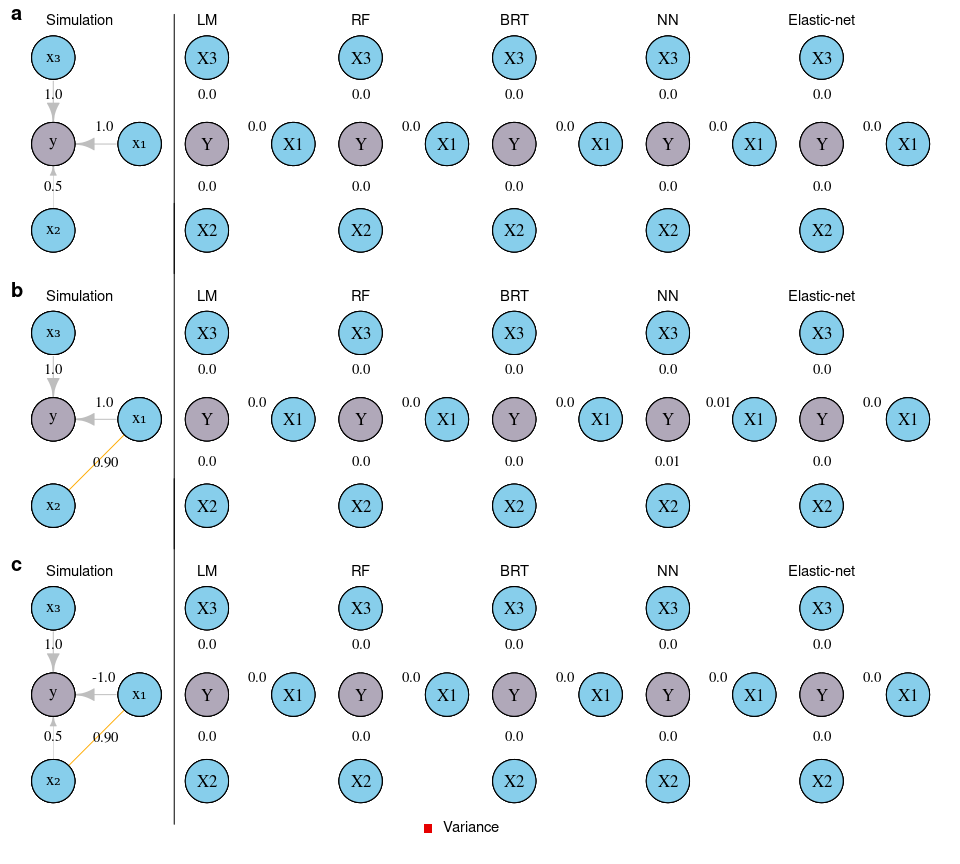
Supporting information Appendix for Pichler & Hartig – Can machine learning be used for causal inference?

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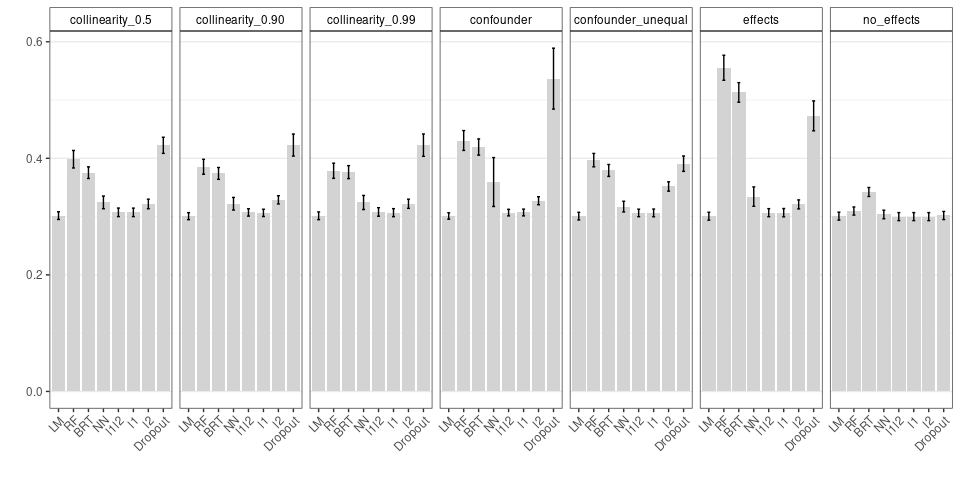
**Summary:** This document provides supporting information on Pichler & Hartig – Can machine learning be used for causal inference.

