Western Australian Economic History Summit 2020

The Past, Present and Future of WA Ports

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The role and importance of ports

- Ports as gateways-
  - "As a nation dependent on maritime trade, Australia's ports are an important gateway for goods. Consequently, ports and associated infrastructure are of the utmost economic and social importance to Australia." (Infrastructure Australia, *National Ports Strategy*, 2011)
- Ports are also now logistics hubs and part of global transport chains
- WA has a coastline of over 12,500km and depends on shipping for carriage of cargoes and in the past people (State Shipping Service 1912-1995)
- Ports range from minor ones serving coastal vessels and the fishing industry to major deep-water ports carrying our international trade
- The future of ports can wax and wane:
  - Some are now defunct e.g. Cossack
  - Some have been transformed from back waters to major ports e.g. Port Hedland

The Port of Cossack

The once thriving pearling port of Cossack

A pearling lugger unloading at the wharf

Cossack today

Port Hedland: from backwater to major port

Plate 3
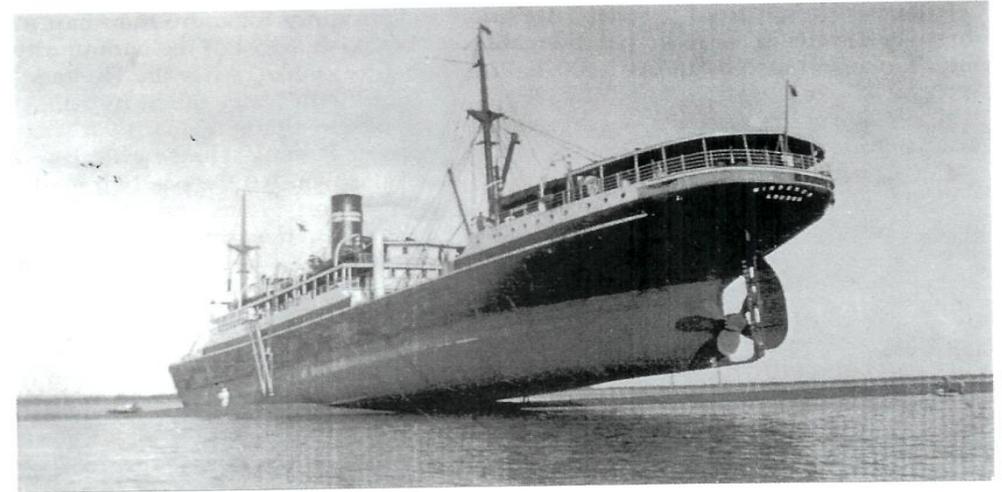Port Hedland Jetty c.1910 Courtesy: Battye Library 2750P

Plate 4
SS *Minderoo* aground in Port Hedland Harbour 1935.
Courtesy *West Australian Newspapers*

Plate 30
Laden ore carrier leaving Nelson Point 'A' Berth. The entrance to the under-harbour tunnel can be seen behind the idle shiploader
Courtesy PHPA

Plate 19
The *Harvey S Mudd* preparing to sail on June 3, 1966, with the first shipment of iron ore from Port Hedland. Courtesy BHPB

