







This method based on an analysis of the distribution curve (4) and (5) obtained in simulation studies of time trends in the evolution of system (1), and it allows to perform evaluation of VaR values for potential losses ( $VaR_-$ ) as well as the possible gain in revenue ( $VaR_+$ ). In addition, in some cases quantitative comparison  $VaR_-$  and  $VaR_+$  could generate the additional information for managers to make the most optimal management decisions related to enterprise financial and economic activities.

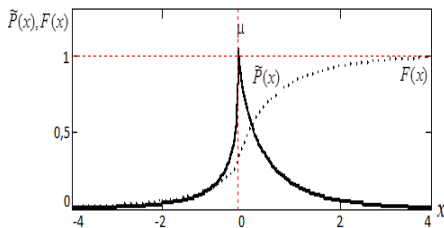


Fig.2:Probability distribution of enterprise expected revenue  $I$  derived from computer simulation of time trends of the company evolution in according with model system (1), normalized per unit area (for  $p_e = 5$  and  $D = 0.1$ ). Solid line - density distribution function  $\tilde{P}(x)$ ; dashed line - the cumulative distribution function  $F(x)$ .

According to mentioned above, the maximum possible value of expected cash loss in the revenue with confiding probability level  $(1-\alpha)$  at the certain time horizon of the forecast  $VaR_-^{(1-\alpha)}$  (see Fig. 2) is defined as follows:

$$VaR_-^{(1-\alpha)} = F(\alpha) = \int_a^\alpha \tilde{P}(x) dx, \quad (6)$$

where  $F(\alpha)$  - quantile of level  $\alpha$  for cumulative function of probability expected revenue according to (5).

Thus, the value of the maximum possible expected gain in the revenue with the confiding probability level  $(1-\alpha)$  at the same time horizon of the forecast  $VaR_+^{(1-\alpha)}$  (see Fig. 2) is equal to quantile of level  $(1-\alpha)$  for cumulative function of probability expected revenue  $F(1-\alpha)$  according to (5) and was calculated as follows:

$$VaR_+^{(1-\alpha)} = F(1-\alpha) = \int_a^{1-\alpha} \tilde{P}(x) dx. \quad (7)$$

We propose to use the semi-variance method and the value of semi-standard deviation from mode (as the quantitative risk measures) to estimate absolute values of the risk of losses and earnings which resulted from the proper financial and economic activity of enterprise.

### 3. References

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