

Indonesia's Shipping Network: Trade Partners, Value Chains, and the Role of West Kalimantan

Presenter: Miranda Lu

17 October 2024

Flow of the Talk

- **Introduction and Motivation**

- The importance of ports in maritime trade.
- ASEAN's lag in port development.
- Indonesia's position relative to other ASEAN countries.

- **Indonesia's Shipping Network**

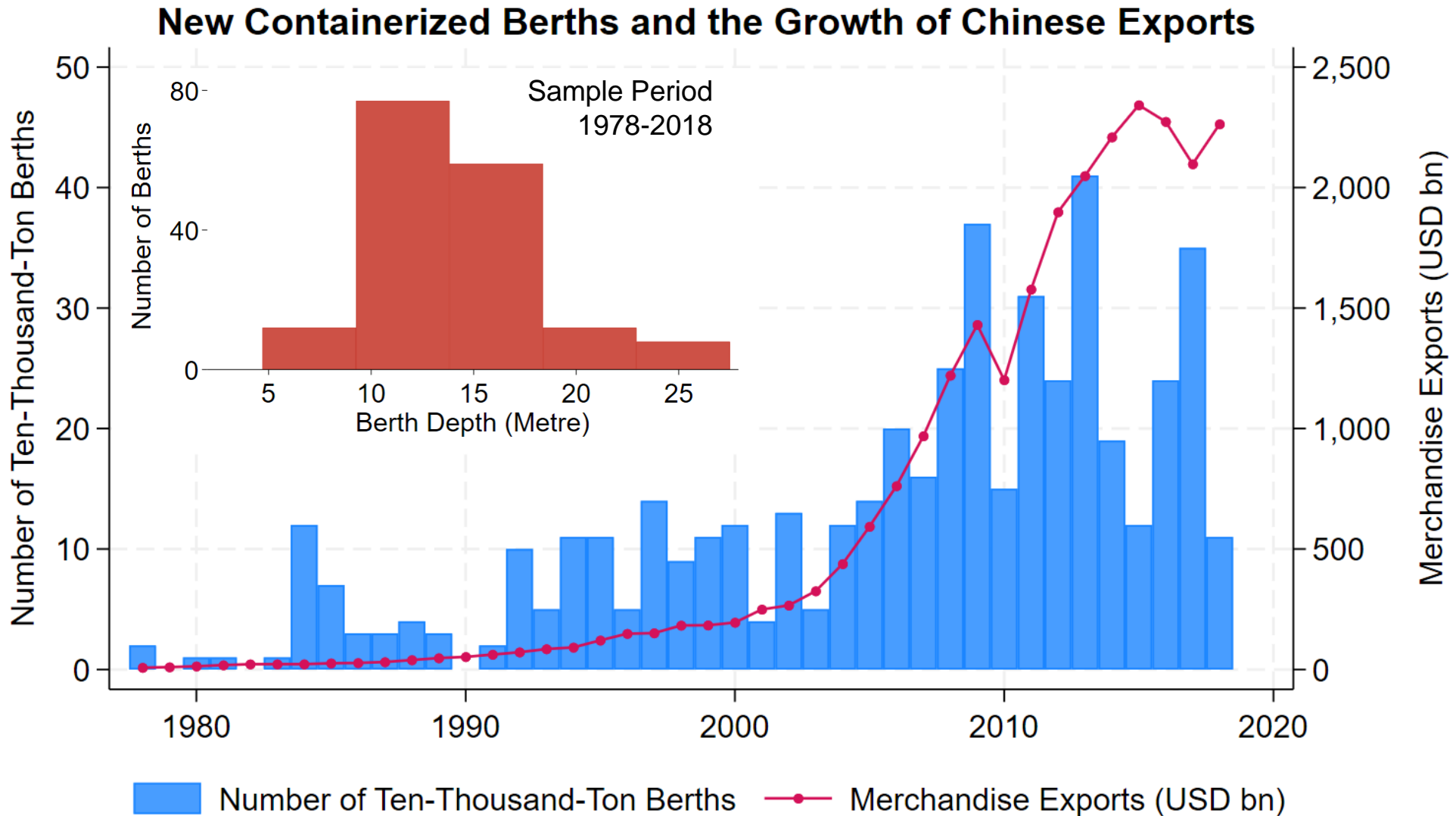
- International trade network: Trade partners and products by province.
- Domestic shipping network: Major provincial trade hubs.

- **Strategic Positioning of West Kalimantan**

- Has West Kalimantan fully capitalized on its strategic location?
- Has West Kalimantan utilized its comparative advantage and trade routes?
- Strategic recommendations on infrastructure, value chain, and labor policies.

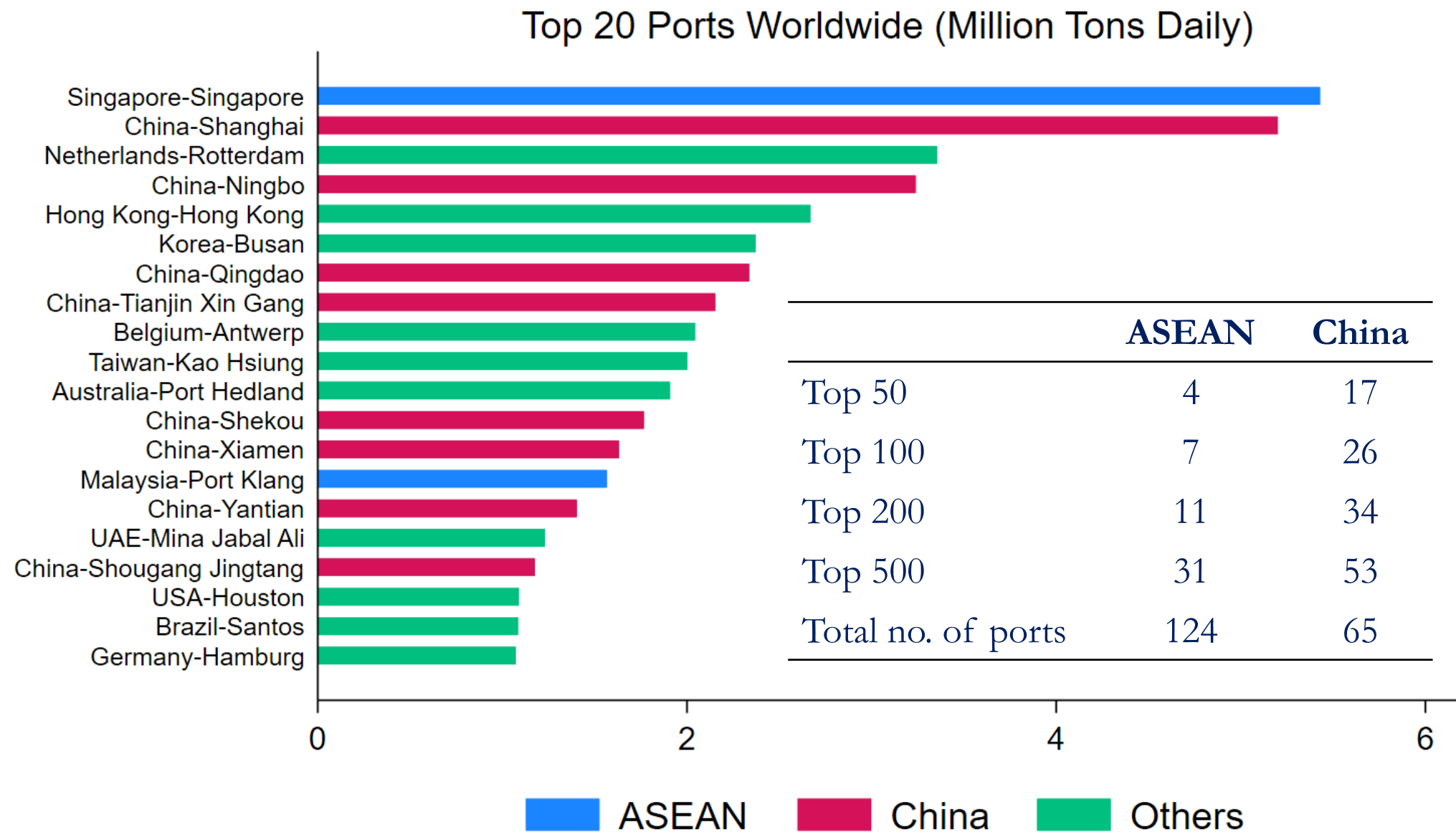
Introduction and Motivation

Stylized Fact #1: Containerized ports have played a crucial role in the surge of maritime exports (e.g., China) over the past two decades.

