

**Curriculum Vitae**  
**Manuel Trajtenberg**  
November 2019

**Personal**

Born: September 21, 1950, Córdoba, Argentina.  
Citizenship: Israeli  
Family Status: Married to Dr. Nadine Baudot-Trajtenberg, 3 children, 4 grandchildren  
Email: [manuel@tauex.tau.ac.il](mailto:manuel@tauex.tau.ac.il)  
Personal Address: 13 Weinshall St. Apt. 14, Tel Aviv 6941335, Israel

**Public Sector Positions**

1. Member of the Board of **the National Library of Israel**, since 2019.
2. Member of the **Knesset** (the Israeli Parliament) for the Labor Party, May 2015-October 2017; run in the elections of March 2015 as candidate of the “Zionist Union” for Finance Minister. Member of the Knesset Finance Committee, the Joint Committee for the Defense Budget, and the Education Committee.
3. Chairman, the Planning and Budgeting Committee, the **Council for Higher Education**, Israel. September 2009 – December 2014.
4. Chairman, the **Government Committee for Social and Economic Change**, Summer-Fall of 2011 (following the mass social protests of the summer 2011)
5. Head (and founder), **National Economic Council**, the **Prime Minister Office**, and Chief Economic Advisor to the Prime Minister. 2006 – 2009.
6. Member, the **Government Committee for Reform of Higher Education** (the “Shochat” committee). 2007
7. Member, **The Government Committee for the Defense Budget** (the “Brodet” committee). 2006-2007
8. Member of the Directorate, **Ministry of Industry and Trade**, Office of the Chief Scientist, “**Magnet**” Program for the Support of Generic, Pre-Competitive Technologies, 1997- 2000
9. Member, **The National Council for Research and Development**, and the National Council for the Development of Scientific and Technological Infrastructure in Israel (a Government appointment), 1996/97
10. Member of the Committee for Drafting **Merger Guidelines** for Israel, Member, appointment of the Minister of Trade and Industry, 1995

## Education

**Harvard University:** Ph.D. in Economics (with Distinction), 1984. Advisors: Zvi Griliches, Michael Spence (Nobel Laureate) and Daniel McFadden (Nobel Laureate).

**Hebrew University of Jerusalem, Israel:**

M.A. in Economics, 1976

B.A. in Economics and Sociology (with Honors), 1973.

## Academic Positions

**Tel Aviv University, Eitan Berglas School of Economics:**

Professor Emeritus, since September 2018

Chairman, January 2002 – January 2004

Acting Chairman, August 2001 – December 2001

Full Professor, since 2004

Associate Professor, 1997- 2004

Senior Lecturer, 1991 - 1997

Lecturer, 1984-1991

**The Samuel Neaman Institute for National Policy Research at the Technion**

Senior Researcher, head of the “**First 100 Days Project - a 21<sup>st</sup> century socio-economic agenda for progressive governments**”, since January 2018.

**Stanford University**

Landau Visiting Senior Fellow at SIEPR / CREEG, Fall 2004 (half sabbatical)

**National Bureau of Economic Research (NBER), and Harvard University,**

*Department of Economics*, Visiting Fellow (half sabbatical), Fall 2000.

**Stanford University**

Visiting Professor, Department of Economics, and Visiting Senior Research Associate, Center for Economic Policy Research, 1993-94 (sabbatical)

**Harvard University, Graduate School of Business Administration**

Senior Research Fellow, academic year 1989/90 (sabbatical).

**Stanford University, Center for Economic Policy Research**

Visiting Fellow, summer of 1988.

**Harvard University, Department of Economics**

Visiting Scholar, Summer of 1985.

Teaching Fellow, 1980-83

*Hebrew University of Jerusalem, Department of Economics*  
Instructor, 1975-78

## **Other Academic Affiliations**

### ***CIFAR – Canadian Institute for Advanced Research***

Member of the Advisory Committee of the Innovation, Equity, & The Future of Prosperity research program. Since 2019

### ***National Bureau of Economic Research, Cambridge, MA, USA***

Research Associate, since 1991

Faculty Research Fellow, 1986, 1987.

