

*Re-examining Advances in Occupational Licensing Research: Issues and Policy Implications*

Alex Bryson (UCL, NIESR, IZA)

and

Morris M. Kleiner (University of Minnesota, Federal Reserve Bank of Minneapolis, NBER)

Abstract

Much has changed in the realms of occupational licensing since BJIR last ran a special issue on the subject in 2010. The number of occupations subject to licensing has been growing, the data available to investigate the incidence and effects of licensing has improved immeasurably, and the policy environment surrounding licensing has changed. This issue reflects these changes with eight papers from North America and Europe covering the incidence of licensing, and its effects on wages, inequality, employment, quality of service provision, and rent extraction by the organisations who undertake licensing.

Keywords: occupational licensing; employment; wages; quality of service

## 1. *Introduction and Overview*

We last examined the issue of occupational licensing in 2010 with a special issue consisting of 7 articles. In the intervening decade many factors have changed in ways that merit a serious re-examination of occupational licensing and its effects on those in regulated occupations, the broader labour market, and consumers of these goods and services.

First, the number of workers and occupations subject to licensing is growing. In the US in the early 1950s around 5 percent of workers were in licensed occupations; by 2018 it was close to 22 percent (Kleiner and Krueger, 2013, Cunningham, 2019). This is partly because several relatively new occupations such as interior designers, music therapists, and occupational and physical therapists have successfully lobbied for a licensing regime, and also because the number of workers in service occupations, where most licensed practitioners work, has been growing. It is also because, once licensed, it is rare for occupations to be de-licensed, so that the in-flow to labour markets with licensing is rising, while the out-flow remains low (Han and Kleiner, 2016). However, there are now some cases where delicensing has occurred. In this Special Issue we examine one such example of barbers (Timmons and Thornton, this Volume).

[INSERT TABLE 1]

Second, the data available to analyse the incidence and effects of licensing have improved immeasurably since 2010. One reason for the public policy focus on the topic was the interest of the Obama administration in the US, which developed a White Paper on occupational regulation, and this helped spur a greater interest in including these issues in national data bases (White House Report, 2015). Therefore, several major data bases have added questions on occupational regulation to them. Table 1 shows the major national surveys in the U.S. that have added or are scheduled to add occupational regulation questions since our last Volume in 2010, and the questions on occupational regulation by government. For example, the most widely used surveys in the U.S., the Current Population Survey (CPS) and the Survey of Income and Program Participation (SIPP) both included questions on occupational regulation and licensing on a regular basis. In addition, more periodic and specialized surveys such as

Baccalaureate and Beyond, National Survey of College Graduates, Beginning Postsecondary Students, Adult Training and Education Survey, and the forthcoming National Training and Education Survey 2020 (formerly ATEES) added questions on occupational regulation to the surveys. The data availability in the US was followed by surveys of occupational regulation in Europe, which resulted in continued interest in the topic and its influence in Canadian and European Union labour markets. It is no accident: academics and policy analysts have added direct measures of licensing status into household and labour force surveys that were absent a decade ago.

These developments permitted Koumenta and Pagliero (this Volume) to map the incidence of licensing across the European Union for the first time and provide initial estimates of the effects of licensing on wages for Europe, in much the same way as Kleiner and Krueger (2010) did for the U.S. some 10 years ago in the *BJIR* (Kleiner and Krueger, 2010). For the first time, we can see that occupational regulation, including licensing, is also a key feature in European labour markets. Greater interest in the labour market institution has resulted in more academic and policy scrutiny in journals, the popular press, and by policy makers.

Third, the policy environment has changed since 2010. There is increasing concern on the part of some policy makers about the potential deleterious effects of licensing on the labour market and consumers. These concerns have resulted in some notable initiatives to deregulate labour markets in some countries, such as Poland, where regulations governing entry to the legal and other professions have been relaxed. In the United Kingdom the government is looking at opportunities to relax licensing in some occupations when it leaves the European Union. In the United States, the federal government through Congressional hearings is examining the scope of practice of occupational regulation and is seeking opportunities to ‘roll back’ licensing (U.S. Senate, 2016, and US House Committee hearings, 2018). In the meantime, some states in the U.S. are beginning to recognise occupational licenses from other states for nearly all licensed occupations. This happened in Arizona, for example, starting in April 2019 (Office of the Governor of Arizona, 2019). Elsewhere there is growing recognition of the need to develop and map occupational regulations, something that the Organization for Economic Cooperation and Development (OECD) is now actively promoting among its member nations. It is therefore more important than ever that policy analysts have sound theoretical and empirical evidence about the incidence and effects of licensing on which to make policy decisions.

