

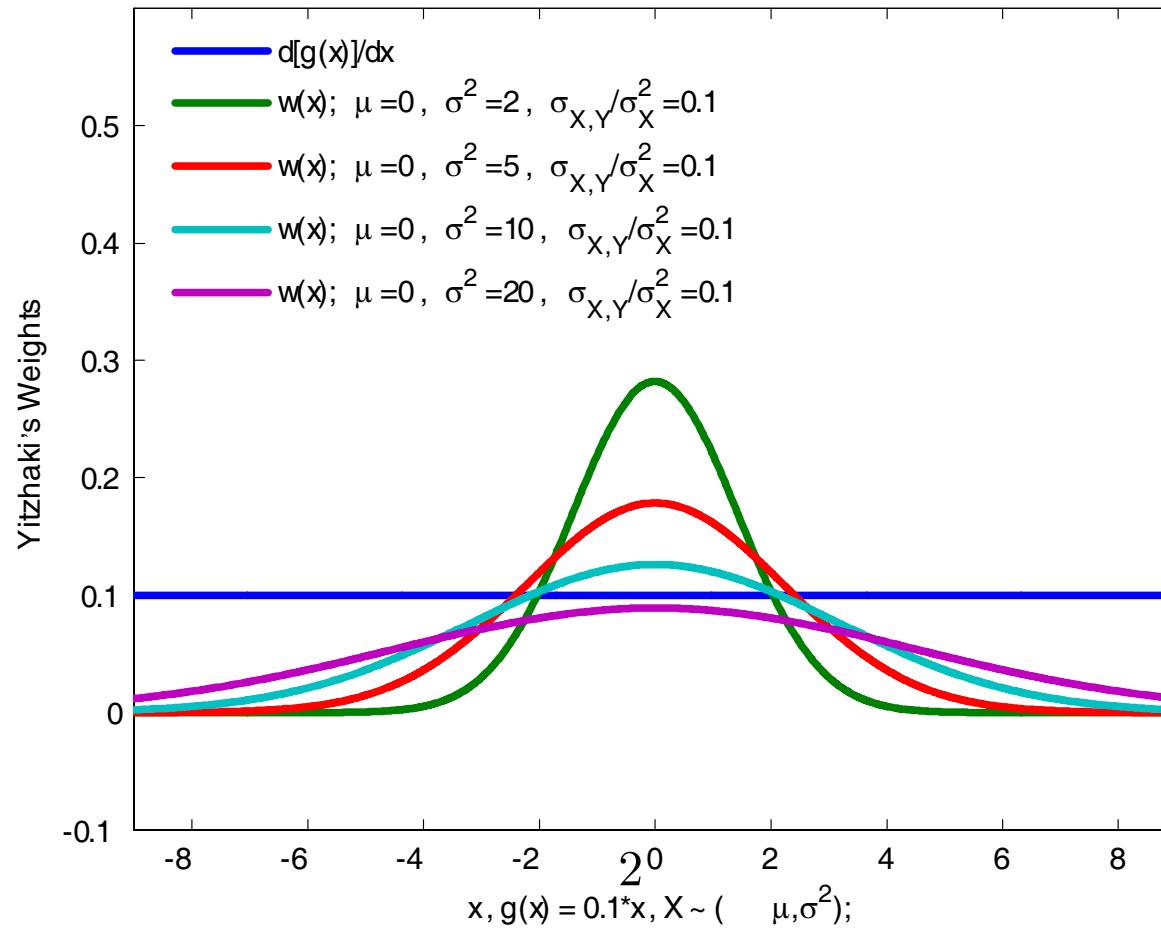
Yitzhaki Weights Examples

James J. Heckman

Econ 312, Spring 2022



Yitzhaki's Weights for X Normal

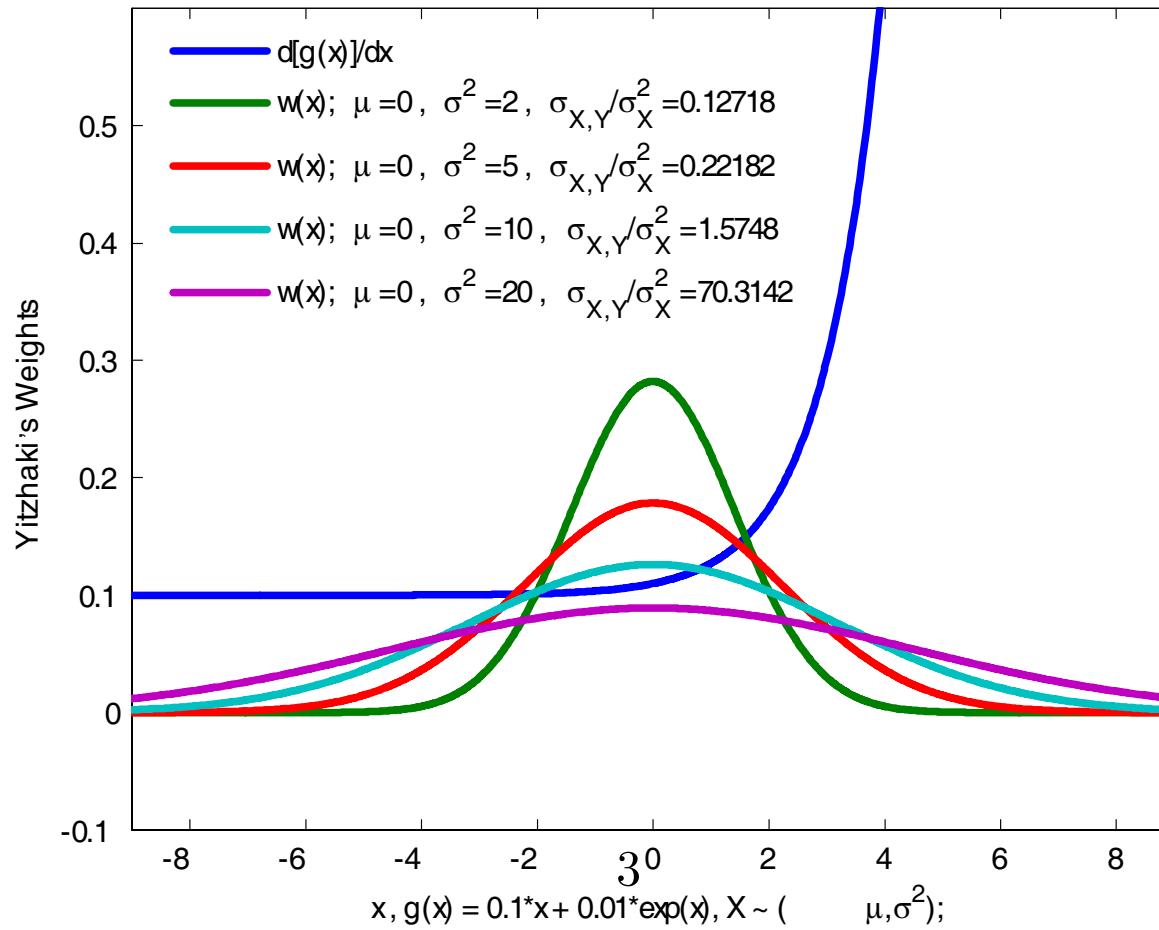


$$E(Y|X=x) = g(x) \Rightarrow \frac{Cov(X,Y)}{Var(X)} = \int_{-\infty}^{\infty} g'(t)w(t)dx$$

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

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

Yitzhaki's Weights for X Normal

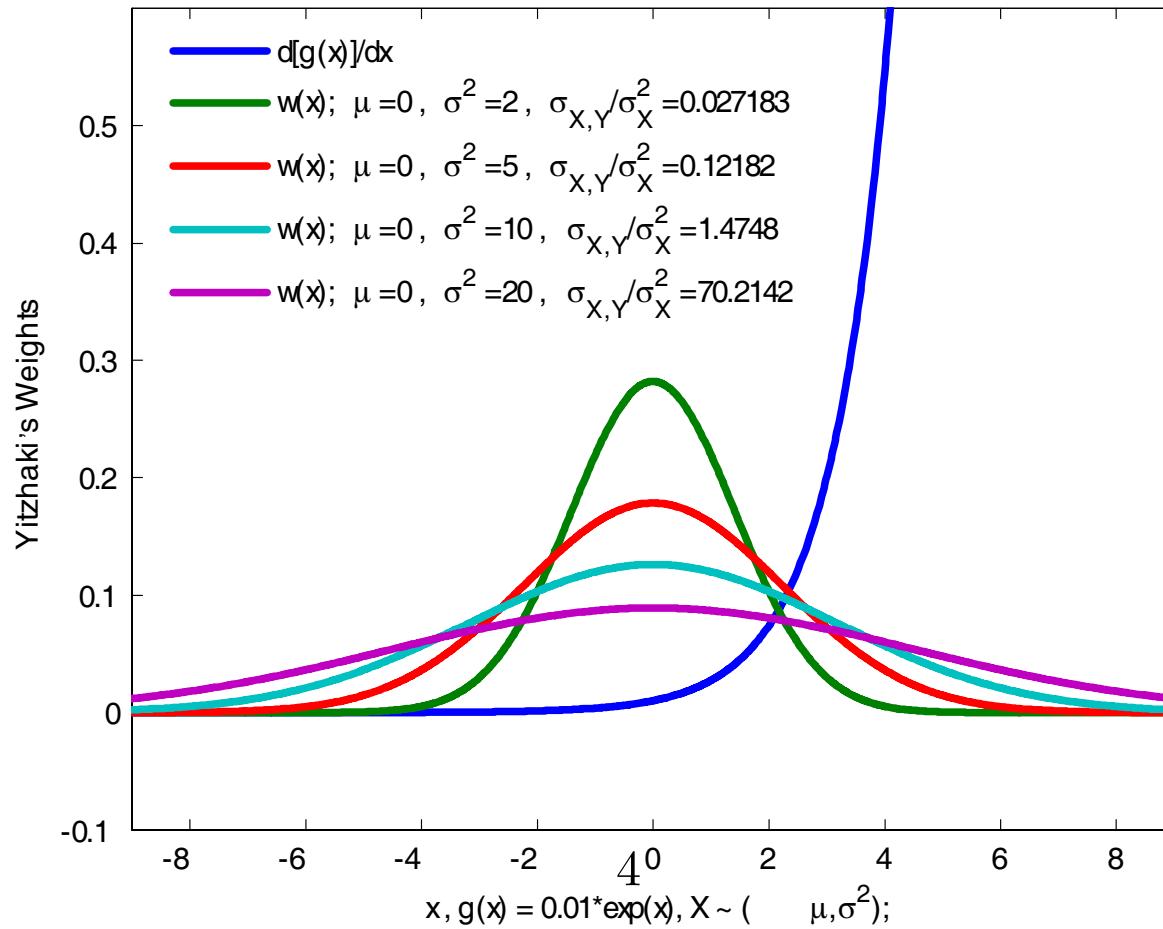


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$$\mathbf{g(x)} = \mathbf{0.1 \cdot x + 0.01 \cdot exp(x)}, \quad \mathbf{X} \sim \mathbf{N}(\boldsymbol{\mu}_x, \boldsymbol{\sigma}_X^2).$$

