The use of the Shareholder Value Added (SVA) methodology developed by Rappaport extends far beyond a technique for estimating the value of the firm. It is the integration of SVA valuation methodology into a strategic context that makes it especially useful to managers.

SVA can be used to evaluate strategic alternatives: Which ones add value? What can be done to create value? How can we extend the competitive advantage period and keep profit margins high? The same answers we arrive at in building a world class strategic plan are the same ones supporting the creation of shareholder wealth in the SVA model.

Do the following SVA Exercise:

The following information is given:

- Baseline (last year) sales: $200 million
- Sales growth rates: Base year = 15% with a fade rate of 1% a year for years 1-10: (increasing sales due to sustained competitive advantage and a differentiated product)[source: Strategic Plan]. Fade rate is the rate of decline per year (each year) from a base year.
- Sales growth rate in year 10 and forward: 5% (in year 11, the competition has caught up and the market has reached maturity) [source: Strategic Plan]
- Profit margin: Base year = 20%, with a fade rate of 1% a year for years 1-10: (during the period of competitive advantage, the firm can charge higher prices, but its profit margin slowly declines as competition increases) [source: Strategic Plan]
- Profit margin in year 10 and going forward: 10% [source: Strategic Plan]
- Fixed capital investment rate: 20% (for every dollar of new sales, we need an additional investment in fixed plant and equipment of $.20) [source: historical relationship]
- Working capital investment rate: 5% (for every dollar of new sales we need an additional investment in inventories and receivables of $.05) [source: historical relationship]
- Cash tax rate: 40% [source: historical relationship]
- Cost of capital: 11% [source: current yield on firm's debt and the cost of equity estimated using the Capital Asset Pricing Model, weighted average based on the target capital structure]
- Marketable securities: $15 million
- Market value of firm's debt: $50 million
- The firm has 5 million shares of common stock outstanding selling at:
    -
    - Scenario 1 = $40/share and
    - Scenario 2 = $60/share.

As indicated, the values assigned to drivers link directly to the strategic plan and the associated strategic analysis. In arriving at these estimates strategic alternatives have been

evaluated for their value creation potential, with the set of strategies selected that create the most shareholder wealth.

1. What is the PV of operating cash flows over the competitive advantage period?

2. What is the residual value of the firm after the period of competitive advantage?

3. What is the value of the firm's equity?

4. Compare the market value of equity ($40/share) with the estimate provided by SVA for scenario 1. What recommendations would you make to top management based on your analysis? Now compare the market value of equity ($60/share) with your SVA estimate. What would you recommend now?

A template has been provided at the other attachment to this topic.

Strategic Valuation, Shareholder Value Analysis and Connecting Strategy with Operations and Strategic Enterprise Management (SEM)

1. Comments: Strategic Valuation

The valuation of a business is exactly like a large capital expenditure analysis. It is based on determining incremental (and after-tax) cash flows and valuing those cash flows. However, there usually are significantly more strategic, managerial, and general business issues that need to be considered in valuing businesses than potential capital expenditures.

Here's a summary of several valuation models or approaches one might employ:

Technique	Advantages	Disadvantages
Simple Perpetuity Methods		
Zero growth valuation model Constant growth valuation model	Conceptually sound & simple to use	Too simplistic to be of great value in important decisions
More Complex Perpetuity Methods		
Two-stage valuation model Multiple-stage valuation model	Conceptually sound & ease of use	Too simplistic to be of great value in important decisions
Free Cash Flow Methods		
Valuation of strategic plan Direct model - % of sales	Complete tools, center on operating cash flows, provide for complete development, can be customized	More involved and harder to create; requires significant knowledge of the company and industry

The direct model (% of sales) should be used primarily by someone who understands the company and industry. Even then, the financial analysis step should not be overlooked in order to validate assumptions and the value drivers (growth, margins, and so on).

The terminal value (also called residual value) captures the value of the firm beyond the explicit number of years. The following section illustrates the application of the free cash flow approach in a strategic context.

2. Shareholder Value Analysis

Shareholder Value Analysis (SVA, as is Shareholder Value Added) is one member of the family of techniques for determining the market value of a firm based on a series of factors, or drivers, that determine the firm's future cash flows. SVA has the advantage that it not only incorporates the essential elements of individual tools, but also provides a basis to identify value creation

activities when evaluating strategic alternatives. The SVA model as developed by Alfred Rappaport is simply a free cash flow model using the value drivers (see below).

