Utilities

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YUQIAO LI
Agenda

Overview
Business Overview
Economic Overview
Financial Overview
Valuation
Recommendation
Overview

Utilities Sector

• Low profit margin
• High capital expenditure
• Natural monopolized industry
• Defensive
S&P 500 Sector Weightings

Overview
# Various Industries

<table>
<thead>
<tr>
<th>Industries</th>
<th>Market Cap</th>
<th>P/E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utilities</td>
<td>32300.4B</td>
<td>15.96</td>
</tr>
<tr>
<td>Diversified Utilities</td>
<td>17917.4B</td>
<td>16.60</td>
</tr>
<tr>
<td>Electric Utilities</td>
<td>4732.6B</td>
<td>14.30</td>
</tr>
<tr>
<td>Foreign Utilities</td>
<td>18.3B</td>
<td>14.80</td>
</tr>
<tr>
<td>Gas Utilities</td>
<td>7836.9B</td>
<td>14.60</td>
</tr>
<tr>
<td>Water Utilities</td>
<td>1795.2B</td>
<td>19.90</td>
</tr>
</tbody>
</table>

Source: Bloomberg
# Top 10 largest companies in Utilities Sector

<table>
<thead>
<tr>
<th>Name of Company</th>
<th>Market Cap</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duke Energy Corporation (DUK)</td>
<td>54.9B</td>
</tr>
<tr>
<td>National Grid (NEE)</td>
<td>54.57B</td>
</tr>
<tr>
<td>The Southern Company (SO)</td>
<td>46.46B</td>
</tr>
<tr>
<td>Dominion Resources Inc. (D)</td>
<td>40.98B</td>
</tr>
<tr>
<td>Exelon Corp. (EXC)</td>
<td>32.55B</td>
</tr>
<tr>
<td>American Electric Power Co. (AEP)</td>
<td>31.95B</td>
</tr>
<tr>
<td>PG&amp;E Corp (PCG)</td>
<td>29B</td>
</tr>
<tr>
<td>Sempra Energy (SRE)</td>
<td>25.56B</td>
</tr>
<tr>
<td>PPL Corp (PPL)</td>
<td>25.06B</td>
</tr>
<tr>
<td>Public Service Enterprise Group Inc. (PEG)</td>
<td>23.32B</td>
</tr>
</tbody>
</table>

**TOP 10 Market Cap**

| Total Utilities Sector Market Cap                  | 1.17T      |

**Top Ten Percentage of Utilities Sector**

|                                                | 31.14%     |

Source: Bloomberg
Utilities Sector Performance

1 year change +8.56%

Source: Yahoo Finance
Agenda

Overview

**Business Overview**

Economic Overview

Financial Overview

Valuation

Recommendation
How it operate? (Electronic generation)
Fuel Sources
(Sources of U.S electricity generation, 2012 vs. 2035)

U.S. Electricity Net Generation - 2012 vs. 2035

- Growth: 957 billion kWh

- Natural Gas
- Renewable
- Coal
- Nuclear
- Petroleum & Other

- Hydro 52%
- Wind 32%
- Biomass wood 8%
- Biomass waste 4%
- Geothermal 3%
- Solar 2%

Business Overview
**Mid Cycle:**
- **Growth peaking**
- Credit growth strong
- Profit growth peaks
- Policy neutral
- Inventories, sales grow; equilibrium reached

Source: Fidelity Investment
**Porter’s Five force model**

**Threat of New Entrants:** HIGH
Very expensive to build power plants and distribution network

**Supplier Power:** HIGH
Few utilities suppliers in the same region, less to no competition on price

**Buyer Power:** Moderate to Low
Heavy demand on gas and electronic but products (Gas/electricity) seems to be no difference.

**Threat of Substitute:** LOW
Customers not able to find other way to meet their needs on utilities and the demand curve is inelastic at least in short term

**Rivalry Among Competitors:** Moderate to Low
Few competitors in the industry and rivalry may increase when bidding for long term PPAs

**Rivalry among existing competitors**

**Bargaining power of suppliers**

**Bargaining power of buyers**

**Business Overview**
Agenda

Overview
Business Overview
**Economic Overview**
Financial Overview
Valuation
Recommendation
Performance Overview of S&P 500 vs Utilities

Source: Bloomberg
Macroeconomics

Utilities & S&P 500 & GDP & CPI

Source: Bloomberg
Macroeconomics

Utilities & Interest Rate

Source: Bloomberg
Improving loan growth has historically been a strong indicator of the potential for higher valuations. Considering that net interest margins for regional banks have been well below historical averages, increases in interest rates could potentially provide a boost to this group, whose lending earnings are typically reliant on loan spreads.