Source: M. Shaw, *Moving Mountains. The Evolution of Port Hedland Harbour,2006.*
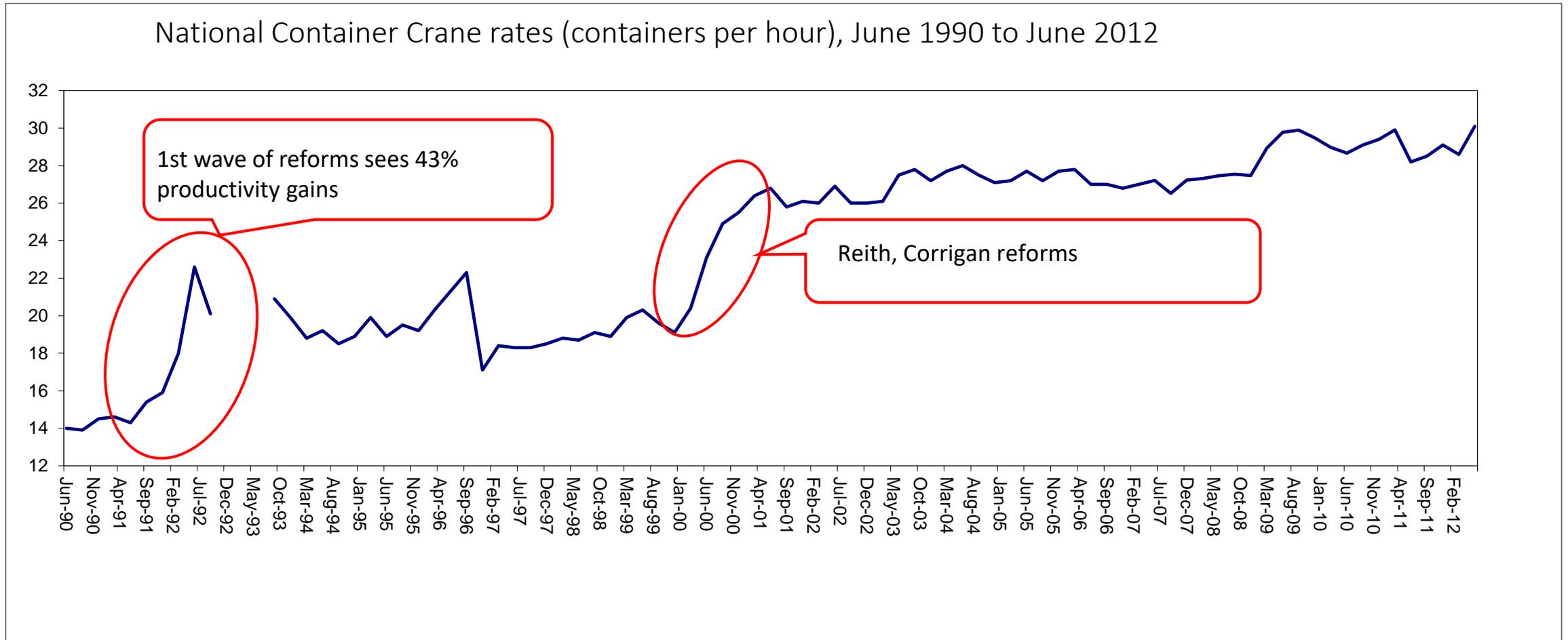
History of Australian ports

- Australia's capital city ports were established between 1788 and 1837 to provide the British Empire with gateways into the vast Australian continent

- Gold rushes of 1850s (1890s in WA) provided a major impetus for investment in maritime infrastructure, e.g., deeper channels, jetties, transit sheds

- The crucial role of port engineers- (e.g., Sir John Coode, C. Y. O'Connor)

- Formation of publicly owned harbour trusts to manage ports e.g., Melbourne 1876, Sydney 1901, Fremantle 1903

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History of Australian ports

- As the capital cities grew, ports increasingly "competed" for land with industry, housing, and other urban uses

- After the Second World many ports escaped from their metropolitan straitjackets and developed new ports with access to deeper water and more adequate land areas e.g., Cockburn Sound, Port Botany

- The mineral boom of the 1960s led to the rise of specialised bulk handling ports such as Dampier, Gladstone, Hay Point Port Hedland and Port Walcott

- Microeconomic reforms of the 1980s and 1990s

- The port reform process was complex, path dependent and, at times, controversial