Other cash-based techniques include Cash Flow Return on Investment (CFROI) and Total Shareholder Return (TSR). SVA is better than the other techniques for strategic management because valuations are derived from explicitly identified drivers of value presented in a strategic framework (i.e., the drivers emanate from and are forced to be consistent with the strategic plan, assuming it's done correctly).

SVA starts with the fundamental principle of valuation: the value of an asset reflects the net present value of its free cash flows over its life. In SVA, the firm is the asset to be valued or assessed. One then identifies the drivers of the firm's cash flows over the life of the firm, which may be infinite (or effectively so) and integrates the drivers into a model, which generates the estimated free cash flows on a year-by-year basis. Here is a set of commonly-used drivers of cash flow and value.

1. Sales growth rate: Everything else being constant, the higher the sales growth rate, the greater the projected free cash flows.

2. Operating cash profit margin: The higher the profit margin (Sales - cash operating expenses), the greater the free cash flows.

3. Cash tax rate: The higher the tax rate, the lower the net free cash flow.

4. Working capital investment: Increased sales require greater investments in net working capital (inventories, cash, receivables, offset by simultaneous financing provided by accounts payable and accruals), which decrease free cash flows accordingly. (Side trivia: Go back to before World War II and the economics literature would have substituted "*pari passu*" for "accordingly"!)

5. Fixed capital investment: An expansion (growth in sales) of the business requires a larger base of net fixed capital investments, which will decrease free cash flows.

6. Competitive advantage period: In a perfectly competitive market no firm can earn unusually high profits indefinitely, since competition will force prices down to marginal costs. However, by making use of technology, positioning itself in emerging or high growth industries, or by developing a differentiated or niche product, a firm will be able to set its prices above marginal cost for some period of time (a "first mover" advantage).

Firms strive to achieve competitive advantage, which gives them the chance to sell at higher prices than otherwise and to realize higher profit margins. The more a firm is able to exploit a competitive advantage and maintain it over time, the higher its cash flows and stock price will be. The competitive advantage period affects the estimate of the sales growth rate and the cash profit margin over time. Patents limit competition and permit earning above-competitive returns on innovation, and marketing campaigns can also create competitive advantage. Michael Porter has built a very successful career investigating the area (from an economist's viewpoint, incidentally).

7. Cost of capital: The cost of capital represents the expectations of owners (shareholders and bondholders). When the firm earns more on its assets than expected or required by owners, value is created for shareholders. The management actions taken by the firm have an effect on the firm's cost of capital and, the lower the cost of capital, the greater the (net present) value of the firm. Management would be able to decrease the firm's cost of capital and create shareholder value by financing the firm's capital structure with the optimal proportion of debt and by identifying ways to decrease the systematic risk of the firm's investments.

Model: The value of a firm (V_f) equals the present value of the free cash flows over an explicit forecast period plus the present value of a residual value beyond the forecast period plus the value of the firm's marketable securities.

1. The free cash flow in year one of the forecast period (i.e., over competitive advantage period) equals

Base period sales, *times*

Sales growth rate, *times*

Cash profit margin, *times*

(1 minus the cash income tax rate), *minus*

New net physical capital investment (PPE), *minus*

Net net working capital investment needed to support the increased sales.

We can then iterate this process to get free cash flows in years two, three, and so forth until we reach the end of the forecast period.

For example, let's assume that an analysis of Apple's core competencies indicates that it can develop and maintain a competitive advantage with a rate of sales growth of 20% per year for the next five years, 15% per year for years 6-10 and no growth after year 10. The cash profit margin would reflect the loss of superior competitive advantage over time accordingly, perhaps being estimated at 35% for years 1-5, 25% for years 6-10 and 10% after year 10. The greater the competitive advantage, the greater the cash flows and the calculated shareholder value. In the Apple example above, the forecast period (i.e., competitive advantage period) of cash flows would be years 1-10.

Details and a template for the SVA problem assignment will be introduced formally in Week 7, though they are available in the attachment to this week’s module if you'd like to look ahead. The assignment is due at the end of Week 8.

2. The residual value after the forecast period (i.e., competitive advantage period) has expired and the firm's sales and earnings level out equals the present value of cash flows after expiration of competitive advantage period. It is assumed that after a period of time, competitors will often

eliminate the competitive advantage that a firm may have. The ability of the firm to achieve growing sales with high profit margins disappears.

