

From Study to Work: The Effect of Extending Post-Study Work Rights

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July 7, 2025



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- But how can the government attract students to Australia, identify and retain them in Australia?
- **Post-study work rights (PSWR)** is a tool to attract and select talents by granting working rights to international students, allowing them and their employers to build and test their skills.
 - The point-tested visa process then allows the Australian government to grant permanent residency to suitable talent.
 - In Australia, 39% of individuals that arrived on a temporary student visas in 2006-07, transitioned to permanent residency by 2016-17 (Centre for Population, 2023).

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- + A longer PSWR would make studying in Australia more appealing (Tran et al., 2020), and provide migrants with a greater window to find suitable employment, enhancing their integration and long-term contribution.
- On the other hand, extended rights may also lead to increased competition for a limited pool of permanent residency places, prolong migrants time in temporary status, and inflate expectations without improving long-term outcomes.
- May also affect the composition of quality of student migrants (can be a positive or negative, an empirical question).

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We investigate the economic consequences of extending PSWRs durations, using a major reform in Australia's Temporary Graduate Visa (TGV) program as a natural experiment.

In This Paper

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We investigate the effect of a 6-month extension of PSWR using:

- **Diff-RDD** for incumbent students - those who were unexpectedly exposed to the reform.
- **DID** for entrant cohorts - those who made educational decisions after the policy was introduced.

This allows us to isolate the effect of the PSWR extension from changes in student composition.

We find that:

- **For incumbent students:**
 - Longer PSWRs significantly ↑ international graduates likelihood of remaining in Australia.
 - However, these graduates did not experience improved immediate labour market outcomes.
- **For entrant cohorts:**
 - Extended PSWRs enhanced Australia's attractiveness as a study destination.
 - These additional students typically moved into higher-status occupations. But, these occupational advancements did not consistently translate into higher wages.

Literature

Literature

- PSWR exists in Australia, as well as other countries like US and Canada.
 - **US:** Extending PSWR ↑ likelihood of graduates initially staying in the U.S (Demirci, 2019) and innovation (Neufeld, 2019).
 - **Canada:** PSWR visa holders are more likely to be employed in low-skilled jobs and have lower earnings (Internal reports by Citizenship and Immigration Canada).

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- Australia's immigration system is unique as **skills and time** in the AUS labour market are key aspects to obtaining permanent residency.
 - PSWR ↑ regional innovation (Crown et al., 2020)
 - Employers are generally not aware of the graduate visa conditions and tend to prefer international graduates with permanent residency (Tran et al., 2020)

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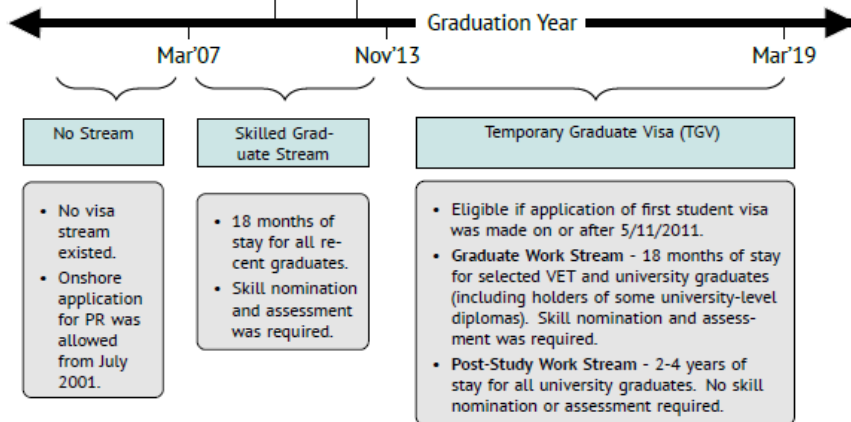
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 - PSWR ↑ regional innovation (Crown et al., 2020)
 - Employers are generally not aware of the graduate visa conditions and tend to prefer international graduates with permanent residency (Tran et al., 2020)
- We are the first to use admin data to investigate the effect of longer PSWR on the number of international students and their labour market outcomes.

