Health Care Reform Impact—Are Hospitals Now Worth More?

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On June 28, 2012, the U.S. Supreme Court upheld the Affordable Care Act, initially signed into law by President Obama on March 23, 2010. The central provision of the Act, requiring individuals to purchase medical insurance or pay a fine, was considered by many observers to be the most controversial aspect of the legislation. Conservative opponents of the Act argued that granting the federal government the power to compel an individual to acquire medical insurance was tantamount to conferring to the federal government the power to force an individual to buy almost anything. Ultimately, a significant and targeted outcome of the Act was to extend medical insurance to over 30 million uninsured individuals. As a result, many observers anticipate that hospitals may reap significant benefit, receiving insurance payments in the future for services that historically would have been delivered as uncompensated care.

Introduction

When the Supreme Court largely upheld the Affordable Care Act (the "Act") on June 28, 2012, the health care sector drew one step closer to the reality that some 30-plus million uninsured individuals soon would represent a source of reimbursable services. The insurance mandate incorporated in the Act requires all individuals who are financially able to obtain insurance by 2014.

According to the American Hospital Association (AHA), "uncompensated care costs" totaled approximately $39.3 billion in 2010, and reflected an annual growth rate approximating 7 percent since 2001. Uncompensated care is defined by the AHA as hospital care for which no payment was received from the patient or insurer, and represents the sum of a hospital's bad debt (i.e., unexpected inability to collect for services provided) and charity care (i.e., medical care provided with no expectation of reimbursement).

Based on the reported 4,985 registered community hospitals in operation in 2010, the reported level of uncompensated care translated into an average of approximately $7.9 million in uncompensated care cost per hospital. Further, the reported level of uncompensated care cost has averaged just under 6 percent of total hospital costs annually since 2006.

One reasonably could conclude that a measurable increase in the number of insured patients within the health care system will result in an increase in the level of reimbursed services, and therefore the profitability, of the overall hospital system after the relevant provisions of the Act go into effect.

The logical economic impact of the Act is an outlook of increased profitability for the hospital segment of the health care industry, with a potentially significant, positive impact realizable by those hospitals that historically have delivered a relatively higher percentage of uncompensated care.

This discussion considers the indicated reaction by the market and investors to the potential economic ramifications of the Act with regard to the performance of the hospital segment of the health care industry.

In particular, this discussion focuses on the valuation of hospitals—with a particular emphasis on those operating in a tax-exempt setting—and

important issues that should be addressed in order to develop reliable, defensible value conclusions.

Market/Investor Response to the Act

As participants within the health care sector are influenced significantly by legislation and regulatory guidelines affecting virtually every aspect of their operations—particularly as relating to reimbursement and business relationships—the Supreme Court's ruling on the Act was expected to send economic ripples throughout the health care industry.

Generally, regulatory changes are perceived to produce an environment, albeit temporary in many instances, of winners and losers, with some market participants expected to benefit and others expected to be affected detrimentally by the changes.

As previously discussed, the Act is expected to result in insurance coverage for an additional 30 million U.S. residents. While the details regarding how the economic ramifications associated with the increased coverage will be spread throughout payer networks and funding sources in place, generally, it is presumed that historical uncompensated care levels will decrease.

From the perspective of hospital systems, particularly hospitals that historically have provided relatively high levels of uncompensated care, an increasing reimbursement level should result in increased profitability. A general expectation of increased profitability in future operating periods for any entity typically translates into an increase in value for the entity.

Market Response to the Act

An initial assessment of the impact of the Act on market participants' expectations for the hospital sector can be derived from a review of transactional activity. As indicated in Figure 1, transactional activity involving hospitals increased significantly in calendar year 2011 relative to calendar year 2007.

Calendar year 2007 was selected as a reasonable base period for the assessment of market activity based on the fact that this represents the most recent year prior to the national financial crisis and related economic correction that occurred in 2008.

Calendar year 2011 was selected as a reasonable end point for the assessment period based on the fact that the Act initially was signed into law by President Obama on March 23, 2010.

