

Occupational Licensing Over Time and Across Countries

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The views expressed in the presentation are those of the author and not necessarily those of the organizations where he is affiliated.

Occupational Licensing 101

Occupational license: “a credential awarded by a government agency that constitutes legal authority to do a specific job”

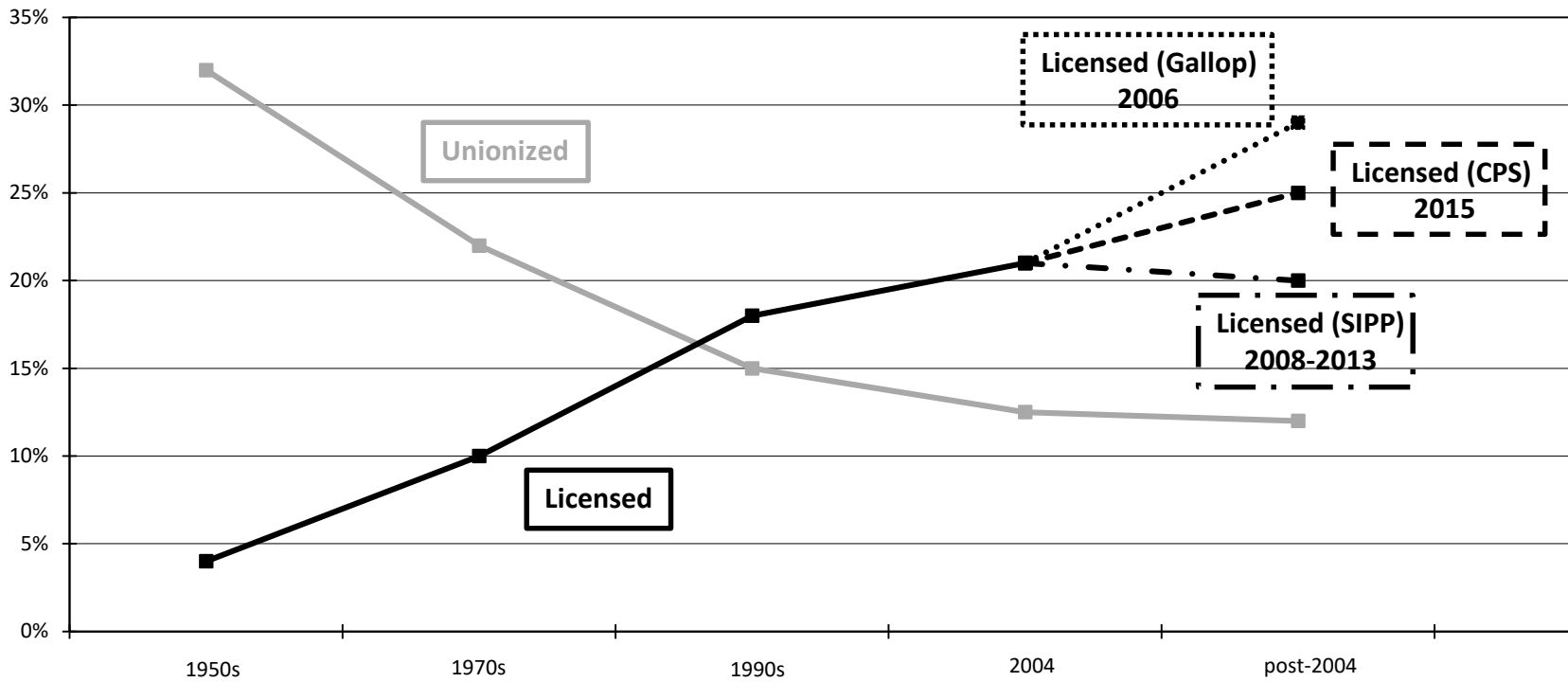
– U.S. definition (GEMEnA)

What is Occupational Licensing?

- Government regulators **require** practitioners to obtain a license to work in many occupations—
Legally related to *work for pay*
- Workers usually obtain licenses by satisfying minimum human capital requirements (*e.g.*, education, exams).
- *Example: Lawyers* in the U.S. are licensed by:
 - attending an approved law school and
 - passing examinations.

Growth and Decline of Labor Market Institutions in the US

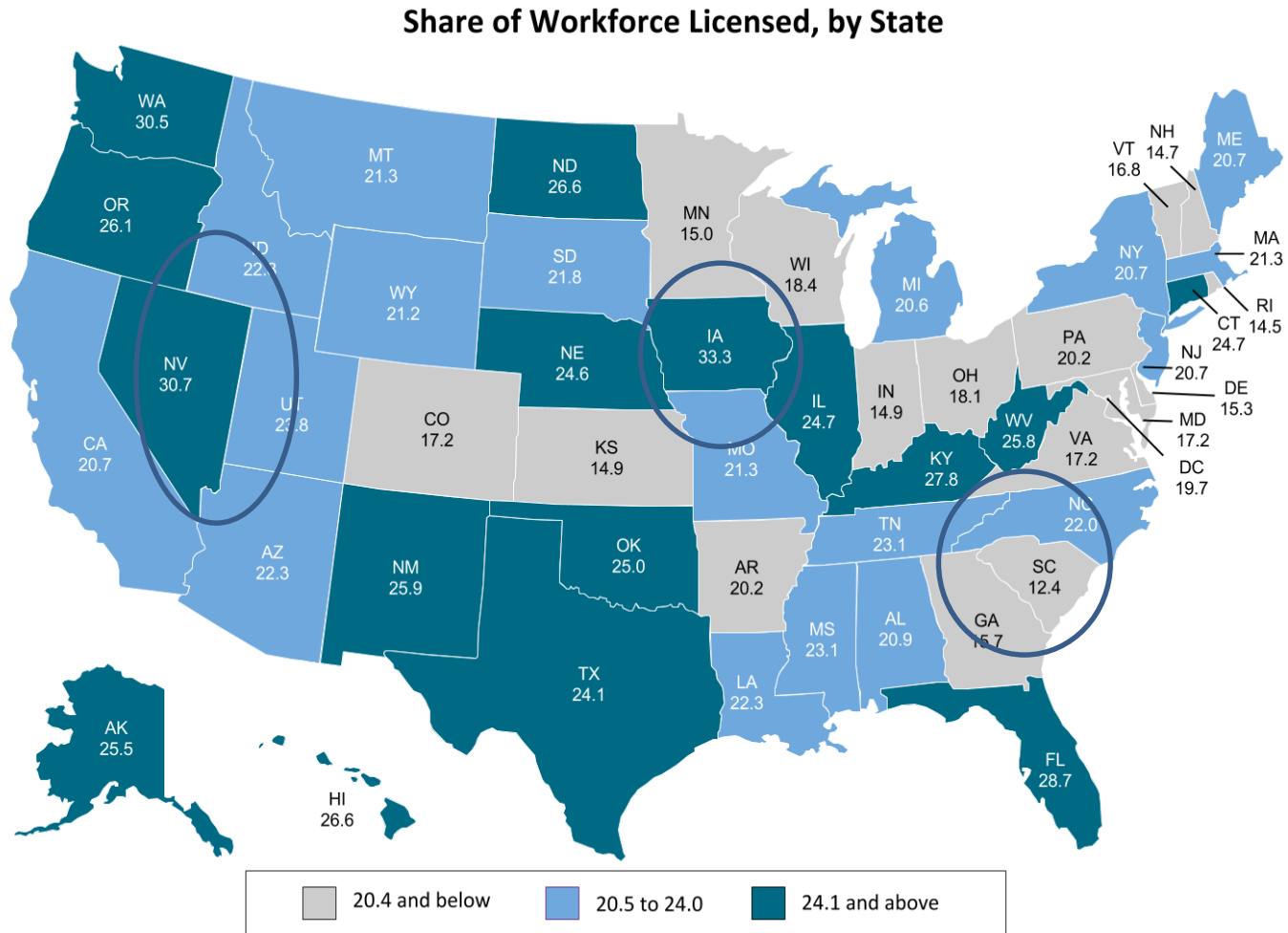
Comparisons in the Time-Trends of Two Labor Market Institutions:
Licensing and Unionization



Why is occupational licensing important?

Since licensing influences *twice* as many individuals in the United States as **unions or the federal minimum wage** combined, its evaluation should be important for social science researchers, policymakers, and citizens!

Variations across states: Harris Survey Estimates of Percent Licensed by State



Source: Kleiner and Vorotnikov (2015) based on an analysis of data from a Harris poll of 9,850 individuals conducted in the first half of 2013.
 Note: The three categories were constructed to contain roughly the same number of states.

