluctuations,” REStud (forthcoming).
*Juhász, R., N. J. Lane and D. Rodrik (2023), “The New Economics of Industrial Policy,” NBER Working Paper No. 31538.
Lee, W., P. Wang and S. Wang (2023), “Glopalorization of the Semiconductor Industry,” Stimson Center-TSEF Conference, Washington DC.
+Uras, B. and P. Wang (2024), “Misallocation and TFP with Endogenous Production Techniques,” Journal of Development Economics (forthcoming).
+Baldwin, R. (forthcoming), “Services Not Manufacturing is the Future of Trade-Led Development,” in A. Acharya and P. Wang (eds.), Political Economy, Global Order and World Development.
Rodrik, D. (forthcoming), “Why Did Hyperglobalization Fail,” in A. Acharya and P. Wang (eds.), Political Economy, Global Order and World Development.
Rossi-Hansberg, E. (forthcoming), “The Challenges of Sustainability: Climate Change,” in A. Acharya and P. Wang (eds.), Political Economy, Global Order and World Development.
Hu, Y., T. Kunieda, K. Nishimura and P. Wang (2024), “Foreign Technology Adoption as a Flying Propeller,” (in progress).

3. Institutions and Politics

+(AC), chs, 22, 23.
(AH), ch. 9.
(DZ), ch. 8.
Epple, Dennis and Thomas Romer (1991), “Mobility and Redistribution,” JPE, 99: 828-50.
+Tabellini, G. (1991), “The Politics of Intergenerational Redistribution,” JPE, 99, 335-357.
Perotti, R. (1993), "Political Equilibrium, Income Distribution and Growth," RES, 60, 755-776.
Alesina, A. and D. Rodrik (1994), "Distributive Politics and Economic Growth," QJE, 109, 465-490.
Persson, T. and G. Tabellini (1994), “Is Inequality Harmful for Growth? Theory and Evidence,” AER, 84, 600-621.
+Piketty, T. (1995), “Social Mobility and Redistributive Politics,” QJE, 110, 551-84.
+Alesina, A. and Spolaore, E. (1997), “On The Number and Size of Nations,” QJE, 112, 1027-1056.
+Bolton, Patrick and Gerard Roland (1997), “The Breakup of Countries: A Political Economy Analysis,” QJE, 112: 1057-1090.
+Grossman, G. and E. Helpman (1998), “Intergenerational Redistribution with Short-lived Governments,” EJ, 108, 1299-1329.
Aghion, P., E. Caroli and C. Garcia-Penalosa (2008), “Inequality and Economic Growth: The Perspective of the New Growth Theories, JEL, 37, 1615-1660.
Klein, P., Krusell, P. and J.V. Rios-Rull (1999), “Time-Consistent Public Policy,” RES, 75, 789-808.
+Acemoglu, Daron, Simon Johnson, and James A. Robinson (2000) “Reversal of Fortune: Geography and Institutions in the Making of the Modern World Income Distribution,” QJE, 117, 1231-94.

+Acemoglu, D., S. Johnson and J. Robinson (2001), "The Colonial Origins of Comparative Development," AER, 91, 1369-1401.

++Acemoglu, Daron, Simon Johnson and James A. Robinson (2005), "The Rise of Europe: Atlantic Trade, Institutional Change, and Economic Growth," AER, 95, 546-579.

Banerjee, A. and E. Duflo (2004), "Growth Theory Through the Lens of Development Economics," in *Handbook of Development Economics*, North-Holland.

Acemoglu, D. and S. Johnson (2006), "Economic Backwardness in Political Perspective," APSR, 100, 115-131.

Foellmi, P. and J. Zweimuller (2006), "Income Distribution and Demand-Induced Innovations," RES, 73, 941–960.

+Acemoglu, D., S. Johnson and J. Robinson (2008), "Persistence of power, elites, and institutions," AER, 98, 267-293.

+de la Croix, D. and M. Doepke (2008) "To Segregate or to Integrate: Education Politics and Democracy," RES.

+Lagerlof, N. (2009), "Slavery and Other Property Rights," RES, 76, 319-342.

