




---

```

name: <unnamed>
log: \\wsl.localhost\Debian\home\lsys\gusto\scripts\tfpfas\logs/tf-pfas-sprest
> o.smcl
log type: smcl
opened on: 6 Dec 2025, 09:55:36

1 .
2 . * =====
3 . * Program Setup
4 . * =====
5 . cls                                // Clear results window

6 . clear all                         // Start with a clean slate
7 . set more off                      // Disable partitioned output
8 . macro drop _all                   // Clear all macros to avoid namespace conflicts
9 . set linesize 120                  // Line size limit to make output more readable, affects log
> s

10.
11. // Still on version 13 :(
12. version 13

13. local stata_version : display c(version)

14.
15. // Add path to ados
16. adopath ++ ./ado
[1]          "./ado"
[2]          "../../assets/stata-utils"
[3] (BASE)    "C:\Program Files (x86)\Stata13\ado\base/"
[4] (SITE)    "C:\Program Files (x86)\Stata13\ado\site/"
[5]
[6] (PERSONAL) "c:\ado\personal/"
[7] (PLUS)    "c:\ado\plus/"
[8] (OLDPLACE) "c:\ado/"

17.
18. tictoc tic
----- Time log -----
Start time: 6 Dec 2025 09:55:37
-----
```

---

```

19.
20. use ./data/edc-spresto.dta, clear

21. // =====
22. * PFAS
23. global pfas pfhxs pfos_linear pfos_branch pfao_linear pfna pfhps pfda pfhpa

24.
25. * Prep basic family demo
26. encode pcv1_working_status, gen(employed)

27. encode pcv1_highest_education_completed, gen(educ)
```

```

28. encode pcv1_marital_status, gen(marital)
29. encode ethnic_group, gen(ethnic)
30. encode hhincome_txt, gen(hhincome)

31.
32. global baselines c.age_at_recruitment##c.age_at_recruitment i.employed i.educ i.mari
   > tal i.ethnic i.hhincome

33.
34. // =====
35. local storespecs_file ./data/pfas-tf-spresto

36.
37. cap erase `storespecs_file'.dta

38. local x buff500m_transport_facilities

39. preserve

40. qui su `x'

41. replace `x' = `x' / r(sd) if !missing(`x')
   (531 real changes made)

42.
43. foreach pfas of global pfas {
   2.      qui su `pfas'
   3.      replace `pfas' = `pfas' / r(sd) if !missing(`pfas')
   4.      reghdfe `pfas' `x' $baselines, abs(subzone2014) cluster(planning_area2014
> ) keepsing
   5.      storespecs `x', spec_name(`pfas') file(`storespecs_file')
   6. }
   (384 real changes made)
WARNING: Singleton observations not dropped; statistical significance is biased (link)
(MWFE estimator converged in 1 iterations)
warning: missing F statistic; dropped variables due to collinearity or too few cluster
> s

HDFE Linear regression                               Number of obs     =      313
Absorbing 1 HDFE group                            F(    25,     26) =      .
Statistics robust to heteroskedasticity           Prob > F       =
                                                       R-squared        =      0.7742
                                                       Adj R-squared   =      0.5832
                                                       Within R-sq.   =      0.2572
Number of clusters (planning_area2014) =          27Root MSE      =      0.7013
                                                               (Std. Err. adjusted for
> 27 clusters in planning_area2014)



|                | pfhxs                                                                | Coef. | Robust Std. Err. | t |
|----------------|----------------------------------------------------------------------|-------|------------------|---|
| > P> t         |                                                                      |       |                  |   |
| > [95% Con     |                                                                      |       |                  |   |
| > f. Interval] |                                                                      |       |                  |   |
|                |                                                                      |       |                  |   |
|                | buff500m_transport_facilities   .0376407 .0287351 1.31               |       |                  |   |
| > 0.202        | -.0214252                                                            |       |                  |   |
| >              | .0967066                                                             |       |                  |   |
| >              | age_at_recruitment   .1823725 .3082483 0.59                          |       |                  |   |
| > 0.559        | -.4512409                                                            |       |                  |   |
| >              | .8159858                                                             |       |                  |   |
|                | c.age_at_recruitment#c.age_at_recruitment   -.0028081 .0049402 -0.57 |       |                  |   |
| > 0.575        | -.0129629                                                            |       |                  |   |
| >              | .0073468                                                             |       |                  |   |