In order to address these issues and to better understand the role of occupational regulation, the *British Journal of Industrial Relations* (*BJIR*) convened a symposium held at the London School of Economics' Centre for Economic Performance during March 2018. The articles that appear in this issue were those presented at the symposium that met the academic standards of the *BJIR* for publication. The symposium was somewhat unique for an academic conference because in attendance were practitioners from the Council on Licensure, Enforcement and Regulation (CLEAR) and the European Union (EU).

The Special Issue contributes to knowledge regarding the incidence and effects of licensing with eight papers covering the European Union and North America. We provide among the first papers examining the wage and employment effects of occupational licensing in Canada (Zhang) and Germany (Strohmaier and Rostam-Afschar). It therefore extends the evidence base to countries that have not been featured in the discussion on licensing. The volume also is ground-breaking in other ways. For example, Blair and Chung present the first rigorous evidence on the effects of licensing on employment growth, while Zapletal explores rent extraction in the licensing industry itself, and how educational institutions benefit from increased occupational licensing policies.

We briefly review the eight papers in this issue in Section Three of the introduction, setting them in the context of the literature published over the last decade. Before we do so in Section Two we provide a basic primer on the economics behind the issue of licensing. The model provides the standard theoretical framework against which we might hypothesise about the potential labour market implications of departing from market-based principles in introducing occupational licensing. The section will point to the various economic margins along which actors may adjust – in the labour, service and product markets – when occupations are regulated. It will also briefly review public choice theory which sheds light on the processes by which interested parties can extract rents in settings where policy introduces barriers to market competition. The theoretical section is intended as an aide to the reader when thinking about the empirical evidence presented in the following eight articles.

Finally, Section Four points to the limitations of existing research on occupational licensing, identifying some areas in which the literature needs to be developed if it is to provide a more complete and convincing set of insights into the overall welfare effects of licensing.

## 2. *Theory*

Under occupational licensing only those granted a license by a state authority are permitted legally to work for pay in that occupation. Consequently, it may reduce the number of workers who are legally able to enter the occupation compared to a labour market in the absence of licensing. The justification for the regulation is that there is asymmetric information between buyers and sellers which may lead to either suboptimal transactions, that the buyer could suffer health and safety costs as a result of lack of information or that there are public externalities to society (such as the spread of a disease). In any of these situations there could be scope for government intervention in the market.

[INSERT FIGURE 1]

A basic model of occupational regulation is shown in Figure 1. In the model occupational licensing influences both supply of workers to the occupation, and demand for the services provided by that occupation. The labour market institution influences supply by increasing the costs of entry and thus reducing the number of persons in the occupation, although hours worked may increase as wages go up. This is shown as the supply curve in the figure shifts to the left. In the case of occupational licensing only those individuals who have permission from the government can work, and in the model the government is influenced by the occupational organization representing the workers in the occupation. Also, occupational licensing shifts the demand for labour to the right (from  $D$  to  $D'$ ), since consumers perceive that the regulated service is of higher quality, as a result of the increased time and effort in learning about job specific training. The total supply of services ( $q$ ) is a function of the offsetting effects of falling labour supply and rising demand for the regulated service. In the figure the influence of the reduction in supply is greater than the increase in the demand for the services resulting in a net welfare loss to society (Chetty, 2009). A consequence is a reduction in output to society of from  $q$  to  $q'$  and an increase in prices from  $p$  to  $p'$ . This is the case, since consumers value the quality of the service less than the restrictions reduce the

supply of labour (Kleiner and Soltas, 2019). The symposium papers provide new evidence on the relative magnitudes of the influences of occupational regulation on economic welfare.

### *3. Papers in the Symposium*

The eight papers in the symposium focus on the influence of occupational licensing and regulations on wage determination and employment. They develop and estimate the parameters of the theory that wages, hours, and employment could be influenced by occupational regulation in either a positive or negative way. Below we state the basic findings and show how they fit into the larger framework of occupational regulation research. The focus of the research uses a comparative perspective in Europe (Koumenta and Pagliego) with a country-specific view in North America providing the institutional background and data analysis for the influence of regulation.