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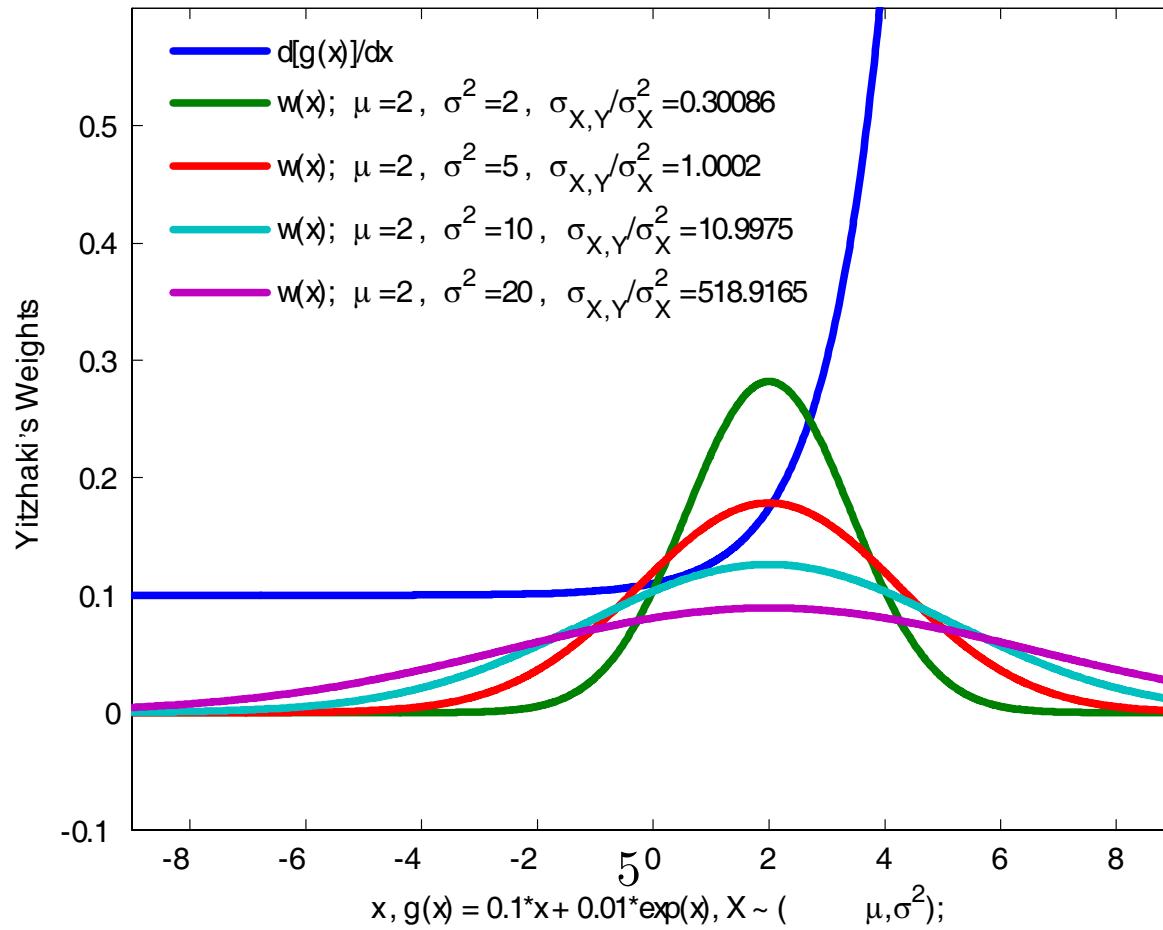


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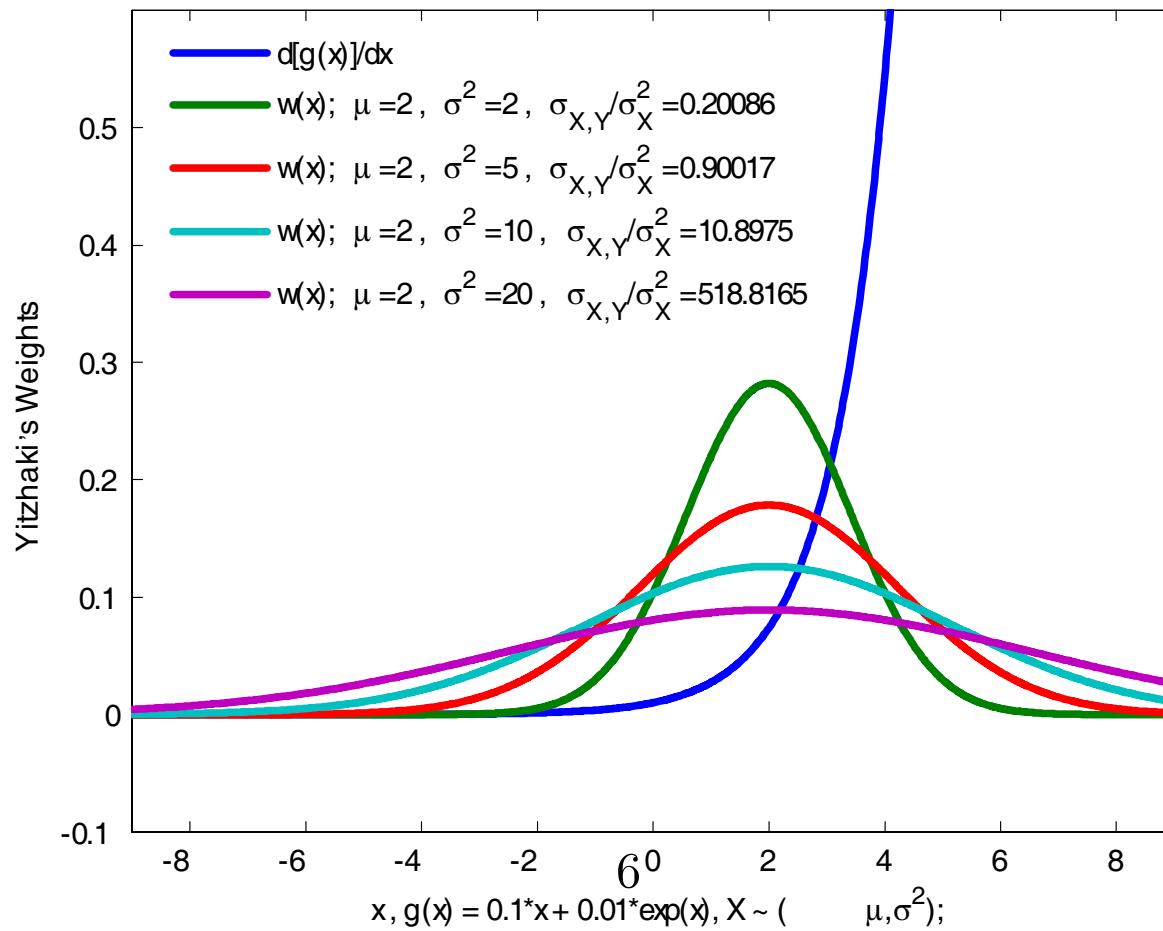


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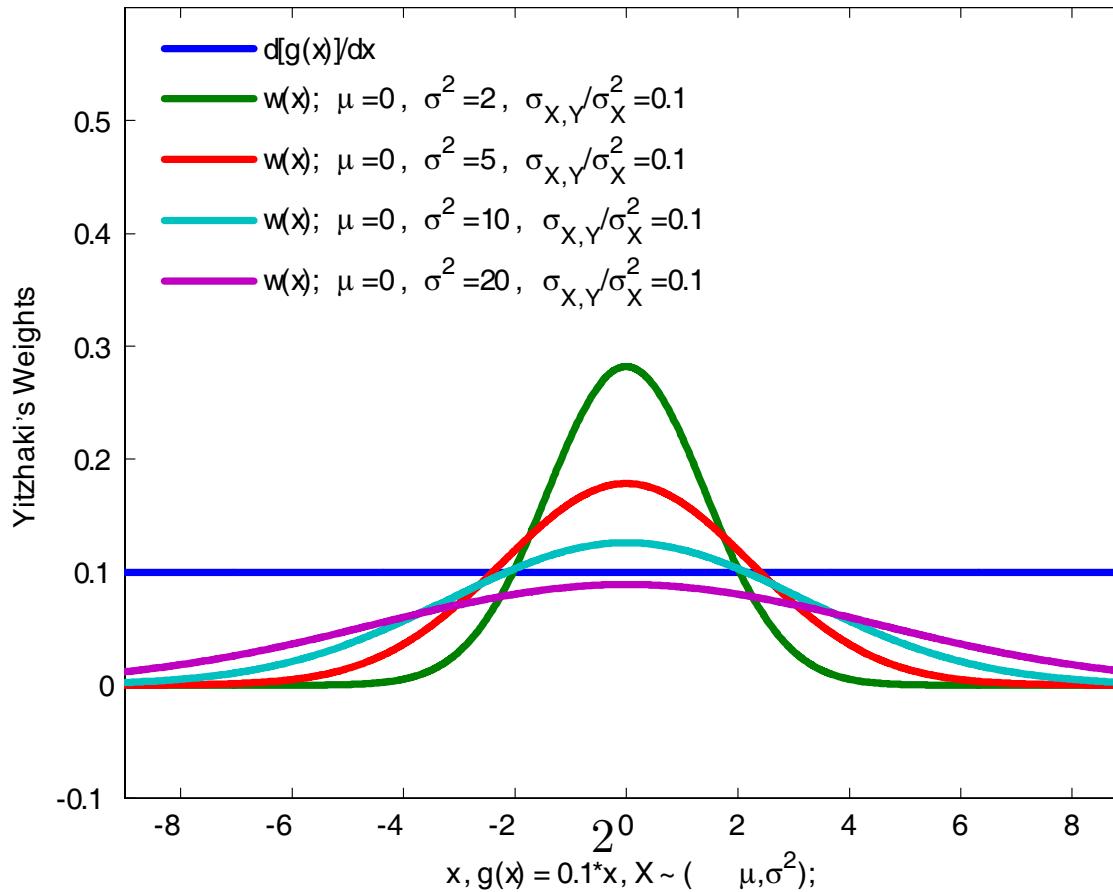


