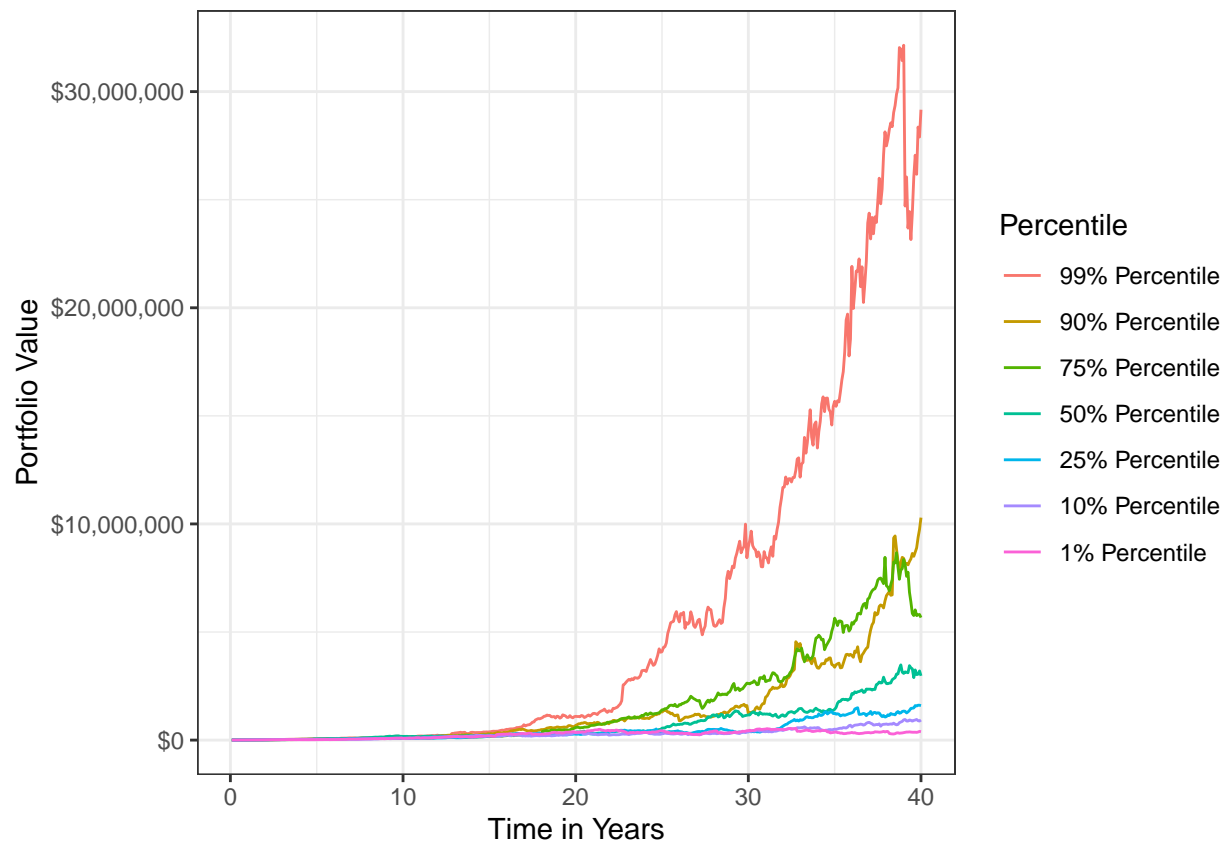


# Simulation

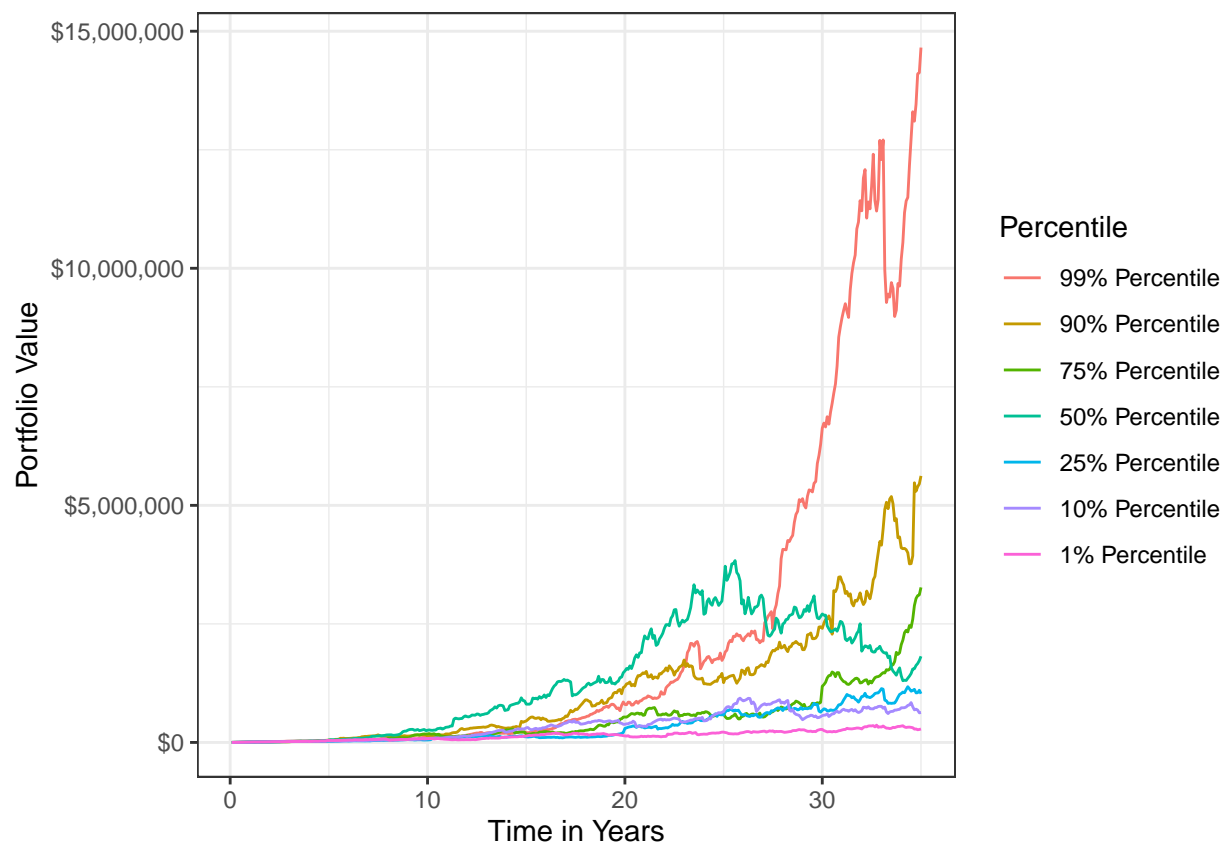
## Non-Inflation Gross Return

### Bootstrapping

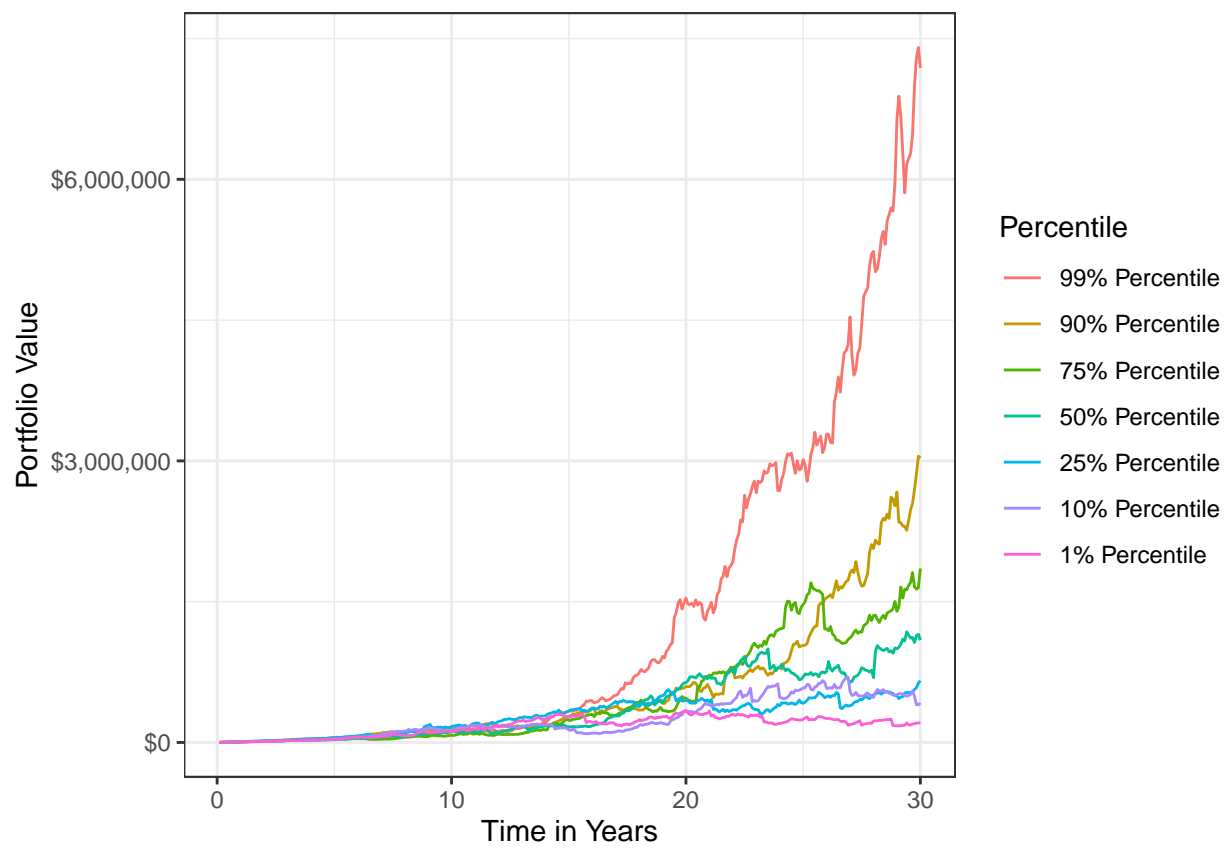
40 years



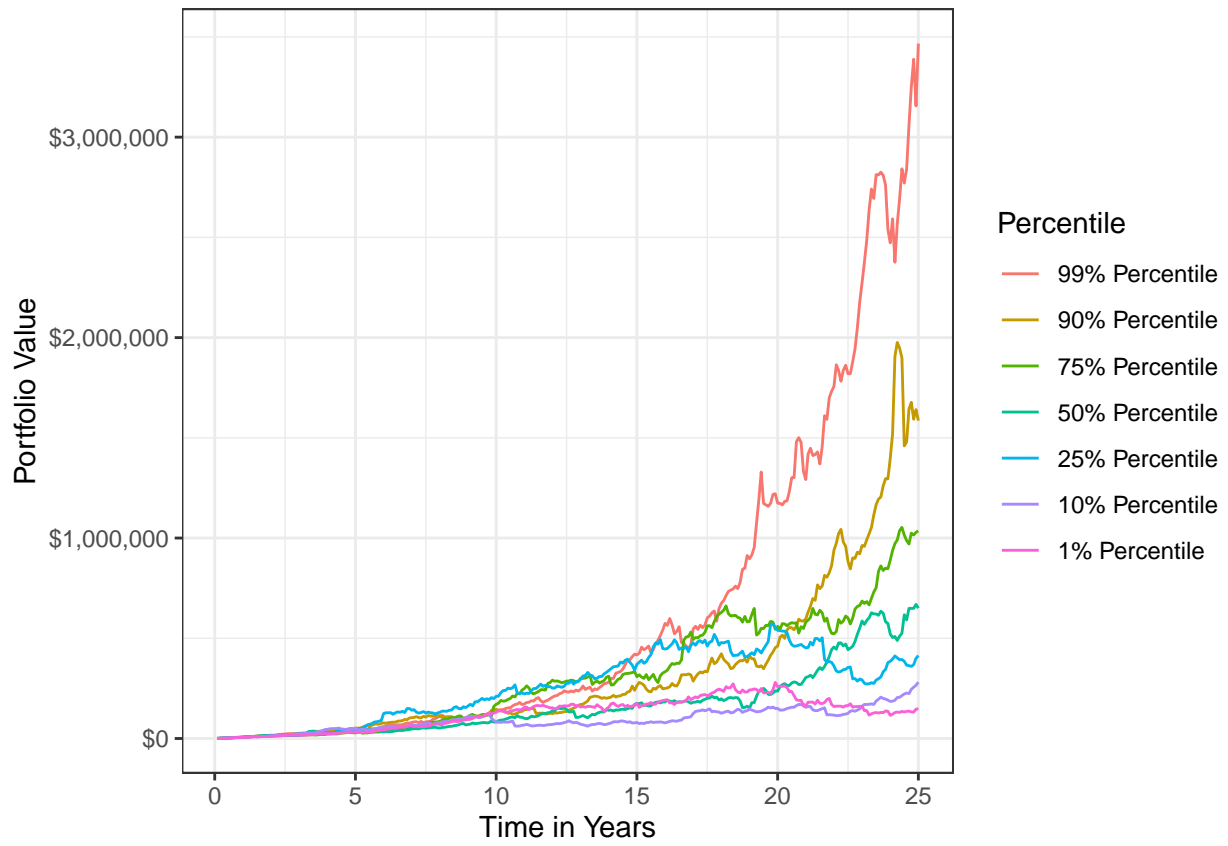
35 years