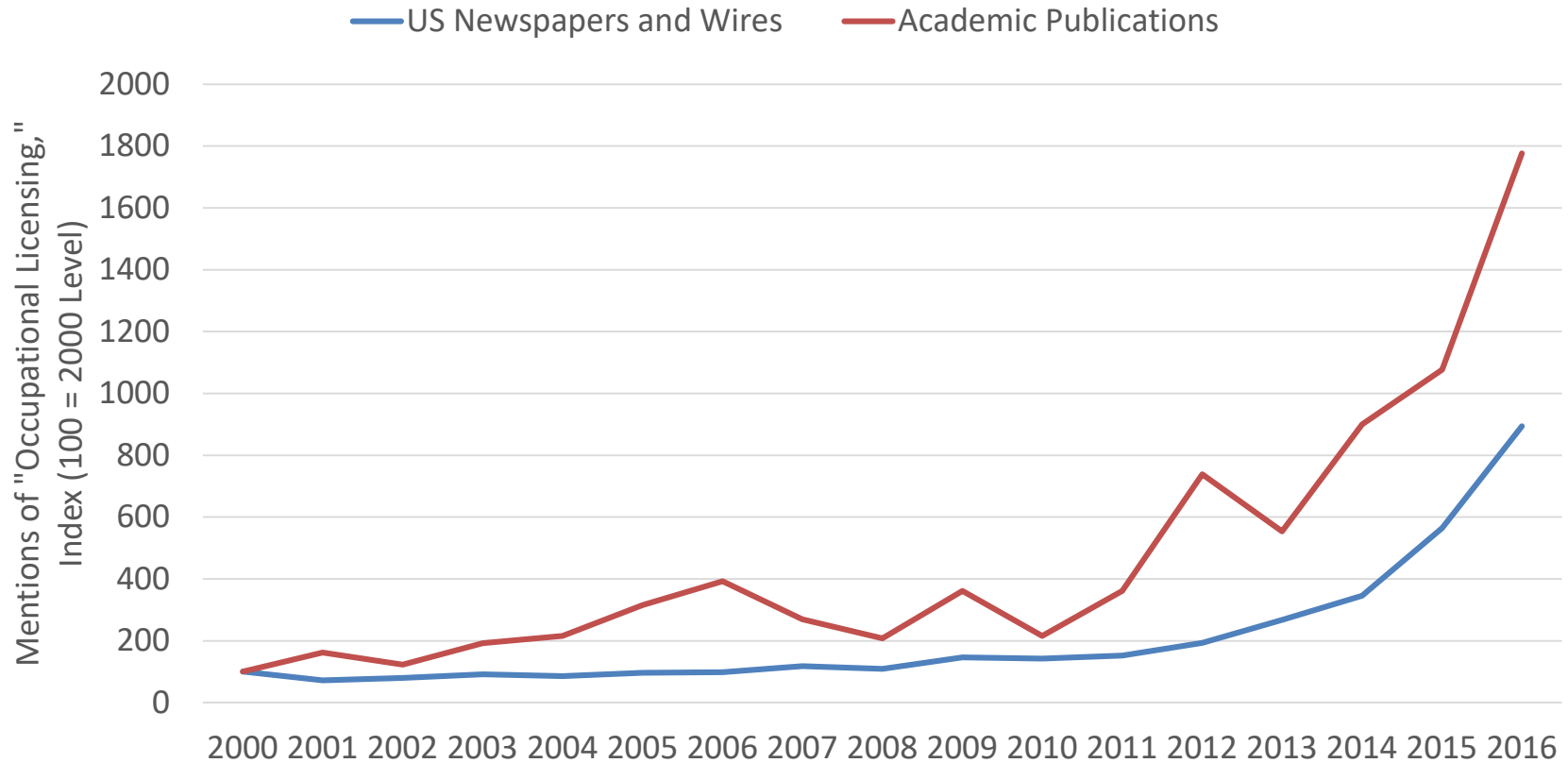
Equally Important in the European Union

Table 1. Proportion of licensed and certified workers in the European Union.

	Proportion	Std. Error
Licensed	0.219	0.0048
Certified	0.217	0.0049
Unregulated	0.564	0.0058

Source: EU Survey of Regulated Occupations. Civilian employed population age 15 or older.

Popular and Academic Interest in Occupational Licensing



Notes: "US Newspapers and Wires" is the count of mentions of "occupational licensing" in US newspapers and wires available on the Nexis database, normalized by mentions in 2000. "Academic Publications" is the count of mentions of "occupational licensing" in publications available on the Google Scholar database, divided by mentions of "economic" in each year and normalized by mentions in 2000. All data are as of June 12, 2018.

Papers today focus on academic research on occupational licensing

- Key elements of the determinants of occupational licensing and its influence
- What Does Research Suggest?
- Where Does it Matter and Why?

Has Licensing Gone Too Far?

- **“[O]verly burdensome licensure requirements weaken competition without benefiting the public.”**
 - U.S. Labor Sec. Alex Acosta, 8 Jan 2018, WSJ
- **“Too often, policymakers do not carefully weigh [the] costs and benefits when making decisions about whether or how to regulate a profession through licensing.”**
 - U.S. Council of Economic Advisers, Jul 2015
- **“I want to liberalise unfair regulation to make it easier for people to follow their dreams and start new careers.”**
 - U.K. Chief Sec. to the Treasury Elizabeth Truss, 26 Jun 2018

Policy Issues with Deregulation

- DePillis, L., “In taking on cosmetologists — and other licensed professions — the White House may have picked a fight it can’t win,” ***The Washington Post***, 9 November 2015.
- Cottle, M., “The Onerous, Arbitrary, Unaccountable World of Occupational Licensing,” ***The Atlantic***, 13 August 2017.

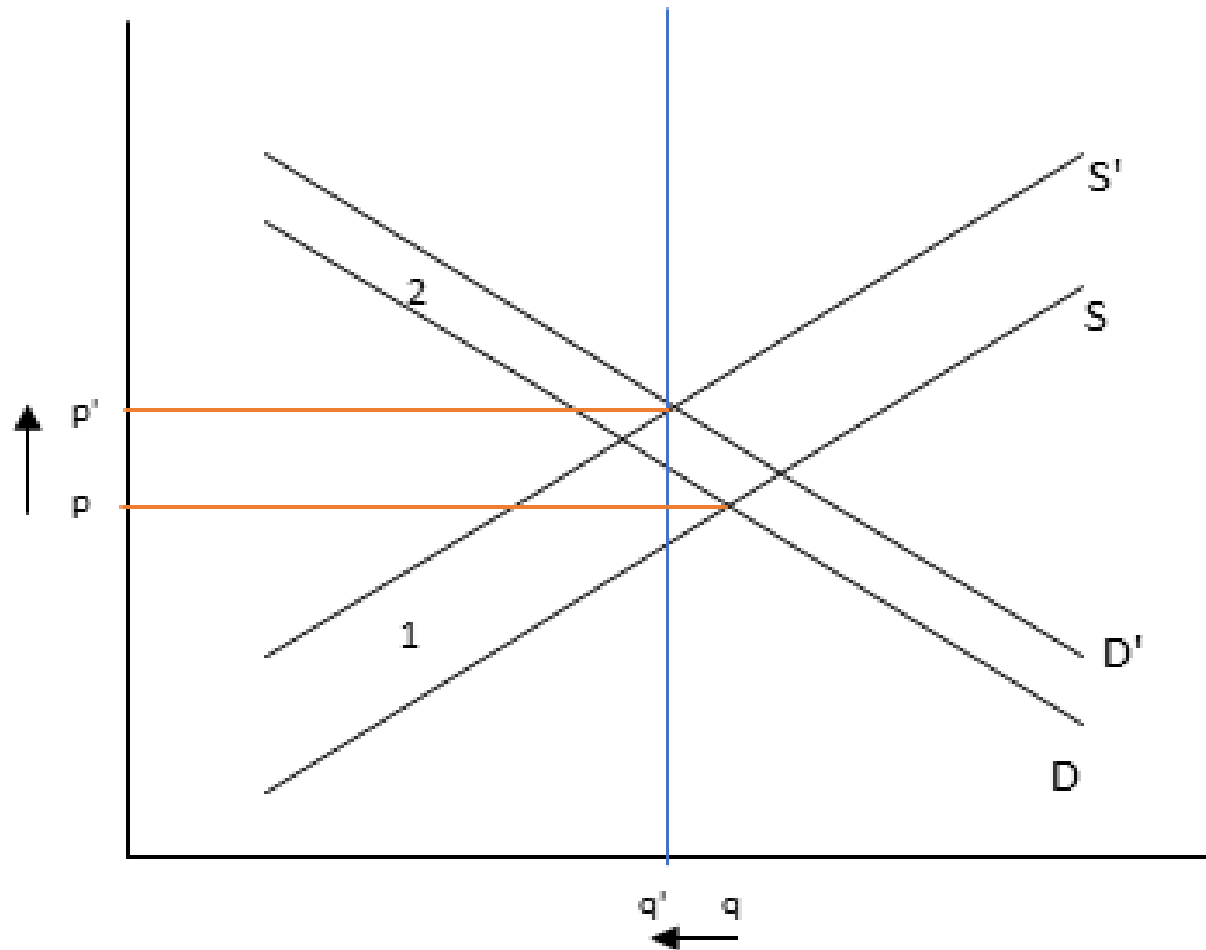
Key Research Questions

Does licensing increase or reduce social welfare?