## 1 Proof of concept

### 1.1 Variance



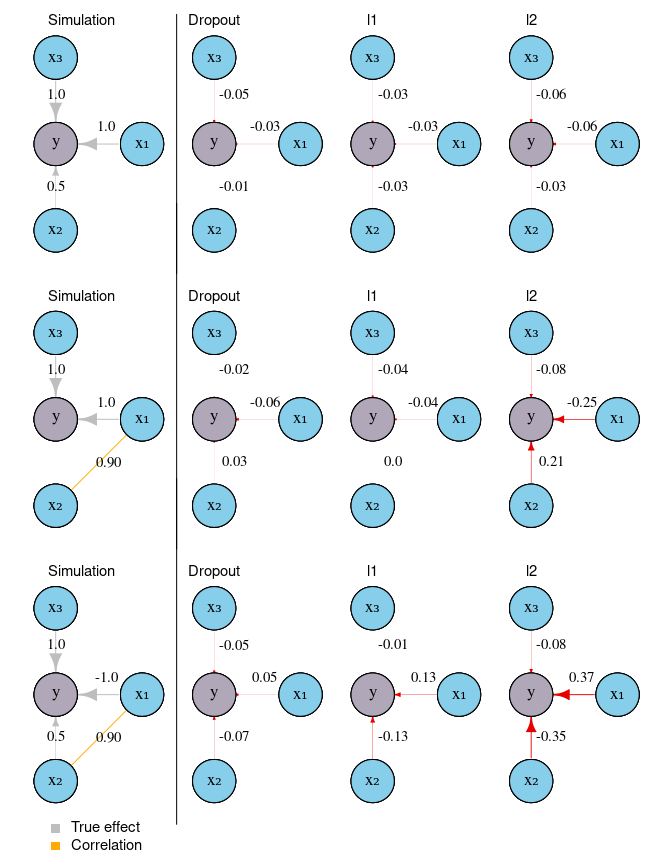
#### 1.1.1 RMSE on holdout



### 1.2 NN with Dropout, LASSO, and