



WES WATKINS CENTER FOR
**INTERNATIONAL
TRADE DEVELOPMENT**
School of Global Studies and Partnerships

OKLAHOMA INTERNATIONAL TRADE ANALYSIS: Supply Chain and Network Structure

Mission of CITD at OSU

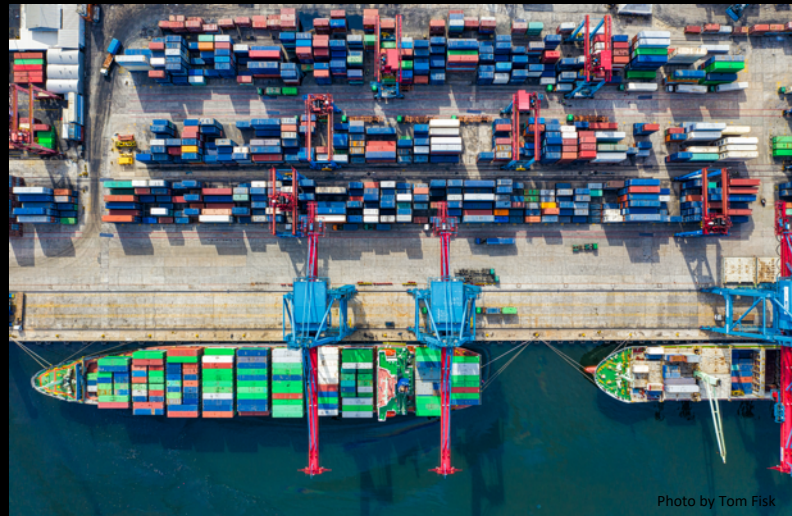


Photo by Skitterphoto

The mission of the Wes Watkins Center for International Trade Development at OSU (CITD) is to bring the **knowledge, network, and resources** of OSU to make Oklahoma more *globally competitive, increase trade, and create jobs* to keep Oklahoma companies and students in the state to build their futures.

How we achieve the mission

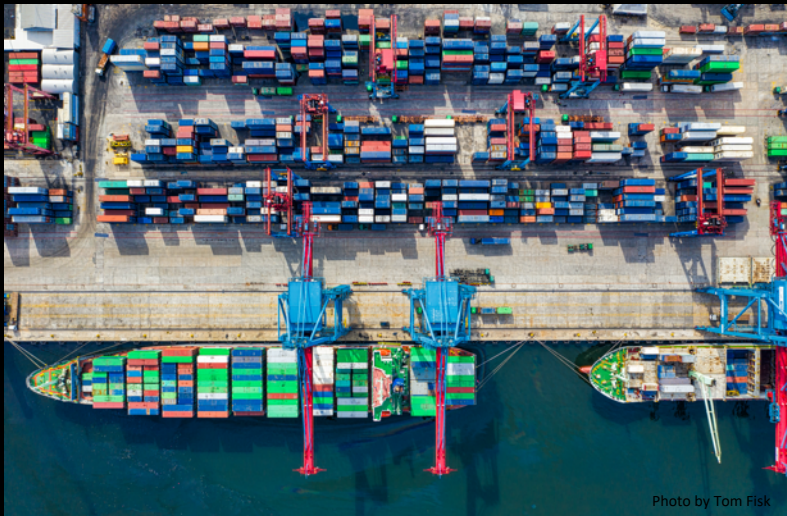
THINK TANK



TRADE
ASSISTANCE

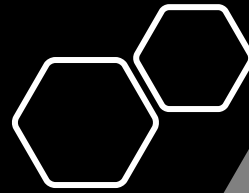
How we achieve the mission

- CITD collaborates across our networks to establish Oklahoma State University as a source for trade related education, research, and outreach.



- CITD provides trade assistance to facilitate Oklahoma companies' market expansion through our Small Business Development Center (SBDC) International Trade Center and other network partnerships.

Introduction, Context, and Purpose



GLOBAL TRADE FELLOWS

- Adolfo Peña, Honduras
- Belem Carrasco Galvan, Mexico
- Darcy Elmore, Tulsa
- Maria Francesca Savino Diaz, Owasso

STAFF

- John Schoeneman
- Andrew Ranson

AGENDA

- Introduction and context
- State of Trade in Oklahoma
- Research Methodology & Tree Mapping
- Commodity analysis
 - Oil (2709)
 - Machinery (8412)
 - Cotton (5201)
- Q&A and Input





