

# Estimating average causal effect with natural experiments

Natural experiments include situations where an instrumental variable affects the action or there is a regression discontinuity. The method of instrumental variables is a common identifying strategy for natural experiments. Below we show two estimators derived from this identification strategy.

## Instrumental variable estimator for binary action

```
>>> causal_estimate_iv = model.estimate_effect(identified_estimand,  
>>>     method_name="iv.instrumental_variable", method_params = {'iv_instrument'  
>>> print(causal_estimate_iv)  
>>> print("Causal Estimate is " + str(causal_estimate_iv.value))
```

## Regression discontinuity estimator

```
>>> causal_estimate_regdist = model.estimate_effect(identified_estimand,  
>>>     method_name="iv.regression_discontinuity",  
>>>     method_params={'rd_variable_name': 'Z1',  
>>>                     'rd_threshold_value': 0.5,  
>>>                     'rd_bandwidth': 0.15})  
>>> print(causal_estimate_regdist)  
>>> print("Causal Estimate is " + str(causal_estimate_regdist.value))
```

[< Previous](#)  
[Do-sampler](#)

[Next >](#)  
[Estimating conditional average causal effect](#)

[Skip to main content](#)

© Copyright 2022, PyWhy contributors.

Built with the [PyData Sphinx Theme](#) 0.14.4.

Created using [Sphinx](#) 7.1.2.