

Quantitative Macro – Homework 1

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September 30, 2019

Question 2: Function Approximation CES

Derivation of ES

Derivation of labor ratio

Approximation using Chebyshev nodes and polynomials

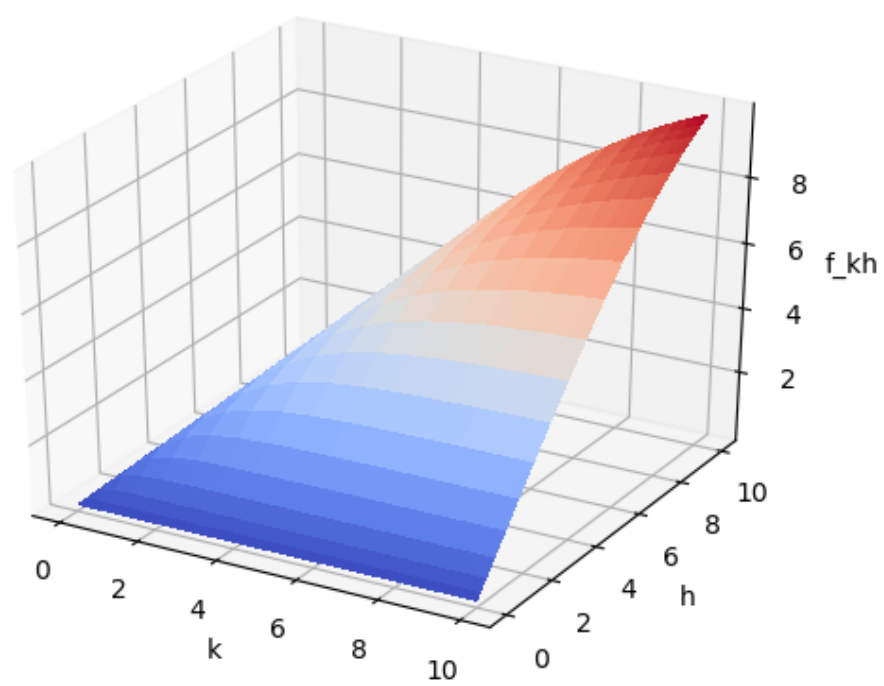


Figure 1: Actual CES production function