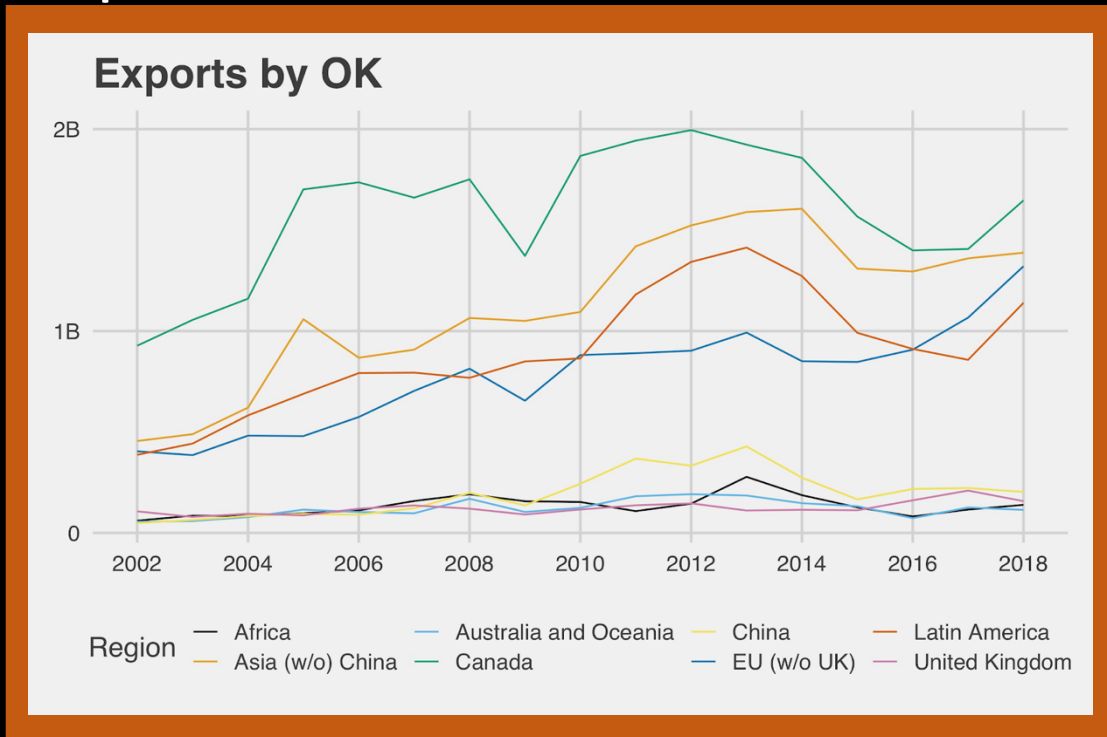
State of Trade in Oklahoma

Report

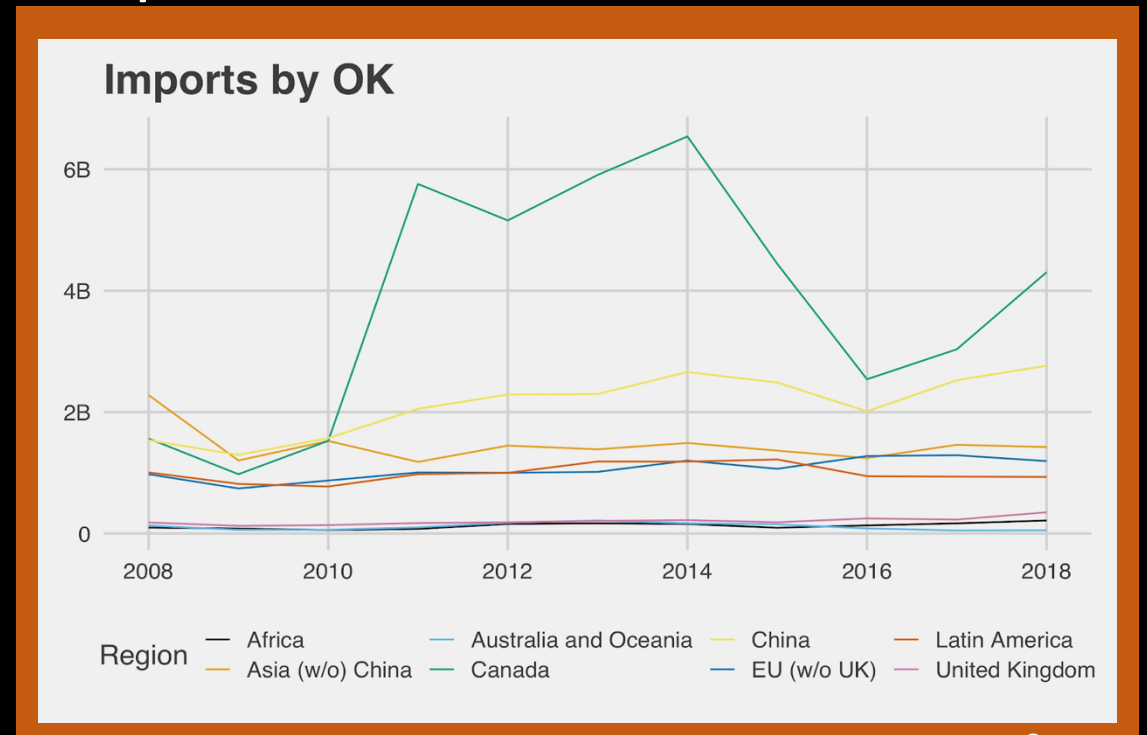
- Oklahoma's current trade environment
- Regions
- Patterns and Discrepancies

State of Trade in Oklahoma

Exports



Imports



State of Trade in Oklahoma



- Service Exports
 - Area of growth in Oklahoma in the last 15 years
- Issues
 - No identification System
 - Grouped in with goods

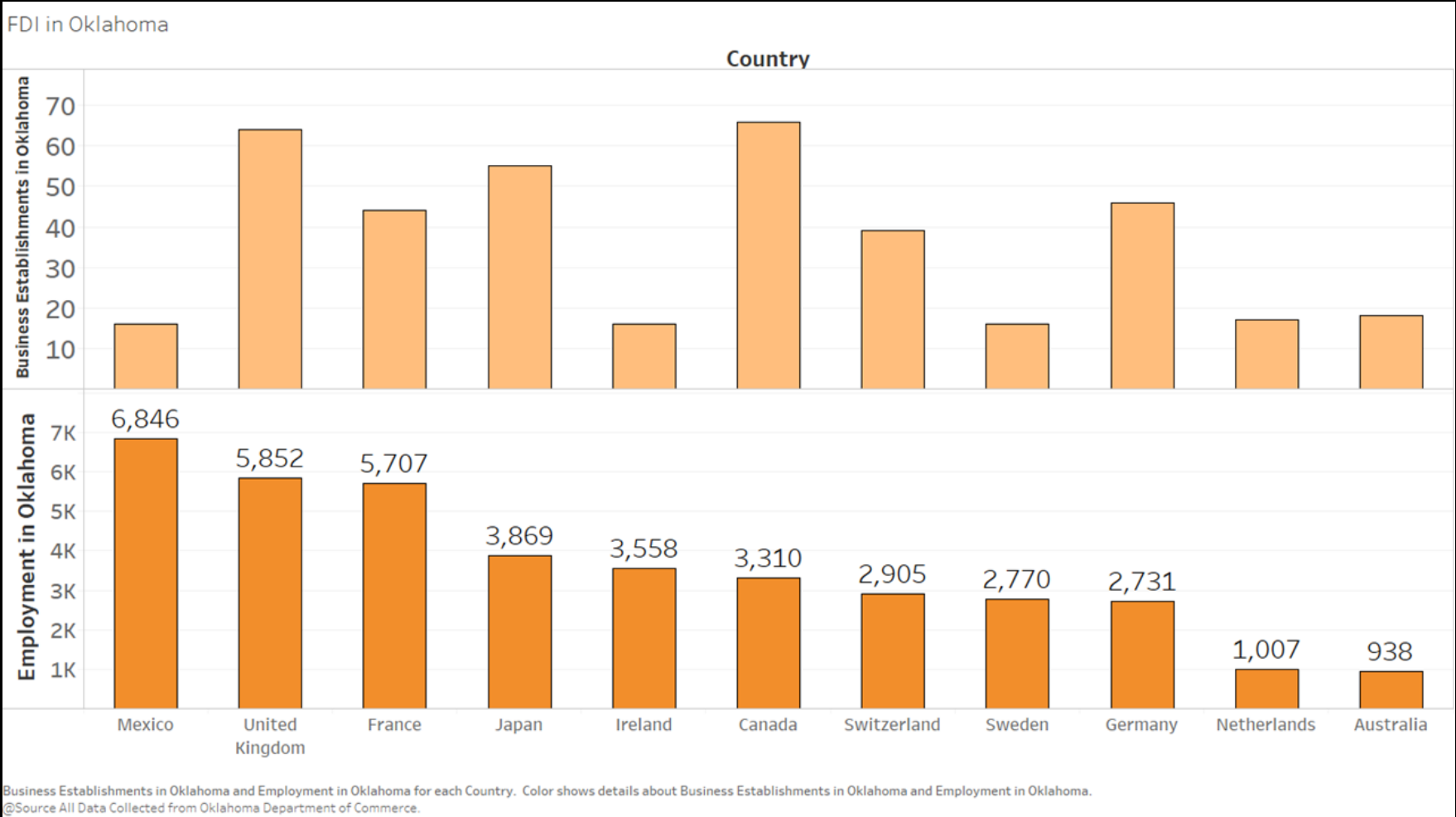
• What next...