- **Some occupations very likely should (not) be licensed
but how/where to draw the line?**
- *Existing theory: Explains how licensing might affect outcomes, but no data exist to test for the predictions (Leland 1979, Shapiro 1986)*
- *Existing evidence: Identification is a challenge, no link to costs/benefits/welfare (Kleiner Krueger '10/'13, Gittleman Kleiner '16, Gittleman et al '18)*

Summary of the Basic Model

Figure 1: Economic Analysis of Occupational Licensing Policy



Occupational Licensing over time

- Duration and Grandfathering
- Origins and evolution of occupational licensing
- Battles Among Occupations

Analyzing the Influence of Occupational Licensing Duration and Grandfathering on Labor Market Outcomes*

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NBER Working Paper w22810, 2017

*We thank the Smith Richardson Foundation and Kauffman Foundation for their financial support of our research, but the views expressed here are those of the authors and do not necessarily reflect the views or policies of the Smith Richardson Foundation and Kauffman Foundation

Historical Background and Theory

- Initially, the influence of licensing *duration* on labor market outcomes was identified in an NBER Volume published in 1945 by Milton Friedman and Simon Kuznets (Friedman and Kuznets, 1945).
- They stated that the American Medical Association in **1911** through the implementation of the **Flexner Report** ratcheted up requirements for becoming a doctor through *tougher admissions requirements, longer education in medical school, and fewer numbers of new openings for medical education* (Beck, 2004).

Background

- Friedman and Kuznets went on to examine the influence of these regulations more than twenty years later in the late **1930s**, and they found that **doctors were able to raise their wages by more than 17 percent compared to dentists**, who did not substantially change their requirements.

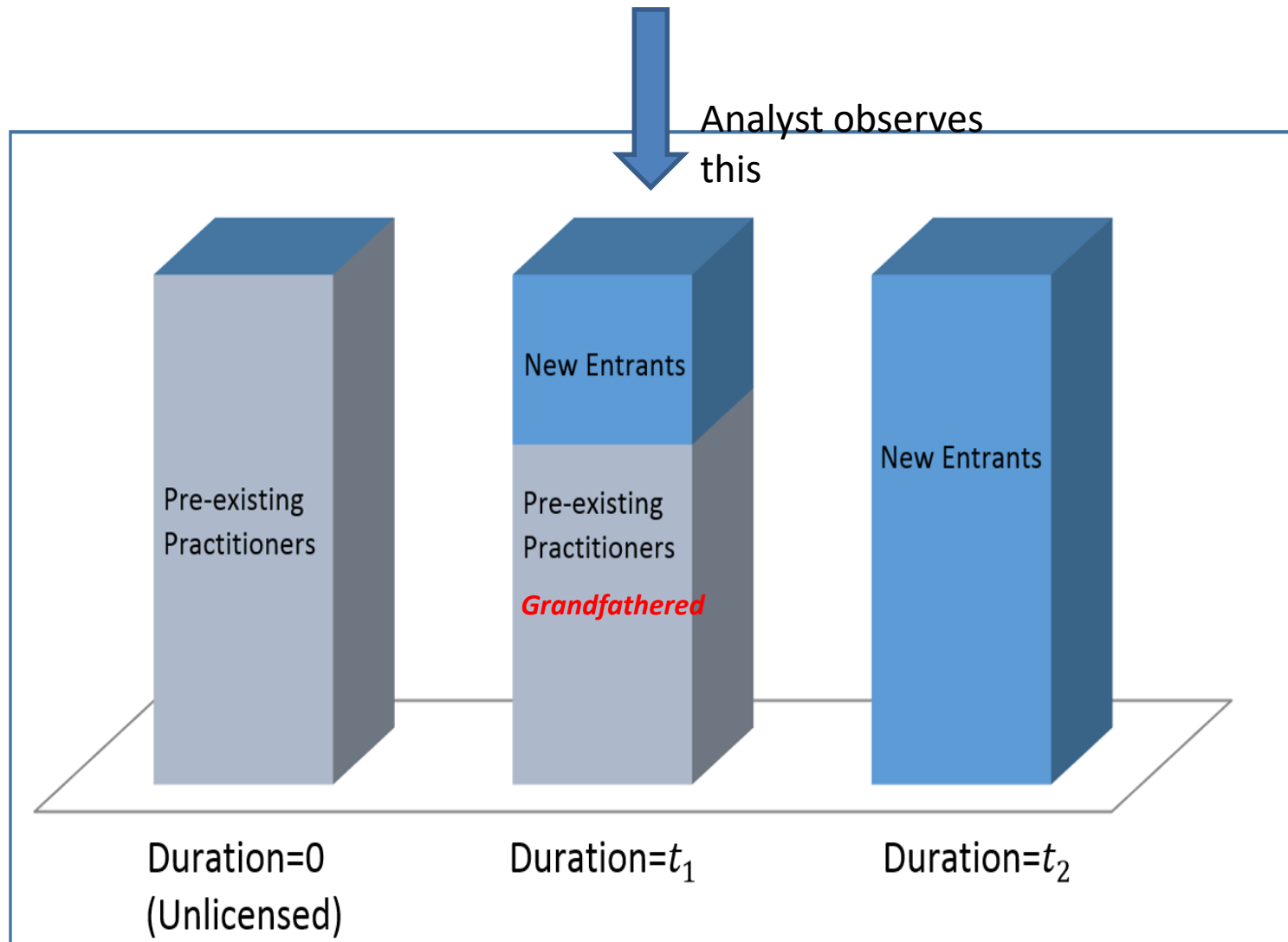
The Rationale for Grandfathering and Ratcheting

- Occupations could ***also ratchet up the requirements for already licensed occupations.*** Therefore, licensing duration, the time from the implementation of occupational licensing legislation matters, because it may take years for the full effects of occupational licensing to be realized in the labor market, and *for the analyst to observe these changes on wages, hours, and employment. **Regression Discontinuity** would not pick up the full influence, but would only capture perceived quality improvement by lowering the perceived downside risks (Thaler)*

Evidence on Grandfathering and Ratcheting

All the occupations in the sample (and more generally) allowed individuals who were already in the occupations to continue working following initial regulation. In addition, we found no cases where ratcheting the education or other requirements applied to continuing practitioners.

Illustration of the Effects of Grandfathering and New Regulations





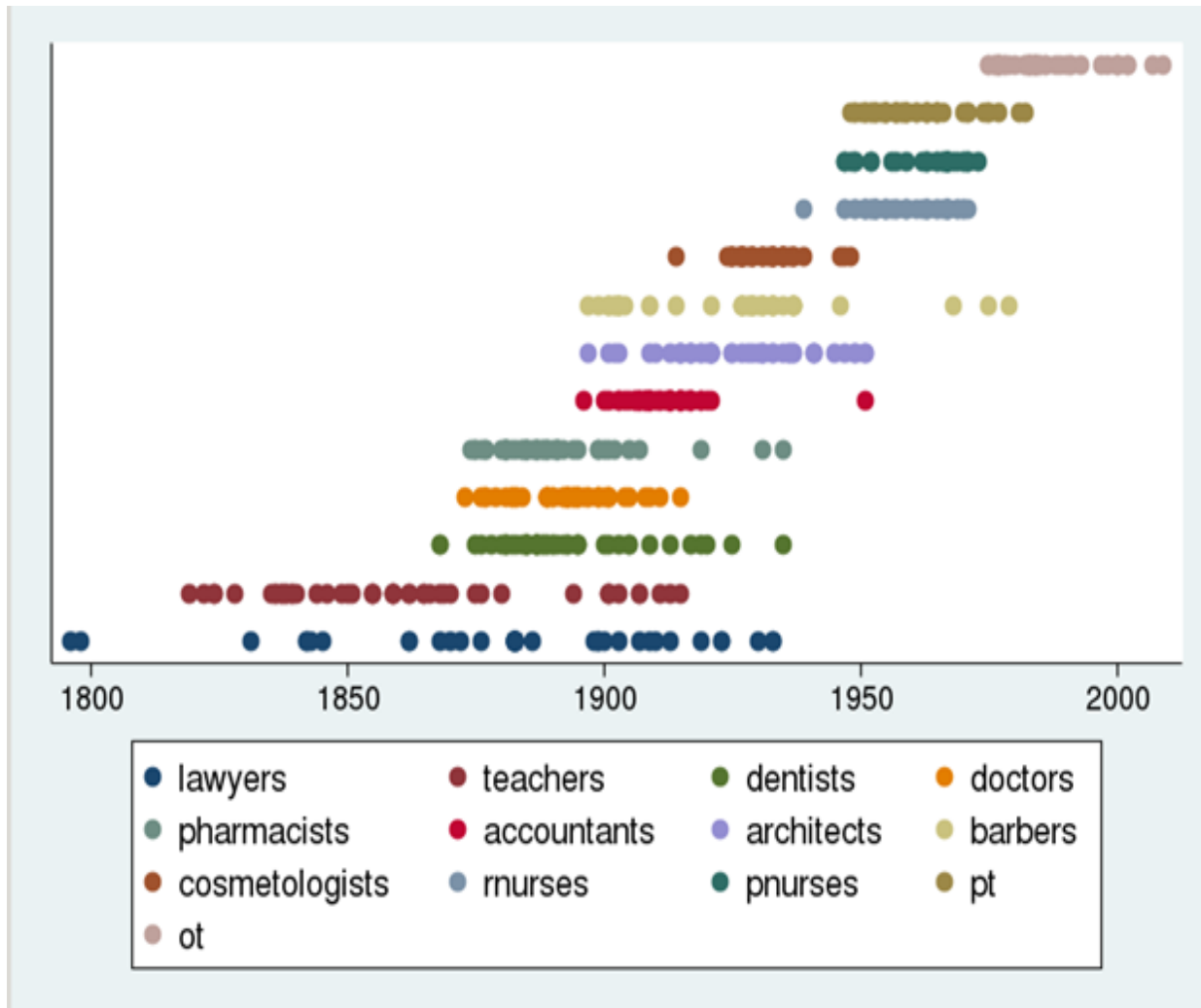
Data

- Census Public Use Sample Data (PUS) & American Community Survey (ACS)
 - Census Public Use Sample Data: 1940-1990 by 10 year intervals
 - ACS: 2000-2013 annual data
 - CPS: measures of churning