At this point, we might as well follow Rappaport and simplify our analysis and assume that sales growth falls to zero. If so, no incremental net capital investments or additional investments in net working capital are required, and the firm's net cash flows continue in perpetuity. The present value of this perpetuity at the end of the competitive advantage period is equal to the expected cash flow divided by the discount rate (i.e., cost of capital). If we assume that sales growth is other than zero, we'll have to make net investments in operating capital, a complication that we can avoid by assuming no sales growth.

Please note: The model provides flexibility by allowing the analyst to 'tweak' the driver values to fit the specific firm being analyzed.

To derive the value of equity, simply subtract the market value of the firm's debt from V_f; Equity value = V_f - Debt. We can then compare the 'fair value' of equity we derived using SVA with the market value equity (# shares outstanding multiplied by the price per share) to obtain an indication of whether the firm is under-valued or over-valued according to our assumptions.

The use of the SVA methodology developed by Rappaport extends far beyond a technique for estimating the value of the firm. It is the integration of SVA valuation methodology into a strategic context that makes it especially useful to managers. SVA can be used to evaluate strategic alternatives: Which ones add value? What can be done to create value? How can we extend the competitive advantage period and keep profit margins high? The same answers we arrive at in building a world class strategic plan are the same ones supporting the creation of shareholder wealth in the SVA model.

This analysis is more than mere mechanics. We want people to identify the value drivers in each decision (sales growth drives value, cash profit margin drives value, etc.) and weigh the effects of these drivers in making decisions and the sensitivity of estimated values to changes in the assumptions for driver values. The decision could be a new product line, a new type of service, a new IT system, a training program, etc. While all decisions won't fit neatly into this scheme, making awareness of the value drivers inherent in each decision is what we want to achieve with VBM.

[Side comments: General Motors now claims to be very profitable. Isn't that result easy to achieve when your profits aren't taxed because the bailout terms --uniquely -- enable you to carry forward losses that were wiped out in bankruptcy and because bankruptcy wiped out most debt!]

3. Connecting Strategy with Operations and Strategic Enterprise Management: Comments

The practices within **Strategic Enterprise Management (SEM)** are not new and include performance management, business planning, risk management, consolidation, and reporting. As elements of value-based management (VBM) these tools are intended to help employees -- not just managers -- at all levels within an organization see the impact of their decisions on value

creation. Used effectively, they will give financial and non-financial indicators of what's driving business performance and help employees and managers:

- Understand what drives value
- Find where value is being created or destroyed
- Set value as a criteria for decision-making
- Establish value-based management as a business culture norm

Let's begin by reviewing how we look at corporate performance.

Performance Measures

The primary result of revising performance measures and reorienting them toward a value perspective is to align the metrics as closely as possible to the organization's principal goal, wealth maximization. For other than for-profit organizations, step one is to define a measurable goal -- it's hard to imagine an organization being well-managed otherwise. I use "goal" in the singular because, if there are multiple goals, I need to know how to weight them -- in effect, to create a single index goal. The mathematics require a single measure to optimize.

Such reorientation:

- Enables a long-term revenue generating or expansion view, as opposed to a defensive, cost-cutting focus,
- Yields opportunities to reduce working capital needs,
- Allows easier consideration of tax advantages in strategic planning,
- Improves the ability of companies that generate exceptional value to raise investment capital, and
- Profits owners (including executives) in the form of share appreciation, and employees in terms of continued employment and related benefits.

Let's first review some specific types of performance measures that are effective at the operations level to link value strategies to value creation.

Within every organization, eight or nine processes significantly drive company value. Effective performance measurement systems target these value-chain components and strive to maximize results in each.

Benchmarking is often the first step in designing a performance measurement system. By identifying the best practices within an industry, company management can develop strategies to place the organization closer to a "best of breed" position. Benchmarking is typically performed at a high level within a firm, if only to ensure senior management buy-in and relevance. The identification of "best", incidentally, ought to be derived from an explicit definition, not simply noting that some successful firm or manager has applied the practice, though such observations may be suggestive.

ABC is a specific tool used by operations-level managers to gauge performance and often ties directly to front-line value drivers. This *value-based* method of cost accounting improves the abilities of firms to analyze profits, allocate resources, and measure performance. Within a broader ABM framework, executives in an organization identify value objectives and the operations managers assess what needs to be done to achieve the company's value-based goals. Operating costs are value drivers. Using methods such as ABM or ABC to measure costs allows the company to evaluate its progress toward meeting its goals.

HP's Strategic Activity Management (SAM) model provides one -- albeit highly dated -- example of ABM in action. *Focus* Magazine (2000) reported on another situation, citing Sun Life Insurance as case of successful ABC implementation in a service firm. To remain competitive the company had to find ways to reduce claim-processing time and costs significantly. To do so, the company undertook an ABC/ABM program.