- Company level analysis
 - Identify ways in which companies keep track
- Policy Action
 - Create/Identify a classification system

State of Trade in Oklahoma

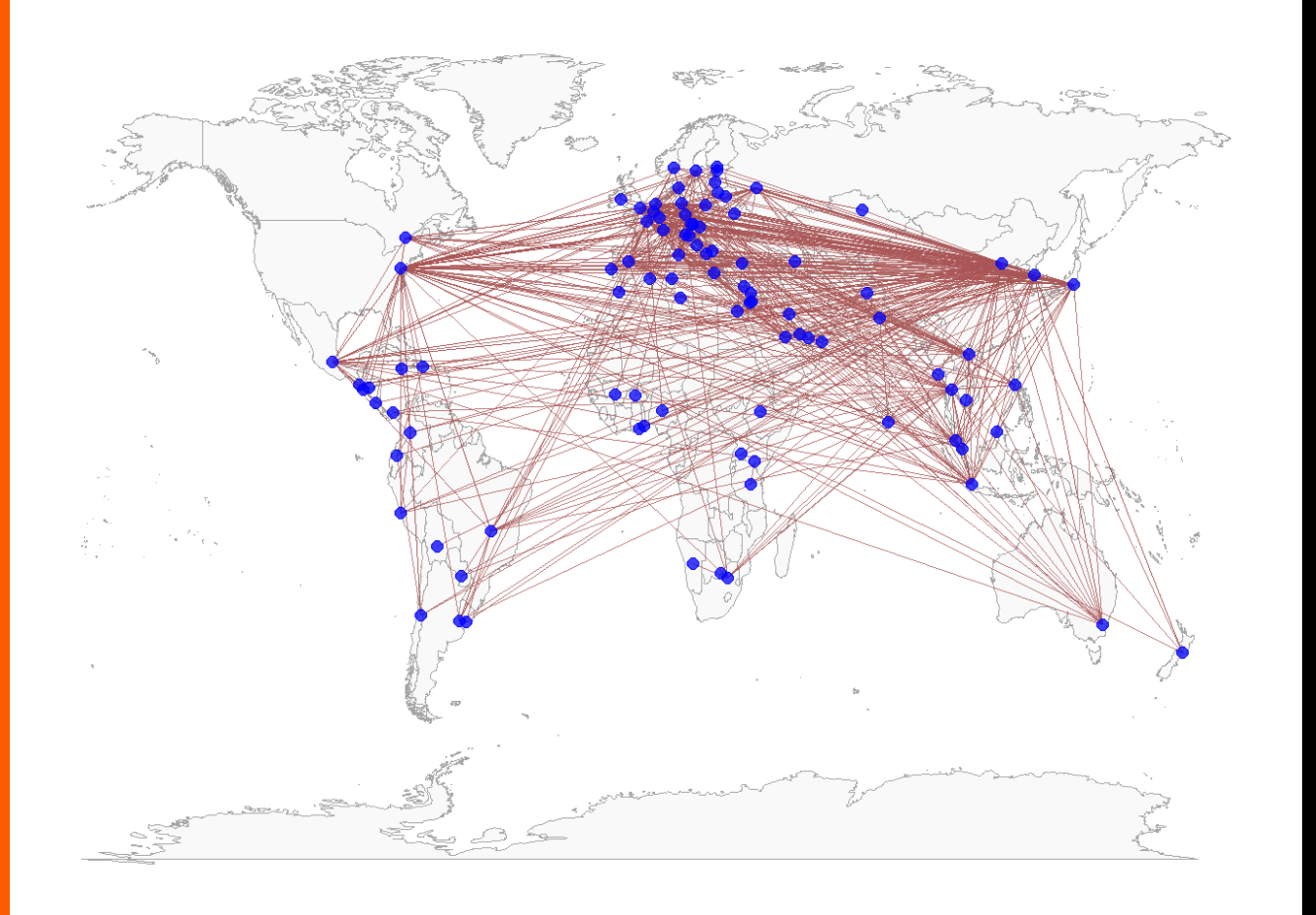
Foreign Direct Investment

- Mexico
- United Kingdom
- France

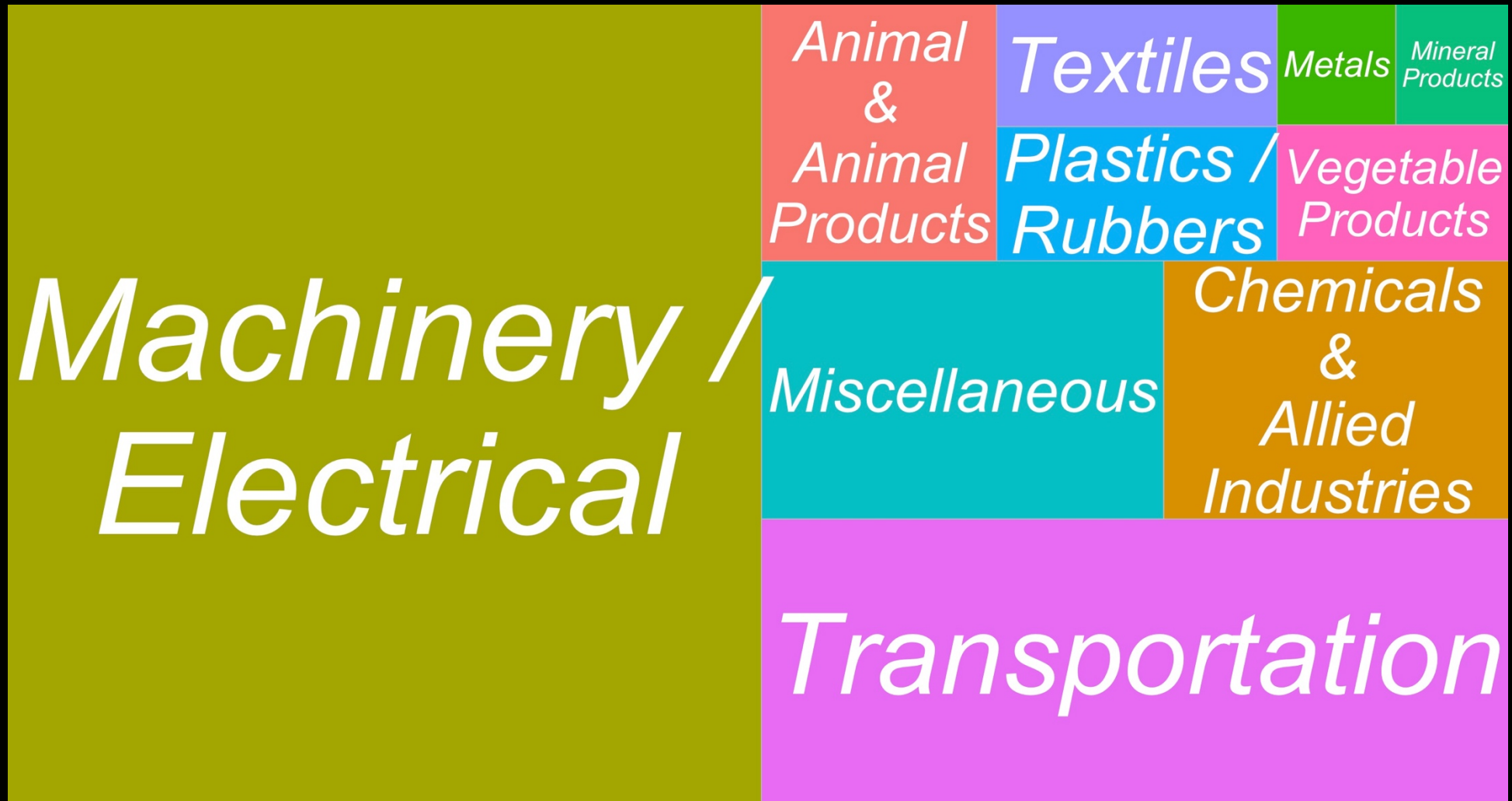


Research Methodology

- To understand individual transactions, it is vital to understand the context it takes place in
- The network includes trade in finished goods, but is dominated by global supply chains