Ridge

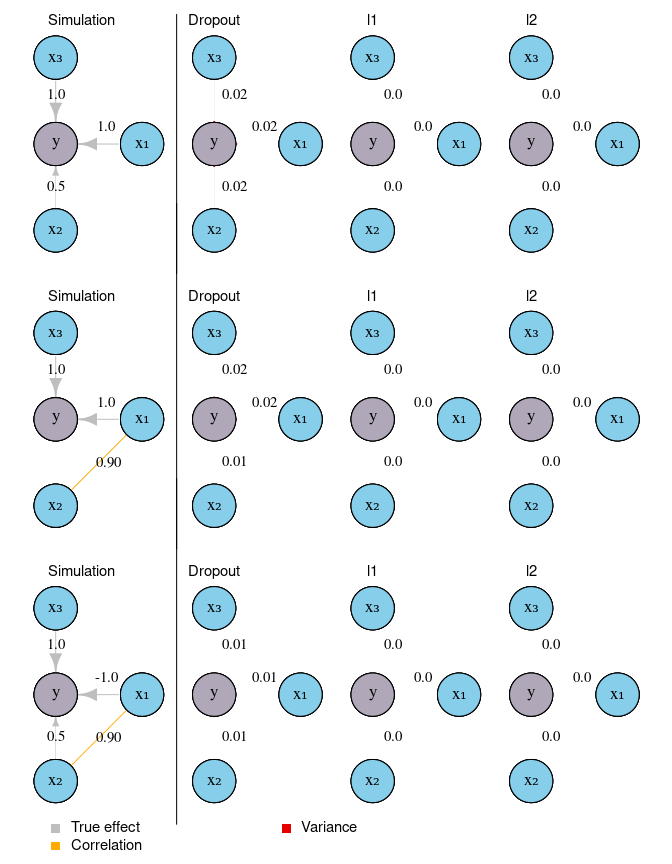
#### 1.2.1 Bias

Dropout, l1 and l2 bias

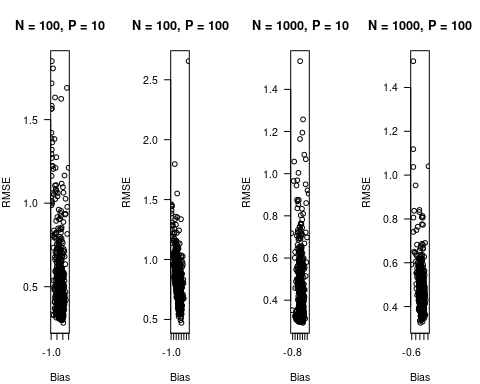