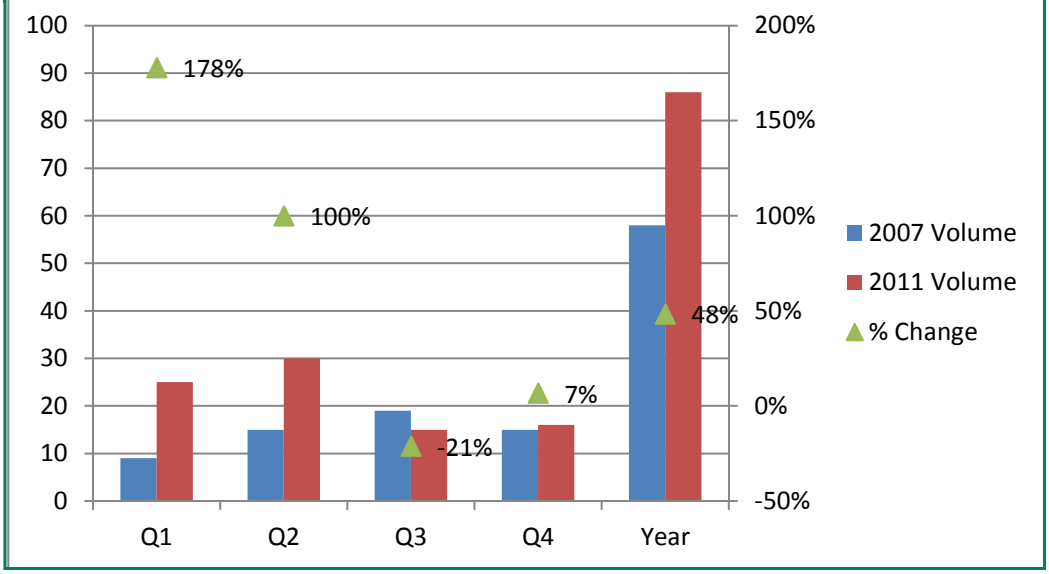
As presented in Figure 1, the number of reported hospital transactions was 48 percent higher in 2011 relative to the number of reported hospital transactions in 2007. By March 2011, the Act had been subjected to constitutional challenges filed in 26 states, with particular focus on the constitutionality of the "individual mandate." This mandate requires virtually all Americans to purchase minimum health insurance coverage by 2014 or pay a tax penalty.

Initial court rulings at the federal level during the first quarter of 2011 generally found in favor of the constitutionality of the Act. As presented in Figure 1, hospital transactions were up significantly in the first two quarters of 2011 relative to the same periods in 2007.

However, on November 14, 2011, the U.S. Supreme Court granted a writ of certiorari with regard to the Act, officially exposing the Act to the highest level of judicial review and potential rescission.

As indicated in Figure 1, hospital transactions in the last half of 2011—the period when significant challenges were being levied against the Act and its

Figure 1
Hospital Transaction Volume
Pre-2008 Economic Correction and Post-Passage of the Patient Protection and Affordable Care Act



ultimate constitutionality placed at risk—moderated to levels experienced during the last half of 2007.

Investor Response to the Act

An immediate indication of investor expectations regarding the impact of the Act on the hospital sector is represented by movement in the stock market. Stocks of publicly traded, large hospital systems reportedly "soared" the day after President Obama's re-election.

As presented in Figure 2, the stock prices of the three large publicly traded hospital systems—Community Health Systems (CYH), HCA Holdings (HCA), and Tenet Healthcare (THC)—all increased measurably the day after President Obama's re-election on November 7, 2012.

As presented in Figure 3, the closing share price of CYH, HCA, and THC increased 6 percent, 9.4 percent, and 9.6 percent, respectively, the day after the election, contradicting the 2.4 percent decline experienced by the DJIA.

Of equal significance, as summarized in Figure 3, is the fact that the trading volume for each large publicly traded hospital system more than doubled on November 7, 2102, relative to the prior day's trading volume.

As indicated in Figure 3, the doubling in trading volume for each of the large publicly traded hospital systems drove an average share price increase for the three systems that exceeded 8 percent.

While hospital stock prices and trading volumes retreated to historical, pre-election levels within days of the election, President Obama's re-election virtually ensured that the Act will not be repealed.

Industry analysts expect that ultimate insurance coverage extended to over 30 million currently uninsured individuals will drive patients to hospitals, with the large publicly traded hospital systems well positioned to benefit from the impact—including fewer uninsured patients presenting themselves for medical care in emergency rooms across the country.

Additionally, and based on the projected initial impact of a larger insured patient population, larger hospital systems are expected to have increased access to capital. Industry analysts expect that many hospital systems will access capital with the objective of expanding medical services and completing technology upgrades.

A primary investment opportunity remains in the area of electronic health records, which provides the potential for increased efficiency in patient handling and patient care and a resulting improvement in operating profitability.

Hospital Valuation

Based on preliminary indications that the implementation of the Act may exert positive economic impacts on the future operating performance of hospitals, particularly hospitals that historically have provided relatively high levels of uncompensated care, the question of value arises.

