CURRICULUM VITAE

ROMAN FRYDMAN

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EDUCATION

Ph.D. (*with highest distinction*), Department of Economics, Columbia University, 1978
M.A. Department of Economics, Columbia University, 1976
M.Sc., Mathematics and Computer Science, New York University, 1973
B.Sc. (*Summa Cum Laude*), Physics and Mathematics, Cooper Union, 1971

ACADEMIC APPOINTMENT

Professor, Department of Economics, New York University

OTHER PROFESSIONAL ACTIVITIES

Chair, INET Program on Knightian Uncertainty Economics, 2019-Member, Advisory Board, Institute for New Economic Thinking (INET), 2009-Founding Member, Center on Capitalism and Society, Columbia University, 2002-Founding Editor, Project Syndicate, 1994-

Member, Editorial Board, Economic Reform Today, 1996-2002.

Member, International Advisory Board, New Economics School, Moscow, 1992-2002. Director and Principal Investigator, Privatization Research Project, Central European University (CEU), Prague and Budapest, 1991-2000.

Senior Advisor, Prime Minister of Mongolia, 1997-1998.

Founding Chair, International Advisory Board, Economics Program, CEU, 1991-1995. Member, Supervisory Board, Institute of Privatization and Management, Moscow, 1992-1994.

Senior Advisor, Romanian Policy Assistance Unit, 1993-1994.

Senior Advisor, Small Scale Privatization Commission, Moscow, 1993.

Member, Advisory Board, Ministry of Property and Entrepreneurship, Ukraine, 1991-92.

ACADEMIC HONORS

| 2011 | Finalist, TIAA-CREFF Paul Samuelson Book Award for Beyond |
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| | Mechanical Markets |
| 1999 | Invited presentation of research on post-communist transition at the Nobel |
| | Symposium in Stockholm |
| 1993 | Choice "Outstanding Academic Books" Award for The Privatization |
| | Process in Central Europe |
| 1982 | Presidential Fellowship, New York University |
| 1978 | Highest Distinction for the Ph.D. thesis, Columbia University |
| 1977-78 | John W. Burgess Distinguished Fellow, Columbia University |
| 1971 | The Reddick Fund Prize for Outstanding Scholarship in Mathematics, |
| | Cooper Union |

PUBLICATIONS

BOOKS

Rethinking Expectations: The Way Forward for Macroeconomics, co-edited with Edmund S. Phelps, Princeton University Press, 2013.

Beyond Mechanical Markets: Asset Price Swings, Risk, and the Role of the State, co-authored with Michael D. Goldberg, Princeton University Press, 2011.

Chinese Edition: Chinese Academy of Social Sciences (CASS), 2013. French Edition: Editions Le Pommier, 2013. German Edition: Wiley VCH, 2012. Polish Edition: Krytyka Polityczna, 2013.

Imperfect Knowledge Economics: Exchange Rates and Risk, co-authored with Michael D. Goldberg, Princeton University Press, 2007.

Polish Edition: *Ekonomia Wiedzy Niedoskonalej*, Krytyka Polityczna, 2009. Chinese Edition, Chinese Academy of Social Sciences (CASS), 2013.

Knowledge, Information and Expectations in Modern Macroeconomics: In Honor of Edmund S. Phelps, co-edited with Phillippe Aghion, Joseph Stiglitz and Michael Woodford, Princeton University Press, 2003. *Capitalism with a Comrade's Face and Other Studies in Postcommunist Transition*, co-authored with Kenneth Murphy and Andrzej Rapaczynski, Central European University Press (in cooperation with Cornell University Press), 1998.

Corporate Governance in Central Europe and Russia Volume 1: Banks, Investment Funds and Other Owners

Volume 2: Insiders and the State, co-edited with Cheryl Gray and Andrzej Rapaczynski, Central European University Press (in cooperation with Oxford University Press), 1996.

Small Privatization: Transformation of Retail Trade and Service Sectors in Poland, Hungary, and the Czech Republic, co-authored with John S. Earle, Andrzej Rapaczynski, and Joel Turkewitz, Central European University Press (in cooperation with Oxford University Press), 1994.

Privatization in Eastern Europe: Is the State Withering Away?, co-authored with Andrzej Rapaczynski, Central European University Press (in cooperation with Oxford University Press), 1994.

