# 13 How big is your bank?

Since bigger banks are more likely to have a lot of interbank connections than smaller banks, it logical question arising from the previous chapter is: how are banks distributed by size? It depends of course on the definition of size, which could be assets, total revenues, number of branches, employees etc. The analysis in this chapter uses data on total assets for 28,000 banks. The largest bank had 1,5 trillion EUR, the smallest had 100,000 EUR while the average was 9 billion. A frequency plot of the logarithm of the assets yields the curve in Figure 1, together with a fitted Log-normal curve.[1]
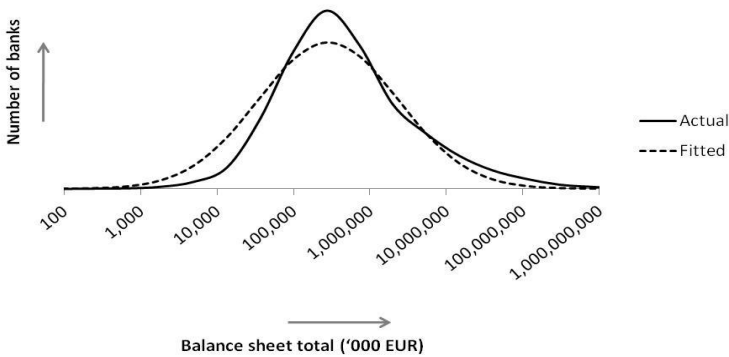
Figure 1: distribution of banks by total assets

Figure 2 shows the analysis of the right hand tail through a cumulative log-log plot. For the middle of the range the distribution appears to follow a straight line that stays above the fitted Log-normal curve. But the curve then drops off steeply for the very largest banks.

The same Log-normal distribution has been found for the size of (non-financial) firms.[2]

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[1] The parameters are $\hat{\mu}$ =12.6 and $\hat{\sigma}$ =2.1 and were obtained using the maximum likelihood estimation method.
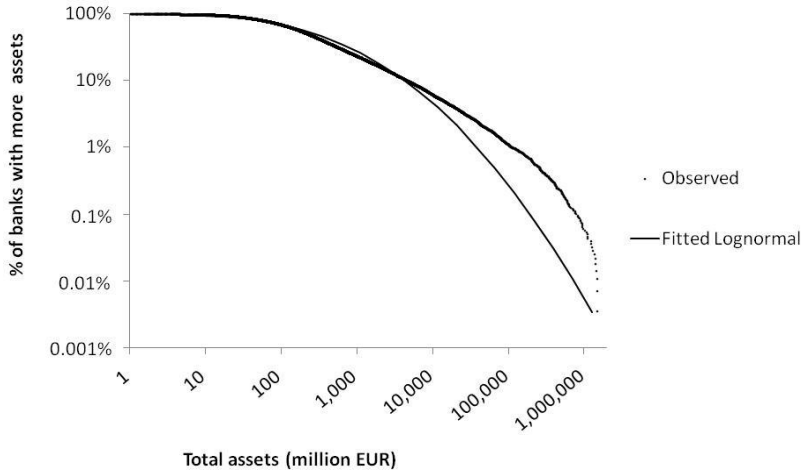[2] Stanley, Buldyrev (1995).

Figure 2: log-log plot of bank size by assets