202 Greenwood Street Evanston IL 60201-4714 (847) 869-3544 e-mail: rjg@northwestern.edu web site : <u>https://gordon.economics.northwestern.edu</u>

Date of Birth: September 3, 1940

Department of Economics Northwestern University Evanston IL 60208-2600 (847) 491-3616, fax (847) 491-7001

Married: Julie S. Peyton, June 22, 1963

#### Education, Honors, and Grants:

- B.A., Harvard University, 1962. Magna Cum Laude in Economics; Phi Beta Kappa; Allyn Young Prize.
- A.B., Oxford University, 1964.

A.M., Oxford University, 1969. First Class Honours in Philosophy, Politics, and Economics; Marshall Fellowship; George Webb Medley Senior Prize.

Ph.D., Massachusetts Institute of Technology, 1967.
National Science Foundation Fellowship.
Ford Foundation Dissertation Fellowship.
Ph.D Dissertation: "Problems in the Measurement of Real Investment in the U.S. Private Economy."

Recipient, NSF Research Grant, 1971-2003; recipient Kauffman Foundation research grant 2010-14, Smith-Richardson Foundation Research Grant, 2017-19.
Distinguished Fellow, American Economic Association, selected 2014
Fellow, Econometric Society, elected 1977.
Fellow, American Academy of Arts and Sciences, elected 1997.
John Simon Guggenheim Memorial Fellowship, 1980-81.
German Marshall Fund Research Fellowship, 1986.
Lustrum Award, Economic Faculty-association Rotterdam, 1999
Annual honoree of Economists for Peace and Security, January 7, 2012

<b>Positions</b> : 1987- :	Stanley G. Harris Professor in the Social Sciences, Northwestern University.
1992-96:	Chair, Department of Economics, Northwestern University.
1973- :	Professor of Economics, Northwestern University.
1968-73:	Assistant Professor of Economics, University of Chicago.
1967-68:	Assistant Professor of Economics, Harvard University.

### Other Activity:

Treasurer, Econometric Society, 1975-2005.

Research Associate, National Bureau of Economic Research (member of research programs on Economic Fluctuations and Growth, International Finance and Macroeconomics, Productivity; member Business Cycle Dating Committee), 1968-; Research Fellow, Centre for Economic Policy Research, London, 1983-. Research Associate, Observatoire Français des Conjuntures Economiques, Paris, 2001-11; Member of LIGEP Policy Panel, LUISS University, Rome, 2009-2012.

Member or Senior Advisor: Brookings Panel on Economic Activity, 1970-2007.

Elected Member of American Economic Association Executive Committee, 1981-83; Board of Editors, *American Economic Review*, 1975-77; Co-Editor, *Journal of Political Economy*, 1970-73.

Co-Chair, International Seminar on Macroeconomics (sponsored by NBER and European Economic Association), 1978-94. Member, Economic Advisory Panel, Congressional Budget Office, 1996-2010; Member, Advisory Committee, Bureau of Economic Analysis, 1999-2021; Member, Technical Panel on Assumptions and Methods of the Social Security Administration, 2002-03 and 2006-07; Member, Advisory Commission to Evaluate the Consumer Price Index ("Boskin Commission"), established by U. S. Senate, 1995-97. Member, Executive Committee, Conference on Research in Income and Wealth, 1978-83; Member, NSF Economics Advisory Panel, 1973-76; Member Advisory Council, International Productivity Monitor, 2015- ...

Invited Lectures: Royal Economic Society, 1981; Midwest Economics Association, 1983; Journal of Money, Credit, and Banking, 1984; Centre for International Research in Economic Tendency Surveys, 1987; Southwestern Economics Association, 1989; Erasmus University, Rotterdam, 1999; Bruno Kreisky Foundation, Vienna, 1999; Australian Economics Association, 2000; Swiss Economics Association, 2001; European Central Bank, 2001; IUI Stockholm, 2001; AWH Phillips Lecture, Australasian Econometric Society Meetings, Wellington NZ, July 2008; TUSIAD Istanbul, October 2013; New School for Social Research, October 2013; European Central Bank, April 2015; *Le Monde* Festival, September 2015; Tufts University, April 2016; Davidson College, March 2017; New School for Social Research, April 2017; Cornell University, May 2017; LUISS University, Rome, May 2018; Brussels Economic Forum, June 2018; Boston College, June 2018; Global Economic Conference, Arlington VA, July 2018; .Nikkei Economic Conference, Tokyo, February 2020; BCA Investment Conference, London, October 2021; Technology and Society Conference, New York, April 2022.

Keynote Speeches:Conferences in Oviedo Spain, October 2003, and Seville, Spain, November 2003;<br/>Competition Day on the Occasion of EU Enlargement to 25 Nations, Dublin, April 2004;<br/>North American Productivity Workshop, NYU, June 2006; Conference on Inequality at the<br/>New School, New York, 2007; AGW conference in Brussels, June 2007; European<br/>Commission ECFIN conference Brussels, October 2007; Bureau of European Economic

Policy Advisers, Brussels, December 2007; Dubrovnik Economic Conference, Dubrovnik, June 2008; International Workshop on Chinese Productivity, Zhejiang University, Hangzhou China, September 2008; Seventh Macroeconomic Policy Research Workshop, Magyar Nemzeti Bank and CEPR, Budapest, October, 2008; ZEW Mannheim Conference on Inflation, February, 2009; First Meeting of Chinese Economic Association Europe, Dublin, July, 2009; International Conference on History of Economic Thought, University of Sao Paulo, August 2009; CIRET conference, New York, October 2010; IMF/SNB conference, Copenhagen, September 2011; TED Conference, Long Beach CA, February 2013; CEPREMAP, Paris, November 2014; Bank of Canada, June, 2015; Peterson Institute of International Economics, November, 2015; CLSA Hong Kong, September 2016; Southern Methodist University, November 2016; Rice University, September 2017; Institute of International and European Affairs, October 2017; AI World Conference, Tokyo, March 2021; Institute of International and Economic Affairs, Dublin, October 2021; IZW Workshop on Macroeconomics and Productivity, Bonn, Novembre 2022; Musashi International Symposium on World Secular Stagnation, Tokyo, March 2023; Zvi Griliches Memorial Conference, Paris, May 2024..

Teaching and Workshops:

Economic Principles; Intermediate Macroeconomics; Monetary Theory and Institutions; Monetary and Fiscal Policy; Public Finance; Economics of Urban Problems; Freshman Seminar on World Wars I and II; Money Workshop; Econometrics Colloquium; Macro Workshop.