Lithuanian Translation, Litera, Vilnus, 1997. *Polish Translation*, Znak Publishers, Krakow, 1995. *Romanian Translation,* Editura Staff Publishing Company, Bucharest, 1997. *Ukrainian Translation*, Osnovy Publishers, Kiev, 1995.

The Privatization Process in Central Europe, co-authored with Andrzej Rapaczynski, John S. Earle, *et al*, Central European University Press (in cooperation with Oxford University Press), 1993.

Polish Translation, Polish Educational Publishers, Warsaw, 1994.
Romanian Translation, Editura Staff Publishing Company, Bucharest, 1994.
Serbian Translation, NIP Ekonomska Politika DD, 1997
Ukrainian Translation, Osnovy Publishers, Kiev, 1994.

The Privatization Process in Russia, Ukraine, and the Baltic States, coauthored with Andrzej Rapaczynski, John S. Earle, *et al*, Central European University Press (in cooperation with Oxford University Press), 1993.

Polish Translation, Polish Educational Publishers, Warsaw, 1994.
Romanian Translation, Editura Staff Publishing Company, Bucharest, 1995.
Serbian Translation, NIP Ekonomska Politika DD, 1997.
Ukrainian Translation, Osnovy Publishers, Kiev, 1994.

Privatization in the Transition to a Market Economy, co-edited with John S. Earle and Andrzej Rapaczynski, Pinter Publishers (in cooperation with St. Martin's Press), 1993.

Romanian Translation, Editura Staff Publishing Company, Bucharest, 1994.

Individual Forecasting and Aggregate Outcomes: "Rational Expectations" Examined, co-edited with Edmund S. Phelps, Cambridge University Press, 1983.

ARTICLES

"Expectations Concordance and Stock Market Volatility: Knightian Uncertainty in the Year of the Pandemic," co-authored with Nicholas Mangee, *Journal of Risk and Financial Management*, 2021, 14, 521-533.

"How Market Sentiment Drives Forecasts of Stock Returns," co-authored with Nicholas Mangee and Joshua R. Stillwagon, *Journal of Behavioral Finance*, 2021, 22, 351-367.

"How Economists Should Respond to Trumpian Disdain for Experts," *Capitalism and Society*, (2018) 13 (2).

"Fundamental Factors and Extrapolation in Stock-Market Expectations: The Central Role of Structural Change," co-authored with Joshua R. Stillwagon, the *Journal of Economic Behavior and Organization*, 148 (2018), 189-198.

"Knightian Uncertainty and Stock-Price Movements: Why the REH Present-Value Model Failed Empirically," co-authored with Goldberg Michael D. and Nicholas J. Mangee, *Economics*, 9 (2015), 1-50.

"Which Way Forward for Macroeconomics and Policy Analysis?," co-authored with Edmund S. Phelps, in Roman Frydman and Edmund S. Phelps (eds.), *Rethinking Expectations: The Way Forward for Macroeconomics,* Princeton University Press, 2013.

"The Imperfect Knowledge Imperative in Modern Macroeconomics and Finance Theory," co-authored with Michael D. Goldberg, in Roman Frydman and Edmund S. Phelps (eds.), *Rethinking Expectations: The Way Forward for Macroeconomics,* Princeton University Press, 2013.

"Opening Models of Asset Prices and Risk to Non-Routine Change," co-authored with Michael D. Goldberg, in Roman Frydman and Edmund S. Phelps (eds.), *Rethinking Expectations: The Way Forward for Macroeconomics,* Princeton University Press, 2013.

"Entrepreneurship in Europe and the United States: Security, Finance, and Accountability," co-authored with Khan, Omar and Andrzej Rapaczynski, in

Phelps, Edmund S. and Hans-Werner Sinn (eds.), *Perspectives on the Performance of the Continent's Economies,* The MIT Press, 2011, 27-64.

"Marktmystizismus," co-authored with Michael D. Goldberg, *Transit: Europaische Reveue*, 40, Winter 2010, 120-124.

