



**FIGURE 5.3.** *Pointwise variance curves for four different models, with  $X$  consisting of 50 points drawn at random from  $U[0, 1]$ , and an assumed error model with constant variance. The linear and cubic polynomial fits have two and four degrees of freedom, respectively, while the cubic spline and natural cubic spline each have six degrees of freedom. The cubic spline has two knots at 0.33 and 0.66, while the natural spline has boundary knots at 0.1 and 0.9, and four interior knots uniformly spaced between them.*