



INVESTMENT ANALYTICS

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RANDOM PORTFOLIO SELECTION

- SIMULATION MODEL -

INTRODUCTION

The Lotus spreadsheet RAND-X contains the menu shown below that enables the analyst to generate sets of randomly selected portfolios by entering different Alt-"Key" combinations. For example, to obtain a table of returns for 100 portfolios comprised of 25 stocks, press Alt-C. Alternatively, press Alt-A for 5 stock portfolios or Alt-F for portfolios comprised of 100 stocks. Each time a random simulation is run, a graph of portfolio returns (ranked lowest-to-highest) is created and appears on the PC monitor. After viewing, press any key to return to the Lotus spreadsheet.

MENU

100 RANDOM PORTFOLIO SIMULATIONS			

# STOCKS IN PORTFOLIO	USE THIS COMMAND TO RUN SIMULATION		
5	Alt-A	(1 MIN)	
10	Alt-B	(1 MIN)	
25	Alt-C	(2 MIN)	
50	Alt-D	(4 MIN)	
75	Alt-E	(6 MIN)	
100	Alt-F	(8 MIN)	

GO TO GRAPHS	Alt-G		
LOAD NEW DATA	Alt-L		

In RAND-X, the full selection universe consists of the 1000 largest cap stocks in Value Line (excluding banks and utilities) on 12-31-86. Returns are for the first quarter of 1987. (As explained in a subsequent section, it is relatively easy to change the selection universe and date of purchase utilized in these simulations.)

Starting on the following page, a number of exhibits are presented that illustrate the type of output that can be generated using the Random Selection Simulation Model.

The two tables below show returns for 100 randomly selected portfolios comprised of 10 and 100 stocks each in the order in which they were generated using the simulation model. These results are also shown graphically on the following page with portfolio returns ranked lowest-to-highest.

RETURNS FOR 100 RANDOMLY SELECTED 10 STOCK PORTFOLIOS

Average 26.2; Standard Deviation 5.4

35.8	26.6	24.5	31.8
15.2	29.3	37.4	27.3
18.7	27.9	31.3	14.2
34.7	27.7	27.6	25.3
24.1	19.2	15.5	21.1
20.1	33.4	25.0	13.2
22.9	17.9	31.0	20.3
36.5	37.5	25.6	28.6
29.8	28.4	20.1	34.9
27.0	24.6	29.5	22.2
24.3	20.3	27.0	21.7
23.1	27.9	28.8	27.3
25.9	23.6	31.9	27.5
30.1	26.7	32.5	34.7
32.4	22.7	27.1	17.3
26.9	24.8	19.3	26.0
24.5	19.8	23.1	32.0
28.1	27.9	22.8	26.8
27.1	22.8	24.0	23.3
23.2	25.0	29.0	31.6
31.3	26.4	24.6	29.5
27.6	30.6	24.0	22.6
37.9	27.8	25.8	22.3
17.3	38.6	26.3	23.4
17.8	19.9	22.2	35.4

RETURNS FOR 100 RANDOMLY SELECTED 100 STOCK PORTFOLIOS

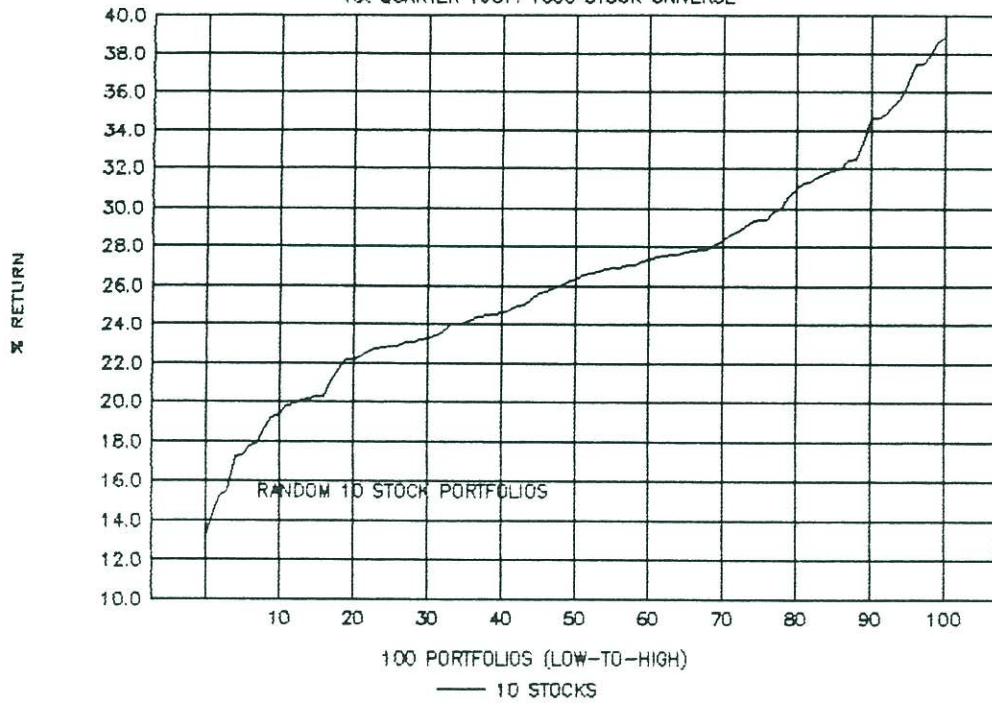
Average 25.9; Standard Deviation 1.9

24.4	26.3	23.4	29.5
27.3	27.3	22.5	24.9
24.5	25.6	24.5	23.1
27.0	28.5	23.6	26.2
25.8	26.2	22.4	27.4
24.2	25.8	25.9	26.9
22.5	24.0	26.6	26.2
26.2	26.0	26.4	28.7
24.1	24.5	22.8	28.5
26.8	28.6	25.8	24.0
26.8	29.0	27.9	28.1
29.2	26.6	29.8	27.8
25.3	22.9	27.6	21.8
27.8	24.2	29.6	26.9
26.2	24.6	24.2	26.7
24.3	29.6	25.9	24.2
29.1	28.8	24.6	24.0
28.3	26.3	23.3	25.7
26.9	24.7	26.3	24.7
23.4	24.6	25.6	27.6
27.2	26.3	26.2	26.2
25.8	27.0	23.0	26.0
24.6	29.2	25.1	25.3
25.0	25.4	23.7	25.2
27.3	26.4	24.9	27.5

1000 Stock Universe Average 26.0; Standard Deviation 17.9

Portfolio Returns with Random Selection

1st QUARTER 1987: 1000 STOCK UNIVERSE



Portfolio Returns with Random Selection

1st QUARTER 1987: 1000 STOCK UNIVERSE