Oklahoma's Top Exports (2018; Industries)



Oklahoma's Top Exports (2018; 4-digit)



Oklahoma's Top Imports (2018; 4-digit)



Oklahoma's Top Imports (2018; 4-digit)

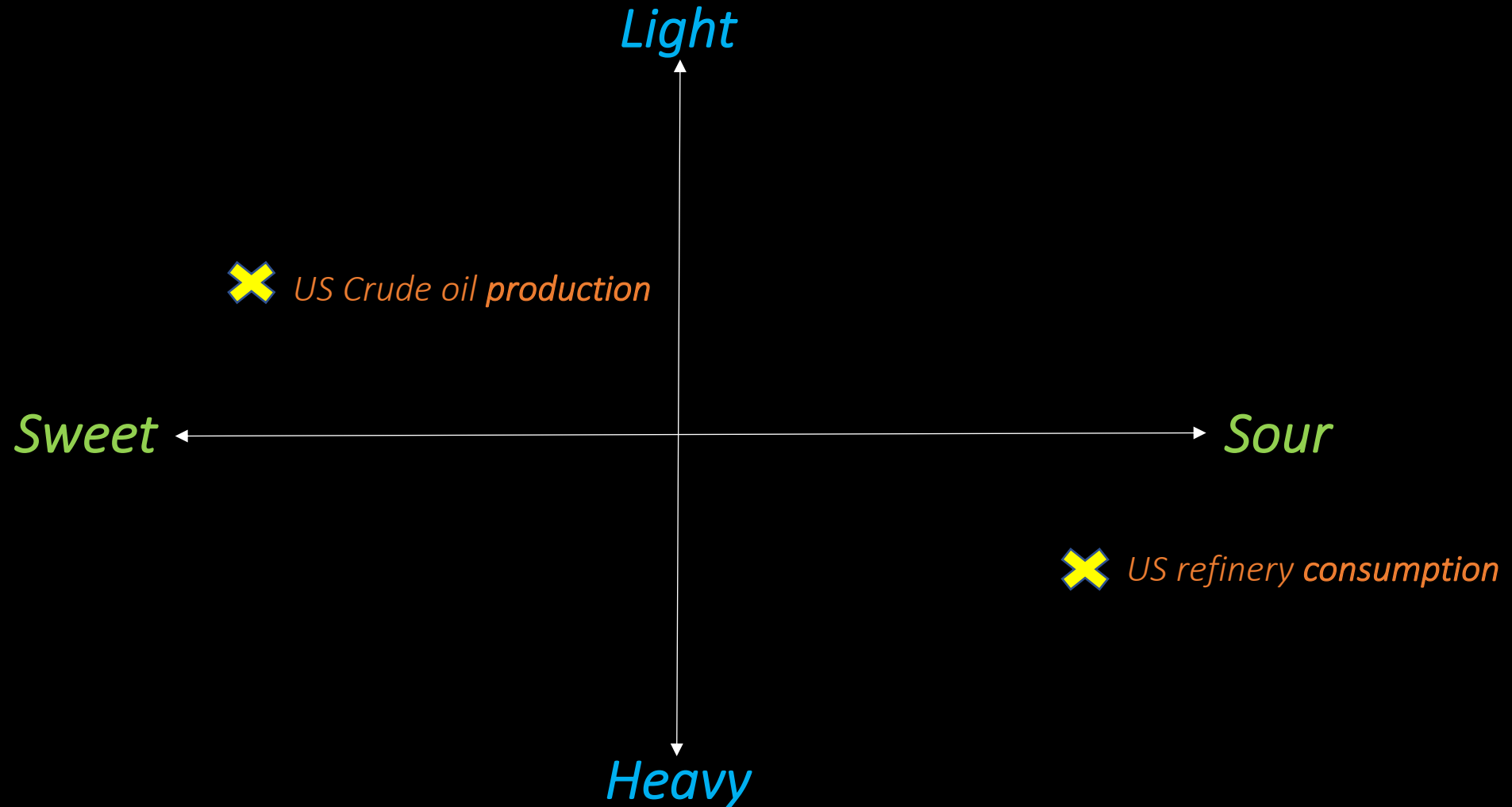


- Oklahoma produces 575,000 bpd (USEIA)
- Crude oil is consistently Oklahoma's largest import product
 - 26% of Oklahoma imports of goods & services (USCB)
 - \$3.095 bn in 2018
 - Source: Canada
 - Until 2010: Saudi Arabia, Venezuela, Iraq, Russia, Nigeria, Brazil
- Context: rising US oil production
 - 7.78 mbpd in 2008 to 14.61 mbpd in 2018
 - 2016 crude oil export ban lifted
 - Export markets: **Canada, South Korea, Netherlands, India, UK, Taiwan, China**

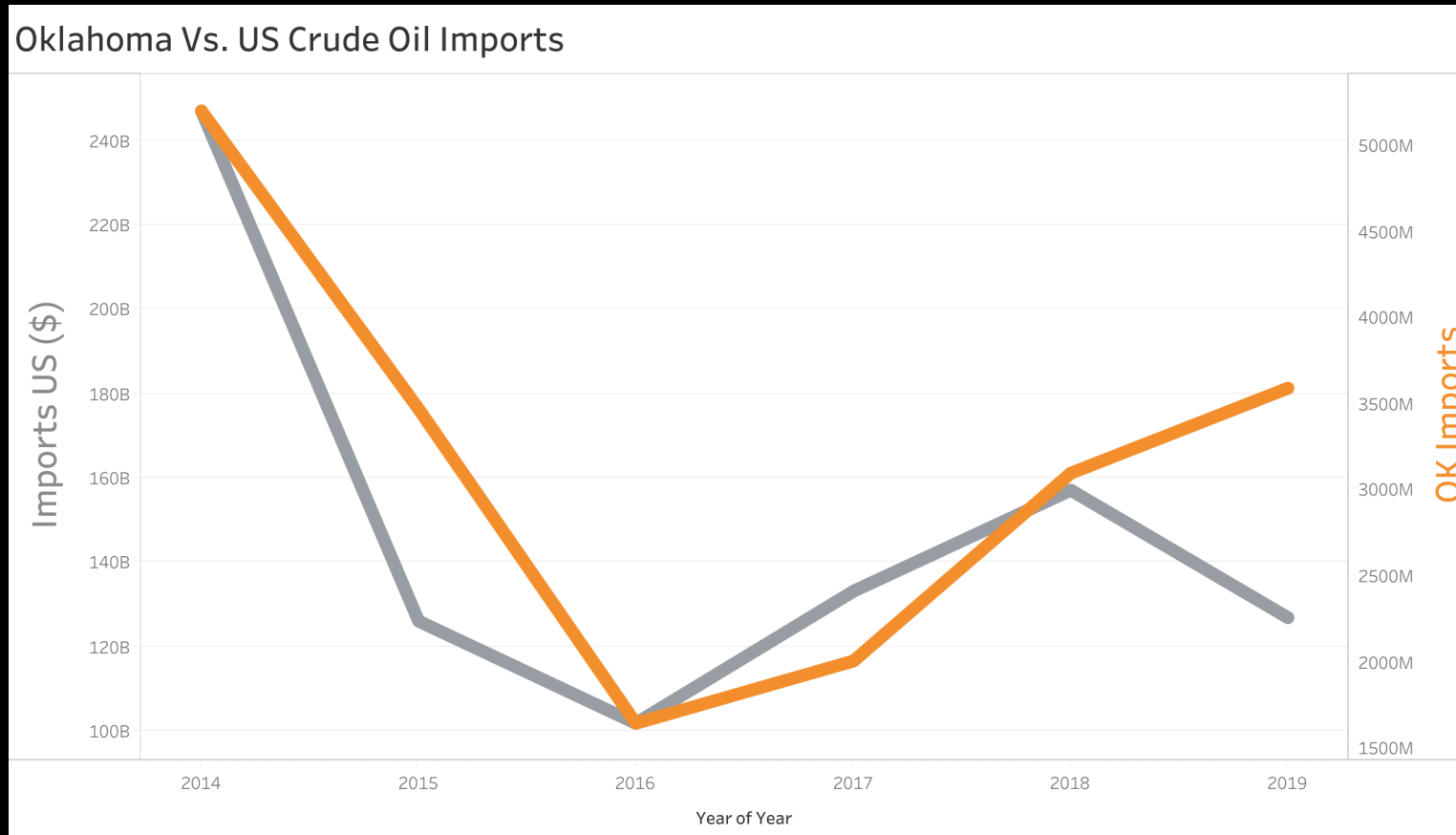
Why?