## **Books Published**:

- 1. *Macroeconomics*. Little, Brown, and Co., 1978, 1981, 1984, 1987; Scott, Foresman, 1990; Harper-Collins, 1993, Addison-Wesley, 1998, 2000, 2003, 2006, 2009, twelfth edition 2012. Other editions in Chinese, Japanese, Spanish, French, French Canadian, German, Italian, and Portuguese.
- 2. *Challenges to Interdependent Economies: The Industrial West in the Coming Decade* (with Jacques Pelkmans). McGraw-Hill, 1979.
- 3. *The Measurement of Durable Goods Prices*. University of Chicago Press for National Bureau of Economic Research, 1990.
- 4. Inflation, Unemployment, and Productivity Growth. Cambridge University Press, 2004.
- 5. *The Rise and Fall of American Growth: The U. S. Standard of Living Since the Civil War.* Princeton University Press, 2016. Translated into Chinese, Japanese, and Korean.

### **Books and Journal Special Issues Edited:**

- 1. *Milton Friedman's Monetary Framework: A Debate with his Critics.* University of Chicago Press, 1974. Japanese Translation, McGraw-Hill, 1978.
- 2. *The American Business Cycle: Continuity and Change.* University of Chicago Press for National Bureau of Economic Research, 1986. Paperback edition, 1990.
- 3. International Volatility and Economic Growth: The First Ten Years of the International Seminar on Macroeconomics (with Georges de Ménil). North-Holland, 1991.
- 4. *The Economics of New Goods* (with Timothy Bresnahan). University of Chicago Press for National Bureau of Economic Research, 1997.
- Articles: (This section includes original articles and replies. Comments on work by others are listed subsequently.)
  - 1. "Airline Costs and Managerial Efficiency," in *Transportation Economics*, Universities-National Bureau Conference Volume (New York, 1965), pp. 61-92.
  - 2. "The Incidence of the Corporation Income Tax in U.S. Manufacturing," *American Economic Review*, vol. 57 (September 1967), pp. 731-58.
  - 3. "The Incidence of the Corporation Tax in U.S. Manufacturing: Reply," *American Economic Review*, vol. 58 (December 1968), pp. 1360-7.
  - 4. "A New View of Real Investment in Structures, 1919-65," *Review of Economics and Statistics*, vol. 50 (November 1968), pp. 417-28.
  - 5. "\$45 Billion of U.S. Private Investment Has Been Mislaid," *American Economic Review*, vol. 59 (June 1969), pp. 221-38.
  - "\$45 Billion of U.S. Private Investment Has Been Mislaid: Reply," *American Economic Review*, vol. 60 (December 1970), pp. 940-5.
  - 7. "The Brookings Model in Action: A Review Article," *Journal of Political Economy*, vol. 78 (May/June 1970), pp. 489-525.
  - 8. "The Recent Acceleration of Inflation and its Lessons for the Future," *Brookings Papers on Economic Activity*, vol. 1 (1970, no. 1), pp. 8-41.
  - 9. "Inflation in 1970: A Horizontal Phillips Curve?" Brookings Papers on Economic Activity, vol. 1

(1970, no. 3), pp. 449-58.

- 10. "Adjusting Investment Deflators for Changes in Quality," *Proceedings of the American Statistical Association*, 1970 Business and Economics Section, pp. 174-83.
- "Specification Bias and Corporate Tax Shifting," *National Tax Journal*, vol. 23 (December 1970), pp. 373-8.
- 12. "Measurement Bias in Price Indexes for Capital Goods," *Review of Income and Wealth*, vol. 17 (June 1971), pp. 211-74.
- 13. "Notes on Money, Income and Gramlich," *Journal of Money, Credit, and Banking*, vol. 3 (May 1971, Part II), pp. 533-45.
- 14. "Inflation in Recession and Recovery," *Brookings Papers on Economic Activity*, vol. 2 (1971, no. 1), pp. 105-66.
- "Steady Anticipated Inflation: Mirage or Oasis?" *Brookings Papers on Economic Activity*, vol. 2 (1971, no. 2), pp. 499-510.
- "Wage-Price Controls and the Shifting Phillips Curve," *Brookings Papers on Economic Activity*, vol. 3 (1972, no. 2), pp. 385-421.
- 17. "The Welfare Cost of Higher Unemployment," *Brookings Papers on Economic Activity*, vol. 4 (1973, no. 1), pp. 13-95.
- 18. "The Use of Unit Values to Measure Deviations of Transaction Prices from List Prices," *Review of Income and Wealth,* vol. 19 (September 1973), pp. 267-9.
- 19. "The Response of Wages and Prices to the First Two Years of Controls," *Brookings Papers on Economic Activity*, vol. 4 (1973, no. 3), pp. 765-79.
- 20. "Alternative Responses of Policy to External Supply Shocks," *Brookings Papers on Economic Activity*, vol. 6 (1975, no. 1), pp. 183-206.
- 21. "The Demand for and Supply of Inflation," *Journal of Law and Economics*, vol. 18 (December 1975), pp. 807-36.
- "Full-Employment Policy and the Labor Market," in A.T. Sommers, ed., Answers to Inflation and Recession: Economic Policies for a Modern Society (New York: The Conference Board, 1975), pp. 126-42.
- 23. "The Impact of Aggregate Demand on Prices," *Brookings Papers on Economic Activity*, vol. 6 (1975, No. 3), pp. 613-62.

- 24. "Perspectives on Monetarism," J. Stein, ed., Monetarism (North-Holland, 1976), pp. 52-66.
- 25. "Aspects of the Theory of Involuntary Unemployment," in K. Brunner and A. Meltzer, eds., *The Phillips Curve and Labor Markets*, Carnegie-Rochester Series on Public Policy, a supplementary series to *Journal of Monetary Economics*, vol. 1 (North-Holland, January 1976), pp. 98-119.
- 26. "Aspects of Unemployment Theory: Reply to Azariadis," *Journal of Monetary Economics*, vol. 3 (April 1977), pp. 257-60.
- 27. "Interrelations Between Domestic and International Theories of Inflation," in R. Aliber, ed., *The Political Economy of Monetary Reform* (London: MacMillan, 1977), pp. 126-54.
- 28. "Recent Developments in the Theory of Inflation and Unemployment," *Journal of Monetary Economics*, vol. 2 (April 1976), pp. 185-220.

Also in Erik Lundberg, ed., *Inflation Theory and Anti-Inflationary Policy* (London: MacMillan, 1977), pp. 42-71 with discussion on pp. 94-108.

Journal of Monetary Economics version reprinted in P.G. Korliras and R.S. Thorn, Modern Macroeconomics: Major Contributions to Contemporary Thought (Harper and Row, 1979), pp. 259-84.

- 29. "Structural Unemployment and the Productivity of Women," in K. Brunner and A. Meltzer, eds., *Stabilization of the Domestic and International Economy*, Carnegie-Rochester Series on Public Policy, a supplementary series to the *Journal of Monetary Economic*, vol. 5 (North-Holland, January 1977), pp. 181-229.
- 30. "The Theory of Domestic Inflation," *American Economic Review Papers and Proceedings*, vol. 67 (February 1977), pp. 128-34.
- 31. "Can the Inflation of the 1970s Be Explained?" *Brookings Papers on Economic Activity*, vol. 8 (1977, no. 1), pp. 253-77.
- 32. "World Inflation and the Sources of Monetary Accommodation: A Study of Eight Countries," *Brookings Papers on Economic Activity*, vol. 8 (1977, no. 2), pp. 409-68.

