The effect of water, wastewater and stormwater developer charges on the price of vacant land and housing in NSW

23 February 2024

1 Summary

The NSW Government has committed to a 4-year phased reintroduction of water, wastewater and stormwater developer charges (water charges) for the Sydney Water and Hunter Water service areas.[1] These water charges were set to $0 in 2008 by a Ministerial Direction.

The consequence of these water charges being set to $0 is that since 2008 Sydney Water and Hunter Water's additional costs to provide water, wastewater and stormwater infrastructure for new developments has not been recovered from developers but from all water customers through quarterly bills.

Numerous submissions to Sydney Water's and Hunter Water's Developer Servicing Plan exhibitions claimed that the reintroduction of these water charges would increase the price of housing and therefore contribute to the current housing affordability crisis.[a, 2]

This claim in submissions, that the reintroduction of water charges would increase the price of housing, runs counter to the balance of findings in the empirical literature on the impact of developer charges.[b] The empirical literature (generally) finds that as long as developers are aware of the charges before they purchase vacant land to develop, the burden of paying development contributions falls on landowners through lower land sale prices or is borne by developers through reduced margins.[c]

To test the claim in submissions, we have undertaken empirical research that involved comparing the effect of water charges being set to $0 in 2008 on the price for vacant land and housing in areas subject to the policy change (treatment group) compared to areas that were not subject to the policy change (control group).

[a] These submissions generally argued these charges should remain at $0 or their phased introduction should be delayed.

[b] Water charges are just one type of developer infrastructure charge. Much of the empirical literature considers the total quantum of developer charges or contributions, rather than just one component (such as water charges).

[c] The majority of empirical literature is based on statistical analysis in jurisdictions outside of NSW (i.e. other states in Australia or other countries) and considers a range of developer charges (one of which are water infrastructure charges). We provide a brief summary of the literature on who bears the cost of developer charges in Section 3.

In line with the empirical literature, our research found that setting the water charges to $0 in 2008:

- led to a statistically significant increase on vacant land prices in NSW:
  - The price of vacant land sales in areas of NSW that were subject to the policy change (treatment group) increased by around 4.6% to 5% compared to the price of vacant land in areas not subject to the policy change (the control group).
  - The price change for vacant land was statistically significant for both natural experiments and similar in quantum to the reduction in water charges.
- led to no statistically significant change in housing prices:
  - The price of housing in Greater Sydney that was subject to the policy change (treatment group) did not see a statistically significant change compared to the average price of housing in all Australian Capital Cities (control group).

Overall, our analysis finds the benefit created by the removal of developer charges was primarily obtained by owners of vacant land, and the removal of developer charges did not impact housing prices. In line with this finding, we expect the cost burden of the reintroduction of developer charges will be primarily borne by owners of vacant land and will not impact housing prices. This is in line with the balance of findings of literature on the topic of who bears the cost of developer charges.

2 Hypothesis

Based on economic theory, one would expect that when developer charges are changed in a direction unfavourable to developers, the primary impact of this policy change would be borne primarily by owners of undeveloped land rather than housing buyers.

The logic is that increased developer charges would increase the cost of developing a house and land package if the price of vacant land is fixed. However, the retail price of residential dwellings is determined in a Sydney- (or NSW)-wide market in which greenfield lots represent a small proportion. Thus, developers of these greenfield lots would be price takers in the broader market that they sell into.

However, developers are likely to have some pricing power in the market for land purchases (that is, in the market for undeveloped vacant land suitable for development). As a result, we expect that the developer charges policy change would be reflected primarily in reduced prices for vacant land (and to a lesser extent reduced margins available to developers).[d]

[d] The proportion of an increase in developer charge that would be reflected in vacant land values or developer margins would depend upon the market power of developers (purchases of undeveloped land) compared to sellers of undeveloped land.