Change on the Australian waterfront

National Container Crane rates (containers per hour), June 1990 to June 2012

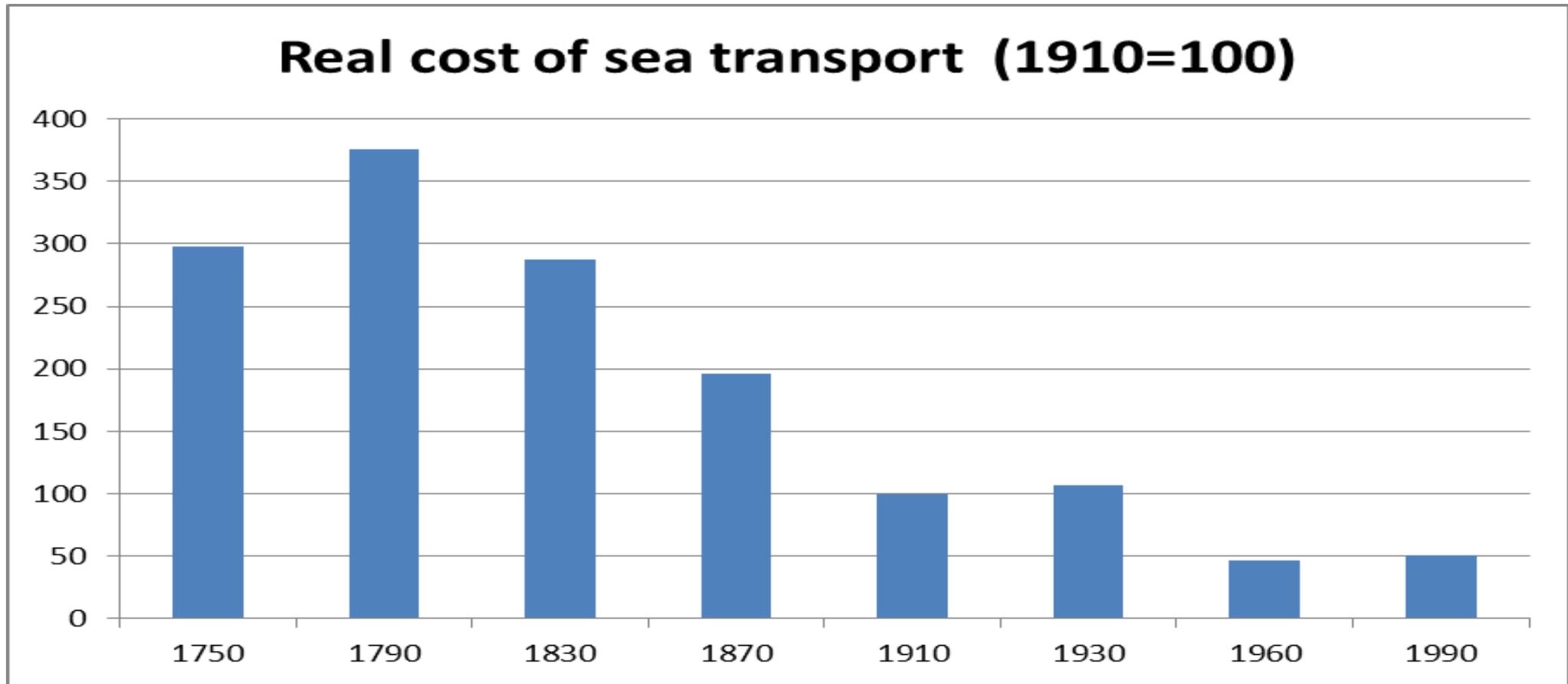1st wave of reforms sees 43% productivity gains

Reith, Corrigan reforms

Note: Data missing between September 1992-September 1993.
Source: Bureau of Infrastructure, Transport and Regional Economics, *Waterline*, Canberra, various issues.

A timeline of port technology

- 19th century transition from sail to steam
- Early 20th century- bulk handling of homogenous cargoes such as coal, oil and grain
- 1940s- Unitisation and palletisation
- 1950s- The tendency towards increased ship size and the development of specialised bulk carriers
- 1970s- Containerisation- 2019 50th anniversary of the arrival of the first container ship at Fremantle
- 1990s- Digitisation and automation

Real cost of sea transport (1910=100)

Year	Value
1750	~300
1790	~375
1830	~288
1870	~197
1910	100
1930	~107
1960	~47
1990	~50