"Testing Hypotheses in an I(2) Model With Piecewise Linear Trends. An Analysis of the Persistent Long Swings in the Dmk/\$ Rate," co-authored with Johansen, Soren Juselius, Katarina, and Michael D. Goldberg, *Journal of Econometrics,* 158, (2010), 117-129.

"Financial Markets and the State: Price Swings, Risk, and the Scope of Regulation," co-authored with Michael D. Goldberg (2009), *Capitalism and Society:* Vol. 4 : Iss. 2, Article 2, <u>http://www.bepress.com/cas/vol4/iss2/art2/</u>

"The Dollar-Euro Exchange Rate and the Limits to Knowledge," co-authored with Michael D. Goldberg (2009), *Revista Economia Ensalos*, Vol. 23, No.1

"Macroeconomic Theory for a World of Imperfect Knowledge," co-authored with Goldberg, Michael D. (2008) *Capitalism and Society*: Vol. 3 : Iss. 3, Article 1, <u>http://www.bepress.com/cas/vol3/iss3/art1</u>.

"When Does Privatization Work? The Impact of Private Ownership on Corporate Performance in Transition Economies," co-authored with Cheryl Gray, Marek Hessel, and Andrzej Rapaczynski," in Berglof, Erik. and Gerard Roland (eds.), *The Economics of Transition: The 5th Nobel Symposium in Economics*, Palgrave Macmillan, 2007.

"Imperfect Knowledge Expectations, Uncertainty Premium and Exchange Rate Dynamics," co-authored with Michael D. Goldberg, in A, Morales Zumaquero (ed.), *International Macroeconomics: Recent Developments*, Nova Science Publishers, 2006.

"Why Ownership Matters? Entrepreneurship and the Restructuring of Enterprises in Central Europe," co-authored with Hessel, Marek and Andrzej Rapaczynski, in Fox, M. and M. Heller (eds.), *Corporate Governance Lessons from Transition Economies*, Princeton University Press, 2006.

"Limiting Exchange Rate Swings in a World of Imperfect Knowledge," coauthored with Michael D. Goldberg, in Peter Sorensen (ed.), *European Monetary Integration: Historical Perspectives and Prospects for the Future. Essays in Honour of Niels Thygesen.* DJOEF Publishing, 2004.

"Imperfect Knowledge Expectations, Uncertainty Adjusted UIP and Exchange Rate Dynamics," co-authored with Michael Goldberg, in Aghion, Philippe, Frydman, Roman, Stiglitz, Joseph and Michael Woodford (eds.), *Knowledge, Information and Expectations in Modern Macroeconomics: In Honor of Edmund S. Phelps*, Princeton University Press, 2003.

"Edmund S. Phelps and Modern Macroeconomics," co-authored with Aghion, Philippe, Stiglitz, Joseph. and Michael Woodford, in Aghion, Philippe, Frydman, Roman, Stiglitz, Joseph and Michael Woodford (eds.), *Knowledge, Information and Expectations in Modern Macroeconomics: In Honor of Edmund S. Phelps*, Princeton University Press, 2003.

"Financial Buyers in Takeovers: Focus on Cost Efficiency," co-authored with Frydman H. and S. Trimbath, *Journal of Managerial Finance*, 28, (2002), 1-13.

"Macroeconomic Fundamentals and the DM/\$ Exchange Rate: Temporal Instability and the Monetary Model," co-authored with Michael D. Goldberg, *International Journal of Finance and Economics* (2001).

"Cost Inefficiency, Size of Firms and Takeovers," co-authored with Suzanne Trimbath and Halina Frydman, *Review of Quantitative Finance and Accounting*, 17(4), (2001), 397-420.

"A Money-Output Connection via Wealth Effects in a Walrasian Model," coauthored with Michael D. Goldberg and Martel, R., forthcoming in A. Worgotter (ed.), *Money, Inflation and Growth: Essays in Honor of Helmut Frisch* (2001).

"The Limits of Discipline: Ownership and Hard budget Constraints in the Transition Economies," co-authored with Ch. Gray, M. Hessel, and Rapaczynski, A., *Economics of Transition* (November 2000).

"When Does Privatization Work? The Impact of Private Ownership on Corporate Performance in Transition Economies," co-authored with Ch. Gray, M. Hessel, and Rapaczynski, A., *The Quarterly Journal of Economics* (November 1999), 1153-1192.