3 A brief literature survey on the literature of who bears the cost of developer charges

A June 2023 article by Matthew Edgerton and Alexandra Cifuentes of Frontier Economics surveyed the empirical literature on the cost incidence of developer charges.[3]

This literature survey found that if developers are aware of the charges before they purchase land to develop, developer charges do not impact new or established housing prices.[4] The authorities they cite, including Abelson,[5] Ruming, Gurran & Randolph,[6] Davidoff & Leigh[7] and Murray,[8] all found it most likely that the burden of paying development contributions of all sorts (including water charges), falls on landowners through lower land values or developers through reduced margins, not on home buyers.

Edgerton and Cifuentes do note one contrary piece of research that was undertaken by Bryant in 2017.[9] They note this author finds development contributions have a substantial impact on house prices, however, they flag a number of concerns with Bryant's methodology.[10]

Our empirical analysis of the effect of water changes on vacant land sales and housing prices supports the general consensus in the empirical literature reported by Edgerton and Cifuentes.

4 Experimental design

We performed a natural experiment that explores the price effects of the NSW Government's decision to set developer charges to $0 in December 2008 on the market for vacant land and the market for housing in NSW.

Prior to the policy change, the average water developer charge per equivalent tenement (ET) was around $3,500 for areas serviced by Sydney Water and around $3,300 for areas serviced by Hunter Water.[11]

Areas zoned for medium or high-density residential housing, will accommodate more than one ET per lot of land. An ET is based on the amount of water consumed by an *'average household'* so roughly speaking a piece of land that is subdivided for dual occupancy will be charged 2 ETs per lot.

We analysed data on dwelling density in NSW and found the average dwelling to lot ratio is around 3.6. This means the average developer water charge for a lot of land would be around $12,500 in the Sydney Water service areas ($3,500 x 3.6) and $11,800 in the Hunter Water service areas ($3,300 x 3.6).

If our hypothesis is correct, we would expect to see:

- an increase in the price for vacant land in areas subject to the policy change in a quantum broadly comparable to the reduction in water charges, compared to land where there was no change in water charge regime. That is, the owners of vacant land capable of development derive the benefit from reductions in water charges (and on the corollary will receive the disbenefit of the or reintroduction of water charges).

- we would also expect to see no statistically significant (or an immaterial) impact on housing prices in areas subject to the policy change compared to areas that were not subject to the policy change. Similarly, we would expect no impact on housing prices from the decision to reintroduce the water charges.

4.1 Methodology to assess the effect of setting of water charges to $0 on vacant land prices

To assess the impact on vacant land prices of water charges being set to $0 in 2008, we collected historical data on vacant land sales in NSW that were zoned for residential development. The vacant land sales data in our analysis covers 2007 to 2010.[e]

We employed the following regression equation to estimate the difference-in-difference estimator:

$$\widehat{Y}_i = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \beta_3 X_{1i} X_{2i} + \beta_4 X_{3i} + \beta_5 X_{4i} + \beta_6 X_{5i} + \varepsilon_i$$

- $\widehat{Y}_i$ is the natural logarithm of the price of vacant land for observation *i*.
- β_0 is the intercept term.
- X_{1i} is a binary variable for the pre- or post- treatment period for observation *i*. This variable that takes a value of 0 if the contract date for the sale of vacant land was before the intervention date and 1 if the contract date for the sale of vacant land was after the intervention date.
- X_{2i} is a binary variable that identifies if observation *i* was part of the treatment or control group. This variable takes a value of 1 if the land sale was in an area where the water charges were set to $0 (treatment group) and takes a value of 0 if the land sale was in an area not subject to the policy change (control group).
- X_{3i} is a control variable for the size of the area of the vacant land (in meters squared).
- X_{4i} is a control variable for the year in which the property was sold. This controls for time-based trends that impact the price of vacant land.
- X_{5i} is a control variable for the postcode of the vacant land that was sold.[f]
- $\beta_1, \beta_2, \beta_4, \beta_5, \beta_6$ are the coefficients associated with the respective variables.
- β_3 is the difference-in-difference estimator.
- ε_i is the error term associated with observation *i*.