A longer version titled "International Monetarism, Wage Push and Monetary Accommodation," is in A. Courakis, ed., *Inflation, Depression, and Economic Policy in the West* (London: Mansell and Alexandrine Press, 1979), pp. 1-63.

- "What Can Stabilization Policy Achieve?" American Economic Review Papers and Proceedings, vol. 68 (May 1978), pp. 335-41.
- 34. "Price Changes in Durable Goods: Can We Trust Government's Measurements?" *Electric*95.

Perspectives, 1978, no. 5, pp. 28-38.

- 35. "Monetarist Interpretations of the Great Depression: Evaluation and Critique," in Karl Brunner, ed., *The Great Depression Revisited* (Boston: Martinus Nijhoff, 1981), pp. 49-107. "Rejoinder" to discussants on pp. 163-73 (both with James Wilcox). NBER reprint no. 213.
- 36. "Energy Efficiency, User Cost Changes, and the Measurement of Durable Goods Prices," in M. Foss, ed., *The U.S. National Income and Product Accounts: Selected Topics,* Conference on Income and Wealth, Studies in Income and Wealth Series (University of Chicago Press and NBER, 1983), pp. 205-53. "Reply to Triplett" on pp. 256-8. NBER reprint no. 415.
- 37. "The End-of-Expansion Phenomenon in Short-Run Productivity Behavior," *Brookings Papers on Economic Activity*, vol. 10 (1979, no. 2), pp. 447-61. NBER reprint no. 57.
- "Postwar Macroeconomics: The Evolution of Events and Ideas," in M. Feldstein, ed., *The American Economy in Transition* (University of Chicago Press for NBER, 1980), pp. 101-62. NBER reprint no. 151.
- 39. "A Consistent Characterization of a Near-Century of Price Behavior," *American Economic Review Papers and Proceedings*, vol. 70 (May 1980), pp. 243-9.
- 40. "The Measurement of Output," Chapter 5 in *Measurement and Interpretation of Productivity* (Washington: National Academy of Sciences, 1979), pp. 88-121.
- 41. "Government Intervention in the Inflation Process: The Econometrics of Self-Inflicted Wounds," *American Economic Review Papers and Proceedings*, vol. 71 (May 1981), pp. 288-94 (with John Frye). NBER reprint no. 180.
- 42. "Output Fluctuations and Gradual Price Adjustment," *Journal of Economic Literature*, vol. 19 (June 1981), pp. 492-530. NBER reprint no. 190.

Spanish translation in Informacion Comercial Espanola, no. 581 (January 1982), pp. 136-57.

- 43. "The Consumer Price Index: Measuring Inflation and Causing It," *The Public Interest*, no. 63, Spring 1981, pp. 112-34. NBER reprint no. 191. Reprinted as "The Inflation Indexing Dilemma," *Economic Impact*, 1981, no. 4, pp. 51-8.
- "Why U.S. Wage and Emplyment Behavior Differs from that in Britain and Japan," *Economic Journal*, vol. 92 (March 1982), pp. 13-44. NBER reprint no. 226.
   Reprinted in S. Rosen, ed., *Implicit Contract Theory* (London: Edward Elgar, 1994), pp. 121-52.

Spanish translation in Papeles de Economía Española, vol. 27 (1986), pp. 395-414.

45. "Inflation, Flexible Exchange Rates, and the Natural Rate of Unemployment," in M.N. Baily, ed.,

Workers, Jobs, and Inflation (Brookings, 1982), pp. 88-152. NBER reprint no. 343.

- 46. "Why Stopping Inflation May Be Costly: Evidence from Fourteen Historical Episodes," in R.E. Hall, ed., *Inflation: Causes and Effects* (University of Chicago Press for NBER, 1982), pp. 15-40. NBER reprint no. 413.
- 47. "A Century of Evidence on Wage and Price Stickiness in the United States, the United Kingdom and Japan," in J. Tobin, ed., *Macroeconomics, Prices, and Quantities* (Brookings, 1983), pp. 85-121. NBER reprint no. 372.
- 48. "The Output Cost of Disinflation in Traditional and Vector Autoregressive Models," *Brookings Papers on Economic Activity*, vol. 13 (1982, no. 1), pp. 205-42 (with Stephen R. King). NBER reprint no. 342.
- 49. "Price Inertia and Policy Ineffectiveness in the United States, 1890-1980," *Journal of Political Economy*, vol. 90 (December 1982), pp. 1087-1117. NBER reprint no. 352.
- 50. "Using Monetary Control to Dampen the Business Cycle: A New Set of First Principles," in M. and S. Wachter, eds., *Removing Obstacles to Economic Growth* (Philadelphia: University of Pennsylvania Press, 1984), pp. 302-36.
- 51. "The Conduct of Monetary Policy" in A. Ando, H. Eguchi, R. Farmer, and Y. Suzuki, eds., *Monetary Policy in Our Times* (M.I.T. Press, 1985), pp. 45-81. NBER reprint no. 638.
- 52. "'Credibility' vs. 'Mainstream': Two Views of the Inflation Process," in W.D. Nordhaus, ed., *Inflation: Prospects and Remedies, Alternatives for the 1980's,* no. 10 (October 1983), Center for National Policy, pp. 25-34.
- 53. "Supply Shocks and Monetary Policy Revisited," *American Economic Review Papers and Proceedings*, vol. 74 (May 1984), pp. 38-43. NBER reprint no. 676.
- 54. "The 1981-82 Velocity Decline: A Structural Shift in Income or Money Demand?" *Conference on Monetary Targeting and Velocity: Conference Proceedings*, Federal Reserve Bank of San Francisco, 1984, pp. 67-99.

German translation in J. Langhau and C. Kohler, eds., Wirtschaftspolitik und wirtschaftliche Entwicklung (Bonn: Verlag Neue, 1985), pp. 165-86.

- 55. "U.S. Stabilization Policy: Lessons from the Past Decade," in A.C. Harberger, ed., *World Economic Growth* (San Francisco: Institute for Contemporary Studies, 1984), pp. 123-49.
- "The Short-run Demand for Money: A Reconsideration," *Journal of Money, Credit and Banking*, vol. 16 (November 1984), pp. 403-34. NBER reprint no. 570.

- 57. "Fixed Investment in the American Business Cycle, 1919-83," in Robert J. Gordon, ed., *The American Business Cycle: Continuity and Change* (University of Chicago Press for NBER, 1986), pp. 267-335. "Rejoinder" on pp. 348-51 (both with John M. Veitch). NBER reprint no. 814.
- 58. "Unemployment and the Growth of Potential Output in the 1980s," *Brookings Papers on Economic Activity*, vol 15 (1984, no. 2), pp. 537-64. NBER reprint no. 576.
- 59. "Understanding Inflation in the 1980s," *Brookings Papers on Economic Activity*, vol. 16 (1985, no. 1), pp. 263-99. NBER reprint no. 651.
- 60. "The Wage and Price Adjustment Process in Six Large OECD Countries," in Robert Z. Aliber, ed., *The Reconstruction of International Economic Arrangements* (London: Macmillan, 1987), pp. 70-91.
- 61. "Productivity, Wages, and Prices Inside and Outside of Manufacturing in the U.S., Japan, and Europe," *European Economic Review*, vol. 31, no. 3 (April 1987), pp. 685-733. NBER reprint no. 970.

