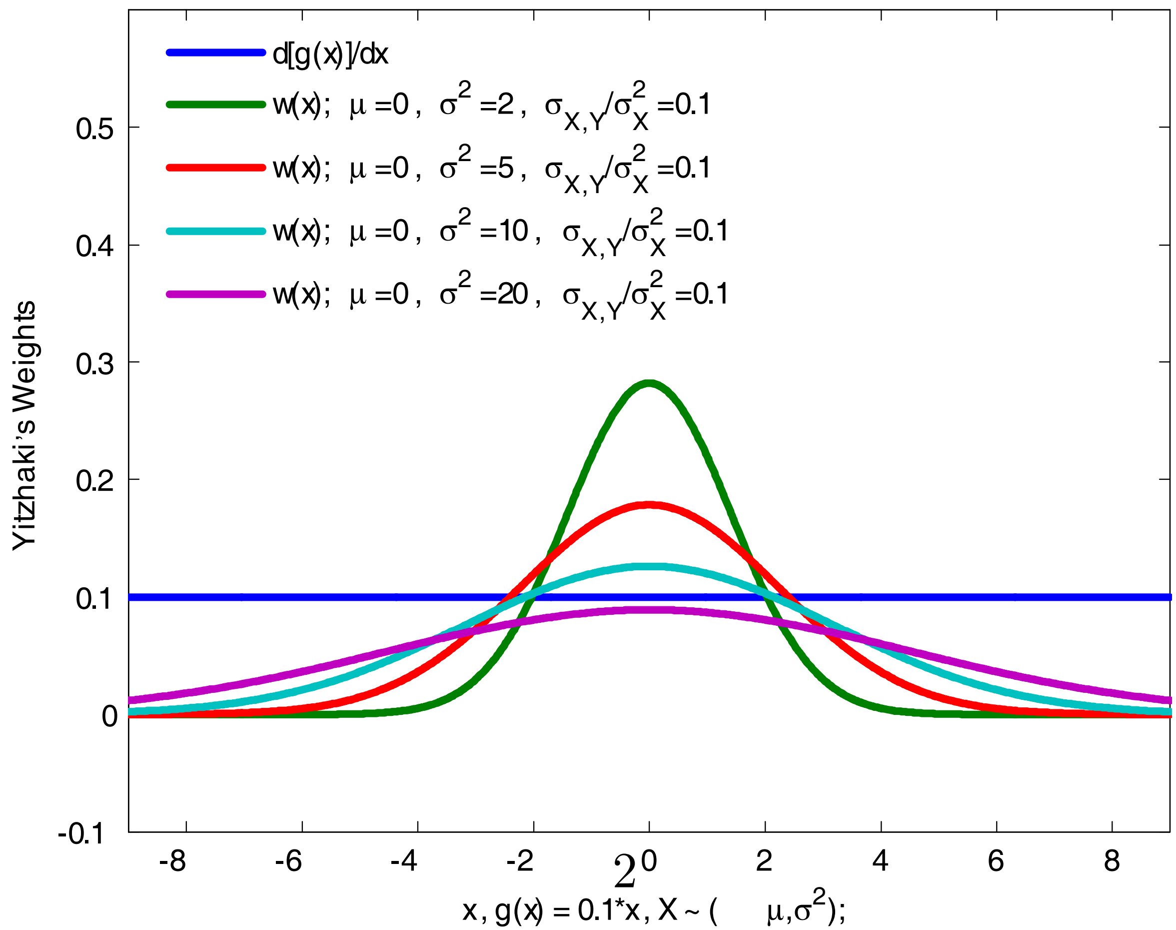
Yitzhaki's Weights for X Normal

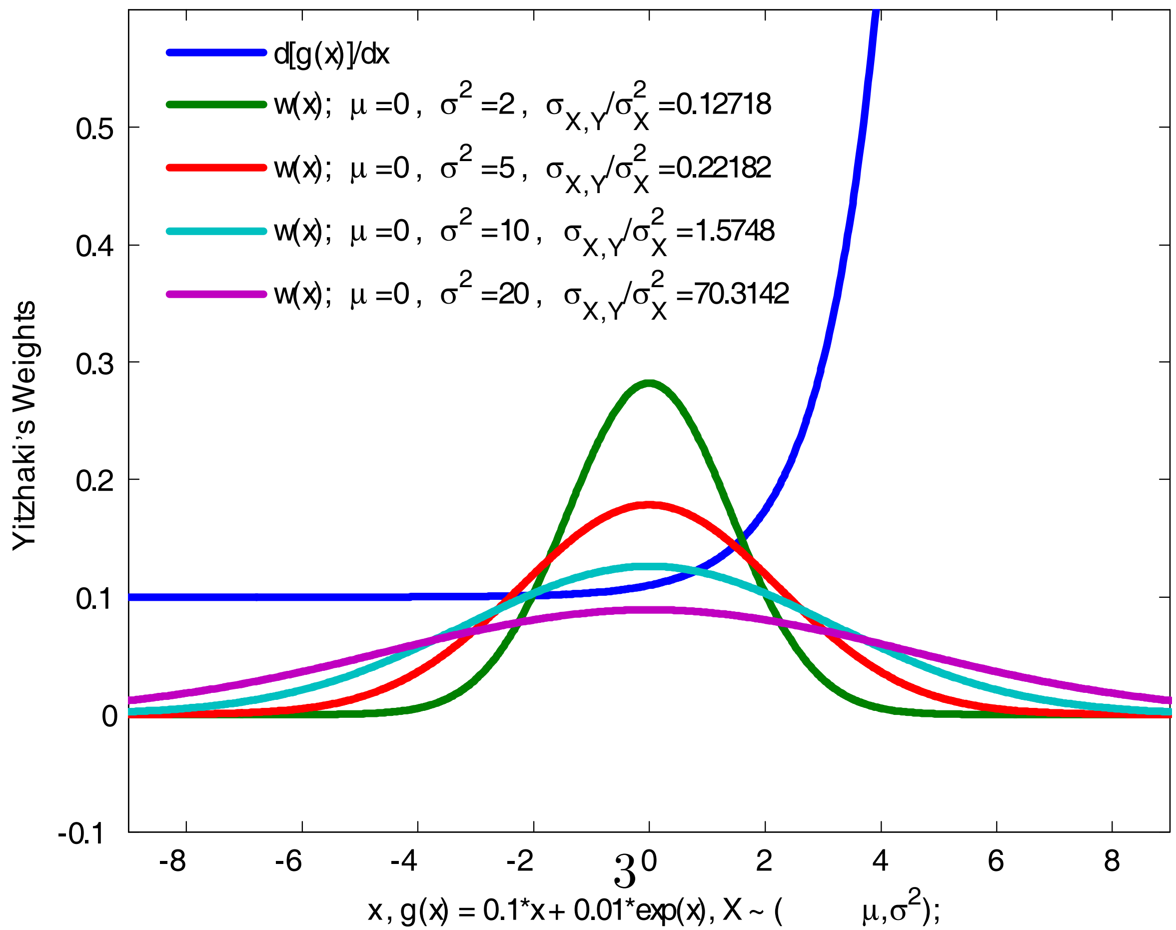


$$E\left(Y|X=x\right)=g(x)\Rightarrow\frac{Cov(X,Y)}{Var(X)}=\int_{-\infty}^{\infty}g'(t)w(t)dx$$

$$w(t)=\frac{1}{Var(X)}E\left(X|X>t\right)\cdot\Pr\left(X>t\right)$$

$$\mathbf{g(x)=0.1\cdot x,\quad X\sim N(\boldsymbol{\mu}_x,\boldsymbol{\sigma}_X^2).}$$

Yitzhaki's Weights for X Normal

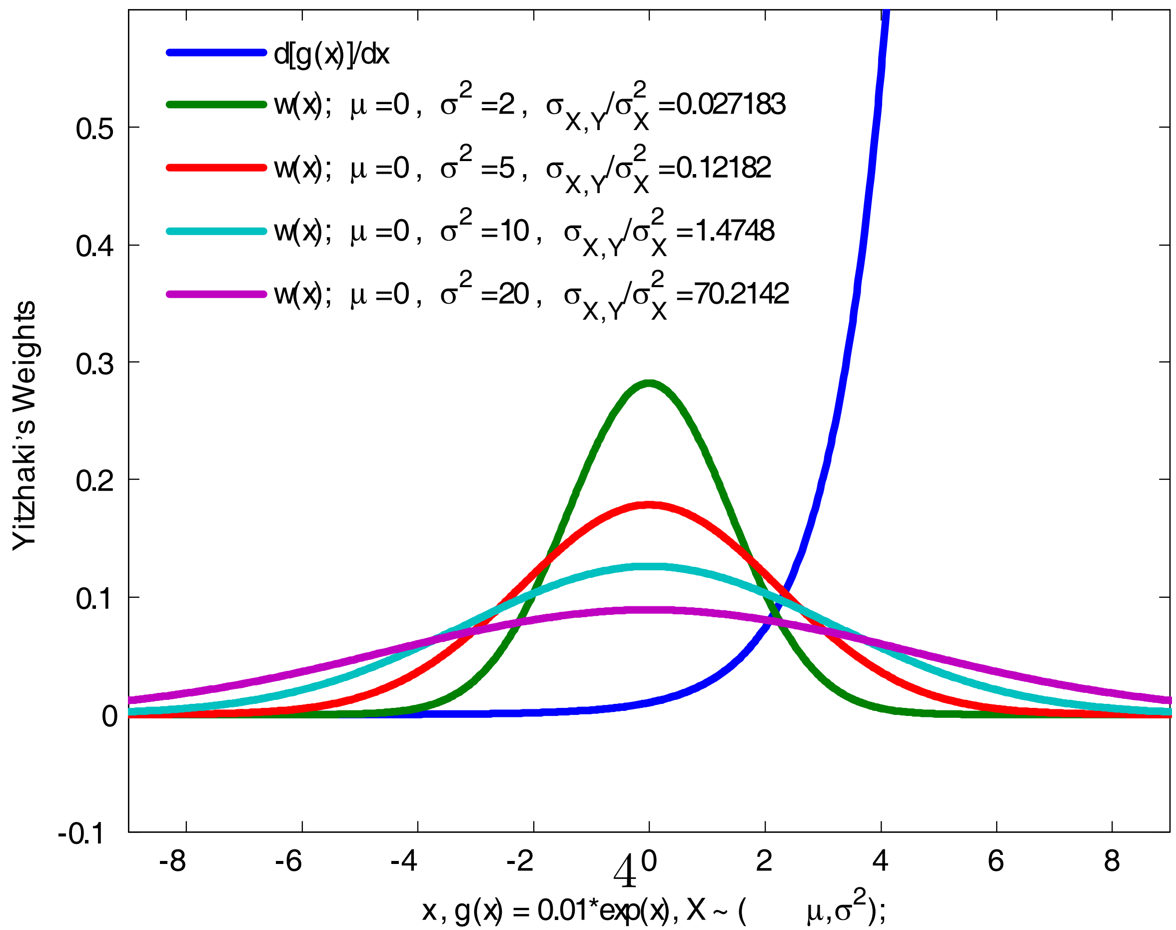


$$E\left(Y|X=x\right)=g(x)\Rightarrow\frac{Cov(X,Y)}{Var(X)}=\int_{-\infty}^{\infty}g'(t)w(t)dx$$

$$w(t)=\frac{1}{Var(X)}E\left(X|X>t\right)\cdot\Pr\left(X>t\right)$$

$$\mathbf{g(x)=0.1\cdot x+0.01}\cdot\exp(\mathbf{x}),\quad\mathbf{X\sim N(\boldsymbol{\mu}_x,\boldsymbol{\sigma}_X^2)}.$$