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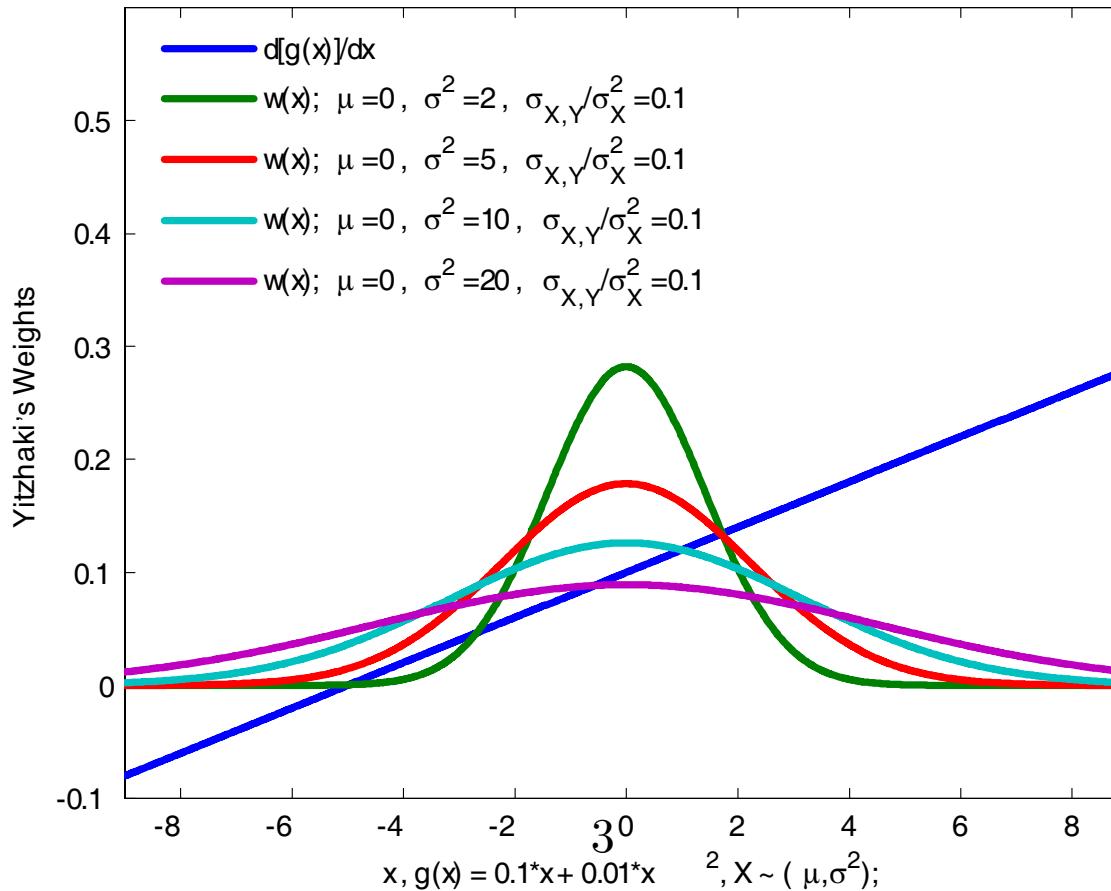


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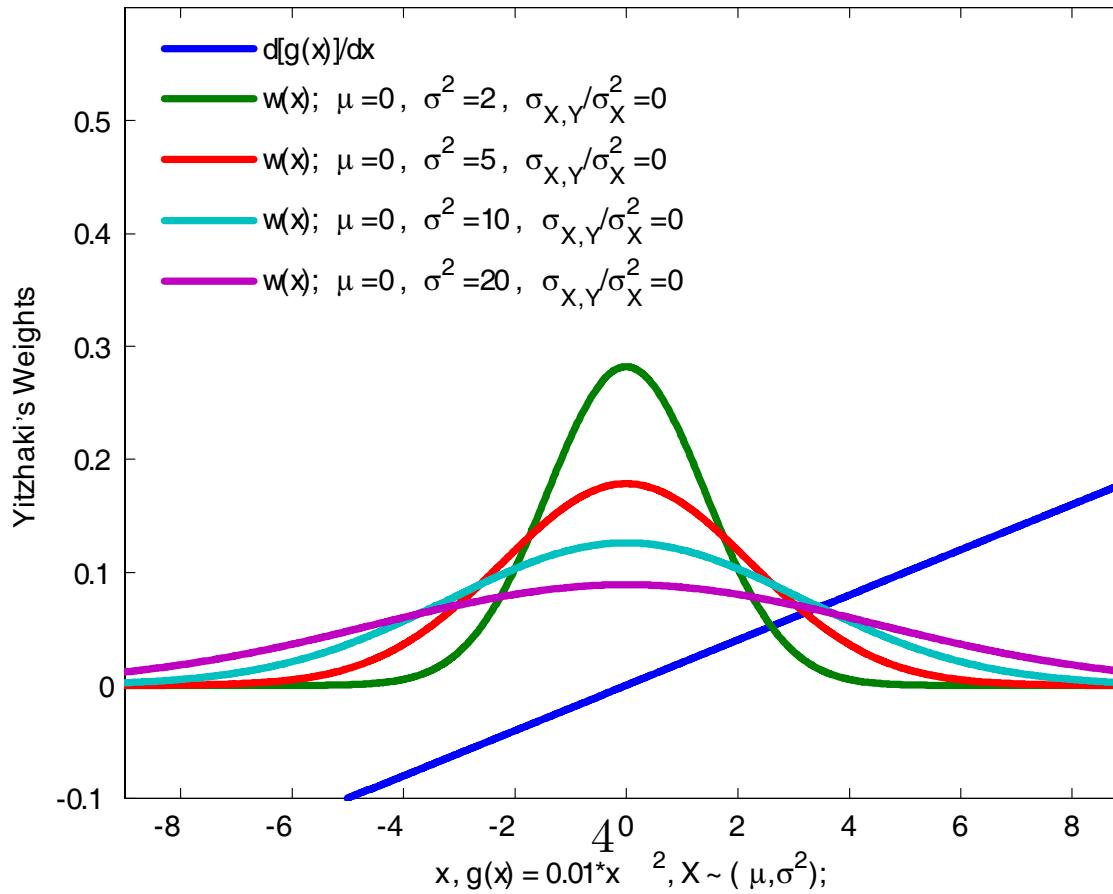


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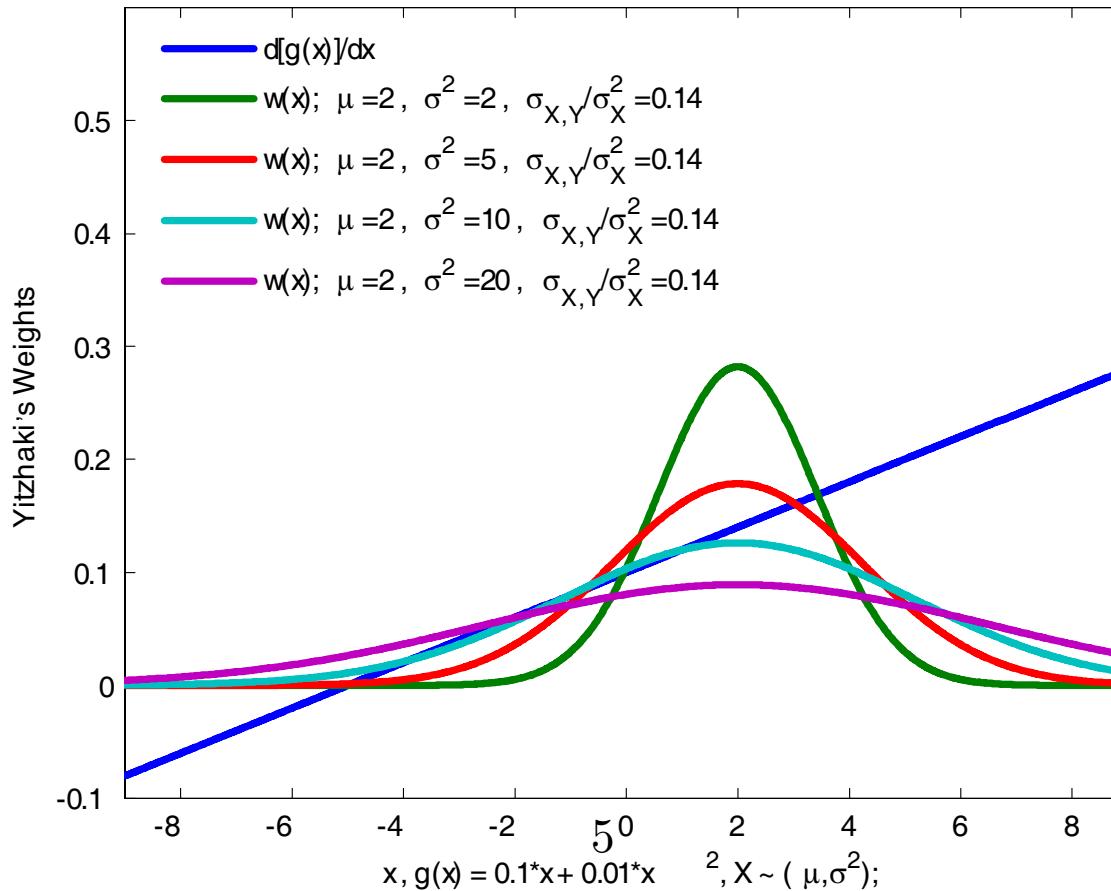


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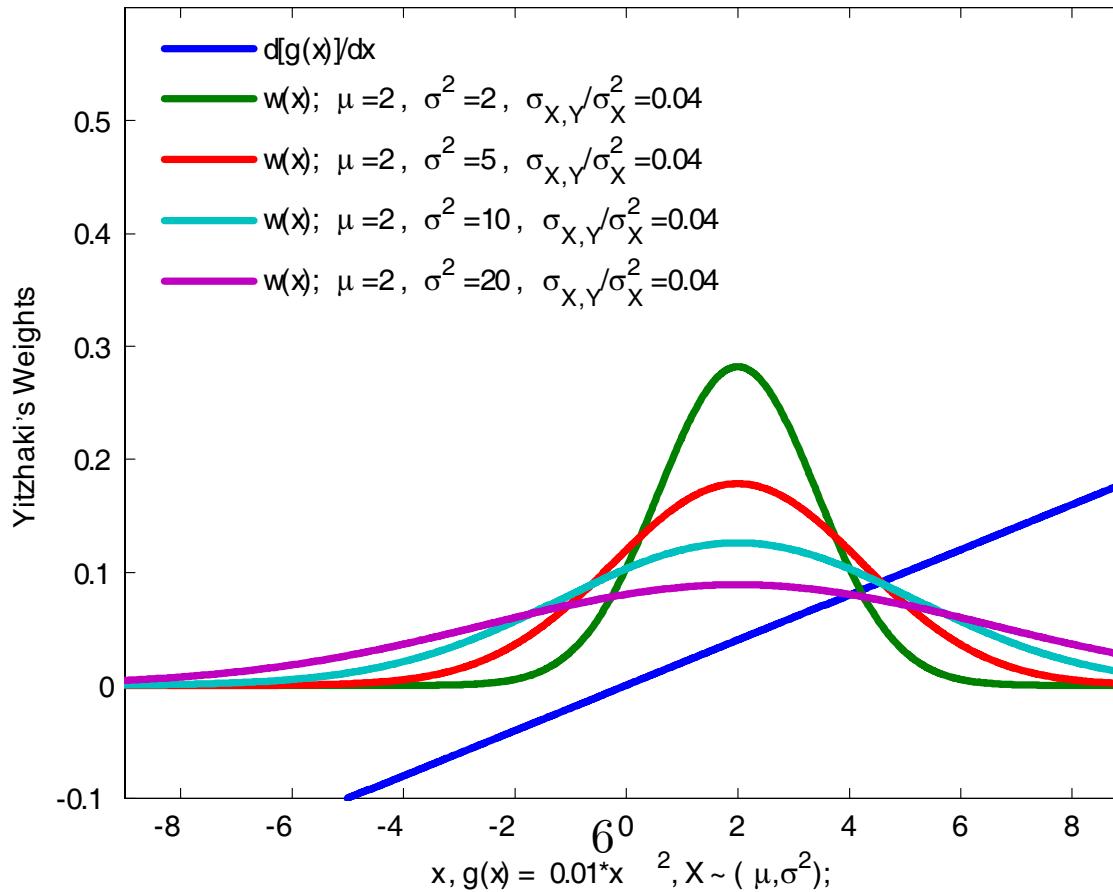


