Actuaries Institute

The Unrequited Costs of Complexity

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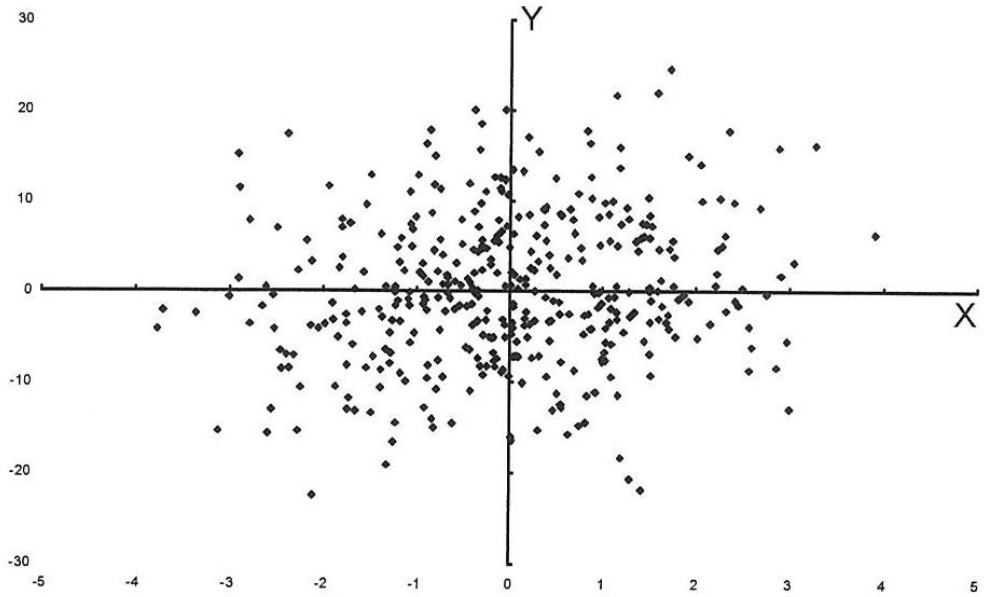
Actuaries Institute

With reference to the paper “The dog and the frisbee”by Andrew G Haldan & Vasileios Madouros, Bank of England, 31 August 2012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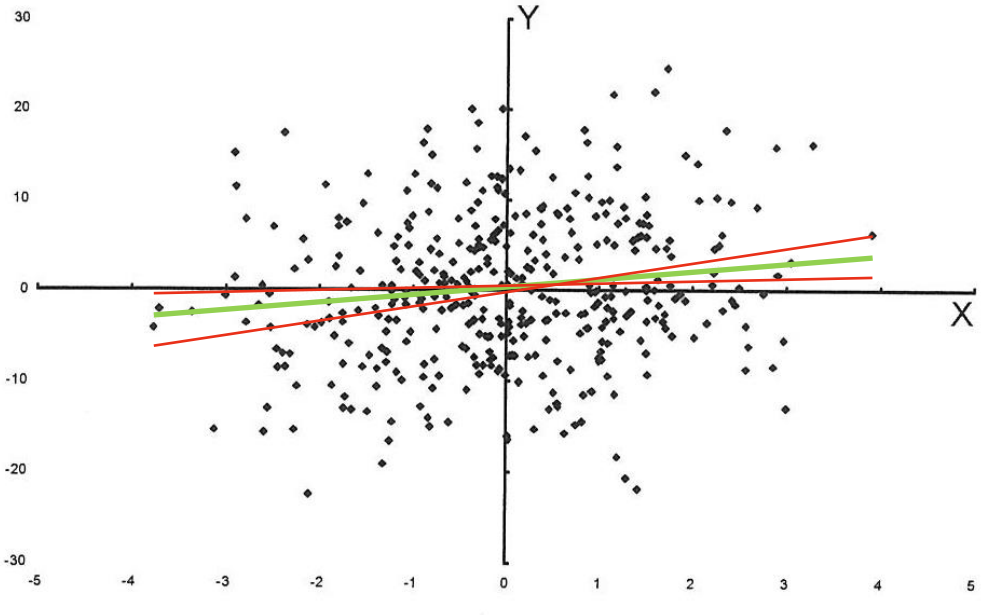
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Old Formula

Max ($2m, 20% NWP, 15% OCP)

New Formula

$$\Sigma_i \text{OCP}_i \text{x CCF}_i + \Sigma_i \text{PLP}_i \text{x CCF}_i \ldots \text{(IRC)}$$

$$+ \text{MAX(NPVR,NPHR,OAVR,LMICRC)} \ldots \text{(ICRC)}$$

$$+ \Sigma_x \text{Max}(0, \text{Corr}(x,y).A_x.A_y.\text{sign}(x).\text{sign}(y)) \ldots \text{(ARC)}$$

$$+ \text{MAX}(0, \Sigma_i \text{Exposure}_i - \text{Limit}_i) \ldots \text{(ACRC)}$$

$$+ 2\%\{\max(GP_1, NL) + \max(0, |GP_1 - GP_0| - 0.2 \text{ x } GP_0)\} \ldots \text{(ORC)}$$

$$- [(A+I) - \sqrt{A^2+I^2+2\text{corr}(A,I).A.I}] \ldots \text{(Agg.Benefit)}$$