### ***CEPR (London, UK)***

Research Fellow, since 1999

### ***DIW – German Institute for Economic Research, Berlin***

Member of the Scientific Advisory Board: 2006 - 2009

### ***The Conference on Research in Income and Wealth (CRIW),***

Member, since 2005

### ***The World Bank***

Consultant on Innovation and R&D Policy for Development, 2005 - 2006

### ***The Sapir Forum***

Director, 2005-2006; Research Program on the Economics of Higher Education (joint with the *Samuel Neaman Institute*, Technion)

### ***The Samuel Neaman Institute for Advanced Studies in Science and Technology, Technion – Israel Institute of Technology***

Head (and founder), Program on “Science, Technology and the Economy”, 1999 - 2006

### ***Lucca Institute for Advanced Studies, IMT, Italy – Graduate Program on Economics, Markets and Institutions***

Member of the Scientific Board, 2005 - 2006

### ***The Academic College of Tel Aviv-Yaffo***

Member of the Appointments Committee, 2004 - 2006

### ***CIAR – Canadian Institute of Advanced Research, Economic Growth Program***

Fellow, 1998 – 2002

### ***Foerder Institute for Economic Research, and Sackler Institute of Economic Studies, Faculty of Social Sciences, Tel Aviv University***

Director, 1991 - 1993

## **Editorial Positions in Academic Journals**

***The Rand Journal of Economics***

Associate Editor, 1995 - 2003

***The Journal of Industrial Economics***

Associate Editor, 2001 - 2005

***The Journal of Technology Transfer***

Board of Editors, since 2002

***The Journal of Innovation and New Technology***

Associate Editor, since 1989

***The Review of Economics and Statistics***

Associate Editor, 1999 – 2003

***The International Journal of Industrial Organization***

Associate Editor, 1994 - 2000

**Referee Reports** for The American Economic Review, Econometrica, The Rand Journal of Economics, The Review of Economics and Statistics, the National Science Foundation, the Binational Science Foundation, The Journal of International Economics, Research Policy, the Quarterly Journal of Economics, The Journal of Innovation and New Technology, Harvard University Press, The Sloan Foundation, CIFAR (Canada).

## **Other Professional Activities**

***The Citizens' Empowerment Center in Israel (CECI)***

Member of the Board of Directors, since 2018

<http://www.ceci.org.il>

***The Israel Democracy Institute***

Member of the Board of Directors – 2011- 2015

<http://www.idi.org.il/sites/english/Pages/homepage.aspx>

***RAFAEL – Advanced Defense Systems, Ltd.***

Member of the Scientific Advisory Board –2009 - 2014

<http://www.rafael.co.il/>

***Tel Aviv University***

Member of the Budget Committee, 2003 - 2006

***Eden Springs*** (“*Mei Eden*” the largest mineral water company in Israel)

Board of Directors, 1998 - 2004

***BATM*** – *Advanced Communications* (a High-Tech Company)

Board of Directors, 1998-2001

**Competitive Research Awards**

***National Science Foundation*** Grant, 2005-08, SES-0527657 "Harnessing Patent Data for Social Science Research" (with Iain Cockburn, Bronwyn Hall and Woody Powell).

***The Israel Science Foundation Grant*** 1289/05, 2005-08, “The Names Game: Tracing the Mobility of Inventors with Patent Data.”

***US-Israel Binational Science Foundation***, Grant 2004097, 2005-08, “Innovation in the Early Automobile Industry, and the Interaction with Infrastructure Development” (with Ariel Pakes and Liran Einav).

Grant from ***The Israel Science Foundation***, 1996-98, “The Impact of Spillovers on the Economy: An Empirical Assessment Using Patent Data.”

Grant from the ***US-Israel Binational Science Foundation***, 1995-98 (with Nathan Rosenberg) “The Steam Engine and Lasers: a Study of General Purpose Technologies.”

***National Science Foundation*** Grant, 1994-97 (with Adam Jaffe) “The Sources and Effects of Knowledge Spillovers.”

***National Science Foundation*** Grant, 1994-97 (with Adam Jaffe), “Using Patent Citation Data to Trace Knowledge Flows.”

***National Science Foundation*** Grant SES91-10516, 1991-92 (with A. Jaffe and Michael S. Fogarty) “Getting Down to Basics: Using University and Corporate Patents to Identify Basic Innovations and Trace Their Diffusion.”