Analysis

Temporary Graduate Visa Changes

TGV Eligibility Date: 5/11/2011

TGV Legislation Date: 03/2013



Methodology - Incumbent Students

- Comparing students who applied for their student visa just before or just after 5 November 2011, but before the policy was legislated allows us to isolate the effect of the PSWR extension from changes in student composition.

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- Comparing students who applied for their student visa just before or just after 5 November 2011, but before the policy was legislated allows us to isolate the effect of the PSWR extension from changes in student composition.
- Diff-RDD Estimation
 - It helps us in isolating the migrant attraction effect → because cut-off date was precedent to the legislation date.
 - A conventional RD is not the most suitable approach in this case, as it does not account for seasonal patterns in student admissions in Australia.

$$Y_{it} = \alpha + \beta_1 Cohort_i + \beta_2 Eligibility_i + \beta(Cohort_i \times Eligibility_i) + \delta X_{it} + \gamma_t + \epsilon_{it} \quad (1)$$

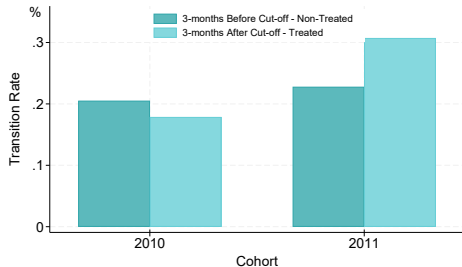
► Country of Origin

Results - TGV Uptake

→ The new TGV policy increased the uptake of graduate visa by recent **university** graduates.

- For students applying for a student visa in 2010, transition rates declined by 3 p.p. These changes represent seasonal changes.
- For the 2011 cohort, there was a significant increase in the number of students transitioning from a student visa to a TGV.
- Indicates a stronger preference to remain in Australia post graduation.

Figure 1: Transition Rate from Student Visa to Temporary Graduate Visa



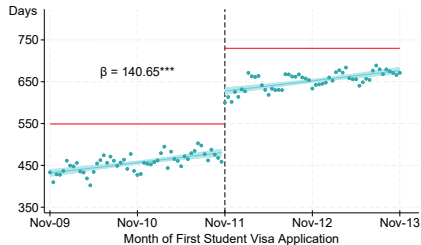
Source: ABS; Department of Home Affairs; e61 Institute

Results - Time Spent on TGV

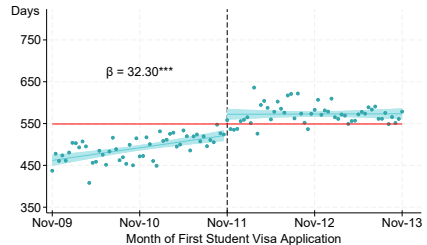
The new TGV policy enabled recent **university** graduates to extend their stay.

Figure 2: Days Spent on Temporary Graduate Visa

(a) University Students



(b) Non-University Students

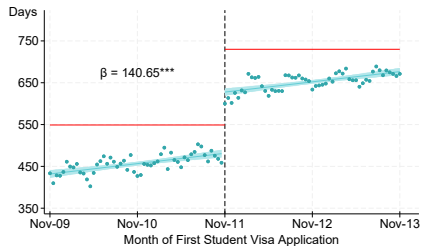


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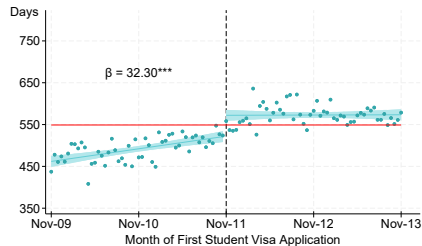
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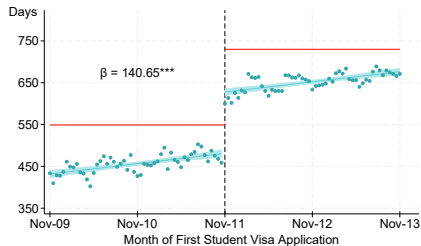
- Uni graduates' days spent on the visa increased by about 140 days, whereas the increase for Non-Uni graduates was 32