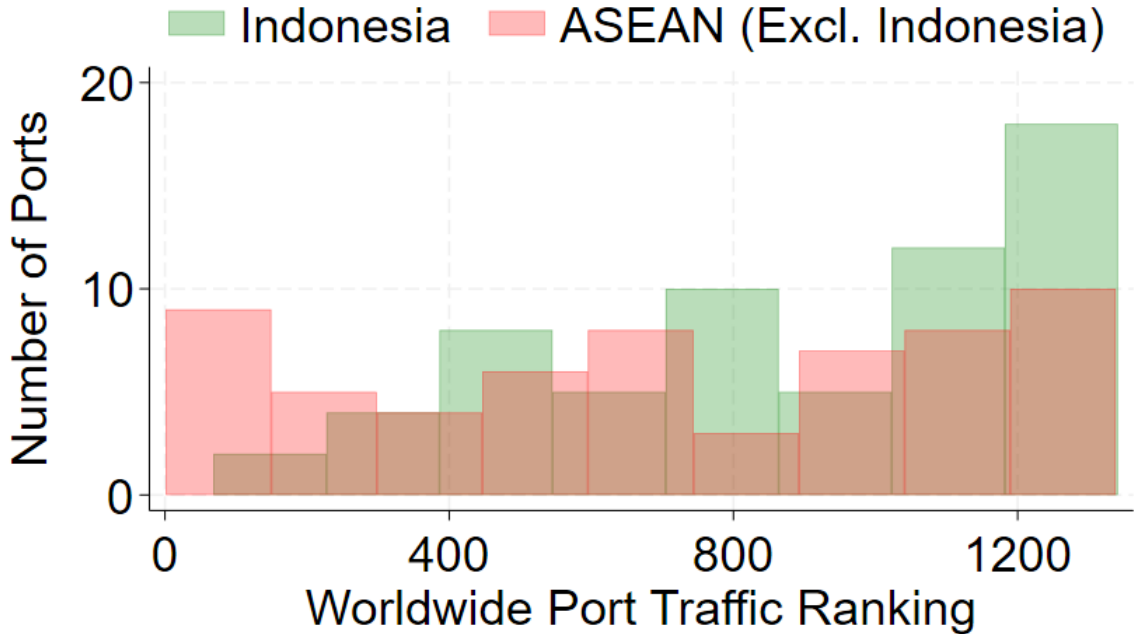


Source: *Chronicle of China's Water Transport Engineering Projects (1978-2018)* and ACI authors' calculations.

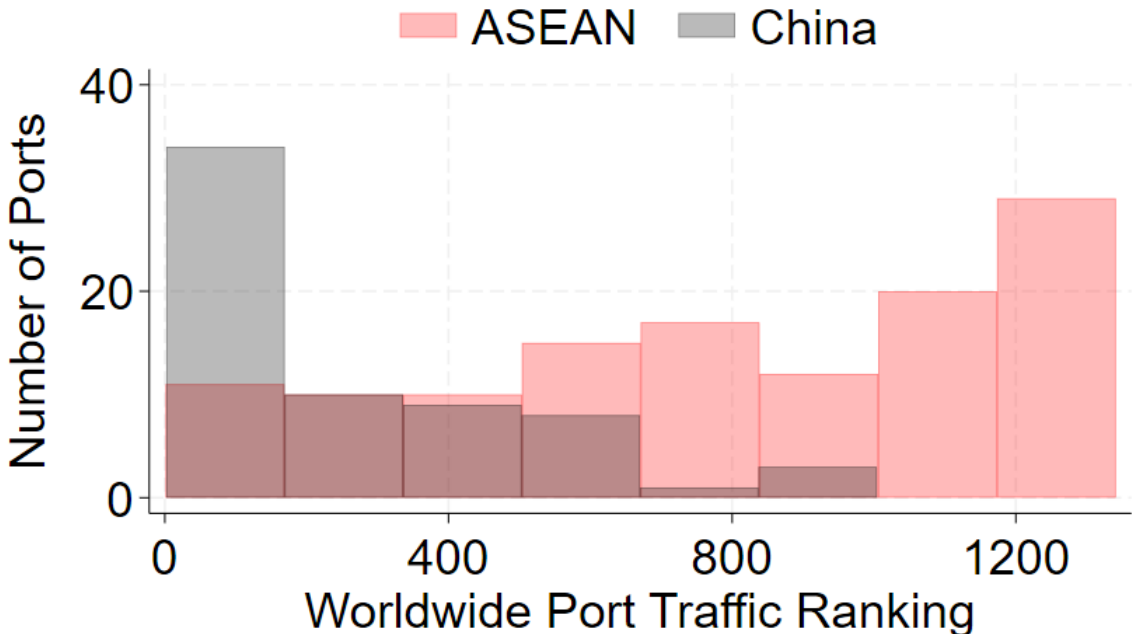
Stylized Fact #2: Despite being rooted in trade, ASEAN’s port traffic remains relatively low.



Source: IMF PortWatch and ACI authors’ calculations.



Stylized Fact #3: Despite a similar number of ports and a vast coastline, Indonesia's maritime shipping volume remains lower than that of the rest of ASEAN, which itself trails behind China.

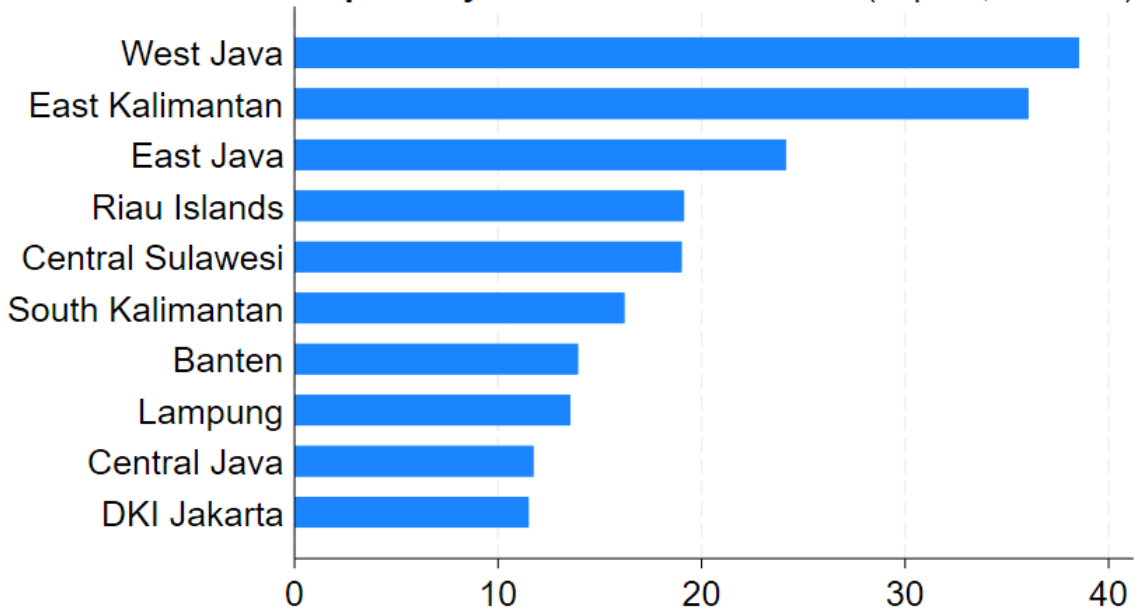


Country	Coastline (km)	Number of Ports	Ports Per 1,000 KM
China	18,000	65	3.6
Indonesia	55,000	64	1.2
Malaysia	4,675	18	3.9
Philippines	36,289	18	0.5
Singapore	193	2	10.4
Thailand	3,219	7	2.2
Vietnam	3,444	10	2.9