```

			employed Working	.2581198	.1120604	2.30
>	0.030	.0277764				
>		.4884632				
>			educ			
	Institute of Technical Education ITE/NTC, NITEC, h..			.6377905	.349373	1.83
>	0.079	-.0803561				
>		1.355937				
	Junior College/Centralised Institute GCE 'A' Level..			.3692983	.1715651	2.15
>	0.041	.0166411				
>		.7219554				
	Postgraduate Masters degree/Doctorate			.2128909	.2403967	0.89
>	0.384	-.2812515				
>		.7070334				
	Secondary GCE 'O'/'N' Level			-.4162745	.548011	-0.76
>	0.454	-1.542727				
>		.7101782				
	Trade or work qualification not from University			-1.22306	.2791256	-4.38
>	0.000	-1.796811				
>		-.6493092				
	University Bachelor's Degree/Postgrad Diploma/Prof..			-.01238	.137819	-0.09
>	0.929	-.295671				
>		.2709109				
			marital			
>	0.526	Married/civil partnership/civil union		.1319542	.2055076	0.64
>		-.2904728				
>		.5543811				
>	0.973	Never married		-.0118303	.340816	-0.03
>		-.7123876				
>		.688727				
>	0.035	Separated		.7084292	.3179481	2.23
>		.0548775				
>		1.361981				
			ethnic			
>	0.092	Indian		-.3240837	.1854227	-1.75
>		-.7052254				
>		.0570581				
>	0.070	Malay		.2957507	.1564391	1.89
>		-.0258144				
>		.6173158				
>	0.250	Mix		.4400099	.3739358	1.18
>		-.3286261				
>		1.208646				
			hhincome			
>	0.180	1,622 - 3,273/month		2.509124	1.821819	1.38
>		-1.235679				
>		6.253927				
>	0.181	10,694 - 13,188/month		2.626927	1.909403	1.38
>		-1.297907				
>		6.551762				
>	0.176	13,189 - 16,601/month		2.64543	1.901464	1.39

>	<b>-1.263085</b>					
>		<b>6.553945</b>				
> 0.110			16,601 and above		3.018504	<b>1.822292</b>
> -.7272698						<b>1.66</b>
> 6.764278						
> 0.202			3,274 - 4,676/month		2.565353	<b>1.961397</b>
> -1.466357						<b>1.31</b>
> 6.597063						
> 0.152			4,677 - 6,144/month		2.879868	<b>1.951746</b>
> -1.132003						<b>1.48</b>
> 6.891739						
> 0.200			6,145 - 7,423/month		2.599617	<b>1.976159</b>
> -1.462437						<b>1.32</b>
> 6.661671						
> 0.232			7,424 - 9,082/month		2.421553	<b>1.977557</b>
> -1.643372						<b>1.22</b>
> 6.486479						
> 0.177			9,083 - 10,693/month		2.745775	<b>1.979111</b>
> -1.322347						<b>1.39</b>
> 6.813896						
				<u>_cons</u>	<b>-4.742555</b>	<b>6.134979</b>
> 0.446						<b>-0.77</b>
> -17.35319						
> 7.868075						

Absorbed degrees of freedom:

Absorbed FE	Categories	- Redundant	= Num. Coefs
subzone2014	119	119	0 *

\* = FE nested within cluster; treated as redundant for DoF computation  
 (note: file C:\Users\Admin\AppData\Local\Temp\ST\_1i000002.tmp not found)  
 file C:\Users\Admin\AppData\Local\Temp\ST\_1i000002.tmp saved

obs was 0, now 1

(1 real change made)  
 (1 real change made)

(note: file ./data/pfas-tf-spresto.dta not found)

file ./data/pfas-tf-spresto.dta saved

(384 real changes made)

**WARNING: Singleton observations not dropped; statistical significance is biased ([link](#))**  
**(MWFE estimator converged in 1 iterations)**

warning: missing F statistic; dropped variables due to collinearity or too few clusters  
 > s

HDFE Linear regression	Number of obs	=	<b>313</b>
Absorbing 1 HDFE group	F( 25, 26)	=	.
Statistics robust to heteroskedasticity	Prob > F	=	.
	R-squared	=	<b>0.5092</b>
	Adj R-squared	=	<b>0.0940</b>
	Within R-sq.	=	<b>0.1861</b>
Number of clusters (planning_area2014) =	27Root MSE	=	<b>0.9986</b>

		(Std. Err. adjusted for			
> 27 clusters in planning_area2014)			Robust		
>	P> t	pfos_linear	Coef.	Std. Err.	
>	[95% Con				
>	f. Interval]				
>	0.010	buff500m_transport_facilities	.1004377	.0362602	2.77
>		.0259037			
>		.1749717			
>	0.579	age_at_recruitment	-.1747194	.3113376	-0.56
>		-.8146831			
>		.4652443			
>	0.595	c.age_at_recruitment#c.age_at_recruitment	.0026519	.004923	0.54
>		-.0074675			
>		.0127713			
>	0.011	employed			
>		Working	.4587959	.1664593	2.76
>		.116634			
>		.8009579			
>	Institute of Technical Education ITE/NTC, NITEC, h..	educ			
>	0.205		.4823922	.3706548	1.30
>		-.2794997			
>		1.244284			
>	Junior College/Centralised Institute GCE 'A' Level..		-.395345	.4761576	-0.83
>	0.414				
>		-1.374101			
>		.5834109			
>	Postgraduate Masters degree/Doctorate		-.0030203	.2303659	-0.01
>	0.990				
>		-.4765441			
>		.4705035			
>	Secondary GCE 'O'/'N' Level		-.0564205	.3911015	-0.14
>	0.886				
>		-.8603412			
>		.7475001			
>	Trade or work qualification not from University		-1.645428	.2872103	-5.73
>	0.000				
>		-2.235798			
>		-1.055059			
>	University Bachelor's Degree/Postgrad Diploma/Prof..		-.018921	.2264767	-0.08
>	0.934				
>		-.4844506			
>		.4466085			
>	Married/civil partnership/civil union	marital			
>	0.032		-.7514109	.330784	-2.27
>		-1.431347			
>		-.0714746			
>	Never married		-1.208579	.6194988	-1.95
>	0.062				
>		-2.481977			
>		.0648191			
>	Separated		-.6926042	.663915	-1.04
>	0.306				
>		-2.057301			
>		.6720926			
>	ethnic				