Yitzhaki's Weights for X Normal

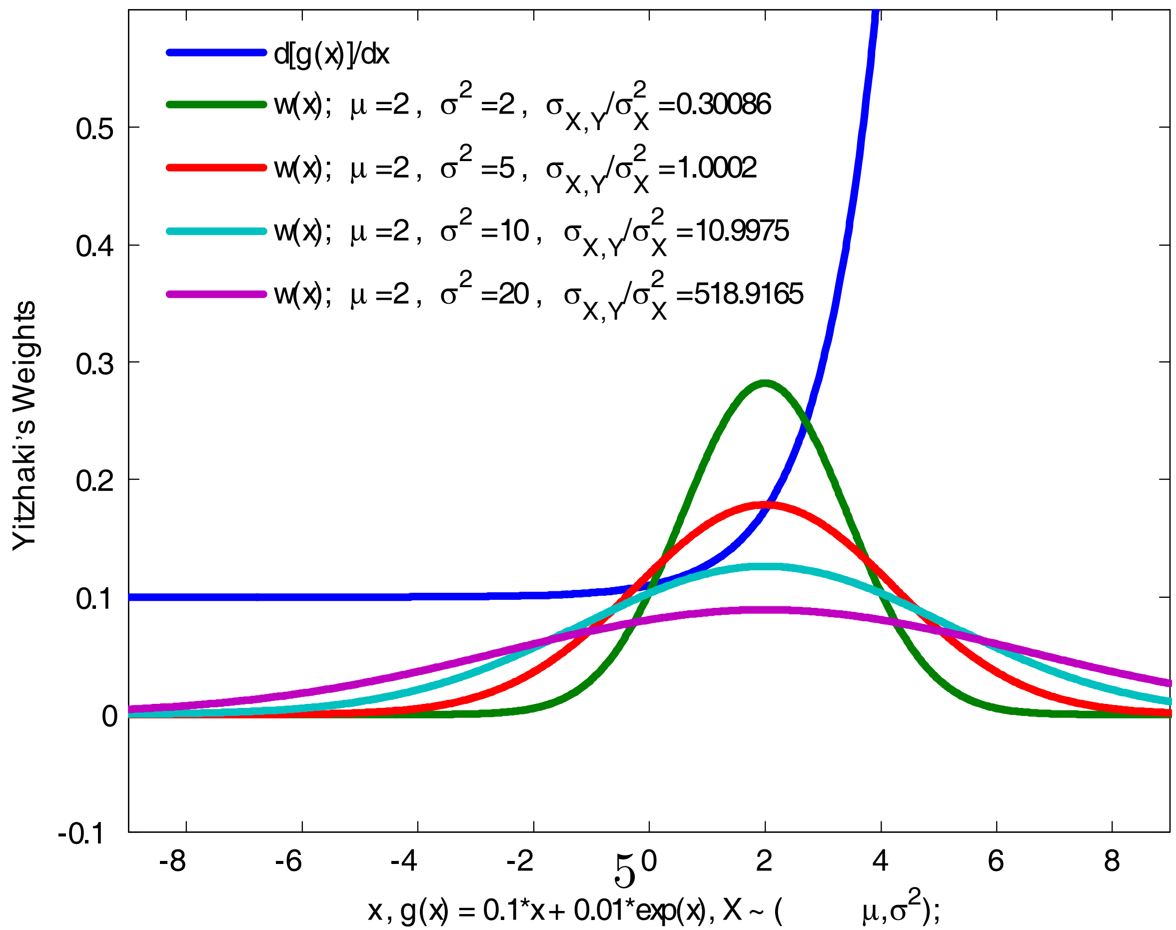


$$E\left(Y|X=x\right)=g(x)\Rightarrow\frac{Cov(X,Y)}{Var(X)}=\int_{-\infty}^{\infty}g'(t)w(t)dx$$

$$w(t)=\frac{1}{Var(X)}E\left(X|X>t\right)\cdot\Pr\left(X>t\right)$$

$$\mathbf{g(x)=0.01}\cdot\exp(\mathbf{x}),,\quad\mathbf{X}\sim\mathbf{N}(\boldsymbol{\mu}_x,\boldsymbol{\sigma}_X^2).$$

Yitzhaki's Weights for X Normal

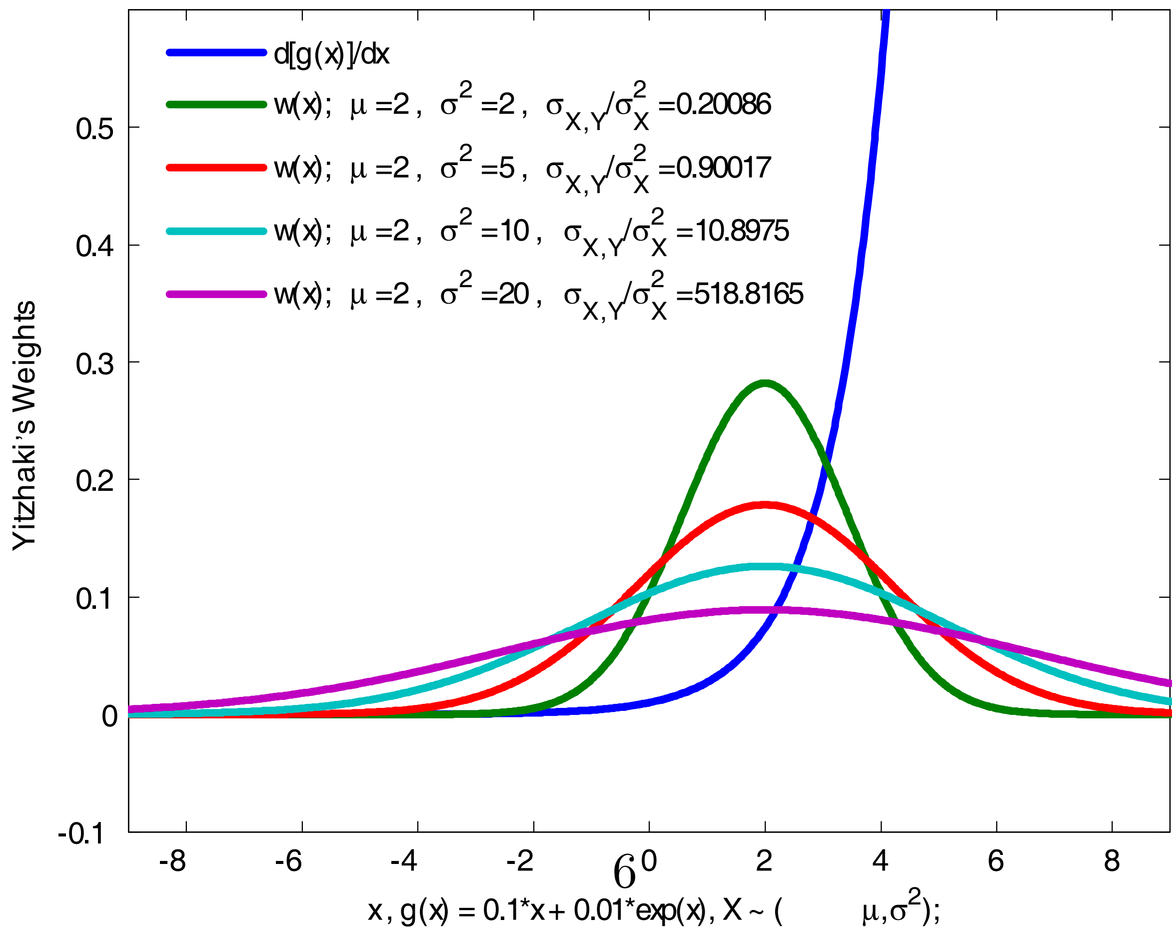


$$E\left(Y|X=x\right)=g(x)\Rightarrow\frac{Cov(X,Y)}{Var(X)}=\int_{-\infty}^{\infty}g'(t)w(t)dx$$

$$w(t)=\frac{1}{Var(X)}E\left(X|X>t\right)\cdot\Pr\left(X>t\right)$$

$$\mathbf{g}(\mathbf{x})=\mathbf{0.1}\cdot\mathbf{x}+\mathbf{0.01}\cdot\exp(\mathbf{x}),,\quad \mathbf{X}\sim\mathbf{N}(\boldsymbol{\mu}_x,\boldsymbol{\sigma}_X^2).$$

Yitzhaki's Weights for X Normal

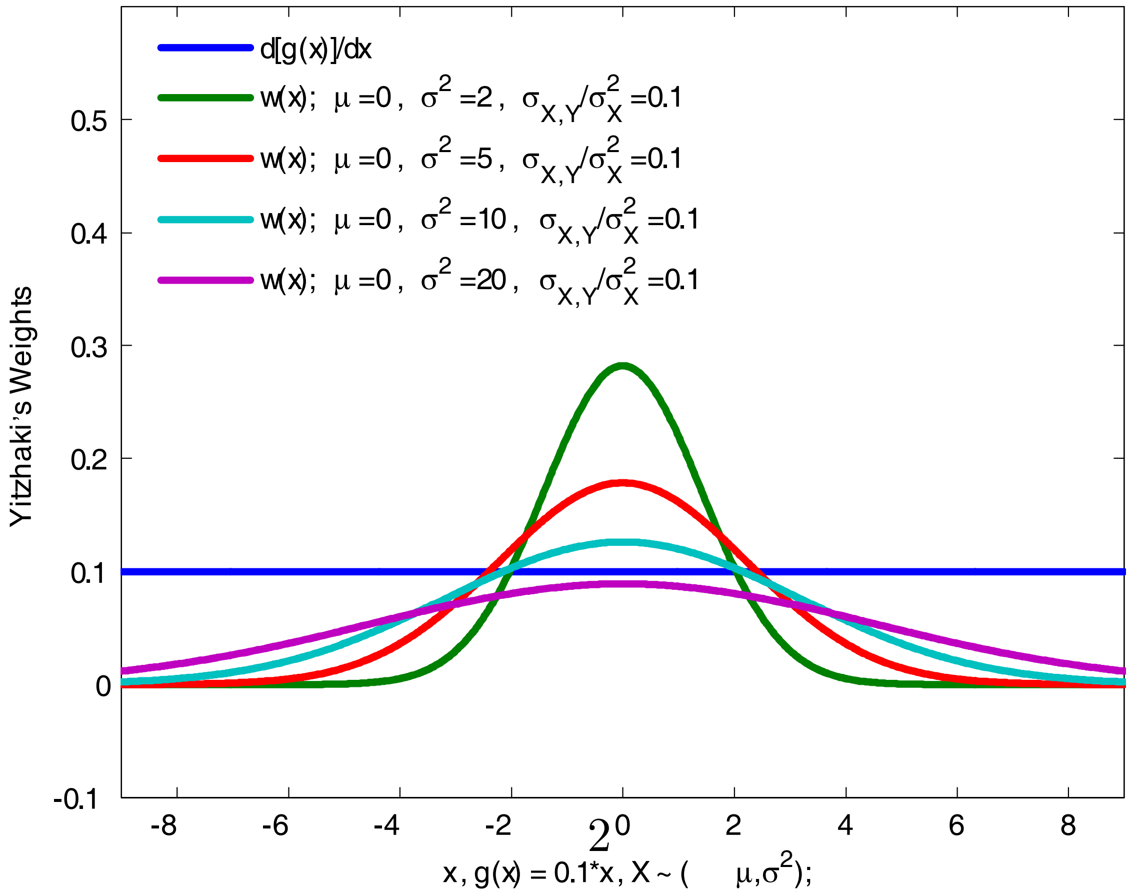


$$E\left(Y|X=x\right)=g(x)\Rightarrow\frac{Cov(X,Y)}{Var(X)}=\int_{-\infty}^{\infty}g'(t)w(t)dx$$

$$w(t)=\frac{1}{Var(X)}E\left(X|X>t\right)\cdot\Pr\left(X>t\right)$$

$$\mathbf{g(x)=0.01}\cdot\exp(\mathbf{x}),,\quad\mathbf{X}\sim\mathbf{N}(\boldsymbol{\mu}_x,\boldsymbol{\sigma}_X^2).$$

Yitzhaki's Weights for X Normal

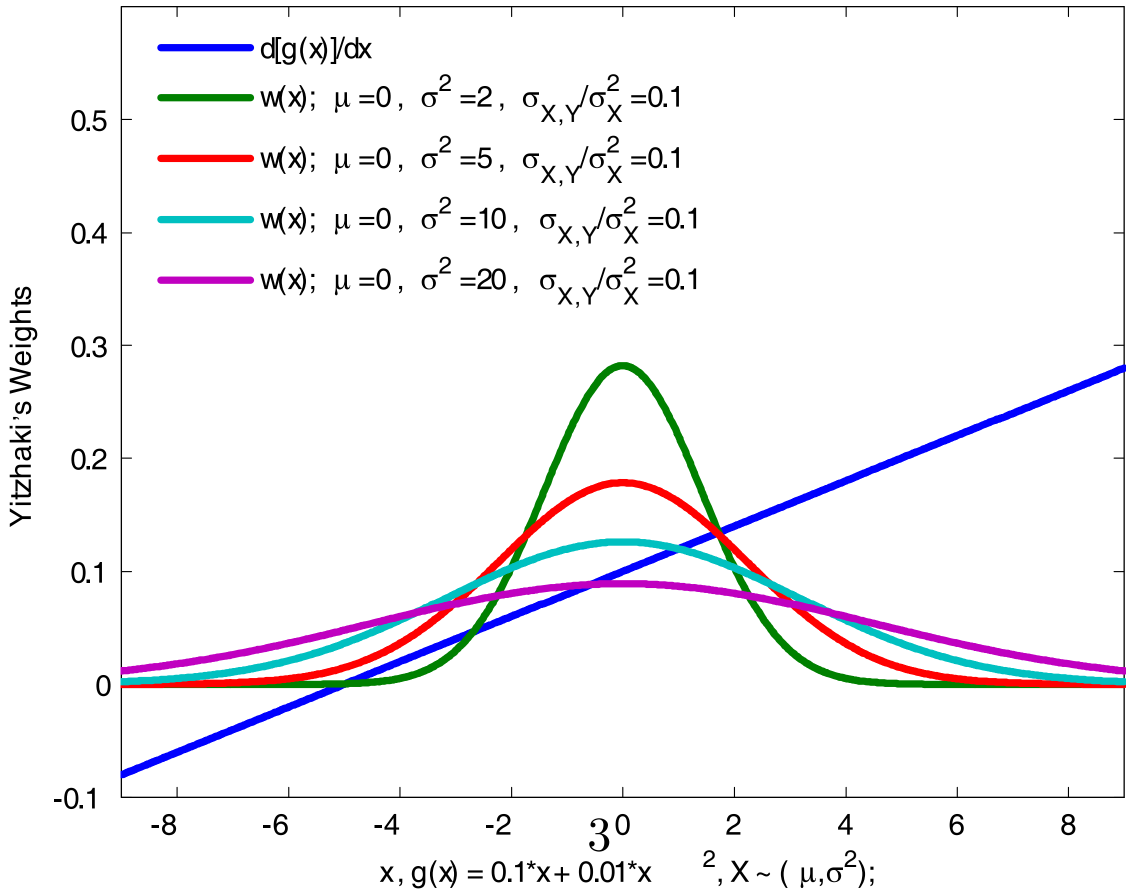


$$E\left(Y|X=x\right)=g(x)\Rightarrow\frac{Cov(X,Y)}{Var(X)}=\int_{-\infty}^{\infty}g'(t)w(t)dx$$

$$w(t)=\frac{1}{Var(X)}E\left(X|X>t\right)\cdot\Pr\left(X>t\right)$$

$$\mathbf{g(x)=0.1\cdot x,\quad X\sim N(\boldsymbol{\mu}_x,\boldsymbol{\sigma}_X^2).}$$