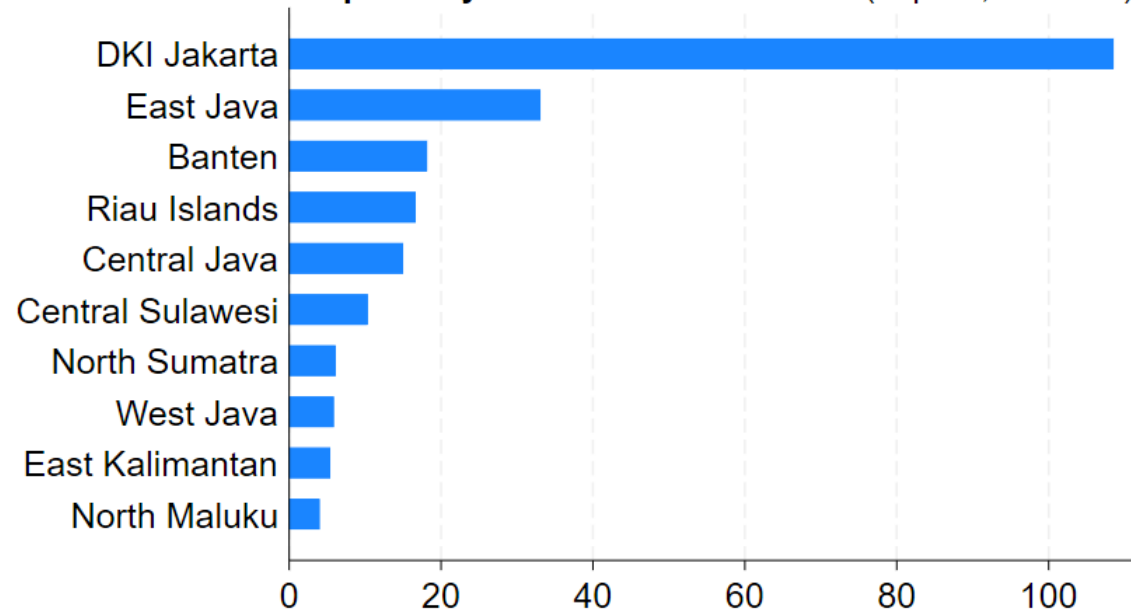
Source: IMF PortWatch, The World Factbook, The State Council of the PRC Website, and ACI authors' calculations.

Indonesia's Shipping Network

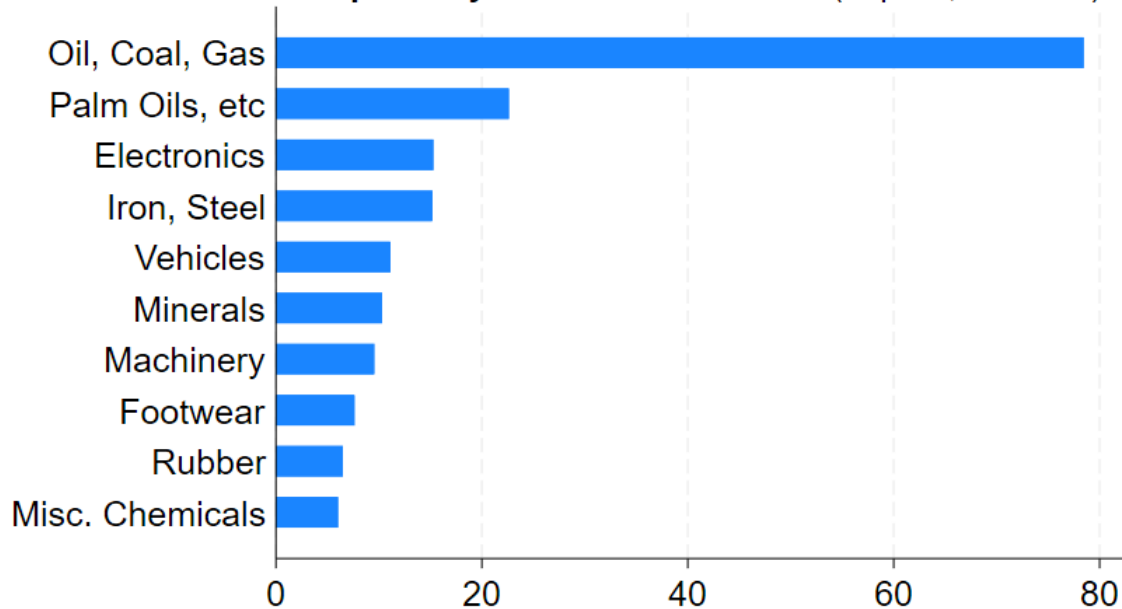
Exports by Province in Indonesia (Top 10; USD bn)



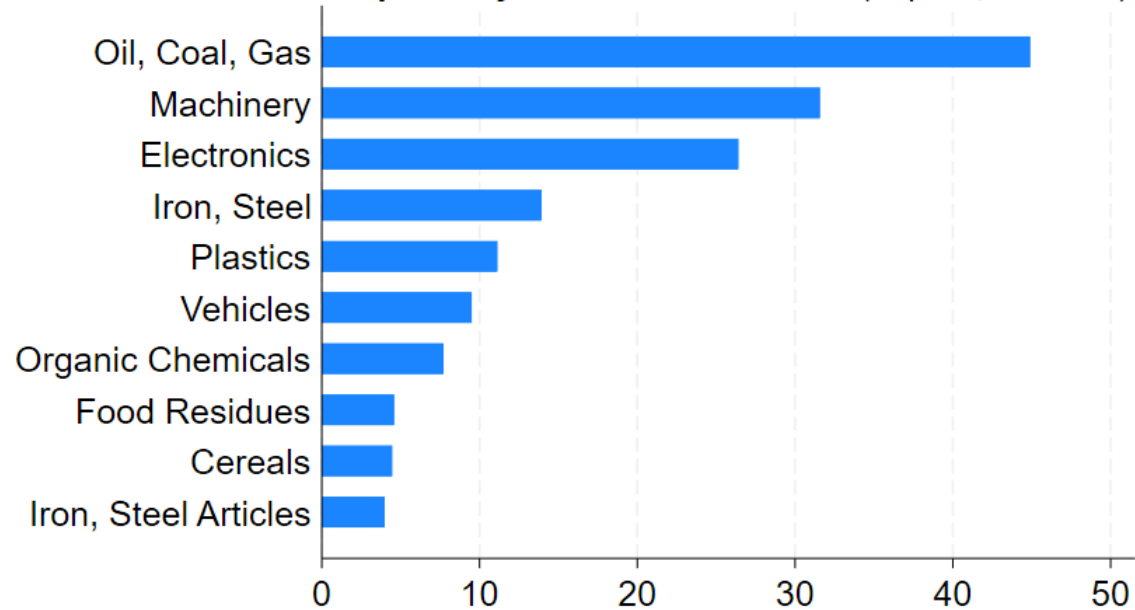
Imports by Province in Indonesia (Top 10; USD bn)