+Acemoglu, Daron, Georgy Egorov, and Konstantin Sonin (2012), "Dynamics and Stability of Constitutions, Coalitions, and Clubs," AER, 102, 1446-76.

Daron Acemoglu, Georgy Egorov, Konstantin Sonin (2015), "Political Economy in a Changing World," JPE, 123, 1038–1086.

+Daron Acemoglu, James A. Robinson, and Thierry Verdier (2017), "Asymmetric Growth and institutions in an Interdependent World," JPE.

Cheung, T., T. Palivos, P. Wang, Y. Wang, and C. Yip (2017), "Dynamic Trade, Endogenous Institutions and the Colonization of Hong Kong: A Staged Development Framework," NBER working paper #23937.

+Wang, P., T.N. Wong and C. Yip (2018), "Institutional Barriers and World Income Disparities," Economic Review, Federal Reserve Bank of St. Louis.

++Acemoglu, D., S. Naidu, P. Restrepo, and J. A. Robinson (2019), "Democracy Does Cause Growth," JPE, 127, 47-100.

+Criscuolo, C., R. Martin, H. G. Overman, and J. Van Reenen (2019), "Some Causal Effects of an Industrial Policy." American Economic Review, 109 (1): 48-85.

++Easterly, W. (2019), "In Search of Reforms for Growth: New Stylized Facts on Policy and Growth Outcomes," NBER working paper #26318.

+Acemoglu, D., G. Egorov, and K. Sonin (2020), "Institutional Change and Institutional Persistence," BFI working paper.

+Coibion, O., Y. Gorodnichenko and M. Weber (2020), "Political Polarization and Expected Economic Outcomes," BFI working paper.

Hsieh, C. (forthcoming), "The Threat to Neoliberalism from China," in A. Acharya and P. Wang (eds.), Political Economy, Global Order and World Development.

Easterly, W. (forthcoming), "The Rise and Non-fall of Neoliberalism," in A. Acharya and P. Wang (eds.), Political Economy, Global Order and World Development.

D. Quantitative Macroeconomics

+Hansen, L.P. and J. J. Heckman (1996), The Empirical Foundations of Calibration, Journal of Economic Perspectives, 10, 87-104.

*Cooley, T. F. (1997), Calibrated Models, Oxford Review of Economic Policy, 13, 55-69.

Diebold, F. X., L. E. Ohanian, J. Berkowitz (1998), Dynamic Equilibrium Economies: A Framework for Comparing Models and Data, Review of Economic Studies, 65, 433-451.

Browning, M., J. J. Heckman, and L. P. Hansen (1999). Micro Data and General Equilibrium Models, Handbook of Macroeconomics.

Kubler, F. and D. Krueger (2004). Computing Equilibrium in OLG Models with Stochastic Production, Journal of Economic Dynamics and Control.
*Gomme, P. and P. Rupert (2006), Theory, measurement and calibration of macroeconomic models, Journal of Monetary Economics, 54, 460-497.
+Heathcote, J., K. Storesletten, and G. Violante (2009), Quantitative Macroeconomics with Heterogeneous Households, Annual Review of Economics.
+Guvenen, F. (2012). Macroeconomics with Heterogeneity: A Practical Guide, Richmond Fed Quarterly Review.
+Rios-Rull, J.-V., F. Schorfheide, C. Fuentes-Albero, M. Kryshko, R. Santaeulalia-Llopis (2012), Methods versus substance: Measuring the effects of technology shocks, Journal of Monetary Economics, 59, 826-846.
Boppart, T., P. Krusell and K. Mitman (2018), Exploiting MIT shocks in heterogeneous-agent economies: the impulse response as a numerical derivative, Journal of Economic Dynamics and Control, 89, 68-92.
Maliar, L., S. Maliar and P. Winant (2021), Deep learning for solving dynamic economic models, Journal of Monetary Economics, 122, 76-101.
Christiano, L. and J. Fernández-Villaverde https://faculty.wcas.northwestern.edu/lchrist/course/NBER_2011/syllabus.html
Moll, B., https://www.youtube.com/watch?v=KlmwBqDP2TU
Sargent, T., https://quantecon.org/lectures/