Yitzhaki's Weights for X Normal

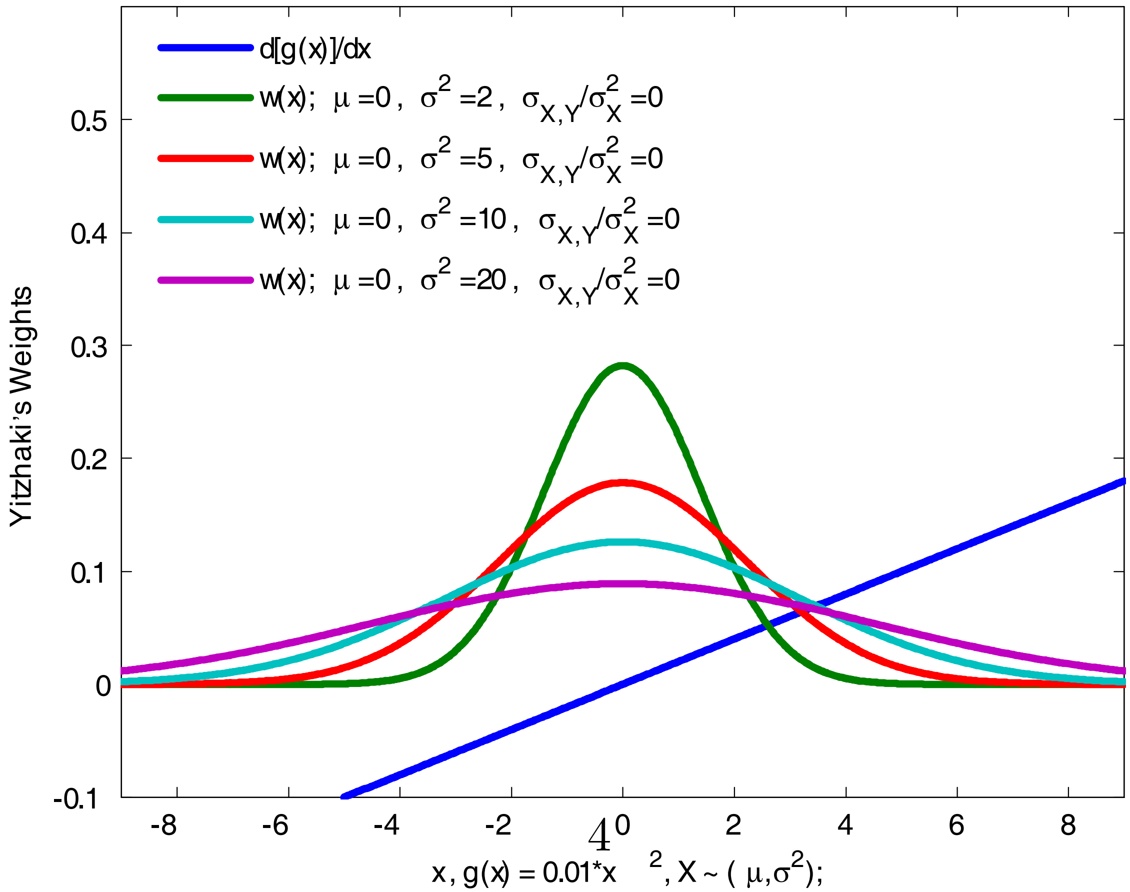


$$E\left(Y|X=x\right)=g(x)\Rightarrow\frac{Cov(X,Y)}{Var(X)}=\int_{-\infty}^{\infty}g'(t)w(t)dx$$

$$w(t)=\frac{1}{Var(X)}E\left(X|X>t\right)\cdot\Pr\left(X>t\right)$$

$$\mathbf{g(x)=0.1\cdot x+0.01\cdot x^2,\quad X\sim N(\boldsymbol{\mu}_x,\boldsymbol{\sigma}_X^2).}$$

Yitzhaki's Weights for X Normal

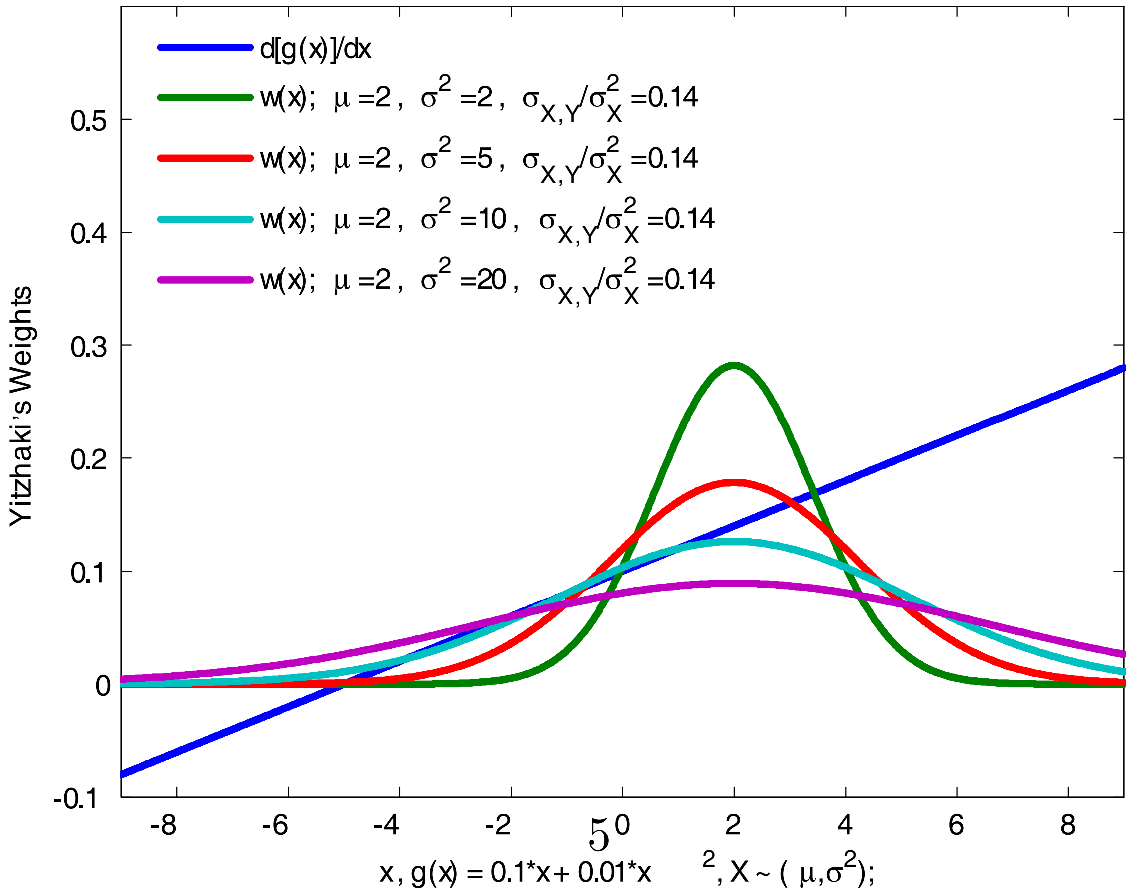


$$E\left(Y|X=x\right)=g(x)\Rightarrow\frac{Cov(X,Y)}{Var(X)}=\int_{-\infty}^{\infty}g'(t)w(t)dx$$

$$w(t)=\frac{1}{Var(X)}E\left(X|X>t\right)\cdot\Pr\left(X>t\right)$$

$$\mathbf{g(x)=0.01\cdot x^2},\quad \mathbf{X\sim N}(\boldsymbol{\mu}_x,\boldsymbol{\sigma}^2_X).$$

Yitzhaki's Weights for X Normal

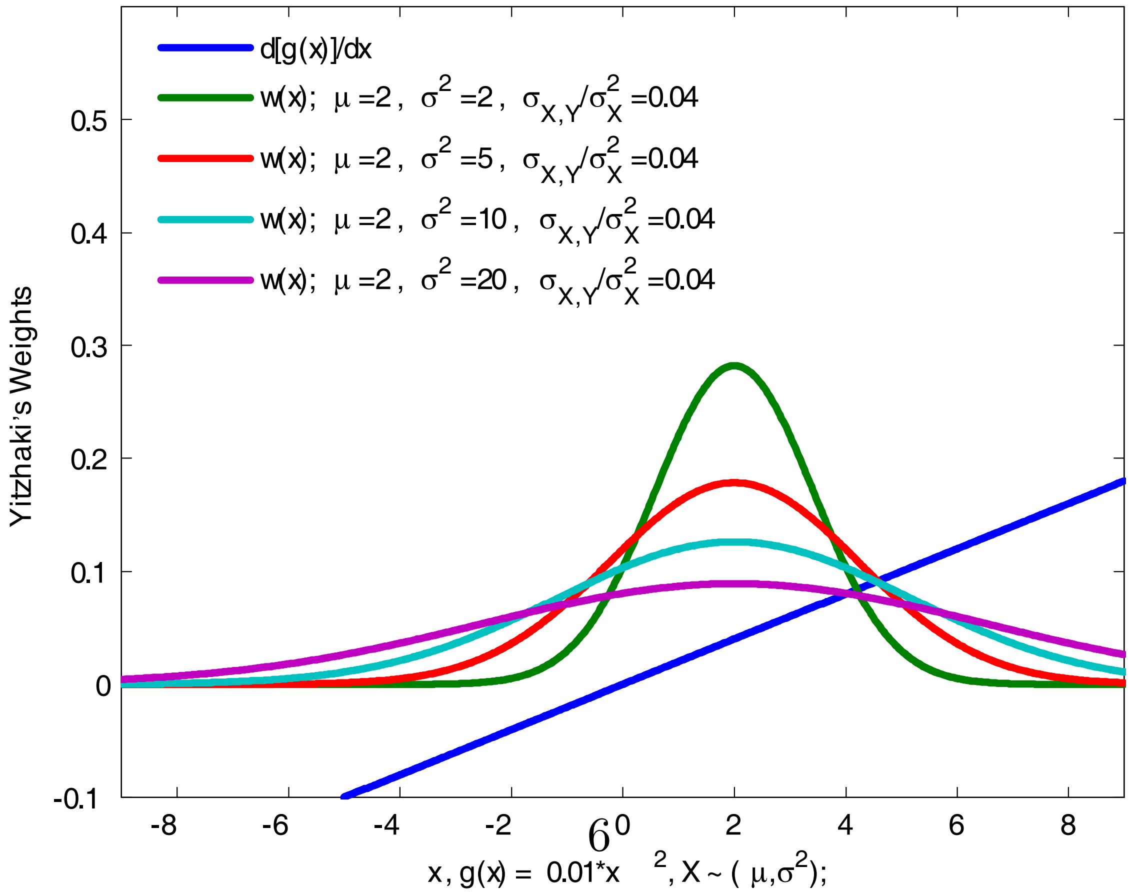


$$E\left(Y|X=x\right)=g(x)\Rightarrow\frac{Cov(X,Y)}{Var(X)}=\int_{-\infty}^{\infty}g'(t)w(t)dx$$

$$w(t)=\frac{1}{Var(X)}E\left(X|X>t\right)\cdot\Pr\left(X>t\right)$$

$$\mathbf{g(x)=0.1\cdot x+0.01\cdot x^2,\quad X\sim N(\boldsymbol{\mu}_x,\boldsymbol{\sigma}_X^2).}$$