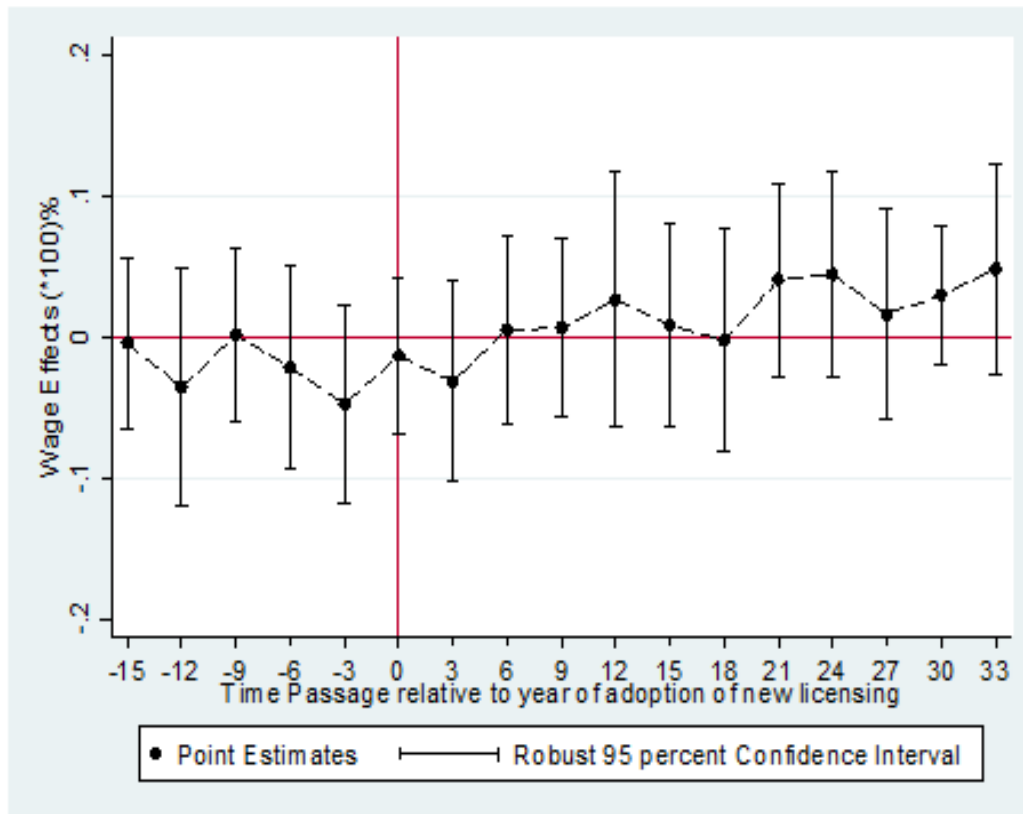
 - Adults aged 16-65

 - Samples limited to those with appropriate education. For example:
 - Nurses: more than a HS degree
 - Lawyers/Dentists/Doctors: bachelor's degree or more
 - Barbers: less than a bachelor's degree

Timeline of Occupational Licensing



13 Universally Licensed Occupations





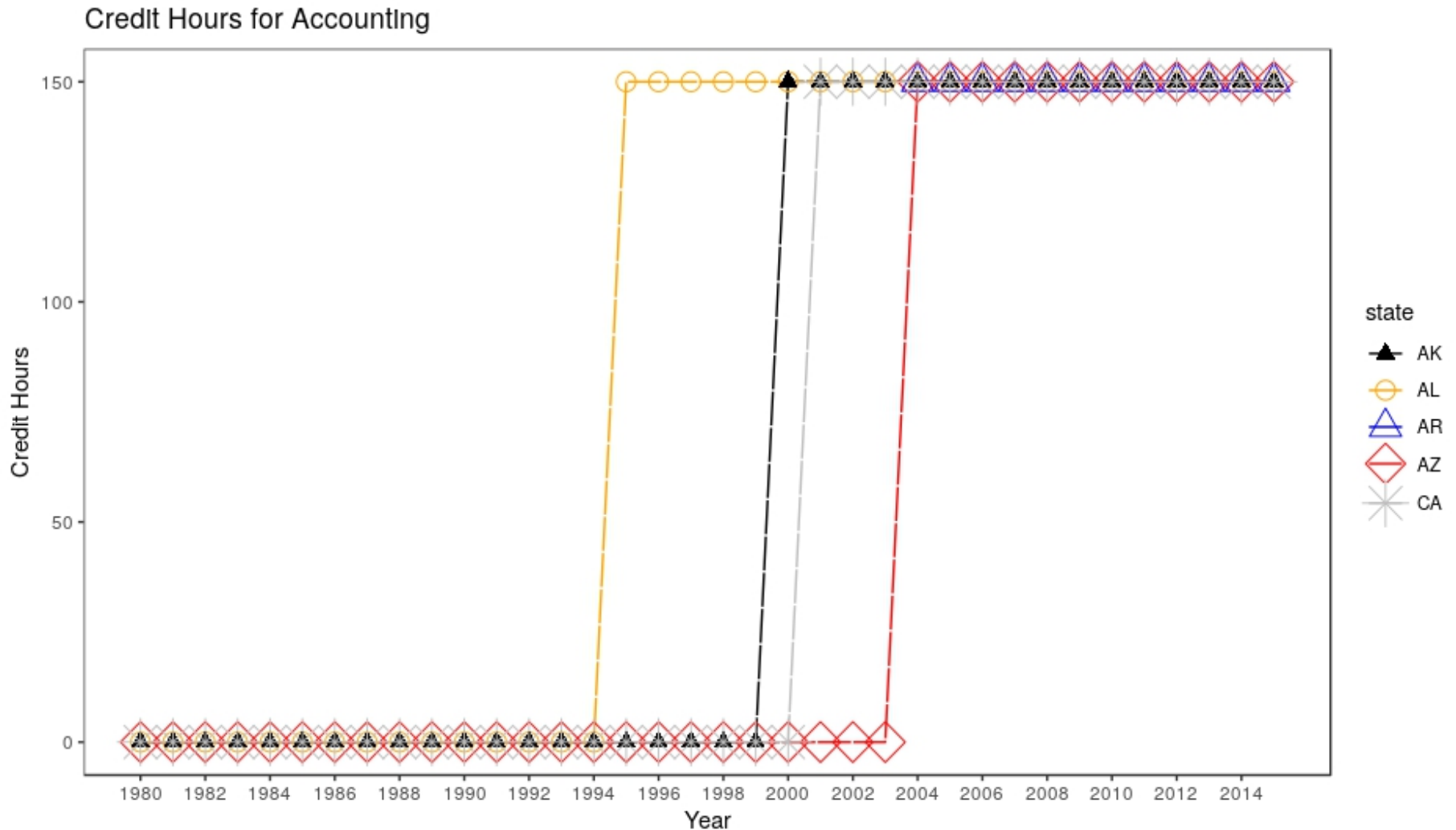
Overall Findings

- **Duration of state licenses is associated with higher wages of about 2 percent per decade licensed.**
- **Overall participation in the licensed occupation declines slightly depending on the specification following the implementation of a licensing statute suggesting limiting of labor supply.**