Results - Time Spent on TGV

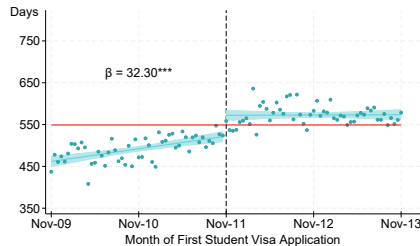
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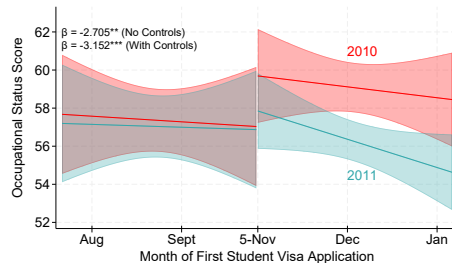
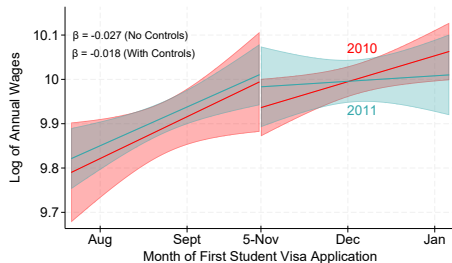


- Uni graduates' days spent on the visa increased by about 140 days, whereas the increase for Non-Uni graduates was 32

- As the scatter plot for Non-Uni graduates suggests, there are some treated students in that group → downward bias our DID

Results - Migrants Labour Market Outcomes

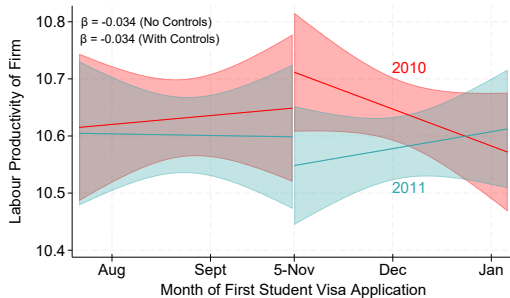
Figure 3: Policy Effects on Incumbent Students (Diff-RDD Design)
(a) Annual Income (b) Occupational Status Score



Source: ABS; Department of Home Affairs; e61 Institute.

Results - Migrants Labour Market Outcomes

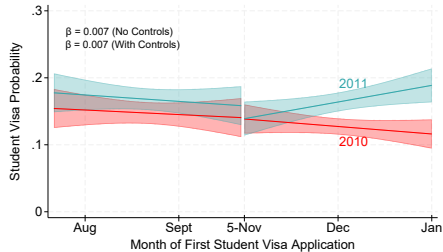
Figure 4: Policy Effects on Incumbent Students (Diff-RDD Design)
Productivity of Firms



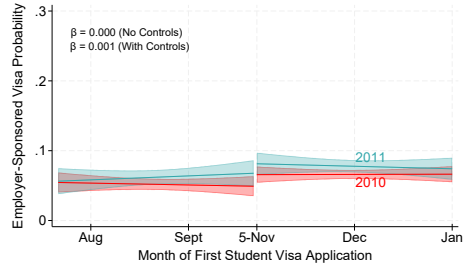
Results - Migrants Visa Trajectories

Figure 5: Effect of Longer PSWRs on Probability of Obtaining a Different Visas

(a) Student visa



(b) Employer Sponsored Visa

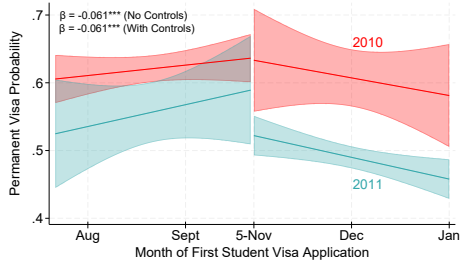


Source: ABS; Department of Home Affairs; e61 Institute

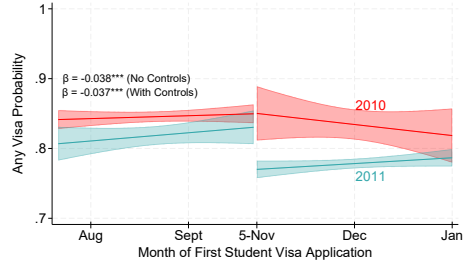
Results - Migrants Visa Trajectories

Figure 6: Effect of Longer PSWRs on Probability of Obtaining a Different Visas (Cont.)