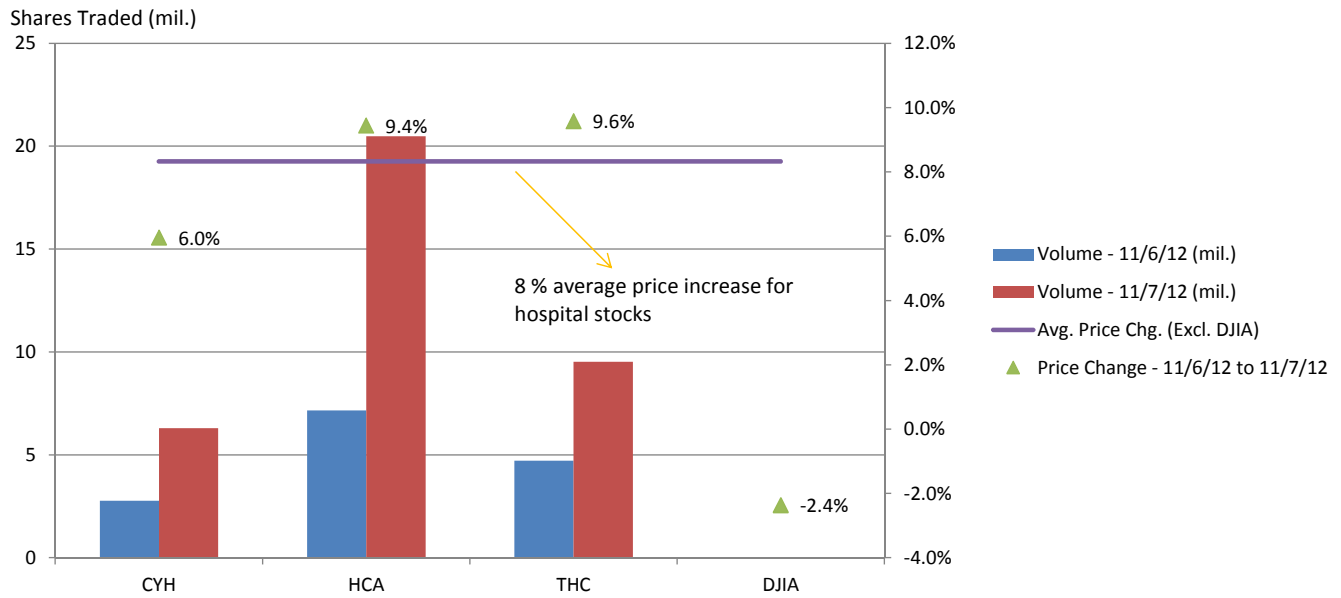
From a simple perspective, one reasonably could conclude that the Act would have the impact of creating higher expectations with regard to future earnings and cash flows of relevant hospitals, generally resulting in higher valuations.

However, a deeper analysis requires an assessment of both of the following:

1. The anticipated level, timing, and duration of an increase in insurance payments potentially resulting from the Act
2. The potential reduction in other historical payer streams (e.g., Medicare, Medicaid and commercial insurance) attributable to general market shifts and, potentially, to the implementation of the Act.

Figure 2
Hospital Stock Prices

Figure 3
Hospital Stock Volume and Price Changes



Data published by the AHA in the 2012 update of *Fast Facts on US Hospitals* indicate that approximately 80 percent of the 4,985 registered U.S. community hospitals operate as nongovernmental, not-for-profit hospitals, or state and local government hospitals. Because these hospitals are structured legally as tax-exempt entities, the remainder of this discussion focuses on issues that a valuation analyst may encounter when called on to complete the valuation of a hospital structured as a tax-exempt entity.

As previously discussed, regulatory considerations play a critical role with regard to the valuation of any health care entity. Such considerations are of significant importance when a tax-exempt hospital is the subject of a valuation engagement, or when one or more parties to a proposed transaction operate as tax-exempt entities.

Several regulatory guidelines that should be understood when completing transactions and valuations involving tax-exempt entities are identified below:

1. Internal Revenue Code Revenue Ruling 98-15 regarding tax-exempt hospital joint venture arrangements with for-profit entities
2. Internal Revenue Code Section 501(c)(3) regarding fair market value, and the prohibition of the transfer of private benefit and private inurement by tax-exempt entities
3. Internal Revenue Code Section 4958 regarding fair market value, excess benefit, excise taxes and intermediate sanctions on "disqualified persons"
4. Social Security Act Sections 1128A and 1128B regarding fraud and abuse, anti-kickback, and self-referral statutes
5. Stark Law (I and II) regarding fair market value, the prohibition of the payment for prohibited referrals, and commercial reasonableness

While it is not the purpose of this discussion to describe the previously identified regulations in detail, it is important that all parties to a transaction involving a tax-exempt entity are familiar with the legislation and related implications with regard to a proposed transaction.

The following sections identify issues that may be encountered when valuing a hospital. Specifically, the subject hospital is assumed to operate within a joint venture structure. And, the hospital is owned jointly by a tax-exempt health system and a for-profit health system.

The following issues are addressed (with advice offered):

1. Reconciling the income approach, which incorporates management projections that reflect negative projected cash flow
2. Reconciling the asset-based approach, when economic obsolescence is implied with regard to the operating assets based on a history of underperformance.

Reconciling the Income Approach—Addressing Management Projections

When completing a fair market value analysis of a hospital in a tax-exempt setting, such as the subject, hypothetical hospital operating within a joint venture arrangement, a valuation analyst commonly will consider the income approach, the market approach, and the asset-based approach. Without appropriate adjustments, the value indications resulting from these three approaches may differ significantly.

For example, management of the subject hospital—represented by one of the joint venture partners—may provide financial projections that include the impact of related party revenue and expense activities that ultimately do not reflect the financial position or results of operations for an otherwise similar, free-standing organization.

Specifically, financial projections may indicate negative cash flows over the projection period, and in the final year of the projection period, that do not reflect industry and macroeconomic expectations. Consequently, it may be difficult to estimate a meaningful value conclusion based on the income approach that aligns with the value indications resulting from the market approach and the asset-based approach.

The income approach discounted cash flow (DCF) method typically is considered for the purpose of estimating the fair market value of a hospital. The DCF method relies on a projection of expected operating results and related cash flow, discounting the expected cash flow to a present value using a risk-adjusted cost of capital.