We employed the regression equation above to test the effect of water charges being set to $0 on vacant land prices through two scenarios. The scenarios and associated summary statistics and charts are discussed below.

[e] This vacant land sales data was collected from the NSW Government Valuer General website.
[f] We used one-hot encoding to account for the different postcodes in our regression.

4.1.1 Scenario 1: Vacant land sales for Sydney Water and Hunter Water service areas compared to the rest of NSW

In the first scenario we compared vacant land sales in the Sydney Water and Hunter Water service areas (where developer charges were set to $0 in 2008) to vacant land sales in the rest of NSW (where the water charges regime remained in force).

The summary statistics for this scenario and a chart showing the average price in the Sydney Water and Hunter Water service areas compared to the rest of NSW are below.

Table 1 Summary statistics for scenario 1 - Vacant land prices and land areas in the treatment group (Sydney and Hunter Water service area) compared to the control group (rest of NSW)

	Group	Min	25th percentile	Median	75th percentile	Max	Mean	Std-Dev
Purchase price ($)	Control Pre-Intervention	60,000	106,000	142,000	220,000	780,000	181,489	114,578
	Control Post-Intervention	60,000	109,500	140,000	195,000	770,000	165,524	92,638
	Treatment Pre-Intervention	60,000	195,000	252,000	317,500	780,000	277,480	130,533
	Treatment Post-Intervention	60,000	199,000	257,000	322,000	780,000	276,013	114,391
	All groups	60,000	133,000	200,000	280,000	780,000	225,283	123,809
Area (m2)	Control Pre-Intervention	78	673	800	1,011	94,640	1,297	3,247
	Control Post-Intervention	17	660	790	1,001	93,450	1,257	3,124
	Treatment Pre-Intervention	48	500	608	770	65,437	891	2,461
	Treatment Post-Intervention	6	476	587	728	59,000	770	1,544
	All groups	6	556	700	892	94,640	1,041	2,632

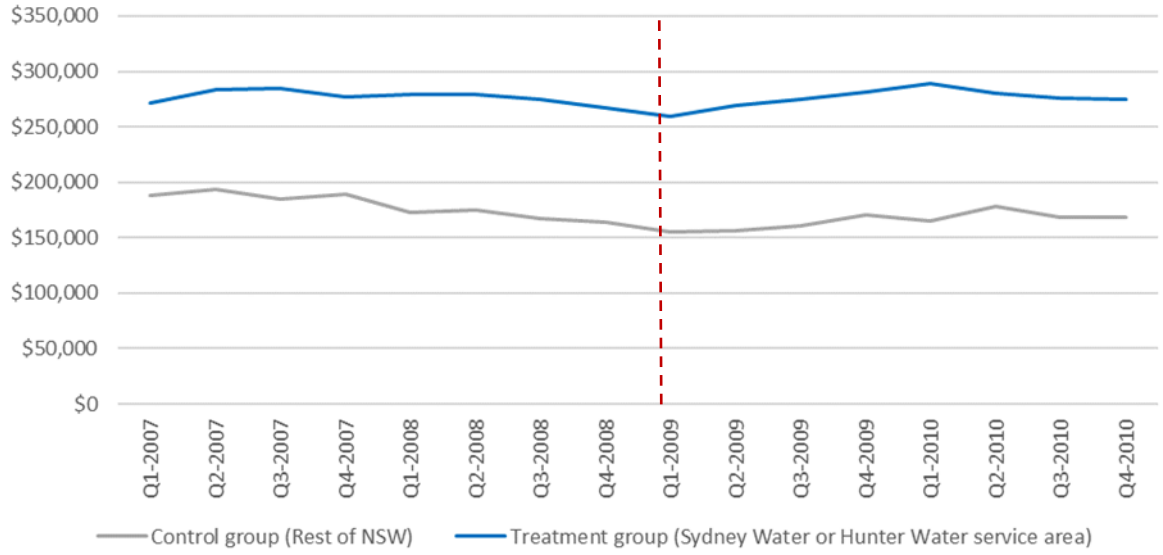
Source: IPART analysis based on data from the NSW Land Valuer General.