(a) Permanent Visa



(b) Any Valid visa



Source: ABS; Department of Home Affairs; e61 Institute

Results - Permanent Visas

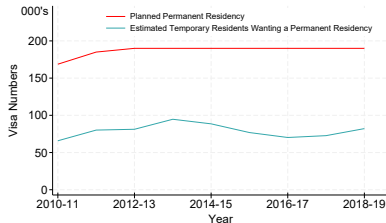
→ Extending PSWRs reduces the probability that the average international student remains in Australia long term. One likely explanation for this result is increased **competition** for a limited number of longer-term visas

Results - Permanent Visas

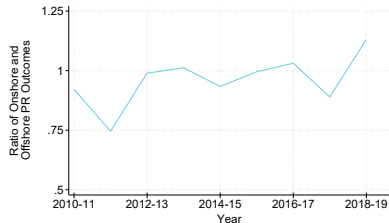
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Figure 7: Competition for Permanent Residency

(a) Visa Numbers: Temporary Resident v/s Available Spots



(b) Onshore and Offshore PR Outcomes



Results - Permanent Visas

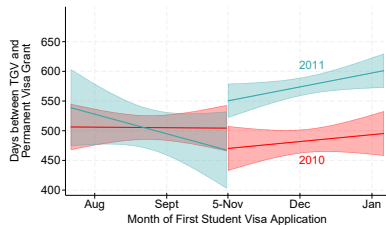
→ The observed decline in permanent visa success among the treated cohort may also reflect a **competition-driven timing effect**.

Results - Permanent Visas

→ The observed decline in permanent visa success among the treated cohort may also reflect a **competition-driven timing effect**.

- 6-months of additional lawful stay potentially enable treated migrants to delay their PR applications.
- Treated migrants experienced a delay of approximately 95 days between the grant of their TGV and the award of permanent residency, relative to the control group.
- This shift in timing underscores a potential change in migration strategy induced by the policy, which may have inadvertently exposed applicants to a more competitive selection environment.

Figure 8: Days Elapsed Between Temporary Graduate Visa and Permanent Visa Grant



Source: ABS; Department of Home Affairs; e61 Institute

Methodology - Entrant Cohorts

- DID Estimation

- We employ a DiD estimation to gauge the overall effects of an additional stay period on the new TGV.
- Compare the outcome of non-university students (control group) with University students (treatment group) before and after the cutoff for the grant of an additional 6-month period.

-

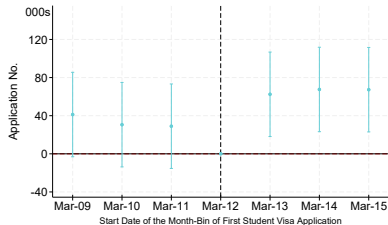
$$Y_{idey} = \alpha + \beta_1 Group_d + \beta_2 Eligibility_e + \beta(Group_d \times Eligibility_e) + \delta X_{iy} + \gamma_y + \epsilon_{idey} \quad (2)$$

Results - Application Numbers

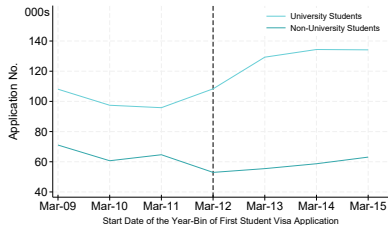
- The number of student visa applications for university degrees increased after the introduction of TGV → **greater attractiveness**.
- Applications for non-university education remained the same.
- No evidence of shifting between non-university to university courses.