The financial projections relied upon to complete the DCF method typically are provided by hospital management. With regard to our subject hospital, the terms of the joint venture operating agreement allow for the for-profit venture partner to provide, and charge for, various administrative, management, purchasing, legal, and information-technology-related services.

Although projections provided by one of the joint venture partners may rely on certain assumptions that are considered reasonable and well supported with regard to the outlook for the industry and the performance of the subject hospital, other areas of the projections may incorporate economic terms (i.e., related party charges) that require arm's-length analysis.

Therefore, a valuation analyst may perform reasonable due diligence on the projections prepared by management before accepting and using the projections to perform the DCF method analysis.

Due diligence procedures that a valuation analyst can perform to establish the reasonableness of management projections typically include the following:

1. Performing historical ratio and common size analysis with regard to the subject hospital
2. Comparing the growth rates, operating margins and ratios implied by the operating projections for the subject hospital to historical growth rates, operating margins, and ratios for the subject hospital
3. Identifying and rationalizing observed, material inconsistencies between the projected results and historical results for the subject hospital
4. Comparing the growth rates, operating margins and ratios implied by the operating projections for the subject hospital to industry growth rates, operating margins and ratios recognized by guideline publicly traded hospitals, and/or reported in industry-appropriate statistical benchmark publications
5. Identifying and rationalizing observed, material inconsistencies between the projected results and guideline publicly traded company, industry, and macroeconomic expectations

The valuation analyst may also compare the value indication resulting from the DCF method to the value indications resulting from the following:

1. The asset-based approach
2. The market approach
3. Other valuation methods (if utilized) within the income approach

If the value indication resulting from the DCF method appears to be an "outlier" relative to the value indications resulting from the other methods utilized, and the reliability of management projections is questionable, the projections may need to be revisited and revised.

When the reasonableness of management-prepared projections remains an issue, a valuation analyst may take the following actions:

1. Discuss with management the key assumptions and the related economic impacts that appear inconsistent when compared with the subject hospital's historical operating results and/or industry-based operating results, and work together to reconcile these inconsistencies

2. Independently modify the management-provided projections to develop a "normalized" scenario that is consistent with historical performance for the subject hospital and industry-based expectations, and then discuss the modified projections with management
3. Conduct a multiple scenario analysis that incorporates more and less optimistic projections, and weight them based on expectations for the subject hospital
4. Adjust the present value discount rate used to discount the projected cash flow to reflect the risk of achieving the projections

Best practices require that the valuation analysts work with management to develop the most reasonable and achievable operating projection that can be incorporated into the DCF analysis to produce a reliable indication of value. Through this process, the valuation analyst appropriately can rely on management expertise, while at the same time incorporating opinions based on independent industry and economic research.

In any valuation circumstance, particularly in a joint venture circumstance when dealing with management-prepared projections that include the impact of related party activity and related expenses, it is important to establish whether the financial position of the subject hospital would be different if it were operating as a standalone entity.

In other words, the valuation analyst may establish whether the operating results of the subject hospital reflect the economic circumstances of arm's-length dealings.

An independent analysis of industry margins and growth rates may help the valuation analyst develop a reliable understanding regarding a "reasonable" level of profitability attainable by a hypothetical buyer and operator of the subject hospital—absent any related party charges.

When charged with estimating the fair market value of the subject hospital from the perspective of a controlling-level owner, the valuation analyst will have more flexibility with regard to adjusting financial projections to reflect industry norms.

The following hypothetical example—based on a modified actual valuation—illustrates a situation in which management provided projections imply operating results and relationships that differ significantly from industry norms, potentially requiring adjustment by the valuation analyst.

Practical Approach—Illustrative Example of Projection Modification in DCF Analysis

This example involves a joint venture hospital (JVH) circumstance in which a tax-exempt, academic medical center (AMC) represented the minority owner, and a large, for-profit hospital (FPH) represented the majority owner.

The partners were considering the dissolution of the joint venture, with the FPH contemplating the buy-out of the AMC interest in the JVH.

Based on consideration of key elements in the relevant regulatory guidelines previously identified, the AMC determined that it required an independent, fair market value analysis of its ownership interest in the JVH prior to taking any action.

In essence, the AMC required a "fairness opinion" assuring the board of directors that any ultimate sale price accepted in exchange for the transfer of its 30 percent ownership interest in the JVH (the "Subject Interest") represented economic consideration that was at least equal to the fair market value of the Subject Interest.

This example will focus on issues that we encountered while conducting a DCF analysis of the JVH.

Assessment of Management-Prepared Financial Information through Comparative Analysis

The historical financial statements and projected financial statements for the JVH were prepared by FPH management. Along with the JVH, FPH also owned a number of other hospitals, and historically operated at a strong profit margin level.

However, historical financial statements indicated that the JVH operated at a loss in three of the prior five fiscal years. Additionally, projected financial statements indicated that the JVH was expected to operate at a loss in two of the five projected operating periods, including the final year of the projection period.

The JVH projected financial statements included a number of related party charges and fees paid to FPH for services, including the following:

1. Management
2. Information technology
3. Billing and processing

Although these services were deemed essential to the successful operation of a hospital, the related-party nature of the services and related charges warranted further review.

