

THE LABOUR MARKET IMPACTS OF LOWER-SKILLED TEMPORARY IMMIGRATION: EVIDENCE FROM THE PALM SCHEME

Toan Nguyen and Ryan Edwards

June 2023, Pacific Update

Australian National University

RESEARCH QUESTIONS

How does **temporary immigration** of fundamental, lower-skilled workers affect **incumbent workers' wages and occupations**?

RESEARCH QUESTIONS

How does **temporary immigration** of fundamental, lower-skilled workers affect **incumbent workers' wages and occupations**?

This paper ⇒

- First evidence on the impacts of the high-profile Seasonal Worker Program (SWP) and the Pacific Labour Scheme (PLS) on domestic labour markets in Australia.
- **SWP** commenced in 2012 and **The PLS** in 2019, allowing Pacific Islanders to come and work in Australia, mostly in the agricultural sector but also in other seasonal sectors, like tourism.
- **Preliminary findings from administrative data** (i.e., tax and visa records) covering the **entire Australian population**.

WHAT WE DO TODAY

1. Provide **new descriptive statistics**, based on admin data, on the characteristics of SWP and PLS workers in Australia.
2. Provide new descriptive evidence, and then **estimate the effects** of the SWP and PLS on the wages of Australian workers most plausibly exposed to these schemes.
3. Explore a **potential mechanism** of adaptation and adjustment: occupational mobility, or job-switching.
4. Discuss potential implications for policy, and the limitations of our findings, especially in terms of generalisability.

WHAT WE FIND

1. No evidence that SWP/PLS suppressed wages of Australian workers in the occupations most exposed to these two schemes.
 - If anything, the trends appear to be the **opposite**.

WHAT WE FIND

1. **No evidence that SWP/PLS suppressed wages of Australian workers in the occupations most exposed to these two schemes.**
 - If anything, the trends appear to be the **opposite**.
2. **Workers in "PLS/SWP exposed" occupations are highly mobile.**
 - Definition: "PLS/SWP Exposed" occupations are ANSCO 6-digit occupations with more than 50 SWP/PLS workers.

WHAT WE FIND

1. **No evidence that SWP/PLS suppressed wages of Australian workers in the occupations most exposed to these two schemes.**
 - If anything, the trends appear to be the **opposite**.
2. **Workers in "PLS/SWP exposed" occupations are highly mobile.**
 - Definition: "PLS/SWP Exposed" occupations are ANSCO 6-digit occupations with more than 50 SWP/PLS workers.
3. **People who left these occupations experienced large wage gains**
 - Further work is needed to determine how much is driven by the schemes themselves, given high baseline mobility

REST OF THIS TALK

1. Theoretical background and contribution
2. The Australian MADIP data
3. Characteristics of SWP and PLS migrants
4. Descriptive evidence on the effect of SWP/PLS on wages
5. Causal evidence on the effect of SWP/PLS on wages
6. Descriptive evidence on occupational mobility and wages
7. Summary and next steps

HOW DOES IMMIGRATION AFFECT NATIVE WAGES AND EMPLOYMENT?

Traditional view \Rightarrow increase LS, w falls; demand curve slopes down

Often used to justify nativist labour market / immigration policy

Invokes the lump of labour fallacy

HOW DOES IMMIGRATION AFFECT NATIVE WAGES AND EMPLOYMENT?

Traditional view \Rightarrow increase LS, w falls; demand curve slopes down

Often used to justify nativist labour market / immigration policy

Invokes the lump of labour fallacy

Empirical view \Rightarrow Effects are approximately zero. But why?

Started with seminal study of the Mariel boatlift by David Card (1994).

Many studies since, including Clemens, Postel, and Lewis (2017).

HOW DOES IMMIGRATION AFFECT NATIVE WAGES AND EMPLOYMENT?

Traditional view \Rightarrow increase LS, w falls; demand curve slopes down

Often used to justify nativist labour market / immigration policy

Invokes the lump of labour fallacy

Empirical view \Rightarrow Effects are approximately zero. But why?

Started with seminal study of the Mariel boatlift by David Card (1994).

Many studies since, including Clemens, Postel, and Lewis (2017).

Modern view \Rightarrow Many factors push in other direction: immigrants increase demand, immigrants work in different sectors, and complementarity (e.g., occupational upgrading, task specialisation)

Which holds for Australia and its unique labour market institutions?

Breunig et al (2017) \Rightarrow no effect. HILDA. National skill cell approach.

Crown et al (2020) \Rightarrow increase wages and specialisation. HILDA and high-skill visa.

DATA AND DESCRIPTIVE STATISTICS

MADIP is the secure **Multi-Agency Data Integration Platform** that provides access to Australian administrative data.