"Transition to a Private Property Regime in the Czech Republic and Hungary," coauthored with Rapaczynski, A. and J. Turkewitz, in Woo, W., Parker, S and J. Sachs, (eds.), *Economies in Transition: Comparing Asia and Europe*, MIT Press, 1997.

"Corporate Governance and the Political Effects of Privatization," co-authored with A. Rapaczynski, in S. Zecchini (ed.), *Lessons from the Economic Transition*, Kluver Academic Publishers, 1997, 241-262.

"Imperfect Knowledge and Behavior in the Foreign Exchange Market," co-authored with M. Goldberg, *Economic Journal* (July 1996), 869-893.

"Monetary Models of the Exchange Rate and Shifts of the Cointegrating Vector," co-authored with M. Goldberg, *The Structural Change and Economic Dynamics* (1996), 55-78.

"Exit and Voice After Mass Privatization: The Case of Russia," co-authored with Pistor, K. and A. Rapaczynski, *European Economic Review* (1996), 581-588.

"Corporate Governance in Central Europe and Russia: An Overview," co-authored with Gray, Ch. and A. Rapaczynski, in Frydman, R., Gray, Ch. and A. Rapaczynski, (eds.) (1996).

"Investing in Insider-Dominated Firms: A Study of Russian Voucher Privatization Funds," co-authored with Pistor, K. and A. Rapaczynski, in Frydman, R., Gray, Ch. and A. Rapaczynski, (eds.) (1996).

"Corporate Governance in an Insider-Dominated Economy: A Report on Russia," co-authored with Pistor, K. and A. Rapaczynski, *Economics of Transition*, (April 1995), 107-111.

"Theories Consistent Expectations and Exchange Rate Dynamics," co-authored with M. Goldberg, in H. Frisch and A. Worgotter (eds.), *Open Economy Macroeconomics*, Macmillan, 1993.

"Needed Mechanisms of Corporate Governance and Finance in the Economic Reform of Eastern Europe," co-authored with Phelps, E.S., Rapaczynski, A. and A. Shleifer, *Economics of Transition*, (April 1993), 1, 171-207, revised version in Frydman and Rapaczynski (1994).

"Notes on Voucher Privatization in Eastern Europe," co-authored with Earle, J.S and A. Rapaczynski, in *The New Europe: Evolving Economic and Financial Systems in East and West*, Kluver Academic Publishers, 1993.

"Output Decline in Hungary and Poland in 1990/1991: A Comment," in Blejer, M. and A. Gelb (eds), *The Macroeconomic Situation in Eastern Europe*, World Bank, 1993.

"Insiders and the State: Overview of Agency Problems in the East European Privatization," co-authored with A. Rapaczynski, *Economics of Transition*, (January 1993), 1, pp. 39-59, reprinted in Frydman and Rapaczynski (1994).

"Privatization Policies in Eastern Europe: Diverse Routes to a Market Economy," co-authored with Earle, J.S. and A. Rapaczynski, in *Privatization in the Transition to a Market Economy.*

"Privatization and Institutional Change in Eastern Europe," co-authored with A. Rapaczynski, in Newman, P., Millgate. M. and J. Eatwell (eds), *The New Palgrave Dictionary on Money and Finance*, Stockton Press, 1992.

"Mass Privatization Proposals In Eastern Europe: Ownership and the Structure of Control," co-authored with A. Rapaczynski, in F. Targetti (ed.), *Privatization in Europe: West and East Experiences*, Dartmouth Publishing Co, 1992, pp.75-88.

"Institutional Reform in Eastern Europe: Evolution or Design?," co-authored with A. Rapaczynski, *Brigham Young University Law Review*, 1992, pp.1-22.

"Privatization and Corporate Governance in Eastern Europe. Can Markets be Designed?", co-authored with A. Rapaczynski, in G. Winkler (ed.) *Central and Eastern Europe: Roads to Growth*, International Monetary Fund and Austrian National Bank, 1992, pp. 255-285, revised version in Frydman and Rapaczynski (1994).

"Lineamenti evolutivi del processo di transizione nei paesi dell'est europeo", coauthored with A. Rapaczynski, *Rivista di politica economica* (November 1991), pp. 69-118, revised English version entitled "Evolution and Design in the East European Transition," in Frydman and Rapaczynski (1994).