Figure 9: Student Visa Application Numbers

(a) Differences in Student Visa Applications between Non-university and University Students



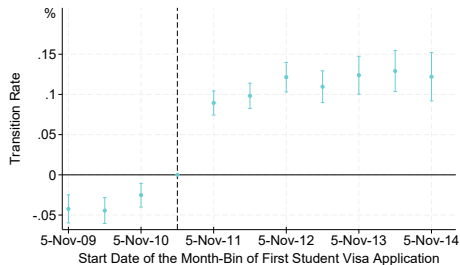
(b) Visa Application Numbers



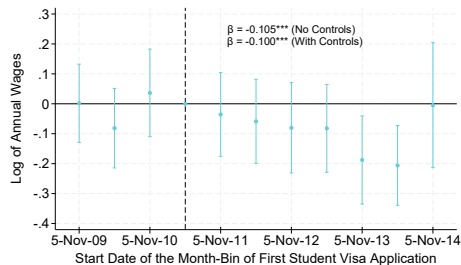
Results - Migrants Labour Market Outcomes and Transitions

Figure 10: Policy Effects on Entrant Cohorts (DiD Design)

(a) On the Transition Rate from Student to TGV



(b) On Annual Income (1 Year after Graduation)

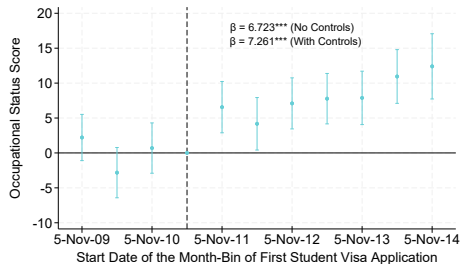


► HonestDiD

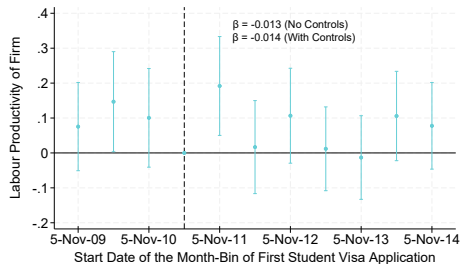
Results - Migrants Labour Market Outcomes and Transitions

Figure 11: Policy Effects on Entrant Cohorts (DiD Design)

(a) On Occup. Status Score (1 Year after Graduation)



(b) On Produc. of Firms (1 Year after Graduation)



Conclusion

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- Extending PSWRs increased graduate visa uptake, prolonged post-study stays, and made Australia a more attractive destination for prospective international students.
- However, longer PSWRs did not lead to better labour market outcomes for incumbent migrants. In fact, they were less likely to remain in Australia three years after graduation.
- Among entrant cohorts, international students eligible for extended PSWRs are more likely to enter higher-status occupations. Yet, these gains do not necessarily translate into higher earnings.

Policy Implications

- **PSWRs are an effective lever for attracting high-skilled international students.**
- **However, extended work rights alone are not enough.** Without efficient pathways to permanent residency or improvements in employer incentives, longer PSWRs may prolong uncertainty without improving long-term outcomes.
- **Greater alignment is needed between temporary and permanent migration settings.** To maximise the benefits of extended PSWRs, reforms must ensure that high-potential graduates can successfully transition into stable, skilled employment and eventually the most deserving gets the permanent residency.
- While longer PSWRs attract more students, they may also intensify labour market competition and visa bottlenecks, particularly if permanent spots remain capped.

Thank you!

Policy Change

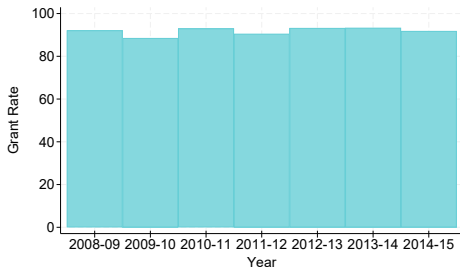
The legislative change created a natural experiment, dividing students into three distinct groups based on the timing of their student visa applications:

- **Category 1:** Students who applied before 5 November 2011 were subject to the previous system and eligible for only 18 months of PSWR.
- **Category 2:** University students who applied between 5 November 2011 and March 2013 made their study decisions assuming the old rules but ultimately benefited from extended PSWR, at least six additional months.
- **Category 3:** University students who applied after March 2013 were fully aware of the new TGV settings and expected to receive a minimum of 24 months of PSWR.