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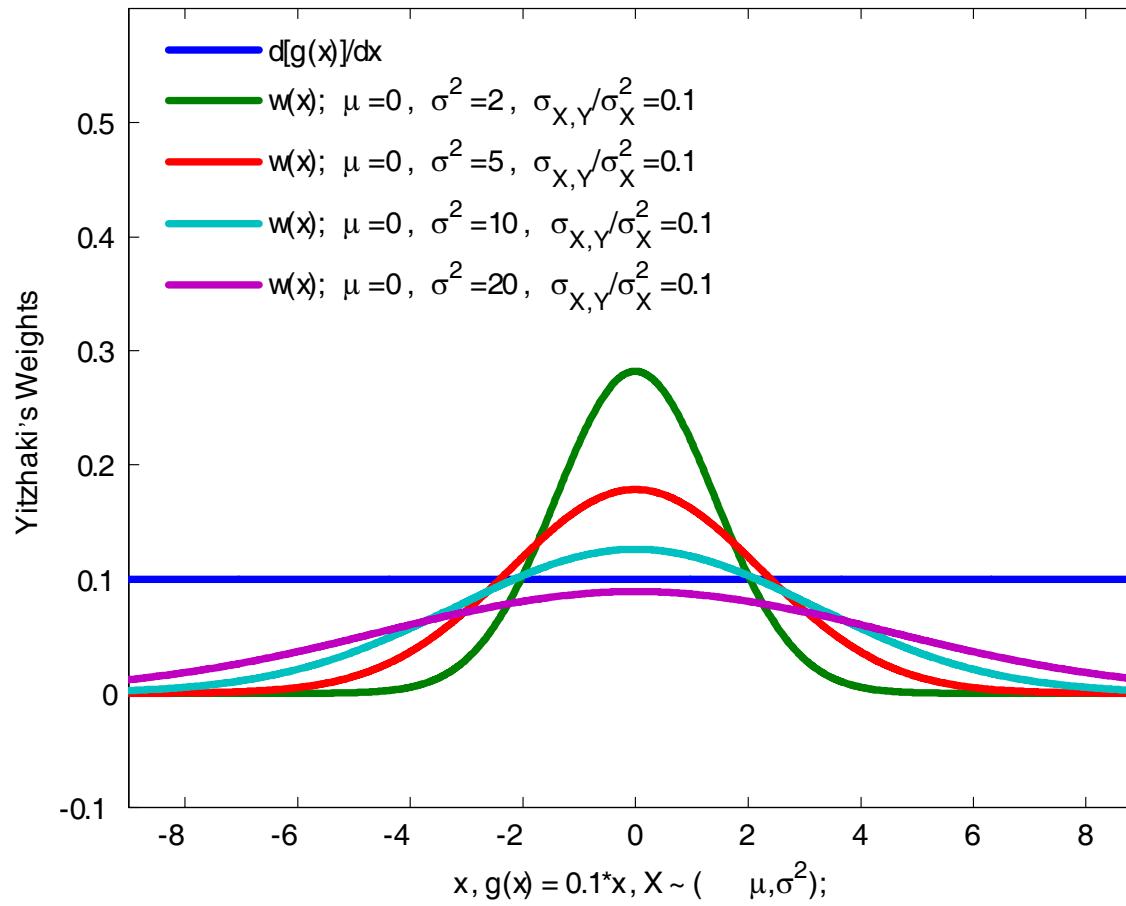


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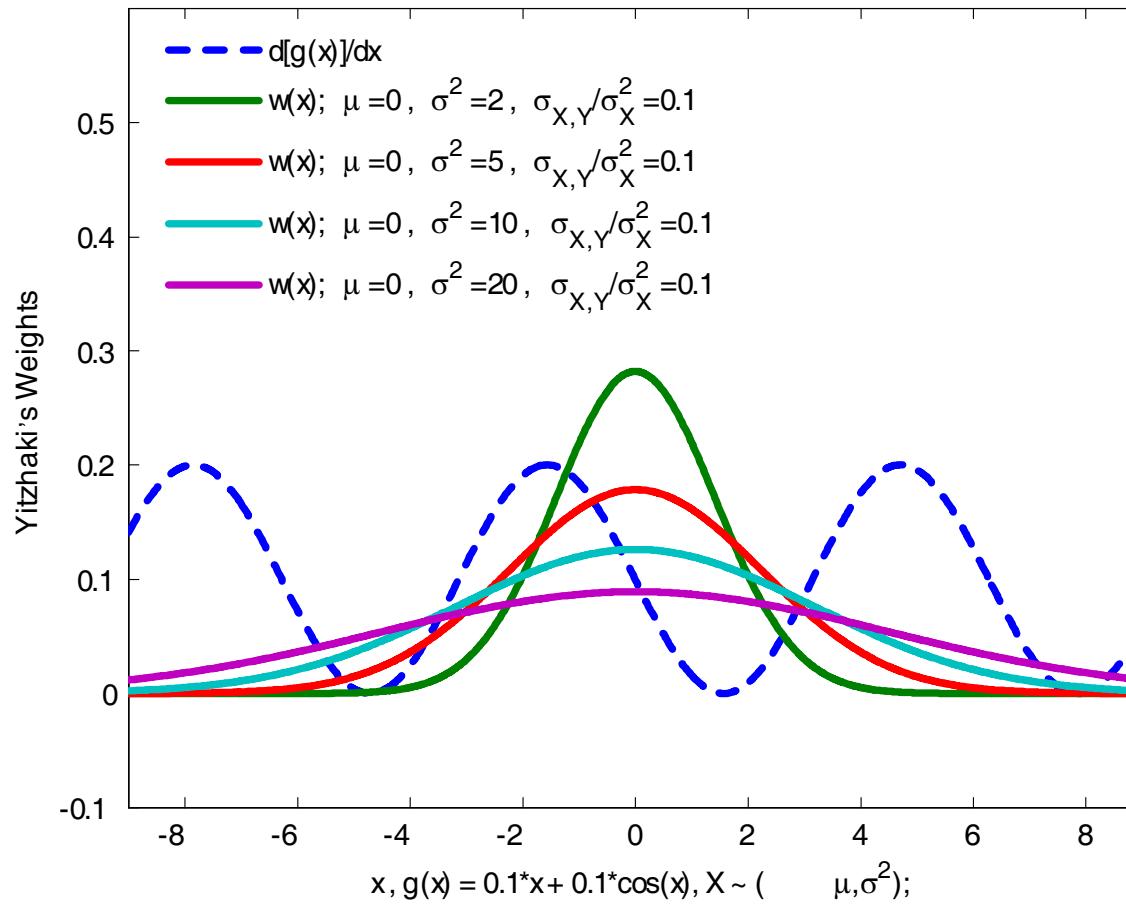


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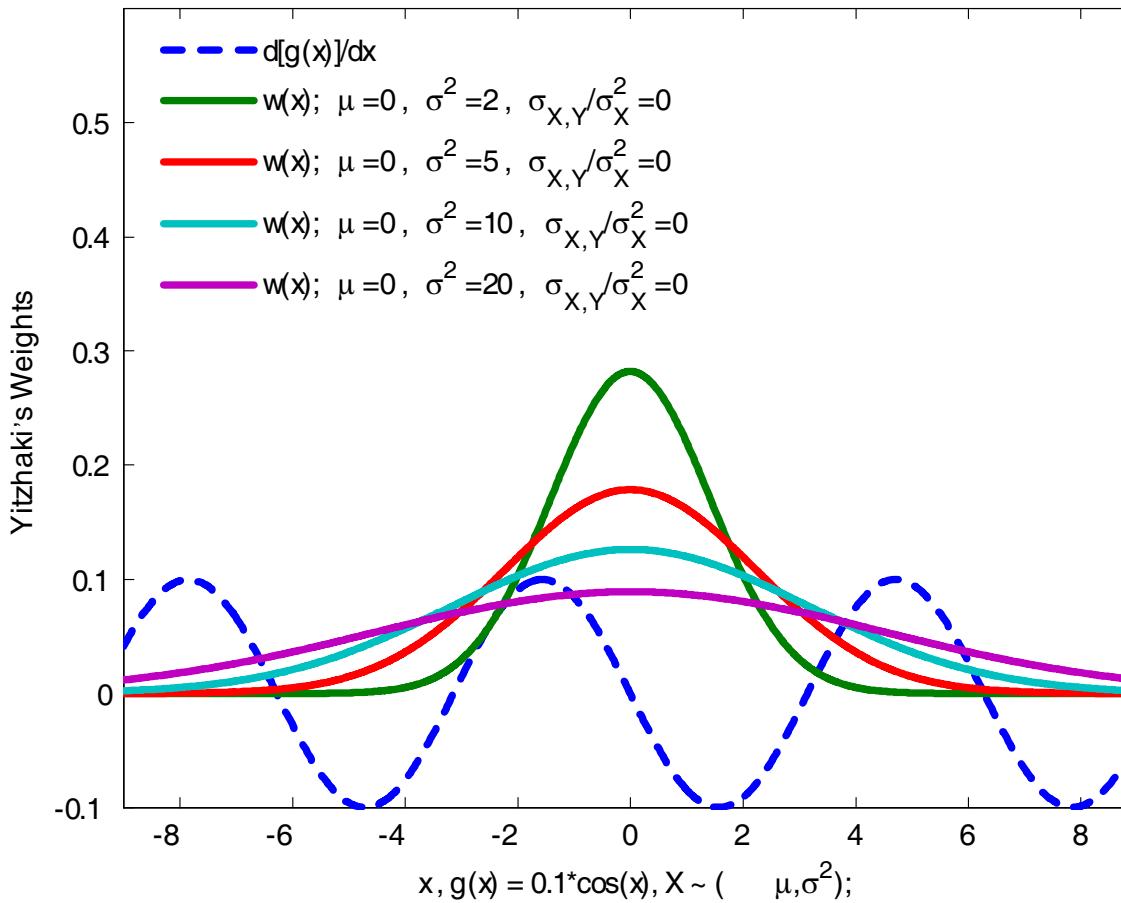