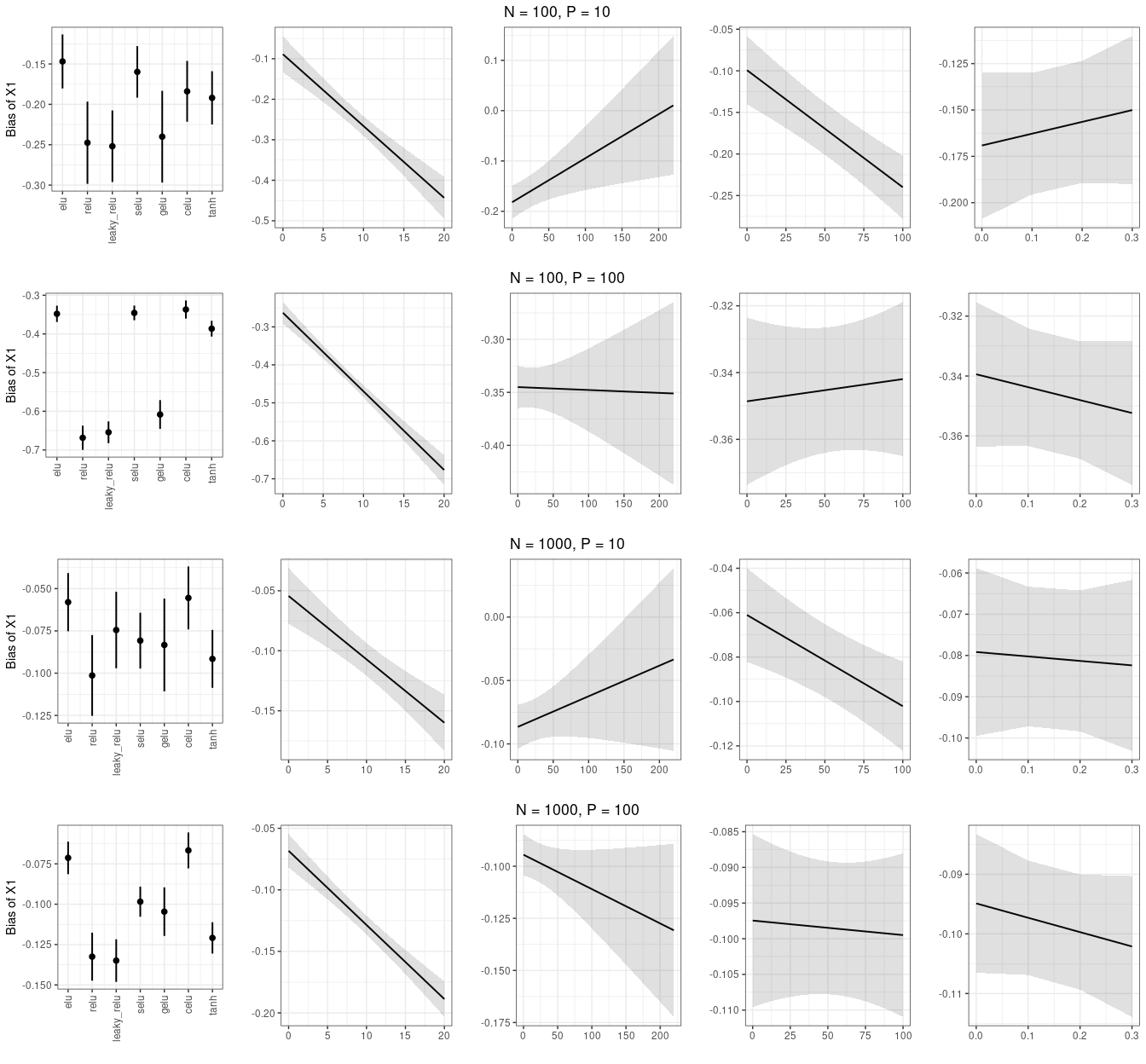
#### 1.2.2 Variance

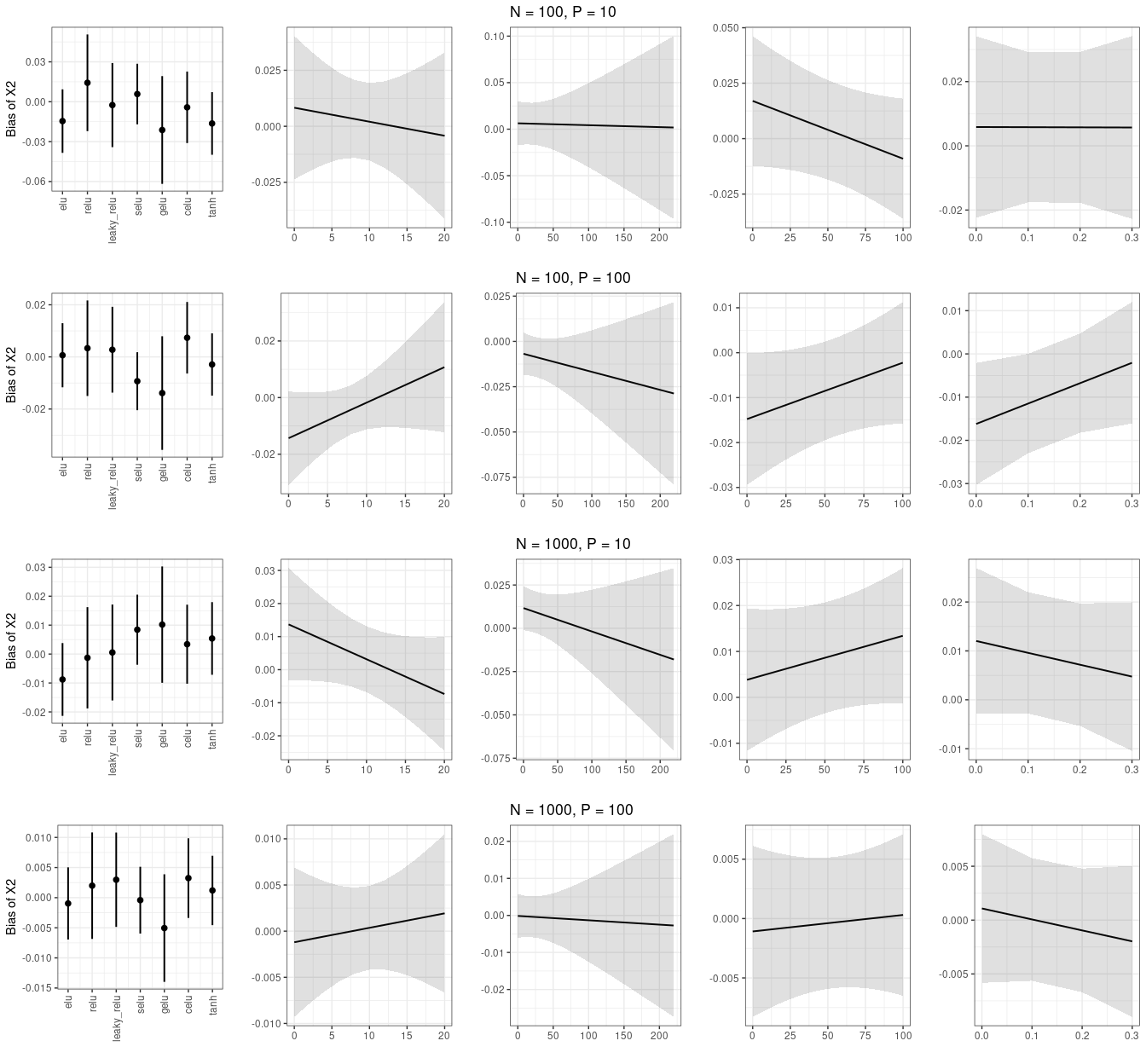
Dropout, l1 and l2 variance