Reprinted in G. de Ménil and R. J. Gordon, eds., *International Volatility and Economic Growth* (Amsterdam: North-Holland, 1991), pp. 153-201.

- "The Postwar Evolution of Computer Prices," in Dale W. Jorgenson and Ralph Landau, eds. *Technology and Capital Formation* (Cambridge: MIT Press, 1989), pp. 77-125. "Comment on Chapter 4 (Triplett) and Rejoinder to the Cole-Dulberger-Triplett Comments," pp. 221-4. NBER reprint no. 1297.
- 63. "U.S. Fiscal Deficits and the World Imbalance of Payments," *Hitotsubashi Journal of Economics*, vol. 27 (Special Issue, October, 1986), pp. 7-41.
- 64. "The Postwar Development of Business-Cycle Theory: An Unabashedly New-Keynesian Perspective," in K. H. Oppenländer and Günter Poser, eds., *Contributions of Business Cycle Surveys to Empirical Economics* (Aldershott, U. K.: Gower Publishing Co., 1988), pp. 21-50.

German translation in Konjunktur, no. 174 (December, 1987), pp. 23-54.

Also published in Ifo-Studien, vol. 34 (1988, no. 2/3), pp. 193-221.

- 65. "The Role of Wages in the Inflation Process," *American Economic Review Papers and Proceedings*, vol. 78 (May, 1988), pp. 276-83. NBER reprint no. 1478.
- "Wage Gaps vs. Output Gaps: Is There A Common Story for All of Europe?" in Herbert Giersch, ed., *Macro and Micro Policies for More Growth and Employment Keil Symposium* (Tubingen: J.C.B. Mohr [Paul Siebeck] 1988), pp. 97-151. NBER reprint no. 1096.
- 67. "The Estimation of Prewar GNP: Methodology and New Results," *Journal of Political Economy*, vol. 97 (February 1989), pp. 38-92 (with Nathan S. Balke). NBER reprint no. 1200.

- 68. "Back to the Future: European Unemployment Today Viewed from America in 1939," *Brookings Papers on Economic Activity*, vol. 19 (1988, no. 1), pp. 271-304. NBER reprint no. 1098.
- 69. "The Productivity Slowdown, Measurement Issues, and the Explosion of Computer Power," *Brookings Papers on Economic Activity*, vol. 19 (1988, no. 2), pp. 347-420, (with Martin N. Baily). NBER reprint no. 1199.
- 70. "U.S. Inflation, Labor's Share, and the Natural Rate of Unemployment," in Heinz König, ed., *Economics of Wage Determination* (Berlin and New York: Springer Verlag, 1990), pp. 1-34. NBER reprint no. 1441.
- 71. "Fresh Water, Salt Water, and Other Macroeconomic Elixirs," *Economic Record*, vol. 65 (June 1989), pp. 177-84.

Also in Philip Maxwell, ed., *Macroeconomics: Contemporary Australian Readings* (Sydney: Harper and Row, 1990).

- 72. "Hysteresis in History: Was There Ever a Phillips Curve?" *American Economic Review Papers and Proceedings*, vol. 79 (May, 1989), pp. 220-5. NBER reprint no. 1424.
- 73. "The Phillips Curve Now and Then," in P. Diamond, ed., *Growth, Productivity, Unemployment: Essays in Honor of Bob Solow's 65th Birthday.* (Cambridge: M.I.T. Press, 1990), pp. 207-17. NBER reprint no. 1591.
- 74. "What Is New-Keynesian Economics?" *Journal of Economic Literature*, vol. 28 (September, 1990), pp. 1115-71. NBER reprint no. 1513.

Also in Paul Whiteley, ed., Economic Policy (London: Edward Elgar, 1997)..

Also in Brian Snowdon and Howard R. Vane, eds., *A Macroeconomics Reader* (London: Routledge, 1997), pp. 478-551.

- 75. "Notes on Gain Sharing," in Myron Roomkin, ed., *Profit Sharing and Gain Sharing* (London and Metuchen, N.J.: IMLR Press/Rutgers University, 1990), pp. 146-155.
- 76. "Measurement Issues and the Productivity Slowdown in Five Major Industrial Countries" (with Martin Neil Baily), in G. Bell, ed., *Technology and Productivity: The Challenge for Economic Policy* (Paris: OECD, 1991), pp. 187-206.
- "Productivity in the Transportation Sector," in Z. Griliches, ed., *Output Measurement in the Service Sectors*, Conference on Research in Income and Wealth (University of Chicago Press for NBER, 1992), pp. 371-422.

- 78. "Measuring the Aggregate Price Level: Implications for Economic Performance and Policy," in K. Shigehara, ed., *Price Stabilization in the 1990s* (London: Macmillan, 1993), pp. 233-76.
- 79. "Wage and Price Dynamics in Germany and America: Differences and Common Themes" (with Wolfgang Franz). *European Economic Review*, vol. 37 (May 1993), pp. 719-54.
- 80. "Why the Principles Course Needs Comparative Macro and Micro," *American Economic Review Papers and Proceedings*, vol. 82 (May 1993), pp. 17-22.
- 81. "Reply [to Edward F. Denison]: The Concept of Capital," *Review of Income and Wealth*, vol. 39 (March 1993), pp. 103-110.
- 82. "The Jobless Recovery: Does It Signal a New Era of Productivity-Led Growth?" *Brookings Papers on Economic Activity*, vol. 24 (1993, no. 1), pp. 271-316.
- 83. "Airline Traffic and Profits: The Sun Rises or a False Dawn?" *1994 World Economic and Traffic Outlook* (Long Beach CA: McDonnell-Douglas, 1994), pp. 51-55.
- 84. "Problems in the Measurement and Performance of Service-Sector Productivity in the United States," in P. Andersen, J. Dwyer, and D. Gruen, eds., *Productivity and Growth*. (Sydney: Reserve Bank of Australia, 1995), pp. 139-166.
- 85. "Is There a Tradeoff between Unemployment and Productivity Growth?" in D. Snower and G. de la Dehesa, eds., *Unemployment Policy: Government Options for the Labour Market*. (Cambridge UK: Cambridge University Press, 1997), pp. 433-63.
- 86. "Macroeconomic Policy in the Presence of Structural Maladjustment" in *Macroeconomic Policy and Structural Reform* (Paris: OECD, 1996), pp. 173-204.
- 87. "Introduction: The Economics of New Goods" (with Timothy Bresnahan), in T. Bresnahan and R.
   J. Gordon, eds., *The Economics of New Goods* (University of Chicago Press for NBER, 1997), pp. 1-26.
- 88. "The Time-Varying NAIRU and its Implications for Economic Policy," *Journal of Economic Perspectives*, vol. 11 (Fall 1997), pp. 11-32.
- 89. "The CPI Commission: Findings and Recommendations," *American Economic Review Papers and Proceedings*, vol. 87 (May 1997), pp. 78-83 (with Michael J. Boskin, Ellen R. Dulberger, Zvi Griliches, and Dale W. Jorgenson).
- 90. "Quality Change and New Products," Am*erican Economic Review Papers and Proceedings*, vol. 87 (May 1997), pp. 84-88 (with Zvi Griliches).
- 91. "Consumer Prices, the Consumer Price Index, and the Cost of Living," Journal of Economic

*Perspectives*, vol. 12, no. 1 (Winter 1998), pp. 3-26 (with Michael J. Boskin, Ellen R. Dulberger, Zvi Griliches, and Dale W. Jorgenson).