Source: Nicholas Crafts and Anthony J. Venables, 'Globalization in History: A Geographical Perspective'. In *Globalization in historical perspective,* edited by Michael D. Bordo, Alan M. Taylor, and Jeffrey G. Williamson, Chicago : University of Chicago Press, 2003
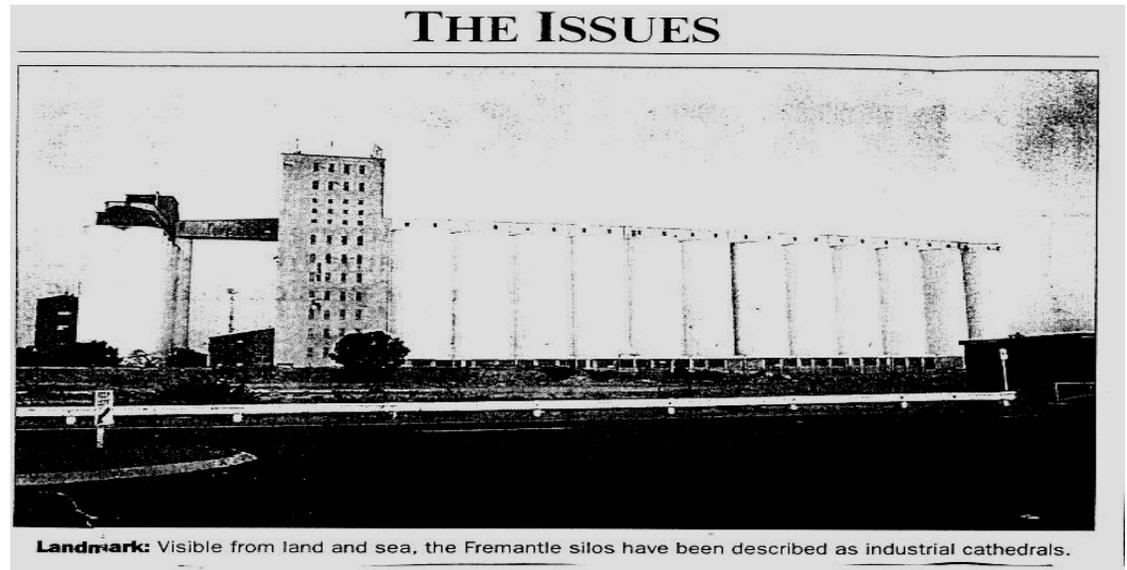
Handling Breakbulk (Bagged) Cargo