Overall Findings

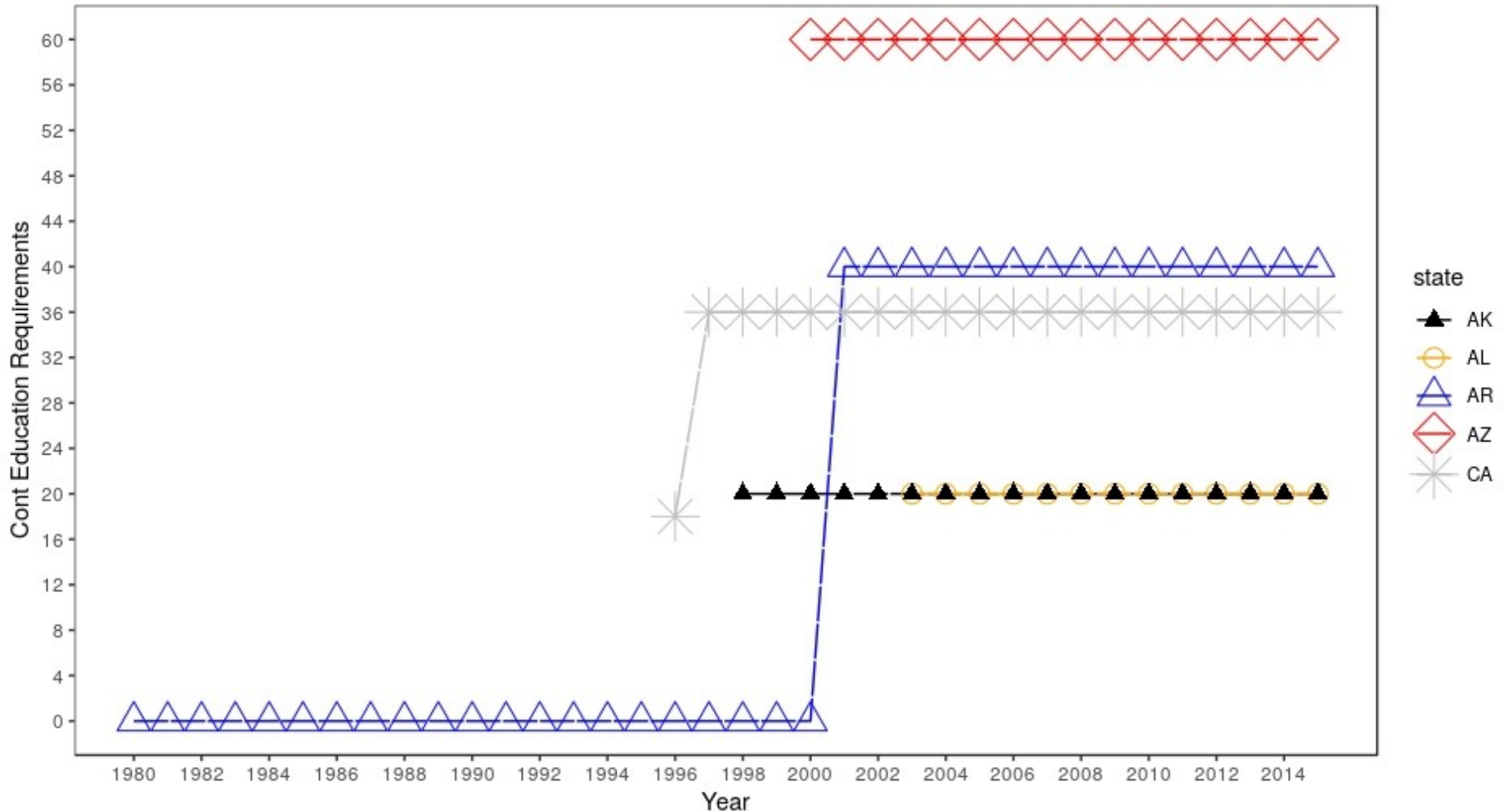
- **Grandfathered workers receive about 4% higher wages**
- **Heterogeneity of effects among occupations in our sample**
- **Licensing reduces labor market entry and exit from licensed occupations**
- **Results are consistent with a *monopoly model of regulation* that results in gains to those in the occupation through higher wages and hours worked, but it may restrict entry into the occupation.**

Ratcheting of Requirements for Accountants (entry)



Ratcheting of Requirements for Psychologists (maintaining employment)

Continuing Education Requirements (Credit Hours) for Psychologist



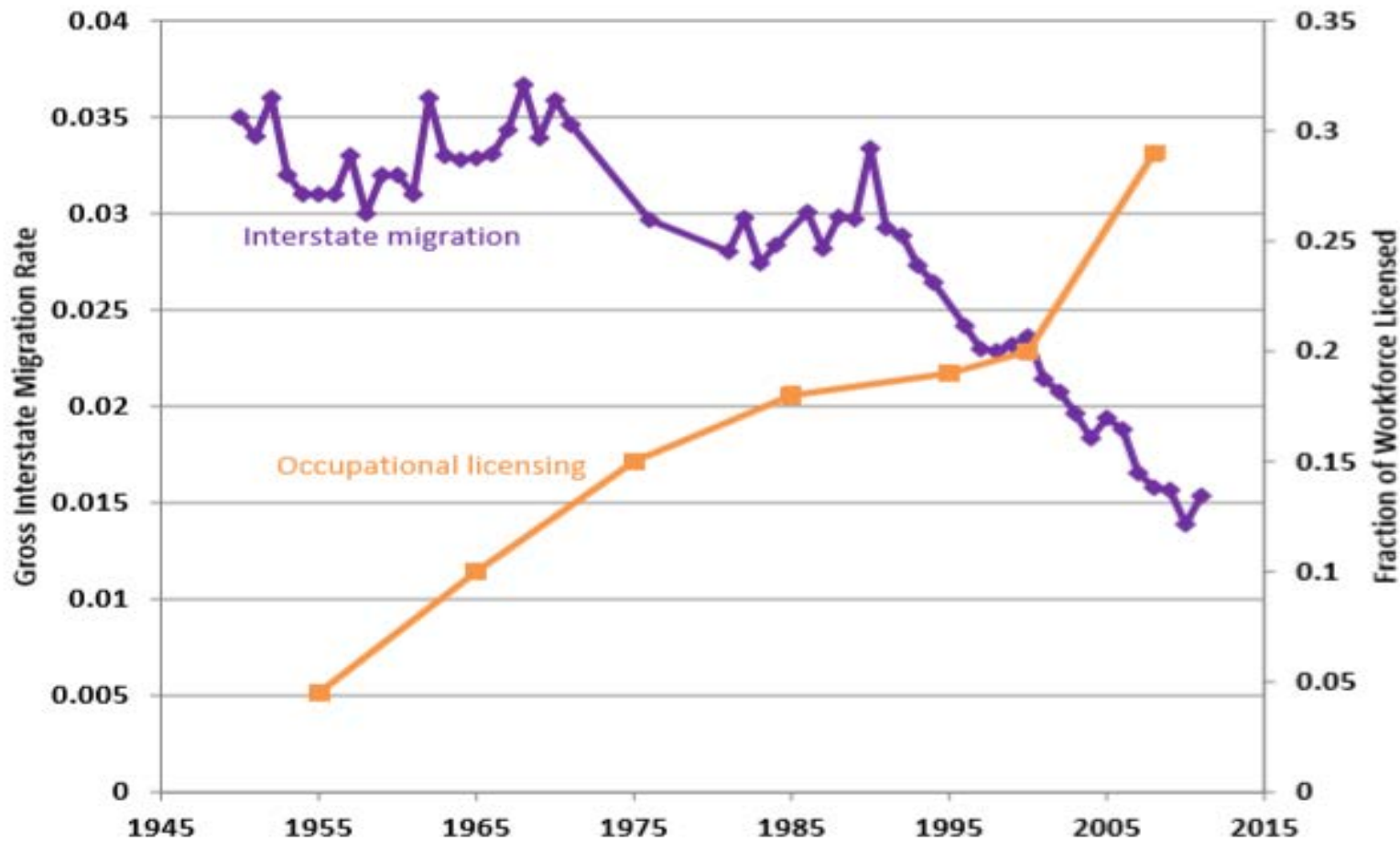
Labor Market Efficiency

- Geographic mobility
- Mobility across occupations

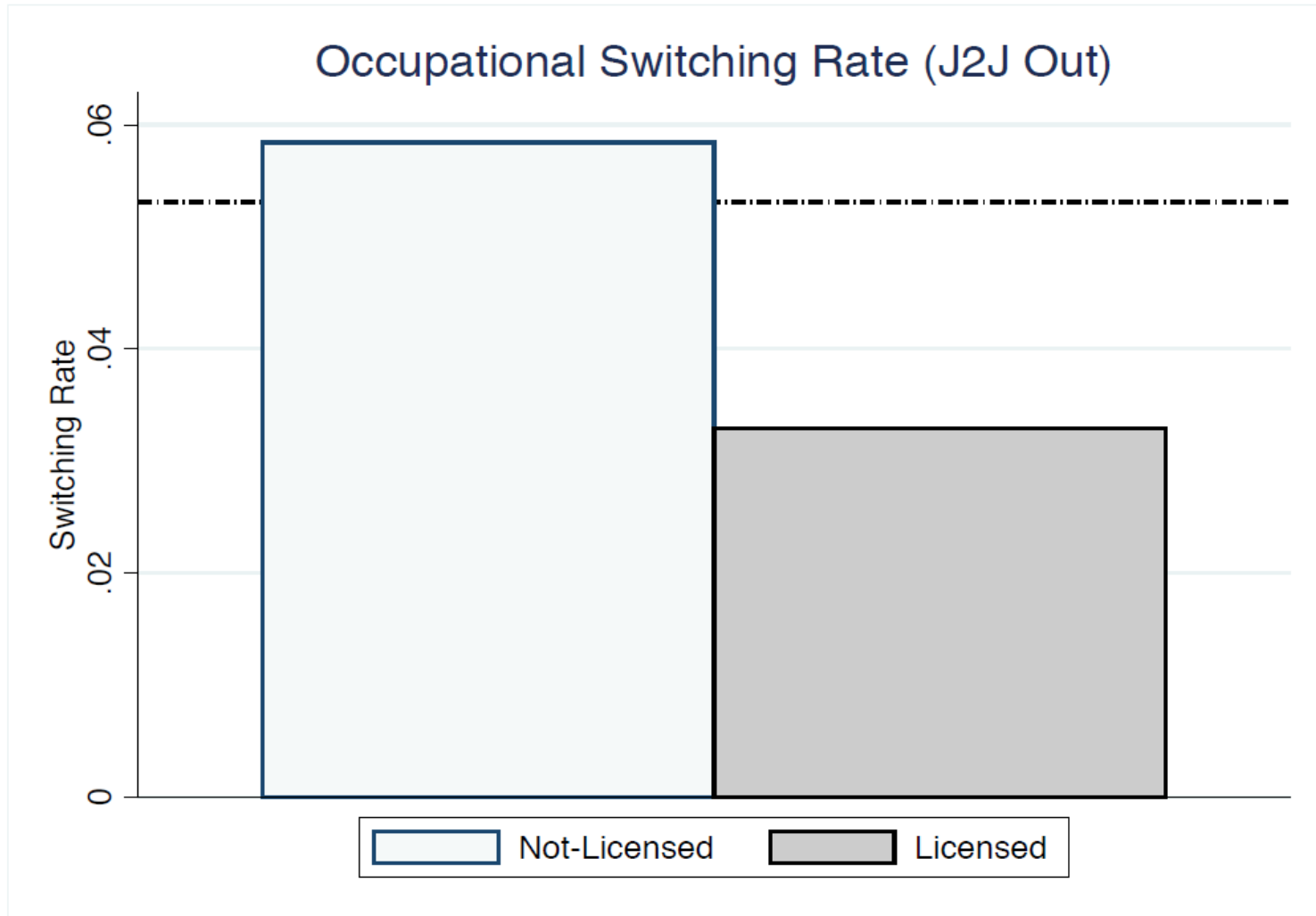
Does Occupational Licensing Reduce Interstate Migration in the U.S.?