- 92. "Foundations of the Goldilocks Economy: Supply Shocks and the Time-Varying NAIRU," *Brookings Papers on Economic Activity*, vol. 29 (1998, no. 2), pp. 297-333.
- 93. "U. S. Economic Growth Since 1870: One Big Wave?" *American Economic Review Papers and Proceedings*, vol. 89 (May 1999), pp. 123-8.
- 94. "The Aftermath of the 1992 ERM Breakup: Was There a Macroeconomic Free Lunch?" in Paul Krugman, Ed., *Currency Crises* (University of Chicago Press for NBER, 2000), pp. 241-82. CEPR Discussion Paper No. 2073, February 1999, NBER working paper 6964, February 1999.
- 95. "The Boskin Commission Report and its Aftermath," *Monetary and Economic Studies*, vol. 17, no. 3 (December 1999), pp. 41-68.

Also in Mick Silver and David Fenwick, eds., *Proceedings of the Measurement of Inflation Conference* (Cardiff UK: Cardiff University, 2000), pp. 258-82.

- 96. "Interpreting the `One Big Wave' in U. S. Long-term Productivity Growth," in Bart van Ark, Simon Kuipers, and Gerard Kuper, eds., *Productivity, Technology, and Economic Growth* (Boston: Kluwer Publishers, 2000), pp. 19-65. Also NBER Working Paper 7752, June 2000 and CEPR Discussion Paper 2608, November 2000.
- 97. "Does the New Economy Measure Up to the Great Inventions of the Past?" *Journal of Economic Perspectives,* vol. 14, no. 4 (Fall 2000), pp. 49-74.
- 98. "Neither Too Hot nor Too Cold: The U. S. Economy in the 1990s," in OECD, *Policies Toward Full Employment* (Paris: OECD, 2000), pp. 61-66.
- 99. "Reflections on Pin Factory Visits," in *Industrial Technology and Productivity: Incorporating Learning from Plant Visits and Interviews into Economic Research, NBER/Sloan Project Report,* papers presented at the Annual Meetings of the American Economic Association, January,2000. Cambridge, MA: NBER, pp. 27-31.
- 100. "Technological Innovation and Economic Performance: the United States," in Richard Nelson, Benn Steil, and David Victor, eds., Technological Innovation and Economic Performance (Princeton: Princeton University Press, 2002), pp. 49-73. Also NBER Working Paper 8771, February 2002, and CEPR Discussion Paper 3213, February 2002

French translation: "La technologie et les succès de l'économie américaine," in Jean-Philippe Touffut *et al., Institutions et Croissance: Les chances d'un modèle économique européen.* (Paris: Albin Michel, 2002), pp. 279-326.

- 101. "Innovation and Future Productivity Growth: Does Supply Create Its Own Demand?" in Peter Cornelius, ed., *The Global Competitiveness Report* 2002-03. (New York and Oxford: Oxford University Press, 2003), pp. 253-75. Also NBER Working Paper 9437, January 2003.
- 102. "Exploding Productivity Growth: Context, Causes, and Implications," *Brookings Papers on Economic Activity*, vol. 34 (2003, no. 2), pp. 207-98.
- 103. "The Disappearance of Productivity Change," in Robert J. Gordon, *Productivity Growth, Inflation, and Unemployment* (Cambridge: Cambridge University Press, 2004), pp. 90-133.
- 104. "Forward into the Past: Productivity Retrogression in the Electric Generating Industry, in Robert J. Gordon, *Productivity Growth, Inflation, and Unemployment* (Cambridge: Cambridge University Press, 2004), pp. 172-217.
- 105. "Are Procylical Productivity Fluctuations a Figment of Measurement Error?" in Robert J. Gordon, *Productivity Growth, Inflation, and Unemployment* (Cambridge: Cambridge University Press, 2004), pp. 239-72.
- 106. "Five Puzzles in the Behavior of Productivity, Investment, and Innovation," in Augusto Lopez-Claros and Xavier Sala-i-Martin, eds., *The Global Competitiveness Report 2003-04* (New York and Oxford: Oxford University Press, 2004), pp. 117-35. CEPR Discussion Paper 4414, June 2004, and NBER Working Paper 10660, August 2004.
- 107. "A Century of Downward Bias in the Most Important CPI Component: The Case of Rental Shelter, 1914-2003," in E. Berndt and C. Hulten, eds., *Hard-to-Measure Goods and Services: Essays in Honor of Zvi Griliches*, Conference on Research in Income and Wealth. (Chicago: University of Chicago Press for NBER, 2007), pp. 153-96. (With Todd van Goethem). Also NBER Working Paper 11776, November 2005.
- 108. "The 1920s and 1990s in Mutual Reflection," in Paul Rhode and Gianni Toniolo, eds., Understanding the 1990s (Cambridge UK and New York, Cambridge University Press, 2006), pp. 161-92. Also NBER Working Paper 11778, November 2005, and CEPR Discussion Paper 5412, December 2005.
- 109 "Where Did the Productivity Growth Go? Inflation Dynamics and the Distribution of Income," Brookings Papers on Economic Activity, vol. 36 (2005, no. 2), pp. 67-150 (with Ian Dew-Becker). Also NBER Working Paper 11842, December 2005, and CEPR Discussion Paper 5419, December 2005..
- 110. "What Caused the Decline in U. S. Business Cycle Volatility?" in Christopher Kent and David Norman, eds., *The Changing Nature of Business Cycle Volatility*. (Sydney: Economics Group, Reserve Bank of Australia, 2005), pp. 61-104. Also NBER Working Paper 11777, November 2005, and CEPR Discussion Paper 5413, December 2005.