Transit Shed

Single Bag

Hand Cart

Hand Pulley
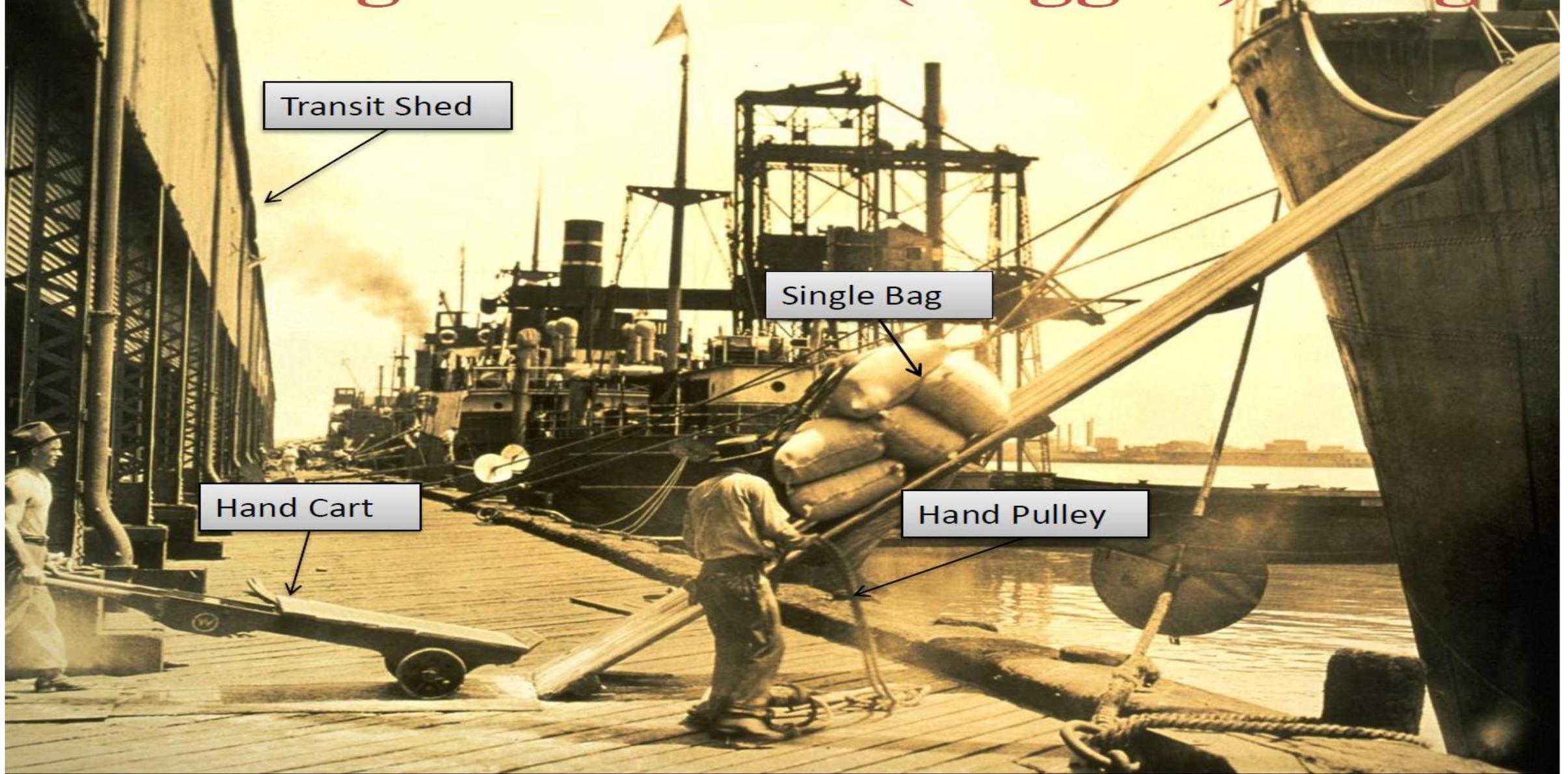
Source: A. Ashar, 'Ports & Liner Shipping- Evolutionary Perspective', paper given at 2013 Ports WA Ports Conference, Perth 16 May 2013

Cargo handling at Victoria Quay, Fremantle, c.1920s

Wheat handling at the Port of Fremantle

THE ISSUES

Landmark: Visible from land and sea, the Fremantle silos have been described as industrial cathedrals.

Source: Fremantle Ports, Photo Archive and West Australian, 10/6/2000.

From hand truck to forklift c.1940s

"The venerable forklift truck, little changed from today's modern versions, allowed a human to pickup, move, and set down larger loads, faster than ever before."

(I. W. Pence, Jr., 1997)

Source: Forklift testing at Towmotor Corp., August 1942. Cleveland Press Collection, CSU Archives.

Containerisation comes to Australia

MV Kooringah, the world's first purpose-built containership, built by the N.S.W. State Dockyard in 1964

The *Encounter Bay*, the first overseas container vessel to call at Australian ports at Fremantle, 29 March 1969

Impact of containerisation

Thinking inside the box

World merchandise trade
2012 prices*, $trn

INTERNATIONAL ADOPTION OF CONTAINERS

Ports worldwide

|	1965	1970
Port labour productivity, tonnes per hour	1.7	30.0
Average ship size, tonnes	8.4	19.7
Number of loading ports in Europe	11	3
Insurance costs†, £ per tonne	0.24	0.04
Value of goods in transit‡, £ per tonne	2	1

Sources: World Trade Organisation; US Bureau of Labour Statistics;
Daniel Bernhofen et al; The Economist

*Deflated by US consumer prices
†Australia to Europe ‡Hamburg to Sydney

Source: *Economist*, May 18th 2013, p. 70.