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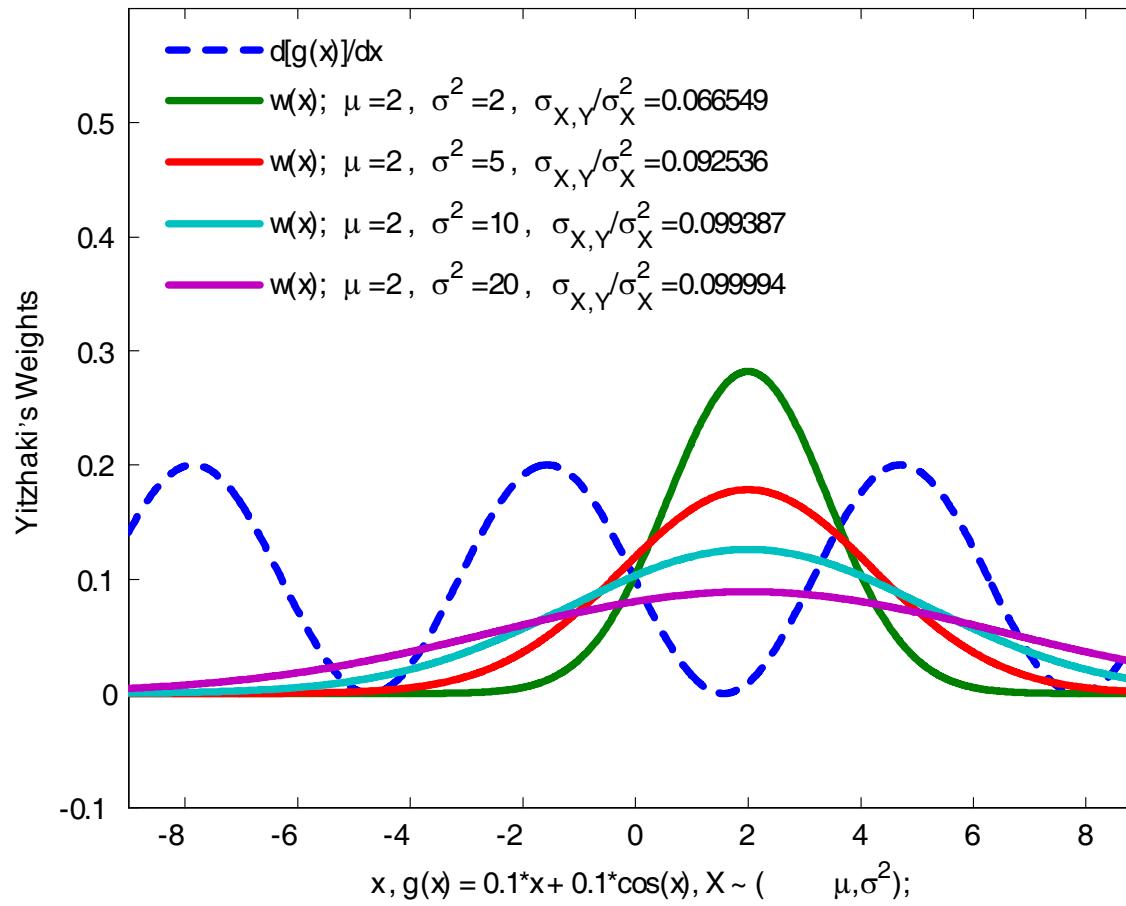


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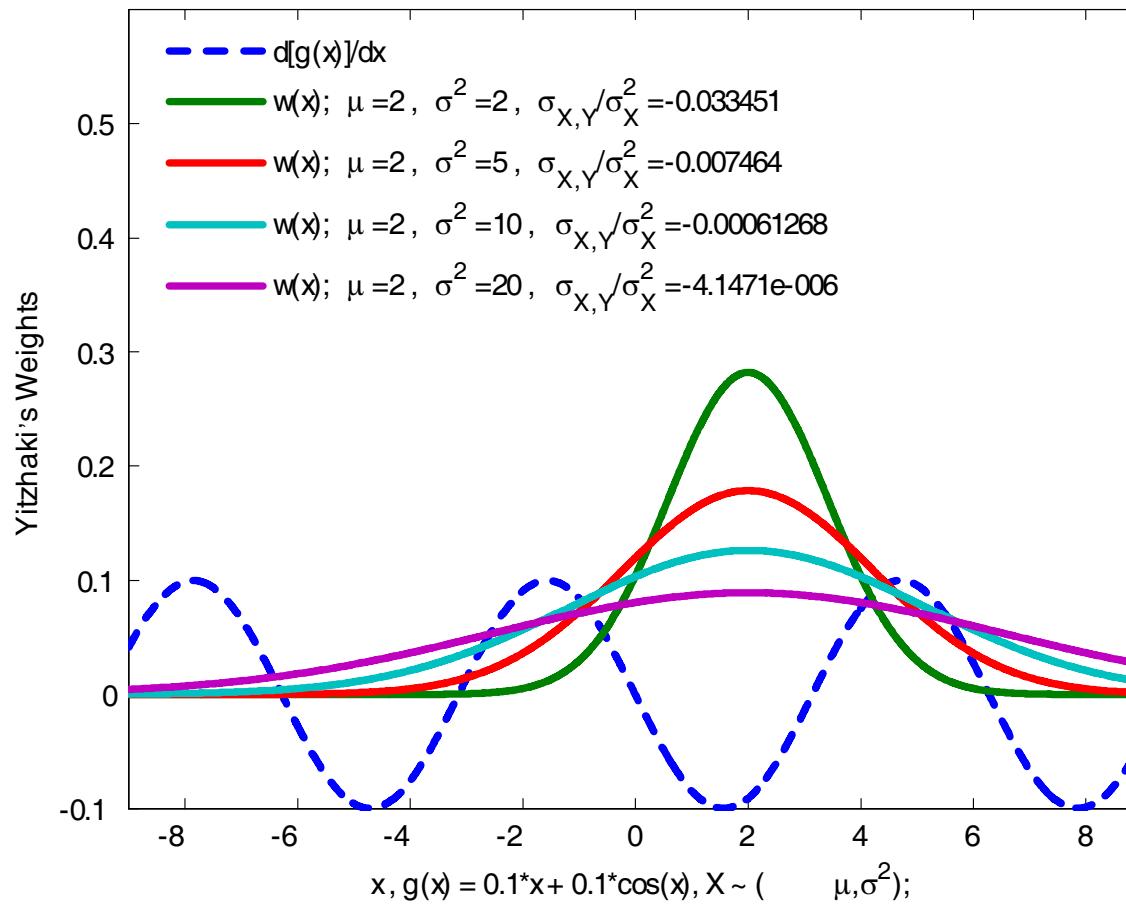


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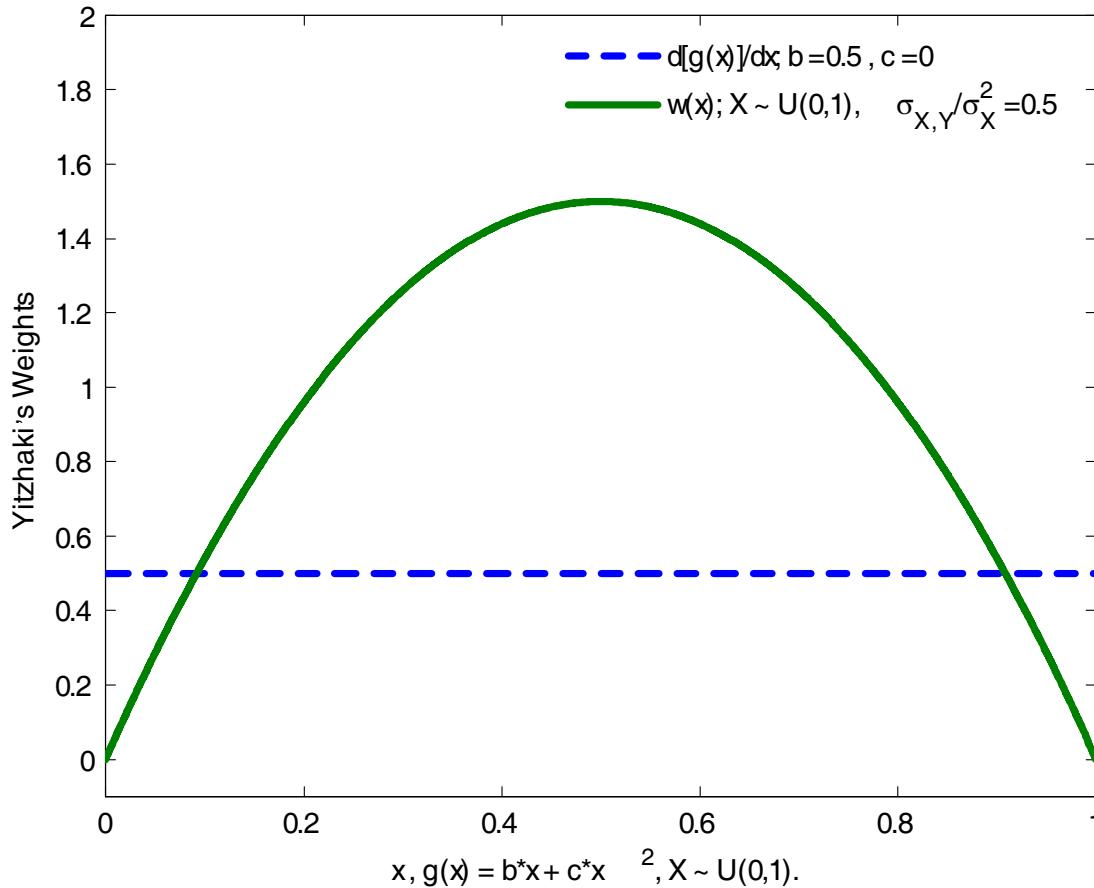


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Yitzhaki's Weights for $X \sim U[0, 1]$