- 111. "The Boskin Commission Report: A Retrospective One Decade Later," *International Productivity Monitor*, Spring 2006, pp. 7-22. Also NBER Working Paper 12311, June 2006.
- 112. "Why was Europe Left at the Station When America's Productivity Locomotive Departed?", in Mary Gregory, Wiemer Salverda, and Ronald Schettkat, eds., *Services and Employment: Explaining the U.S.-European Gap.* (Princeton: Princeton University Press, 2007), pp. 176-97. CEPR Discussion Paper 4416, June 2004, NBER Working Paper 10661, August, 2004.
- 113. "Comparing Welfare in Europe and the United States," in Barry Eichengreen, *et al.*, ed., *The European Economy in an American Mirror*. (London and New York: Routledge, 2007), pp. 15-40.
- "Selected Issues in the Rise of Income Inequality," *Brookings Papers on Economic Activity*, vol. 38 (2007, no. 2), pp. 191-215 (with Ian Dew-Becker).

A longer version titled "Controversies about the Rise of American Inequality: A Survey," was issued as NBER Working Paper 13982, May 2008 and as CEPR Discussion Paper 6817, May 2008.

- Review article of Adam Tooze Wages of Destruction, in Journal of Economic History, March 2009, pp. 312-16. A longer version "Did Economics Cause World War II?" was issued as NBER Working Paper 14560, December 2008.
- 116. "Apparel Prices 1914-93 and the Hulten/Bruegel Paradox," in C. Corrado, E. Diewert, and C. Hulten, eds., *Price Index Concepts and Measurement*, Conference on Research in Income and Wealth (Chicago: University of Chicago Press for NBER), 2009, pp. 85-128.
- 117. "Has the Rise in American Inequality Been Exaggerated?" Challenge, May-June 2009, pp. 92-120. A revised version under the title "Misperceptions About the Magnitude and Timing of Changes in American Inequality" appeared as NBER Working Paper 15351, September 2009.
- 118. "Okun's Law and Productivity Innovations," *American Economic Review Papers and Proceedings*, vol. 100(2), May 2010, pp. 11-15.
- "Controversies about Work, Leisure, and Welfare in Europe and the United States," in Edmund S. Phelps and Hans-Werner Sinn, *Perspectives on the Performance of the Continental Economies*, Cambridge MA: MIT Press, 2011, pp. 343-86.
- 120. "The History of the Phillips Curve: Consensus and Bifurcation," *Economica*, vol. 78 (January 2011), pp. 10-50.
- 121. "The Role of Labor-Market Changes in the Slowdown of European Productivity," *Review of Economics and Institutions*, vol. 3 (no. 2, Spring 2012), pp. 1-45. NBER Working Paper 13840, March 2008, and CEPR Discussion Paper 6722, February 2008. (With Ian Dew-Becker).
- 122. "Revisiting U. S. Productivity Growth over the Past Century with a View of the Future," in D. S.

Prasada Rao and Bart van Ark, *World Economic Performance: Past, Present and Future.* Cheltenham UK, Edward Elgar, Chapter 11, 2013. Also NBER Working Paper 15834, March 2010.

- 123. "Where Is Macro Going?" in Robert M. Solow and Jean-Philippe Touffut, eds., *What's Right With Macroeconomics*? Cheltenham UK, Edward Elgar, 2012, pp. 195-229.
- 124. "The U. S. Productivity Growth Slowdown Returns After a Brief Revival, *International Productivity Monitor.* No. 25 (Spring, 2013), pp. 13-19.
- 125. "The Turtle's Progress: Secular Stagnation Meets the Headwinds," in Coen Teulings and Richard Baldwin, eds., *Secular Stagnation: Facts, Causes and Cures*. London: CEPR Press, 2014, pp. 47-60.
- 126. "Secular Stagnation: A Supply-Side View," American Economic Review Papers and Proceedings, vol. 105(5), May 2015, pp. 54-59.
- 127. "The Future of Economic Growth: Slowing to a Crawl," in Gary Saul Morson and Morton Schapiro, eds., *The Fabulous Future? America and the World in 2040.* Evanston IL: Northwestern University Press, 2015, pp. 5-21.
- "Secular Stagnation on the Supply Side: U. S. Productivity Growth in the Long Run," in Digiworld Economic Journal, no. 100, 4th quarter 2015, pp. 19-45.
- 129. "Perspectives on the Rise and Fall of American Growth," *American Economic Review Papers and Proceedings*, vol. 106(5), May 2016, pp. 72-76.
- 130. "Off Its Pinnacle," Finance and Development (IMF Quarterly), vol. 53(2), June 2016, pp. 33-37.
- 131. "Slowing Economic Growth Despite Ongoing Innovation," *Explorations in Economic History*, June 2018, no. 69, pp. 1-12.
- 132. "Friedman and Phelps on the Phillips Curve Viewed from a Half-Century's Perspective," *Review of Keynesian Economics*, Winter 2018, vol. 6, no. 4, pp. 425-36.
- "When Will the Longest Expansion End?" *Business Economics*, January 2019, vol. 54, no. 1, pp. 69-78.
- 134. "Prospects for a Revival in U.S. Productivity Growth," *Journal of Policy Modeling*, vol. 41, May 2019, pp. 444-458 (with Hassan Sayed).
- 135. "The Industry Anatomy of the Transatlantic Productivity Growth Slowdown: Europe Chasing the American Frontier," *International Productivity Monitor*, no. 37, Fall 2019, pp. 3-38.
- 136. "Transatlantic Technologies: The Role of ICT in the Evolution of Productivity Growth in the

U.S. and Europe," International Productivity Monitor, no. 38, Spring 2020, pp. 50-80.

- 137. "Productivity and Growth through the Years at BPEA, *Brookings Papers on Economic Activity* (Spring 2021), pp. 213-29.
- 138. "How to Boost the Payoff from Innovation While Minimizing Its Destructive Side Effects," *Business History Review*, vol. 95 (Spring 2021), pp. 823-40.

### Unpublished Working Papers in Reverse Chronological Order

- 1. "A New Interpretation of Productivity Growth Dynamics in the Pre-Pandemic and Pandemic-Era U.S. Economy," NBER Working Paper 30267, July 2022. Revised November 2023.
- 2. "Is U. S. Economic Growth Over? Faltering Innovation and the Six Headwinds," NBER Working Paper 18315, August 2012. (Unpublished but more than 1,000 citations).
- 3. "The End of the Great Depression 1939-41: Fiscal Multipliers, Capacity Constraints, and Policy Contributions." An earlier version appeared as NBER Working Paper 16380, September 2010 (with Robert J. Krenn).

### Published Comments on Work by Others

- 1. "A Rare Event," Survey of Current Business, vol. 51 (July 1971), pp. 83-6.
- 2. Book Review of M. R. Straszheim, *The International Airline Industry* (Brookings, 1969), in *Journal of Economic Literature*, vol. 9 (March 1971), pp. 122-4.
- 3. "Klein on the State of the Art of Econometric Models," in M.D. Intriligator, ed., *Frontiers of Quantative Economics* (North-Holland, 1971), pp. 173-7.
- 4. "Short and Long Term Simulations with the Brookings Model: A Comment," in B. Hickman, ed., *Econometeric Models and Business Cycles, A Conference on Income and Wealth Volume* (NBER, 1972), pp. 298-310.
- 5. "The Econometrics of Price Determination: Discussion," in O. Eckstein, ed., *The Econometrics of Price Determination*, a conference sponsored by the SSRC and the Federal Reserve Board (Washington 1972), pp. 202-12.

