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4IR, the Future of Work, and the Role of Regional Cooperation

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Advancing Free Trade
for Asia-Pacific **Prosperity**

Outline

- Megadrivers of the future of work

  - Technology, climate change, globalisation, ageing

- Impacts of COVID-19 on work

  - Economy, workers, vulnerable populations

- Big data for the 4IR labour market

  - Capabilities and challenges

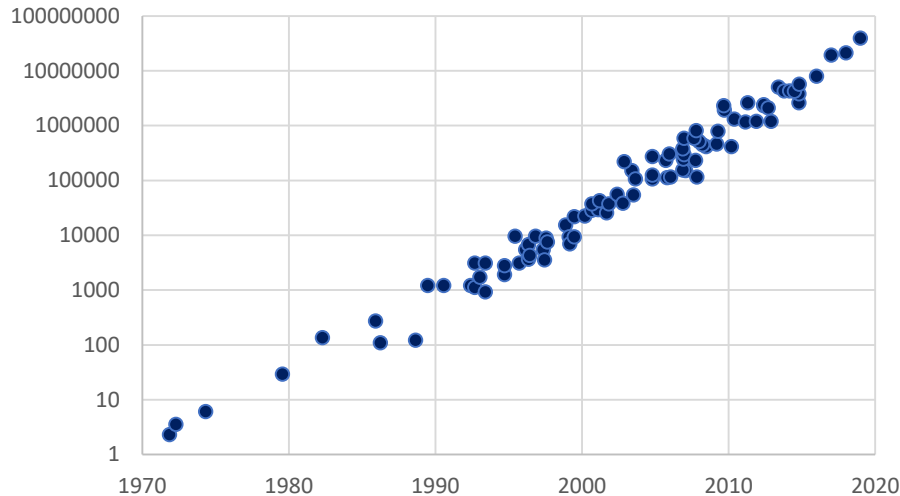- Policy discussion: Role for Regional Cooperation

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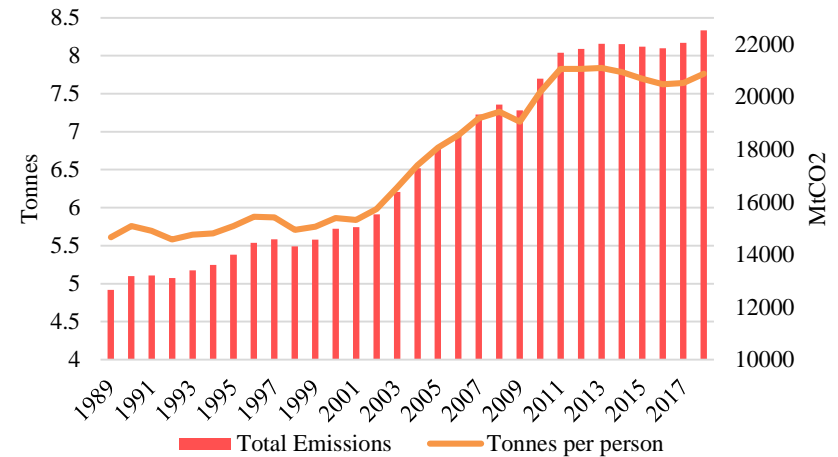
Megadrivers of the future of work