First, to determine the reasonableness of the projected margins and overall projections, we analyzed a number of publicly traded hospitals with similar characteristics to the JVH.

We also analyzed industry specific statistical sources, including Risk Management Associates *Annual Statement Studies* (the "Statement Studies"), OptumInsight's *2012 Almanac of Hospital Financial and Operating Indicators* (the "2012 Almanac"), and the *Association of American Medical Colleges AAMC Data Book* (the "Data Book").

By analyzing these sources, as well as the regional economy in the area that the JVH operated, we determined that the projected margins for the JVH were well below a reasonable range for similarly situated hospitals.

As a result of our analysis, we concluded that certain adjustments were required in order to reconcile some of the difference between the management-provided financial projections and industry norms. We determined that an appropriate way to estimate the attainable financial performance of the JVH under the operation of a hypothetical unrelated party would be to analyze the profit margins common to similar companies and hospitals.

In order to quantify the adjustment to the JVH projected income statements, we further analyzed a comparable group of publicly traded companies, as well as industry-specific statistical benchmark data.

We identified five publicly traded hospital operating companies ("guideline companies") as being sufficiently comparable to the JVH. Although the JVH was partially owned by a tax-exempt entity, we determined that the guideline companies were sufficiently comparable to provide meaningful comparative financial data.

Not surprisingly, each of the guideline companies was significantly larger and more geographically diversified than the JVH. However, each of the guideline companies generated the majority of its revenue from operating general acute care hospitals, a primary operating characteristic consistent with the JVH.

Next, we normalized the financial results of the guideline companies to account for the following:

1. Nonrecurring revenues and expenses
2. Unusual revenues and expenses
3. Accounting differences
4. Other comparability issues

We used this adjusted financial data to calculate profit margins for the guideline companies.

To further normalize the results, we considered five-year averages of the indicated guideline company margins. We then concluded a range of operating profit margins for the guideline companies of 3.5 percent to 10.7 percent, with a median of 7.7 percent.

Additionally, we considered the five-year average operating profit margin of FPH, which, at 11.2 percent, was higher than the operating margin reported for any of the guideline companies.

After concluding a relevant range of operating profit margins from the guideline publicly traded companies, we analyzed differences between the JVH and the guideline companies through (1) an analysis of SEC documents and (2) other qualitative and quantitative information.

Among other factors, we determined that the JVH was significantly more geographically concentrated than any of the guideline companies, and that the catchment area in which JVH operated was expected to experience an increase in competition (i.e., new facilities coming on line) in the near future.

Therefore we concluded that a stabilized operating profit margin slightly below the guideline company range may be appropriate for the JVH.

We also considered other profitability indicators and operating fundamentals relating to the guideline companies as a supplement to traditional operating profit margin analysis. We derived implied operating margins by analyzing the operating profit per licensed bed for the guideline companies, and operating profit per adjusted admission for the guideline companies.

The low end of the range of profitability measures, based on licensed beds and adjusted admis-

sions, was an implied industry profit margin of approximately 2.5 percent and 2.7 percent, respectively.

To further analyze an appropriate profit margin attainable by the JVH under the operation of an assumed hypothetical, unrelated party, we considered industry benchmark data for similarly situated hospitals.

Based on consideration of data published in the Statement Studies, the 2012 Almanac, and the Data Book, we analyzed profit margins for the following:

1. For-profit, general acute care hospitals
2. Nonprofit, general acute care hospitals
3. Teaching hospitals
4. Academic-affiliated hospitals

The JVH operated in conjunction with an academic institution and was therefore considered a teaching hospital. As a result, we considered operating profit margins for teaching hospitals and academic-affiliated hospitals. The relevant operating profit margins ranged from approximately 2.5 percent to approximately 4.7 percent.

Based, again, on consideration of the JVH focused geographic location the and impending competition in the market catchment area, we concluded that the low end of the indicated market-based profitability range was a reasonable attainable margin for the JVH on a normalized basis.

Based on analyses of (1) the guideline publicly traded company operating profit margins and (2) the operating profit margins presented in industry-specific statistical benchmark publications, we selected 2.5 percent as a profit margin that a hospital such as the JVH could achieve under the operation and control of a hypothetical, unrelated party.

Due to the fact that the JVH management held that the related-party charges built into the five-year financial projections were necessary and reasonable, we did not apply the selected attainable profit margin to the interim cash flow.

However, after discussing with management certain profitability enhancement procedures that were planned for the JVH, management agreed that an operating profit margin of approximately 2.5 percent was attainable by the JVH on a long-term, normalized basis.

Based on industry research, it also was our opinion that a hypothetical, for-profit buyer of the JVH would be able to achieve a 2.5 percent operating profit margin by the end of the five-year projection period.

Mutually Supporting Conclusions Validate Reconciliation Process

As a result of our comparative analysis, and based on our consideration of expected industry and economic conditions—including consideration of the estimated economic impact of the Act—we applied the selected 2.5 percent operating profit margin to the JVH projected revenue in the terminal year of our DCF analysis.

By doing this, we incorporated into our analysis the expected financial impact of both (1) the short-term profitability issues facing the JVH and (2) the long-term profit margins expected in the industry in light of health care reform and the expected economic impacts of the Act.

