1. Risk vs Return (Annualized)
2. Optimal Allocations by Target Return Index
Sector ETFs (Period: 2003−2006)

Target Return Index
0 20 40 60 80 100

0.0 0.2 0.4 0.6 0.8 1.0

MATERIALS(XLB)
HEALTH CARE(XLV)
CONSSTAPLES(XLP)
CONSDISC(XLY)
ENERGY(XLE)
FINANCIAL(XLF)
INDUSTRIALS(XLI)
TECHNOLOGY(XLK)
UTILITIES(XLU)
riskfree
3. Optimal Allocations by Target Return Index
4. Risk vs Return (Annualized)
Efficient Frontier

Return (Ann.)
Risk (Ann. Volatility)
5. Risk vs Return (Annualized)
Sector ETFS (Period: 2003−2006)
Efficient Frontier and Target Portfolio

Risk (Ann. Volatility) vs Return (Ann.)

Materials (XLB)
Healthcare (XLV)
Consolidated (XLY)
Energy (XLE)
Financial (XLF)
Industrials (XLI)
Technology (XLK)
Utilities (XLU)

Opt. Portfolio (Target−Vol 10 Pct)
18.S096 Topics in Mathematics with Applications in Finance
Fall 2013

For information about citing these materials or our Terms of Use, visit: http://ocw.mit.edu/terms.