- Contains information on health, education, visas, travellers, government payments, income and taxation, employment, and population demographics, including the census
- Longitudinal data on entire population from 2000 to 2022.

MADIP is the secure **Multi-Agency Data Integration Platform** that provides access to Australian administrative data.

- Contains information on health, education, visas, travellers, government payments, income and taxation, employment, and population demographics, including the census
- Longitudinal data on entire population from 2000 to 2022.

This paper uses the **ATO's Individual Tax Returns and Home Affairs' visas and travellers module**

- Track individuals between two years: 2011 and 2019

TWO-PERIOD PANEL DATA, FROM 2011 TO 2019

Track **6,789,510** Australian taxpayers from 2011–19.

- Before and after the establishment of the SWP/PLS

Identify PLS and SWP workers with the Department of Home Affairs' **visas & travellers module**

- For example, about 14,000 SWP/PLS visas were granted in 2019

Define three groups of workers:

1. **Group 1:** SWP/PLS **exposed** workers \Rightarrow worked in occupations with more than 50 SWP/PLS immigrants in 2019 (6-digit ANZSCO)
2. **Group 2:** Labourers \Rightarrow workers in occupations with 1-digit ANZSCO code equal to 8 (i.e., lower skilled workers), minus Group 1
3. **Group 3:** All other workers \Rightarrow All workers excluding Group 1

NUMBER OF VISAS GRANTED, 2017-21



Data are sourced from Home Affairs via ABS MADIP.

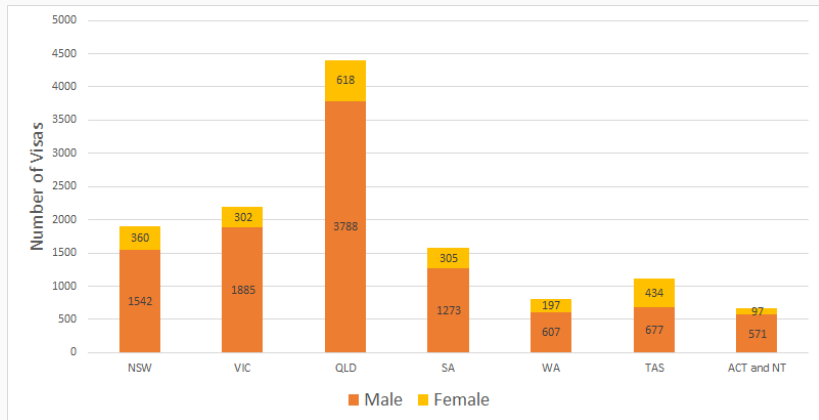
VISAS BY OCCUPATION, 2017-21

Occupation	Visas granted	Percentage
Farm, Forestry and Garden Workers	33737	65.78%
Factory Process Workers	11519	22.46%
Other Labourers	3565	6.95%
Unknown	1902	3.71%
Hospitality Workers	391	0.76%
Cleaner and Laundry Workers	101	0.20%
Carers and Aides	69	0.13%

Data are sourced from Home Affairs via ABS MADIP.

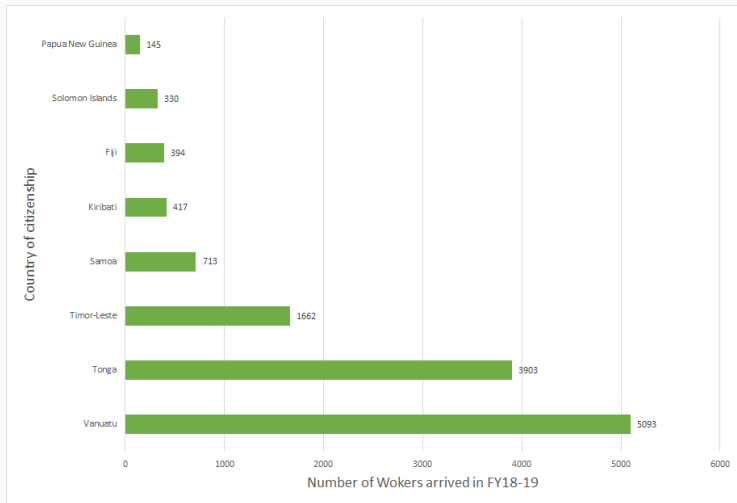
Occupations are based 2-digit ANZSCO classification.

STATE OF RESIDENCE AND GENDER, FY18-19



Data are sourced from Home Affairs via ABS MADIP. Queensland received the most visas in FY18-19 while Tasmania has the best gender balance, by quite the margin.

VISAS BY COUNTRY OF CITIZENSHIP



Data are sourced from Home Affairs via ABS MADIP.