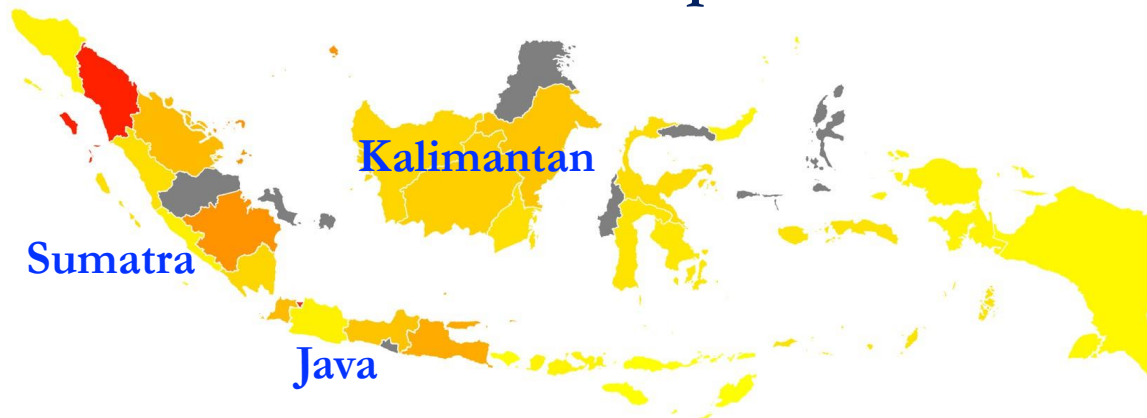
Exports by Sector in Indonesia (Top 10; USD bn)



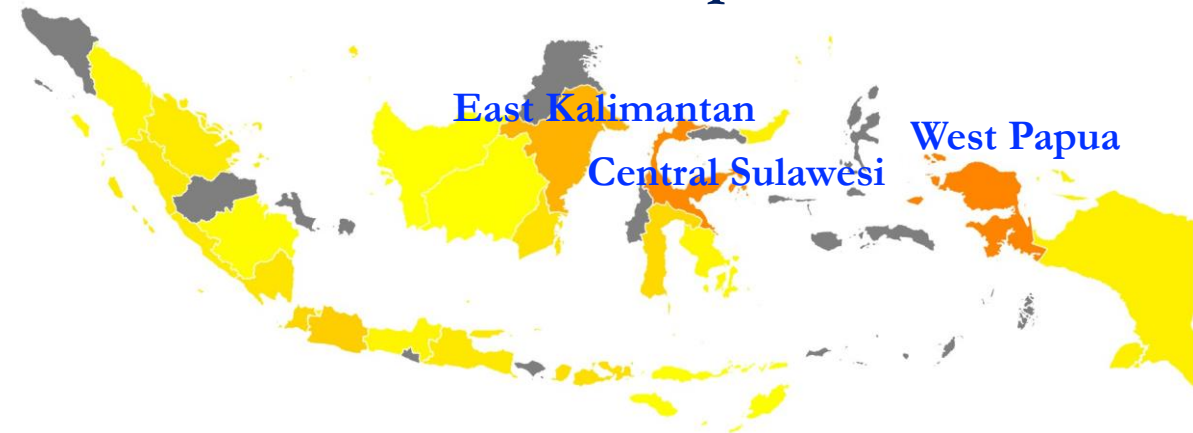
Imports by Sector in Indonesia (Top 10; USD bn)



Share of Maritime Exports to ASEAN



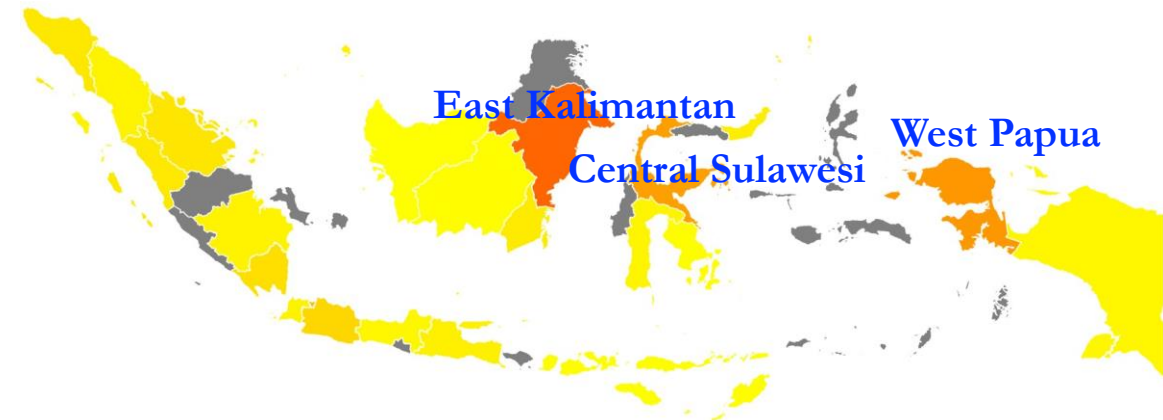
Share of Maritime Exports to China



Share of Maritime Imports from ASEAN



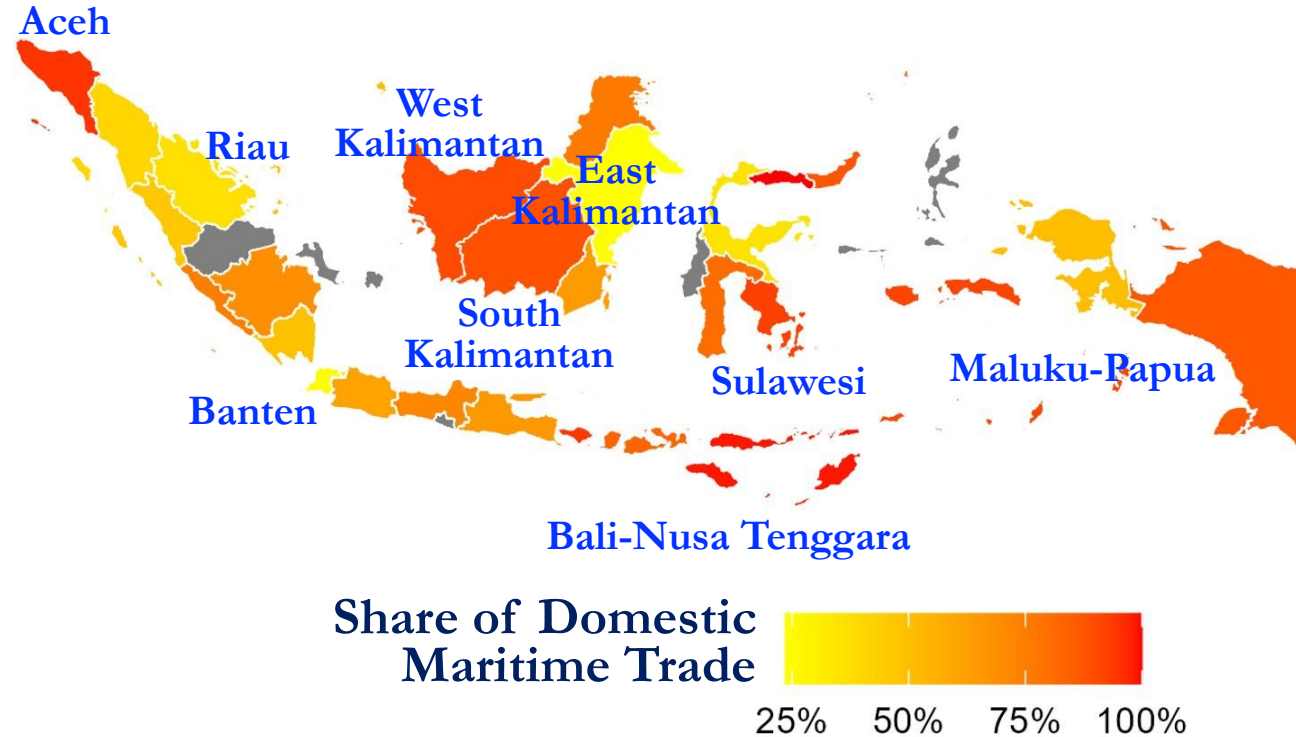
Share of Maritime Imports from China



Trade partnership with ASEAN at the provincial level

- **Provinces:** Sumatra, Kalimantan, and Java
- **Products:** Oils, coal, gas, palm oils, metals, and minerals.