Source: Fidelity Investment
Microeconomics

Utilities & Weather

Cooling Degree Days

U.S. Department of Energy

Heating Degree Days

Source: Bloomberg
Microeconomics

Utilities & Natural Gas, Crude Oil

Source: Bloomberg
Utilities Regression on S&P 500

Alpha: 0.141
Beta: 0.600
Correlation: 0.436
R^2: 0.190

Source: Bloomberg
Utilities Regression on Crude Oil

Alpha: 0.190
Beta: 0.336
Correlation: 0.306
R^2: 0.093

Source: Bloomberg
Utilities Regression on Commodities Index

Alpha: 0.253
Beta: 0.425
Correlation: 0.418
R^2: 0.175

Source: Bloomberg
Agenda

Overview
Business Overview
Economic Overview
Financial Overview
Valuation
Recommendation
Utilities Sector and S&P 500 Historical Performance Comparison

Source: Bloomberg
Dividend Yield

Exhibit 2 Utilities Yields vs. Other Major Indexes

Utilities sector dividend yield represents the yield of the S&P 500® Utilities Index. Please see index definitions for more information about the S&P 500® Index and Barclays U.S. Aggregate Bond Index. Source: FactSet, as of Oct. 31, 2015.
Utilities Sector and S&P 500 Margins Comparison

Source: Bloomberg
Sector Leverage Comparison

Source: Fidelity Investment
Agenda

Overview
Business Overview
Economic Overview
Financial Overview
Valuation
Recommendation
Utilities vs S&P 500

<table>
<thead>
<tr>
<th>As of 3/25/2016</th>
<th>P/E</th>
<th>P/S</th>
<th>P/B</th>
<th>P/CF</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 years high</td>
<td>18.2</td>
<td>18.49</td>
<td>1.89</td>
<td>1.83</td>
</tr>
<tr>
<td>5 years low</td>
<td>12.99</td>
<td>13.44</td>
<td>1.19</td>
<td>1.23</td>
</tr>
<tr>
<td>Median</td>
<td>15.97</td>
<td>17.44</td>
<td>1.46</td>
<td>1.68</td>
</tr>
<tr>
<td>Current</td>
<td>18.17</td>
<td>18.45</td>
<td>1.88</td>
<td>1.81</td>
</tr>
</tbody>
</table>

Source: Bloomberg
## Relative Basis

<table>
<thead>
<tr>
<th>Relative</th>
<th>P/E</th>
<th>P/S</th>
<th>P/B</th>
<th>P/CF</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 years high</td>
<td>1.182043</td>
<td>0.702318</td>
<td>0.847816</td>
<td>1.710025</td>
</tr>
<tr>
<td>5 years low</td>
<td>0.931134</td>
<td>0.563851</td>
<td>0.554001</td>
<td>0.840611</td>
</tr>
<tr>
<td>Median</td>
<td>0.915711</td>
<td>0.70048</td>
<td>0.616279</td>
<td>1.131621</td>
</tr>
<tr>
<td>Current</td>
<td>0.984824</td>
<td>0.68879</td>
<td>0.688406</td>
<td>1.119082</td>
</tr>
</tbody>
</table>

Current relative value are close the average of 5 years.

Source: Bloomberg
The different industries in utilities sector performed consistency.

Source: Fidelity Investment
Performance Comparison

• Utilities sector moves close to S&P in a UPWARD SHAPE
• Relative values are varied in different industries and companies are varied but all positive
• Utilities % change is positive and higher than S&P500

Source: Fidelity Investment
Technical Analysis

Source: stockchart.com
Agenda

Overview
Business Overview
Economic Overview
Financial Overview
Valuation
Recommendation
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Higher Dividend Growth

Regulation: Benefit from the build-out of natural gas infrastructure

Stable Sector Performance