Its ABM team examined operation results and determined that some locations did better than others in handling these profit-driving activities. Costs varied based on the experience and skill levels of adjusters and the types of claims handled. By managing costs across all activities, sharing financial and management data with all levels within the organization, and focusing on continuing education, the program has improved operational performance and reduced costs.

In tandem with its article on ABC application by Art.com, the March 2001 edition of *Strategic Finance* offers an example of ABM in practice in the field of customer relations management (CRM). As a performance measure with the framework of ABM, customer lifetime value (CLV) is a measure that quantifies a customer's worth to a firm and that can be used to manage all customer relationships. As the article explains, CRM targets attracting and retaining customers.

CLV measures whether or not they are the right customers. We all have experienced the scenario discussed in the article at an intuitive level in our jobs. The financial numbers say that the customer is our biggest, best revenue generator, but we see an intensive amount of time and resources expended on their support. Are we really making a profit? CLV (ABM) offers us a better measure because with it we can trace the activities involved in supporting that customer and determine their true value generated.

Risk Management

Much like stress in individuals, risk is both good and bad for businesses. A certain level occurs naturally in any company. It can be positive when it motivates performance and results in productivity gains and negative when it stresses the business beyond its capacity, reduces performance, and tarnishes both internal and external perceptions of accomplishment and success. We should note, not incidentally, that individuals within the corporation who prove capable of managing business risk are generally well rewarded. The CFO can play a significant role in identifying and managing risk in his or her organization.

Risk should be managed to achieve the benefits of increased opportunities, value creation, operating optimization, improved competitive advantage, and heightened investor attraction. Management should guard against the negative impact of risk in terms of potential losses,

decreased value, and loss of control, reduced competitive advantage, and diminished investor confidence.

Let me stress that risk should be *managed*, not eliminated or avoided. It's difficult to earn superior returns without accepting risk. The trick is to determine which risks the business is well-equipped to handle and which ones should be avoided, outsourced, or hedged.

The main categories of risks faced by managers are *strategic, financial, operational, commercial, and technical*. Alternatively, these risks might be characterized as the risk of failed strategic and tactical plans, weak financial controls, human errors and omissions, business interruption, and asset deterioration. Practical examples of business risk include the risk of litigation, adverse political developments, receivables write-offs, foreign exchange exposure, and interest rate risks. We've also seen, from time to time, various counter-party risks: what happens if a firm with which you have a contract fails to perform? Mortgage defaults fit into this category.

Market risk relates to a firm's systematic risk, or how its assets are affected by or track with movements in the market. Firms with a high degree of market risk (perhaps with a high β) must offer a higher rate of return to attract potential investors. Business risk is the uncertainty related to a firm's cash flows due to the industry in which it operates. Examples of each risk type are summarized below.

Strategic: Market risk resulting from poor marketing and merger strategies, political, regulatory changes, and changes in consumer attitudes.

Financial: Business risk due to internal control failures, fraud, or embezzlement.

Operational: Business risk resulting from design mistakes, unsafe behavior, and employment issues.

Commercial: Market risk stemming from loss of leadership, supplier performance, or legal compliance issues.

Technical: Business risk caused by equipment, plant, or product failures, fires, or other catastrophes.

A key point is that many of the examples cited above may eventually create risk for a firm in both business and market risk categories, which are highly correlated. High business risk will increase market risk and vice versa. A firm in an industry with high inventory shrinkage will be exposed to higher market risk if its losses are greater than average. A firm that's losing its principles (or principal employees) may suffer higher market risk, which will spiral down to decreased revenues and increased business risk.

The reasons to manage risk result from some of the following changes in today's business environment:

1. Business performance is scrutinized by a wider group of individuals and more intensely than before, often with the additional risk of shareholder suits for malfeasance;
2. Competition has forced businesses to reduce their risk, especially in areas not within the scope of core competency;
3. Investors are attracted to companies that actively and effectively manage risk;
4. Controlled and successful risk-taking offers higher rewards;
5. Instantaneous communications impact market position immediately; and
6. The global environment has made operations more complex.