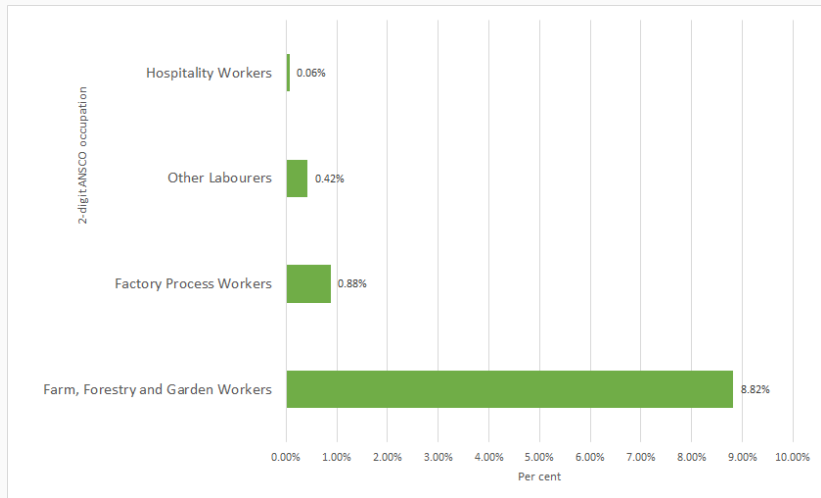
SWP/PLS WORKERS, BY OCCUPATION, 2019

Occupation	N workers	SWP/PLS visas
Hospitality Workers	247441	156
Factory Process Workers	183425	1614
Farm, Forestry, Garden Workers	105537	9313
Other Labourers	199158	841

Data are sourced from Home Affairs via ABS MADIP.

Occupations are based on 2-digit ANSCO classification.

SWP/PLS AS A SHARE OF ALL WORKERS, 2019



Data from Home Affairs via ABS MADIP. Occupations are based on 2-digit ANSCO codes.

DESCRIPTIVE EVIDENCE ON THE
RELATIONSHIP BETWEEN THE SWP/PLS
AND WAGES

CHANGES IN REAL WAGE LEVELS ACROSS SECTORS



Data are sourced from ATO individual tax returns. Constant 2011 dollars throughout.

RELATIVE CHANGES IN REAL WAGES

Group	Change from 2011–19
Workers exposed to SWP/PLS workers	72.26%
All other workers	65.65%
Labourers	71.00%

Data are sourced from ATO individual tax returns.

A simple difference in difference design uses “four averages and three subtractions” (Ashenfelter, via Cunningham, 2023) to obtain causal effects from these different rates of change.

Implemented with statistical techniques allowing us to also take into account individual and occupation specific factors.

THE EFFECT OF SWP + PLS ON WAGES

EMPIRICAL SPECIFICATIONS

We estimate the difference-in-difference specification:

$$Y_{ijt} = \delta_i + \gamma_j + \text{Post}_{t \geq 2012} + \beta \text{Treated}_j * \text{Post}_{t \geq 2012} + X_{i,t} + \epsilon_{ijt} \quad (1)$$

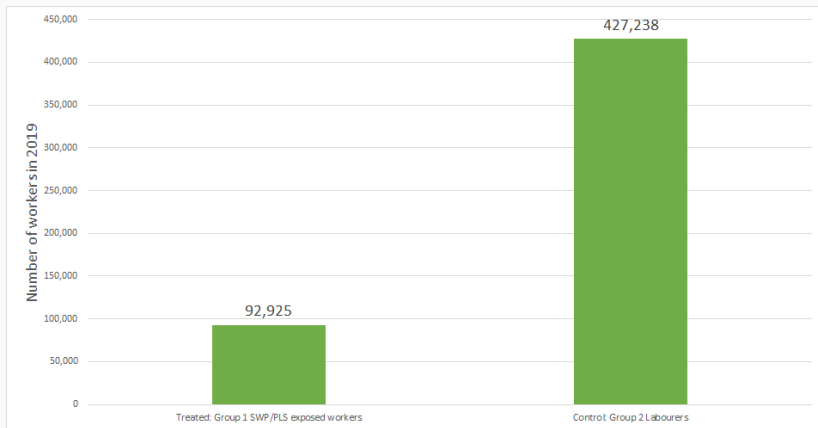
where

- Y_{ijt} : real wage of worker i , in occupation j , in year t
- δ_i, γ_j : individual and occupational fixed effects
- $\text{Post}_{t \geq 2012}$: indicator = 1 in 2019, 0 otherwise
- Treated : = 1 if occupation has 50 SWP + PLS workers in 2019
- β : **treatment effect** of SWP-PLS exposure

Data: panel data on individual non-SWP/PLS workers in 2011 & 2019.