"The Ownership-Control Structure and the Behavior of Polish Enterprises During the 1990 Reforms: Macroeconomic Measures and Microeconomic Response," coauthored with S.Wellisz, in Corbo, V., Coricelli, F. and J. Bossak (eds), *Reforming Central and Eastern European Economies: Initial Results and Challenges*, The World Bank, Washington, D.C., 1991, pp. 141-156.

"Stabilization in Poland: A Progress Report," co_authored with S. Wellisz and G. Kolodko, in E_M. Claassen (ed.), *Exchange Rate Policies of Less Developed Market and Socialist Economies*, Institute of Contemporary Studies Press, San Francisco, 1991, pp. 89-115.

"Markets and Institutions in Large Scale Privatizations: An Approach to Economic and Social Transformations in Eastern Europe," co-authored with A. Rapaczynski, in Corbo, V., Coricelli, F. and J. Bossak (eds), *Reforming Central and Eastern European Economies: Initial Results and Challenges*, The World Bank, Washington, D.C., 1991, pp. 253-274, revised version in Frydman and Rapaczynski (1994).

"On Privatizing Privatization: A New Proposal of Ownership Transformation in Poland," co-authored with A. Rapaczynski, in Polish, *Res Publica* (September 1990), pp. 2-14.

"Is the Distinction Between Anticipated and Unanticipated Money Growth Relevant in Explaining Aggregate Output?" co_authored with P. Rappoport, *American Economic Review* (September 1987).

"Individual Rationality, Decentralization and the Rational Expectations Hypothesis," in Frydman and Phelps, eds, pp. 97-122.

"A Distinction Between Unconditional Expectational Equilibrium and the Rational Expectations Equilibrium," in Frydman and Phelps, eds, pp. 139-46.

"Individual Forecasting and Aggregate Outcomes: An Introduction to the Problem," co_authored with E.S. Phelps, in Frydman and Phelps, eds, pp. 1-30.

"The Derivation and Interpretation of the Lucas Supply Function," co_authored with C. Bull, *Journal of Money, Credit and Banking* (February 1983), 15, pp. 82-95.

"The Derivation and Interpretation of the Lucas Supply Function: A Reply," co_authored with C. Bull, *Journal of Money, Credit and Banking*, (August 1984), 16, pp. 377-9.

"Rational Expectations of Government Policy: An Application of the Newcomb's Problem," co_authored with G. O'Driscoll and A. Schotter, *Southern Economic Journal* (October 1982), 49, pp. 311-19.

"Towards an Understanding of Market Processes: Individual Expectations, Learning and Convergence to Rational Expectations Equilibrium," *American Economic Review* (September 1982), 72, pp. 652-88. Reprinted in *Recent Developments in Macroeconomics*, edited by E.S. Phelps, Edward Elgar Publishing.

"Sluggish Price Adjustments and the Effectiveness of Monetary Policy Under Rational Expectations," *Journal of Money, Credit and Banking* (February 1981), 13, pp. 94-102.

"Proof of the Consistency of Maximum Likelihood Estimators of Nonlinear Regression Models with Autocorrelated Errors," *Econometrica* (May 1980), 48, pp. 853-60.

NEWSPAPER COLUMNS AND OTHER PUBLICATIONS

"How to Reset the US Pandemic Response," (June 1, 2020), co-authored with Gernot Wagner, *Project Syndicate*, and *25 newspapers around the world*.

"Beating the Coronavirus Is the Best Stimulus," (April 6th, 2020), co-authored with Edmund S. Phelps, *The Wall Street Journal.*

"Why the Largest Stimulus in History Still Is Not Enough," (March 29th, 2020), coauthored with Lawrence Hatheway, *Barron's.*

"Insuring the Survival of Post-Pandemic Economies," (March 23rd, 2020), co-authored with Edmund S. Phelps *Project Syndicate and 31 newspapers around the world.*

"The Great Disruption" (December 2018), co-authored with K. Murphy, J. Stein, and S. Whatley in *The Great Disruption*, PS The Year Ahead 2019.