(Johnson and Kleiner, 2019, *AEJ Policy*)

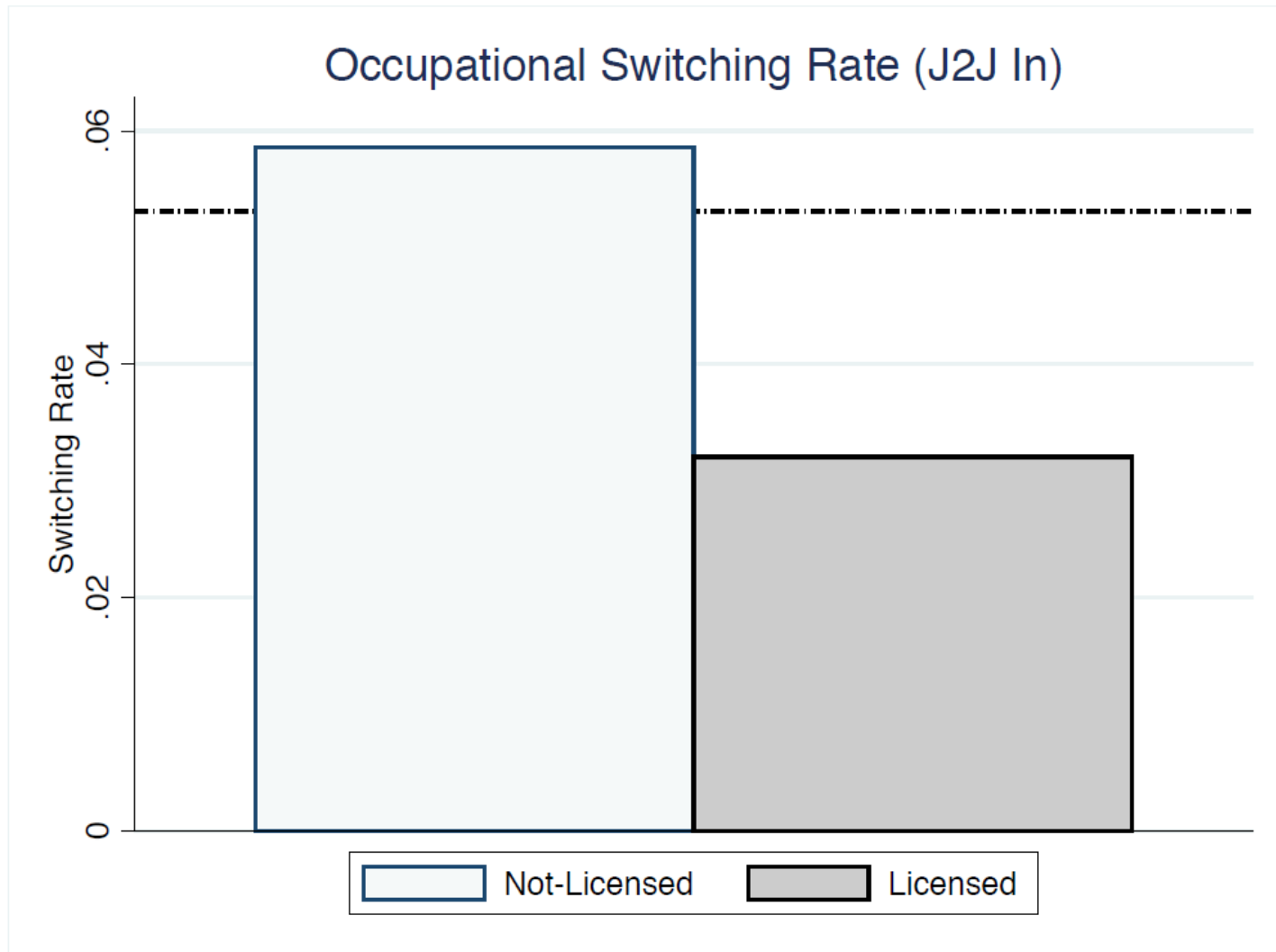
Figure 1: Occupational licensing and interstate migration, 1950-2008



Empirical Evidence - Occupational Switching Rates



Empirical Evidence - Occupational Switching Rate



Key Take Aways

- Licensing decreases the frequency that workers switch occupations. Over the past two decades, licensing accounts for at least 7.7% of the total decline in the occupational switching rate.
- Licensing acts as a barrier to entry for workers who would switch into a licensed occupation. The effect is stronger for employed workers than non-employed ones.
- Licensed workers experience higher wage growth rates, whether they stay or switch out of the occupation.

Battles Between Occupations

- Doctors and nurses
- Occupational and physical therapists
- Engineers and architects
- Dentists and Tooth Whiteners (North Carolina Dental v. FTC)

Legal Battles Between Doctors and Nurse Practitioners for Tasks (Kleiner, et.al. 2016)

Table 1: States that Changed Licensing Laws on Permissible Tasks by Nurse Practitioners, 2000–2011

Status	State	Changes in State Statues
No Changer	AL, FL	Limited prescription authority: Nurse Practitioners are not allowed to prescribe controlled substances from 2000 to 2011
	AR, CA, CT, DE, GA, IL, IN, KS, MA, MI, MN, NC, NE, NJ, NY, OH, OK, PA, RI, SC, SD, TN, VA, VT, WV	Supervised/Delegated prescription authority: Nurse Practitioners may prescribe controlled substances under MD supervision from 2000 to 2011
	AK, AZ, DC, IA, ME, MT, NH, NM, OR, UT, WA, WY	Independent prescription authority: Nurse Practitioners may prescribe controlled substances independent of MDs from 2000 to 2011
Changer	LA, NV	From “No prescription authority “ to “Supervised/Delegated” during 2000-2001
	WI	From “Supervised/Delegated” to “Independent” during 2000-2001
	MS	From “No prescription authority “ to “Supervised/Delegated” during 2001-2002
	TX	From “No prescription authority “ to “Supervised/Delegated” during 2002-2003
	ID	From “Supervised/Delegated” to “Independent” during 2003-2004
	KY	From “No prescription authority “ to “Supervised/Delegated” during 2005-2006
	MO	From “No prescription authority “ to “Supervised/Delegated” during 2006-2007
	CO, MD	From “Supervised/Delegated” to “Independent” during 2009-2010
	HI	From “Supervised/Delegated” to “Independent” during 2010-2011

Source: Authors' survey of licensing statutes for nurse practitioners, by state, from 2000 to 2011.

RESULTS: *A Welfare Analysis of Occupational Licensing in U.S. States*

- Morris Kleiner, Minnesota and Evan Soltas, MIT
 - NBER Working Paper 26383: 2019
- <http://www.nber.org/papers/w26383>

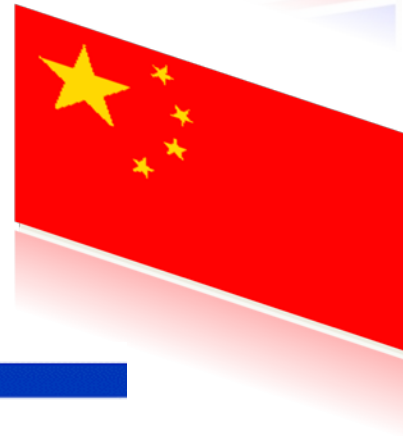
Findings and Implications of Occupational Licensing for the Market

- Shifting an occupation in a state from entirely unlicensed to entirely licensed increases state **average wages in the licensed occupation by about 15 percent**, increases hours per worker by 3 percent, and *reduces employment by 29 percent*.
- We estimate that licensing an **occupation increases average schooling by about 0.4 years**. This masks a dramatic reallocation in the types of human capital workers acquire: **switch from general to specific human capital**. We also find licensing delays the entry of younger workers into occupations.

