Identifying and Valuing Intangible Assets

More than just the “Leftovers”

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I. **Definition:** What are intangible assets?

II. **Identification:** How do you identify intangible assets?

III. **Valuation:** How do you measure the value of intangible assets?

IV. **Case Study**
In the News

“The Corporate Grab Behind the Yosemite Park Trademark Clash” (see Appendix B)

A New York corporation has claimed the rights to several intangible assets associated with Yosemite National Park.

The corporation doesn’t care about the “ownership” of the trademarks — they care about the value of the assets.

So, what’s the problem?
In the News

The corporation’s contract doesn’t specify what trademarks it owns or their value – the real property belongs to the government, and the intangible assets are transferrable at Fair Value

So, what’s the Fair Value of the trademarks?

The New York corporation says $51.2 MM

The government says $3.5 MM
In the News

There is a level of subjectivity to valuing intangible assets, BUT...Ultimately valuations should be derived by following a rigorous set of valuation procedures.

Fair Value should reflect the view of the market participant – all assumptions and calculations should be reasonable and supportable, and adhere to current market conditions.
I. Definition

- ASC §805 defines an intangible asset as “an asset (not including a financial asset) that lacks physical substance.”

- In business combinations, identifiable intangible assets purchased are recognized on financial statements separately from tangible assets and goodwill.

- Other definitions exist under:
  - AICPA Valuation Section 100
  - Internal Revenue Code (s197 etc)
  - Each state may also define intangible assets specifically for property tax purposes
II. Identification

Two conditions must be met for an intangible asset to be “identifiable”:

1. **Separability Criterion**: the intangible asset can be separated or divided from the entity and sold, transferred, licensed, rented, or exchanged

2. **Contractual-Legal Criterion**: the intangible asset arises from contractual or other legal rights, regardless of whether those rights are transferable or separable from the entity or from other rights and obligations
II. Identification

- Intangible assets that meet the contractual-legal criterion are “identifiable” even if the asset is not transferable, or separable, from the business acquired or from other rights and obligations.
II. Identification

- For example…

- A solar panel producer owns a patent for its solar panel design. The company licenses that patent to other companies to produce the panels in foreign markets, receiving a % of revenue in exchange.

- Both the patent and the related license agreement meet the contractual-legal criterion, even if selling or exchanging the patent and the related license agreement separately from one another would not be practical.
II. Identification

Examples of Intangible Assets that meet the recognition criteria

Marketing-related:
- Trademarks / Trade Names
- Trade Dress
- Newspaper mastheads
- Internet Domain Names
- Noncompete Agreements

Customer-related:
- Customer Lists
- Order/Production Backlog
- Customer Contracts and Related Customer Relationships
- Noncontractual Customer Relationship

Artistic-related:
- Plays, Operas, Ballets
- Books, Magazines, Newspapers
- Musical Works
- Pictures, Photographs
- Video and Audiovisual Materials

Contract-based:
- Licensing, Royalty, Standstill Agreements
- Lease Agreements
- Construction Permits
- Use rights (drilling, water, air)
- Employment Contracts
- Operating Rights

Technology-based:
- Patented/Unpatented Technology
- Computer Software
- Databases
- Trade Secrets (processes, recipes)
III. Valuation

- There are several approaches for valuing intangible assets:
  1. Income Approach
     - Relief from Royalty Method
     - Multi-Period Excess Earnings Method
     - Contract / Market Differential Method
  2. Market Approach
  3. Cost Approach
III. Valuation

1. Income Approach

**Relief from Royalty Method**: estimates Fair Value as the present value of the royalty payments saved (or avoided) because the company owns the asset.

**Multi-Period Excess Earnings Method**: measures future earnings in excess of the amount required to provide for a fair return on all other contributory assets (including working capital, PP&E, etc.)
III. Valuation

2. Market Approach

- Provides an estimate of value based on market prices in actual transactions involving similar assets

- Consideration of time of sale, condition of sale, and terms of agreement is important – adjustments should be made, when appropriate
III. Valuation

3. Cost Approach

- Based on the estimated replacement cost new

- Value adjusted for physical, functional and economic obsolescence
### III. Valuation

Practical considerations in identifying intangible assets & preferred valuation method

