# $\frac{Northwestern}{\text{Economics}}$

# **Katherine Hauck**

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Contact Information	Department of Economics Northwestern University 2211 Campus Drive Evanston, IL 60208		Mobile: 515.231.7045 katherine.hauck@northwestern.edu www.sites.northwestern.edu/utx3915 Citizenship: USA	
Fields	Research: Economic History, Industrial Organization, Applied Econometrics Teaching: Economic History, Law and Economics, Agricultural Economics			
Employment	Post-Doctoral Scholar, Department of Economics, Northwestern University			sity 2023-2024
Education	Ph.D., Economics, University of Arizona Dissertation: The Impact of the Homestead Act on Land Acquisition Decisions and Productivity in the American Midwest Committee: Price Fishback (Chair), Tiemen Woutersen, Mo Xiao, Juan Pantano			
	B.B.A., Economics with Honors, The University of Iowa			2018 2018
Fellowships, Awards,	Eller Center for Management Innovations, \$5,000 Awarded 20			2023
& Grants	George Coleman Scholarship, \$3,830 Awarded			
	Economic History Associati	2022		
	University of Arizona Graduate Travel Grant, \$750 Awarded National Science Foundation Standard Grant, #2117324, \$19,613 Awarded Ed Zajac Prize for the Best Third Year Paper, Honorable Mention			
	Economic History Association Exploratory Travel and Data Grant, \$2,500 Awarded			00 Awarded 2021
	University of Arizona Graduate Research and Project Grant, \$1,500 Awarded			
Teaching Experience	Experience Lecturer, Northwestern University ECON 323: Economic History of the United States 1865 to Present		Spring 2024	
	Lecturer, University of Ariz	ona		
	Econ 200: Basic Econor		***	Summer 2020, Summer 2021
	BNAD 301: Global and		Winter 20	20, Summer 2021, Summer 2022
	Teaching Assistant, University of Arizona Econ 550: Economics for Managers (MBA) Spring 2022, Fall 2022, Spring 2023			
	Econ 550: Economics for Managers (MBA) Spring 2022, Fall 2 Econ 481: Economics of Wage Determination			Fall 2020
		ics of Politics and Policy M	<b>J</b> aking	Fall 2019
	Econ 338: Law and Eco	•	8	Fall 2020
	Econ 332: Intermediate Macroeconomics			Spring 2019
	Econ 325: Historical Development of Financial and Economic Institutions			· ·
				Spring 2021, Spring 2023
	Econ 200: Basic Economic Issues Fall BNAD 301: Global and Financial Economics			Fall 2018 to Fall 2022 Fall 2019
	DIVAD 301. Global alid	Financial Economics		ran 2019

2017

## Research Experience

Research Assistant, David Frisvold (Labor and Health Economics), The University of Iowa 2016-2017 Research Assistant, Nicholas Ziebarth (Economic History), The University of Iowa

#### **Conferences**

#### 2023

Economic History Rookiefest at Northwestern University University of Arizona Agricultural Economics Department Seminar

#### 2022

92nd Annual Southern Economics Association Meeting NBER Development of the American Economy, Summer Institute Workshop Cliometrics and Economic History Association Session at the ASSA 3rd Mountain West Economic History Conference

#### 2021

Social Science History Association Conference 81st Annual Meeting of the Economic History Association, Poster Session Northwestern University Center for Economic History 58th Annual Cliometric Conference, Egg Timer Session Western Economic Association International 96th Annual Conference 7th Annual Midwest History Conference 46th Economic and Business History Society Conference University of Arizona 3rd Year Conference Association for Mentoring and Inclusion in Economics: Mentoring Project Association for Mentoring and Inclusion in Economics

#### 2020

Young Scholars Institute 80th Annual Meeting of the Economic History Association Meeting, Poster Session University of Arizona 2nd Year Conference

## Job Market Paper

"The Homesteading Act and the Process of Learning about Farming Ability in the Late 19th Century" by Katherine Hauck and Tiemen Woutersen

Homesteaders in the late 1800's learned about their ability to farm and would acquire the title after several years. We model this by extending the popular dynamic optimization model by Rust (1987) to allow agents to change their information sets over time and to update their beliefs. In particular, we allow for dynamic optimization, unobserved types, and allow these types to have biased beliefs. We collect data from the Bureau of Land Management, Kansas agricultural census, and Kansas county Registers of Deeds and match these data at the individual level. We find that if the U.S. government had not offered homesteading, then 31% of the homesteaders would buy the land and 69% would opt not to farm. Our results indicate that without the Homestead Act, the speed of western expansion would have been reduced by 38%.

# Other papers

"Crops versus Fences: Did Homesteaders and Purchasers Follow Different Investment Strategies in Their Land?" by Katherine Hauck

The Homestead Act of 1862 created a substantially cheaper way of acquiring farmland, raising the following question: To what extent and through what mechanisms did the Homestead Act change agricultural productivity and farmer types? This paper explores the causal effect of farmer selection into different methods of acquiring land on farm productivity at the individual level in the 1860's, 1870's, and 1880's in Kansas. I model this question using an instrumental variable approach, exploiting the unique administrative requirements of homesteading. I find that purchasers and homesteaders use different farming strategies: homesteaders initially invest in crops and livestock, while purchasers initially invest in durable improvements like fences. While homesteaders initially produce more agricultural output, after about eighteen months, purchasers surpass homesteaders.

"Forward Induction and Dynamic Optimization under Uncertainty" by Katherine Hauck and Tiemen Woutersen

Backward induction is a "workhorse" to solve dynamic optimization problems. However, this technique assumes full information and works less well when an individual learns through updating prior beliefs or test results. To solve this problem, we integrate the function of interest with respect to the distribution conditional on the parameters and then integrate again with respect to the prior beliefs. We allow for both updating prior beliefs and future treatments that depend on future tests, and we show that this technique is feasible in many contexts.

# "Individual Level and Farm Level Homesteading Characteristics" by Katherine Hauck

This paper uses multiple individual-level data sources to lay the groundwork for understanding who acquired land through homesteading, direct purchase, military warrants, railroad grants, pre-emption, and resale, what type of land each chose, and how they farmed it. I find that land characteristics at the plot level are statistically significant predictors of how the land was privatized. Likewise, land and demographic characteristics are generally statistically significant predictors of the type of agricultural production on the farm. Reselling land could be highly profitable for farmers, with an average price of approximately \$7 per acre, after excluding right-tail outliers and including input costs like fencing. This figure represents a minimum return of more than 7 times because land was initially purchased for at most \$1.25 per acre. However, about 20% of farmers lost money on their resold farm.

# Languages

#### R, Python, Julia, Stata

#### References

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Professor Tiemen Woutersen Department of Economics University of Arizona 1130 East Helen Street Tucson, AZ 85721 520.621.4281 woutersen@arizona.edu Professor Joel Mokyr Department of Economics Northwestern University 2211 Campus Drive Evanston, IL 60208 847.491.5693 j-mokyr@northwestern.edu

Professor Mo Xiao Department of Economics University of Arizona 1130 East Helen Street Tucson, AZ 85721 520.621.2192 mxiao@arizona.edu