The largest group of papers in the symposium focused on wage determination. A key finding is that the influence of occupational licensing in the US, though substantial, is less than that estimated by Kleiner and Krueger a decade earlier. For example, using a variety of standard econometric techniques and recently available data from the Current Population Survey, Ingram finds a licensing effect of about 4 to 6 percent (Ingram, this Volume). Using a variety of data and econometric approaches including state boundary analysis, the paper advances the field's approach to understanding the relative influence of occupational licensing on wage determination in the US. Although the estimated effects are lower than many of the estimates initially reported in this Journal, they are in line with other recent estimates in the US (Gittleman, Klee and Kleiner, 2018).

In the first study of its kind Timmons and Thornton examine the influence of de-licensing of barbers in the US state of Alabama. Compared to a synthetic control group drawn from Southern states with licensed barbers, they find de-licensing the barber profession in Alabama in the early 1980s resulted in a reduction in the relative earnings of Alabama barbers by around 8 percent.

In a ground-breaking study for Canada Zhang shows how occupational regulation and unions are associated with similar labour market outcomes, but they differ in their wage effects. Zhang examines individuals who are in licensed occupations, though she lacks data on

whether individuals in the sample possessed a license. Wages are almost 16 percent higher in licensed occupations compared with the control of unlicensed occupations. The union wage premium is about half that value. However using person fixed-effects estimates she finds a larger impact of unionization relative to licensing suggesting stronger positive selection into licensing compared to unionisation on unobserved factors that are also positively correlated with wages. Consistent with research for the US (Gittleman and Kleiner, 2016) unionised workers in Canada have better benefits than occupationally licensed workers, but licensed workers have greater incentive pay policies (Gittleman and Kleiner, 2016).

The first estimates of the influence and extent of occupational licensing for the European Union are provided in the article by Koumenta and Pagliero. About 22% of the EU workforce is required to have an occupational license from government in order to work. Although licensing has heterogeneous effects across nations and occupations, in general the authors show that the wage effects of licensing are small having accounted for relevant covariates. They also show that licensing raises wage inequality, a finding that runs counter to most studies on union wage effects.

#### *Licensing and Certification: Inequality and Quality Effects*

One of the key issues in occupational licensing research is understanding who are its potential beneficiaries. Several of the papers show the potential inequality effects of occupational licensing in the labour market and its influence on enhancing quality received by consumers. In the US Albert finds, using a survey of employment arbitrators in a case study, there is a surprisingly low overall level of support for certification of employment arbitrators, but that individuals who are relatively disadvantaged within their professional field are more likely to support certification.

In addition to occupational licensing, prices in professions that provide experience or credence goods are often regulated by law to guarantee a minimum standard of quality. These service market regulations can have unintended effects on labour market outcomes such as income inequality. The paper by Rostam-Afschar and Strohmaier is among the first to provide evidence on the association between income inequality and service quality. The authors use an exogenous price increase of 10% for architectural services in Germany that was implemented by the professional association in cooperation with the government to focus on how price regulation affects income inequality and service quality. The authors use

individual-level data to find a significant increase of 8% on personal net income for self-employed architects and construction engineers. The occupations moved from the second lowest to the highest quintile of the net income distribution. However, the increase in inequality was also associated with a deterioration of service quality, and reduced average scores of a peer ranking for architects by 18%. These results suggest that increasing prices for the service does not necessarily improve the services of licensed occupations and in this case resulted in a reduction in perceived quality.

One often neglected area of occupational licensing research is the effects licensing has on the organizations who undertake the training and other arrangements associated with licensing. The paper by Zapletal provides empirical evidence of the effects of occupational licensing on their business activity, price of services, industry dynamics, and selection into the licensed occupations. He does so using administrative data for the cosmetology industry in the US, and finds states with more intense licensing requirements do not have fewer practitioners per capita or higher prices for services. They do, however, have significantly lower entry and exit rates suggesting less churning. States with more stringent licensing requirements have more occupational training instructors, a larger median size of training facilities, and larger school revenues and gross profits. These findings suggest that many of the benefits of occupational licensing accrue to owners of training schools.