Changes Around Student Visa: GTE

- While our treated cohort, was subject to this additional requirement of Genuine Temporary Entrant, we argue that this did not substantially distort visa outcomes around the threshold.
- If the introduction of the GTE had a material effect, we would expect to observe a sharp decline in the student visa grant rate but that was **not** the case.

Figure 12: Grant Rate of Student Visa Programme



Effects of Increased PSWR

- **Quantity Effects:** Extending PSWR should increase Australia's attractiveness as a destination country.
- **Quality Effects:** The increase quantity of student could affect the average 'quality' of the migrants.
 - This could attract higher-quality students, as a longer payoff period offers a better opportunity to access the favourable labour market.
 - Longer work rights with fewer hurdles might also encourage lower-quality students/migrants who would rely more on an extended payoff period than the quality of education attained to recoup their investment in foreign education.
- **Longer Screening/Training Period:** It provides better opportunities and incentives for firms to assess, hire, and train recent graduates.
- **Longer Job Search Period:** It allows graduates more time to find jobs that better match their skills.

Country of Origin Effect

Table 1: Country of Origin

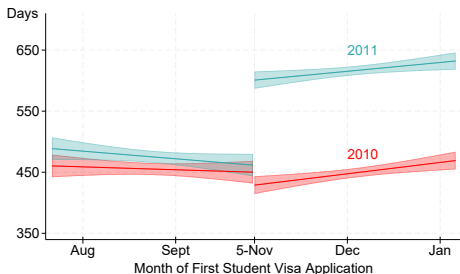
	2011 Cohort		2010 Cohort	
	Control	Treatment	Control	Treatment
India	9.93	15.54	3.76	8.86
Malaysia	1.82	11.69	1.34	11.83
China	38.25	18.59	45.56	25.28
Pakistan	8.04	4.8	6.59	5.14
Vietnam	4.06	4	6.52	5.09
Others	37.90	45.06	36.22	43.81

► Back

Cohort-Based Evidence on TGV Stay Periods

- Figure 13 illustrates the avg. number of days University Students remained on their graduate visa, binned by the week of their first student visa application.
- The figure provides compelling visual evidence in support of our identification strategy: we observe a sharp and discrete increase in stay duration only for the 2011 cohort.

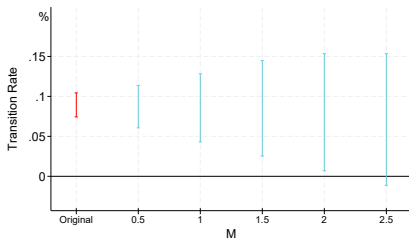
Figure 13: Days Spent on Graduate Visa



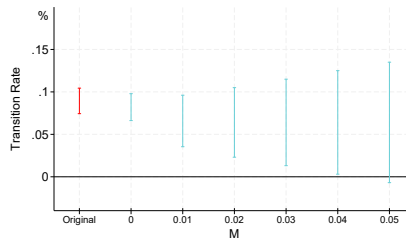
How Much Pre-Trend Violation is Too Much? Evidence from HonestDID

Figure 14: Transition Rate of Migrants - Sensitivity Analysis

(a) Bounds on Relative Magnitudes



(b) Smoothness Restrictions



ABS; Department of Home Affairs; e61 Institute

Source:

Transition Rate

- In addition to comparing the mean transition rates of the 2010 and 2011 cohorts, we estimate the Diff-RDD model to assess the impact of the PSWRs extension on the transition rate from a student visa to a graduate visa. The results are presented in Table 2.
- The findings indicate that the extension of PSWRs increased the probability of obtaining a graduate visa by 9.1 p.p.