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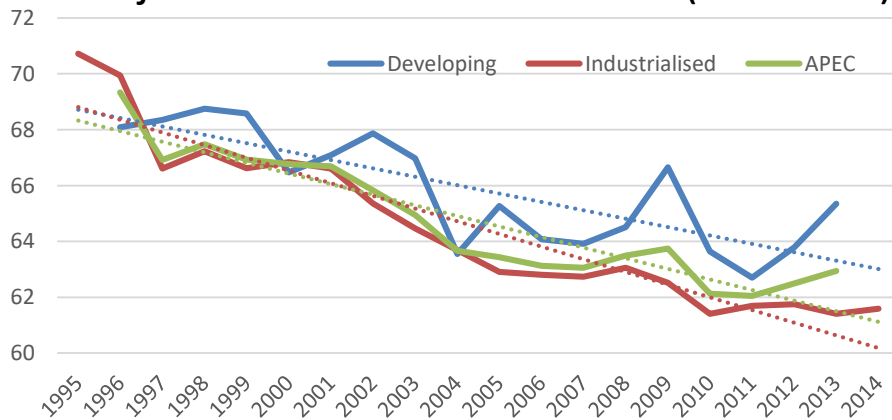
Megadrivers of the future of work
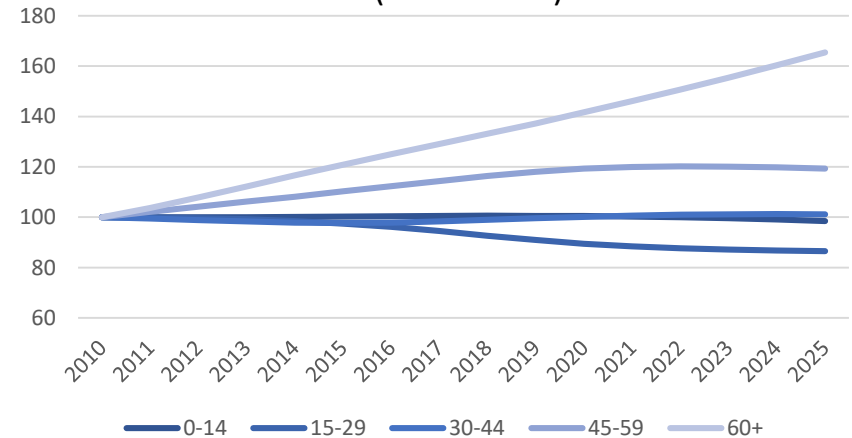
Transistor count per integrated circuit

CO2 emissions in APEC

Adjusted labour share in APEC (% of GDP)

Pop'n change by age group in APEC
(2010 = 100)

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COVID-19: Impact on Labour Market

The COVID-19 pandemic has had a significant impact on enterprises and workers, affecting what work is available and how it is conducted.

- **Total Employment**
Employment in the services sector decreased by 1.5%. Decline of 5.7% for industry driven in large part by the impact on manufacturing. The agriculture sector exhibited a slower decline driven by transitions from services and industry due to layoffs.

- **Occupation and Skill levels**
'Clerical support workers', were most impacted by COVID-19 in terms of the decrease in employment growth which declined by 7.1%. Includes customer service clerks, receptionists and bank tellers.

Source: Detecon APAC analysis

Employment growth rates (%), by broad sector group, APEC economies
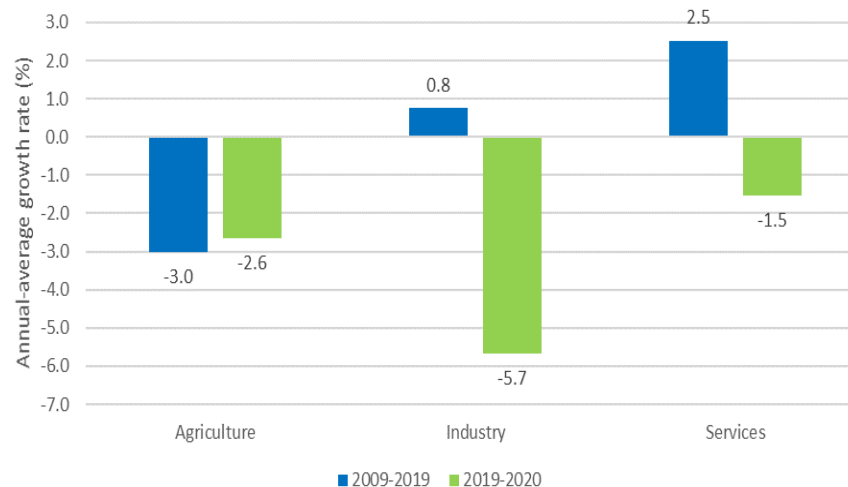
- **Unemployment and Inactivity**
Unemployment increased from 4.0% to 5.1% corresponding to 15 million more unemployed. Reduce working hours estimate decreased equival. of 99 million FTE jobs.