- 6. "Interest Rates and Prices in the Long-Run: A Comment," *Journal of Money, Credit and Banking,* vol. 5 (February 1973, part III), pp. 460-3.
- 7. Comment on M. I. Nadiri, "An Alternative Model of Business Investment Spending," *Brookings Papers on Economic Activity*, vol 3 (1972, no. 3), pp. 547-83.
- 8. Comment on J. O. Pierce and J. J. Enzler, "The Effects of External Inflationary Shocks," *Brookings Papers on Economic Activity*, vol 5 (1974, no. 1), pp. 58-60.
- 9. Comment on R. E. Hall, "The Process of Inflation in the Labor Market," *Brookings Papers on Economic Activity*, vol 5 (1974, no. 2), pp. 394-9.
- 10. "Can Econometric Policy Evaluations Be Salvaged?" in K. Brunner and A. Meltzer, eds., *The Phillips Curve and Labor Markets*, Carnegie-Rochester Series on Public Policy, a supplementary series to the *Journal of Monetary Economics*, vol. 1 (North-Holland, January 1976), pp. 47-61.

Also in Dale J. Poirier, ed., *The Methodology of Econometrics* (Cheltenham, UK: Edward Elgar Publishing, 1994).

- 11. "Dynamic Considerations in the Choice of Inflation and Unemployment Targets," in K. Brunner and A. Meltzer, eds., *The Phillips Curve and Labor Markets*, Carnegie-Rochester Series on Public Policy, a supplementary series to the *Journal of Monetary Economics*, vol. 1 (North-Holland, January 1976), pp. 149-59.
- 12. "On Measuring the Impact of Controls: A Comment," in K. Brunner and A. Meltzer, eds., *The Economics of Price and Wage Controls*, a supplementary series to the *Journal of Monetary Economics*, vol. 2 (North-Holland, April 1976), pp. 157-72.
- 13. "Denison on Price Series for Indexing: Comments," in H. Aaron, ed., *Inflation and the Income Tax* (Brookings 1976), pp. 246-8.
- 14. "Pierce and Enzler on Indexing and Economic Stability: Comments," in H. Aaron, ed., *Inflation and the Income Tax* (Brookings 1976), p. 190.
- 15. Comment on B. Bosworth, "Capacity Creation in Basic Materials Industries," *Brookings Papers on Economic Activity*, vol. 7 (1976, no. 2), pp. 342-5.
- 16. Comment on F. S. Mishkin, "What Depressed the Consumer? The Household Balance Sheet and the 1973-75 Recession," *Brookings Papers on Economic Activity*, vol. 8 (1977, no. 1), pp. 165-8.
- 17. Book Review of M. Linder, *The Anti-Samuelson* (Dulton, 1977), in *The New York Times*, Sunday Business Section (September 11, 1977), p. 14.

- 18. Comment on M. S. Feldstein and L. Summers, "Inflation, Tax Rules, and the Long-Term Interest Rate," *Brookings Papers on Economic Activity*, vol. 9 (1978, no. 1), pp. 102-7.
- 19. Comment on L. Seidman, "Tax-Based Incomes Policies," *Brookings Papers on Economic Activity*, vol. 9 (1978, no. 2), pp. 349-61.
- 20. Comment on E. M. Gramlich, "Macro Policy Responses to Price Shocks," *Brooking Papers on Economic Activity*, vol. 10 (1979, no. 1), pp. 182-6.
- 21. "A Comment on the Perloff and Wachter Paper," in K. Brunner and A. Meltzer, eds., *Three Aspects of Policy and Policymaking*, a supplementary series to the *Journal of Monetary Economics*, vol. 10 (North-Holland, April 1979), pp. 187-94.
- 22. Comment on Richard Ruggles, "Employment and Unemployment Statistics as Indexes of Economic Activity and Capacity Utilization," in *Concepts and Data Needs*, National Commission on Employment and Unemployment Statistics, "Counting the Labor Force," Appendix Volume 1, Washington 1980, pp. 186-8.
- 23. "Comment on Barro and Rush," in S. Fischer, ed., *Rational Expectations and Economic Policy* (University of Chicago Press for NBER, 1980), pp. 55-63.
- 24. Discussion of "Time Series Changes in Youth Joblessness," by M. Wachter and C. Kim, in R. Freeman and D. Wise, eds., *The Youth Labor Market Problem: Its Nature, Causes, and Consequences* (University of Chicago Press for NBER, 1982), pp. 189-98.
- 25. Comment on J. Sachs, "Wages, Profits, and Macroeconomic Adjustment in the 1970's," *Brookings Papers on Economic Activity*, vol. 10 (1979, no. 2), pp. 323-9.
- 26. Comment on G. L. Perry, "Inflation in Theory and Practice," *Brookings Papers on Economic Activity*, vol. 11 (1980, no. 1), pp. 249-57.
- Comment on R. Rasche and J. Tatom, "Energy Price Shocks, Aggregate Supply, and Monetary Policy," in K. Brunner and A. Meltzer, eds., *Supply Shocks, Incentives and National Wealth,* Carnegie-Rochester Series on Public Policy, vol. 14 (North-Holland, 1981), pp. 95-102.
- 28. Comment on M. N. Baily, "Productivity and the Services of Capital and Labor," *Brookings Papers* on Economic Activity, vol. 12 (1981, no. 1), pp. 51-8.
- 29. Comment on C. L. Schultze, "Some Macro Foundations for Micro Theory," *Brookings Papers on Economic Activity*, vol. 12 (1981, no. 2), pp. 581-88.
- 30. Discussion of John Taylor, "The Role of Expectations in the Choice of Monetary Policy," in *Monetary Policy Issues in the 1980s*, a symposium sponsored by the Federal Reserve Bank of Kansas City (Kansas City, 1983), pp. 87-92.

