Mortality Modelling using Projection Pursuit Regression

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Abstract: In this paper, we develop sixteen separate mortality models based on the current SOA mortality data being used for the preferred life study. Our models are constructed using projection pursuit regression. The sixteen models arise from all combinations of sex, smoker status, select and ultimate status, and per life vs. per dollar mortality rates. In general our models confirm the following facts:

1   Mortality rates increase as attained age increases
2   Mortality rates increase as duration increases.
3   Mortality rates decrease as Face Amount Bands increase.
4   Mortality rates decrease if preferred underwriting is present.