#### Ben Klemens

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I have fifteen years doing math for the greater good, alternating between technical analysis of data and policy anlysis based on my technical expertise.

#### Employment

# \* Senior Statistician, Economist — U.S. Treasury Office of Tax Analysis

2015-present

- Designed and built detailed systems for projecting federal tax revenues from corporations, and for use in what-if scenarios for alternative tax policies.
- Worked in teams redesigning the process of audit selection via ML methods.
- Provided analyses of the network of corporate ownerships.
- $\circ$  Provided analysis of income and tax changes due to migration, based on a data set of 1.7 billion observations.
- Wrote theoretical papers on the intersection of intellectual property and tax policy.

#### \* Principal Researcher — U.S. Census Bureau Statistical Research Division

2009 - 2015

- Led a group in design and implementation of *Tea*, an R package used for certain aspects of American Community Survey and 2010 Census processing.
- Finalized development of *Apophenia*, a C library of statistical routines for large-scale, production-quality data analysis, based on a category-theoretic interpretation of statistical modeling. Now available on Debian-derived Linux systems.
- Oversaw four employees, advising them on their research and helping them to implement Census projects.

## \* Senior Statistician — National Institute of Mental Health

2006-2008

- Built data analysis infrastructure and did statistical work for a lab doing genome-wide association studies.
- Found genetic segments statistically indicated to be implicated in bipolar disorder.

#### \* Nonresident Fellow — Brookings Institution

2003-2009

- Wrote a book, law review article, and several op-eds (Wall Street Journal, Washington Post, ...) on the state of intellectual property law.
- Was a technical advisor on development of the Brookings Weak State Index.
- Made radio and TV appearances (NPR, Voice of America, ...) discussing tech policy.
- Organized two conferences on intellectual property issues.

### \* Executive Director, End Software Patents project — Free Software Foundation

2007-2008

- Made public appearances and wrote on the threats of the expanded scope of patent law and patent trolls.
- Organized a staff of campaigners.
- Spoke with media about the campaign and patent policy.
- Wrote an amicus brief for a Federal Circuit case, with help from legal staff. Most recommendations eventually appeared in the Supreme Court's ruling in *Alice v CLS Bank*.

* Contractor — World Bank	2004-5, 2014-15
<ul> <li>Prepared a statistical analysis and report for a survey of why World Bank contractors are so unhappy with their positions.</li> </ul>	
<ul> <li>Prepared a report on intellectual property laws in Europe and Central Asia.</li> <li>Developed a method to use satellite data for Guatemala to improve estimates of local poverty rates.</li> </ul>	
<ul> <li>Designed, implemented, and calibrated an agent-based model of labor migration through the Europe and Central Asia region.</li> </ul>	
st Postdoctoral Fellow — Johns Hopkins University Department of Economics	2004 – 2005
${\tt \#}$ Teaching Assistant — Caltech Humanities & Social Sciences Dept, incl. economics, law, psychology, anthropology	2000-2003
* Research Assistant $-$ to Michael Chwe of the NYU Dept of Politics	2000
* Risk Control Analyst — ABN AMRO, Inc	1998-99
<ul> <li>Oversaw and reported on all of the desks of a regional brokerage firm, including OTC, Forex, pink sheet stocks, options trading, government bonds, and commodity futures</li> <li>Built a reporting system to gather information from all desks, calculate risk metrics, and report daily to management.</li> </ul>	
* Research Assistant — to Dali Yang of the U of Chicago Political Science Dept	1992–95
Education	
* PhD in Social Science (Microeconomics and Game Theory) — Caltech	2003
** Participation in the Empirical Implications of Theoretical Models Summer Institute — Harvard University Center for Basic Research in the Social Sciences	2002
* MS in Social Science — Caltech	2001
* NASD Series 7 certification —	1998
$\divideontimes$ BA in Economics — University of Chicago. Included one year at London School of Economics studying mathematics and labor economics; dean's list.	1996
Government	
* Policy Committee member — Biden presidential campaign	2020
* Chair — Transportation Committee, DC ANC1B (member 2015–present)	2013-2015
Technical papers	
* Marriage Penalties and Bonuses by Race and Ethnicity: An Application of Race and Ethnicity Imputation, by Rachel Costello, Portia DeFillippes, Robin Fisher, Ben Klemens, and Emily Lin — Treasury Office of Tax Analysis Working Papers	January 2024
* Measures of the Capital Network of the U.S. Economy — ArXiv	January 2024
* An Analysis of U.S. Domestic Migration via Subset-stable Measures of Administrative Data — Journal of Computational Social Science	June 2021
$\mbox{\ensuremath{\mathtt{\#}}}$ Valuing patents and trademarks in complex production chains — Journal of the Knowledge Economy	March 2020
$\mbox{\tt\#}$ Intellectual Property Boxes and the Paradox of Price Discrimination — Center for Economic Priorities Working Paper	May 2017

