

Corrections for *Mathematical Risk Analysis*  
 Ludger Rüschendorf  
 Springer 2013

last modified: September 26, 2016

We thank Tomonari Sei and Joachim Paulusch for several corrections.

red = to be replaced, green = to be inserted

page	replace this text	correct text
4 <sub>4</sub>	$P(X < x)$	$P(Y < x)$
13 <sub>6</sub>	$(2 - 2\vartheta)_{\{\vartheta \leq x \leq 1-\vartheta\}}$	$(1 - 2\vartheta)_{\{\vartheta \leq x \leq 1-\vartheta\}}$
13 <sub>6</sub>	$(1 - x - y)_{\{0 \leq x \leq \vartheta\}}$	$(1 - x - \vartheta)_{\{0 \leq x \leq \vartheta\}}$
13 <sub>6</sub>	$(x - y)_{\{x > 1-\vartheta\}}$	$(x - \vartheta)_{\{x > 1-\vartheta\}}$
13 <sub>4</sub>	$(\vartheta - x)_{\{x < 1-\vartheta\}}$	$(1 - \vartheta - x)_{\{x < 1-\vartheta\}}$
15 <sub>8</sub> (1.41)	$F_d(x_d, \lambda_d   x_1, \dots, x_{d-1})$	$F_n(x_n, \lambda_n   x_1, \dots, x_{n-1})$
19 <sub>5</sub> (1.56)	$c_{i-1, i   x_1, \dots, x_{i-2}} f_{i   x_1, \dots, x_{i-1}}(x_i)$	$c_{i-1, i   x_1, \dots, x_{i-2}} f_{i   x_1, \dots, x_{i-2}}(x_i)$
19 <sub>3</sub> (1.57)	$\prod_{i=2}^n \prod_{k=1}^{i-1} c_{i-1, i   1, \dots, i-k-1} f_k(x_i)$	$\prod_{i=2}^n \prod_{k=1}^{i-1} c_{i-1, i   1, \dots, i-k-1} f_i(x_i)$
19 <sub>2</sub> (1.57)	$\left( \prod_{i=2}^n \prod_{k=1}^{i-1} c_{i-1, i   1, \dots, i-k-1} \right)$	$\left( \prod_{i=2}^n \prod_{k=1}^{i-1} c_{i-1, i   1, \dots, i-k-1} \right)$
25 <sup>9</sup>	$Q \stackrel{d}{=} Q$	$Y \stackrel{d}{=} Q$
31 <sub>7</sub> (1.86)	$f_{(1)} := f_{R_1}$	$f_{(1)} := f - f_{R_1}$
33 <sup>7</sup>	where $g^{T_J} = 0$ if $T_J$ is empty	where $g^{T_J} = 1$ if $T_J$ is empty
33 <sub>1</sub>	$h_{R_1^c} = g^{T_1}$	$h_{R_1} = g^{T_1}$
34 <sup>14</sup>	$f_{23}(x_1, x_3)$	$f_{23}(x_2, x_3)$
42 <sub>17</sub>	$S \leq U$	$S \leq I$