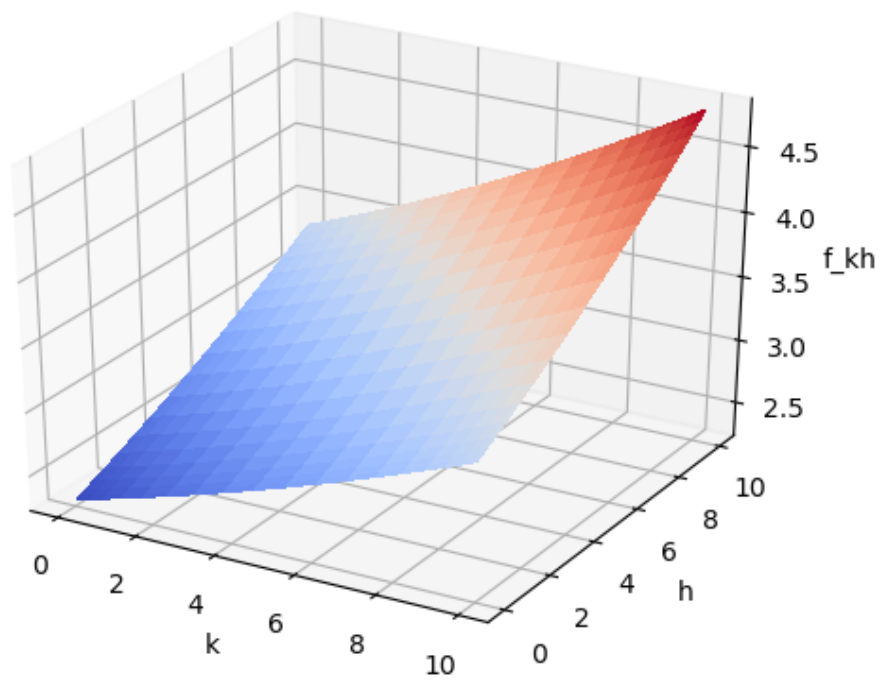


Figure 2: Approximation using 20 Cheby nodes and Cheby polynomial of degree 3

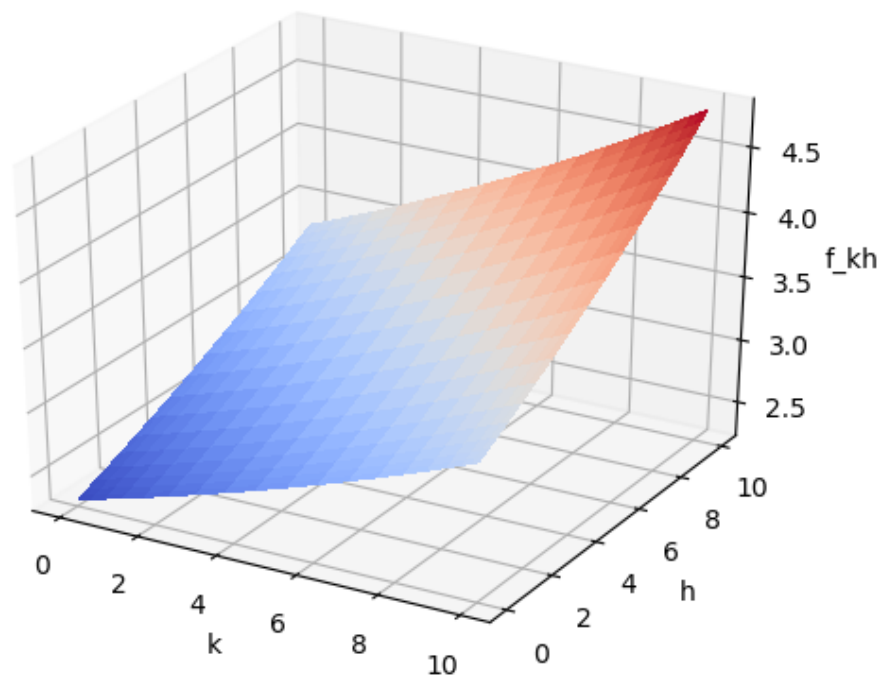


Figure 3: Approximation using 20 Cheby nodes and Cheby polynomial of degree 10

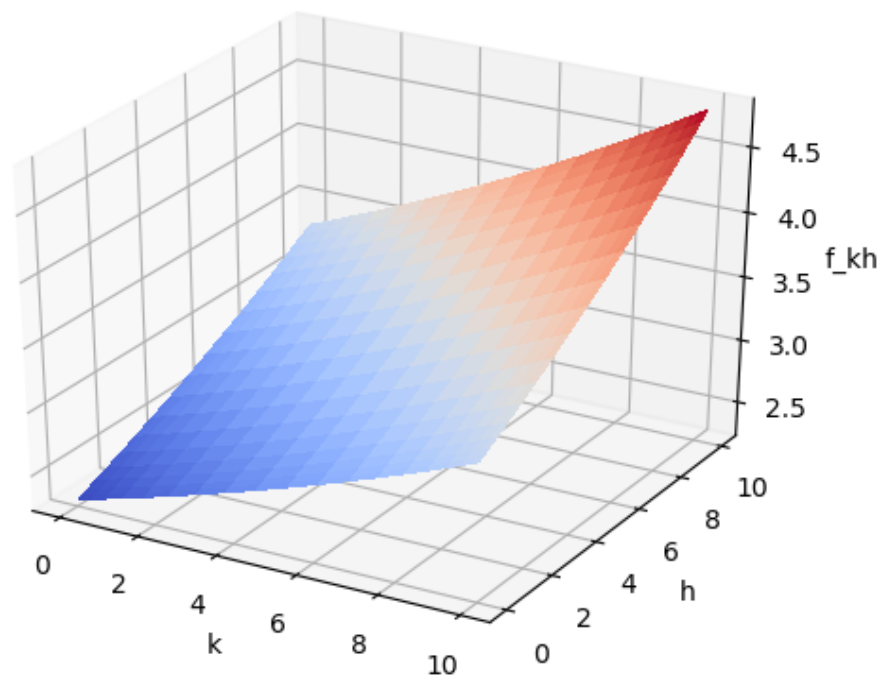


Figure 4: Approximation using 20 Cheby nodes and Cheby polynomial of degree 15