- **Informality and Status in Employment**
Around 510 million people of the total employed population in 2019 are estimated to be either own-account workers or contributing to family work have been disproportionately impacted by the COVID-19.

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COVID-19: Impact on Labour Market

Vulnerable groups and women have been disproportionately impacted in the labour market by the COVID-19 pandemic.

Disproportional impact on vulnerable groups and minorities

Vulnerable groups

- **The United States**, a larger number of Asian-American frontline workers experienced employment losses during COVID-19. Similarly African American non-frontline workers.
- **Asian-Australians** experienced twice the drop-in hours worked compared to the rest of the Australian population.
- **Canada**, Indigenous persons (e.g. First Nations, Inuit and Métis) were more likely to be adversely affected by the pandemic.
- **New Zealand**, COVID-19 highlighted how the Maori population are more likely to have job instability and lower wages; affected disproportionately because of employment in sectors such as tourism, construction and manufacturing.

Women

- **Women** accounted for more than half of the change in employment (54%) in 2020 across the APEC economies, despite accounting for around 44% of all employment.
- COVID-19 pandemic may have seen **a reversal of much of the gender equality** achieved over recent decades, including for female participation in the labour market.
- A study found that school closures were more likely to result in **women working less hours than men**.

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4IR problems need 4IR data

Need real-time, granular data

- Policymaking
  - Labour, education, digital economy, crisis response
- Closing skills gaps
- ALMPs
- Social protection
- Research and monitoring

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- Not collected
- Not shared
- Not analysed
- Not utilised

Generate data

- Social media
  - LinkedIn, FB, Twitter
- Jobs portals
  - BG, Glassdoor
- Gig economy
  - Grab, Uber, Deliveroo
- Online learning platforms
  - Coursera, EdX, Udacity

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Traditional labour market data vs big data

Type of data	Years of data	Ease of time series analyses	Data representative-ness	Compatibility across geographies	Real-time data access	Regular taxonomy updates	Data granularity
Traditional labor market data	~50	High	Apply statistical sampling methods and weights	✓	✕	✕	Low
Big data	~10	Medium	Captures digitized labor market; can benchmark against public data to gain insight	✓	✓	✓	High