<table>
<thead>
<tr>
<th>Category</th>
<th>Expected Asset</th>
<th>Typical points to be discussed</th>
<th>Preferred Valuation Methodology</th>
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</thead>
<tbody>
<tr>
<td><strong>Technology-related Intangible Assets</strong></td>
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<tr>
<td>Patents and Proprietary Technology</td>
<td></td>
<td>▪ Level of aggregation&lt;br&gt;▪ Discuss level of analysis, based on analysis of business model</td>
<td>1. Relief from Royalty Approach&lt;br&gt;2. Multi-Period Excess Earnings Approach&lt;br&gt;3. Cost Approach</td>
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<td>Software</td>
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<td>▪ Level of aggregation</td>
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<td>IPR&amp;D</td>
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<td>▪ In-Process Research &amp; Development&lt;br&gt;▪ Level of aggregation</td>
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<tr>
<td><strong>Customer-related Intangible Assets</strong></td>
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<tr>
<td>Order/Production backlog</td>
<td></td>
<td>▪ Existing customers contracts&lt;br&gt;▪ Number of customer contracts and granularity of data&lt;br&gt;▪ Delimitation from inventories (WIP), Deferred Revenues, Reserves (warranties, losses at completion, …) and other intangible assets</td>
<td>Multi-Period Excess Earnings approach</td>
</tr>
<tr>
<td>Customer relationships</td>
<td></td>
<td>▪ Number of customer groups and granularity of data&lt;br&gt;▪ Lifing analysis</td>
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### III. Valuation

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<tr>
<th>Category</th>
<th>Expected Asset</th>
<th>Typical points to be discussed</th>
<th>Preferred Valuation Methodology</th>
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<tr>
<td>Marketing-based</td>
<td>Trade Name</td>
<td>- Allocation of revenues specific to brand recognition</td>
<td>- Royalty Savings Method</td>
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<tr>
<td>Intangible Assets</td>
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<td></td>
<td></td>
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<tr>
<td>Contract-based</td>
<td>Supply Agreements</td>
<td>- Identification/analysis if conditions differ from market conditions</td>
<td>- Multi-Period Excess Earnings approach</td>
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<tr>
<td>Intangible Assets</td>
<td>Distribution Agreements</td>
<td>- Identification/analysis if conditions differ from market conditions</td>
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</tr>
<tr>
<td></td>
<td>Other Licenses/Contracts</td>
<td>- Identification/analysis if conditions differ from market conditions</td>
<td></td>
</tr>
</tbody>
</table>
IV. Case Study

- On January 1, 2013 the State of Oklahoma enacted legislation exempting intangible personal property from ad valorem taxation.

- To be granted exemption, a company must submit an appraisal of specific intangible assets to be excluded with its annual property tax return.

- A publicly-traded oil and gas company decides to commission an independent valuation appraisal for its intangible assets as part of its negotiation process with the state assessor.
IV. Case Study

**Step 1**: Identify the company’s intangible assets to be recognized apart from tangible assets and goodwill, pursuant to ASC §805.

**Step 2**: Calculate the value of each identifiable intangible asset.
IV. Case Study

**Step 1**: Using the *separability criterion* and the *contractual-legal criterion*, the following intangible assets were identified:

- **Customer Relationships**
  1. Power Customers
  2. Local Distribution Company Customers
  3. Off-System Customers
  4. Commercial Customers
  5. Industrial Customers

- **Assembled Workforce**
Step 2: Valuation of Customer Relationships

1. Identify the appropriate stream of projected gross profit associated with Customer Relationships
   - Separate gross profit by identified customer type (Power Customers, Local Distribution Company Customers, etc.)

2. Assume that 100% of projected gross profit is allocated to Customer Relationships
**IV. Case Study**

**Step 2:** Valuation of **Customer Relationships**

3. Adjust the gross profit attributable to Customer Relationships based on a retention curve
   - The retention curve for each customer class should reflect the natural attrition expectations

4. Calculate EBIT by deducting depreciation expense associated with each respective customer class
IV. Case Study

**Step 2**: Valuation of Customer Relationships

5. Adjust EBIT attributable to Customer Relationships for the royalty rate charge and taxes to reach the after-tax cash flows attributable to Customer Relationships

6. Deduct the capital charges for contributory assets
   - Contributory asset charges taken for working capital, fixed assets, and assembled workforce
IV. Case Study

