## Index

### A, B, C
- accumulation process, 81
- actual infinity, 130
- adjustment coefficient of Lundberg, 44
- almost sure, 14
- analytical representation, 133
- atom of measure, 5
- big cycle, 130
- Borel sigma-algebra, 8
- Chapman – Kolmogorov equation, 16
- claim arrival sequence, 29
- claim size sequence, 29
- class of Cramer, 107
- composite Poisson process, 21
- conditional probability, 10
- consistent family of measures, 31
- convexity upwards, 126
- convolution, 25, 111
- convolution of a random number, 118
- Cramér-Lundberg model, 29, 30
  - elementary, 2
  - credit contract, 130
- cumulative distribution function, 2, 5
- cycling, 130
- cylindrical set, 8

### D, E, F, G
- degree of deterioration, 135
- derivative of Radon-Nikodym, 50
- diffusion type capital, 132
- discounted process, 92
- distribution
  - density, 5
  - Pareto, 110
  - Weibool, 116
- dynamics
  - of capital, 2
  - of losses, 32
- elementary renewal theorem, 26
- Erlang distribution, 22
- expectation, 5
- finite horizon, 3
- force-major circumstances, 107
- gamma
  - distribution, 22
  - function, 21
generalization of Lundberg inequality, 99
generating function, 7

H, I, L
hazard rate, 115
heavy tails, 107
homogeneous in space, 31
identity of Wald, 59
immediately integrable function, 26
incomplete gamma-function, 91
renewal equation, 41
independent random variables, 5
induced probability measure, 31
initial capital, 30
insurance
beginning, 135
company portfolio, 30
contract, 135
tariff, 135
insurant, 135
insurer, 135
integer random variable, 5
integral equation of Volterra, 85
interest rate, 90
inverse gamma process, 23
iterated logarithm, 110
iterating the equation, 26
ladder process, 36
Laplace image, 128
lemma of Stamm, 64

M, N, O, P
Markov process
process, 14
time, 13
transition function, 16
martingale, 12
minor cycle, 129
mode, 18
Monte-Carlo imitation, 129
natural filtration, 11
normalization condition, 86
numerical evaluation, 133
operator of shift, 9
opposite time direction, 82
optimal credit, 130
percentage, 78
Poisson distribution, 18
process, 19
premium rate, 30
process of Gut and Alberg, 145
with drift, 69
projections of measures, 50

R, S, T, V
random variable, 4
regularly varying function, 110
renewal equation, 25
function, 25
process, 24
times, 27
ruin time, 33
safety loading, 35
scale change, 104
shift on space, 91
similarity principle, 71
simple random walk, 69
slowly varying by Karamata, 110
stochastic continuity, 20
integral equation, 90
strategy of insurant, 138
strong Markov process, 33
sub-martingale, 12
sub-probability distribution, 38
subexponential distribution, 109
suit size, 2
superposition, 9
tail of distribution, 107
temporally homogeneous transition function, 16
theorem
  Blackwell, 26
  Donsker, 69
  Pitman, 115
  Segerdal, 64
  Smith, 26
two levels, 87
time change, 104
transformation of measure, 52
transformed risk process, 52
voluntary individual insurance, 135