### *Influence of Occupational Licensing on Employment*

Blair and Chung use state variations in occupational licensing laws in the US to study the effect of licensing on occupational choice using a boundary discontinuity design. They find that licensing reduces labor supply by an average of 17-27 percent, which is similar to estimates developed by Kleiner and Soltas (2019), which used a general equilibrium approach with state by occupation level data from the CPS. Blair and Chung also examine the heterogeneity in the response of licensing by gender and race. They find that there is a negative labor supply effect of licensing that is stronger for white workers and comparatively weaker for black workers.

In a somewhat related paper discussed earlier *Timmons and Thornton find* evidence that barber de-licensing reduced the average annual earnings of barbers as well as the number of cosmetologist employees per million residents in Alabama, although many of their results are



not statistically significant. In an occupation that is a substitute, cosmetologists, there was a decrease the number of cosmetology shops in Alabama when barbers were deregulated.

#### ***4. The Symposium and Directions for Research***

The studies in the Volume have provided new approaches, evidence and analysis of occupational licensing with innovative data sets. The papers that examine Western Europe provide important new evidence on the how licensing influences wages and inequality in the European Union. In Germany a change in regulation policy raised prices, but it did not improve quality of services delivered. In North America new questions on the CPS and the Labor Force Survey in Canada provide important methods of analysis to show that the wage premium is not as high as previous estimates indicated. Further in the US new results show that occupational licensing reduces labor market churning and that educational institutions benefit through greater revenue and employment. Finally in the US using the new questions asked in the CPS and some innovative methodological approaches, occupational licensing has a large and significant influence on reducing employment (See Blair and Chung this Volume).

Although the Volume and the eight papers included in the analysis of occupational regulation provide many important extensions of the field's knowledge of the issue relative to the Volume produced in 2010, there remain many unanswered questions that further research should address. For example, why and how did the institution evolve, and why did it continue to grow in North America and Europe? If the main rationale is the protection of the public, how is it doing in reducing poor services in health care and other industries? At what cost is the institution of licensing providing benefits to consumers? How do unions and occupational regulation interact in fields where both are prevalent such as education and health care? Where are these regulations lacking to properly influence the health and safety of the public? Do these regulations impede the geographic mobility of workers across nations in the EU or states in the US? Since the ability to enter the regulated occupations is reduced, does it greatly restrict how it influences labor market churning or efficiency? Finally what are the costs and benefits of these occupational regulations to the economy and society? Given the heterogeneity of the regulations, where do the benefits outweigh the costs for specific occupations in different settings?

Although much has been learned about occupational regulations from these two Volumes in *the British Journal of Industrial Relations*, there remains a great deal more for researchers to uncover on this important and pervasive labor market institution across nations and over time.

#### *Acknowledgements*

The authors of this article would like to thank the Centre for Economic Performance, the Knee Center for the Study of Occupational Regulation at St. Francis University, the London School of Economics, the *British Journal of Industrial Relations* and the Upjohn Institute for Employment Research for their financial support of the symposium that led to this Special Issue of the *British Journal of Industrial Relations*. We also thank discussants at the symposium for their valuable contributions and the referees whose insights have improved the papers that are published here.

## **References**

Chetty, Raj, "Sufficient Statistics for Welfare Analysis: A Bridge Between Structural and Reduced-Form Methods" *Annual Review of Economics*, 2009, 1 (1), 451-488.

Cunningham, Evan "Professional certifications and occupational licenses: evidence from the Current Population Survey," *Monthly Labor Review*, U.S. Bureau of Labor Statistics, June 2019, <https://doi.org/10.21916/mlr.2019.15>.

Gittleman, Maury, Mark A. Klee, and Morris M. Kleiner. "Analyzing the labor market outcomes of occupational licensing." *Industrial Relations: A Journal of Economy and Society* 57.1 (2018): 57-100.

Gittleman, Maury, and Morris M. Kleiner. "Wage effects of unionization and occupational licensing coverage in the United States." *ILR Review* 69.1 (2016): 142-172.

Han, Suyoun, and Morris M. Kleiner. *Analyzing the Influence of Occupational Licensing Duration and Grandfathering on Labor Market Outcomes*. No. w22810. National Bureau of Economic Research, 2016.

Interagency Working Group on Expanded Measures of Enrollment and Attainment (GEMEnA), 2019. <https://nces.ed.gov/surveys/gemena/surveys.asp>,. Accessed July 4, 2019.