Additionally, by adjusting the long-term normalized operating margin in the terminal year of the projections, the value indication resulting from the DCF method more closely aligned with the value indications resulting from the market approach and the asset-based approach.

The reconciliation of value indications resulting from the different approaches provided corroborating evidence, and therefore some level of assurance, that the profitability adjustment incorporated in the terminal year was indeed warranted and reasonable.

Reconciling the Asset-Based Approach—Potential Economic Obsolescence in the Asset Base

Although the asset-based approach is not always used in valuations involving a going-concern business, it is common to consider this valuation approach in engagements where the subject business is a hospital that owns significant tangible assets and identifiable intangible assets.

Additionally, the asset-based approach may be valuable in establishing a general indication of a lower limit of fair market value for a controlling interest valuation of a poorly performing hospital.

An issue arises when the asset-based approach results in a value indication that does not appear to represent a lower limit of the fair market value indications for a going-concern hospital, but rather, produces a value significantly greater than the indications resulting from the income approach and the market approach.

When this is the case, there may be some level of obsolescence, potentially significant, in the operating asset base that may need to be addressed in the analysis.

To complete the asset-based approach adjusted net asset value method, the following assets typically maintained by the subject hospital are reviewed and analyzed:

1. Financial assets—including cash and equivalents, accounts receivable, short-term investments, and prepaid items
2. Inventory—including office and medical supplies
3. Tangible Assets—including land, buildings, business and medical equipment, and leasehold improvements
4. Intangible Assets—including trade name, policies and procedures manuals and software, goodwill, and going concern value (including a trained and assembled medical and support staff)

Each of the four identified asset categories on a hospital's balance sheet typically contains assets that may require adjustment to convert the reported balance from a book value (i.e., historical cost) basis to a fair market value basis.

Two balance sheet items for which reported book value commonly differs significantly from fair market value are intangible assets (i.e., goodwill) and tangible assets. Each of these asset classes may require significant adjustment (positive or negative) in order to convert the reported balances from cost basis to fair market value basis.

A subject hospital with an operating history that suggests consistent underperformance relative to guideline companies and/or relevant industry-specific comparative data may report goodwill on its balance sheet when expected financial results do not support the reported level of goodwill.

Alternatively, a subject hospital that has consistently outperformed its peers may have an understated level of intangible asset value based on adherence to conventional, generally accepted accounting principles.

Further, a subject hospital may have fully depreciated certain tangible assets that are still used in regular operations and have a number of years of useful service life remaining. A subject hospital may also own land and buildings that are carried at a book value significantly below current fair market value. In such situations, the book value of tangible assets may significantly understate the fair market value, and an equipment and/or real estate appraiser may be retained.

However, the appraiser may significantly overstate the value of tangible assets if the impact of economic obsolesce is not properly addressed.

Circumstances sometimes arise in which the subject hospital is (1) not generating an operating profit, (2) carrying a significant investment in reported tangible assets, and (3) underperforming with regard to its peers in terms of return on assets (and revenues).

While the subject hospital's investment in tangible assets may be significant, a history of operating losses and the expectation of low or no measurable operating profit into the foreseeable future would call into question the existence of significant, if any, intangible assets (i.e., goodwill).

Additionally, an operating scenario of historical and expected underperformance—based on returns on assets—may indicate that the tangible assets of the hospital suffer from economic obsolescence.

Practical Approach—Illustrative Example of Identifying and Addressing Economic Obsolescence

For this example, we continue with our previous JVH circumstance between the AMC and the FPH, recalling that the AMC owns 30 percent of the JVH and that the FPH represents a large hospital system that owns the remainder of the JVH.

In the previous example, the indication of value resulting from the income approach did not reconcile with the other approaches due to unreasonably low margins in the financial projections.

In this example, let's assume that the asset-based approach did not reconcile with the other value approaches. This is because the value indication from the net asset value method was determined to represent a "high-end" outlier (the adjusted net asset value of a hospital sometimes is viewed as representing a floor, or lower limit, of fair market value).

This example does not address any adjustments made to the following:

1. Financial assets
2. Inventory
3. Short-term liabilities
4. Long-term debt or other long-term liabilities

This example briefly touches on the fair market value adjustments to goodwill, and primarily focuses on the fair market value adjustments made to the hospital tangible assets.

Assessment of Appraised Tangible Assets

As noted in the previous example addressing the DCF method, the JVH operated at a loss in three of the five most recent fiscal years, and was projected by FPH management to operate at a loss in two of the next five projected fiscal years, including the terminal year of the projections.

Additionally, in both the historical and projected years when the JVH generated, or was projected to generate, positive operating income, the margins were significantly below the range of margins recognized by the guideline publicly traded companies, and published, benchmark industry margins. Therefore, it was our opinion that the hospital did not operate with any material level of goodwill.

However, the JVH reported a significant level of tangible assets on its balance sheet. Given the significant level of tangible assets maintained by the JVH, it was deemed necessary and appropriate to engage the services of a valuation analyst qualified in the valuation of office and medical equipment and real property to estimate the fair market value of the relevant tangible assets.