Yitzhaki's Weights for X Normal

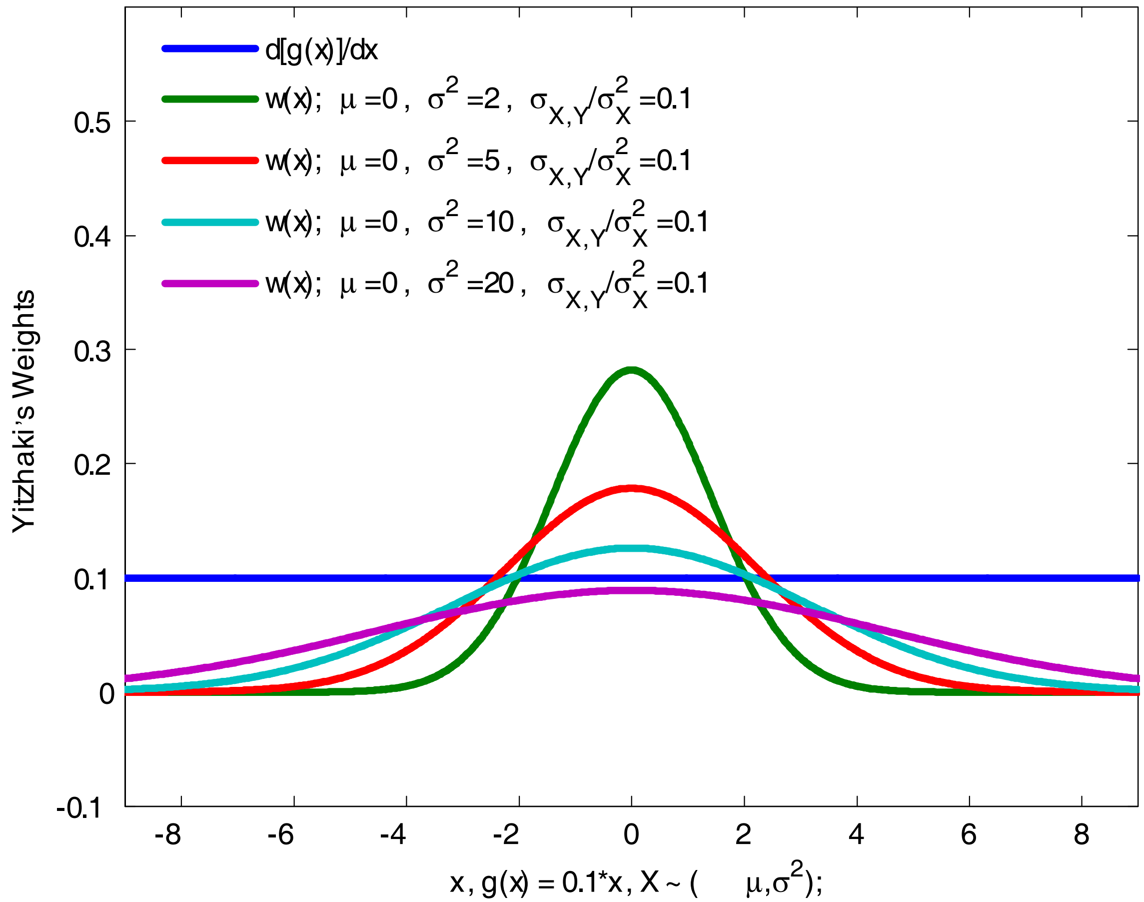


$$E\left(Y|X=x\right)=g(x)\Rightarrow\frac{Cov(X,Y)}{Var(X)}=\int_{-\infty}^{\infty}g'(t)w(t)dx$$

$$w(t)=\frac{1}{Var(X)}E\left(X|X>t\right)\cdot\Pr\left(X>t\right)$$

$$\mathbf{g(x)=0.01\cdot x^2,\quad X\sim N(\boldsymbol{\mu}_x,\boldsymbol{\sigma}_X^2).}$$

Yitzhaki's Weights for X Normal

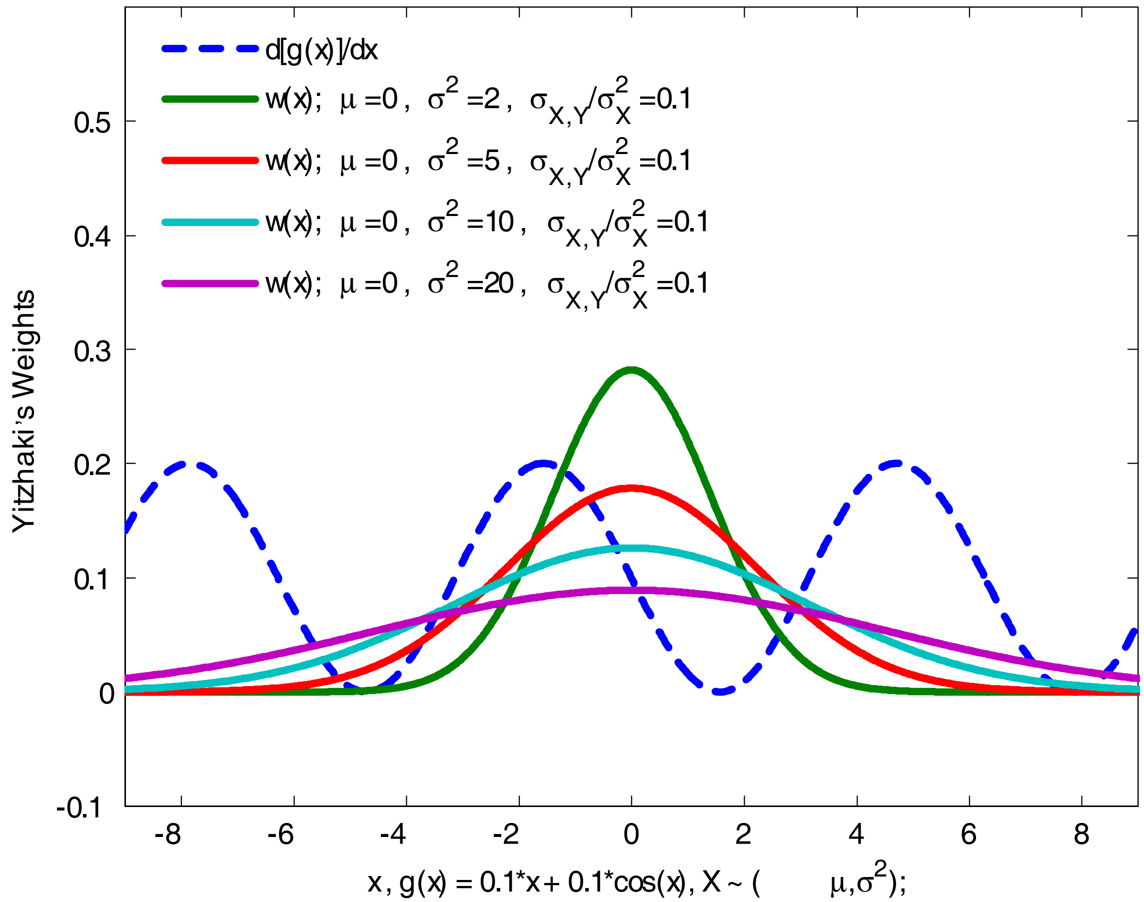


$$E\left(Y|X=x\right)=g(x)\Rightarrow\frac{Cov(X,Y)}{Var(X)}=\int_{-\infty}^{\infty}g'(t)w(t)dx$$

$$w(t)=\frac{1}{Var(X)}E\left(X|X>t\right)\cdot\Pr\left(X>t\right)$$

$$\mathbf{g(x)=0.1\cdot x,\quad X\sim N(\boldsymbol{\mu}_x,\boldsymbol{\sigma}_X^2).}$$

Yitzhaki's Weights for X Normal

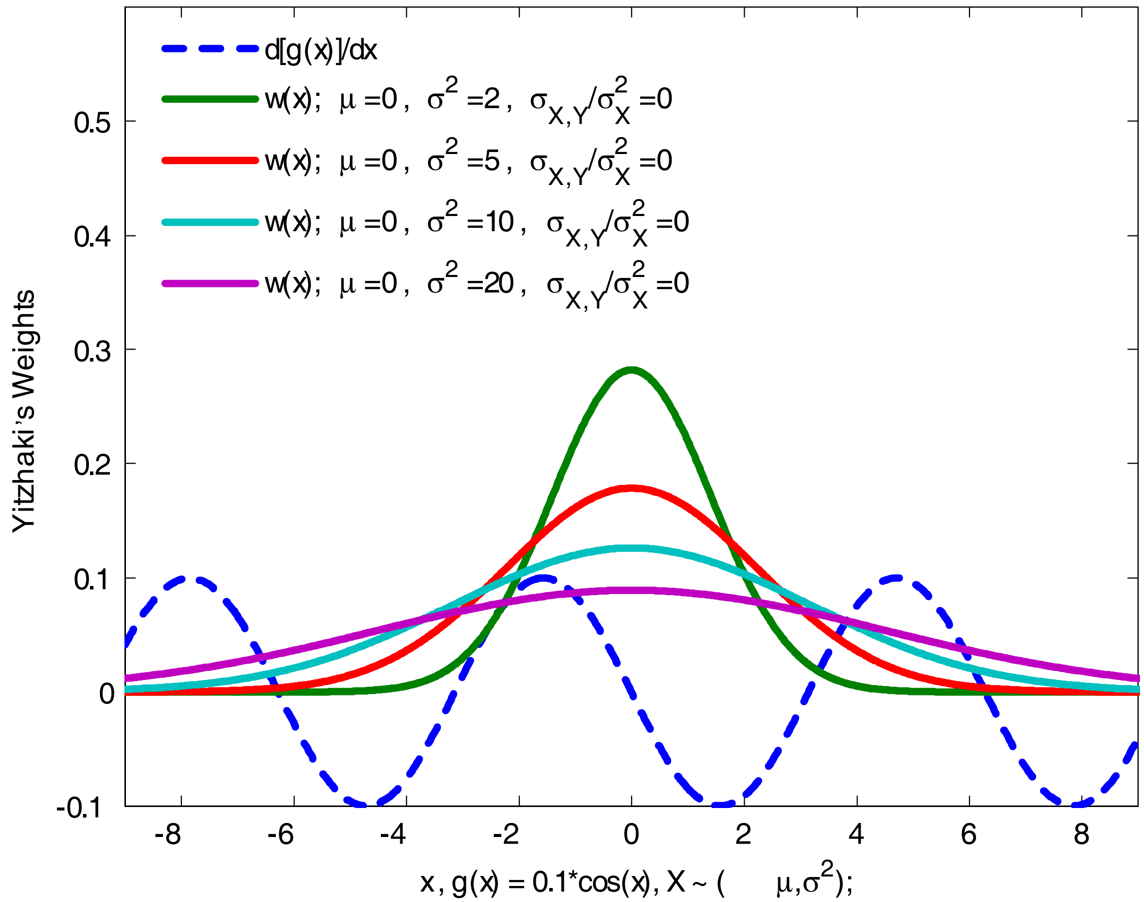


$$E\left(Y|X=x\right)=g(x)\Rightarrow\frac{Cov(X,Y)}{Var(X)}=\int_{-\infty}^{\infty}g'(t)w(t)dx$$

$$w(t)=\frac{1}{Var(X)}E\left(X|X>t\right)\cdot\Pr\left(X>t\right)$$

$$\mathbf{g}(\mathbf{x})=\mathbf{0.1}\cdot\mathbf{x}+\mathbf{0.1}\cdot\cos(\mathbf{x}),\quad\mathbf{X}\sim\mathbf{N}(\boldsymbol{\mu}_x,\boldsymbol{\sigma}_X^2).$$

Yitzhaki's Weights for X Normal

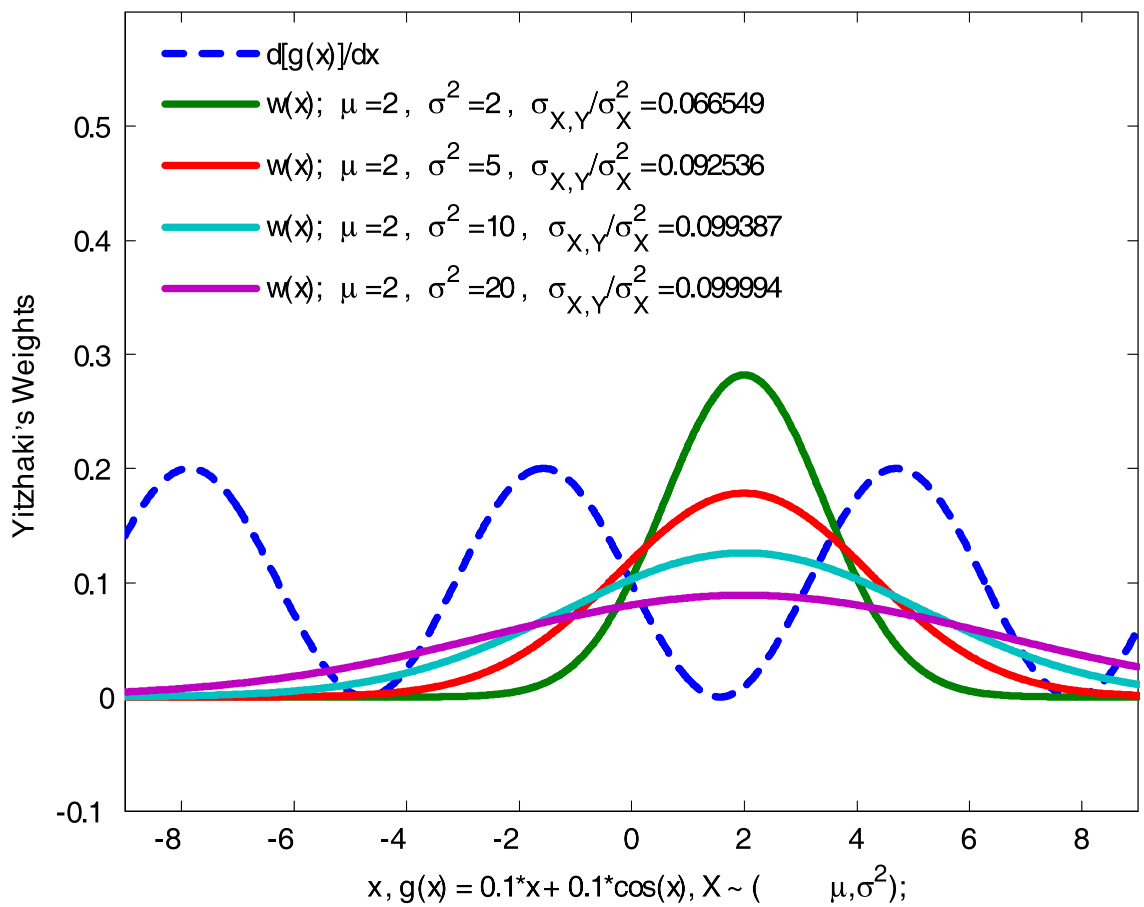


$$E\left(Y|X=x\right)=g(x)\Rightarrow\frac{Cov(X,Y)}{Var(X)}=\int_{-\infty}^{\infty}g'(t)w(t)dx$$

$$w(t)=\frac{1}{Var(X)}E\left(X|X>t\right)\cdot\Pr\left(X>t\right)$$

$$\mathbf{g(x)=0.1\cdot\cos(x),\quad X\sim N(\boldsymbol{\mu}_x,\boldsymbol{\sigma}_X^2).}$$