 $2004 – 5,\ 2014 – 15$ 

\* Contractor — World Bank

** Unemployment Insurance and worker mobility, by Ryan Nunn, Laura Kawano and Ben Klemens — Urban/Brookings Tax Policy Center report	February 2018
** Estimating local poverty measures using satellite images: A pilot application to Central America, by Ben Klemens, Andrea Coppola, and Max Shron — World Bank Policy Research Paper #7329	June 2015
<b>** A Useful Algebraic System of Statistical Models</b> — Census Bureau Research Report Series (Statistics)	May 2013
* A Peer-based Model of Fat-tailed Outcomes — Arxiv	April 2013
<b>** Mutual Information as a Measure of Intercoder Agreement</b> — Journal of Official Statistics	October 2012
** Tea for Survey Processing — United Nations Economic Commission for Europe Conference of European Statisticians	September 2012
$\mbox{\tt\#}$ Finding Optimal Agent-based Models — Center on Social and Economic Dynamics Working Paper $\#49$	September 2007
** A genome-wide association study implicates diacylglycerol kinase eta (DGKH) and several other genes in the etiology of bipolar disorder — Molecular Psychiatry(13:2), pp 197-207, by AE Baum, N Akula, M Cabanero, I Cardona, W Corona, B Klemens, TG Schulze, S Cichon, M Rietschel, MM Nathen, A Georgi, J Schumacher, M Schwarz, R Abou Jamra, S Hofels, P Propping, J Satagopan, NIMH Genetics Initiative Bipolar Disorder Consortium, SD Detera-Wadleigh, J Hardy, and FJ McMahon.	May 2007
<b>** Social Influences and Smoking Behavior</b> — Brookings Report to the American Legacy Foundation	February 2006
* An Efficient Network Generation Method: Interpersonal Networks and the Distri-	December 2005
bution of Links —	
<ul> <li>bution of Links —</li> <li>* Dissertation: Information Aggregation — California Institute of Technology</li> </ul>	May 2003
	May 2003
* Dissertation: Information Aggregation — California Institute of Technology	May 2003  March 2025
** Dissertation: Information Aggregation — California Institute of Technology  Books	
<ul> <li>** Dissertation: Information Aggregation — California Institute of Technology</li> <li>** Books</li> <li>** Topology: The interesting parts — Bandcamp.com</li> </ul>	March 2025
<ul> <li>** Dissertation: Information Aggregation — California Institute of Technology</li> <li>** Books</li> <li>** Topology: The interesting parts — Bandcamp.com</li> <li>** 21st Century C — O'Reilly Media</li> </ul>	March 2025 September 2012 October 2008
<ul> <li>** Dissertation: Information Aggregation — California Institute of Technology</li> <li>** Books</li> <li>** Topology: The interesting parts — Bandcamp.com</li> <li>** 21st Century C — O'Reilly Media</li> <li>** Modeling with Data — Princeton University Press</li> <li>** Math You Can't Use: Patents, Copyright, and Software — Brookings Institution</li> </ul>	March 2025 September 2012 October 2008
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** Dissertation: Information Aggregation — California Institute of Technology  **Books  **Topology: The interesting parts — Bandcamp.com  **21st Century C — O'Reilly Media  **Modeling with Data — Princeton University Press  **Math You Can't Use: Patents, Copyright, and Software — Brookings Institution Press  **Popular press articles  **Overlooked No More: James Sakoda, Whose Wartime Internment Inspired a Social Science Tool — New York Times, with Liz Landau  **Mastodon—and the pros and cons of moving beyond Big Tech gatekeepers — Ars Technica  **Keeping science reproducible in a world of custom code and data — Ars Technica	March 2025 September 2012 October 2008 November 2005  8 May 2023 January 2023 November 2021

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$\mbox{\tt\#}$ The Beauty Contest: How Cities are Shaped by What We Think Others Think, with Erica C Barnett — Strong Towns	November 2018
* 5 Q's for Census Statistics Expert Ben Klemens — Interview with The Center for Data Innovation	October 2014
** Copyright Law and the Progress of Science and the Useful Arts by Alina Ng — Science and Public Policy	May 2012
$\mbox{\tt\#}$ U.S. expanding the law - domestic and for eign - to benefit corporations — San Francisco Chronicle, 17 February 2008 p E	February 2008
** Proposal to Add Emoji Symbol for Falafel to Unicode — Unicode Consortium	April 2018
** The Rise of the Information Processing patent — Boston University Journal of Science and Technology Law	14:1 pp 1–37
* U.S. Patent Imperialism Hurts American Interests — Washington Post, 25 August 2006	August 2006
** Net neutrality fosters competition between technologies — Op-ed distributed by Scripps-Howard News Service, 17 August 2006	August 2006
* The Supreme Court's Patent Trilogy: An Analysis — Brookings Institution	May 2006
* The Gravity of the U.S. Patent Swindle — Wall Street Journal, 25 March 2006, p A9	March 2006
* New Legal Code — IEEE Spectrum, pp 60-62	August 2005
* Software Patents Don't Compute — IEEE Spectrum, pp 56-59	July 2005
* The Computer-shaped Hole in the Patent Reform Act — Brookings Institution	July 2005
* Shadowing Bush — Brookings Institution	November 2004
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* Social Norms and Voter Turnout — Brookings Institution	January 2004
	January 2004
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<ul> <li>** Social Norms and Voter Turnout — Brookings Institution</li> <li>Live events</li> <li>** Workshop Co-organizer — Agent-Based Models for Exploring Public Policy Planning,</li> </ul>	
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- $\mbox{\@scalebox{0.05}{$\times$}}$  Producer and moderator for "Software and Law: Is Regulation Fostering or Inhibiting Innovation?"
- \*\* Taught graduate class on networks and information Johns Hopkins Econ dept Feb-May 2005