Crude Slate

Mix of different crude grades that a refinery is designed to use

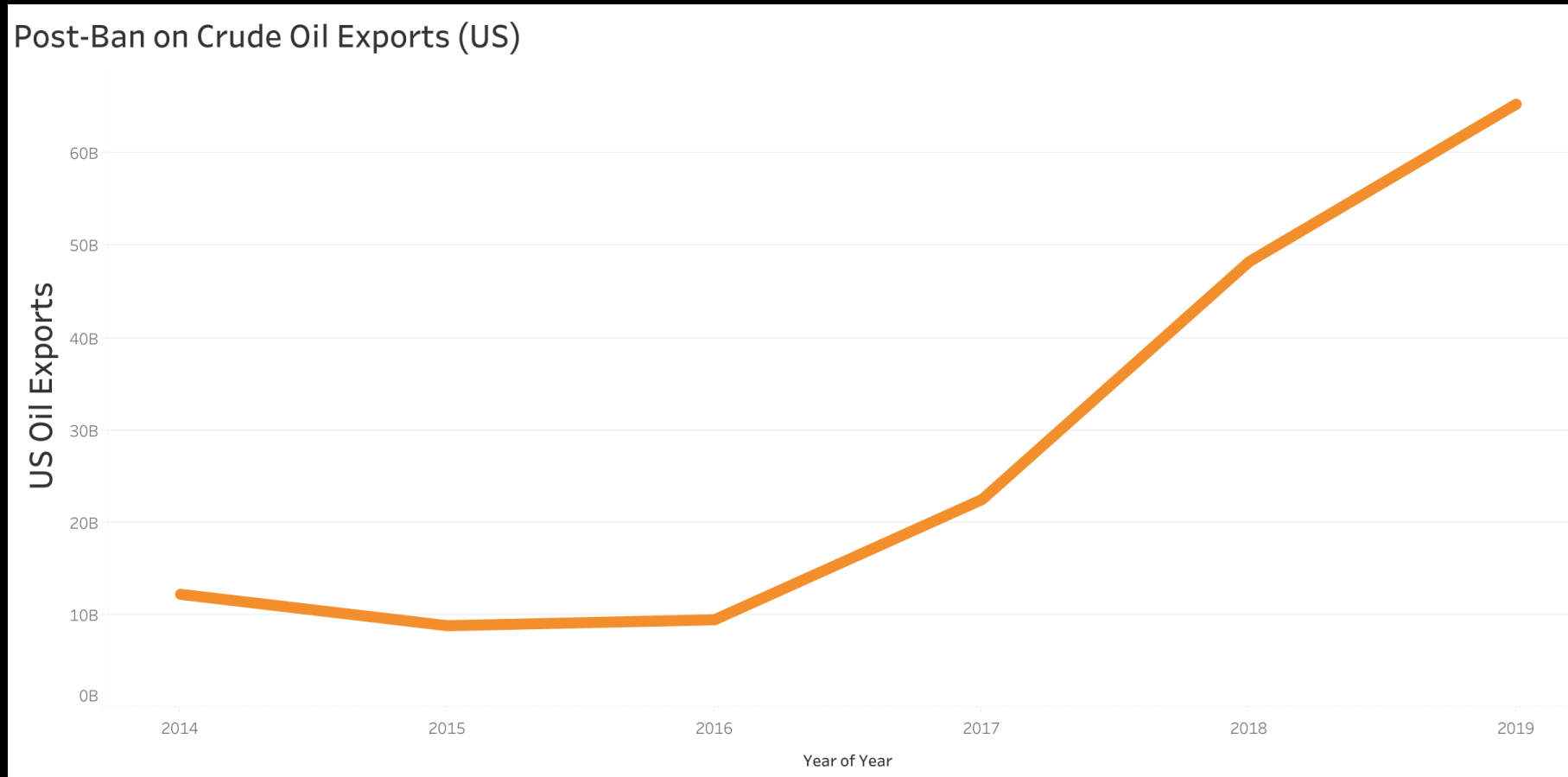


US / Oklahoma Crude Oil Imports (2014 – 2019)



- US reliance on petroleum imports has declined
 - From 56.9% in 2008 to only 24.8% in 2018

US Crude Oil Exports (2014 – 2019)



- No crude oil exports registered from Oklahoma

Oklahoma Refineries

Ardmore Refinery (1913)	86,000 bpd	Valero Energy Corp.	San Antonio, TX
Ponca City Refinery (1920s)	200,000 bpd	Philips 66 Co.	Houston, TX
Tulsa Refinery East & West (1910 & 1913)	155,300 bpd	HollyFrontier Corp.	Dallas, TX
Wynnewood Refinery (1923)	70,000 bpd	CVR Energy	Sugar Land, TX
Thomas Oil Refinery (1982)	14,000 bpd	Ventura Refining & Transmission	Oklahoma City, OK

- Are local actors capturing value?
- Petrochemical sector DOES offer opportunities to Oklahoman firms

Takeaways

- Imports are necessary for the US refining/oil industry
- Refineries are critical
 - Determine future oil flows