Yitzhaki's Weights for X Normal

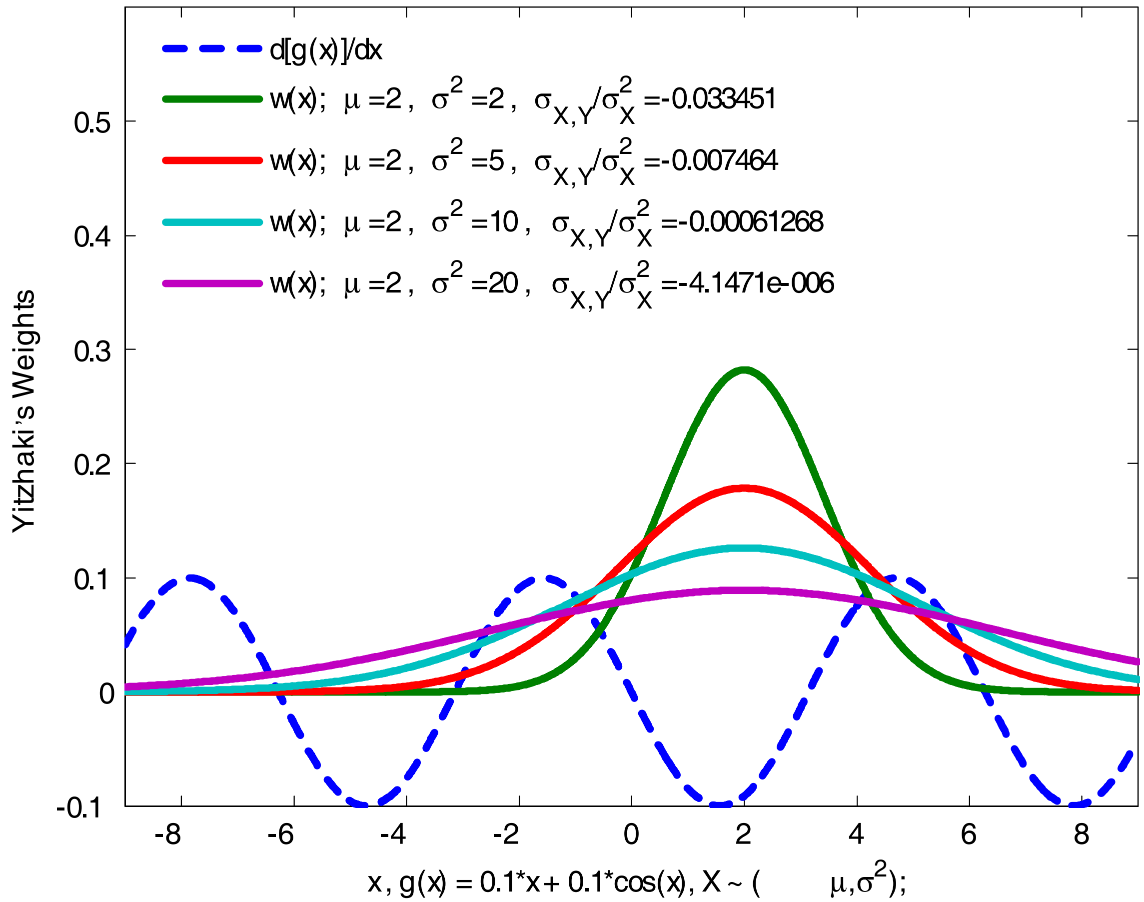


$$E\left(Y|X=x\right)=g(x)\Rightarrow\frac{Cov(X,Y)}{Var(X)}=\int_{-\infty}^{\infty}g'(t)w(t)dx$$

$$w(t)=\frac{1}{Var(X)}E\left(X|X>t\right)\cdot\Pr\left(X>t\right)$$

$$\mathbf{g(x)=0.1\cdot x+0.1}\cdot\cos(\mathbf{x}),\quad\mathbf{X}\sim\mathbf{N}(\boldsymbol{\mu}_x,\boldsymbol{\sigma}_X^2).$$

Yitzhaki's Weights for X Normal

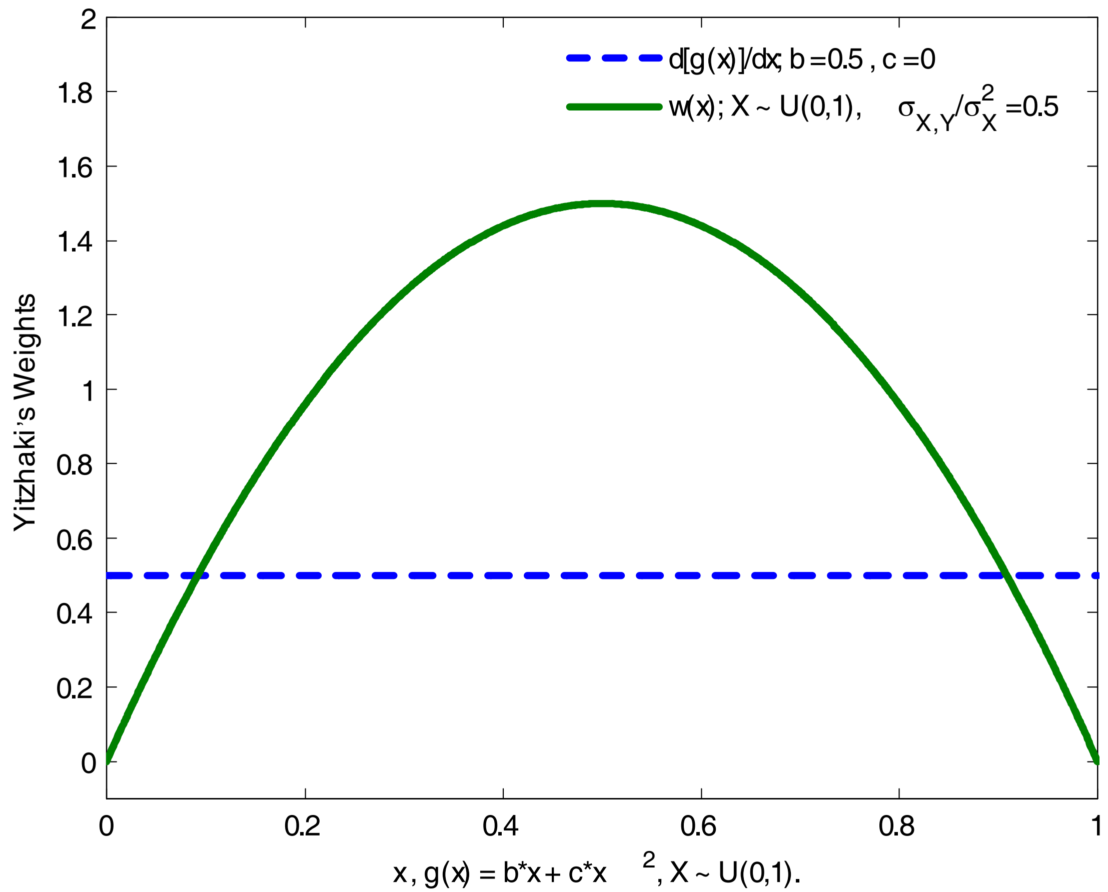


$$E\left(Y|X=x\right)=g(x)\Rightarrow\frac{Cov(X,Y)}{Var(X)}=\int_{-\infty}^{\infty}g'(t)w(t)dx$$

$$w(t)=\frac{1}{Var(X)}E\left(X|X>t\right)\cdot\Pr\left(X>t\right)$$

$$\mathbf{g}(\mathbf{x})=\mathbf{0.1}\cdot\cos(\mathbf{x}),\quad\mathbf{X}\sim\mathbf{N}(\boldsymbol{\mu}_x,\boldsymbol{\sigma}_X^2).$$

Yitzhaki's Weights for X $\sim U[0,1]$

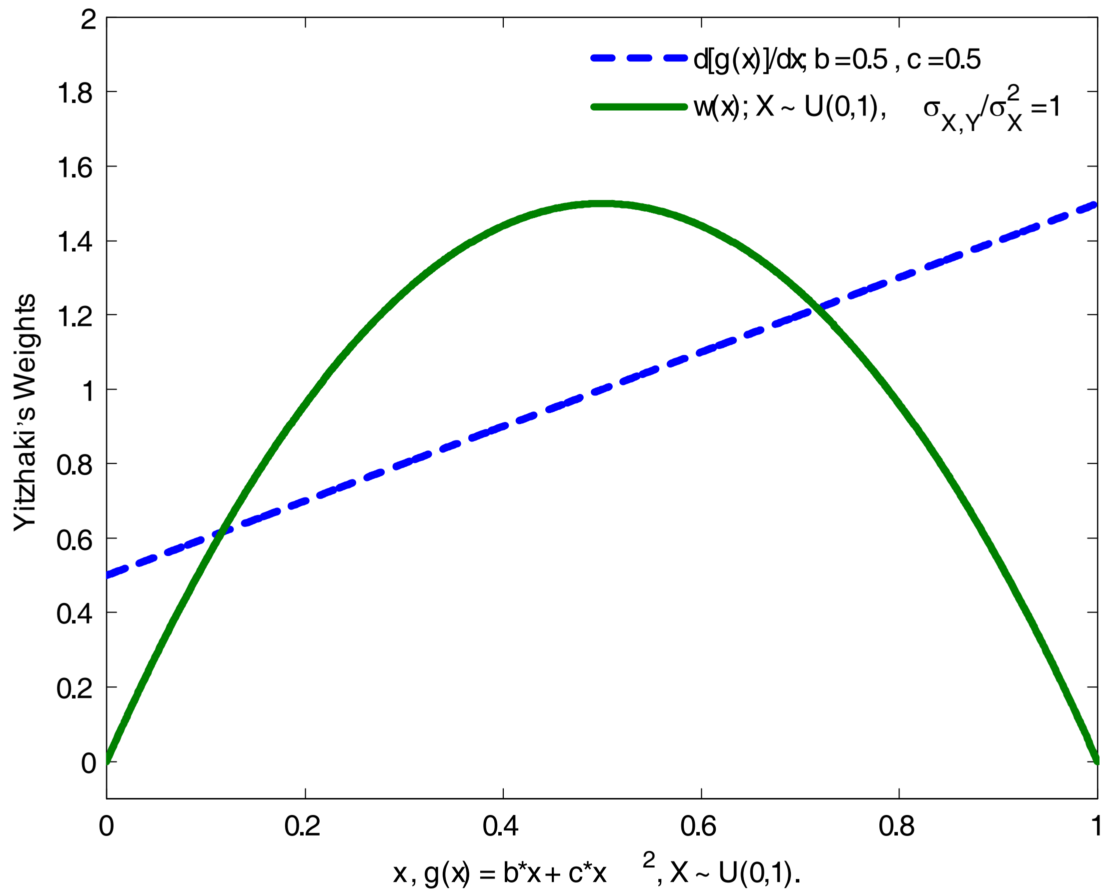


$$E\left(Y|X=x\right)=g(x)\Rightarrow\frac{Cov(X,Y)}{Var(X)}=\int_{-\infty}^{\infty}g'(t)w(t)dx$$