Big data is fast

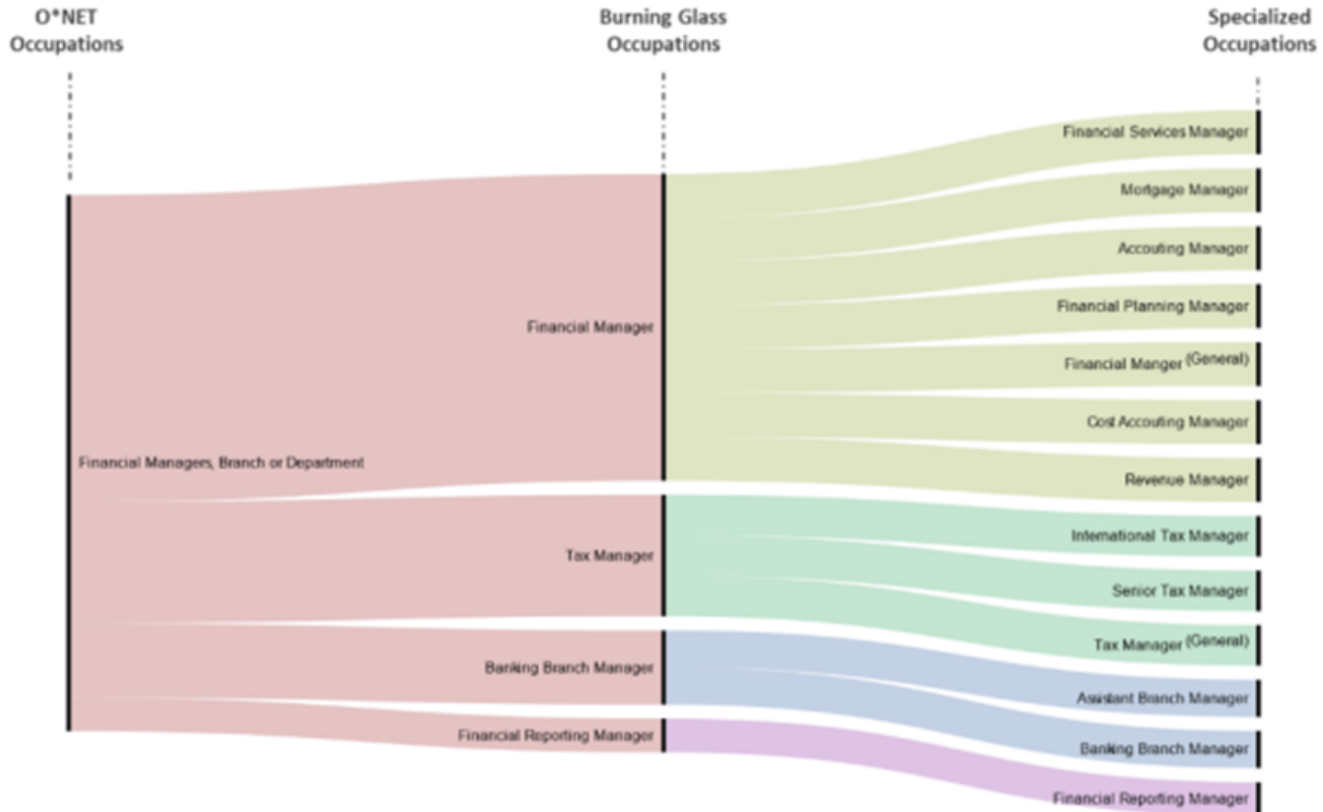**Figure 3.5 Australia percent change in job postings over time**
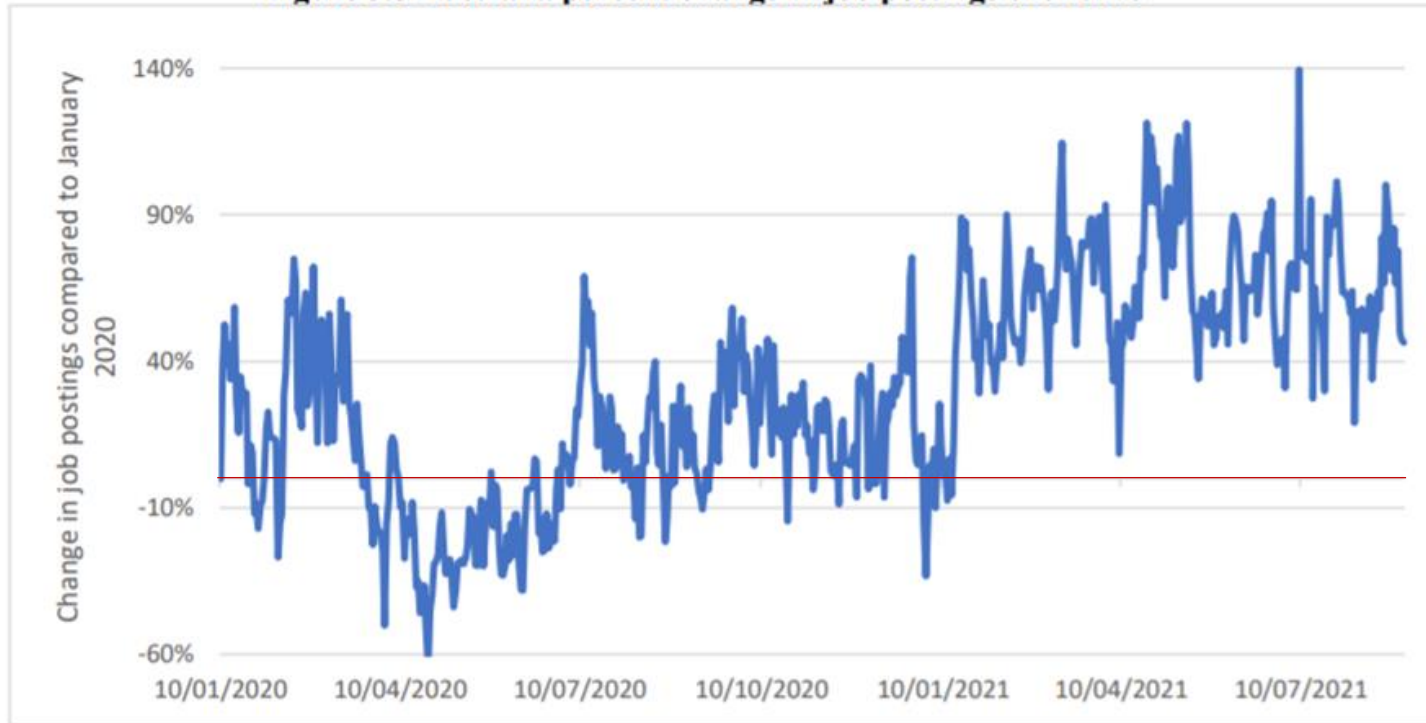
Source: EBG analysis.

