$$\det\left(\begin{pmatrix}1 & 0\\ 0 & X\end{pmatrix} + \begin{pmatrix}y & 0\\ 0 & 0\end{pmatrix}\right)$$

$$= \det\begin{pmatrix} y+1 & \\ & X\end{pmatrix}$$

$$\frac{\hat{\mu}'(\theta)}{\hat{\mu}''(\hat{\theta})} = \frac{\hat{\mu}'(\theta)}{\mu''(\hat{\theta})+\varepsilon''(\hat{\theta})} = \frac{\hat{\mu}'(\theta)}{\mu''(\hat{\theta})+\text{error}}$$

$$= (X)(y+1)\frac{1}{X}$$

$$\hat{\mu}'(\theta) = \mu'(\theta) + \mu''(\theta)(\hat{\theta}-\theta) + \mu''(\theta)$$

$$\frac{1}{X} \text{ vs } \frac{1}{X+\varepsilon}$$

$$\det(A_n + B_n)$$

$$\hat{\mu}''(\hat{\theta}) \text{ vs } \mu''(\theta)$$

$$= \det(A_n) + \det(B_n)$$

$$\frac{1}{C} \text{ vs } \frac{1}{C+X}$$

simulate $\hat{\mu}''(\theta)$

simulate the denominators?

$$\mathbb{E}X^2 - (\mathbb{E}X)^2 \geq 0$$

$$\mathbb{E}\left[\frac{1}{X}\right] > \frac{1}{\mathbb{E}X}$$

$$\frac{1}{\mathbb{E}}$$

$$\frac{\hat{\mu}''(\theta)}{\hat{\mu}''(\hat{\theta})-\mu''}$$

change to add the $X<0$ case.