As a result, the equipment and real property appraiser estimated the market value of the tangible assets of the subject hospital, including the (1) land, (2) buildings, and (3) equipment (with an effective valuation date approximately nine months earlier).

In most instances, it is probably appropriate to rely directly on the appraised fair market value of the subject hospital's tangible assets. However, in this particular case the historical and projected returns realized and expected by the subject hospital rendered a more detailed review of the tangible asset appraisal conclusions appropriate.

The effective date of the tangible asset valuation was approximately nine months prior to the current valuation date. However, the valuation stated that the value conclusions reached reasonably could be relied upon for a two-year time period.

The appraised value of the JVH tangible assets was approximately two times the reported book value, and represented approximately two-thirds of the subject hospital's total assets.

If the appraised value of the JVH fixed assets was relied upon, without adjustment, the value indication resulting from the adjusted net asset value method was significantly greater than the value indications resulting from the income approach and the market approach.

Due to the fact that all other assets maintained by the subject hospital had been adjusted to fair market value levels that were considered reasonable, it was determined that the appraised tangible asset value conclusions warranted further review and analysis.

Based on consideration of historical operating results and related returns, we formed an initial opinion that the fixed asset base of the subject hospital likely suffered from some level of economic obsolescence not identified by the tangible asset appraiser.

The tangible asset appraisal explicitly indicated that in supporting the fair market value conclusion for the JVH tangible assets, the appraiser considered price-to-revenue market pricing multiples, but did not take into account any income-based market pricing multiples.

We concluded that applying an economic obsolescence adjustment factor to the value of the tangible assets of the JVH was appropriate, for the following reasons:

1. The tangible asset appraisal did not explicitly take into account the profitability of the JVH.
2. The JVH operated at an operating loss in three of the previous five fiscal years.
3. Market research indicated that a normal operating margin for similar hospitals was significantly higher than that achieved by the JVH.

Economic Obsolescence Analysis

The theoretical foundation for the asset-based approach is the principle of substitution. The substitution principle is based on the concept that a fair market value buyer will pay no more for a portfolio of assets (e.g., the operating assets that represent a going-concern hospital) than it would cost to build, acquire, or assemble a company or portfolio of assets that together provide the same risk-adjusted benefits of ownership.

Therefore, a hypothetical buyer likely would not purchase a group of fixed assets that did not offer the prospect of generating future returns for a purchase price determined using a gross revenue com-

parison method unless the multiple was discounted to reflect the expectation of lower returns.

The forms of obsolescence are generally categorized into three categories:

1. Physical deterioration
2. Functional obsolescence
3. External obsolescence

The first two forms of obsolescence generally would be accounted for in a fair market value appraisal by a qualified tangible asset appraiser. Physical deterioration results in a decrease in value due to the subject property's physical condition. Functional obsolescence results in a decrease in value due to the subject property's inability to perform the function for which it was originally designed or intended.

In our current example, these forms of obsolescence were assumed to be accounted for by the third-party appraiser that inspected the tangible assets of the JVH.

The remaining form of obsolescence, external obsolescence, can be disaggregated into two common categories: (1) locational obsolescence and (2) economic obsolescence. Once again, it is assumed in this example that the third-party tangible asset appraiser took into account the geographical situation of the JVH, and made appropriate adjustments, either implicitly or explicitly, for locational obsolescence.

Therefore, our analysis focused on making an adjustment to the valuation conclusions presented by the tangible asset appraiser to account for economic obsolescence deemed to be inherent in the tangible asset base of the JVH.

Economic obsolescence occurs with regard to an investment when the price of the investment is too high to allow the owner to earn a fair, market-derived rate of return on the investment. In order to test for economic obsolescence, we compared actual returns that the JVH generated to (1) comparable and/or competitor company results, (2) industry average/benchmark results, and (3) the JVH estimated required rate of return.

The comparative analysis performed (which we will elaborate on later in this example) indicated that the fixed assets of the JVH did likely suffer from economic obsolescence. Therefore, the next step was to quantify the level of economic obsolescence inherent in the JVH tangible assets.

In order to quantify the level of economic obsolescence inherent in the JVH tangible assets, we compared a number of ratios resulting from the JVH actual operating results with (1) comparable and/or competitor company results and (2) industry average/benchmark results.

Analyzing the relationship between the returns realized by (1) a company or group of assets that suffers from economic obsolescence (i.e., the subject hospital tangible assets) and (2) a benchmark of companies or groups of assets that do not suffer from economic obsolescence, can provide an indication of the level of economic obsolescence inherent in the subject hospital tangible operating assets.

The premise for this indication of economic obsolescence is that a relevant and reasonable industry benchmark represents the level of returns that the subject hospital tangible operating assets reasonably could be expected to generate, absent economic obsolescence.

Therefore, an indicated level of economic obsolescence is represented to the extent that the industry benchmark level of return exceeds the indicated level of return for the subject hospital tangible assets.

For example, if an industry benchmark indicates that a normal return on total assets is 4 percent, and a subject group of assets returned only 3 percent, a level of obsolescence of 25 percent may be concluded (i.e., 0.03/0.04 = 75 percent indicating a shortfall of 25 percent).