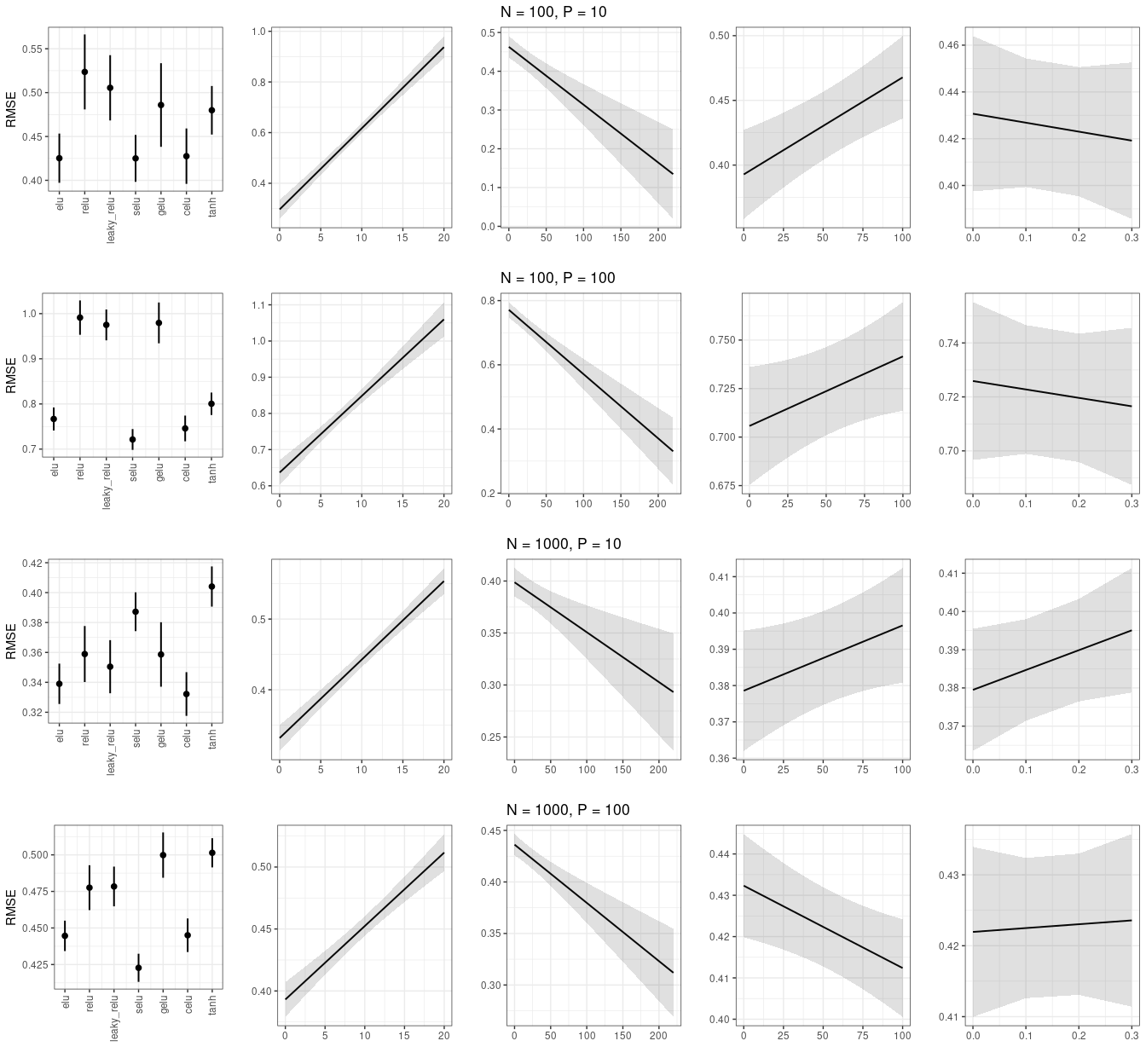


## 2 Sensitivity analysis



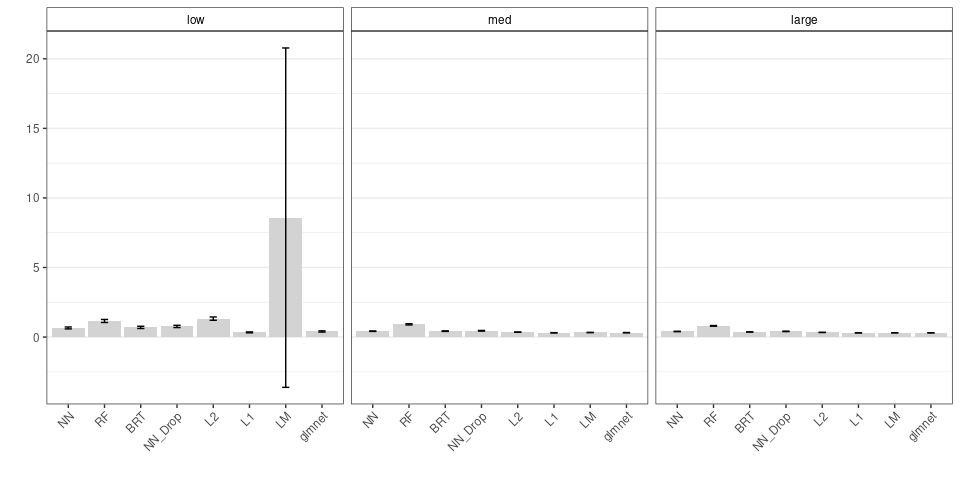




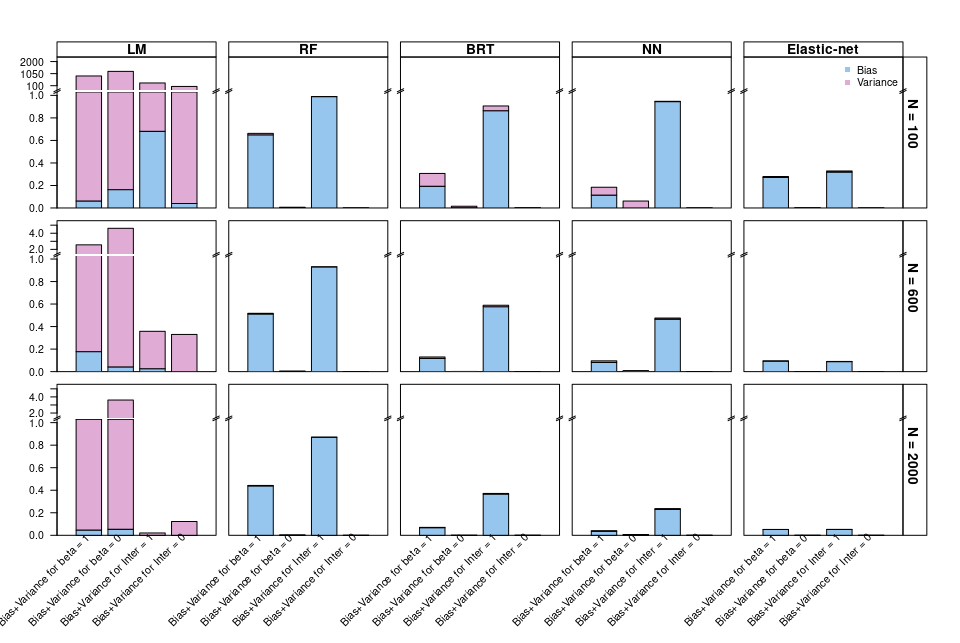