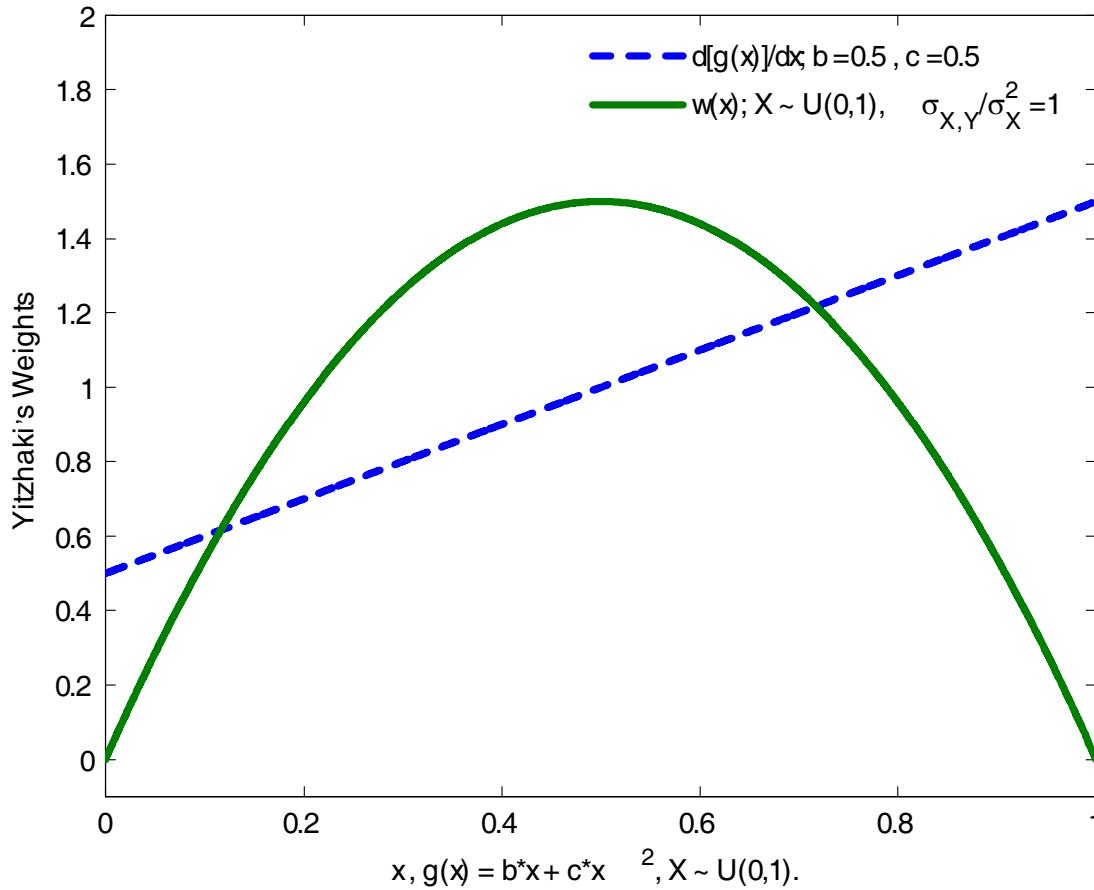


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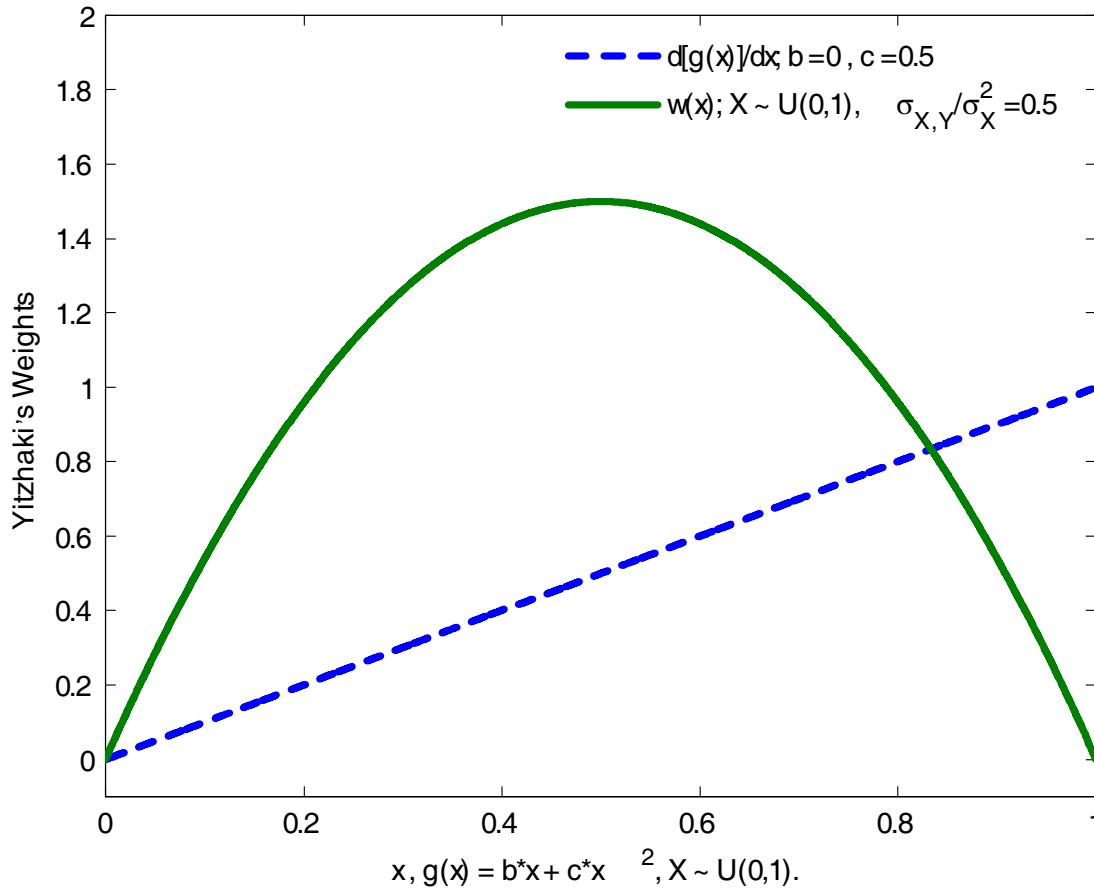


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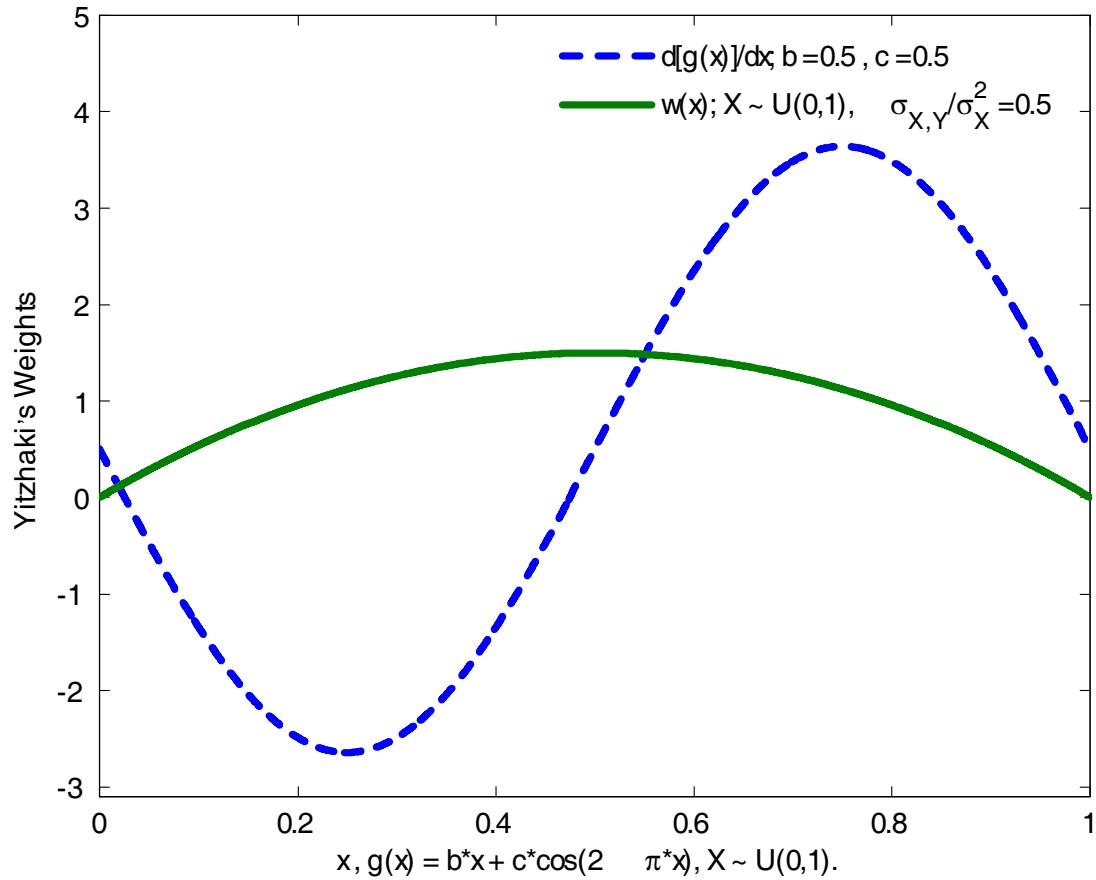


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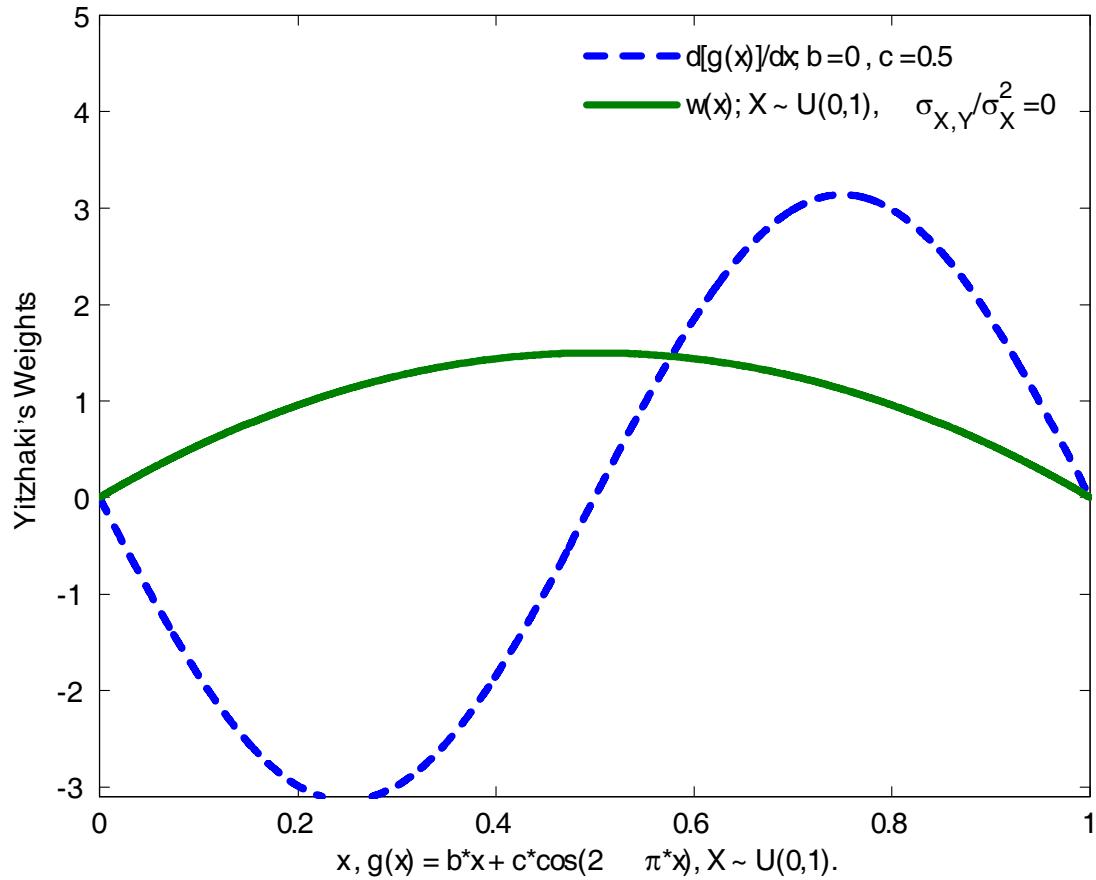