> 0.001		Indian		-1.400036	.3800403	-3.68	
>	-2.18122	.6188519					
> 0.533	-.3597739	.6790053	Malay		.1596157	.2526792	0.63
>			Mix		-.0150611	.2362114	-0.06
> 0.950	-.5006006	.4704783					
		hhincome					
		1,622 - 3,273/month		-.5881246	.718065	-0.82	
> 0.420	-2.064128	.8878791					
>		10,694 - 13,188/month		-.4602625	.8037647	-0.57	
> 0.572	-2.112424	1.1919					
>		13,189 - 16,601/month		-.7413634	.8512425	-0.87	
> 0.392	-2.491117	1.008391					
>		16,601 and above		-.0545417	.7600454	-0.07	
> 0.943	-1.616837	1.507754					
>		3,274 - 4,676/month		-.316723	.8278715	-0.38	
> 0.705	-2.018437	1.384991					
>		4,677 - 6,144/month		-.3961499	.8406386	-0.47	
> 0.641	-2.124107	1.331807					
>		6,145 - 7,423/month		-.5980991	.8047039	-0.74	
> 0.464	-2.252192	1.055993					
>		7,424 - 9,082/month		-.4529519	.874969	-0.52	
> 0.609	-2.251476	1.345573					
>		9,083 - 10,693/month		-.6228902	.7372703	-0.84	
> 0.406	-2.138371	.8925906					
		_cons		5.412545	5.216024	1.04	
> 0.309	-5.309147	16.13424					

Absorbed degrees of freedom:

Absorbed FE	Categories	- Redundant	= Num. Coefs
subzone2014	119	119	0 *

\* = FE nested within cluster; treated as redundant for DoF computation  
 (note: file C:\Users\Admin\AppData\Local\Temp\ST\_li000002.tmp not found)  
 file C:\Users\Admin\AppData\Local\Temp\ST\_li000002.tmp saved

obs was 1, now 2

(1 real change made)  
 (1 real change made)  
 (1 real change made)  
 (1 real change made)

```

(1 real change made)
file ./data/pfas-tf-spresto.dta saved
(384 real changes made)
WARNING: Singleton observations not dropped; statistical significance is biased (link)
(MWFE estimator converged in 1 iterations)
warning: missing F statistic; dropped variables due to collinearity or too few cluster
> s

HDFE Linear regression
Absorbing 1 HDFE group
Statistics robust to heteroskedasticity
Number of obs = 313
F( 25, 26) = .
Prob > F = .
R-squared = 0.5023
Adj R-squared = 0.0812
Within R-sq. = 0.1476
27Root MSE = 1.0190

Number of clusters (planning_area2014) = 27
                                         (Std. Err. adjusted for
> 27 clusters in planning_area2014)

```

---

	pfos_branches	Coef.	Robust Std. Err.	t
> P> t				
>	[95% Con			
>	f. Interval]			
>	buff500m_transport_facilities	.0608093	.0480536	1.27
> 0.217	-.0379663	.159585		
>	age_at_recruitment	-.0969608	.3450017	-0.28
> 0.781	-.8061219	.6122003		
>	c.age_at_recruitment#c.age_at_recruitment	.0015148	.0055727	0.27
> 0.788	-.0099401	.0129697		
>	employed			
>	Working	.4818575	.1458318	3.30
> 0.003	.1820959			
>	.7816192			
>	educ			
Institute of Technical Education ITE/NTC, NITEC, h..		.5741739	.4295833	1.34
> 0.193	-.3088473			
>	1.457195			
Junior College/Centralised Institute GCE 'A' Level..		.0582311	.4518865	0.13
> 0.898	-.8706349			
>	.9870972			
Postgraduate Masters degree/Doctorate		.1683954	.4198843	0.40
> 0.692	-.6946892			
>	1.03148			
Secondary GCE 'O'/'N' Level		.4973447	.5327111	0.93
> 0.359	-.5976587			
>	1.592348			
Trade or work qualification not from University		-1.597208	.5609492	-2.85
> 0.008	-2.750256			
>	-.4441606			