Indonesia's Domestic Shipping Network



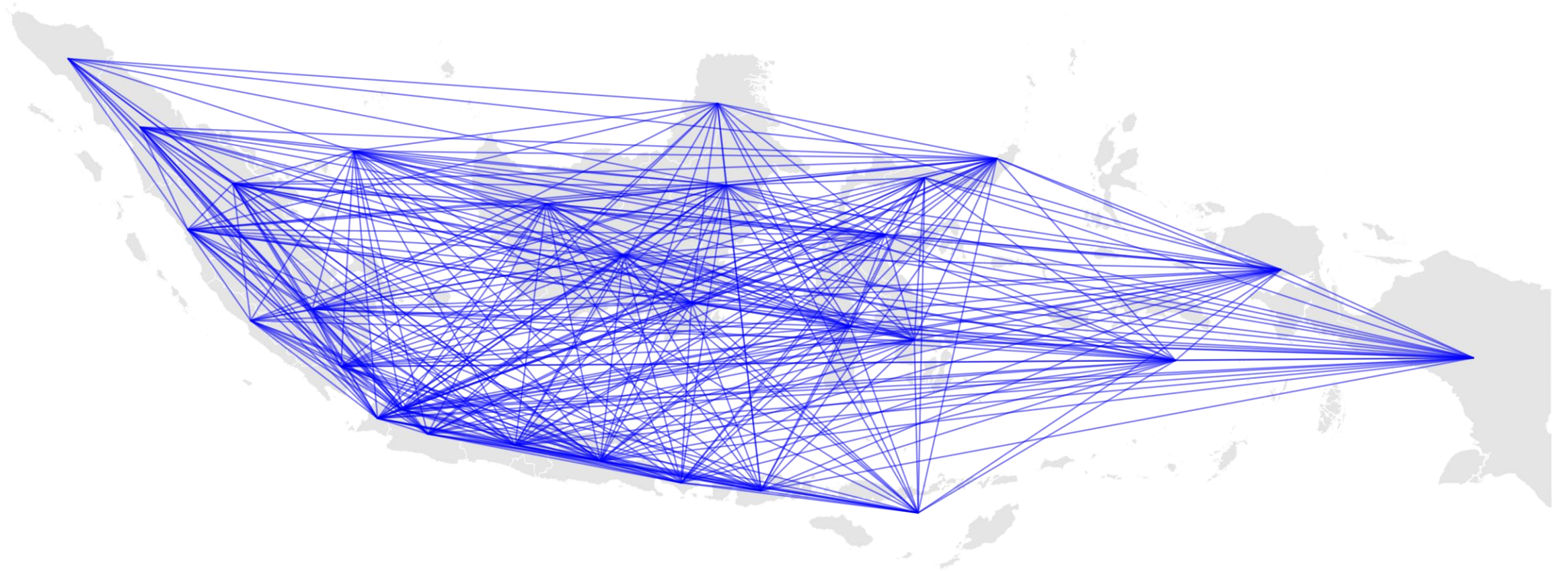
Provinces with mostly domestic trade:

- Aceh, **West Kalimantan**, South Kalimantan, Bali-Nusa Tenggara, Sulawesi, and Maluku-Papua.

Provinces with mostly foreign trade:

- Riau, Banten, and East Kalimantan.

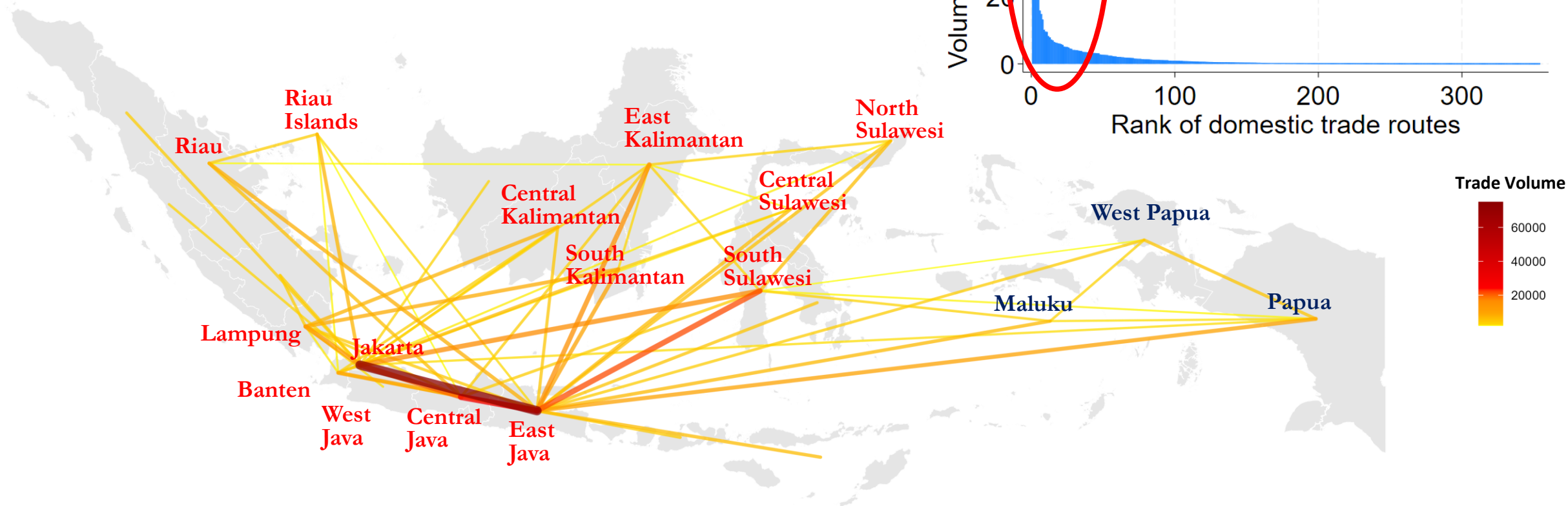
Indonesia's Domestic Shipping Network



- There are in total 354 shipping routes covering 65 ports in 29 provinces.

Indonesia's Domestic Shipping Network: Major Trade Hubs

Source: IMF PortWatch and ACI authors' calculations.