Table 2 Number of observations across groups for scenario 1 - Vacant land prices and area in the treatment group (Sydney and Hunter Water Service Area) compared to the control group (rest of NSW)

Control group			Treatment group		
Pre-treatment date	Post-treatment date	**Total**	Pre-treatment date	Post-treatment date	**Total**
8,011	9,061	**17,072**	6,162	11,249	**17,411**

Source: IPART analysis based on data from the NSW Land Valuer General.

Figure 1 Average quarterly sale price of vacant land in the treatment group (Sydney Water and Hunter Water service area) and the control group (rest of NSW)



Note: the red dashed line indicates the date of the policy change.
Source: IPART analysis based on data from the NSW Land Valuer General

4.1.2 Scenario 2: Vacant land sales for the Hunter Water Service area compared to the Central Coast Council service area

In the second scenario we compared the Hunter Water service area (where water charges were set to $0) to the Central Coast Council water service area (where developer charges remained in force).

The summary statistics for this scenario and a chart showing the average vacant land sale price are shown below.

Table 3 Summary statistics for scenario 2 - Vacant land prices and area in the treatment group (Hunter Water service Area) compared to the control group (Central Coast Council water service area)

	Group	Min	25th percentile	Median	75th percentile	Max	Mean	Std-Dev
Purchase price ($)	Control Pre-Intervention	70,000	157,000	208,000	301,500	760,000	247,963	128,963
	Control Post-Intervention	60,000	159,000	182,500	242,500	710,000	214,419	96,499
	Treatment Pre-Intervention	60,000	145,000	175,000	235,000	750,000	204,270	100,333
	Treatment Post-Intervention	60,000	155,000	180,000	220,000	780,000	199,166	81,953
	All groups	60,000	153,000	180,000	232,000	780,000	207,114	95,471

	Group	Min	25th percentile	Median	75th percentile	Max	Mean	Std-Dev
Area (m2)	Control Pre-Intervention	285	575	650	754	17,350	814	1,079
	Control Post-Intervention	301	553	622	709	31,070	779	1,349
	Treatment Pre-Intervention	55	601	700	866	65,437	979	2,544
	Treatment Post-Intervention	7	611	702	838	48,550	873	1,271
	All groups	7	600	684	819	65,437	885	1,738

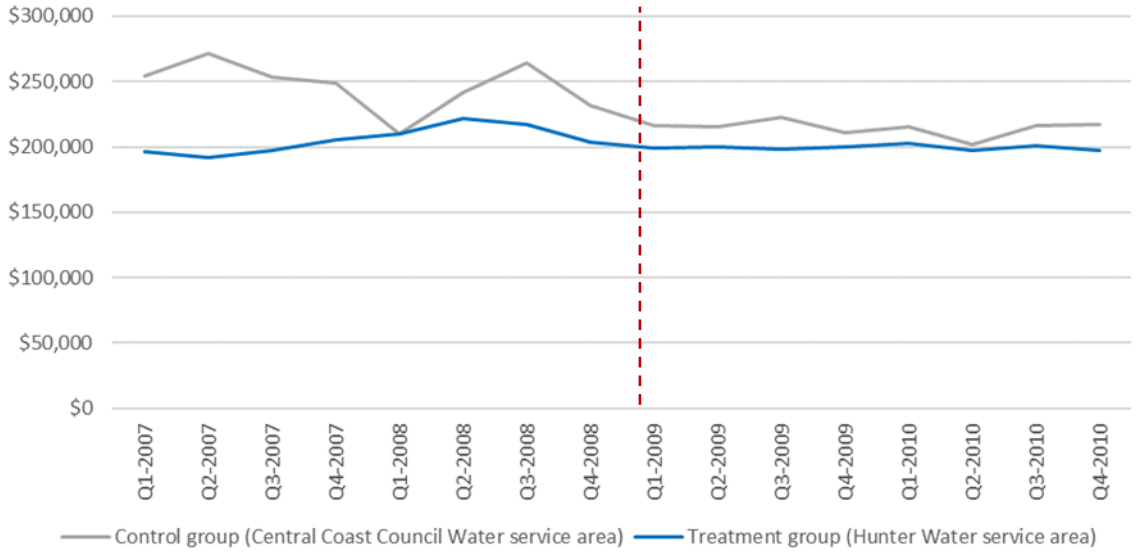
Source: IPART analysis based on data from the NSW Land Valuer General