## 3 Data-poor simulation

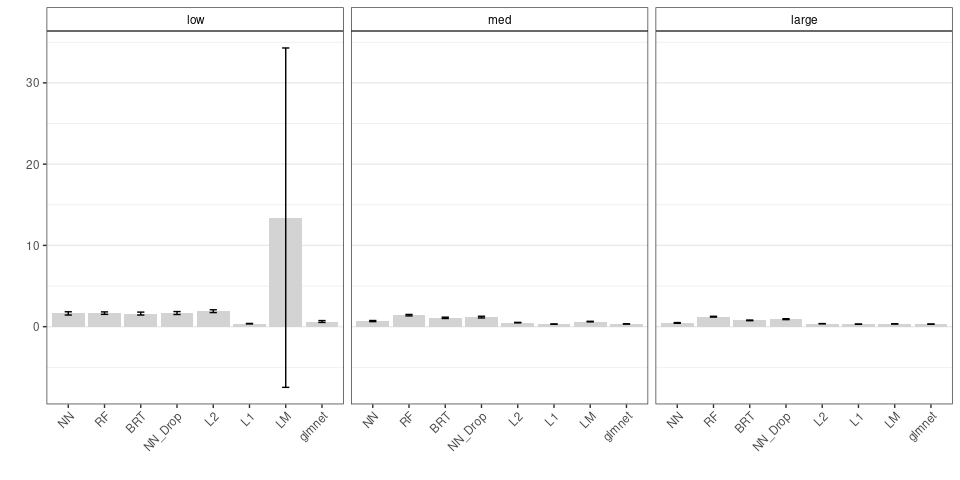
### 3.1 RMSE data-poor without interactions



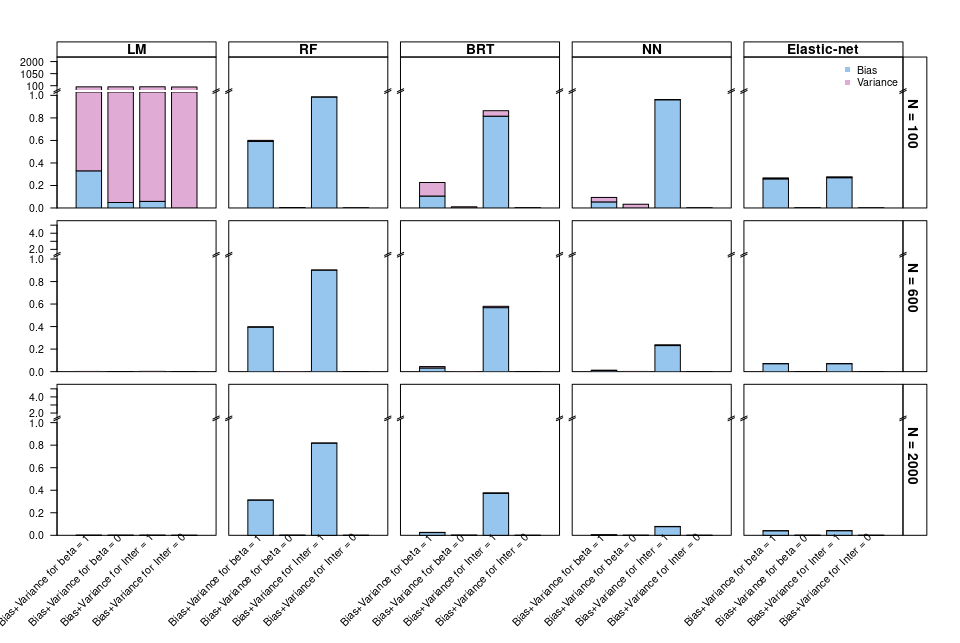
### 3.2 With interactions and Collinearity



#### 3.2.1 RMSE



### 3.3 With interactions without collinearity



## 4 Weighted MCE