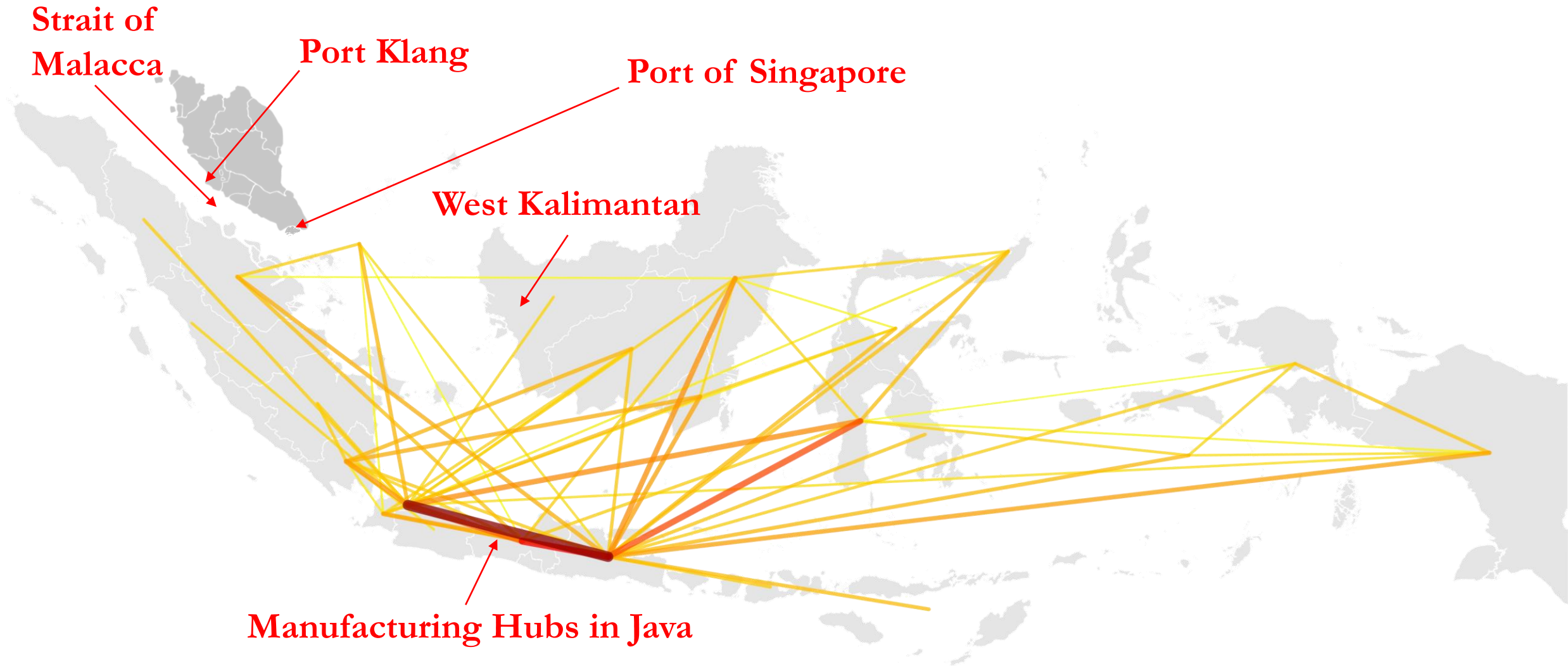


- **Java:** Jakarta, West Java, East Java, Central Java, Banten
- **Sumatra:** Riau Islands, Lampung, Riau
- **Kalimantan:** East Kalimantan, South Kalimantan, Central Kalimantan
- **Sulawesi:** North Sulawesi, Central Sulawesi, South Sulawesi

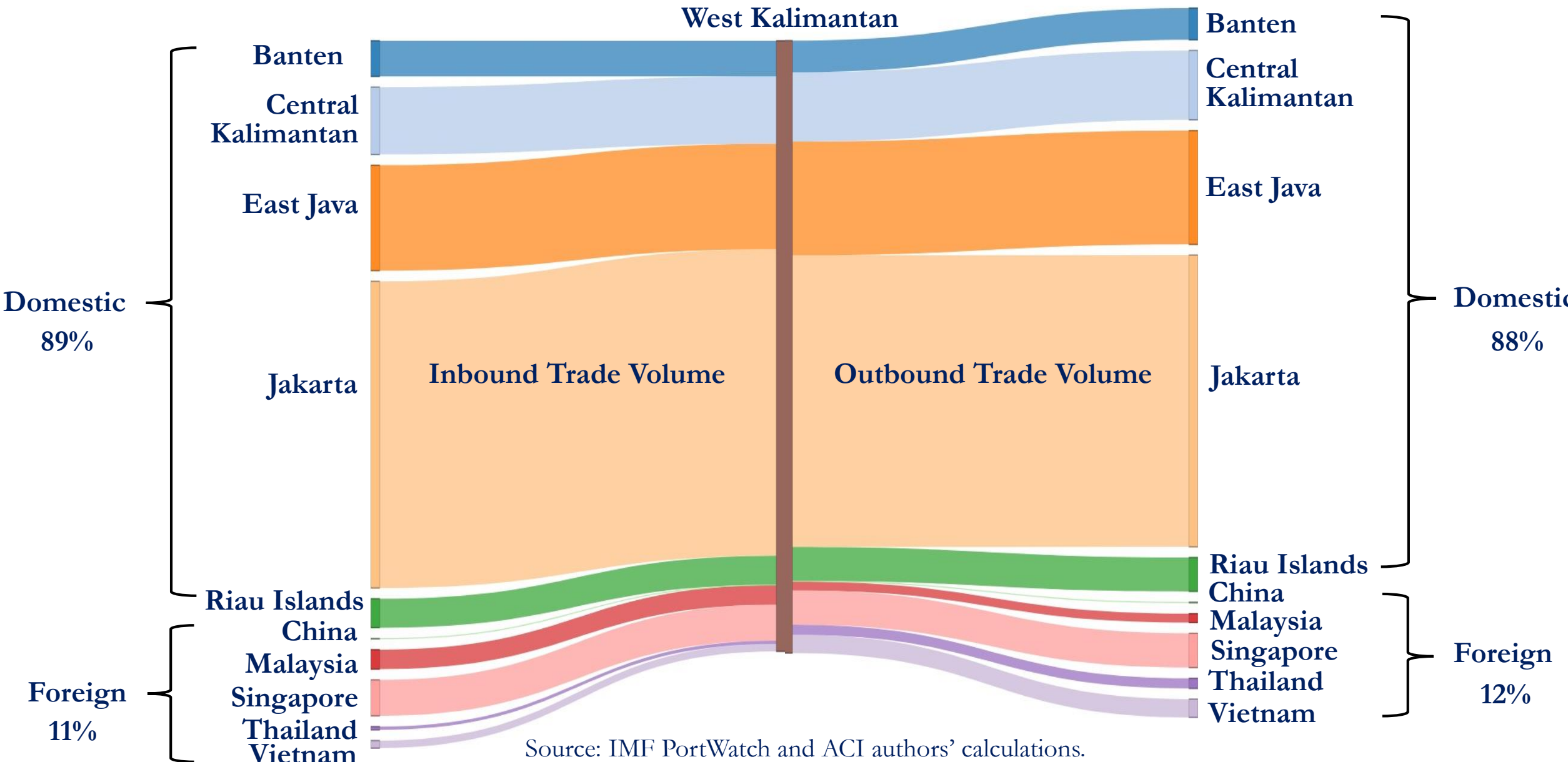
Trade Partners of West Kalimantan			Manufacturing	Resources
Region	Major Hubs	Major Products	Classification	
Java	Jakarta	Vehicles, machinery, metals	Manufacturing	
	West Java	Vehicles, electronics, machinery		
	East Java	Machinery, chemicals, metals		
	Banten	Footwear, steel, plastics, rubber		
	Central Java	Apparel, footwear, furniture		
Sumatra	Riau	Oil, gas, rubber, palm oil	Resources	
	Lampung	Oil, gas, food, palm oils		
	Riau Islands	Oil, gas, machinery, electronics	Manufacturing	
Kalimantan	East Kalimantan	Oil, gas, coal, palm oils, rare earths	Resources	
	South Kalimantan	Oil, gas, coal, palm oils, chemicals		
	Central Kalimantan	Oil, gas, coal, palm oils, minerals		
	West Kalimantan	Palm oil, rare earths, metals, wood		
Sulawesi	Central Sulawesi	Steel, nickel, oil, gas, rare earths	Resources	
	North Sulawesi	Agriculture, nickel, iron		
	South Sulawesi	Agriculture, nickel		