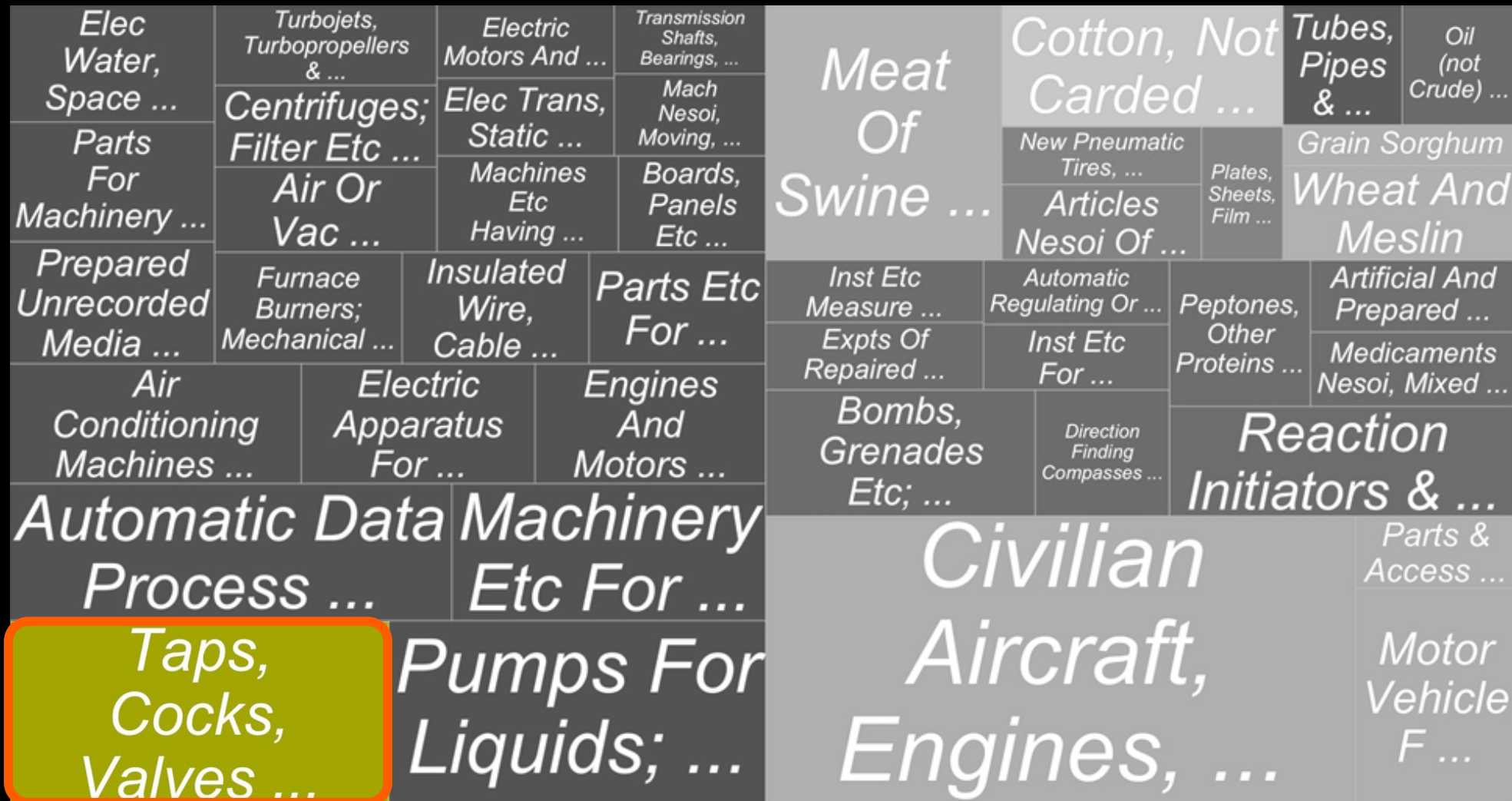
Sweet tooth

Implications for Oklahoma authorities

- Market for oil exports
- Oil imports afford Oklahoma actors a role (Cushing)
- Trade deficit with Canada (\$1.57 bn exports vs \$4.96 bn imports in 2019)
- Sector policy / Oklahoman firms **capturing value** / supply chain

***Network analysis**

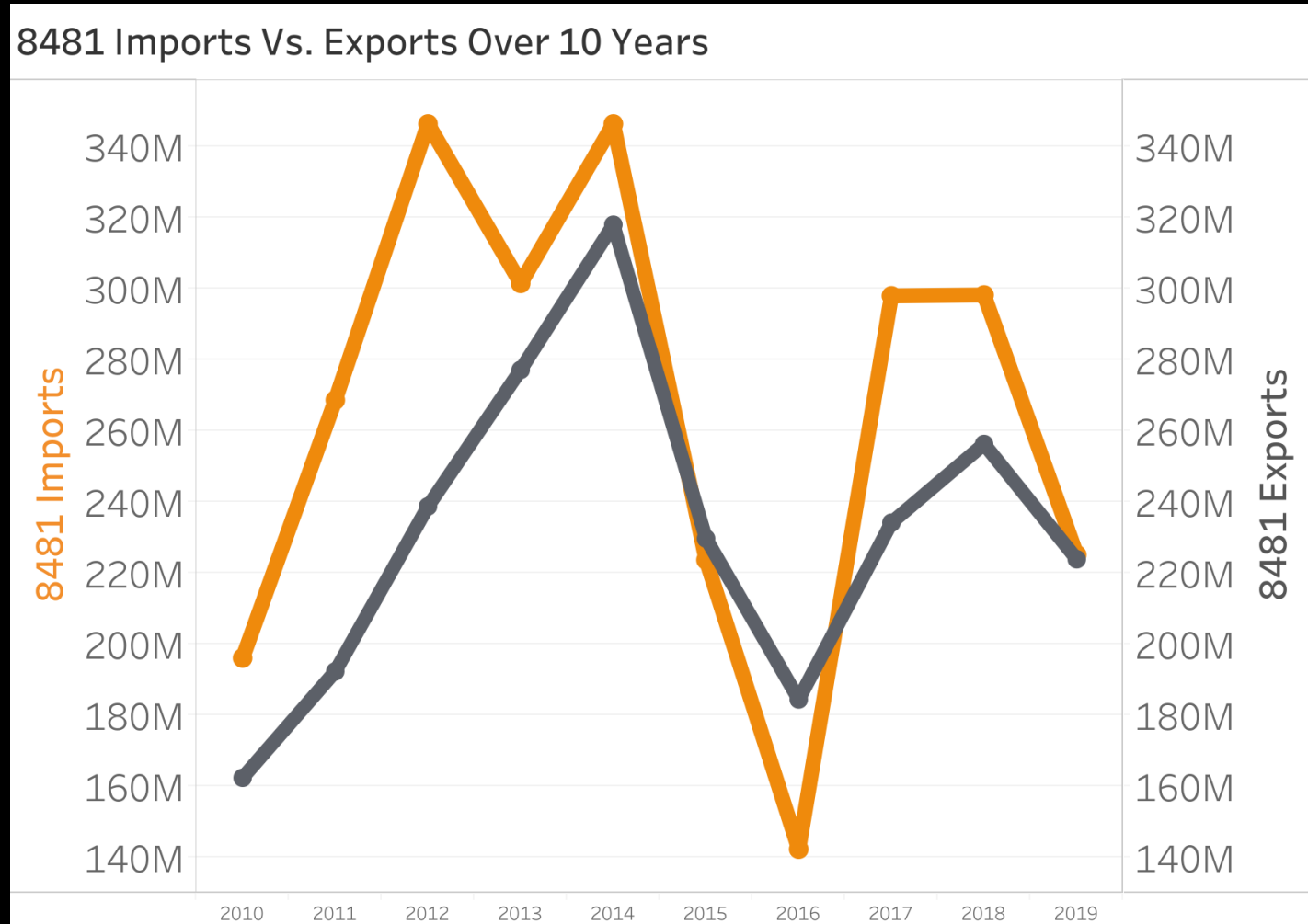
Oklahoma's Top Exports (2018; 4-digit)



Taps, Cocks, Valves, and Similar Appliances for pipes, boiler shells, tanks, vats or the like