$$w(t)=\frac{1}{Var(X)}E\left(X|X>t\right)\cdot\Pr\left(X>t\right)$$

$$\mathbf{g(x)=0.5\cdot x,\quad X\sim U\left[0,1\right].}$$

Yitzhaki's Weights for X $\sim U[0,1]$

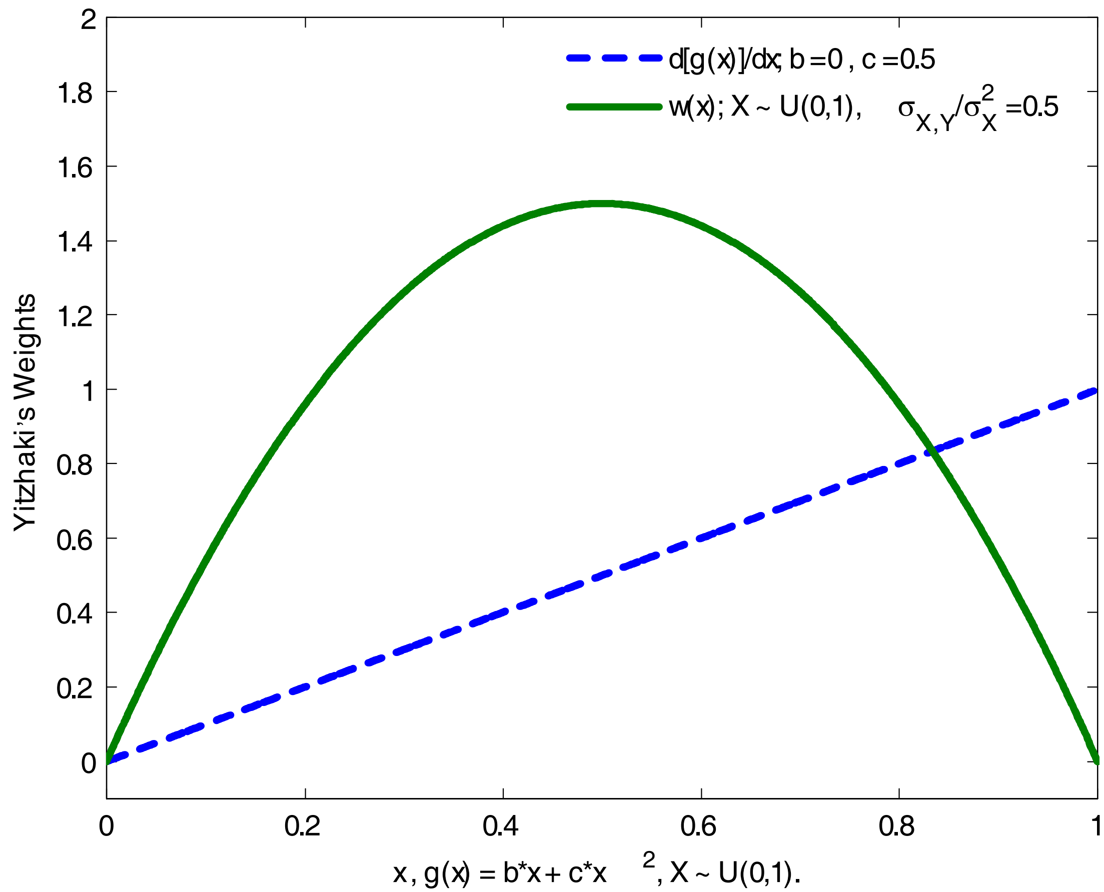


$$E\left(Y|X=x\right)=g(x)\Rightarrow \frac{Cov(X,Y)}{Var(X)}=\int_{-\infty}^{\infty}g'(t)w(t)dx$$

$$w(t)=\frac{1}{Var(X)}E\left(X|X>t\right)\cdot \Pr\left(X>t\right)$$

$$\mathbf{g(x)=0.5\cdot x+0.5\cdot x^{2},\quad X\sim U\left[0,1\right].}$$

Yitzhaki's Weights for X $\sim U[0,1]$

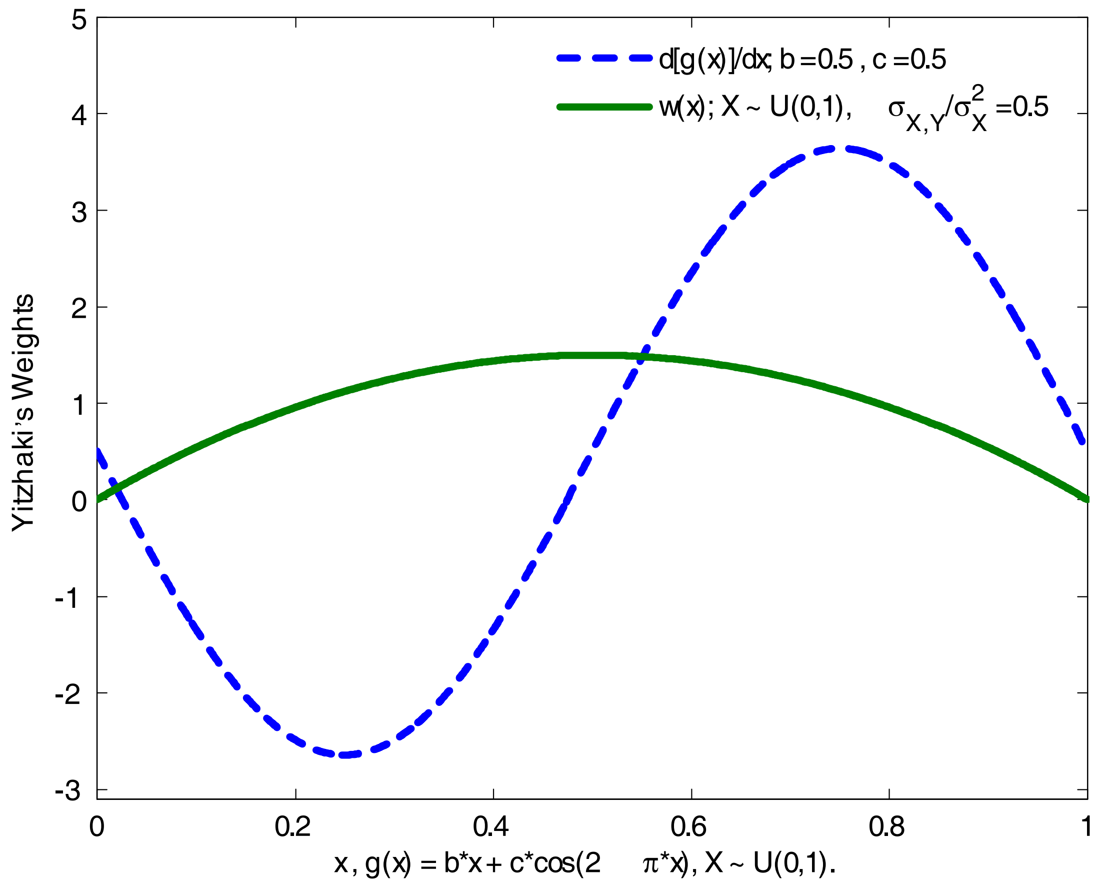


$$E\left(Y|X=x\right)=g(x)\Rightarrow\frac{Cov(X,Y)}{Var(X)}=\int_{-\infty}^{\infty}g'(t)w(t)dx$$

$$w(t)=\frac{1}{Var(X)}E\left(X|X>t\right)\cdot\Pr\left(X>t\right)$$

$$\mathbf{g(x)=0.5\cdot x^2,\quad X\sim U\left[0,1\right].}$$

Yitzhaki's Weights for X $\sim U[0,1]$

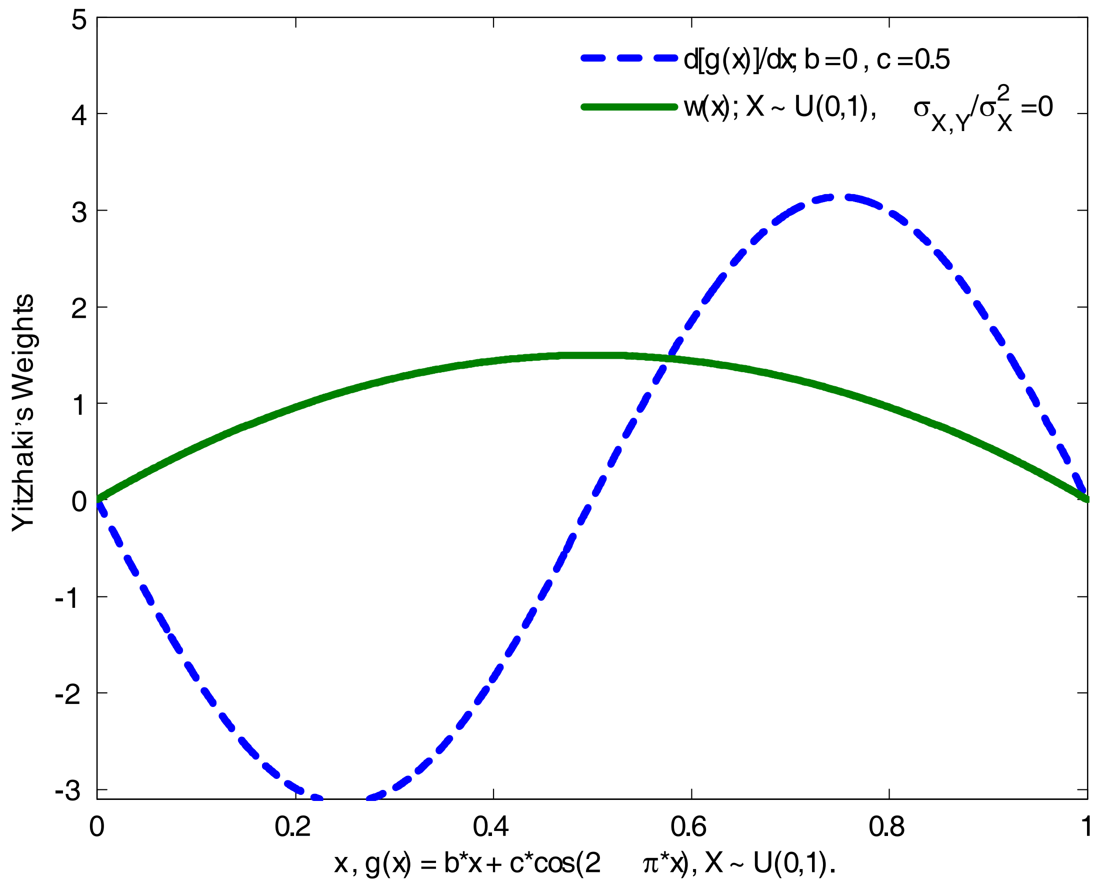


$$E\left(Y|X=x\right)=g(x)\Rightarrow\frac{Cov(X,Y)}{Var(X)}=\int_{-\infty}^{\infty}g'(t)w(t)dx$$

$$w(t)=\frac{1}{Var(X)}E\left(X|X>t\right)\cdot\Pr\left(X>t\right)$$

$$\mathbf{g(x)=0.5\cdot x+0.5\cdot\cos(2\boldsymbol{\pi}\cdot x),\quad X\sim U\left[0,1\right].}$$

Yitzhaki's Weights for X $\sim U[0,1]$

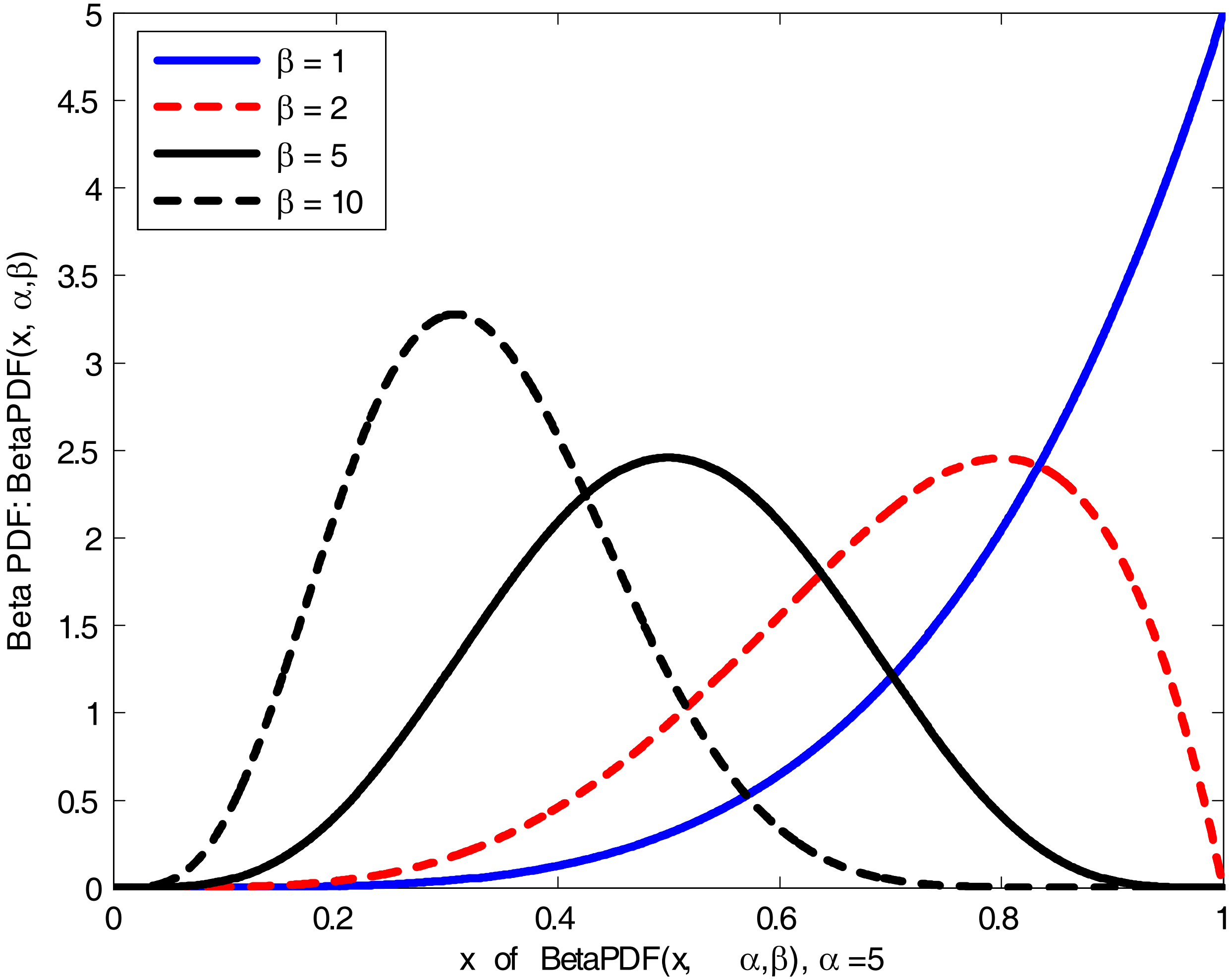


$$E\left(Y|X=x\right)=g(x)\Rightarrow\frac{Cov(X,Y)}{Var(X)}=\int_{-\infty}^{\infty}g'(t)w(t)dx$$