**Prizes and Honorary Awards**

- **The Academic College “Beit Berl”**, Honorary Award, January 2018.
- **The Academic College “Kinneret”**, Honorary Award on the occasion of celebrating 50 years of the establishment of the college. March 2015.
- **Azrieli College of Engineering Jerusalem**, Honorary Award, 2015.

- **Sami Shamoon College of Engineering**, Honorary Award, June 2015.
- **The University for the People**, Distinction Award, 2013.
- **The Movement for Quality Government in Israel** – awarded the “Knight for Quality Government”, 2012.
- **Signee of the Covenant of the renewed National Library of Israel**, March 2011.
- Awarded the **Robert Troupe Paine Prize** for 1986-1989 by the Board of Syndics of *Harvard University Press*, Sept. 1990 (see Publications below).
- Co-winner of the 1990 *International Joseph A. Schumpeter Society* Biennial Prize Competition, June 1990 (see Publications below).
- Named one of the **top teachers** at *Tel-Aviv University*, for the academic year 1987/88.
- **American Research Fellowship** (\$7,000), *US Information Agency*, June 1985.
- **The Joseph Schumpeter Fellowship** (\$6,000), *Harvard University*, June 1981.

## Publications

Google Scholar **Citations**, as of July 2019: **34,146**

<https://scholar.google.co.il/citations?user=2KNasToAAAAJ&hl=iw&oi=ao>

### I. Books

Patents, Citations and Innovations: A Window on the Knowledge Economy (with Adam Jaffe). Cambridge, Mass.: MIT Press, 2002. ISBN 0-262-10095-9. Includes data CD.

Economic Analysis of Product Innovation - The Case of CT Scanners. Cambridge, Mass: Harvard University Press, 1990. Co-winner of the 1990 International Joseph A. Schumpeter Society Biennial Prize Competition, and winner of the Robert Troup Paine Prize for 1986-1989 awarded by Harvard University Press.

### II. Articles

“The Names Game: Harnessing Inventors Patent Data for Economic Research” (with Gil Shiff and Ran Melamed). Annals of Economics and Statistics, 93/94, January-June 2009, pp. 79-108.

“Defense R&D in the Anti-Terrorist Era”. Defense and Peace Economics, 17 (3), June 2006, pp. 177-200.

“Patent Citations and the Geography of Knowledge Spillovers: A Reassessment – Comment” (with Rebecca Henderson and Adam Jaffe). American Economic Review, 95 (1), March 2005, pp. 461- 464.

“Market Value and Patent Citations” (with Adam Jaffe and Bronwyn H. Hall). Rand Journal of Economics, Vol. 36 (1), Spring 2005, pp. 16 – 38.

“A General Purpose Technology at Work: The Corliss Steam Engine in the late 19<sup>th</sup> Century US” (with Nathan Rosenberg). The Journal of Economic History, Vol. 64, No. 1, March 2004, pp. 61-99.

“In Memoriam: Zvi Griliches (1930-1999).” (joint with Ernst R. Berndt). Journal of Economic and Social Measurement, 27 (2001), pp. 93-97.

“Innovation in Israel 1968-97: A Comparative Analysis Using Patent Data.” Research Policy, 30 (3), pp. 363-390, March 2001. (Published also in Hebrew, in the Economic Quarterly 46, November 1999, pp. 285-322).

“Knowledge Spillovers and Patent Citations: Evidence from A Survey of Inventors” (with Adam Jaffe and Michael S. Fogarty). American Economic Review, Vol. 90, Papers and Proceedings, May 2000, pp. 215-218.

“International Knowledge Flows: Evidence from Patent Citations” (with Adam Jaffe)., Economics of Innovation and New Technology, 1999, 8, pp. 105-136.

"Universities as a Source of Commercial Technology: A Detailed Analysis of University Patenting 1965-1988" (with R. Henderson and A. Jaffe). Review of Economics and Statistics, February 1998, Vol LXXX (1), pp. 119-127. (Reprinted in: Navaretti, G.B., Dasgupta, P., Maler K.G. and D. Siniscalco (eds.), Creation and Transfer of Knowledge. Berlin, Springer, 1998, pp. 87-114).

"University versus Corporate Patents: A Window on the Basicness of Invention." (with R. Henderson and A. Jaffe). Economics of Innovation and New Technology, 1997, 5 (1), pp. 19-50.