Table 4 Number of observations across groups for scenario 2 - Vacant land in the Central Coast Council Water service area (Control group) compared to Vacant Land in the Hunter Water Service area (Treatment group)

Control group			Treatment group		
Pre-treatment date	Post-treatment date	**Total**	Pre-treatment date	Post-treatment date	**Total**
503	841	**1,344**	1,677	2,758	**4,435**

Source: IPART analysis based on data from the NSW Land Valuer General

Figure 2 Average quarterly sale price of vacant land in the treatment group (Hunter Water service area) and control group (Central Coast Council water service area)



Note: the red dashed line indicates the date of the policy change. We note that parallel trends assumption may not hold strongly in this scenario and hence this limits the strength of inferences that can be drawn.
Source: IPART analysis based on data from the NSW Land Valuer General.

4.2 Methodology to assess the effect of setting of water charges to $0 on house prices

To assess the impact of setting water charges to $0 in 2008 on housing prices we used CoreLogic's Seasonally Adjusted Hedonic Home Index (S-Adj HHI)[g] to compare home values in the Greater Sydney area (treatment group, where the policy change occurred) to home values in Australia's Capital Cities (control group).[h]

We employed the following regression equation to estimate the difference-in-difference estimator:

$$\widehat{Y_{it}} = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \beta_3 X_{1i} X_{2i} + \varepsilon_i$$

- $\widehat{Y_{it}}$ is the CoreLogic Seasonally Adjusted Hedonic Home Index value for the treatment or control group at time *t*.
- β_0 is the intercept term.
- X_{1i} is a binary variable for the pre- and post-treatment period for observation *i*. This variable that takes the value of 0 if the date of index value is before the policy change date (18 December 2008) and 1 if the date of the index value is after the policy change date.
- X_{2i} is a binary variable that identifies if observation *i* was part of the treatment or control group. This variable takes a value of 1 if the home index was in an area where the water charges were set to $0 (treatment group) and a value of 0 if the house index was in an area not subject to the policy change (control group).
- $\beta_1 \; and \; \beta_2$ are the coefficients associated with the respective variables.
- β_3 is the difference-in-difference estimator.
- ε_i is the error term associated with observation *i*.

In this housing price analysis regression, we had 96 observations. This consisted of 24 observations for the pre-treatment date for the control group, 24 observations post-treatment date for the control group, 24 observations pre-treatment date for the treatment group and 24 observations post-treatment date for the treatment group.

Below we provide charts of the CoreLogic S-Adj HHI for the Greater Sydney Index compared to the All-Australian Capital Cities index over the long term (2005 to 2022) and over the period of analysis for our regression (2007 to 2010).

[g] The CoreLogic Seasonally Adjusted Hedonic Home Index is calculated using a hedonic regression methodology that addresses the issue of compositional bias associated with median price and other measures. The index is calculated using recent sales data combined with information about the attributes of individual properties such as the number of bedrooms and bathrooms, land area and geographical context of the dwelling. By separating each property into its various formational and locational attributes, observed sales values for each property can be distinguished between those attributed to the property's attributes and those resulting from changes in the underlying residential property market. For further information see: https://www.corelogic.com.au/our-data/corelogic-indices.

[h] We used the CoreLogic Seasonally Adjusted Hedonic 8 Australian Capital Cities Index as the control group in this regression. We note that the Greater Sydney area is one component of this Index (and likely accounts for around 20 to 25% of housing price movements in this index).