Waterfront labour- a colourful and turbulent history

• The casual system of employment was associated with poverty, dangerous working conditions and

• industrial militancy

• Waterside workers elected militant Communist

• leaders e.g. Fremantle's Paddy Troy (1908 –1978)

• Unitisation and containerisation led to loss of jobs but also to improved working conditions and permanent employment

• Strikes gradually declined

Working days lost in stevedoring due to industrial disputes as a percentage of the Australian total, 1950 to 2010*
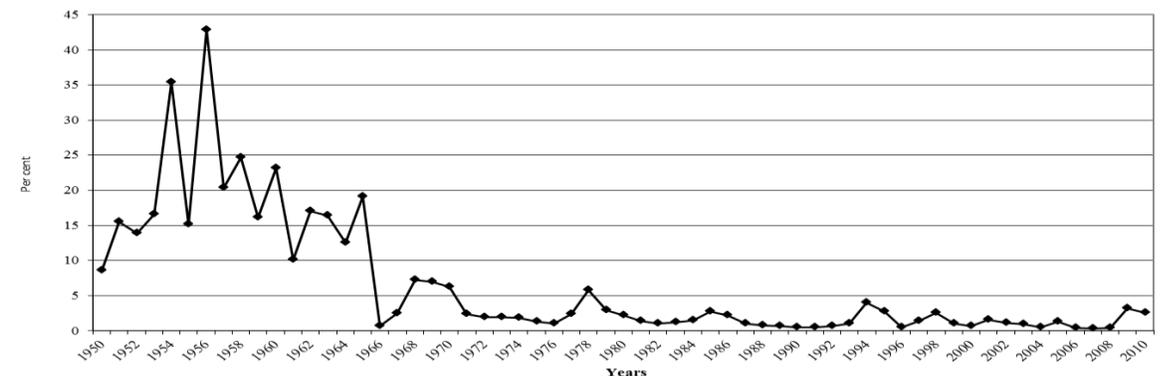
Waterfront labour- "from strength to skill"

- Number of wharfies:
  - 1960s- 35,000
  - 1970s- 27,000
  - 1980s- 9,000
  - 2016- 3,200
- Females still account for only 4% of membership
- Declining membership has led to union mergers
  - In 1993 Waterside Workers Federation merged with the Seaman's Union to form the Maritime Union of Australia
  - In 2019 the MUA merged with the Construction, Forestry, Mining and Energy Union to form the Construction, Forestry, Maritime, Mining and Energy Union (CFMMEU)
- Challenge of automation
  - First fully automated terminal in Australia opened at Webb Dock Melbourne in March 2017
  - In 2018 only 1 % of the world's ports were fully automated and only 2% semi-automated (Drewy, 2018) but the number is rapidly increasing
  - Waterfront workers need new hard and soft skills

Port governance in Western Australia

- Port governance: "The myth of the ideal model"

- All Australian capital city ports are now privatised except Fremantle and Hobart

- WA's governance model has combined:

  - Commercialisation (not corporatisation or privatisation)

  - Mixed public and private operation of port functions

  - Strategic management of supply chains for efficiency and growth

  - Amalgamations- creation of four regional port authorities (*Port Legislation Amendment Act 2013*)