"Market Segmentation and the Sources of Rents from Innovation: Personal Computers in the late 1980's" (with Timothy Bresnahan and Scott Stern). Rand Journal of Economics, Special Issue in Honor of Richard Quandt, 1997, 28 (0), pp. S17-S44.

"Flows of Knowledge from Universities and Federal Laboratories: Modeling the Flow of Patent Citations over Time and across Institutional and Geographic Boundaries." (with Adam Jaffe). Proceedings of the US National Academy of Sciences, November 1996, Vol. 93, 99. 12671-12677.

"General Purpose Technologies - Engines of Growth?" (with Timothy Bresnahan). Journal of Econometrics, January 1995, 65(1), pp. 83-108.

"Geographic Localization of Knowledge Spillovers as Evidenced by Patent Citations" (with A. Jaffe and R. Henderson). Quarterly Journal of Economics, Vol. 108, August 1993, pp. 577-598.

"A Penny for Your Quotes: Patent Citations and the Value of Innovations". The Rand Journal of Economics, Spring 1990, 21(1), 172-187.

"The Welfare Analysis of Product Innovations, with an Application to Computed Tomography Scanners". Journal of Political Economy, April 1989, 97(2), 444-479.

"The Diffusion of Innovations: A Methodological Reappraisal" (with S. Yitzhaki). Journal of Business and Economic Statistics, January 1989, 7(1), 35-47.

The Use of Multivariate Regression Analysis in Contrast-Detail Studies of CT Scanners". Medical Physics 11 (4), July/August 1984, 456-64.

"Performance in Innovation in the Israeli Electronics Industry: A Case Study in Biomedical Electronics Instrumentation". Research Policy 5, 1976, 354-379 (with M. Teubal and N. Arnon).

### **III. Chapters in Books**

"AI as the next GPT: a Political-Economy Perspective". In Ajay Agrawal, Joshua Gans, and Avi Goldfarb (eds.), The Economics of Artificial Intelligence - an agenda. A National Bureau of Economic Research Conference Report. The University of Chicago Press, 2019.

"Can the Nelson-Arrow Paradigm Still Be the Beacon of Innovation Policy?" In Lerner, J. and S. Stern (eds.), The Rate and Direction of Inventive Activity Revisited. The University of Chicago Press, 2012, pp. 679-684.

"Remembering Ken, our Beloved Friend." In Costa, D.L. and N.R. Lamoreaux, Understanding Long-Run Economic Growth – Geography, Institutions and the Knowledge Economy. A National Bureau of Economic Research Conference Report. The University of Chicago Press, 2011, pp. 373-74.

"The Rumbblings of a Paradigm Shift: Concluding Remarks". In Foray, D. (ed.), The New Economics of Technology Policy. Edward Elgar, 2009, pp. 409-415.

"Innovation Policy for Development: an Overview". In Foray, D. (ed.), The New Economics of Technology Policy. Edward Elgar, 2009, pp. 367-395.

“The Entrepreneurial Universities: The View from Israel.” In: The Future of the Research University – Meeting the Global Challenges of the 21<sup>st</sup> Century. The Ewing Marion Kauffman Foundation, 2008, pp. 84-94.

“Uncovering General Purpose Technologies using Patent Data” (with Bronwyn Hall). In Antonelli, C., D. Foray, B. H. Hall, and W. E. Steinmueller (eds.), New Frontiers in the Economics of Innovation and New Technology, Essays in Honor of Paul David. Edward Elgar, 2006.

“Crafting Defense R&D Policy in the Anti-Terrorist Era”. in A. Jaffe, J. Lerner and S. Stern (eds.), Innovation Policy and the Economy, Vol. 4, pp. 1 – 34, National Bureau of Economic Research, MIT Press, 2004.

“Is Canada Missing the ‘Technology Boat’? Evidence from Patent Data”. In Someshwar Rao and Andrew Sharpe (eds.), Productivity Issues in Canada, University of Calgary Press, 2002, pp. 245-280. Forthcoming also in Pierre Fortin and Craig Riddell (eds.), Growth, Employment and Technology: New Perspectives on Canadian Policies. McGill-Queen's University Press.