"Why It's Impossible to Predict the Effect of the Tax Bill on Investment and Growth," (December 2017), co-authored with Edmund S, Phelps, *Market Watch.*

"Hope Against Rage," (December 2017), co-authored with K. Murphy, J. Stein, and S. Whatley in *Hope Against Rage*, PS The Year Ahead 2018.

"The Fatal Attraction of Populism," (December 2016), co-authored with K. Murphy, D. Nissan, and J. Stein, in *Fatal Attraction*, PS The Year Ahead 2017.

"The Magical Theory of Markets," (October 2009), co-authored with M. D. Goldberg, published in *Gazeta Wyborcza,* Poland, and *The Times,* UK.

"An Economics of Magical Thinking," (September 2009), co-authored with M. D. Goldberg, *Financial Times (Ft.com)*

"Completing the G-20's Agenda," (April 2009), co-authored with M. D. Goldberg, published in 34 newspapers around the world.

"Obama and Asset Prices," (November 2008), co-authored with M. D. Goldberg, *Financial Times (Ft.com)*

"We Must Not Rely Only on the Rosiest Ratings (October 2008), co-authored with Goldberg M. D. and E. S. Phelps, *Financial Times.*

"Clipping the Euro's Wings" (August, 2007), revised version entitled "Can Anything Slow the Dollar's Fall?" (November, 2007). Co-authored with M. D. Goldberg, published in 55 newspapers around the world.

"Breaking the Mold -- A Survey of Postcommunist Higher Education, " co-authored with M. Hessel, K. Murphy and Rapaczynski, A., *Le Banquet – Revue du CERAP* (October 1999), 145-164.

"Marching Backwards," co-authored with Murphy, K. and A. Rapaczynski, published in: *Der Standard* (in German), September 1995; *Finansova Ukraina* (in Ukrainian), October 1995; *Magyar Hirlap* (in Hungarian), October 1995; *Rzeczpospolita* (in Polish), October 1995; *Die Zeit* (in German), November 1995; *Econom* (in Czech), November 1995.

"Eastern European Experience with Small Scale Privatization," co-authored with A. Rapaczynski, World Bank, Paper No. 104, 1994.

"Privatization in Eastern Europe: Is the State Withering Away?," co-authored with A. Rapaczynski, *Finance and Development*, (June 1993).

"Wie vel Staat braucht der Markt?" ("How Much Market Does the State Need?"), co-authored with A. Rapaczynski, *Transit*, 3, 1992, pp. 193-205. Reprinted in *Frankfurter Rundschau*, March 18, 1992, No.66.

"Comments on the Polish Privatization Program," in Polish, co-authored with A. Rapaczynski, *Zycie Gospodarcze*, (August 1, 1991).

"Privatizing Privatization in Poland and Eastern Europe," co-authored with A. Rapaczynski, in D.D. Purvis (ed.), *Economic Development in the Soviet Union and Eastern Europe*, Policy Forum Series, John Deutsch Institute for the Study of Economic Policy, Queens University, 1991, pp. 70-74.

"An Analysis of the Polish Government's Large-Scale Privatization Plan", coauthored with A. Rapaczynski, **Soviet and East European Law** (February 1991).

"Privatization and Sale: For Whom and For What Price?" in Polish, co-authored with A. Rapaczynski, *Zycie Warszawy* (September 10, 1990).

Privatization: Valuation and Alchemy," in Polish, co-authored with A. Rapaczynski, *Gazeta Bankowa* (September 2, 1990)

"Privatization and Valuation: Who, For How Much, and Why?," in Polish, coauthored with A. Rapaczynski, **Zycie Warszawy** (August 31, 1990) "Privatization: Accelaration and Ventilation," in Polish, co-authored with A. Rapaczynski, *Rzeczpospolita* (August 27, 1990).

"Privatization: Efficiently and Fairly," Interview in *Zycie Warszawy* (August 27, 1990).

"To Privatize Privatization," Interview in Zycie Gospodarcze (August 19, 1990).

"Inadequate Polish Privatization," open letter with A. Rapaczynski, *Financial Times* (August 7, 1990).

Review of *The Theory and Practice of Econometrics* by G.G. Judge, et. al. *Journal of Business and Economic Statistics*, 3 (October 1985) 413-14.