- Comment on W. Franz, "The Past Decade's Natural Rate and the Dynamics of German Unemployment: A Case Against Demand Policy?" *European Economic Review*, vol. 21, no. 1/2 (March/April 1983), pp. 83-87.
- 32. Comment on J. Sachs, "Real Wages and Unemployment in the OECD Countries," *Brookings Papers* on Economic Activity, vol. 14 (1983, no. 1), pp. 290-8.
- Comment on S. Rosen, "Unemployment and Insurance," in K. Brunner and A. Meltzer, eds., Variability in Employment, Prices and Money, Carnegie-Rochester Conference Series on Public Policy, vol. 19 (North-Holland, 1983), pp. 51-60.
- 34. Comment on F. Bourguignon and M. Levy-Leboyer, "An Econometric Model of France in the 19th Century," *European Economic Review*, vol. 25 (June 1984), pp. 143-46.
- 35. Comment on P. K. Clark, "Productivity and Profits in the 1980s: Are They Really Improving?" *Brookings Papers on Economic Activity*, vol. 15 (1984, no. 1), pp. 168-72.
- 36. Comment on Ray C. Fair, "Estimated Trade-offs Between Unemployment and Inflation," in *Price Stability and Public Policy*, a symposium sponsored by the Federal Reserve Bank of Kansas City (Kansas City, 1984), pp. 83-94.
- Comment on Karl Brunner's "Fiscal Policy in Macro Theory," in R.W. Hafer, *The Monetary versus Fiscal Policy Debate: Lessons from two Decades*. (Totowa, NJ, Rowman and Allanheld, 1986), pp. 127-36.
- 38. Comment on David Begg, "Fiscal Policy," in R. Dornbusch and R. Layard, *The Performance of the British Economy* (Oxford University Press, 1987), pp. 256-9.
- 39. Comment on Olivier J. Blanchard, "Aggregate and Individual Price Adjustment," *Brookings Papers* on Economic Activity, vol. 18 (1987, no. 1), pp. 110-21.
- Comment on Alan S. Blinder, "The Rules-versus-Discretion Debate in the Light of Recent Experience," and Bennett T. McCallum, "The Case for Rules in the Conduct of Monetary Policy: A Concrete Example," in Herbert Giersch, ed. *Macro and Micro Policies for More Growth and Employment, Kiel Symposium, 1987* (Tubingen: J.C.B. Mohr [Paul Siebeck] 1988), pp. 64-71.
- 41. Discussion of Nouriel Roubini and Jeffrey Sachs, "Political and Economic Determinants of Budget Deficits," *European Economic Review*, vol. 33 (May 1989), pp. 934-8.
- 42. Discussion of Toshiaki Tachibanaki and Atsuhiro Taki, "Wage Determination in Japan: A Theoretical and Empirical Investigation," in H. König, *Economics of Wage Determination*, Berlin and New York: Springer Verlag, 1990, pp. 65-69.

- 43. Comment on Matthew Shapiro, "Assessing Federal Reserve Measures of Capacity and Utilization," *Brookings Papers on Economic Activity*, vol. 20 (1989, no. 1), pp. 305-14.
- 44. Comment on Laurence Ball and Stephen Cecchetti, "Inflation and Uncertainty at Short and Long Horizons," *Brookings Papers on Economic Activity*, vol. 21 (1990, no. 1), pp. 246-51.
- 45. Comment on Alan S. Blinder, "Why are Prices Sticky? Preliminary Results from an Interview Study," *American Economic Review Papers and Proceedings*, vol. 81 (May 1991), pp. 98-99.
- 46. Comment on Edward M. Gramlich, "The 1991 State and Local Fiscal Crisis," *Brookings Papers on Economic Activity*, vol. 22 (1991, no. 2), pp. 276-84.
- 47. Discussion of David Ranson, "Monetary Policy, Market Prices, and Supply-side Forecasting," *The CATO Journal*, vol. 12 (Spring/Summer 1992), pp. 221-9.
- 48. Comment on Nicholas Crafts, "Productivity Growth Reconsidered," *Economic Policy*, issue 15 (October 1992), pp. 414-21.
- 49. Discussion of Martin N. Baily, "Competition, Regulation, and Efficiency in Service Industries," *Brookings Papers on Economic Activity: Microeconomics* (1993, no. 2), pp. 131-44.
- Comment on José de Gregorio, Alberto Giovannini, and Holger C. Wolf, "International Evidence on Tradables and Nontradables Inflation," *European Economic Review*, vo. 38, no. 6 (June 1994), pp. 1245-9.
- 51. Discussion of Steven Oliner and Daniel Sichel, "Computers and Output Growth Revisited: How Big is the Puzzle?" *Brookings Papers on Economic Activity*, 1994, no. 2, pp. 324-8.
- 52. Discussion of Erwin Diewert, "Price and Volume Measures," in J. Kendrick, ed., *The New System of National Accounts* (Norwell MA: Kluwer Academic Publishers, 1995), pp. 287-97.
- 53. Discussion of Stephen Nickell and Brian Bell, "Would Cutting Payroll Taxes on the Unskilled have a Significant Impact on Unemployment?" in D. Snower and G. de la Dehesa, eds., *Unemployment Policy: Government Options for the Labour Market.* (Cambridge UK: Cambridge University Press), 1997, pp. 329-32.
- 54. Discussion of Andreas Hornstein and Per Krussel, "Can Technological Improvements Cause Productivity Slowdowns?" *NBER Macroeconomics Annual 1996*, MIT Press, pp. 259-67.
- 55. Discussion of G. A. Akerlof, William T. Dickens, and G. L. Perry, "The Macroeconomics of Low Inflation," *Brookings Papers on Economic Activity*, 1996, no. 1, pp. 60-66.
- 56. Discussion of Brent R. Moulton and Karin E. Moses, "Addressing the Quality Change Issue in the Consumer Price Index," *Brookings Papers on Economic Activity*, 1997, no. 1, pp. 350-57.

- Discussion of Charles R. Hulten, "Quality Change in the CPI," *Federal Reserve Bank of St. Louis Review*, vol. 79, no. 3 (May/June 1997), pp. 101-105.
- 58. Discussion of Martin N. Baily and Eric Zitzewitz, "Service Sector Productivity Comparisons: Lessons for Measurement", in Edwin Dean, Michael Harper and Charles Hulten, *New Developments in Productivity Analysis*, Conference on Research in Income and Wealth conference volume, University of Chicago Press for NBER, 2001, pp. 456-64.
- 59. Book review of Derek Aldcroft, *Studies in the Interwar European Economy, Journal of Economic History*, vol. 60, no. 3 (September 2000), pp. 864-6.
- 60. Discussion of Dale W. Jorgenson and Kevin J. Stiroh, "Raising the Speed Limit: U. S. Economic Growth in the Information Age," *Brookings Papers on Economic Activity*, 2000, no. 1, pp. 212-22.
- 61. Discussion of Daron Acemoglu, Philippe Aghion, and Giovanni L. Violante, "Deunionization, Technical Change, and Inequality," *Carnegie-Rochester Series on Public Policy*, volume 55, December 2001, pp. 265-73.
- 62. Discussion of William D. Nordhaus, "Productivity Growth and the New Economy," *Brookings Papers on Economic Activity*, 2002, no. 2, pp. 245-53.
- 63. "Discussion of the Transportation and Communications Industries," in Jack E. Triplett and Barry P. Bosworth, *Productivity in the U. S. Services Sector: New Sources of Economic Growth.* (Washington: Brookings Institution Press, 2004), pp. 87-94.
- 64. Discussion of Jordi Gali, "Hysteresis and the European Unemployment Problem Revisited," in *Inflation and Unemployment in Europe Conference Proceedings*, ECB Forum on Central Banking, 2015, pp. 80-86.
- 65. Discussion of David M. Byrne, John G. Fernald, and Marshall B. Reinsdorf, "Does the United States Have a Productivity Problem or a Measurement Problem?" *Brookings Papers on Economic Activity*, 2016, no. 1, pp. 165-74.