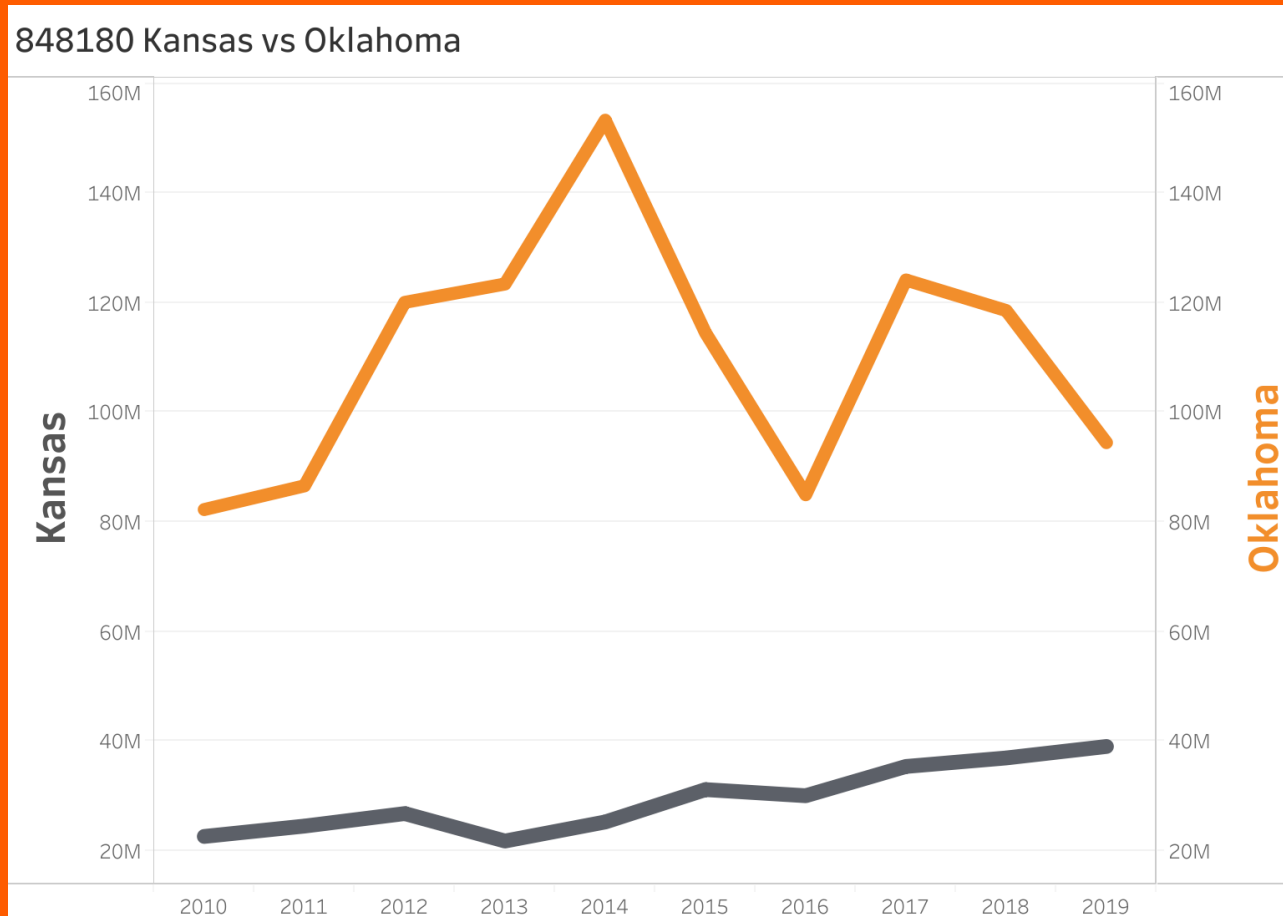
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- Top OK import & export
- What is the trade flow?
- Market inefficiencies?
- Oil Industry



Other Purposes

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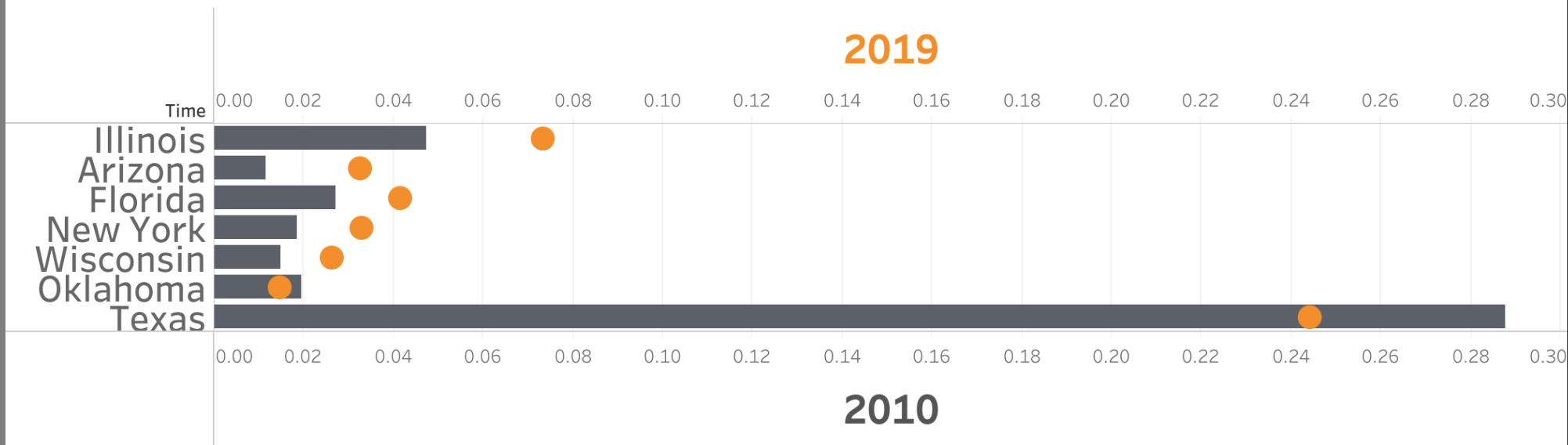
Oil Industry

- Kansas exports of commodity **increased**
- Indication of use in other industries
- Opportunity to expand?