For the purpose of completing our comparative return analysis based on comparable and/or competitor company results, we relied on the same five publicly traded hospital operating companies referenced in the previous example as guideline companies.

We considered cash flow and earnings before interest, taxes, depreciation, and amortization (EBITDA) operating fundamentals based on the fact that the JVH net income and operating income were negative in a number of the historical and projected years.

The guideline company return factors that we considered include the following:

1. EBITDA return on average total assets
2. EBITDA return on average net fixed assets
3. EBITDA per licensed bed
4. EBITDA per adjusted admissions
5. Cash flow to average equity

Other guideline company factors that we considered included the following:

1. Total assets turnover
2. Net fixed assets turnover
3. Historical five-year revenue growth

4. Five-year average capital expenditures/revenue
5. Five-year average capital expenditures/depreciation

To complete our comparative analysis of the subject hospital relative to industry average/benchmark results, we relied on data published in the 2012 Almanac. We specifically focused on benchmark ratios of hospitals with the following characteristics:

1. A similar size to the JVH based on licensed beds
2. A similar patient demographic to the JVH based on population density in the market area
3. A similar structure to the JVH based on academic affiliation.

Industry benchmark factors that we considered included the following:

1. Free operating cash flow to assets
2. Licensed bed occupancy rate
3. Average age of plant

Finally, we analyzed the JVH estimated weighted average cost of capital (WACC) relative to the JVH actual return on tangible book value of invested capital. This indication is especially meaningful because, by definition, economic obsolescence can be deemed to be inherent in an investment when the price of the investment is too high to allow the owner to earn a fair, market-derived rate of return on the investment.

The relevant market-derived rate of return on the JVH with regard to its invested capital (i.e., debt and equity capital financing its long-term, tangible operating asset base) is represented by the estimated WACC for the JVH.

We relied on net cash flow as the relevant measure of economic return, so that the implied return was comparable to the JVH WACC. We also relied on net cash flow in the most profitable year of the management-prepared projections.

We relied on the optimal year because it represents the highest potential return that the JVH was expected to realize, given the present level of economic obsolescence.

In addition to optimal net cash flow return on tangible book value of invested capital, we also considered optimal net cash flow return on (1) the book value of the tangible assets and (2) the unadjusted, appraised fair market value of the tangible assets. We considered these additional measures because our objective was to estimate the amount of economic obsolescence inherent in independently appraised value of the tangible assets.

The economic obsolescence ratio comparison analysis resulted in the shortfall indications that are presented in Exhibit 1. Based on the shortfall analysis, we concluded that an adjustment of 30 percent for economic obsolescence was appropriate to apply to the unadjusted, appraised value of the JVH tangible assets.

After applying the estimated economic obsolescence factor to the third-party appraised value of the relevant JVH tangible operating asset base, the adjusted fair market value of net tangible operating assets was still somewhat higher than the reported book value of the assets.

Exhibit 1
Economic Obsolescence Indications

Financial/Operational Guideline Ratios Analyzed	Median of the Income Shortfall Indications
Guideline Company Earnings Return Ratios	41.2%*
Guideline Company Non-Earnings-Based Ratios	20.5%
Industry Benchmark Comparison Ratios	29.7%
WACC-based Return Ratios	32.0%

*The following is an example of the calculations used to determine the median shortfall indications:

Financial or Operational Performance Metric	JVH Indication	Guideline Co. Benchmark Measure	JVH / Benchmark Ratio	1 – Ratio = Percent Shortfall
EBITDA Return on Average Total Assets	6.8%	12.9%	52.7%	47.3%
EBITDA Return on Average Net Fixed Assets	11.3%	23.2%	48.7%	51.3%
EBITDA per Licensed Bed	40,000	62,000	64.5%	35.5%
EBITDA per Adjusted Admissions	525	845	62.1%	37.9%
Cash Flow to Average Member's Equity	17.5%	29.8%	58.8%	41.2%
Median Percent Shortfall Indication				*41.2%*

"An increase in reimbursement, with no concomitant increase in operating costs, likely will improve the operating margins for hospital systems that historically have provided a relatively high level of uncompensated care."

However, after making the adjustment for economic obsolescence, the value indication based on the adjusted net asset value method was within the indicated value range resulting from the income approach and the market approach.

Summary and Conclusion

One of the anticipated impacts of the Supreme Court's June 28, 2012, decision to uphold, substantially, the Affordable Care Act is the ultimate insuring of over 30 million additional individuals by 2014 who previously were uninsured.

The resulting increase in the insured population could have the impact of increasing reimbursements to hospital medical service providers that historically have recognized the delivery of health care to the related population as uncompensated care.

An increase in reimbursement, with no concomitant increase in operating costs, likely will improve the operating margins for hospital systems that historically have provided a relatively high level of uncompensated care.

However, funding for the newly insured population may result in reductions in reimbursement levels for other historically significant payers. The economic implications of the Act, and related, estimated repercussions, must be taken into consideration when completing valuations of hospitals, particularly those operating in a tax-exempt circumstance.

Note:

1. *Fast Facts on US Hospitals*, Health Forum, LLC, an affiliate of the American Hospital Association, January 3, 2012.

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