Figure 3 Scenario 3 – S-Adj HHI for the treatment group (Greater Sydney) and control group (8 Capital Cities combined), 2000 to 2022

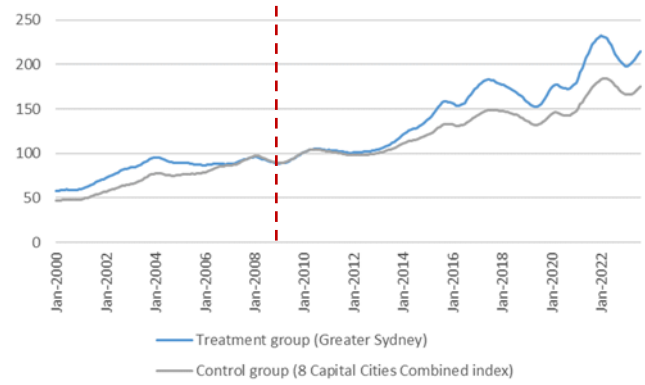
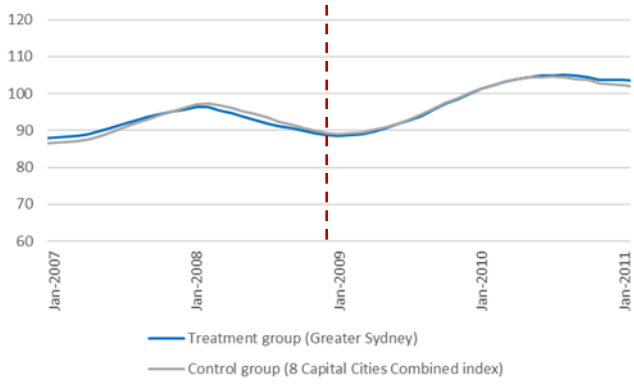


Figure 4 Scenario 4 – S-Adj HHI for the treatment group (Greater Sydney) and control group (8 Capital Cities combined), 2007 to 2010[i]



Note: the red dashed line indicates the date of the policy change.
Source: CoreLogic, Home Value Indices.

5 Regression results

5.1 Effect of setting of water charges to $0 in 2008 on vacant land prices

In Table 5 below, we detail the scenarios we assessed and our findings for the effect of setting water charges to $0 on vacant land prices in 2008. In Table 6 we summarise the regression outputs.

Table 5 Summary of the scenarios we assessed and findings for vacant land price analysis

Description of scenario	Findings
In the first scenario we compared the price of vacant land sales in the Sydney Water and Hunter Water service areas (where water charges were set to zero) to the rest of NSW (where water charges remained in force), before and after the policy change.	We found that the policy change in December 2008 corresponded to a statistically significant increase in vacant land prices of around 4.6%[j] (or around $12,667 per piece of vacant land) for the Sydney Water and Hunter Water areas compared to the rest of NSW.[k] This value of $12,667 is broadly in line with the average water charge for a lot of land of around $12,500 for a Sydney Water service area and around $11,800 for a Hunter Water service area.

[i] While over the longer term there have been some trends in the All Capital Cities Index that differ from the Greater Sydney Index, over the period of 2007 to 2010, these two time series followed very similar price trends, which supports the parallel trends assumption holding over the period of analysis.

[j] This value of 4.6% was calculated by: (exp(0.0445) – 1) x 100

[k] This value of $12,677 was calculated as the 4.6% multiplied by $275,600, which is the average vacant land sale price that in the prevailed in the post treatment period (2009 to 2010).
Source: IPART calculations based on NSW Land Valuer General data

Description of scenario	Findings
In the second scenario we compared the price of vacant land in the Hunter Water service area (where water charges were set to zero) to the Central Coast Council Water service area (where water charges remained in force) before and after the policy change.	We found that the policy change in December 2008 corresponded to a statistically significant increase in vacant land prices of around 5% (or around $9,964 per piece of vacant land).[l] This was broadly similar to the average reduction in water charge for a lot of land of $11,800 for the Hunter Water services area. However, we do note the parallel trends assumption appears weaker for this scenario and may not hold. As a result, the inferences we can draw from this scenario are weaker.