Step 2: Valuation of Customer Relationships

7. Calculate the present value of projected after-tax excess cash flow from existing customers
   - Discount rate of approx. 10%, an appropriate rate for gas distribution companies as determined by the Oklahoma Tax Commission

Valuation Conclusion: The company comes to a valuation based on the after-tax excess earnings attributable to Customer Relationships – the Multi-Period Excess Earnings Method
### IV. Case Study

#### Customer Relationship Valuation Example

**Multi-Period Excess Earning Analysis**

<table>
<thead>
<tr>
<th>Assumptions</th>
<th>Discount Rate</th>
<th>Estimated Effective Tax Rate</th>
<th>Estimated Customer Attrition Rate</th>
<th>Current Customer Marketing Cost</th>
<th>Monetary Units</th>
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<tbody>
<tr>
<td></td>
<td>15.00%</td>
<td>38.00%</td>
<td>25.00%</td>
<td>5.00%</td>
<td>($2000)</td>
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#### Assumptions

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<tbody>
<tr>
<td><strong>Current Customer Revenue Forecast</strong></td>
<td>$50,000</td>
<td>$55,000</td>
<td>$59,125</td>
<td>$62,081</td>
<td>$65,633</td>
<td>$65,224</td>
<td>$66,855</td>
<td>$68,526</td>
<td>$70,139</td>
<td>$71,955</td>
<td>$73,795</td>
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<tr>
<td><strong>Existing Customer Growth Rate</strong></td>
<td>10.0%</td>
<td>7.5%</td>
<td>5.0%</td>
<td>2.2%</td>
<td>2.3%</td>
<td>2.5%</td>
<td>2.5%</td>
<td>2.5%</td>
<td>2.5%</td>
<td>2.5%</td>
<td>2.5%</td>
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<tr>
<td><strong>Annual Decay Factor (25% Attrition Rate)</strong></td>
<td>75.0%</td>
<td>56.3%</td>
<td>42.2%</td>
<td>31.0%</td>
<td>23.3%</td>
<td>17.0%</td>
<td>13.3%</td>
<td>10.0%</td>
<td>7.5%</td>
<td>5.0%</td>
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<td><strong>Cost of Sales</strong></td>
<td>16,500</td>
<td>12,800</td>
<td>10,000</td>
<td>7,750</td>
<td>5,995</td>
<td>4,381</td>
<td>3,522</td>
<td>2,707</td>
<td>2,081</td>
<td>1,400</td>
<td>3,250</td>
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<td><strong>Gross Profit</strong></td>
<td>24,750</td>
<td>20,458</td>
<td>16,191</td>
<td>12,384</td>
<td>9,483</td>
<td>7,318</td>
<td>5,625</td>
<td>4,325</td>
<td>3,325</td>
<td>2,566</td>
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<tr>
<td><strong>% of Revenue</strong></td>
<td>60.0%</td>
<td>61.5%</td>
<td>61.8%</td>
<td>61.9%</td>
<td>61.5%</td>
<td>61.5%</td>
<td>61.5%</td>
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<tr>
<td><strong>Selling, General, and Administrative Expenses</strong></td>
<td>14,637</td>
<td>11,794</td>
<td>9,288</td>
<td>7,143</td>
<td>5,492</td>
<td>4,222</td>
<td>3,346</td>
<td>2,495</td>
<td>1,918</td>
<td>1,475</td>
<td>2,108</td>
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<tr>
<td><strong>Less: Selling &amp; Marketing for New Customers</strong></td>
<td>(2,062)</td>
<td>(1,663)</td>
<td>(1,310)</td>
<td>(1,067)</td>
<td>(774)</td>
<td>(395)</td>
<td>(457)</td>
<td>(252)</td>
<td>(279)</td>
<td>(208)</td>
<td>(208)</td>
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<tr>
<td><strong>Total Operating Expenses</strong></td>
<td>12,575</td>
<td>10,131</td>
<td>7,978</td>
<td>6,267</td>
<td>4,718</td>
<td>3,827</td>
<td>2,788</td>
<td>2,144</td>
<td>1,644</td>
<td>1,267</td>
<td>1,267</td>
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<tr>
<td><strong>% of Revenue</strong></td>
<td>30.5%</td>
<td>30.5%</td>
<td>30.5%</td>
<td>30.5%</td>
<td>30.5%</td>
<td>30.5%</td>
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<td>30.5%</td>
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<tr>
<td><strong>EBITDA</strong></td>
<td>12,175</td>
<td>10,327</td>
<td>8,212</td>
<td>6,248</td>
<td>4,765</td>
<td>3,690</td>
<td>2,837</td>
<td>2,181</td>
<td>1,677</td>
<td>1,289</td>
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<tr>
<td><strong>% of Revenue</strong></td>
<td>29.5%</td>
<td>31.1%</td>
<td>31.4%</td>
<td>31.0%</td>
<td>30.8%</td>
<td>30.6%</td>
<td>30.6%</td>
<td>31.0%</td>
<td>31.0%</td>
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<tr>
<td><strong>Depreciation</strong></td>
<td>1,050</td>
<td>1,416</td>
<td>965</td>
<td>590</td>
<td>404</td>
<td>189</td>
<td>145</td>
<td>111</td>
<td>96</td>
<td>64</td>
<td>64</td>
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<tr>
<td><strong>EBIT</strong></td>
<td>11,126</td>
<td>8,911</td>
<td>7,246</td>
<td>5,658</td>
<td>4,361</td>
<td>3,502</td>
<td>2,692</td>
<td>2,070</td>
<td>1,591</td>
<td>1,223</td>
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<td><strong>Income Tax</strong></td>
<td>4,228</td>
<td>3,386</td>
<td>2,777</td>
<td>2,150</td>
<td>1,657</td>
<td>1,331</td>
<td>1,023</td>
<td>786</td>
<td>605</td>
<td>465</td>
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<td><strong>Net Income</strong></td>
<td>$6,898</td>
<td>$5,525</td>
<td>$4,531</td>
<td>$3,508</td>
<td>$2,704</td>
<td>$2,171</td>
<td>$1,649</td>
<td>$1,283</td>
<td>$986</td>
<td>$758</td>
<td>$758</td>
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<tr>
<td><strong>% of Revenue</strong></td>
<td>16.7%</td>
<td>16.6%</td>
<td>17.3%</td>
<td>17.4%</td>
<td>17.5%</td>
<td>18.2%</td>
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#### Contributory Charges:

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<tr>
<td><strong>Less: Return on Debt Free Net Working Capital</strong></td>
<td>133</td>
<td>114</td>
<td>91</td>
<td>71</td>
<td>55</td>
<td>42</td>
<td>33</td>
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<td><strong>Less: Return on Fixed Assets</strong></td>
<td>693</td>
<td>481</td>
<td>336</td>
<td>234</td>
<td>165</td>
<td>115</td>
<td>88</td>
<td>68</td>
<td>52</td>
<td>40</td>
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<tr>
<td><strong>Less: Return on Intangible Assets</strong></td>
<td>1,338</td>
<td>1,088</td>
<td>815</td>
<td>657</td>
<td>505</td>
<td>384</td>
<td>292</td>
<td>224</td>
<td>172</td>
<td>133</td>
<td>133</td>
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<tr>
<td><strong>Earnings Attributable to Current Customers</strong></td>
<td>$4,735</td>
<td>$3,842</td>
<td>$2,248</td>
<td>$1,574</td>
<td>$1,629</td>
<td>$1,256</td>
<td>$1,069</td>
<td>$812</td>
<td>$656</td>
<td>$526</td>
<td>$510</td>
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#### Discount Periods:

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<tbody>
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<td><strong>Discount Periods</strong></td>
<td>0.5000</td>
<td>1.5000</td>
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<td>3.5000</td>
<td>4.5000</td>
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<td>6.5000</td>
<td>7.5000</td>
<td>8.5000</td>
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#### Present Value Factor:

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<tr>
<td><strong>Present Value Factor</strong></td>
<td>0.9325</td>
<td>0.8109</td>
<td>0.7051</td>
<td>0.6131</td>
<td>0.5332</td>
<td>0.4626</td>
<td>0.4031</td>
<td>0.3306</td>
<td>0.2548</td>
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#### Present Value of Earnings:

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<tbody>
<tr>
<td><strong>Annual % of Cumulative Present Value</strong></td>
<td>41.4%</td>
<td>23.3%</td>
<td>13.7%</td>
<td>8.5%</td>
<td>5.7%</td>
<td>3.7%</td>
<td>2.4%</td>
<td>1.6%</td>
<td>1.0%</td>
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#### Indicated Value of Customer Relationships:

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</thead>
<tbody>
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<td><strong>Indicated Value of Customer Relationships</strong></td>
<td>17,246</td>
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<td>17,246</td>
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IV. Case Study

**Conclusion**: The company successfully identifies **Customer Relationships** and **Assembled Workforce** as two intangible assets and values each one through the **Multi-Period Excess Earnings Method** and **Cost Savings Method**, respectively.
Questions?
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Appendix A: Learning Objectives

Appendix B: LA Times News Article

Appendix C: Corroboration of the Purchase Price

Appendix D: Allocation of Purchase Price in Market Transactions
Appendix A

Learning Objectives:

- **Identify and Differentiate** the intangible assets associated with a business

- **Measure** the value of the different types of intangible assets

- **Document** the approach and methodology, key assumptions and data sources
Appendix B

LA Times: “The Corporate Grab Behind the Yosemite Park Trademark Clash”

Publish Date: January 19, 2016

Author: Michael Hiltzik, Contact Report

Corroboration to the Hypothetical Purchase Price (or Business Enterprise Value):

- The Fair Value of the subject assets (tangible and intangible) is allocated to the purchase price
- The Fair Value of the subject assets and purchase price must reconcile – key assumptions used in the Fair Value calculation should be analyzed based on market conditions and observable market data
- The difference between Fair Value of the subject assets and the purchase price will be captured as Goodwill
### Appendix D

<table>
<thead>
<tr>
<th>Acquirer</th>
<th>Target</th>
<th>Closing Date</th>
<th>Purchase Price + Acquired Liabilities</th>
<th>Deferred Tax Assets</th>
<th>Plant/Project Assets</th>
<th>Tangible Assets</th>
<th>Intangible Assets</th>
<th>Other Assets</th>
<th>Goodwill</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Solar</td>
<td>NextLight</td>
<td>7/12/2010</td>
<td>$296.74 MM</td>
<td>0.03%</td>
<td>49.66%</td>
<td>0.85%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>49.46%</td>
</tr>
<tr>
<td>First Solar</td>
<td>OptiSolar</td>
<td>4/3/2009</td>
<td>$399.40 MM</td>
<td>8.81%</td>
<td>26.01%</td>
<td>2.55%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>62.64%</td>
</tr>
<tr>
<td>SunPower</td>
<td>SunRay</td>
<td>3/26/2010</td>
<td>$282.09 MM</td>
<td>0.00%</td>
<td>28.06%</td>
<td>19.18%</td>
<td>0.40%</td>
<td>0.00%</td>
<td>52.36%</td>
</tr>
<tr>
<td>MEMC (1)</td>
<td>Solaicx</td>
<td>7/1/2010</td>
<td>$121.62 MM</td>
<td>0.00%</td>
<td>24.67%</td>
<td>17.27%</td>
<td>11.68%</td>
<td>46.37%</td>
<td></td>
</tr>
<tr>
<td>MEMC (1)</td>
<td>SunEdison</td>
<td>11/20/2009</td>
<td>$794.20 MM</td>
<td>0.00%</td>
<td>41.00%</td>
<td>5.31%</td>
<td>17.77%</td>
<td>35.92%</td>
<td></td>
</tr>
<tr>
<td>GT Solar</td>
<td>Crystal Systems</td>
<td>7/29/2010</td>
<td>$81.634 MM</td>
<td>0.89%</td>
<td>9.15%</td>
<td>29.40%</td>
<td>8.41%</td>
<td>52.16%</td>
<td></td>
</tr>
<tr>
<td><strong>Median:</strong></td>
<td></td>
<td></td>
<td></td>
<td>0.01%</td>
<td>28.06%</td>
<td>14.16%</td>
<td>2.86%</td>
<td>4.20%</td>
<td>50.81%</td>
</tr>
<tr>
<td><strong>Average:</strong></td>
<td></td>
<td></td>
<td></td>
<td>1.62%</td>
<td>34.58%</td>
<td>16.23%</td>
<td>8.73%</td>
<td>6.31%</td>
<td>49.82%</td>
</tr>
</tbody>
</table>

**Notes:**
Source: All information collected from latest annual report of acquirer
(1) Public information for MEMC did not specifically allocate tangible asset value between acquired power projects and other intangible assets