“R&D Policy in Israel: An Overview and Reassessment”. In Maryann P. Feldman and Albert N. Link (eds.), Innovation Policy in the Knowledge-Based Economy. Boston: Kluwer Academic Publishers, 2001, pp. 409-454. A slightly different version was published also as “Government Support for Commercial R&D: Lessons from the Israeli Experience.” In A. Jaffe, J. Lerner and S. Stern (eds.), Innovation Policy and the Economy, Vol. 2, National Bureau of Economic Research, MIT Press, 2002.

“Patient Welfare and Patient Compliance: An Empirical Framework for Measuring the Benefits from Pharmaceutical Innovation” (with Paul Ellickson and Scott Stern). In Ernst R. Berndt and David M. Cutler. (eds.), Medical Care Output and Productivity. Chicago, University of Chicago Press, 2001, pp. 539-563.

"Diffusion of General Purpose Technologies" (with Elhanan Helpman). In Helpman, E. (ed.), General Purpose Technologies and Economic Growth. Cambridge: MIT Press, 1998.

"A Time to Sow and a Time to Reap: Growth Based on General Purpose Technologies" (with Elhanan Helpman). In Helpman, E. (ed.), General Purpose Technologies and Economic Growth. Cambridge: MIT Press, 1998.

"Quality-Adjusted Prices for the American Automobile Industry: 1906-1940" (with Daniel Raff). In Bresnahan, T. and R. Gordon (eds.), New Goods. Chicago, University of Chicago Press, 1997, pp. 71-101.

"Quality-adjusted Price Indices and the Measurement of Economic Growth", in Technology and Productivity, The Challenge for Economic Policy, O.E.C.D., Paris 1991, pp. 219-228.

#### **IV. Publications in Hebrew**

"R&D, High Tech and Economic Growth." The Economic Quarterly, 49, December 2002, pp. 628-237.

"Towards an Industrial and Technological Policy for Israel: Analytical Foundations and some Specific Proposals" (with M. Justman and M. Teubal, in Hebrew), The Economic Quarterly, 37, February 1987, 978-989.

#### **V. Working Papers**

"Reforming Parental Leave: doing good to newborns, their parents and the economy". **The Samuel Neaman Institute for National Policy Research**, the Technion, November 2019 (in Hebrew).

"Towards a New Fiscal Policy for Israel: Balancing Budgetary Responsibility and Societal Needs". **The Samuel Neaman Institute for National Policy Research**, the Technion, June 2019 (in Hebrew).

"Turning the Pyramid Upside Down: a new Vision and Policy for Early Childhood Education". **The Samuel Neaman Institute for National Policy Research**, the Technion, March 2019 (in Hebrew).

"Undoing the "Gordian Knot": a transportation roadmap for the short run". **The Samuel Neaman Institute for National Policy Research**, the Technion, September 2018 (in Hebrew).

"Together but Apart: ICT and Productivity Growth in Israel" (with Shaul Lach and Gil Shiff). **The Samuel Neaman Institute**, STE WP 41-2008, February 2008.

"Public Financial Support for Commercial Innovation – Europe and Central Asia Knowledge Economy Study Part I" (with Itzhak Goldberg, Adam Jaffe, Thomas Muller, Julie Sunderland and Enrique Blanco Armas). **Chief Economist's Regional Working Paper Series, Private and Financial Sector Development Department (ECSPF), The World Bank**, Vol. 1 No. 2, January 2006.

"Empirical Implications of Physician Authority in Pharmaceutical Decision making" (with Scott Stern). **NBER Working Papers**, W6851, December 1998.

"Quantity Is All Very Well But Two Fiddles Don't Make a Stradivarius - Aspects of Consumer Demand for Characteristics". **Falk Institute for Economic Research**, Discussion Paper # 7910, August 1979.

## **Students Supervised**

### **Ph.D.:**

- Shlomi Parizat
- Roy Shalem
- Zvi Zilichovsky

### **M.A. Thesis:**

- Michal Altshuler
- Avital Igner
- Amitai Alter
- Ziv Meir Prize
- Anna Shavit
- Guy Navon
- Alon Eisenberg
- Lev Druker
- Itai Shwartz
- Dan Acks
- Gil Shiff
- Daniel Waserthal
- Ran Melamed
- Yael Abadi
- Ron Layzer

### **Current graduate students:**

- Yoni Ben Bassat