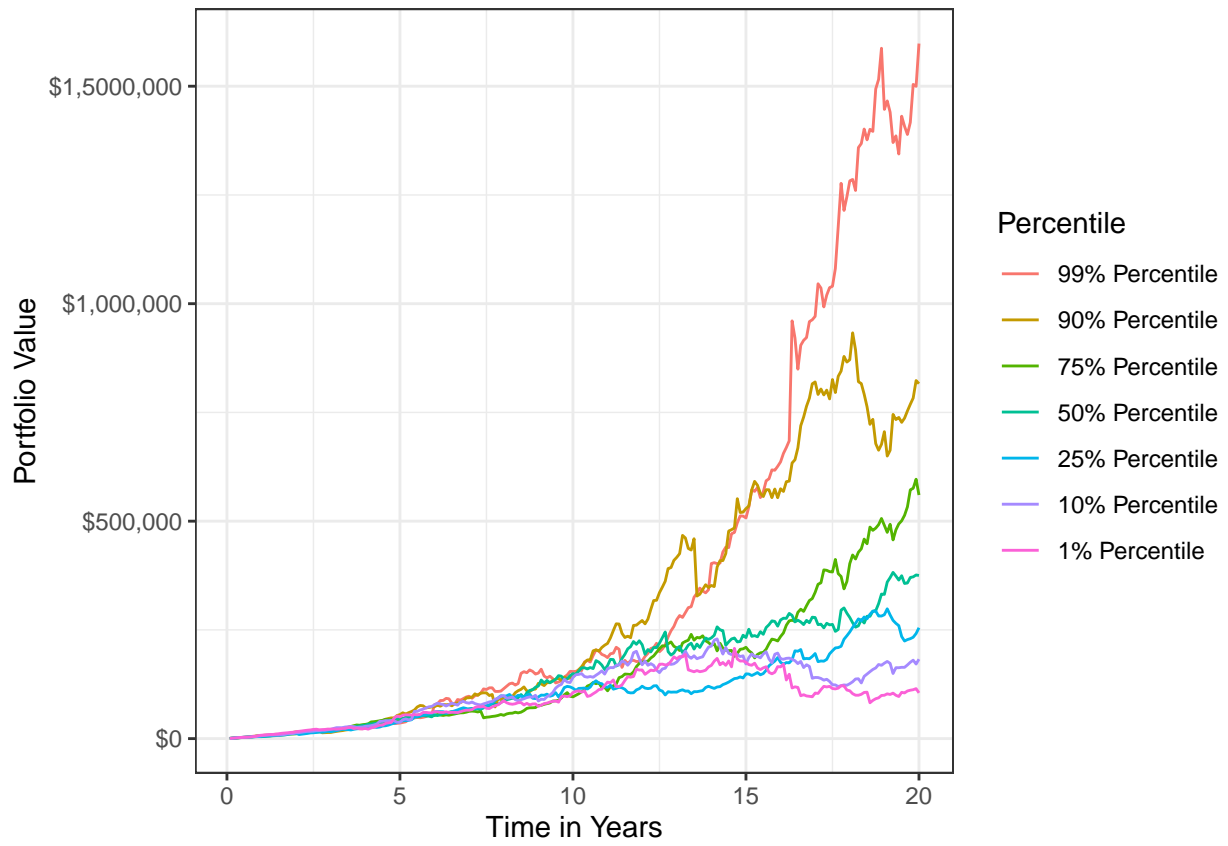
30 years



25 years

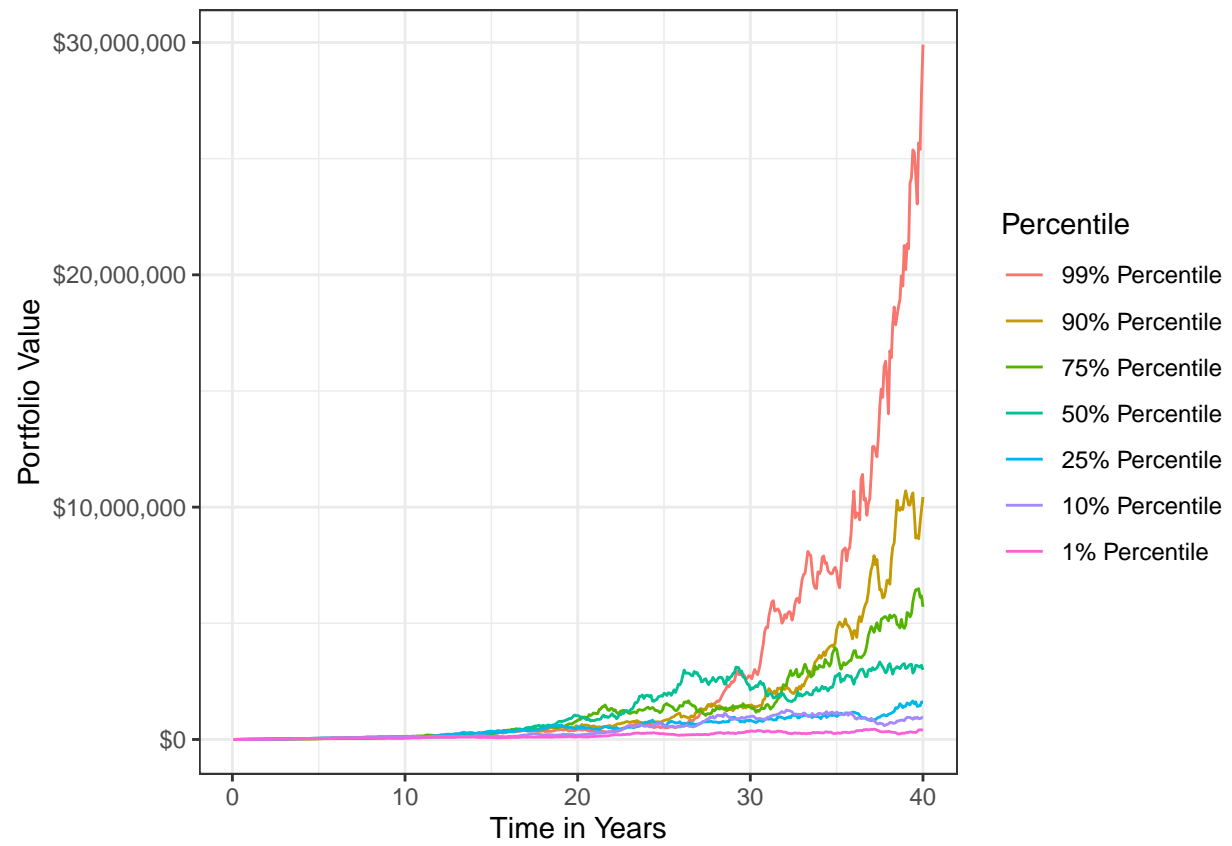


20 years

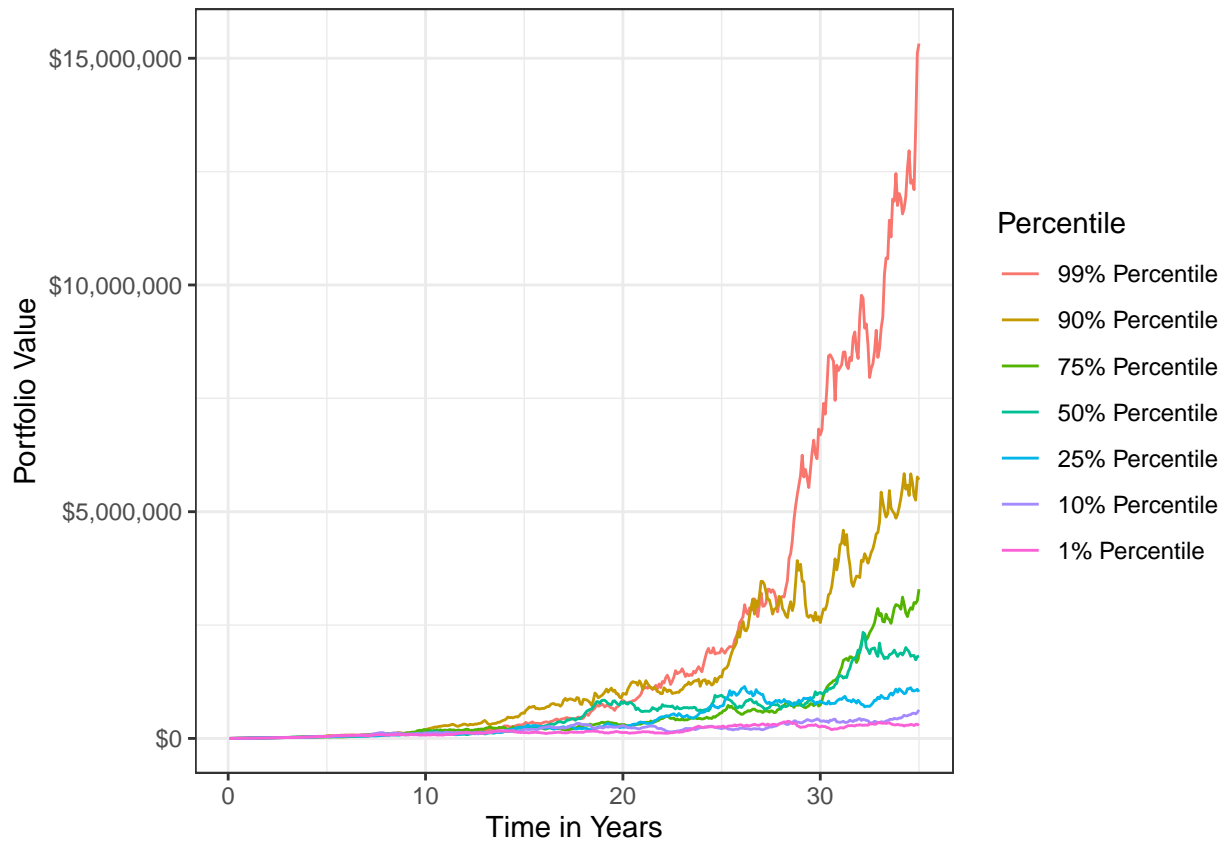


## Log-Normal Simulation

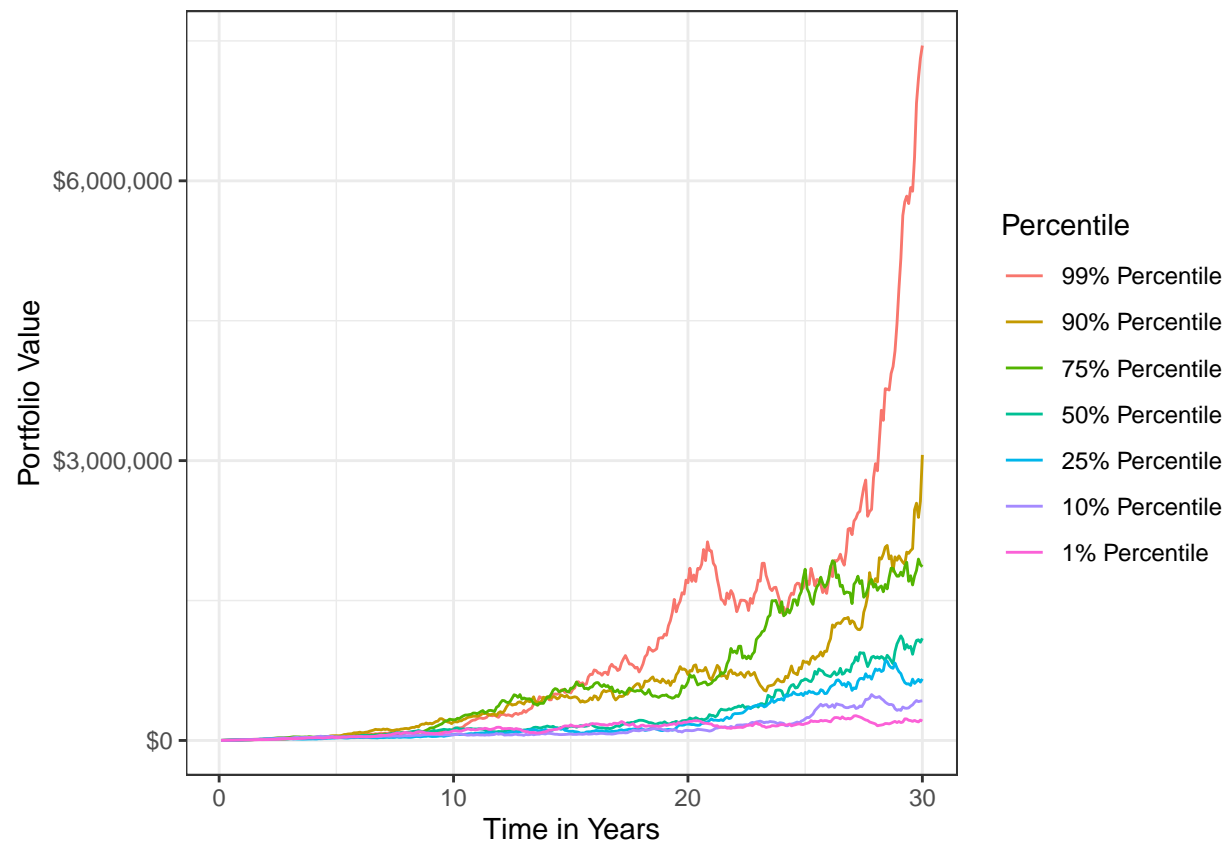
40 years



35 years

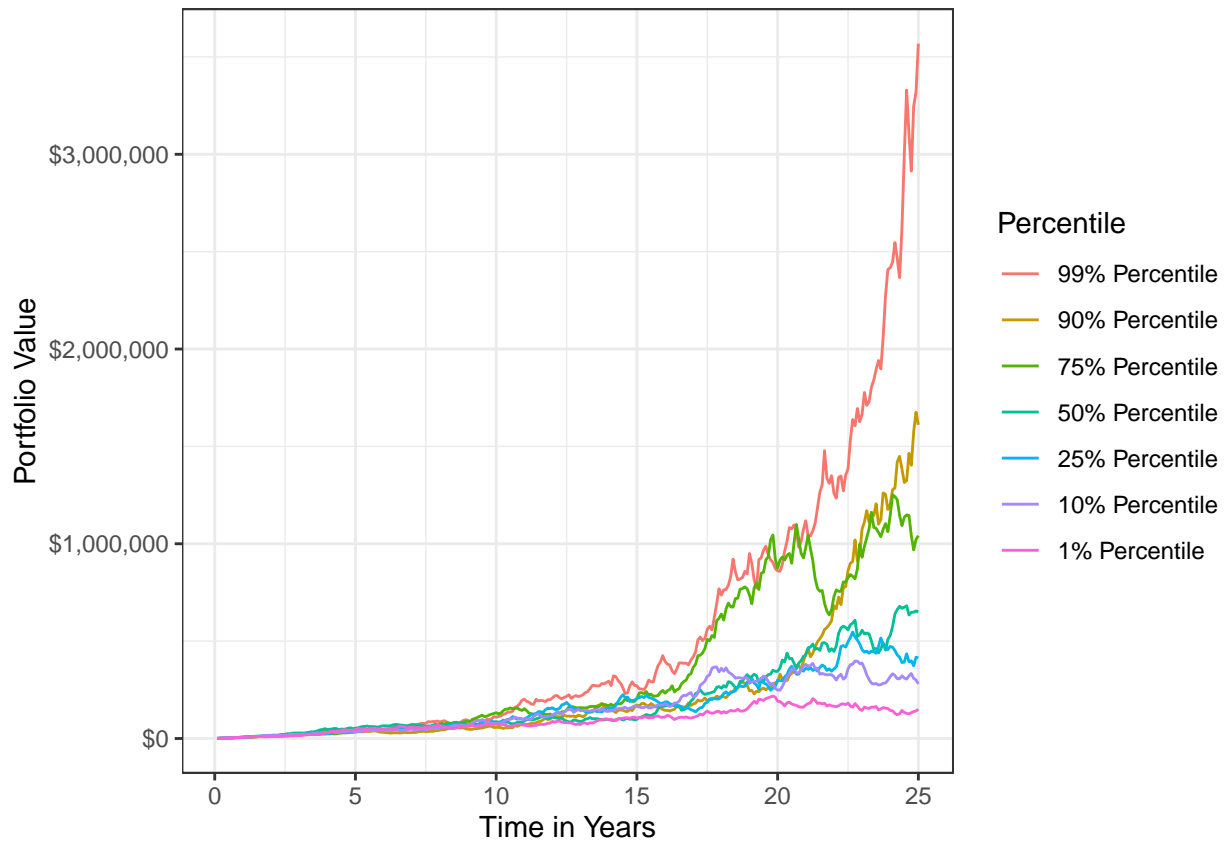