Findings and Implications of Occupational Licensing for the Market

- We estimate an average **welfare loss of 12 percent of occupational surplus**. *Workers and consumers respectively bear 70 and 30 percent of the incidence.*
- *Higher willingness to pay offsets 80 percent of higher prices for consumers, and higher wages compensate workers for 60 percent of the cost of mandated investment in occupation-specific human capital*
- Our findings have considerable policy implications relevant to **marginal occupations**

Licensing Across Nations



Occupational Licensing Across nations

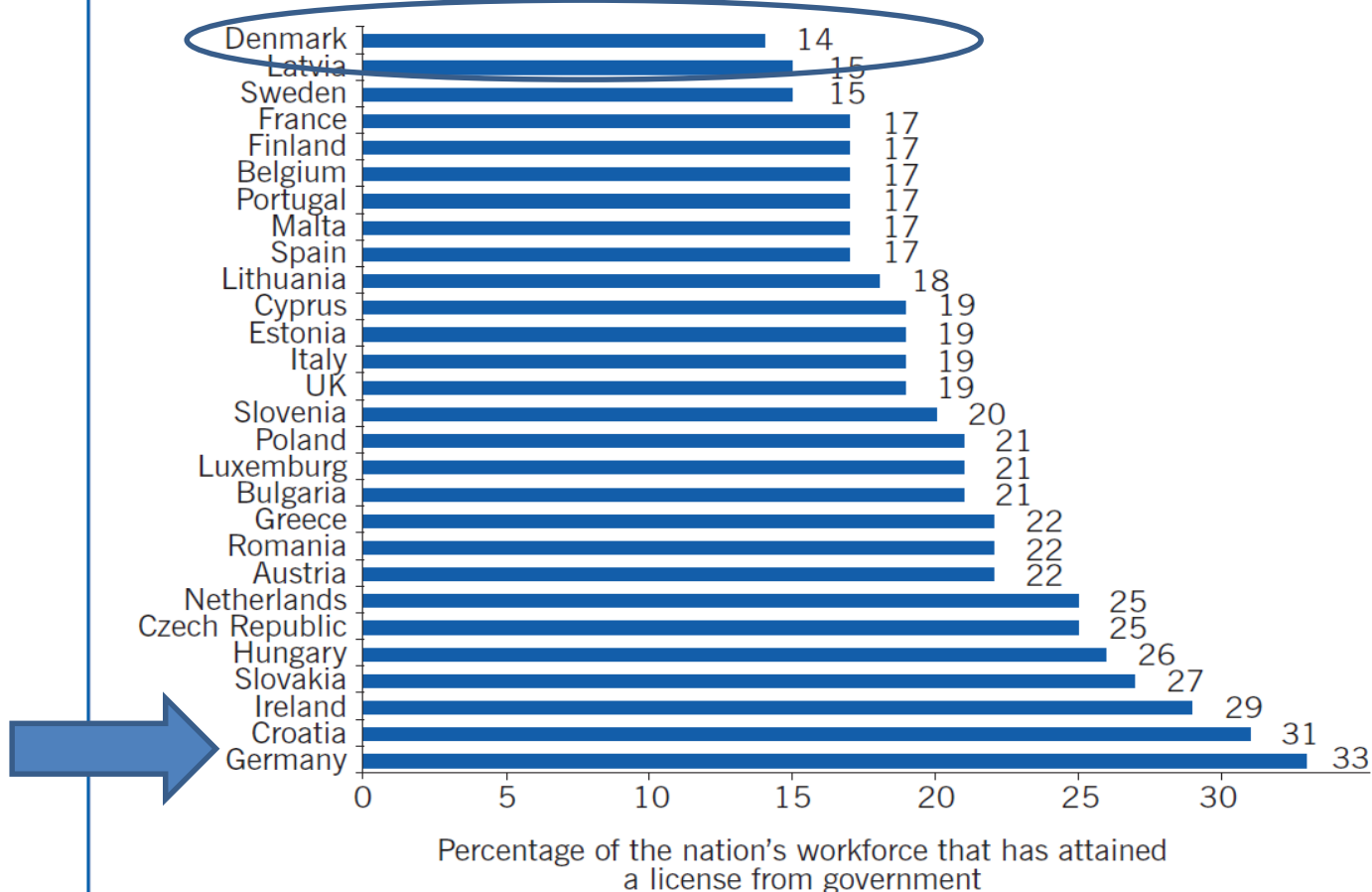
- European nations
- OECD
- China
- Israel

Occupational Licensing Across nations

- Canada
- Netherlands
- Italy

Licensing in the European Union

Figure 2. Significant variation exists across EU nations in the percentage of the workforce that is licensed



Source: Author's own compilation based on data from Koumenta, M., and M. Pagliero. "Measuring prevalence and

Occupational Regulation in the EU

1. Prevalence of licensing: 22% of workers .
 2. Wage premium: 9% overall, 4% after accounting for individual characteristics .
- Importance of the heterogeneous of licensing.
3. Wage inequality: licensing increases wage inequality by 2.3%.

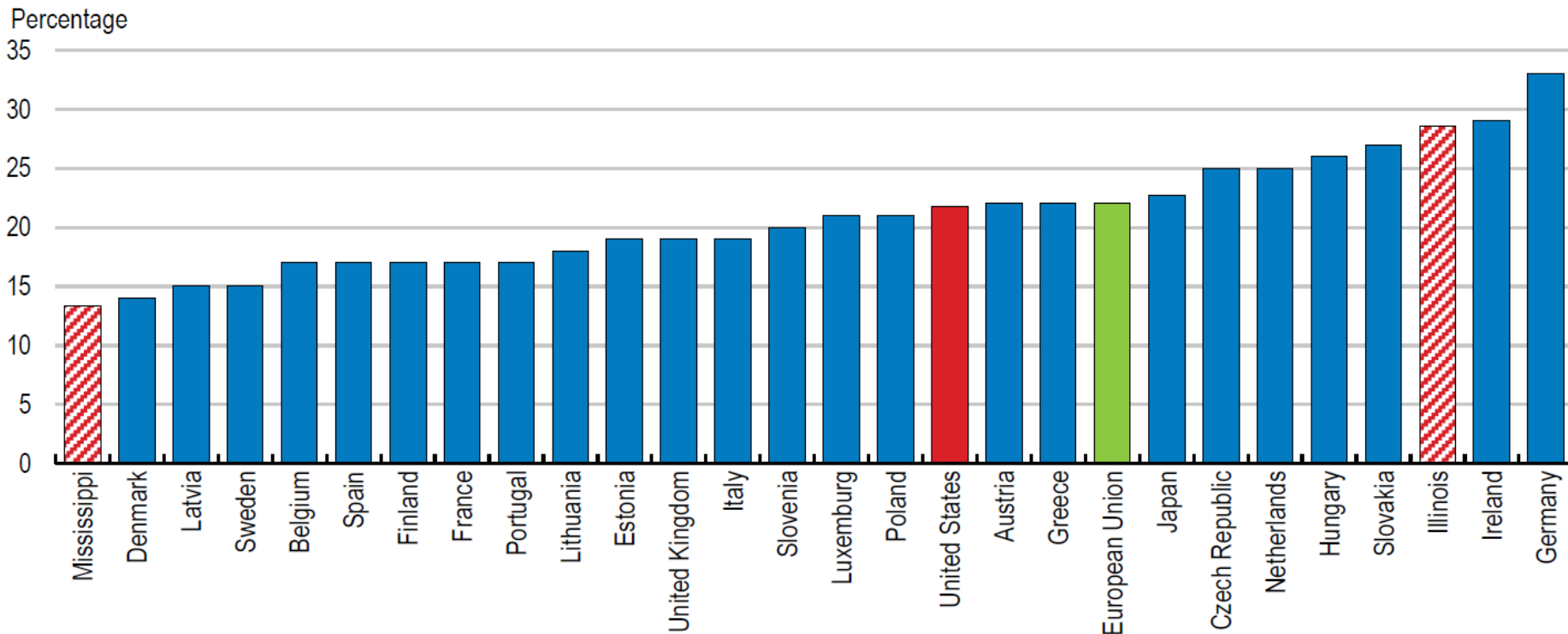
The 2019 European Commission Study on Quality

Effects of Regulation on Service Quality Evidence from Six European Cases

1. Lawyers in Poland
 2. Architects and Engineers in Germany
 3. Pharmacists in Italy
 4. Tourist Guides in Greece
 5. Driving Instructors in the UK
 6. Ride-Hailing Drivers in Dublin and London
-

OECD Report: Percent licensed EU, US, and Japan

B. Countries, 2015 (EU), 2016 (Japan) and 2018 (USA)



Note: The share of licensed employment by state is a simple average of the RF and COS indicators constructed in Section 2.3 and the survey-based estimates from Kleiner and Vorortnikov (2017). The United States total is the BLS estimate for 2018.

Source: OECD staff calculations based on Job-to-Job Flows Data from the Census Bureau; Reason Foundation; careeronestop.org; Kleiner and Vorotnikov (2017); BLS; Koumenta and Pagliero (2017) based on the EU Survey of Regulated Occupations; Morikawa (2018).