University Bachelor's Degree/Postgrad Diploma/Prof..		.10348	.2963161	0.35
> 0.730	-.5056065			
>		.7125665		
> 0.407	Married/civil partnership/civil union		-.2620949	.3108429
>	-.9010417			-0.84
>	.3768518			
> 0.246	Never married		-.8183818	.6894232
>	-2.235511			-1.19
>	.5987479			
> 0.655	Separated		.2542793	.562118
>	-.9011707			0.45
>	1.409729			
> 0.002	ethnic Indian		-.8242353	.2443375
>	-1.326478			-3.37
>	-.3219923			
> 0.197	Malay		.2239552	.1691561
>	-.1237501			1.32
>	.5716606			
> 0.151	Mix		.4870767	.3294019
>	-.1900186			1.48
>	1.164172			
> 0.757	hhincome			
>	1,622 - 3,273/month		.3411176	1.090461
>	2.582592			0.31
>	10,694 - 13,188/month		.5052839	1.218942
> 0.682	3.010856			0.41
>	13,189 - 16,601/month		-.074035	1.247193
>	2.489606			-0.06
> 0.953	16,601 and above		.7502336	1.164887
>	2.637676			0.64
>	3.144692			
> 0.525	3,274 - 4,676/month		.6251209	1.284249
>	3.264933			0.49
> 0.631	4,677 - 6,144/month		.4224881	1.265909
>	3.024601			0.33
> 0.741	6,145 - 7,423/month		.043466	1.217209
>	3.545475			0.04
> 0.972	7,424 - 9,082/month		.1215377	1.264658
>	2.721079			0.10
> 0.924	9,083 - 10,693/month		.063855	1.210478
>	2.552029			0.05
> 0.958	_cons		2.783688	5.957118
>				0.47

```
> 0.644
> -9.461343
> 15.02872
```

---

Absorbed degrees of freedom:

Absorbed FE	Categories	- Redundant	= Num. Coefs
subzone2014	119	119	0 *

\* = FE nested within cluster; treated as redundant for DoF computation  
 (note: file C:\Users\Admin\AppData\Local\Temp\ST\_li000002.tmp not found)  
 file C:\Users\Admin\AppData\Local\Temp\ST\_li000002.tmp saved  
 obs was 2, now 3  
 (1 real change made)  
 file ./data/pfas-tf-spresto.dta saved  
 (384 real changes made)  
**WARNING: Singleton observations not dropped; statistical significance is biased ([link](#))**  
 (MWFE estimator converged in 1 iterations)  
 warning: missing F statistic; dropped variables due to collinearity or too few cluster  
> s

HDFE Linear regression Number of obs = 313  
 Absorbing 1 HDFE group F( 25, 26) = .  
 Statistics robust to heteroskedasticity Prob > F = .  
  
 Number of clusters (planning\_area2014) = 27Root MSE = 1.1426  
 R-squared = 0.3241  
 Adj R-squared = -0.2478  
 Within R-sq. = 0.0973  
 (Std. Err. adjusted for

> 27 clusters in planning\_area2014)

---

	pfoa_linear	Coef.	Robust Std. Err.	t
> P> t	[95% Con			
	f. Interval]			
> 0.469	buff500m_transport_facilities   .0280335 .0381116 0.74			
>	-.050306			
>	.106373			
> 0.292	age_at_recruitment   -.9411302 .8745694 -1.08			
>	-2.738833			
>	.8565729			
> 0.295	c.age_at_recruitment#c.age_at_recruitment   .0142936 .01338 1.07			
>	-.0132093			
>	.0417966			
> 0.384	employed Working   -.7424534 .8386541 -0.89			
>	-2.466332			
>	.9814247			
	educ			



>	<b>-.7248476</b>					
>		<b>1.726022</b>				
>	<b>0.281</b>		4,677 - 6,144/month		<b>.5830525</b>	<b>.5298574</b>
>		<b>-.5060849</b>				<b>1.10</b>
>			<b>1.67219</b>			
>	<b>0.508</b>		6,145 - 7,423/month		<b>.463296</b>	<b>.6897244</b>
>		<b>-.9544529</b>				<b>0.67</b>
>			<b>1.881045</b>			
>	<b>0.250</b>		7,424 - 9,082/month		<b>.8438829</b>	<b>.7176749</b>
>		<b>-.6313191</b>				<b>1.18</b>
>			<b>2.319085</b>			
>	<b>0.317</b>		9,083 - 10,693/month		<b>.6564056</b>	<b>.6428544</b>
>		<b>-.6650006</b>				<b>1.02</b>
>			<b>1.977812</b>			
				<b>_cons</b>	<b>17.39278</b>	<b>14.67414</b>
>	<b>0.247</b>					<b>1.19</b>
>		<b>-12.77034</b>				
>		<b>47.5559</b>				

---

Absorbed degrees of freedom:

Absorbed FE	Categories	- Redundant	= Num. Coefs
subzone2014	119	119	0 *

\* = FE nested within cluster; treated as redundant for DoF computation  
 (note: file C:\Users\Admin\AppData\Local\Temp\ST\_li000002.tmp not found)  
 file C:\Users\Admin\AppData\Local\Temp\ST\_li000002.tmp saved  
 obs was 3, now 4  
 (1 real change made)  
 file ./data/pfas-tf-spresto.dta saved  
 (358 real changes made)

**WARNING: Singleton observations not dropped; statistical significance is biased (link)**  
**(MWFE estimator converged in 1 iterations)**  
 warning: missing F statistic; dropped variables due to collinearity or too few cluster