Table 6 Difference-in-difference regression results for vacant land price analysis

	Y = natural logarithm ($Price\ of\ vacant\ land\ sold_{i,t}$)	
	Scenario (1)	**Scenario (2)**
Region	Sydney Water and Hunter Water compared to the rest of NSW	Hunter Water compared to Central Coast Council
Constant	8.5712	9.3150
Treatment date	2.1352	0.00746
Treatment group	0.8824	0.4714
Difference-in-difference estimator	***0.0445	*0.0488
Area (control variable)	***0.00002	*0.00002
R^2	0.65	0.378
Number of observations	34,483	5,779

Note: we have not included the regression outputs for the control variables of year and postcode.
Source: IPART calculations based on NSW Land Valuer General data.

5.2 Effect of setting of water charges to $0 in 2008 on housing prices

To assess the impact of the removal of water charges on housing prices, we used CoreLogic's SAdj-HHI to compare the price of housing in Greater Sydney to the price of housing in All Capital Cities in Australia.

If the claim in submissions is true, that the reintroduction of water charges will increase the price of housing (and therefore worsen the current housing affordability crisis), we would expect to find a statistically significant difference-in-difference estimator that is directionally (sign-wise) the same as the change in water charges[m] and a similar quantum.

We found no statistically significant change in the housing prices in Greater Sydney (treatment group) compared to all Australian Capital Cities (control group).

[l] This value of $9,964 was calculated as the 5% multiplied by $199,280, which is the average vacant land sale price that in the prevailed in the post treatment period (2009 to 2010).
Source: IPART calculations based on NSW Land Valuer General data.

[m] That is, the 2008 removal of water charges would lead to a reduction in house prices (a negative coefficient) and the proposed reintroduction would therefore lead to an increase in house prices.

In addition, the sign of the difference-in-difference estimator for the housing price analysis is positive, which is also inconsistent with the claim in submissions that the reintroduction of water charges will increase the price of housing.[n] Further, the size of the difference in difference estimator is 0.22 index points, which is immaterial (relative to the quantum of developer charges, which were around 2.2% of the average Sydney house sale price around that time).[12]

Table 7 Difference-in-difference regression results for housing price analysis

	Y = CoreLogic Seasonally Adjusted Hedonic Home Value Index $_{i,t}$
Region	Greater Sydney compared to All Australian Capital Cities
Constant	***92.2041
Treatment date	***6.211
Treatment group	-0.1444
Difference-in-difference estimator[o]	0.2167
R^2	0.311
Number of observations	96

Note: we have not included the regression outputs for the control variables of year and postcode.
Source: IPART calculations based on CoreLogic data.

6 Conclusions

The removal of water charges for the Sydney Water and Hunter Water service areas in 2008 led to a statistically significant increase in the price of vacant land in the affected areas, compared to trends followed by other parts of NSW, where the water charges remained in force.

The magnitude of the increase in vacant land prices after December 2008 was broadly similar to the average reduction in the level of water charges that had applied before policy change.

The removal of water charges for the Greater Sydney area in 2008 did not lead to a statistically significant change in the price of housing in Greater Sydney compared to the price of houses in Australian Capital Cities.

Overall, our analysis shows that the cost of the reintroduction of developer charges would be borne principally by owners of vacant land. This impact on owners of vacant land should not affect housing affordability. This is in line with the balance findings of literature on the topic of who bears the cost of developer charges.

[n] As noted above, if the claim in submissions was true, the reducing water charges from around $12,500 in the Greater Sydney area, would reduce house prices by similar amount and would result in a negative coefficient.

[o] This regression had a two-year time period on either side of the intervention date (18 December 2008). To test the robustness of our findings, we also ran this regression with a one-year time period on either side of the intervention date and obtained similar results – that is, a non-statistically significant and positive difference-in-difference estimator.