Table 2: Effect of Extended PSWRs on Transition Rate Without Selection Effects

	Transition Rate	
	(1)	(2)
Treatment	0.091*** (0.009)	0.091*** (0.009)
Num. Obs.	47,057	47,057
Controls	No	Yes

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Both regressions include for Year FE. Controls include Migrant's marital

Diff-RDD - Labour Market and Visa Pathways

Table 3: Effect of Extending PSWRs - Diff-RDD Results

Panel A: Labour Market Outcomes								
	Annual Income		AUSEI06				Productivity	
Treatment	-0.027 (0.043)	-0.018 (0.043)	-2.705** (1.182)	-3.152*** (1.162)			-0.034 (0.052)	-0.034 (0.053)
Num.Obs.	8,282	8,282	8,282	8,282			4,980	4,980
Controls	No	Yes	No	Yes			No	Yes
Panel B: Visa Pathways								
	Student		Permanent		Employer		Any	
Treatment	0.007 (0.013)	0.007 (0.013)	-0.061*** (0.018)	-0.061*** (0.018)	0.000 (0.009)	0.001 (0.009)	-0.038*** (0.013)	-0.037*** (0.013)
Num.Obs.	12,720	12,720	12,720	12,720	12,720	12,720	12,720	12,720
Controls	No	Yes	No	Yes	No	Yes	No	Yes

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

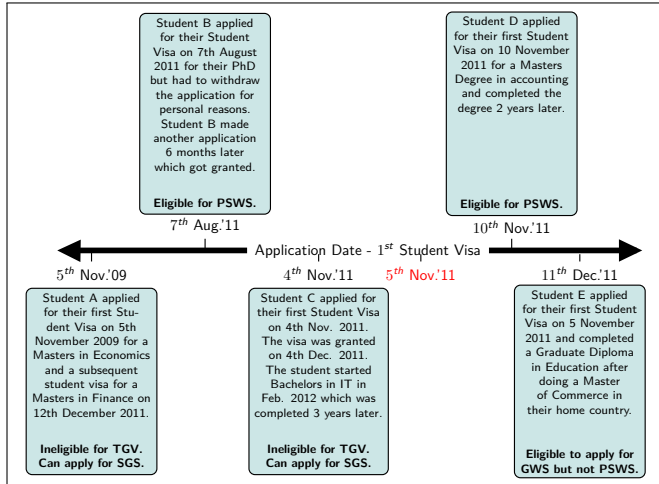
DiD - Labour Market and Visa Pathways

Table 4: Effect of Extending PSWRs - DiD Results

Labour Market Outcomes						
	Annual Income		AUSEI06		Productivity	
Treatment	-0.105*** (0.024)	-0.100*** (0.024)	6.723*** (0.689)	7.261*** (0.665)	-0.013 (0.031)	-0.014 (0.031)
Num.Obs.	74,858	74,858	74,858	74,858	49,000	49,000
Controls	No	Yes	No	Yes	No	Yes

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Which students are eligible to obtain the TGV?



Descriptive Statistic - RDD Sample

Table 5: Descriptive Statistic - RDD Sample

	Control	Treatment	Difference	P-Value	N
Control Variables					
2011 Sample					
Age	28.06	27.64	0.43	0.00	4808
Female	0.49	0.49	-0.01	0.64	4808
Married	0.27	0.22	0.05	0.00	4808
2010 Sample					
Age	27.67	27.90	-0.24	0.07	3474
Female	0.52	0.49	0.03	0.03	3474
Married	0.24	0.22	0.02	0.26	3474

Descriptive Statistic - RDD Sample

Table 6: Descriptive Statistic - RDD Sample

	Control	Treatment	Difference	P-Value	N
Outcome Variables					
2011 Sample					
Income	26,589.18	28,380.74	-1,791.55	0.00	4808
Occupational Score	57.18	56.20	0.98	0.21	4808
Productivity	10.60	10.57	0.03	0.45	2889
Student Visa	0.17	0.17	0.01	0.44	7333
Unlimited Visa	0.58	0.50	0.08	0.00	7333
Any Visa	0.85	0.80	0.05	0.00	7333
Emp. Sponsored Visa	0.07	0.09	-0.01	0.07	7333