Major Differences across nations and occupations: **An Example: Doctors in the Netherlands** (Ketel, Leuven, Oosterbeek, and Bas van der Klaauw, *AEJ, Policy*, 2016)

The Dutch government sets a **quota on the inflow into medical schools and the restrictions that apply to medical doctors from other countries** restrain the supply of medical doctors in the Netherlands.

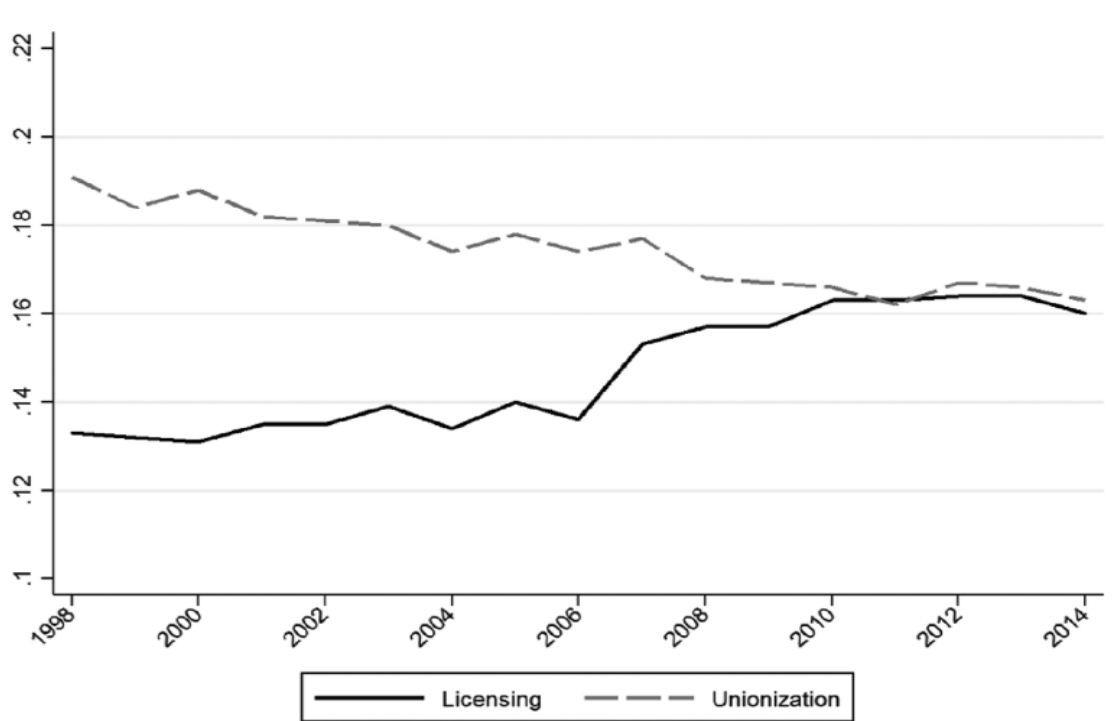
Major Differences across nations and occupations An Example: Doctors in the Netherlands

- Evidence of substantial earnings returns to medical school. In each year after graduating these returns are **at least 20 percent compared to the second-best study, and the returns increase to almost 50 percent 22 years after first applying to medical school.**
- Only a small part of this earnings difference can be attributed to differences in working hours or more investment in human capital. The results suggest that **monopoly rents are the more likely explanation for the large returns to medical school in the Netherlands.**

Occupational Regulation in China

- In China the certification of occupations evolved much earlier than occupational licensing and has been rapidly growing in recent years. **Nevertheless, the influence of licensing on wage determination has been close to 14 percent, which is not far from the 10–18 percent that has been found in the United States (Chi, Kleiner, Qian, 2017).**

Canada



Note: Survey data are restricted to all paid workers.

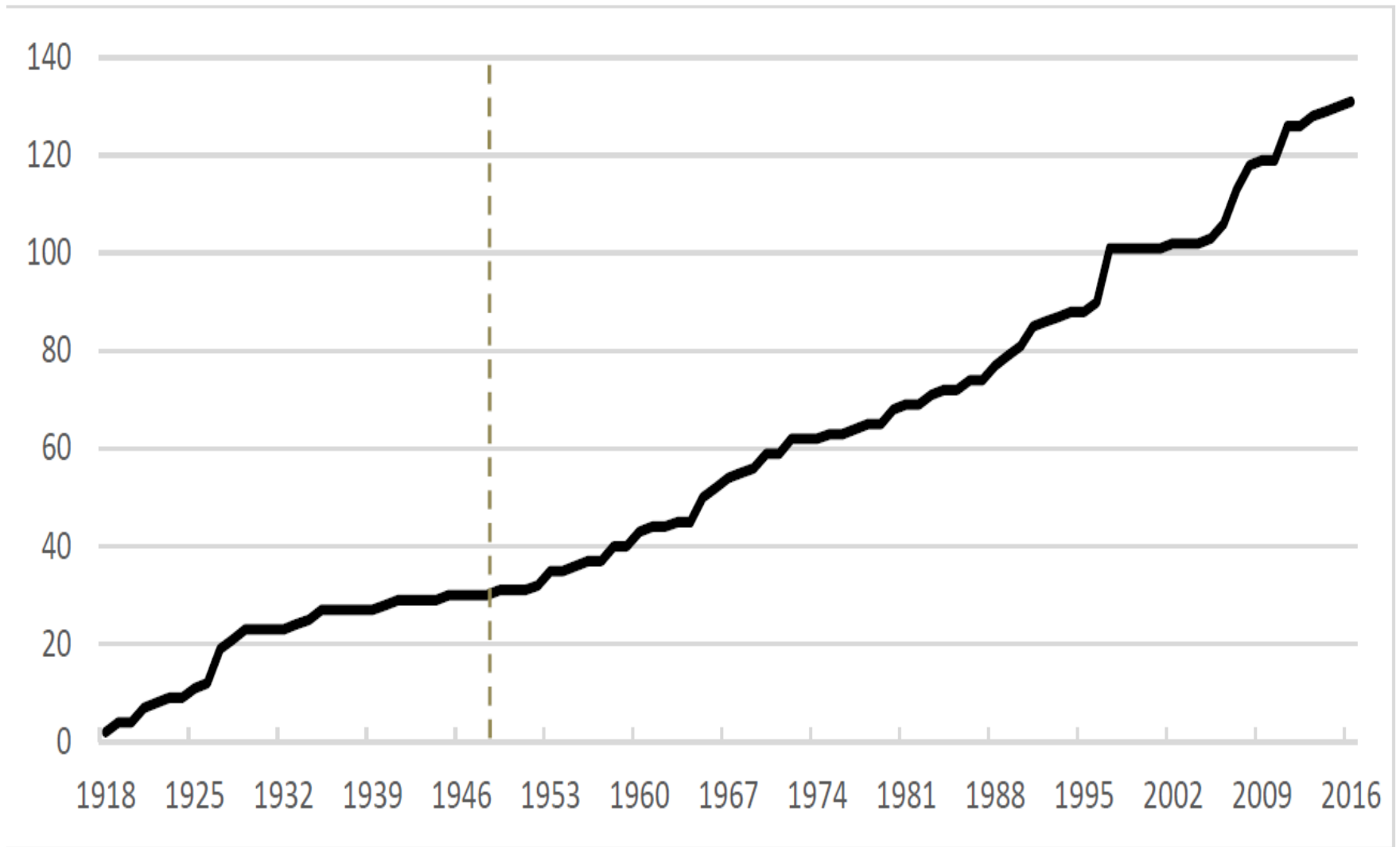
Zhang, Tingting, “Effects of Occupational Licensing and Unions on Labor Market Earnings in Canada”, *BJIR*, 2019.

Italy

...show that regulated occupations represent a significant and **increasing fraction of total employment (24%), their incidence being significantly larger among workers with a college degree (52%). Moreover, these occupations are characterized by lower mobility and entry rates and by a wage premium of about 9%, which raises to 18% for the professioni ordinistiche.** Finally, we provide causal evidence that the reduction of entry requirements and the *repeal of tariff restrictions lead to an increase in entry into regulated occupations and to a reduction of the wages of the incumbents.*

Sauro Mocetti & Lucia Rizzica & Giacomo Roma, 2019. "[Regulated occupations in Italy: extent and labor market effects](#)," [Questioni di Economia e Finanza \(Occasional Papers\)](#) 495, Bank of Italy, Economic Research and International Relations Area.

Growth of Licensing in Israel over time



Research Opportunities: National Data Available on occupational licensing attainment in the US

- Current Population Survey
- Survey of Income and Program Participation
- Baccalaureate and Beyond (4 year follow up of 2008 Bachelor's degree recipients)

National Data Available in US (continued)

- Beginning Postsecondary Students (2 year follow up of 2012 first time beginners)
(Summer 2016)
- 2012 Education Longitudinal Study (8 year follow-up of 2004 high school graduates)
- National Survey of College Graduates

- **Thank you** for the opportunity to visit the ***Bank of Italy*** and to discuss the implications of occupational regulation!
- Speaker Contact Information:
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