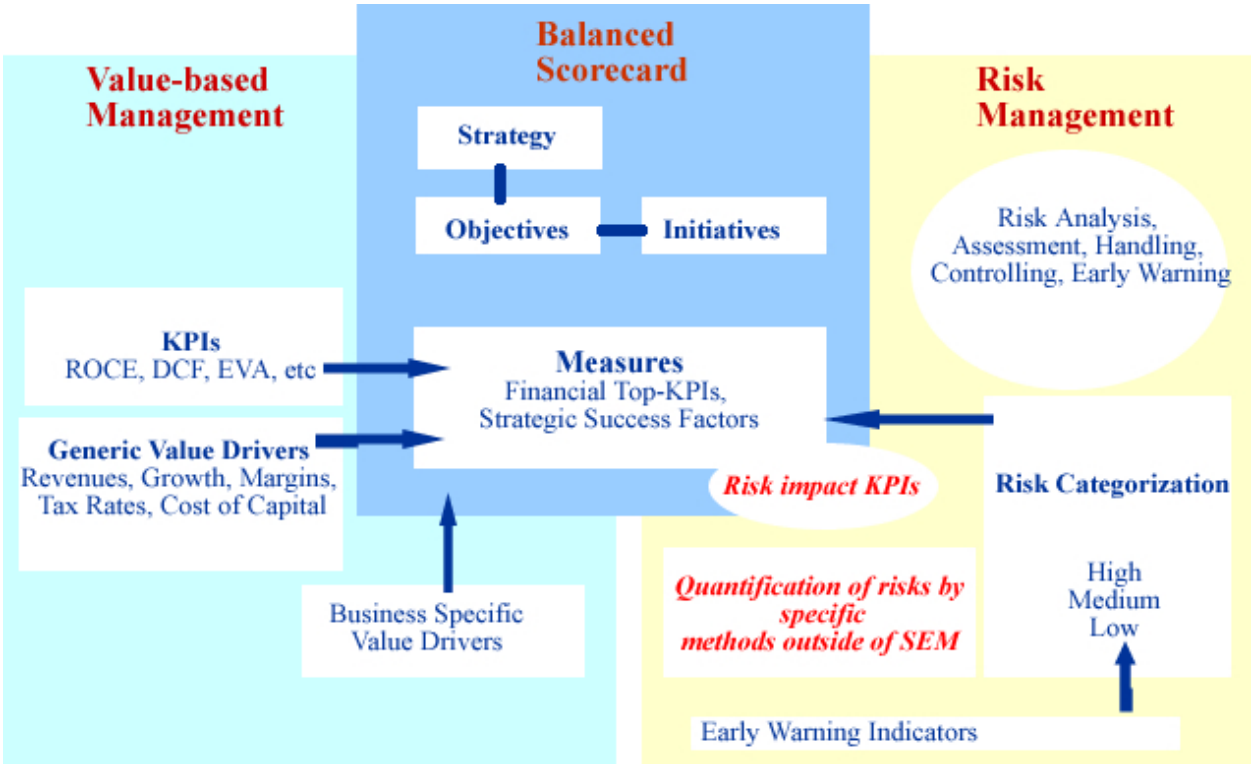
The results of such changes means that a company must assess its own risk tolerance as well those of its shareholder groups and maintain active risk management plans. By doing so, a company can offer assurance to its internal and external stakeholders, thereby building its reputation and maintaining confidence among those with whom it interacts.

The risk management process might be decomposed into five aspects:

1. Strategic targeting - how much risk is reasonable for your business
2. Risk identification - what are the major risks associated with your organization
3. Risk qualification and evaluation - identify risk relevant to each business unit and assess value at risk
4. Risk management implementation - putting risk management people and systems in place
5. Risk control and monitoring - ongoing management, communication, and information sharing for risk-management decision-making

In summary, managing risk involves recognizing its presence, assessing its severity, and finding solutions to alleviate excess levels. With experience in internal control, financial analysis, and general operations, CFOs are well positioned to "take a bird's eye view" and lead company efforts to design a well-integrated risk management system, oriented toward optimally balancing benefits and exposure.

The diagram below offers an excellent visual summary of how the balanced scorecard (covered previously in our readings) can serve as an excellent framework for integrating value-based management and risk management practices in an organization.



4. Capsim Decision: Your Formal/Real Decision for "real" Round One is due by 11:59 PM ET the last day of the week.

5. Discussion Papers - Reminder that completed discussion papers are due (posted in the Completed discussion Papers discussion forum) by 11:59 PM, the last day of this week. Please remember to run them through TurnitIn. Also, please remember to post them twice -- in your Assignment Folder as well as the Completed Discussion Papers discussion forum. I can't post back my red-line comments directly to your Portfolios without the Grade Book "hook" your posting provides.

6. Discussion Issues - Please participate in the discussion issues raised in this week's discussion forum.