Descriptive Statistic - RDD Sample

Table 7: Descriptive Statistic - RDD Sample

	Control	Treatment	Difference	P-Value	N
Outcome Variables					
2010 Sample					
Income	26,229.70	28,719.94	-2,490.25	0.00	3474
Occupational Score	57.66	59.35	-1.69	0.05	3474
Productivity	10.64	10.64	0.00	0.96	2091
Student Visa	0.15	0.13	0.02	0.10	5390
Unlimited Visa	0.63	0.61	0.02	0.18	5390
Any Visa	0.86	0.85	0.01	0.23	5390
Emp. Sponsored Visa	0.06	0.07	-0.01	0.03	5390

Descriptive Statistic - DID Sample

Table 8: Descriptive Statistic - DID Sample

	Control	Treatment	Difference	P-Value	N
Control Variables					
Age	28.71	28.02	0.69	0.00	74858
Female	0.48	0.47	0.01	0.00	74858
Married	0.26	0.28	-0.02	0.00	74858
Outcome Variables					
Income	27,696.60	28,551.41	-854.81	0.00	74858
Occupational Score	52.21	51.87	0.34	0.10	74858
Productivity	10.56	10.58	-0.02	0.03	49000

References



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Indian Students

→ An important dimension of this analysis is examining how these policy changes specifically impact Indian students.

- The current policy framework for graduate visa stay periods grants Indian students an extended duration compared to international students from other countries of origin (Australian Government, 2024).
- Indian nationals with a Bachelor degree with First Class Honours in STEM (including ICT) are granted three years of PSWRs, instead of two years. Additionally, Indian students with masters (coursework and extended) and doctoral degrees are also awarded an additional year of stay.

→ Understanding whether this additional stay period translates into differential labour market and migration outcomes is critical for evaluating the effectiveness and equity of Australia's PSWRs policy.

Results - Indian Students - Diff-RDD

Table 9: Effect of Extending PSWRs - Diff-RDD Results

Panel A: Labour Market Outcomes								
	Annual Income		Occupational Status Score		Productivity			
Treatment	-0.095 (0.182)	-0.100 (0.179)	4.704 (4.712)	3.884 (4.752)	-0.157 (0.235)	-0.142 (0.236)		
Num. Obs.	899	899	899	899	588	588		
Controls	No	Yes	No	Yes	No	Yes		
Panel B: Visa Pathways								
	Student		Permanent		Employer		Any	
Treatment	0.002 (0.047)	0.005 (0.048)	0.021 (0.071)	0.010 (0.071)	-0.07* (0.038)	-0.07* (0.037)	-0.009 (0.045)	-0.009 (0.045)
Num. Obs.	1130	1130	1130	1130	1130	1130	1130	1130
Controls	No	Yes	No	Yes	No	Yes	No	Yes

Notes: This table shows the impact of longer PSWRs durations using a Difference-in-Regression Discontinuity design. The treatment group includes international students who applied for a student visa after 5 November 2011, compared to those who applied before the cutoff. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Results - Indian Students - DiD

Table 10: Effect of Extending PSWRs - DiD Results

	Labour Market Outcomes					
	Annual Income		AUSEI06		Productivity	
Treatment	-0.130*	-0.117	4.021**	3.222*	-0.039	-0.036
	(0.071)	(0.071)	(1.920)	(1.905)	(0.089)	(0.088)
Num.Obs.	17,350	17,350	17,350	17,350	12,246	12,246
Controls	No	Yes	No	Yes	No	Yes

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

- **Isolating** the true effect of the additional stay period from selection effects → additional stay period for Indian migrants → no improvement in employment prospects or migration outcomes (Table 9).
- **Incorporating** the selection effects → additional stay period for Indian migrants → no improvement in employment prospects (Table 10).

However, longer PSWR is associated with large quantity effects. If extended stay rights lead to a disproportionate increase in Indian students entering the Australian education system, it could tilt the composition of future migrant cohorts in favour of Indian nationals.