page	replace this text	correct text
43 <sup>6</sup>	$\mathcal{L}^1(E, \mathcal{R}, P)$	$\mathcal{L}^1(E, \mathfrak{R}, P)$
43 <sup>8,9,10</sup>	$P \in \widetilde{M}; P \in M$	$\widetilde{P} \in \widetilde{\mathcal{M}}$
45 <sup>5,7,13</sup>	$\mathcal{M}_1(E, \mathfrak{A})$ resp. $M^1(E, \mathfrak{A})$	$\mathcal{M}^1(E, \mathfrak{A})$
48 <sup>13</sup> (2.42)	$M(Q, P_{n+1})$	$\mathcal{M}(Q, P_{n+1})$
48 <sub>12</sub>	$M(A_1 \times \cdots \times A_n)$	$M(A_1 \times \cdots \times A_{n+1})$
48 <sub>12</sub>	$\sup_{P \in M(Q, P_{n+1})}$	$\sup_{P \in \mathcal{M}(Q, P_{n+1})}$
49 <sub>6</sub>	$\sum_{i=1}^n (F_i(b_i) - F_i(a_i))$	$\sum_{i=1}^n (F_i(b_i) - F_i(a_i) - (n-1))_+$
63 <sub>4</sub>	$(R^n, B^n); R^1$	$(\mathbb{R}^n, \mathfrak{B}^n); \mathbb{R}^1$
72 <sup>2</sup>	$\text{VaR}_\alpha \left( \sum_{i=1}^n X_i \right) \leq M_n^{-1}(\alpha)$	$\text{VaR}_\alpha \left( \sum_{i=1}^n X_i \right) \geq M_n^{-1}(\alpha)$
75 <sup>19</sup>	$\lambda^{F_i^{-1} \circ \varphi} = \varphi^{F_i^{-1}}$	$\lambda^{F_i^{-1} \circ \varphi} = \lambda^{F_i^{-1}}$
76 <sup>9</sup>	$M_n(t) \geq P(f_1^\alpha + \cdots + f_n^\alpha) \leq t$	$M_n(t) \geq P(f_1^\alpha + \cdots + f_n^\alpha \leq t)$
81 <sub>10</sub>	and <b>decreasing</b> in $t$	and increasing in $t$
83 <sup>7,9</sup>	$\sum_{i=1}^n X_i$	$\sum_{i=1}^n x_i$
83 <sub>6</sub>	$\cdots - d + 1$	$\cdots - n + 1$
84 <sub>6</sub>	$\inf_{s \in [0, s/n]} \frac{f \cdots}{t - nr}$	$\inf_{r \in [0, s/n]} \frac{f \cdots}{s - nr}$
84 <sub>6</sub>	$P \left( \sum_{i=1}^n X_i \geq s \right)$	$P \left( \sum_{i=1}^n X_i < s \right)$
85 <sup>10</sup>	$\geq 1_{[s, \infty)}$	$\geq 1_{[s, \infty)} \left( \sum_{i=1}^n x_i \right)$
85 <sub>5</sub>	$g_a(x) := \begin{cases} \cdots \\ \cdots, \text{ if } a \leq \\ \cdots \end{cases}$	$g_a(x) := \begin{cases} \cdots \\ \cdots, \text{ if } t \leq \\ \cdots \end{cases}$
92 <sub>6</sub>	$G$ be a $d$ -dimensional	$G$ be an $n$ -dimensional
93 <sub>11</sub>	when $d = 2$	when $n = 2$
94 <sup>3</sup>	$G$ and $\bar{G}$	$G$ and $1 - \bar{G}$

page	replace this text	correct text
139 <sup>4</sup>	$Z_i \sim \mathcal{B}(1, \frac{1}{1000})$	$Z_i \sim \mathcal{B}(1, \frac{1}{1100})$
145 <sup>7</sup>	monotone, positive homogeneous	monotone, <b>cash invariant</b> , positive homogeneous
146 <sup>6</sup>	$X = L^0$	$\mathcal{X} = L^0$
147 <sup>11</sup>	neither <b>homogeneous</b>	neither subadditive
156 <sup>13</sup>	$Q \in M_1$	$Q \in \mathcal{M}_1$
171 <sup>8</sup>	$L_\alpha^\infty(P)$	$L_0^\infty(P)$
173 <sup>13</sup>	Lemma 2.2	Lemma 2.3
186 <sub>8</sub>	$\varrho(Y)$	$\varrho(X)$
212 <sup>16</sup>	$:= \sup_{\tilde{X}_i \sim X_i}$ (both occurrences)	$:= \inf_{\tilde{X}_i \sim X_i}$
212 <sub>3</sub>	Then it <b>it</b> holds that:	Then it holds that:
318 <sup>13</sup>	Theorem 12.14	Theorem 12.12
321 <sup>2</sup>	$(X^c - d^*)$	$(X^c - d^*)_+$
345 <sup>12,11</sup>	$(\Psi f^1 - (\Psi f)^1)^{1/2}$	$(\Psi f^2 - (\Psi f)^2)^{1/2}$
346 <sup>11</sup>	$-(\Psi f \cdot 1_{B_\delta})$	$-\Psi(f \cdot 1_{B_\delta})$
347 <sup>13</sup>	(13.5)	(13.50)
347 <sub>1</sub>	$(\mathbf{G}_{\psi, u}, \dots)$	$(\mathbf{G}_{k, \psi_u}, \dots)$
350 <sup>10</sup>	$\text{VaR}_{1-\lambda}$	$\text{VaR}_\lambda$
378 <sup>16</sup>	$-\nu_i^*(-[\infty, x]^c)$	$-\nu_i^*(-(\infty, x]^c)$