30 years

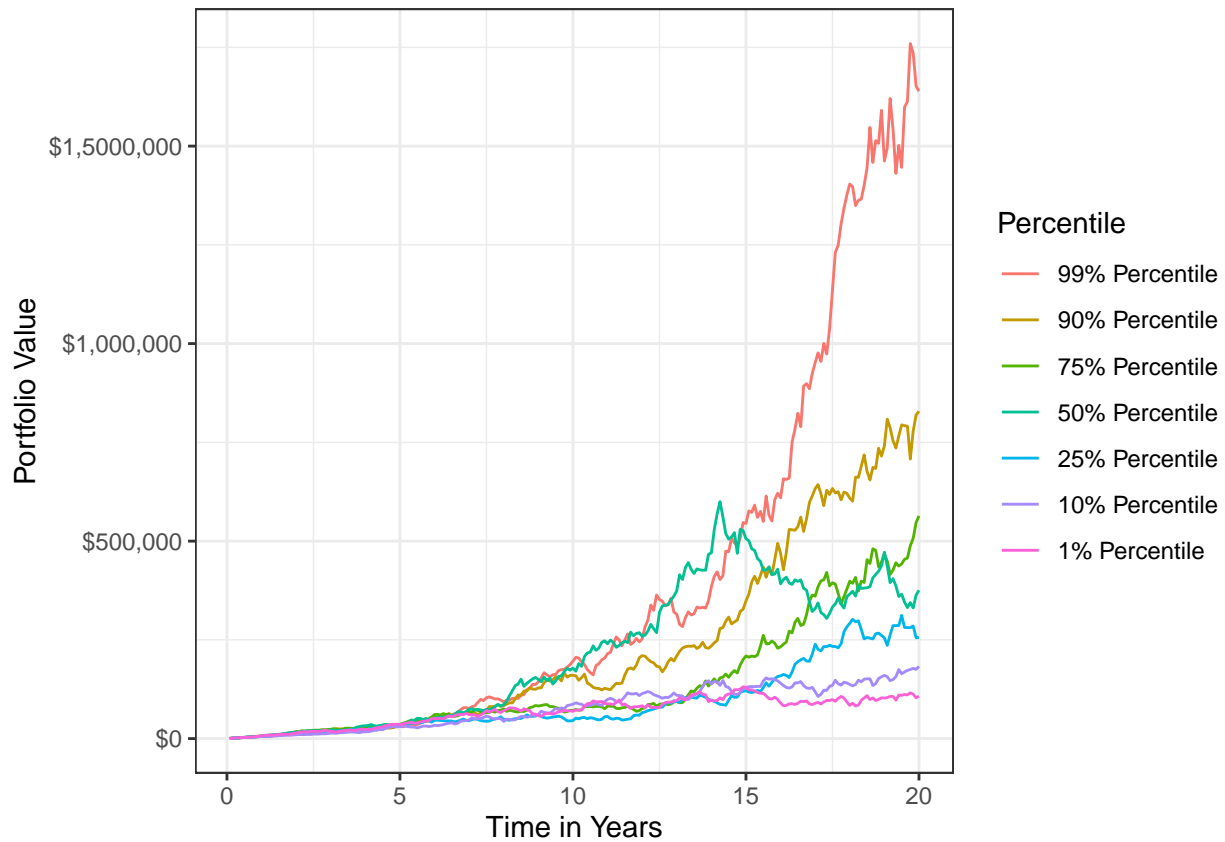




25 years



20 years



## Comparison

### Simple Bootstrapping

##	20-Year Portfolio	25-Year Portfolio	30-Year Portfolio
## 99% Percentile	<u>1598089.4</u>	3466908.1	7185960.8
## 90% Percentile	816101.7	