Kleiner, Morris M., and Alan B. Krueger. "The prevalence and effects of occupational licensing." *British Journal of Industrial Relations* 48.4 (2010): 676-687.

Kleiner, Morris M., and Alan B. Krueger. "Analyzing the extent and influence of occupational licensing on the labor market." *Journal of Labor Economics* 31.S1 (2013): S173-S202.

Kleiner, Morris M. and Soltas, Evan J., A Welfare Analysis of Occupational Licensing in U.S. States (March 29, 2019). Available at SSRN: <https://ssrn.com/abstract=3140912> or <http://dx.doi.org/10.2139/ssrn.3140912>

Office of the Governor of Arizona, 2019. Arizona Becomes First State To Establish Universal Recognition of Occupational Licenses, April 10.

<https://azgovernor.gov/governor/news/2019/04/arizona-becomes-first-state-establish-universal-recognition-occupational>

US. House, 2018, Hearing: Occupational Hazards: How Excessive Licensing Hurts Small Business, February 27, 2018.

US Senate, 2016. United States Senate Committee on the Judiciary Subcommittee on Antitrust, Competition Policy and Consumer Rights, Hearing on “License to Compete: Occupational Licensing and the State Action Doctrine,” February 2.

White House Report, Department of the Treasury, Office of Economic Policy, Council of Economic Advisers, and Department of Labor. 2015. *Occupational Licensing: A Framework for Policymakers*

[https://obamawhitehouse.archives.gov/sites/default/files/docs/licensing\\_report\\_final\\_nonembargo.pdf](https://obamawhitehouse.archives.gov/sites/default/files/docs/licensing_report_final_nonembargo.pdf).

**Table 1: Surveys in the US. that have added questions on occupational regulation since 2010**

Survey	Certification/License Question
Current Population Survey	Do you/Does [name] have a <u>currently active</u> professional certification or a state or industry license? Do <u>not</u> include business licenses, such as a liquor license or vending license. <i>Help text: A professional certification or license shows you are qualified to perform a specific job. Examples include a realtor license, a teacher's license, or an IT certification. Only include certifications or licenses obtained by an individual.</i>
2008 SIPP (Wave 13 Topical Module)	Do/Does you/he/she have a professional certification or a state or industry license? [Yes; No] <i>Help text: A professional certification or license shows you are qualified to perform a specific job and includes things like Licensed Realtor, Certified Medical Assistant, Certified Construction Manager, a Project Management Professional, or PMP certification, or an IT Certification.</i>
Baccalaureate and Beyond (4 year follow up of 2008 Bachelor's degree recipients)	Do you have an industry certification or occupational license? [Yes; No] <i>Help text: An industry certification or occupational license qualifies an individual to work in a particular occupational area. An occupational license is required by law in order to practice a given profession. An industry certification allows an individual to work in an occupational area but is not required by law. An industry certification or occupational license shows you are qualified to perform a specific job and includes things like a Licensed Teacher, Licensed Realtor, Certified Medical Assistant, Certified Construction Manager, or a Project Management Professional.</i>
Beginning Postsecondary Students (2 year follow up of 2012 first time beginners) (Summer 2016)	Now we'd like to ask you about professional certifications or industry licenses. A professional certification or license shows you are qualified to perform a specific job and includes things like Licensed Realtor, Certified Medical Assistant, Certified Construction Manager, or an IT certification. Do you have a currently active professional certification or a state or industry license? (Do not include business licenses such as a liquor license or vending license.) [Yes; No] <i>Help text: Indicate whether you have a professional certification or license of any kind, including those not specifically mentioned in the question. When answering this question, do not consider if your professional certification or license is related to or required by your current or most recent job.</i>
2012 ELS (8 year follow-up of 2004 high school graduates)	Do you have a current professional certification, professional license, or a state or industry license? [Yes; No] <i>Help text: A professional certification or license verifies that you are qualified to perform a specific job. It includes things like licensed realtor, certified medical assistant, certified construction manager, or Cisco Certified Network Associate.</i>
Re-engineered SIPP	Do/does/did <person> have a professional certification or a state or industry license? [Yes; No] <i>Help text: A professional certification or license shows you are qualified to perform a specific job and includes things like Licensed Realtor, Certified Medical Assistant, Certified Construction Manager, a Project Management Professional, or PMP certification, or an IT certification</i>
National Survey of College Graduates	As of February 1, 2015, did you have a <u>currently active</u> professional certification or a state or industry license? [Yes; No] <i>Help text: A professional certification or license shows you are qualified to perform a specific job. Only include certifications or licenses obtained by an individual. Examples include Certified Teacher, Registered Nurse, Licensed Professional Engineer, things like a Licensed Teacher, Licensed Realtor, Certified Medical Assistant, Certified Construction Manager, or a Project Management Professional.</i>