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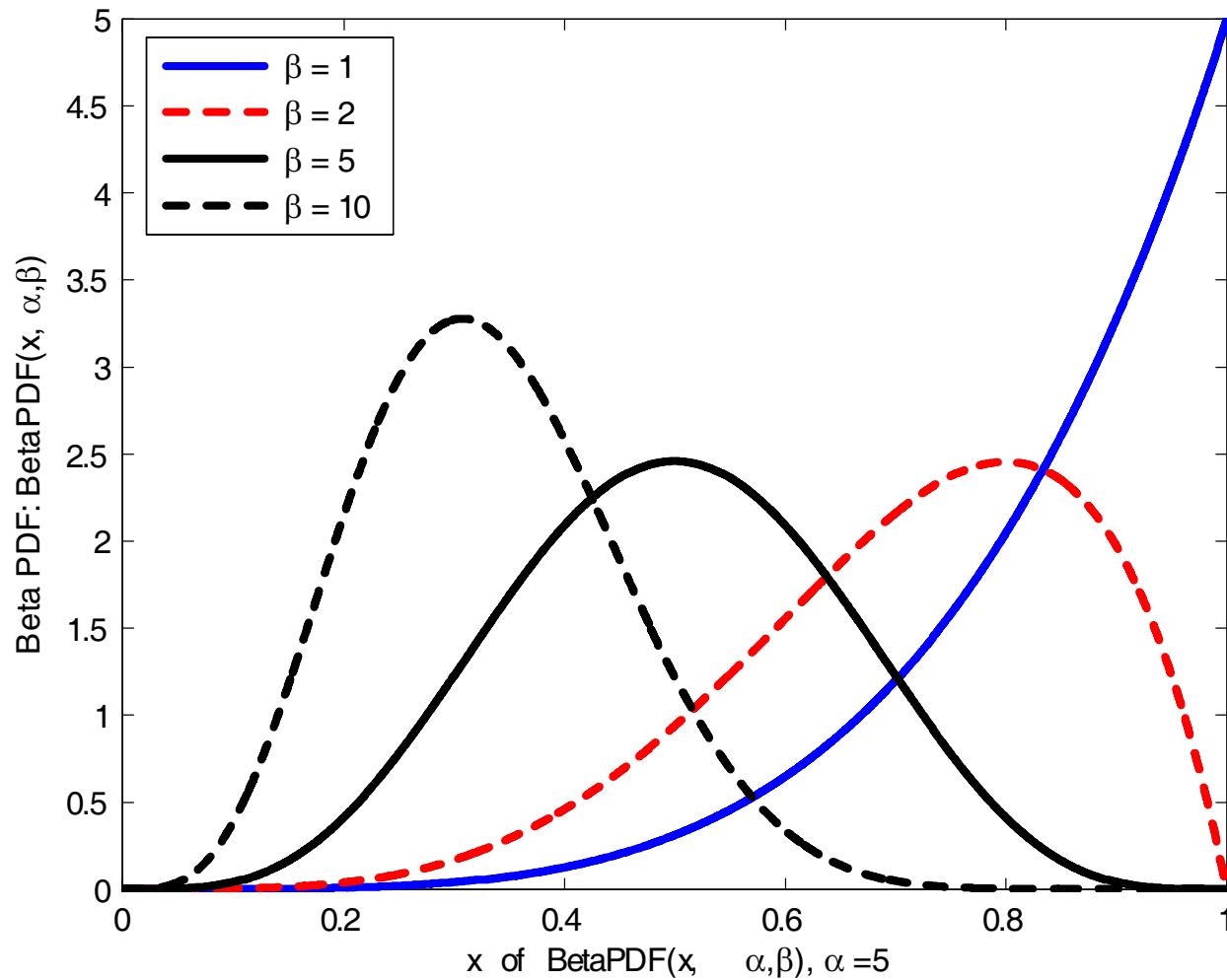


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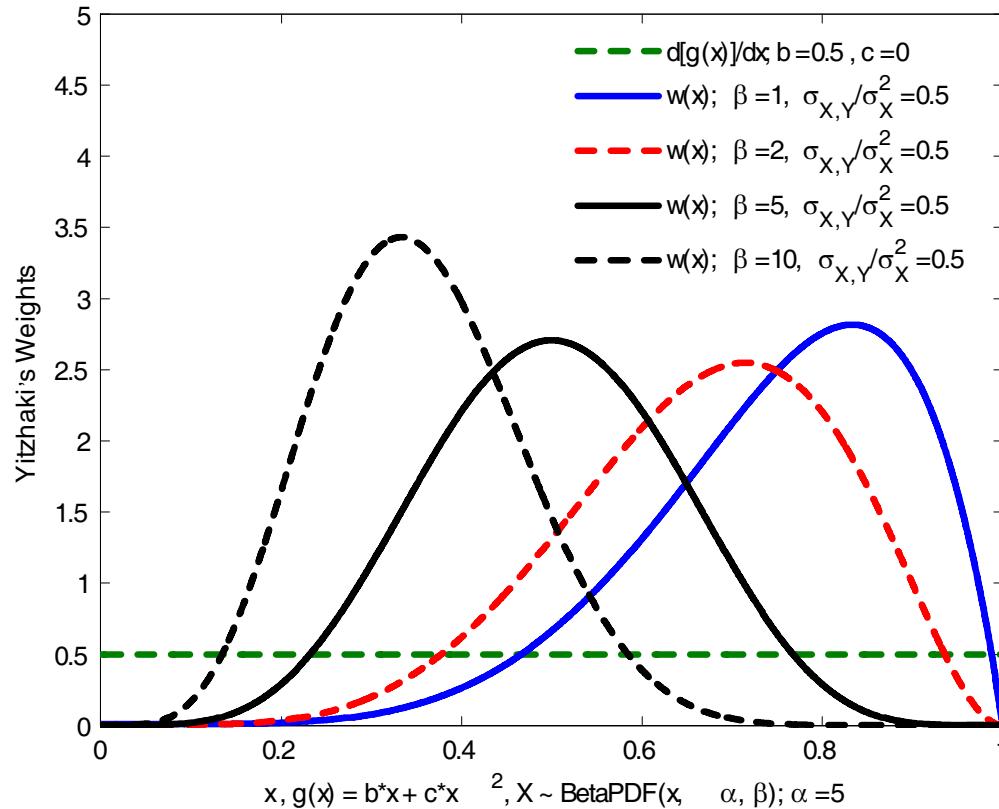
$$\mathbf{g}(\mathbf{x}) = 0.5 \cdot \cos(2\pi \cdot \mathbf{x}), \quad \mathbf{X} \sim \mathbf{U}[\mathbf{0}, \mathbf{1}].$$