1585852.3	3028182.3
## 75% Percentile	560058.5	<u>1035339.8</u>	1854108.9
## 50% Percentile	375090.1	649928.2	<u>1089750.9</u>
## 25% Percentile	254873.6	413988.6	657662.0
## 10% Percentile	182581.8	281050.4	421687.5
## 1% Percentile	105191.6	148420.4	207181.7
##	35-Year Portfolio	40-Year Portfolio	
## 99% Percentile	14655226.2	29162383.9	
## 90% Percentile	5620968.8	10291750.8	
## 75% Percentile	3269319.0	5666939.2	
## 50% Percentile	1816527.3	2972362.9	
## 25% Percentile	<u>1026888.0</u>	<u>1592344.7</u>	
## 10% Percentile	631262.1	928360.6	
## 1% Percentile	283055.2	386619.5	

### Log-Normal Simulation

##	20-Year Portfolio	25-Year Portfolio	30-Year Portfolio
## 99% Percentile	<u>1638992.1</u>	3568684.0	7450119.7
## 90% Percentile	828805.7	1610830.4	3061633.9

## 75% Percentile	563841.6	<u>1041279.4</u>	1862221.8
## 50% Percentile	375472.7	<u>650501.6</u>	<u>1094936.4</u>
## 25% Percentile	255428.0	413764.5	659941.9
## 10% Percentile	182809.8	280658.0	424736.6
## 1% Percentile	107177.9	150121.4	208121.5
##	35-Year Portfolio	40-Year Portfolio	
## 99% Percentile	15324006.8	29910093.5	
## 90% Percentile	5704875.7	10437735.5	
## 75% Percentile	3291167.6	5710745.3	
## 50% Percentile	1818415.3	2993855.0	
## 25% Percentile	<u>1029115.5</u>	<u>1598182.8</u>	
## 10% Percentile	629689.5	931196.9	
## 1% Percentile	287376.5	389783.5	