$$w(t)=\frac{1}{Var(X)}E\left(X|X>t\right)\cdot\Pr\left(X>t\right)$$

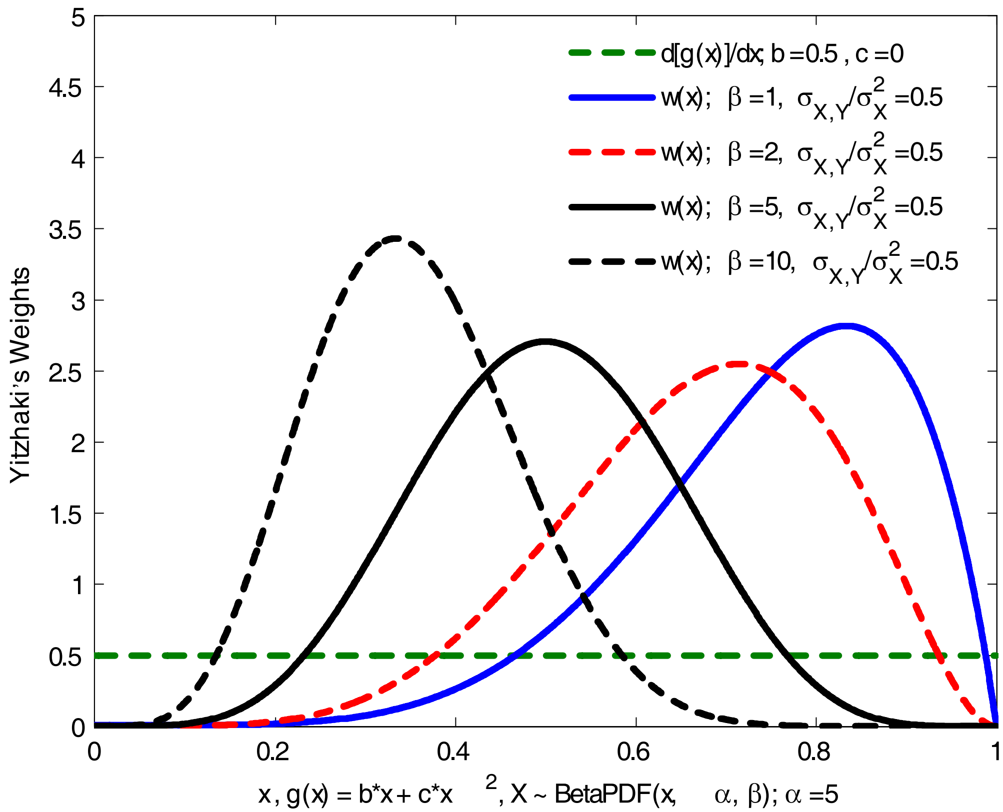
$$\mathbf{g(x)=0.5\cdot\cos(2\boldsymbol{\pi}\cdot x),\quad X\sim U\left[0,1\right].}$$

The Beta Probability Density Function



$$BetaPDF(x, \alpha, \beta) = \frac{x^{\alpha-1}(1-x)^{\beta-1}}{B(\alpha,\beta)};\ \alpha = 5;$$

Yitzhaki's Weights for $\mathbf{X} \sim BetaPDF(x, \alpha, \beta)$



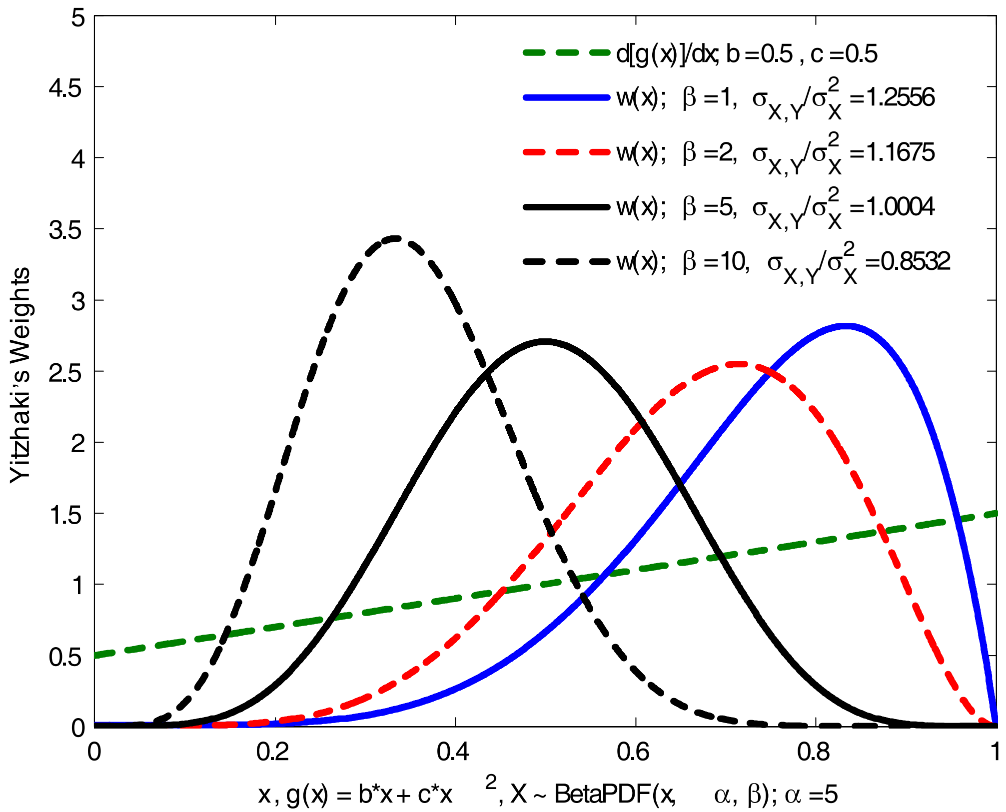
$$E\left(Y|X=x\right) = g(x) \Rightarrow \frac{Cov(X,Y)}{Var(X)} = \int_{-\infty}^{\infty} g'(t)w(t)dx$$

$$w(t) = \frac{1}{Var(X)} E\left(X|X>t\right) \cdot \Pr\left(X>t\right)$$

$$\mathbf{X} \sim BetaPDF(x, \alpha, \beta) = \frac{x^{\alpha-1}(1-x)^{\beta-1}}{B(\alpha,\beta)}; \; \alpha = 5;$$

$$. \; \mathbf{g(x) = 0.5 \cdot x}$$

Yitzhaki's Weights for $\mathbf{X} \sim BetaPDF(x, \alpha, \beta)$



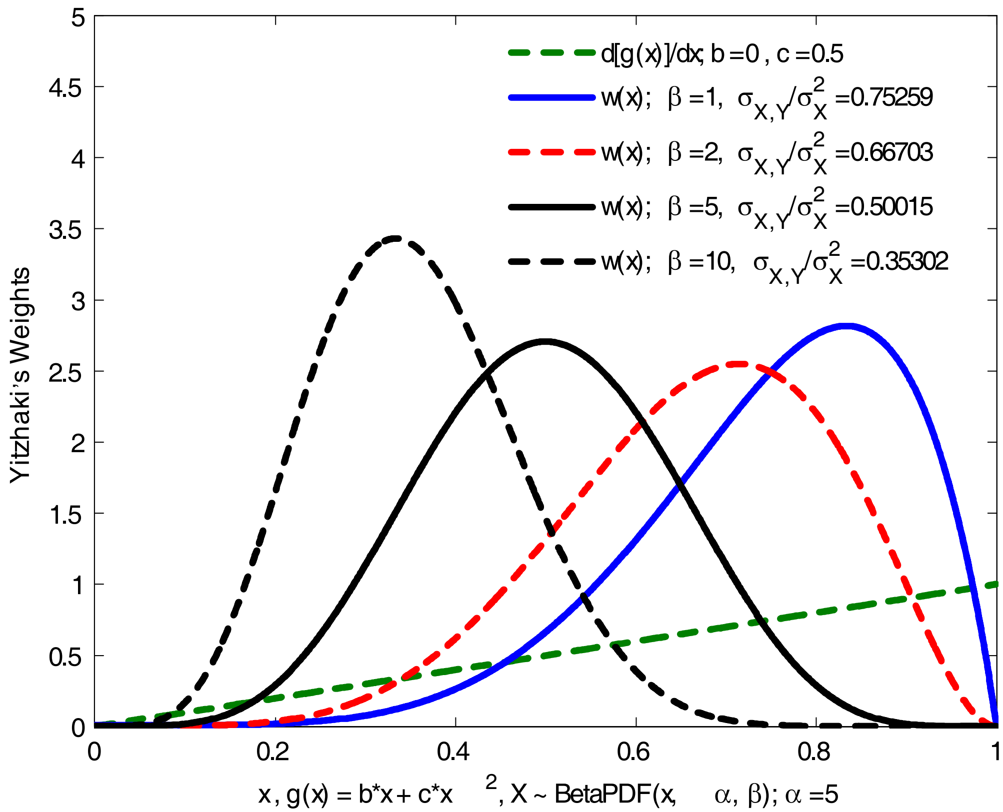
$$E\left(Y|X=x\right)=g(x)\Rightarrow\frac{Cov(X,Y)}{Var(X)}=\int_{-\infty}^{\infty}g'(t)w(t)dx$$

$$w(t)=\frac{1}{Var(X)}E\left(X|X>t\right)\cdot\Pr\left(X>t\right)$$

$$\mathbf{X}\sim BetaPDF(x,\alpha,\beta)=\frac{x^{\alpha-1}(1-x)^{\beta-1}}{B(\alpha,\beta)};\ \alpha=5;$$

$$\mathbf{g(x)=0.5\cdot x+0.5\cdot x^2}.$$

Yitzhaki's Weights for $\mathbf{X} \sim BetaPDF(x, \alpha, \beta)$



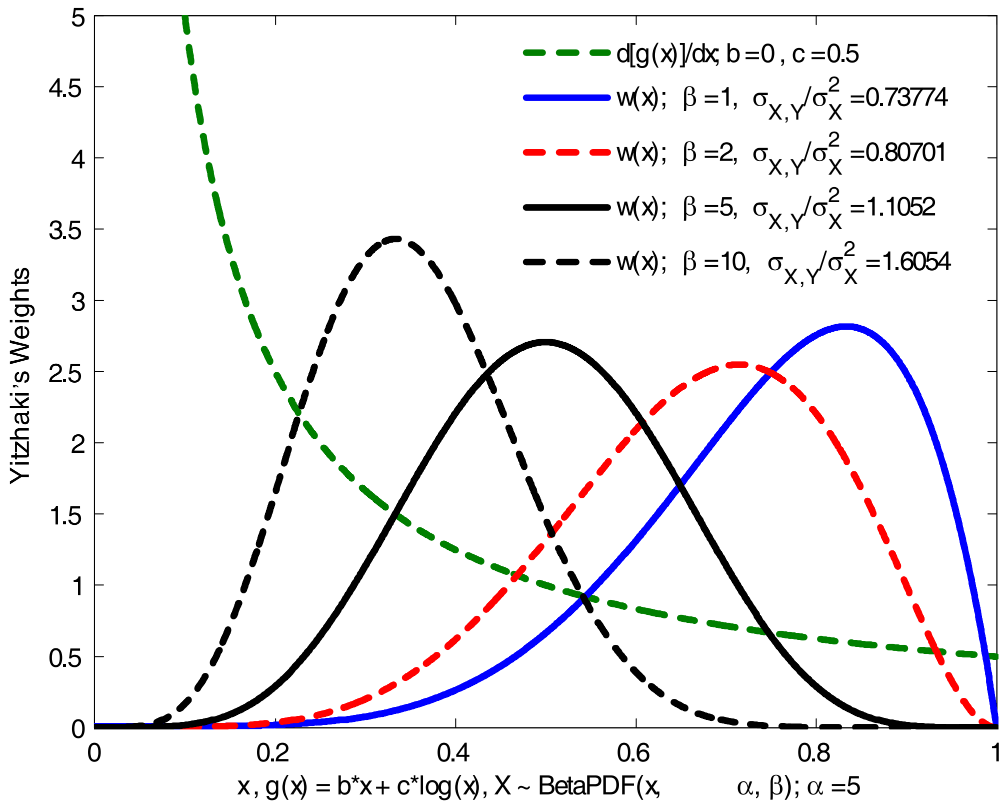
$$E\left(Y|X=x\right) = g(x) \Rightarrow \frac{Cov(X,Y)}{Var(X)} = \int_{-\infty}^{\infty} g'(t)w(t)dx$$