> s

HDFE Linear regression  
 Absorbing 1 HDFE group  
 Statistics robust to heteroskedasticity

Number of obs	=	<b>313</b>
F( 25, 26)	=	.
Prob > F	=	.
R-squared	=	<b>0.4594</b>
Adj R-squared	=	<b>0.0019</b>
Within R-sq.	=	<b>0.1210</b>
Root MSE	=	<b>0.9935</b>

Number of clusters (**planning\_area2014**) = **27** (Std. Err. adjusted for  
 > 27 clusters in planning\_area2014)

---

	pfna	Coef.	Robust Std. Err.	t
> P> t				
> [95% Con				
> f. Interval]				

---

buff500m_transport_facilities		<b>.1122647</b>	<b>.0483486</b>	<b>2.32</b>
-------------------------------	--	-----------------	-----------------	-------------

> 0.028	.0128828				
>	.2116466	age_at_recruitment		-.2285194	.3441945 -0.66
> 0.513	-.9360213				
>	.4789825				
> 0.573	c.age_at_recruitment#c.age_at_recruitment			.0031291	.0054792 0.57
>	-.0081336				
>	.0143918				
		employed			
		Working		.4557845	.1960773 2.32
> 0.028	.0527418				
>	.8588272				
		educ			
Institute of Technical Education ITE/NTC, NITEC, h..				.1546007	.2370864 0.65
> 0.520	-.3327373				
>	.6419387				
Junior College/Centralised Institute GCE 'A' Level..				.3291351	.2924729 1.13
> 0.271	-.2720516				
>	.9303218				
Postgraduate Masters degree/Doctorate				-.043132	.2341987 -0.18
> 0.855	-.5245344				
>	.4382704				
Secondary GCE 'O'/'N' Level				-.2472896	.4185989 -0.59
> 0.560	-1.107732				
>	.6131527				
Trade or work qualification not from University				1.141939	.2609903 4.38
> 0.000	.6054657				
>	1.678412				
University Bachelor's Degree/Postgrad Diploma/Prof..				-.0237371	.1757219 -0.14
> 0.894	-.3849386				
>	.3374645				
		marital			
		Married/civil partnership/civil union		-.5098428	.262809 -1.94
> 0.063	-1.050054				
>	.0303689				
		Never married		.5693419	.9205225 0.62
> 0.542	-1.322819				
>	2.461503				
		Separated		.2531918	.4584917 0.55
> 0.586	-.6892514				
>	1.195635				
		ethnic			
		Indian		-.2453735	.2675666 -0.92
> 0.368	-.7953645				
>	.3046176				
		Malay		-.1990544	.1754155 -1.13
> 0.267	-.5596262				
>	.1615174				
		Mix		-.0062645	.344198 -0.02
> 0.986	-.7137737				
>	.7012447				

		hhincome				
>	0.328	1,622 - 3,273/month	.2664156	.2670649	1.00	
>		-.2825443				
>		.8153754				
>	0.358	10,694 - 13,188/month	.3313978	.3541418	0.94	
>		-.3965511				
>		1.059347				
>	0.501	13,189 - 16,601/month	.1703613	.249594	0.68	
>		-.3426865				
>		.6834091				
>	0.358	16,601 and above	.4656135	.4977136	0.94	
>		-.5574515				
>		1.488678				
>	0.469	3,274 - 4,676/month	.1749424	.2380646	0.73	
>		-.3144064				
>		.6642911				
>	0.385	4,677 - 6,144/month	.2359064	.2671721	0.88	
>		-.3132736				
>		.7850864				
>	0.550	6,145 - 7,423/month	-.1851507	.305532	-0.61	
>		-.8131806				
>		.4428793				
>	0.794	7,424 - 9,082/month	-.069331	.2630948	-0.26	
>		-.6101301				
>		.4714681				
>	0.859	9,083 - 10,693/month	.054263	.302586	0.18	
>		-.5677113				
>		.6762374				
>	0.352		_cons	5.140083	5.426258	0.95
>		-6.013749				
>		16.29391				

Absorbed degrees of freedom:

Absorbed FE	Categories	- Redundant	= Num. Coefs	
subzone2014	119	119	0	*

\* = FE nested within cluster; treated as redundant for DoF computation  
 (note: file C:\Users\Admin\AppData\Local\Temp\ST\_li000002.tmp not found)  
 file C:\Users\Admin\AppData\Local\Temp\ST\_li000002.tmp saved  
 obs was 4, now 5  
 (1 real change made)  
 file ./data/pfas-tf-spresto.dta saved  
 (384 real changes made)  
**WARNING: Singleton observations not dropped; statistical significance is biased (link)**  
 (MWFE estimator converged in 1 iterations)  
 warning: missing F statistic; dropped variables due to collinearity or too few cluster  
 > s