"Control" group: Group 2, labourers (ANZSCO classification 8) minus those in SWP/PLS-exposed occupations (Group 1)

"TREATED" VERSUS "CONTROL" GROUPS



Data are sourced from ATO individual tax returns.

In FY 18-19, there were 11,924 SWP/PLS visas granted in the SWP/PLS exposed occupations 11.37 per cent of the workforce.

EFFECT OF SWP + PLS ON WAGES

	Log of real wage	Log of real wage
Treated*Post	0.0868** (0.000)	0.0333** (0.000)
Treated	-0.118** (0.000)	-0.107** (0.000)
Post	0.486** (0.000)	5.628* (0.020)
Age		-0.526 (0.083)
Age2		-0.00137** (0.000)
Occupation fixed effects	No	Yes
Individual fixed effects	Yes	Yes
Observations	1171715	1171715
R2	0.185	0.255
F	23685.4	755.8

Data are sourced from ATO individual tax returns. We tracked workers in two years 2011 and 2019. Our key variable of interest is Treated * Post, which shows the effect of SWP/PLS on wages of incumbents: 3.3 percent faster wage growth from 2011–19. Coefficient of variable "Treated" is negative meaning unskilled workers are paid, on average, 11 percent less.

OCCUPATIONAL MOBILITY

OCCUPATIONAL MOBILITY

The period from 2011 to 2019 witnessed a huge amount of low-skilled workers in Australia upgrade their occupations.

In our estimation sample, this **rate of change** was **largest in SWP-PLS exposed occupations**, relative to labourers and to all other workers.

Group	N workers 2011	N workers 2019	Changes
Group 1: SWP/PLS exposed occupations	125,815	92,925	-26.14%
Group 2: Labourers	527,114	427,238	-18.95%
Group 3: All other workers	6,663,695	6,696,585	0.49%

Data are sourced from ATO individual tax returns. Estimation sample is a panel of the universe of individuals filing positive wages in their tax returns in both years.

OCCUPATIONAL MOBILITY AND WAGES

Workers in our sample (i.e., universe of individuals filing positive earnings in both years) who moved out of SWP-PLS exposed occupations typically more than **double their earnings**.

Group	2011 (AUD)	2019 (AUD)	Changes (%)
Group 1: Workers moved out of SWP/PLS exposed occupations	29,565	66,316	124%
Group 2: Labourers	36,657	62,684	71%
Group 3: All other workers	52,915	87,656	66%

Data are sourced from ATO individual tax returns. We tracked 93397 workers who worked in SWP/PLS exposed occupations in 2011 but moved out of these occupations in 2019.

Caveat: descriptive evidence does not tell us whether PLS-SWP causes these movements, whether stopping natives from taking jobs in exposed occupations, or whether these movements happen anyway.

CONCLUSION

SUMMARY

What we did. use administrative tax and visa data covering all Australian workers to (a) estimate the **impacts of the SWP and PLS** on incumbent worker wages in affected occupations, and (b) **examine the movement of people** from these occupations and their earnings

SUMMARY

What we did. use administrative tax and visa data covering all Australian workers to (a) estimate the **impacts of the SWP and PLS** on incumbent worker wages in affected occupations, and (b) **examine the movement of people** from these occupations and their earnings

What we found. **No evidence SWP-PLS held down domestic wages in exposed occupations.** Rather, wages grew slightly faster. Domestic labour supply in SWP-PLS occupations also decreased, people who moved out typically earn double

SUMMARY

What we did. use administrative tax and visa data covering all Australian workers to (a) estimate the **impacts of the SWP and PLS** on incumbent worker wages in affected occupations, and (b) **examine the movement of people** from these occupations and their earnings

What we found. **No evidence SWP-PLS held down domestic wages in exposed occupations.** Rather, wages grew slightly faster. Domestic labour supply in SWP-PLS occupations also decreased, people who moved out typically earn double

Putting the evidence together. Workers accrue 3–10x earnings gains (PLMS). Natives experience wage gains: small for those in exposed occupations; large for those working in other occupations instead

LIMITATION AND NEXT STEPS

Limitations

1. Narrow comparison focused on occupations most affected
2. Standard DD assumption of no spillovers
3. Other things may be happening only to exposed occupations over the same time periods

LIMITATION AND NEXT STEPS

Limitations

1. Narrow comparison focused on occupations most affected
2. Standard DD assumption of no spillovers
3. Other things may be happening only to exposed occupations over the same time periods

Next steps

1. Additional robustness checks investigating this possibility
2. Estimate effects on employment and occupational shifts
3. Analyse other years, and focus also on local labour markets
4. Link with business data to investigate effects on firms

THANK YOU

Please send any comments and suggestions to

Truong.Nguyen@anu.edu.au

Ryan.Edwards@anu.edu.au