A Appendix: Regression output tables

Table A.1 Regression output table for Sydney Water and Hunter Water service areas compared to the rest of NSW

OLS Regression Results

Dep. Variable:	Purchase price	R-squared:	0.650
Model:	OLS	Adj. R-squared:	0.646
Method:	Least Squares	F-statistic:	637.8
Date:	Mon, 11 Sep 2023	Prob (F-statistic):	0.00
Time:	12:46:10	Log-Likelihood:	-8361.9
No. Observations:	34483	AIC:	1.758e+04
Df Residuals:	34056	BIC:	2.119e+04
Df Model:	426		
Covariance Type:	HC3		

	coef	std err	z	P>|z|	[0.025	0.975]
const	8.5712	312.574	0.027	0.978	-604.062	621.204
Area	2.133e-05	1.79e-06	11.944	0.000	1.78e-05	2.48e-05
Treatment_group	0.8824	556.311	0.002	0.999	-1089.467	1091.232
Treatment_date	2.1352	78.143	0.027	0.978	-151.023	155.294
Interaction_term	0.0445	0.007	5.984	0.000	0.030	0.059

Note: we have excluded the control variables for time and postcode from this regression output.
Source: IPART calculations based on NSW Land Valuer General data.

Table A.2 Regression output table for Hunter Water service area compared to the Central Coast Council water service area

OLS Regression Results

Dep. Variable:	Purchase price	R-squared:	0.378
Model:	OLS	Adj. R-squared:	0.371
Method:	Least Squares	F-statistic:	3.333e+04
Date:	Mon, 11 Sep 2023	Prob (F-statistic):	0.00
Time:	12:46:25	Log-Likelihood:	-1362.6
No. Observations:	5779	AIC:	2847.
Df Residuals:	5718	BIC:	3253.
Df Model:	60		
Covariance Type:	HC3		

	coef	std err	z	P>|z|	[0.025	0.975]
const	8.5246	43.869	0.194	0.846	-77.458	94.507
Area	2.386e-05	1.16e-05	2.064	0.039	1.2e-06	4.65e-05
Treatment_group	0.4714	707.391	0.001	0.999	-1385.990	1386.933
Treatment_date	2.1158	10.967	0.193	0.847	-19.380	23.611
Interaction_term	0.0488	0.023	2.152	0.031	0.004	0.093

Note: we have excluded the control variables for time and postcode from this regression output.
Source: IPART calculations based on NSW Land Valuer General data.

Table A.3. Regression output for Seasonally Adjusted Hedonic Home Value Index, Sydney compared to All Australian Cities

OLS Regression Results

Dep. Variable:	index_value	R-squared:	0.311
Model:	OLS	Adj. R-squared:	0.288
Method:	Least Squares	F-statistic:	13.48
Date:	Tue, 12 Sep 2023	Prob (F-statistic):	2.30e-07
Time:	14:33:41	Log-Likelihood:	-284.94
No. Observations:	96	AIC:	577.9
Df Residuals:	92	BIC:	588.1
Df Model:	3		
Covariance Type:	HC3		

	coef	std err	z	P>|z|	[0.025	0.975]
const	92.2041	0.721	127.967	0.000	90.792	93.616
Treatment_date	6.2110	1.419	4.376	0.000	3.429	8.993
Treatment_group	-0.1444	0.922	-0.157	0.876	-1.952	1.664
interaction_term	0.2167	2.005	0.108	0.914	-3.714	4.147

Omnibus:	11.175	Durbin-Watson:	0.125
Prob(Omnibus):	0.004	Jarque-Bera (JB):	6.247
Skew:	-0.445	Prob(JB):	0.0440
Kurtosis:	2.122	Cond. No.	6.85

Notes:
[1] Standard Errors are heteroscedasticity robust (HC3)

Source: IPART calculations based on CoreLogic data.

1 NSW Treasurer, *Letter on the reintroduction of water, wastewater and stormwater services*, 1 January 2022.
2 For example, see: Sydney Water, *What we heard: Submissions on our draft water and waste water infrastructure contributions*, 2023, p 7; Hunter Water, *Developer charges: Public exhibition summary report*, November 2023, p 2.
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