Big data is granular

Figure 3.9 Sample of big data occupation taxonomy

Big data is promising, but challenging

- High up-front costs

- Require specialised technical skills
  - Clean, deduplicate, prepare → analyse data

- Challenging to merge with traditional/existing data and taxonomies
  - E.g., Census, HH surveys, administrative data, disbursement data

- Need data visualisation and communication skills

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Policy discussion

MEGADRIVERS OF CHANGE, COVID-19

"LET'S DO BUSINESS AS USUAL"

Policy discussion

- Megadrivers of change + COVID-19

  - Highly dynamic economies

  - Ever-increasing productivity and efficiency

  - Increased job and income uncertainty

  - Increased dissonance between institutions and reality

- More technology is needed, not less

- Promote economic dynamism, but address uncertainty

- Utilise big data: start small then scale up

  - Enable data partnerships with academia, private sector, Ios

  - Importance of regional cooperation

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Policy discussion: Role for Regional Cooperation

- Capacity building and information sharing

  - Develop effective social protection systems

  - Develop skills; ensure access to digital infrastructure

  - Design efficient labour market regulations and LMIS

- Address cross-border FOW issues

  - Dispute resolution mechanisms

  - Portability of social protection (contributions and benefits)

  - Recognition of skills and credentials

- Promote a tripartite approach

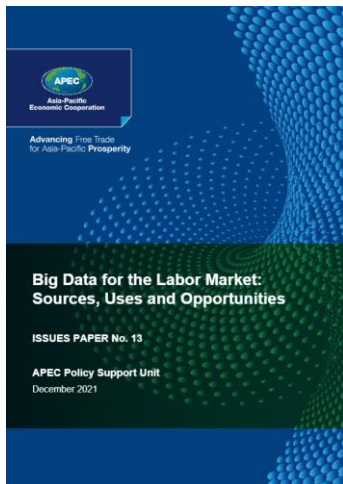 - Develop an inclusive approach to policy discussions

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Find out more

APEC Economic Policy Report 2021: Structural Reform and the Future of Work

https://www.apec.org/publications/2021/11/2021-apec-economic-policy-report

Big Data for the Labour Market: Sources, Uses and Opportunities

https://www.apec.org/publications/2021/12/big-data-for-the-labor-market-sources-uses-and-opportunities

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