HDFE Linear regression Absorbing 1 HDFE group Statistics robust to heteroskedasticity	Number of obs = 313 F( 25, 26) = . Prob > F = . R-squared = 0.5477 Adj R-squared = 0.1649 Within R-sq. = 0.1945 27Root MSE = 0.9445
Number of clusters (planning_area2014) = 27	(Std. Err. adjusted for 27 clusters in planning_area2014)
> P> t  [95% Con f. Interval]	
	pfhps
	Coef.
	Robust Std. Err.
	t
> 0.024	buff500m_transport_facilities   .0969932 .0406147 2.39
> 0.839	.0135085 .180478 age_at_recruitment   .062008 .3025847 0.20
> 0.826	-.5599636 .6839797 c.age_at_recruitment#c.age_at_recruitment   -.0010681 .0047996 -0.22
> 0.001	-.0109339 .0087977 employed Working   .5278219 .1444754 3.65
> 0.089	.2308483 .8247954 educ
Institute of Technical Education ITE/NTC, NITEC, h..	.6554129 .3704914 1.77
> 0.861	-.1061431 1.416969 Junior College/Centralised Institute GCE 'A' Level..   .1265449 .7151753 0.18
> 0.783	-1.343519 1.596609 Postgraduate Masters degree/Doctorate   .0901534 .3234839 0.28
> 0.512	-.5747772 .755084 Secondary GCE 'O'/'N' Level   -.3201941 .4821074 -0.66
> 0.000	-1.31118 .6707918 Trade or work qualification not from University   -1.376733 .3381339 -4.07
> 0.879	-2.071777 -.681689 University Bachelor's Degree/Postgrad Diploma/Prof..   -.0367224 .239717 -0.15
> 0.050	-.5294677 .4560229 marital
> 0.026	Married/civil partnership/civil union   -.532839 .2588333 -2.06
	Never married   -1.319216 .5574191 -2.37
	-.0007994

>		<b>-2.465008</b>					
>			<b>-.1734251</b>				
>	<b>0.904</b>			<b>Separated</b>		<b>.0682692</b>	<b>.55942</b>
>		<b>-1.081635</b>					<b>0.12</b>
>			<b>1.218173</b>				
>	<b>0.000</b>						
>		<b>-1.278891</b>					
>			<b>-.5827751</b>				
>	<b>0.815</b>			<b>ethnic</b>			
>		<b>-.3389785</b>		<b>Indian</b>		<b>-.9308332</b>	<b>.1693277</b>
>			<b>.4271674</b>				<b>-5.50</b>
>	<b>0.043</b>			<b>Malay</b>		<b>.0440945</b>	<b>.1863622</b>
>		<b>.0181344</b>					<b>0.24</b>
>			<b>1.095004</b>				
>	<b>0.147</b>						
>		<b>-.5145719</b>		<b>hhincome</b>		<b>1.366959</b>	<b>.9153509</b>
>			<b>3.24849</b>	<b>1,622 - 3,273/month</b>			<b>1.49</b>
>	<b>0.296</b>		<b>10,694 - 13,188/month</b>			<b>1.047716</b>	<b>.9833978</b>
>		<b>-.9736875</b>					<b>1.07</b>
>			<b>3.069119</b>				
>	<b>0.379</b>		<b>13,189 - 16,601/month</b>			<b>.8732468</b>	<b>.9747702</b>
>		<b>-1.130422</b>					<b>0.90</b>
>			<b>2.876916</b>				
>	<b>0.139</b>		<b>16,601 and above</b>			<b>1.510867</b>	<b>.989933</b>
>		<b>-.5239689</b>					<b>1.53</b>
>			<b>3.545704</b>				
>	<b>0.188</b>		<b>3,274 - 4,676/month</b>			<b>1.311183</b>	<b>.9706473</b>
>		<b>-.6840111</b>					<b>1.35</b>
>			<b>3.306377</b>				
>	<b>0.253</b>		<b>4,677 - 6,144/month</b>			<b>1.135832</b>	<b>.9721237</b>
>		<b>-.8623968</b>					<b>1.17</b>
>			<b>3.134061</b>				
>	<b>0.438</b>		<b>6,145 - 7,423/month</b>			<b>.7696029</b>	<b>.9775355</b>
>		<b>-1.23975</b>					<b>0.79</b>
>			<b>2.778956</b>				
>	<b>0.505</b>		<b>7,424 - 9,082/month</b>			<b>.6896741</b>	<b>1.019311</b>
>		<b>-1.405549</b>					<b>0.68</b>
>			<b>2.784897</b>				
>	<b>0.443</b>		<b>9,083 - 10,693/month</b>			<b>.7277396</b>	<b>.9342663</b>
>		<b>-1.192672</b>					<b>0.78</b>
>			<b>2.648152</b>				
>	<b>0.394</b>			<b>_cons</b>		<b>4.52808</b>	<b>5.227429</b>
>		<b>-6.217054</b>					<b>0.87</b>
>			<b>15.27321</b>				

Absorbed degrees of freedom:

Absorbed FE	Categories	- Redundant	= Num. Coefs
subzone2014	119	119	0 *

\* = FE nested within cluster; treated as redundant for DoF computation  
 (note: file C:\Users\Admin\AppData\Local\Temp\ST\_li000002.tmp not found)  
 file C:\Users\Admin\AppData\Local\Temp\ST\_li000002.tmp saved  
 obs was 5, now 6  
 (1 real change made)  
 file ./data/pfas-tf-spresto.dta saved  
 (383 real changes made)  
**WARNING: Singleton observations not dropped; statistical significance is biased ([link](#))**  
 ([MWFE estimator](#) converged in 1 iterations)  
 warning: missing F statistic; dropped variables due to collinearity or too few cluster  
 > s