Market Share

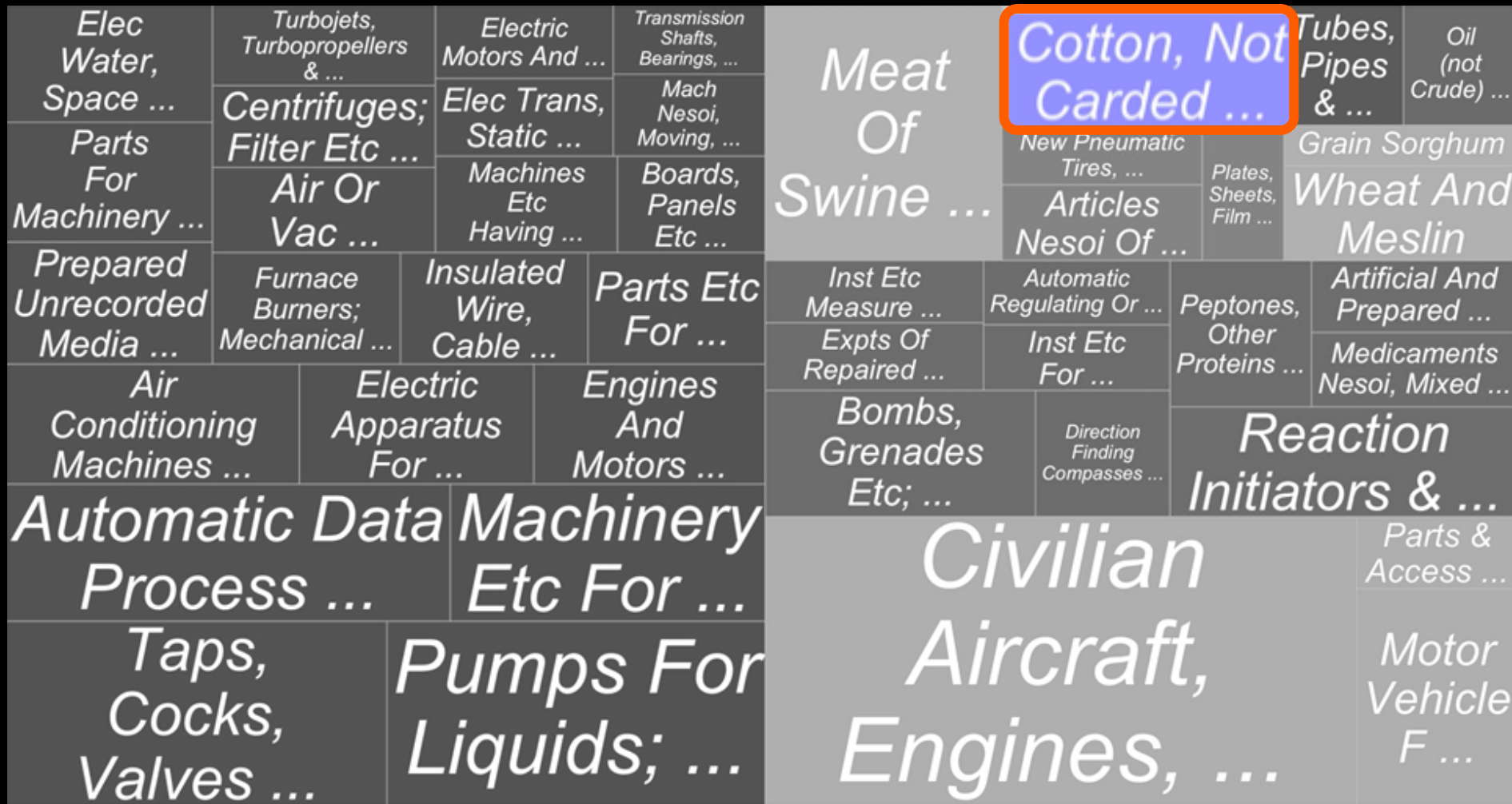
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848180 Marketshare Wins and Losses



- All 50 states, DC and territories
- Pie is getting bigger
- TX and OK losing market-share
- Opportunity

Oklahoma's Top Exports (2018; 4-digit)



Commodity analysis – Cotton Export


Countries where OK exports cotton and imports apparel



Cotton supply chain

Wrangler Levi's NikePlus Nike Hurley CONVERSE Join/Log In To Nike Member Profile Help United States

NEW RELEASES MEN WOMEN KIDS CUSTOMIZE Search



Sustainable Cotton

Our goal is to use 100% sustainable cotton by 2020. That means using certified organic, recycled and Better Cotton Initiative (BCI) licensed cotton. These materials use less water and fewer chemicals, improve farming practices and provide the same or better quality than conventionally grown cotton.

Shop



How to move forward?

2% of total exports from Oklahoma in 2019



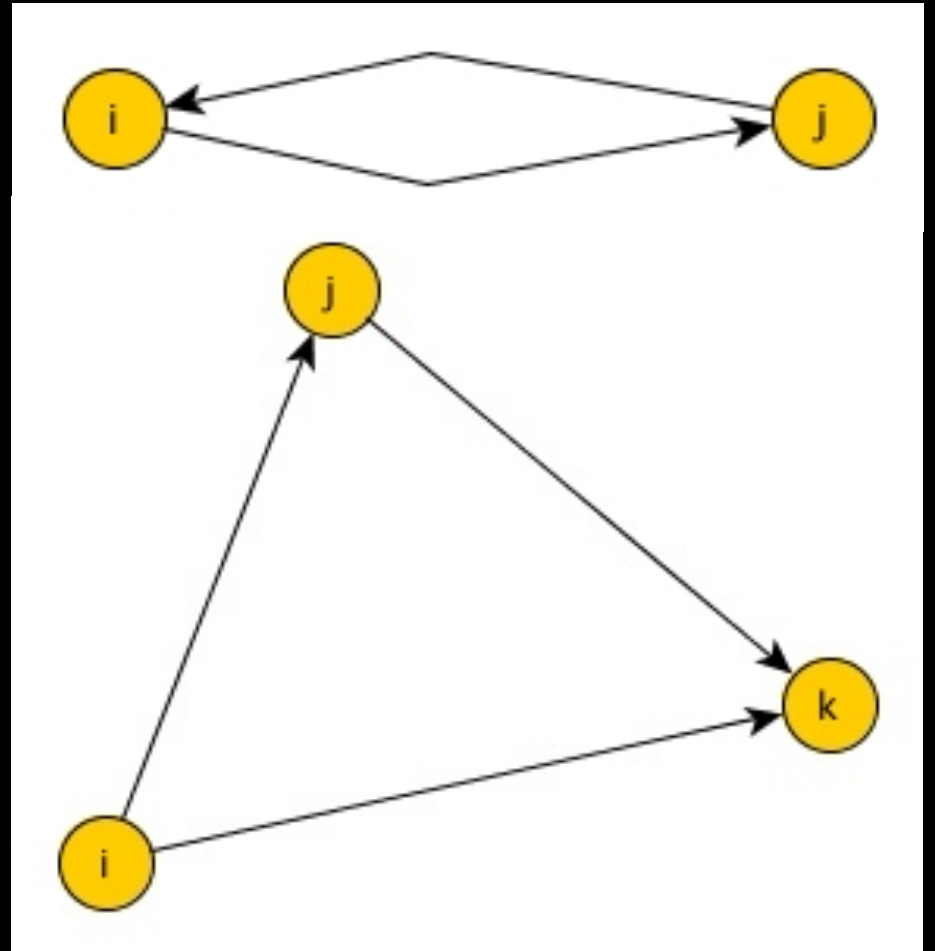
In million USD

STATE	2015	2016	2017	2018	2019
OK	37	52	113	165	109
MS	296	280	471	634	765
TN	693	640	692	764	685
CA	548	575	578	565	556
GA	575	328	438	494	527
AZ	575	107	144	155	161
OK	37	52	113	165	109



Future Research: Network Analysis and Market Shocks

- Market shocks
 - Swine flu
 - Coronavirus
 - Trade Wars
- Network analysis supports prediction:
 - Exogenous covariates: e.g. GDP and Distance
 - Structural Dependence: e.g. Reciprocity and Clustering
 - Simulation based prediction



Conclusion

Insights

- Complex
- Network
- Supply chains critical

Potential Future Research

- Deeper comparative study / scorecard of Oklahoma vs. surrounding or similar states
- Value-chain and/or capabilities-based study to identify potential new industry clusters
- Analysis of service export opportunities



Q&A / Input

- What did you see that you'd like to see more or deeper analysis of?
- Looking ahead, what would be most valuable to the GIT?
- What would be helpful to promote Oklahoma trade?