Strategic Positioning of West Kalimantan

West Kalimantan's Strategic Position



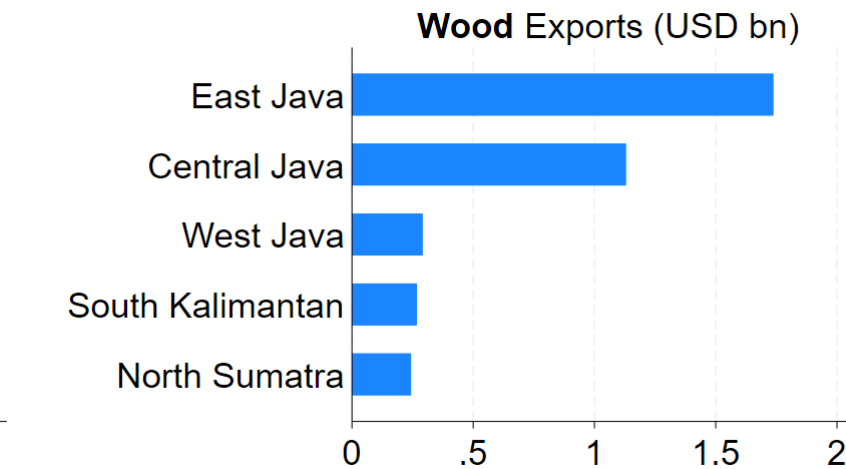
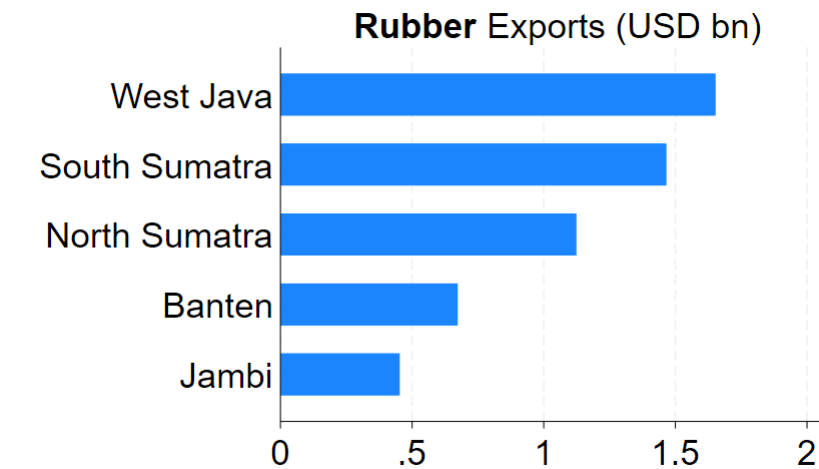
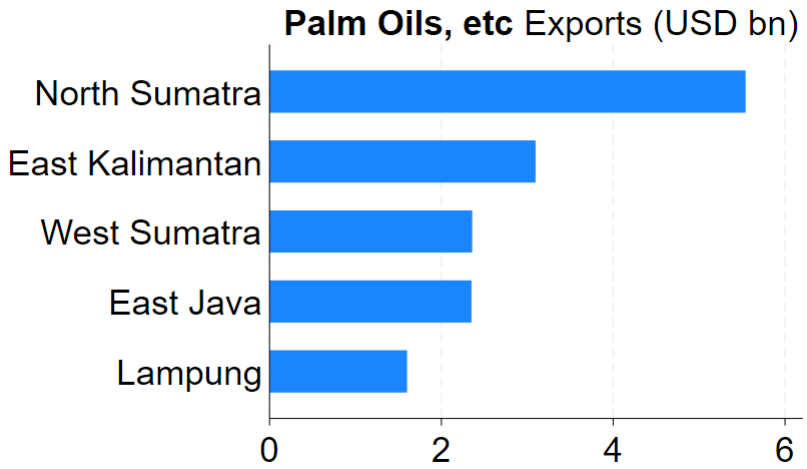
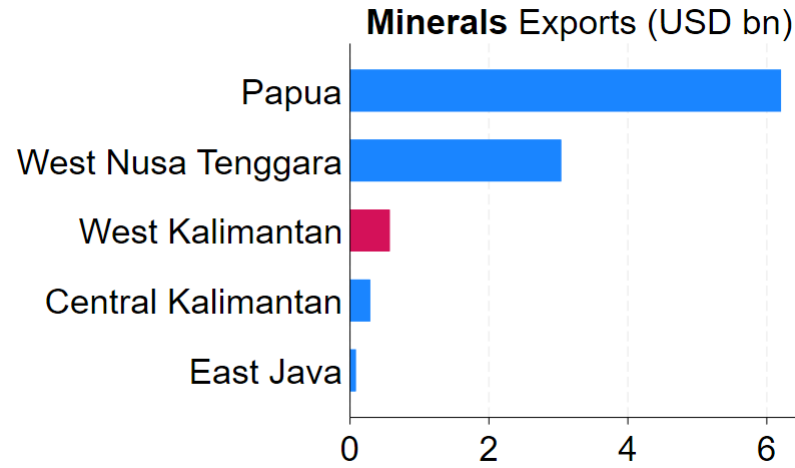
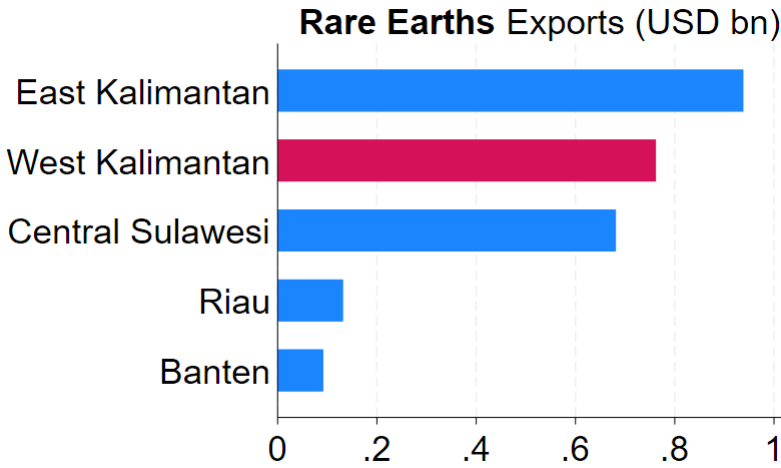
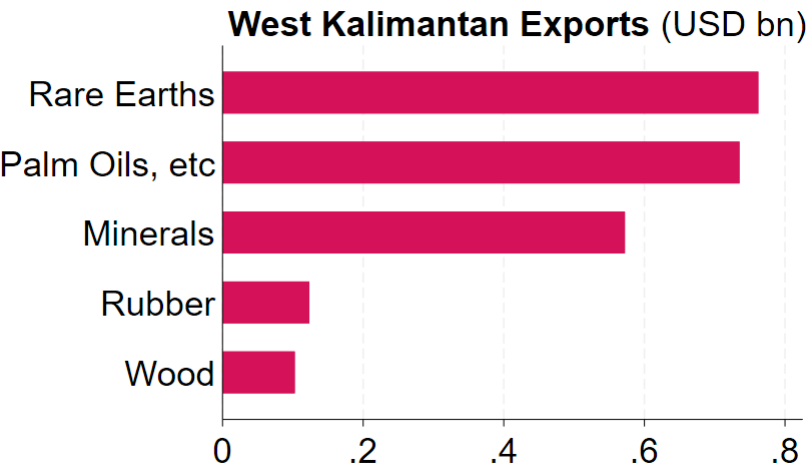
West Kalimantan's Position in the Shipping Network



West Kalimantan's Comparative Advantage

- Revealed comparative advantage in Rare Earths & Inorganic Chemicals and Metal & Mineral Ores since it's a top exporter of these goods.

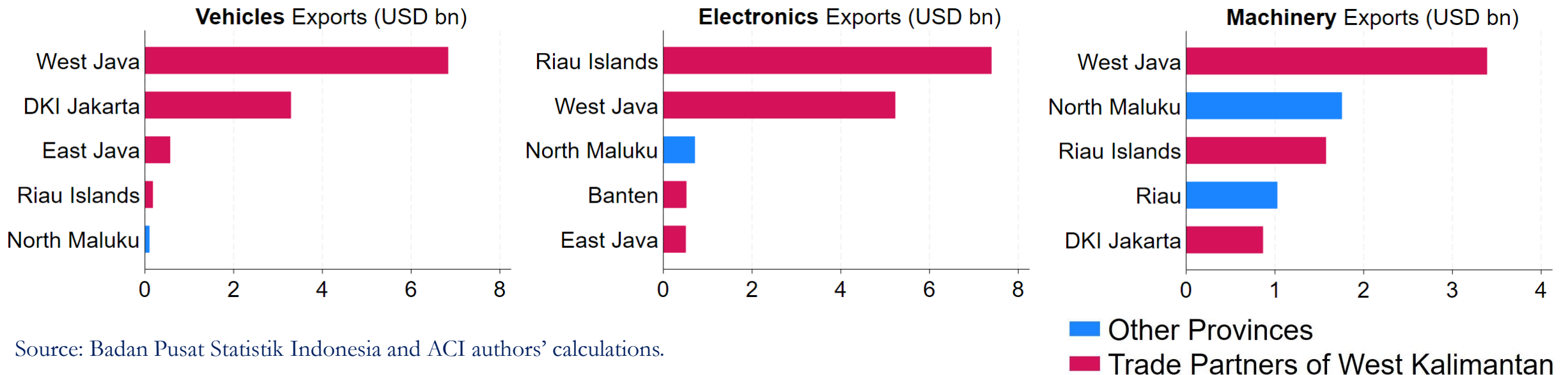
Other Provinces
West Kalimantan



Source: Badan Pusat Statistik Indonesia and ACI authors' calculations.