$$w(t) = \frac{1}{Var(X)} E\left(X|X>t\right) \cdot \Pr\left(X>t\right)$$

$$\mathbf{X} \sim BetaPDF(x, \alpha, \beta) = \frac{x^{\alpha-1}(1-x)^{\beta-1}}{B(\alpha,\beta)}; \;\; \alpha = 5;$$

$$\mathbf{g(x) = 0.5 \cdot x^2}.$$

Yitzhaki's Weights for $\mathbf{X} \sim BetaPDF(x, \alpha, \beta)$



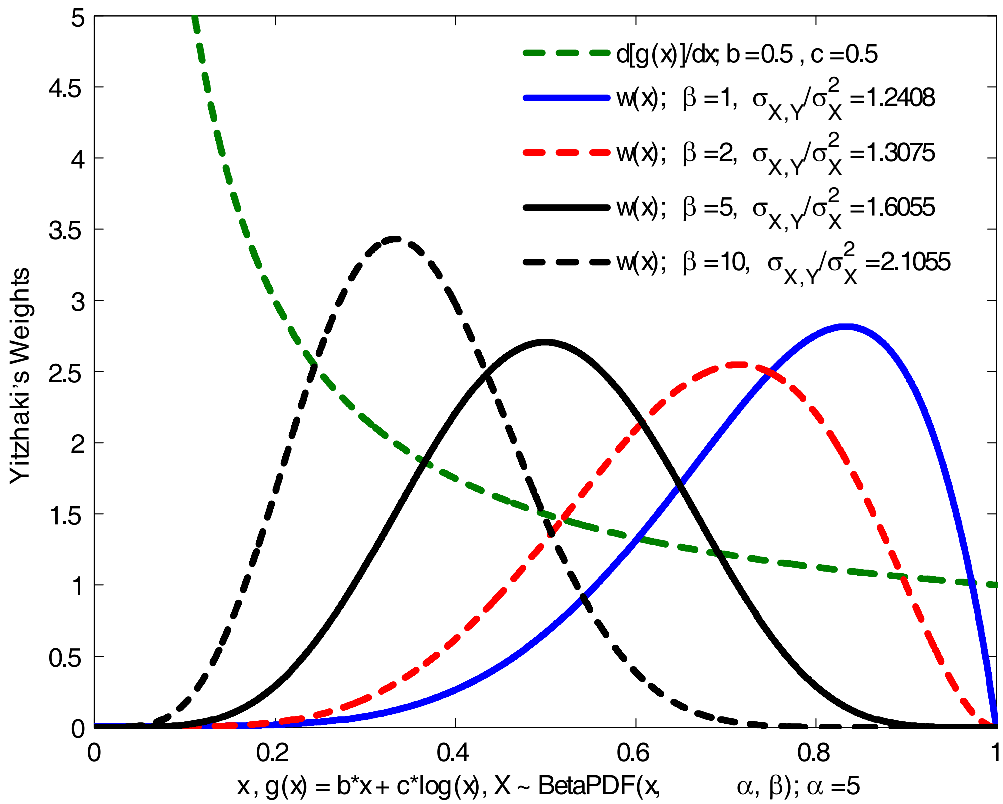
$$E\left(Y|X=x\right)=g(x)\Rightarrow\frac{Cov(X,Y)}{Var(X)}=\int_{-\infty}^{\infty}g'(t)w(t)dx$$

$$w(t)=\frac{1}{Var(X)}E\left(X|X>t\right)\cdot\Pr\left(X>t\right)$$

$$\mathbf{X}\sim BetaPDF(x,\alpha,\beta)=\frac{x^{\alpha-1}(1-x)^{\beta-1}}{B(\alpha,\beta)};\ \alpha=5;$$

$$\mathbf{g(x)=0.5\cdot x+0.5\cdot}\log(\mathbf{X})$$

Yitzhaki's Weights for $\mathbf{X} \sim BetaPDF(x, \alpha, \beta)$



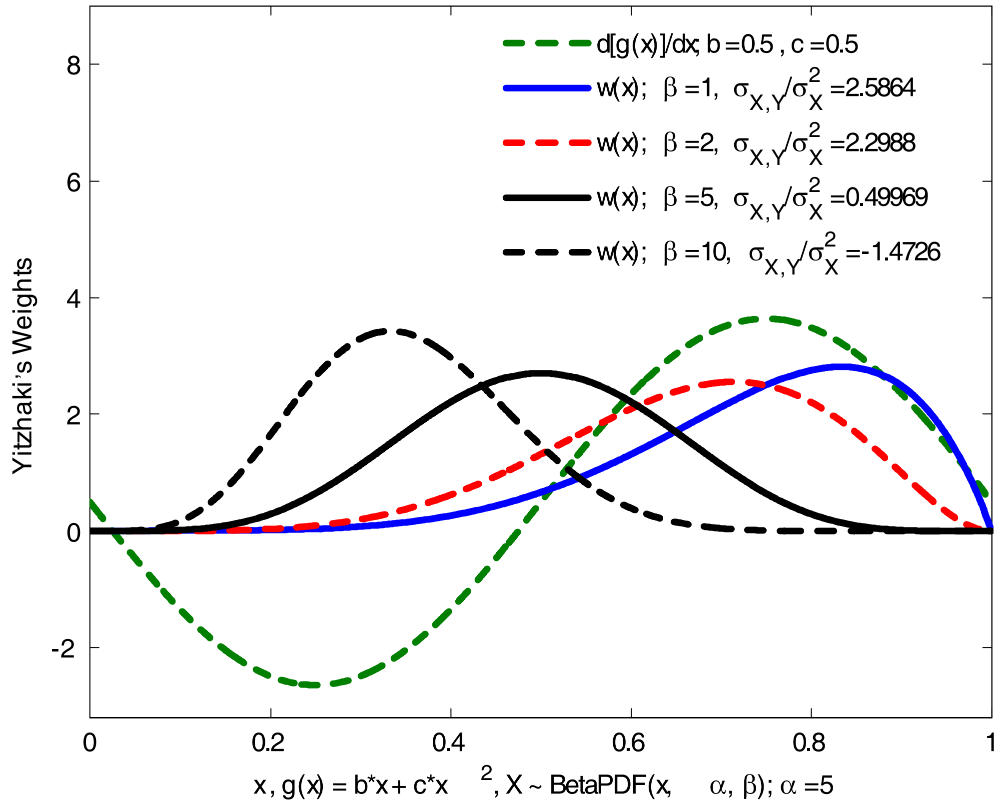
$$E\left(Y|X=x\right)=g(x)\Rightarrow\frac{Cov(X,Y)}{Var(X)}=\int_{-\infty}^{\infty}g'(t)w(t)dx$$

$$w(t)=\frac{1}{Var(X)}E\left(X|X>t\right)\cdot\Pr\left(X>t\right)$$

$$\mathbf{X}\sim BetaPDF(x,\alpha,\beta)=\frac{x^{\alpha-1}(1-x)^{\beta-1}}{B(\alpha,\beta)};\ \alpha=5;$$

$$\mathbf{g(x)}=\mathbf{0.5}\cdot\log(\mathbf{X})$$

Yitzhaki's Weights for $\mathbf{X} \sim BetaPDF(x, \alpha, \beta)$



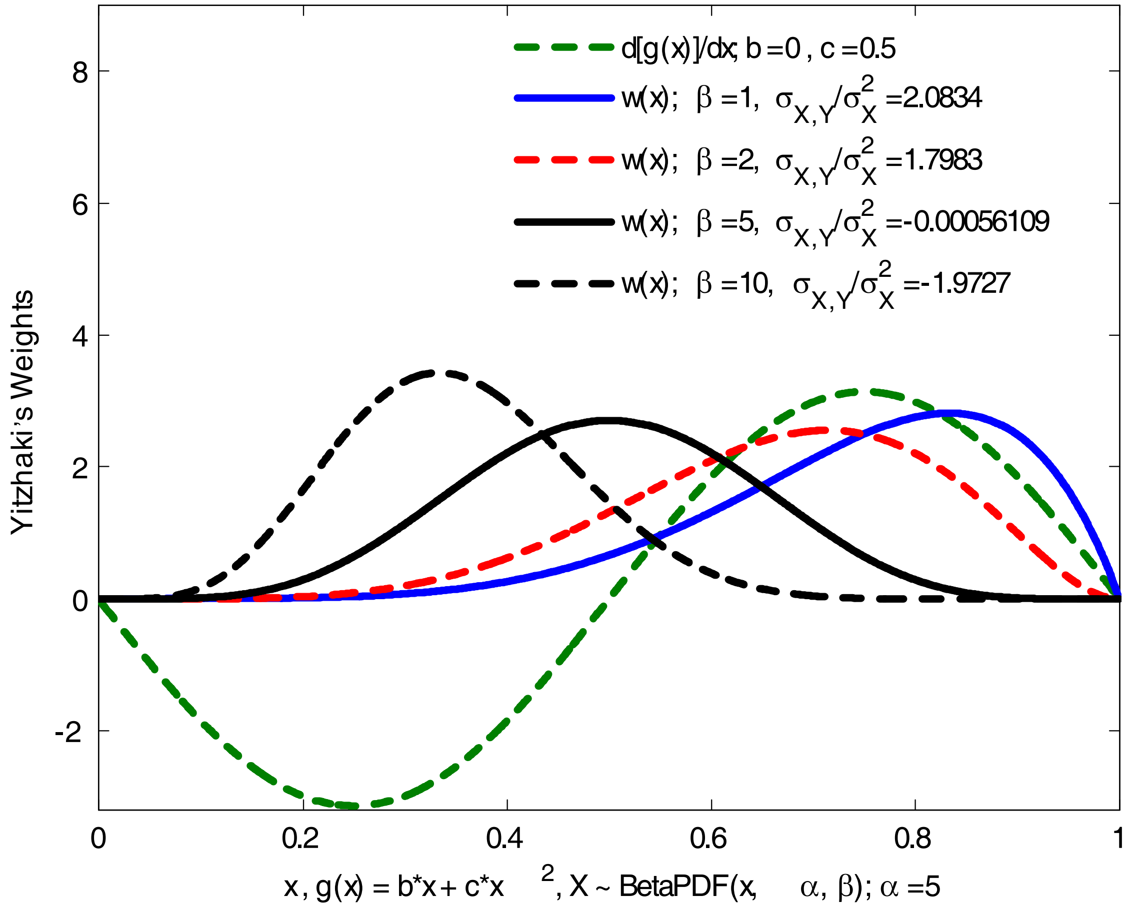
$$E\left(Y|X=x\right)=g(x)\Rightarrow\frac{Cov(X,Y)}{Var(X)}=\int_{-\infty}^{\infty}g'(t)w(t)dx$$

$$w(t)=\frac{1}{Var(X)}E\left(X|X>t\right)\cdot\Pr\left(X>t\right)$$

$$\mathbf{X} \sim BetaPDF(x,\alpha,\beta)=\frac{x^{\alpha-1}(1-x)^{\beta-1}}{B(\alpha,\beta)};\ \alpha=5;$$

$$\mathbf{g(x)=0.5\cdot x+0.5\cdot}\cos(\mathbf{2\pi\cdot x}).$$

Yitzhaki's Weights for $\mathbf{X} \sim BetaPDF(x, \alpha, \beta)$



$$E\left(Y|X=x\right) = g(x) \Rightarrow \frac{Cov(X,Y)}{Var(X)} = \int_{-\infty}^{\infty} g'(t)w(t)dx$$

$$w(t) = \frac{1}{Var(X)} E\left(X|X>t\right) \cdot \Pr\left(X>t\right)$$

$$\mathbf{X} \sim BetaPDF(x, \alpha, \beta) = \frac{x^{\alpha-1}(1-x)^{\beta-1}}{B(\alpha,\beta)}; \;\; \alpha = 5;$$

$$\mathbf{g(x) = 0.5 \cdot \cos(2\pi \cdot x)}.$$