The Beta Probability Density Function



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

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



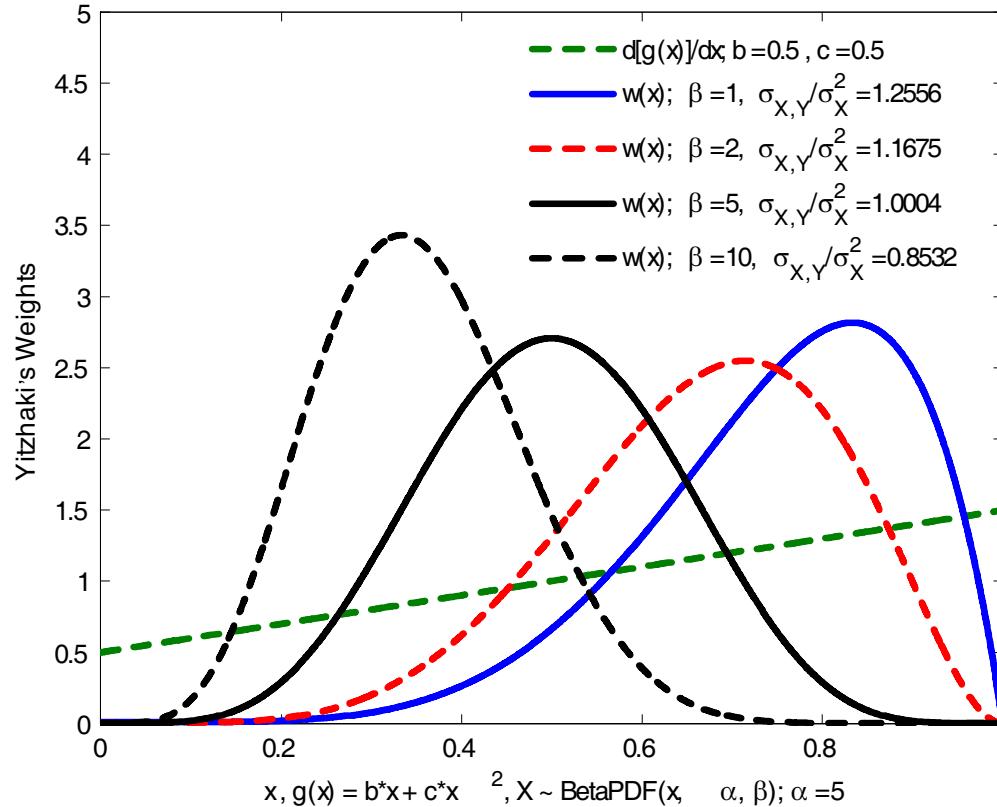
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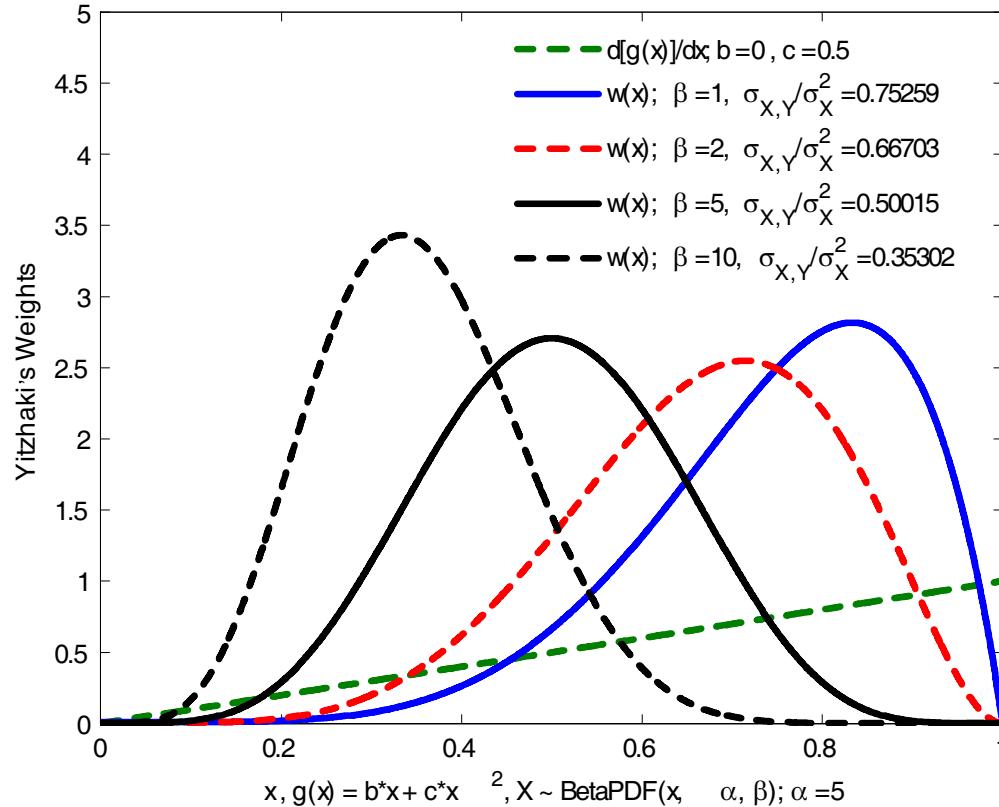
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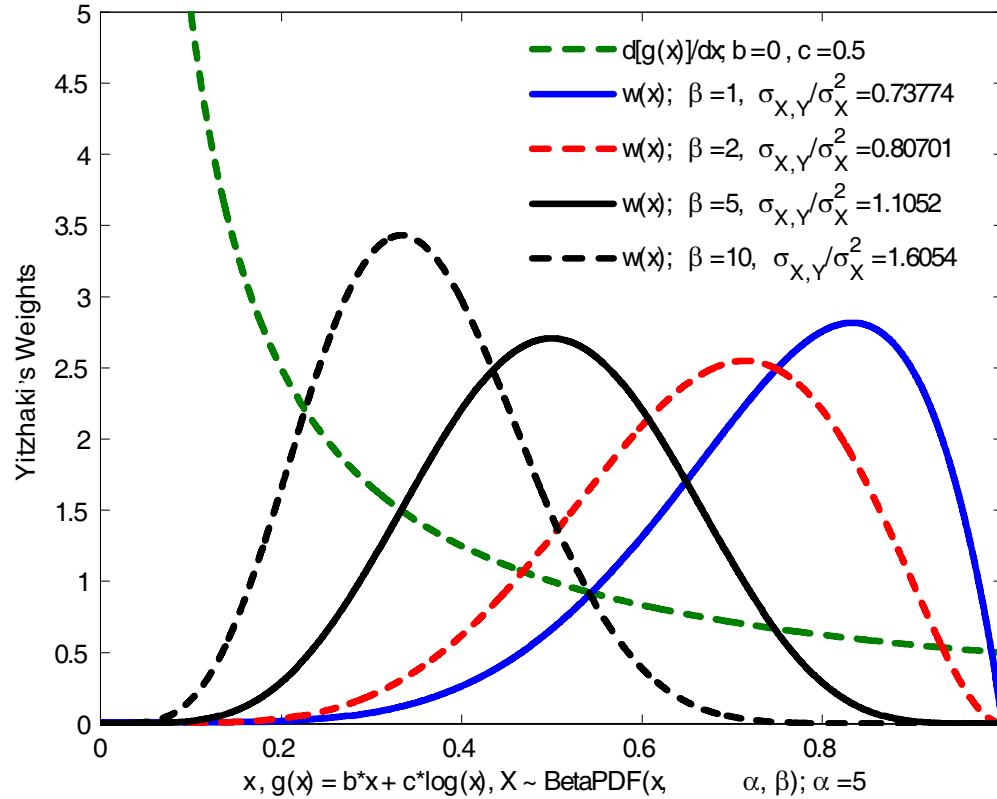
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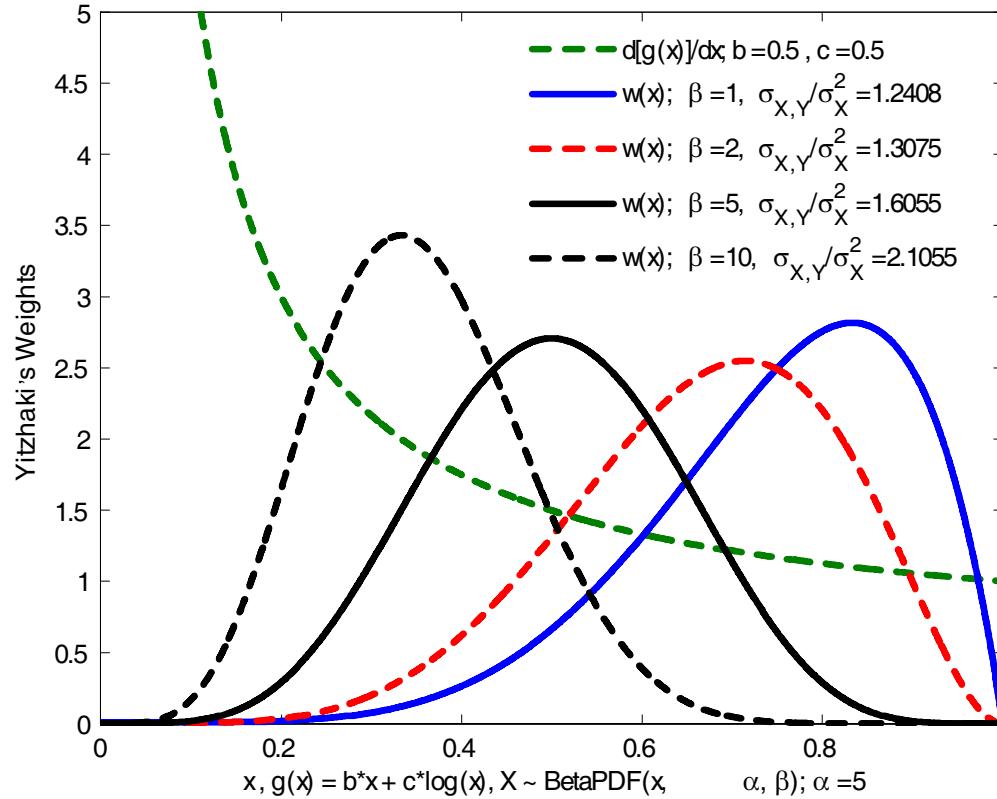
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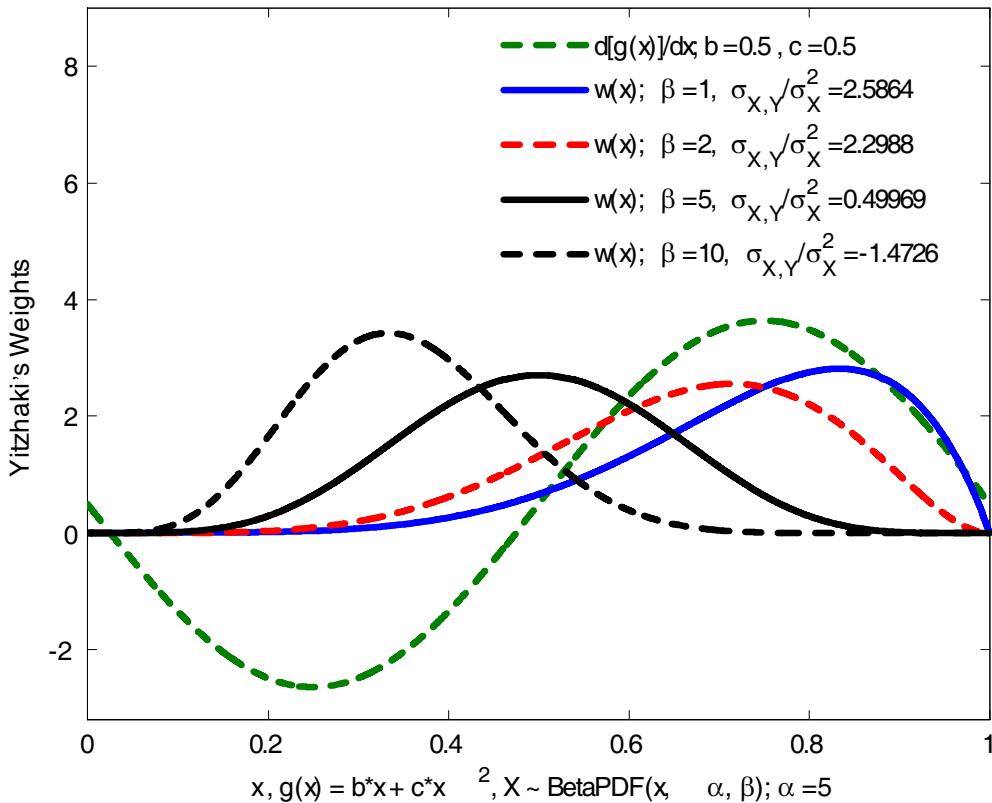
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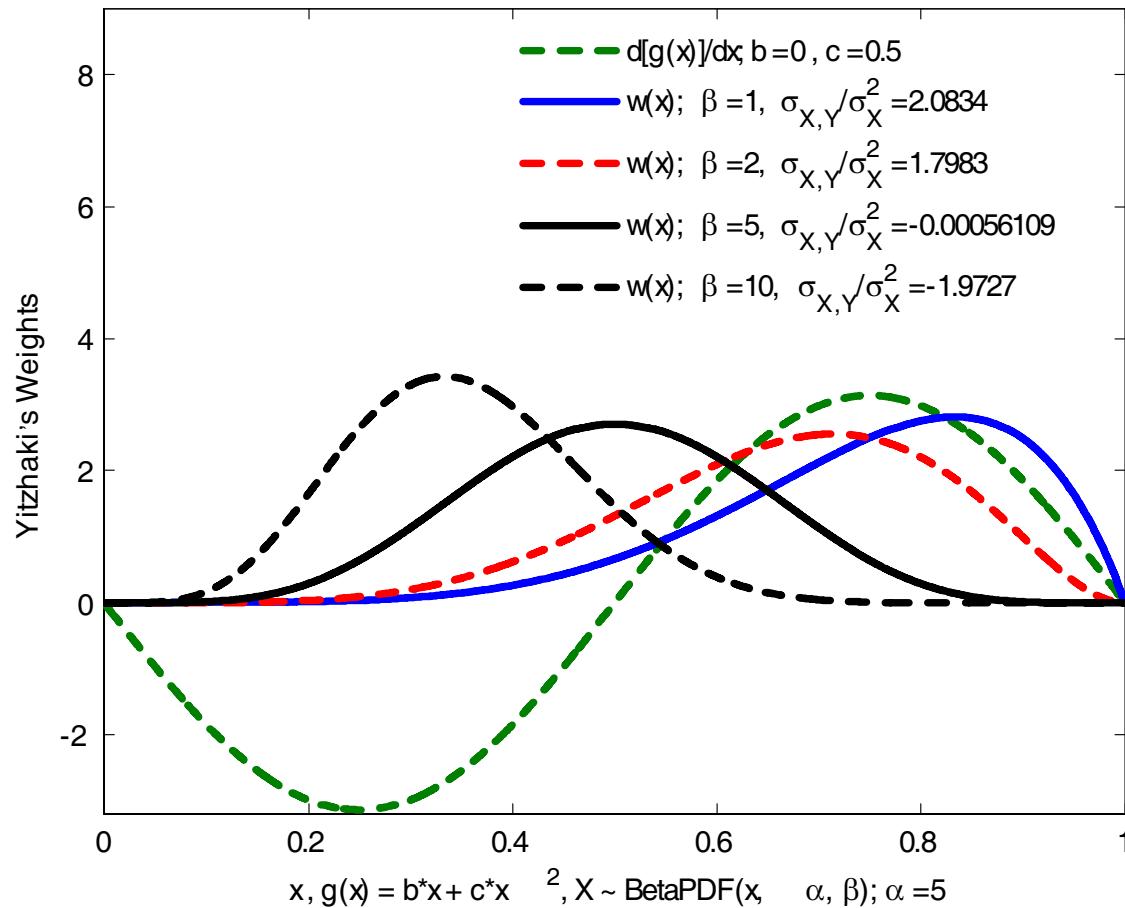
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