HDFE Linear regression  
 Absorbing 1 HDFE group  
 Statistics robust to heteroskedasticity

Number of clusters (planning_area2014) =	Number of obs = 313
	F( 25, 26) = .
	Prob > F = .
	R-squared = 0.3727
	Adj R-squared = -0.1581
	Within R-sq. = 0.1364
	27Root MSE = 0.7500

(Std. Err. adjusted for

> 27 clusters in planning\_area2014)

---

		pfda	Coef.	Robust Std. Err.	t
> P> t	[95% Con				
	f. Interval]				
> 0.166	buff500m_transport_facilities	.0311462	.0218596	1.42	
> -.0137868					
> 0.848	.0760793				
> -.6774587	age_at_recruitment	-.0583047	.3012139	-0.19	
> 0.893	.5608492				
> c.age_at_recruitment#c.age_at_recruitment		.0006425	.0047213	0.14	
> -.0090623					
> .0103472					
> 0.367	employed				
> -.1113229	Working	.0899211	.0979037	0.92	
> 0.155					
> -.8114532					
> 0.769	.2911651				
Institute of Technical Education ITE/NTC, NITEC, h..	educ				
> 0.155		-.3378504	.2304043	-1.47	
> -.8114532					
> 0.769	.1357525				
Junior College/Centralised Institute GCE 'A' Level..		-.0575796	.1939329	-0.30	

>		<b>-.4562144</b>				
>		<b>.3410552</b>				
>	0.827	Postgraduate Masters degree/Doctorate		.0258584	.1172071	0.22
>		<b>-.2150642</b>				
>		<b>.266781</b>				
>	0.401	Secondary GCE 'O'/'N' Level		.2280744	.2670937	0.85
>		<b>-.3209445</b>				
>		<b>.7770934</b>				
>	0.022	Trade or work qualification not from University		-.8917413	.3658318	-2.44
>		<b>-1.643719</b>				
>		<b>-.1397633</b>				
>	0.701	University Bachelor's Degree/Postgrad Diploma/Prof..		.0526619	.1354587	0.39
>		<b>-.2257774</b>				
>		<b>.3311012</b>				
>						
>	0.914	Married/civil partnership/civil union		.0207129	.190691	0.11
>		<b>-.3712581</b>				
>		<b>.4126839</b>				
>	0.295	Never married		.8625207	.8065465	1.07
>		<b>-.7953594</b>				
>		<b>2.520401</b>				
>	0.574	Separated		.1626317	.2858274	0.57
>		<b>-.4248949</b>				
>		<b>.7501584</b>				
>						
>	0.432	ethnic Indian		-.1143002	.1430805	-0.80
>		<b>-.4084065</b>				
>		<b>.179806</b>				
>	0.104	Malay		.3042679	.1807772	1.68
>		<b>-.067325</b>				
>		<b>.6758608</b>				
>	0.168	Mix		-.4105918	.2891623	-1.42
>		<b>-1.004973</b>				
>		<b>.1837898</b>				
>						
>	0.808	hhincome 1,622 - 3,273/month		-.0872397	.3558598	-0.25
>		<b>-.81872</b>				
>		<b>.6442406</b>				
>	0.459	10,694 - 13,188/month		.2320233	.308971	0.75
>		<b>-.4030757</b>				
>		<b>.8671224</b>				
>	0.772	13,189 - 16,601/month		-.1106932	.3781767	-0.29
>		<b>-.8880466</b>				
>		<b>.6666601</b>				
>	0.028	16,601 and above		.7534687	.3248374	2.32
>		<b>.0857558</b>				
>		<b>1.421181</b>				
>	0.895	3,274 - 4,676/month		-.0425383	.3193273	-0.13
>		<b>-.698925</b>				
>		<b>.6138484</b>				
>	0.780	4,677 - 6,144/month		.0710829	.2522998	0.28
>		<b>-.4475268</b>				
>		<b>.5896925</b>				

>	0.890		6,145 - 7,423/month		-.0480516	.3436864	-0.14	
>		-.7545092						
>			.658406					
>	0.382		7,424 - 9,082/month		.2647812	.2976716	0.89	
>		-.3470914						
>			.8766539					
>	0.101		9,083 - 10,693/month		.4781817	.2812867	1.70	
>		-.1000113						
>			1.056375					
>	0.723			_cons		1.78277	4.979751	0.36
>		-8.453254						
>			12.01879					

Absorbed degrees of freedom:

Absorbed FE	Categories	- Redundant	= Num.	Coefs
subzone2014	119	119	0	*

```
* = FE nested within cluster; treated as redundant for DoF computation
(note: file C:\Users\Admin\AppData\Local\Temp\ST_1i000002.tmp not found)
file C:\Users\Admin\AppData\Local\Temp\ST_1i000002.tmp saved
obs was 6, now 7
(1 real change made)
file ./data/pfas-tf-spresto.dta saved
(384 real changes made)
WARNING: Singleton observations not dropped; statistical significance is biased (link)
(MWFE estimator converged in 1 iterations)
warning: missing F statistic; dropped variables due to collinearity or too few cluster
> s
```

HDFE Linear regression  
 Absorbing 1 HDFE group  
 Statistics robust to heteroskedasticity  
  
 Number of clusters (planning\_area2014) = 27  
  
 > 27 clusters in planning area2014)

Number of obs F( 25, 26 ) Prob > F R-squared Adj R-squared Within R-sq. 27Root MSE	= 313 . . = 0.4709 = 0.0231 = 0.1218 = 1.0168
(Std. Err. adjusted for	

		pfhpa	Coef.	Robust Std. Err.	t
>	P> t				
>	[ 95% Con				
>	f. Interval]				
>	0.004	buff500m_transport_facilities	.1237955	.0390253	3.17
>	.0435779				
>	.2040132				
>	age_at_recruitment		.1976435	.323973	0.61
>	0.547				
>	-4682926				

>		.8635795			
>	0.526	c.age_at_recruitment#c.age_at_recruitment	-.0034311	.0053324	-0.64
>		-.014392			
>		.0075299			
>	0.573	employed Working	-.1101721	.1928928	-0.57
>					
>	0.573	-.5066689			
>		.2863248			
>					
Institute of Technical Education ITE/NTC, NITEC, h..		educ			
> 0.110		-.734215			
>		.0798041			
Junior College/Centralised Institute GCE 'A' Level..			.6392033	.3306618	1.93
> 0.064		-.0404818			
>		1.318888			
Postgraduate Masters degree/Doctorate			-.0884468	.2108764	-0.42
> 0.678		-.5219095			
>		.3450159			
Secondary GCE 'O'/'N' Level			.5785457	.5907783	0.98
> 0.336		-.6358164			
>		1.792908			
Trade or work qualification not from University			-.4737362	.2935502	-1.61
> 0.119		-1.077137			
>		.1296648			
University Bachelor's Degree/Postgrad Diploma/Prof..			.0686831	.2032917	0.34
> 0.738		-.3491891			
>		.4865552			
>					
		marital			
> 0.001		Married/civil partnership/civil union	.9888064	.2733858	3.62
>		.4268539			
>		1.550759			
> 0.006		Never married	1.578179	.5218382	3.02
>		.5055256			
>		2.650833			
> 0.108		Separated	.8825871	.5305981	1.66
>		-.2080729			
>		1.973247			
>					
		ethnic			
> 0.476		Indian	-.1934835	.2673238	-0.72
>		-.7429756			
>		.3560085			
> 0.098		Malay	.6411691	.3737353	1.72
>		-.1270549			
>		1.409393			
> 0.298		Mix	-.3178772	.2993621	-1.06
>		-.9332249			
>		.2974704			
>					
		hhincome			
> 0.000		1,622 - 3,273/month	.9951784	.2460876	4.04
>		.4893381			
>		1.501019			

> 0.000		10,694 - 13,188/month		1.184288	.2691948	4.40
> 0.006	.63095	1.737625 13,189 - 16,601/month		.9773143	.3294718	2.97
> 0.013	.3000752	1.654553 16,601 and above		1.097496	.4109856	2.67
> 0.016	.2527032	1.942289 3,274 - 4,676/month		.4694578	.2713331	1.73
> 0.019	-.0882753	1.027191 4,677 - 6,144/month		.6649111	.2575027	2.58
> 0.020	.1356067	1.194216 6,145 - 7,423/month		1.008506	.4080825	2.47
> 0.001	.16968	1.847331 7,424 - 9,082/month		.9097052	.2519547	3.61
> 0.000	.391805	1.427605 9,083 - 10,693/month		1.052497	.2579007	4.08
> 0.553	.5223748	1.58262		-2.956209	4.920471	-0.60
>	-13.07038					
>		7.157964				

Absorbed degrees of freedom:

Absorbed FE	Categories	- Redundant	= Num. Coefs
subzone2014	119	119	0 *

\* = FE nested within cluster; treated as redundant for DoF computation  
 (note: file C:\Users\Admin\AppData\Local\Temp\ST\_li000002.tmp not found)

file C:\Users\Admin\AppData\Local\Temp\ST\_li000002.tmp saved

obs was 7, now 8

(1 real change made)  
 (1 real change made)

file ./data/pfas-tf-spresto.dta saved

```
44. restore
45.
46. // =====
47. * -----
48. tictoc toc
----- Time log -----
Start time: 6 Dec 2025 09:55:36
End time: 6 Dec 2025 09:55:39
Elapsed seconds:      2
Elapsed minutes:      0
Elapsed hours:        0
49. log close
    name: <unnamed>
    log: \\wsl.localhost\Debian\home\lsys\gusto\scripts\tfpfas\logs\tf-pfas-sprest
> o.smcl
  log type: smcl
  closed on: 6 Dec 2025, 09:55:39
```

---