Adult Training and Education Survey A18	Do you have a <u>currently active</u> professional certification or a state or industry license? Do <u>not</u> include business licenses, such as a liquor license or vending license. A <i>professional certification or license shows you are qualified to perform a specific job and includes things like Licensed Realtor, Certified Medical Assistant, Certified Teacher, or an IT certification.</i>
---	--

**DATA BECOMING AVAILABLE IN THE FUTURE**

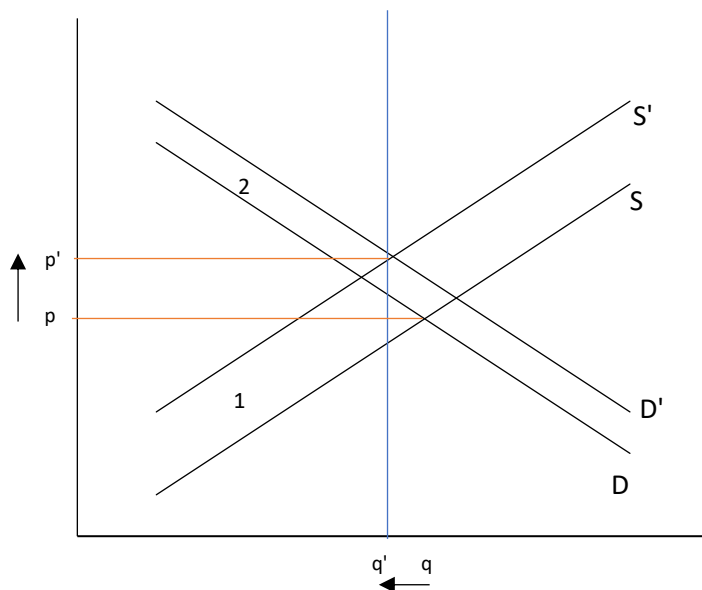
**Survey (Expected Release)**

**Certification/License Question**

National Training and Education Survey 2020 (formerly ATEs) (Expected data release 2021)	Do you have a currently active license that is <b>REQUIRED BY A GOVERNMENT AGENCY</b> (such as a state board) to work [as a(n) [OCCFILL]] [in your current job]? For example, state boards of education require that public school teachers hold a license. Do not include a vendor’s license or other license to operate a business. [Yes/no]
	For [your job as a(n) [OCCFILL]], do you have a currently active professional certification? Certifications are usually awarded by professional or trade associations and include things like certified nurse midwife, ASE master technician, and Cisco Certified Networking Professional (CCNP). Do not count licenses or vocational certificates you reported previously. [Yes/no]
	Do you have a currently active license that is required by a government agency [for any past or future jobs]? Do not include a vendor’s license or other license to operate a business. [Yes/no]
	Do you have a currently active certification [for any past or future jobs]?

Source: Adapted from Interagency Working Group on Expanded Measures of Enrolment and Attainment (GEMEnA), 2019. <https://nces.ed.gov/surveys/gemena/surveys.asp>.

Figure 1: Economic Analysis of Occupational Licensing Policy



Notes: This figure depicts the effects of occupational licensing policy on labour supply and demand in a licensed occupation. Lines  $D$  and  $S$  indicate equilibria in the occupation without licensing while  $D'$  and  $S'$  indicate equilibria in the occupation-specific labor market with licensing. Labor supply declines due to the resource cost of licensing, but labor demand may increase due to higher willingness to pay for licensed, relative to unlicensed, labour. Regions (1) and (2) reflect respectively the welfare cost of the reduction in labor supply and the welfare benefit of the increase in labour demand Adapted from Kleiner, Morris M. and Soltas, Evan J., *A Welfare Analysis of Occupational Licensing in U.S. States* (March 29, 2019).