Which provinces are downstream producers that source industrial inputs from West Kalimantan?

- Rare earths, minerals, metals, inorganic chemicals, wood, and rubber are all industrial inputs for downstream exports such as electronics, machinery, and vehicles.
- West Kalimantan's trade partners such as **Jakarta, West Java, Riau Islands, and East Java** are also the main exporters of these products.
- Great potential for West Kalimantan to trade with these provinces.
- **Has West Kalimantan fully capitalized on this potential?**

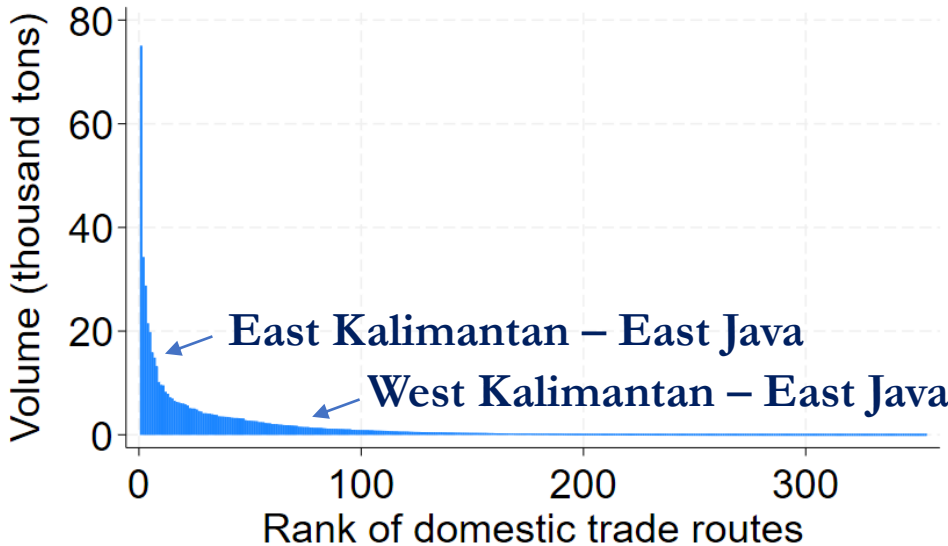


West Kalimantan Is NOT Capitalizing on Her Potential as a Resource Supplier.

- West Kalimantan is resource-rich, like South Sulawesi and East Kalimantan.
- But the trade volume between West Kalimantan and East Java is significantly lower.

Potential Outcome	Room for Upgrade	
Resource Supplier to Manufacturing Hub Trade Routes	Volume (1,000 Tons)	Rank (Out of 354)
South Sulawesi – East Java	21.5	4
East Kalimantan – East Java	14.9	7
West Kalimantan – Jakarta	3.2	45
West Kalimantan – East Java	1.1	86
West Kalimantan – Riau Islands	0.4	153
West Kalimantan – West Java	0.2	180

Domestic Trade Share	
East Kalimantan	25%
West Kalimantan	90%



Source: IMF PortWatch and ACI authors' calculations.

Recommendation #1: Transportation Infrastructure

Transportation infrastructure plays a vital role in reducing trade costs and promoting exports.

- **Deep-water seaports** that can accommodate both bulk and container ships.
- **Specialized storage and handling equipment** for minerals and rare earths.
- **Multimodal** railroad and road connectivity.
- **Intermodal facilities** to seamlessly transfer cargo between transport modes, such as from rails to roads to ports, or from river ports to seaports.
- **Automation** of the transportation infrastructure.

Infrastructure Indicators	Provincial Rank of West Kalimantan
Length of Paved Roads	17/34
Inter-Island Cargo	18/33
Physical Infrastructure	33/34

Source: ACI Annual Competitiveness Index

Multimodal transportation process

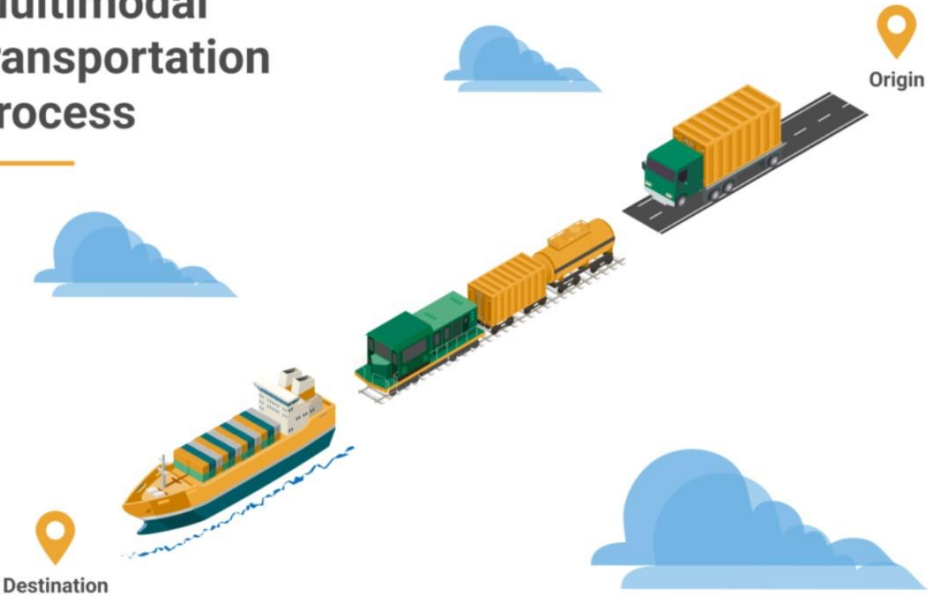


Figure Source: Xchange and Container News

Recommendation #2: Upgrade to Manufacturing Value Chain

- Utilize the local comparative advantage in rare earths, minerals, and inorganics.
- Attract low-end & mid-end manufacturing, processing, and refining sectors.
- Manufacture products locally instead of shipping inputs to other manufacturing hubs.
- Well-positioned to develop high-tech sectors like clean-tech, machinery, and electronics that use these inputs heavily.
- Emulate industrial clusters in Riau Islands and attract foreign investors to bring in technological expertise and management know-how.

Structural Indicators	Provincial Rank of West Kalimantan
% Primary GRDP	16/34

Source: ACI Annual Competitiveness Index

Recommendation #3: Upskill the Workforce

- **Upskill the workforce** to transition labor from the primary sector.
- **Vocational, technical, and higher education** to prepare the workers for both low-tech and high-tech jobs.
- High-tech sectors offer good jobs, but **upskilling the workforce takes time.**
- Low-tech manufacturing sectors **rapidly provide employment** for low-skill workers.
- Balancing high-tech and low-tech is key to employment **across skill levels.**

Labor Market Indicators	Provincial Rank of West Kalimantan
% Primary Employment	4/34
% Senior High Enrollment	26/34
Mean Years of Schooling	33/34

Source: ACI Annual Competitiveness Index

Conclusion

Maritime Trade and Port Development

- Ports are pivotal to reduce trade costs and promote maritime trade.
- Despite the vast archipelago, ASEAN, including Indonesia, lags in port development.

Indonesia's Shipping Network

- Indonesia exports both manufacturing products and intermediate inputs to ASEAN.
- The busiest domestic trade routes are among Java, Kalimantan, Sulawesi, and Sumatra.

Strategic Positioning of West Kalimantan

- West Kalimantan's strategic location and rich resources provide a unique edge.
- Improve transportation infrastructure and upgrade the value chain.
- Upskill the workforce and create both low-skill and high-skill jobs.

Thank You