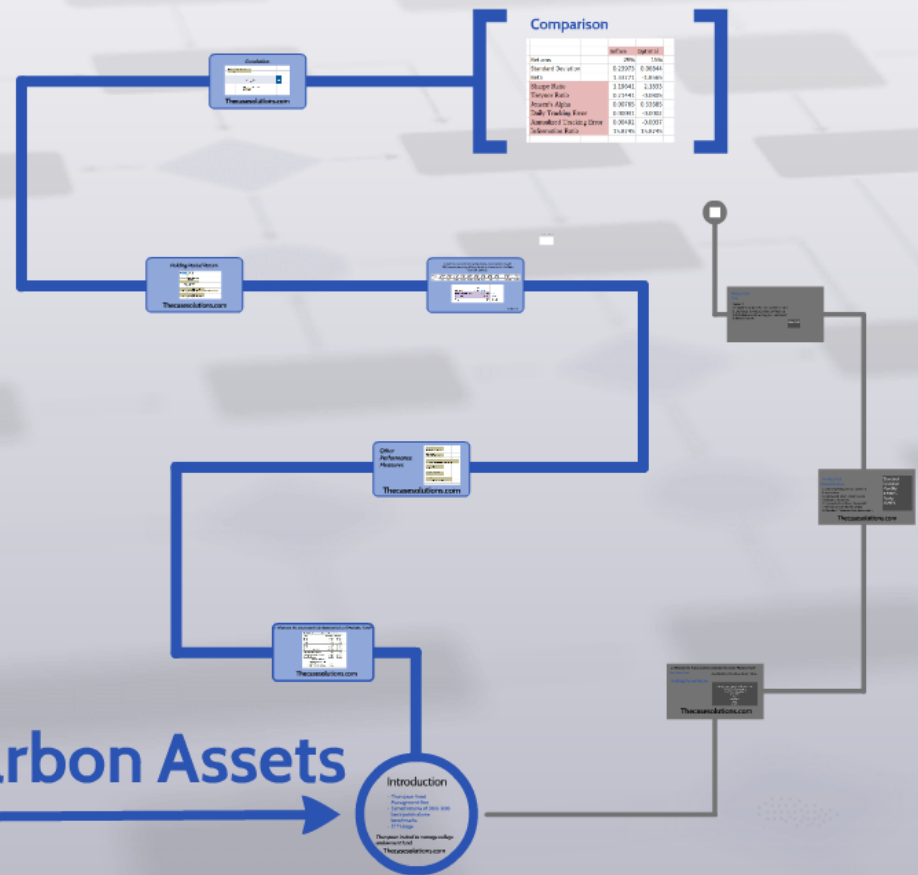


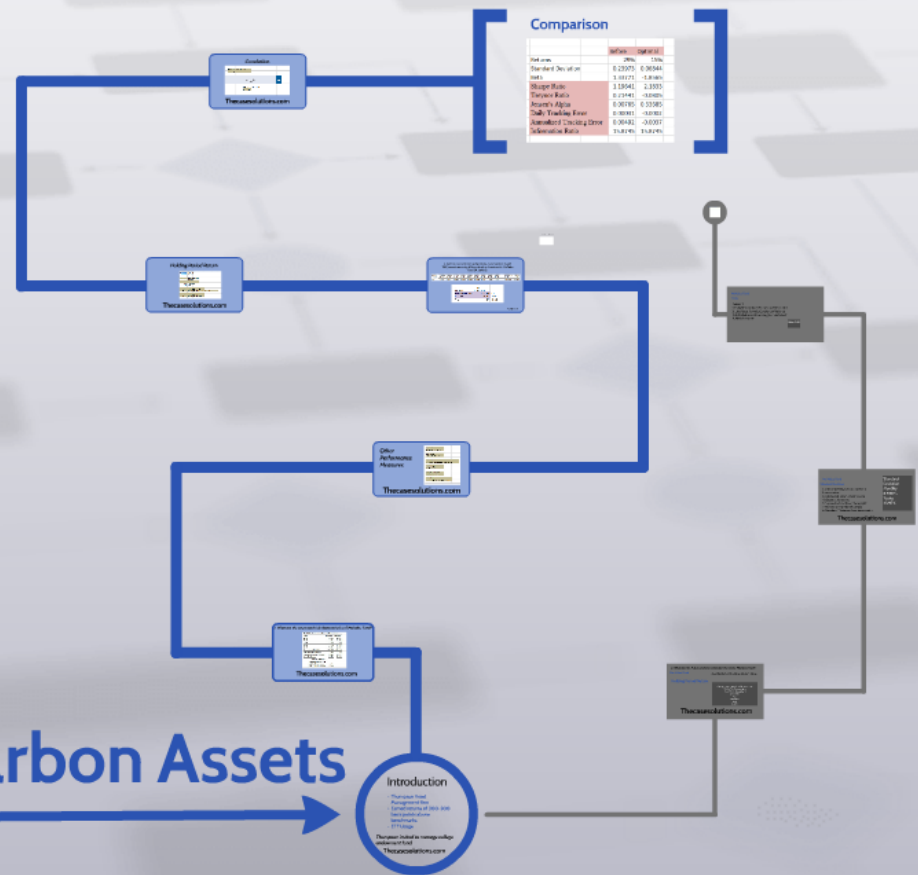
Plantar S.A. (Brazil): The Value of Carbon Assets

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Introduction

- Thompson Asset Management firm
- Earned returns of 300-500 basis points above benchmarks
- ETF Usage

Thompson invited to manage college endowment fund.

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1. What are the return and risk characteristics of ProIndex Fund?

Year	ProIndex	S&P 500
2009	56.48%	23.45%
2010	14.16%	12.78%
2011	11.43%	0.00%
2012	17.20%	13.41%
2013	72.78%	29.60%
Cumulative, 2009-2013	303.06%	104.63%
Daily Standard Deviation	1.91%	1.23%
Annualized Standard Deviation	30.32%	19.47%
<u>Annualized return</u>	<u>60.61%</u>	<u>20.93%</u>
risk free rate=.057		
beta ProIndex=1.011		
daily ProIndex return=	0.24%	
daily S&P 500 return=	0.08%	

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Holding Period Return

\$4.03060084	Ending Value				
\$1.00000000	Beg Value				
\$3.03060084					
303.0601%	Holding period return				
0.2407%	Daily return				
60.660%	Annualized return				
1259	Trading days				
4.996	years				
1.91%	Average STD	fund			
30.31%	Average yearly STD	(1.91X sq rt of 252(15.87)			
1.23%	Average STD	S&P			
19.52%	Average yearly STD	S&P			

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Other Performance Measures

Sharpe ratio			
$.6061 - .0057 / .3032 = 1.98$			
Treynor Ratio			
$.6061 - .0057 / 1.011 = .5938$			
Jensen's Alpha			
$(.6061 - .0057) - 1.011 \times (.2093 - .0057) = .39456$			
Daily tracking error			
$.24 - .08 = .16\%$			
Annualized tracking error			
$.16 \times 15.874 = 2.53$			
Information ratio			
$.6061 - .2093 / 2.53 = .$		0.157	

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2. What are the Return and risk characteristics of the Provalue Fund?

Pro-Value Fund

Used Exhibit 6: ProValue Market Value

Holding Period Return

$(\text{Ending value} - \text{Investment}) / \text{Investment}$

\$7,828,719 Ending Value

\$5,509,070 Investment

\$2,319,649

Year

42.1060%

Daily

0.1671%

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Pro Value Fund

Standard Deviation

1. Calculated daily returns Exhibit 12
2. mean return
3. Subtracted (return-mean return)
4. Squared the returns
6. Squared returns times the weights
7. Number 6/ number of sample
8. Number 7* Variance Covariance matrix

Standard
Deviation

Monthly

6.920%

Yearly

23.97%

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