Western Australian port authorities 2015/16 trade volumes
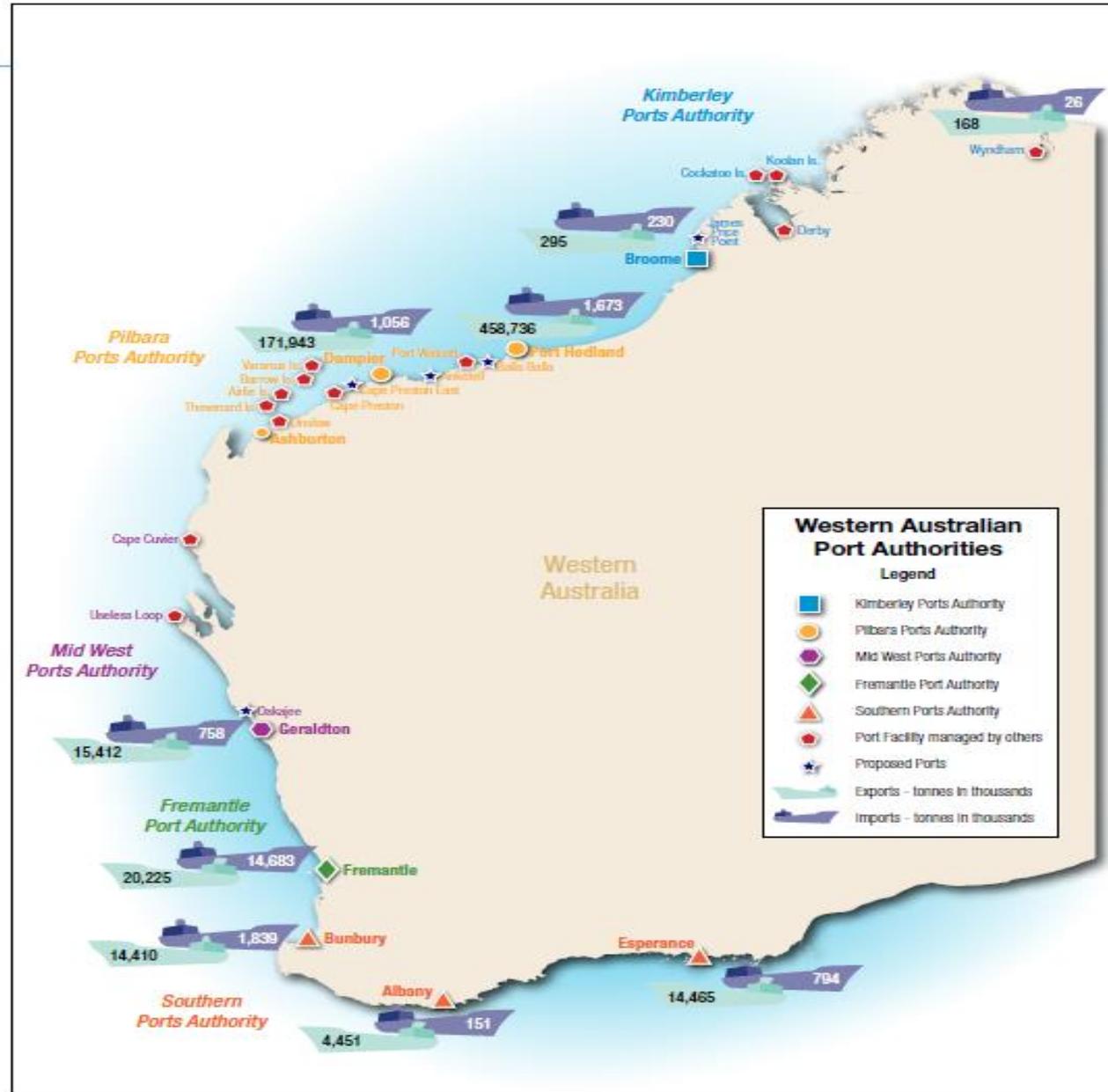
The Port of Fremantle

- Fremantle is Western Australia's major general cargo port, with trade of $32.8 billion in 2018-19

- Two main port areas: the Inner Harbour (river port) and the Outer Harbour

- Mission of FP (Fremantle Ports) is "to create value by connecting Western Australia to global markets. We create value for the State, our customers and partners, our community and our colleagues"

The Future of Fremantle's Inner Harbour

- A Century after it opened, the Inner Harbour was facing serious challenges:

  - Changes in shipping technology, especially vessel size and automation

  - Road and rail access

  - Environmental impacts including noise, smells and light emissions

  - Need to provide adequate separation between working port and other urban uses

  - Heritage issues, especially at Victoria Quay

- The Westport Taskforce is developing a plan to manage WA's growing freight demands; its report is due in early 2020
- Will the Inner Harbour transition from a commercial port to a recreational centre?

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