Goodwill in Small Service Businesses:
A Guide for Attorneys and Judges

Michael Sack Elmaleh

Michael Sack Elmaleh, CPA, CVA



- Over thirty five years of accounting and consulting experience.
- Taught accounting, economics, statistics and mathematics at colleges in Wisconsin and Maryland.
- Graduate degrees in accounting and philosophy.
- Published peer reviewed articles on valuation theory.
- Editorial board member of *Journal of Business Valuation and Economic Loss Analysis*.
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- Author of *Financial Accounting: a Mercifully Brief Introduction*.
- Author of *Goodwill in Small Service Businesses: Negotiating a Fair Price*

BUSINESS & ECONOMICS

Advance Praise for

Goodwill in Small Service Businesses: Negotiating a Fair Price

"The book is very well organized and tells a very clear and easy to follow story; clearly written; the examples are excellent and really help to reinforce the concepts conveyed in the book. Elmaleh does an excellent job of highlighting several shortcomings associated with current valuation techniques and does a good job of offering a very viable alternative that in my opinion overcomes many of the limitations of currently used approaches to valuation."

— **James J. Hoffman**
Co-Editor of *Journal of Business Valuation and Economic Loss Analysis*, Dean, College of Business, New Mexico State University

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"In this exceptional book, Michael unravels the mysteries of valuing a small service business and explains how to use science rather than art to find out how much it is worth."

— **James Gross**
Attorney, Author and Managing Partner of Thyden Gross and Callahan



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Goodwill in Small Service Businesses: Negotiating a Fair Price — Michael Sack Elmaleh

Goodwill in Small Service Businesses:

Negotiating a Fair Price

Michael Sack Elmaleh

Course Goals

- Attorneys and judges encounter the issue of goodwill in closely held businesses in a number of contexts: divorce, estate and gift tax, buy/sell agreements and partnership/corporate dissolutions.
- Traditionally trial courts and attorneys rely on appraisal experts to determine the value of goodwill.
- Appraisal theory recognizes multiple methods and procedures as acceptable. This leaves room for experts to arrive at widely varying values for goodwill in contested cases.
- Course will explain and critique these methods to allow attorneys and judges to better evaluate the merits of expert opinion.
- Course will introduce an appraisal methodology that leads to more economically fair and reasonable outcomes than widely used methods of current appraisal practice.

What is Goodwill?

- In an equity exchange goodwill exists if rational, competent and motivated buyer willing to pay > value of firm's tangible assets.
- What generates goodwill?
- How should buyers and sellers negotiate fair value for goodwill?
- Consider small personal service firms where buyer's frequently pay > value of tangible assets.

Typical Service Firms With Goodwill

- Accounting and bookkeeping services
- Dental practices
- Chiropractors
- Veterinarians
- Barbers and Hair Stylists
- House Cleaning Services
- Landscapers and Lawn Maintenance
- Pool Maintenance

What They Have in Common:
Elements of Goodwill

- Critical Personal Services
- Repeat Customers
- Regular Pattern of Patronization
- Exclusive Relationship with Firm
- Provider Firms often Small
- Customers Willing to Transfer to New Owner
- Often difficult to gain new customers except by referral

Enterprise vs. Personal Goodwill

- Goodwill is personal if customers, patients or clients not likely to continue patronizing the firm after the seller retires.
- Typically medical specialists with wide reputation have personal and not enterprise goodwill.
- Often personal goodwill associated with professions with few repeat clients or patients.

Traditional Appraisal Methods

- Rules of Thumb or Formulas
- Market Methods
- Asset Methods
- Income Methods

Rules of Thumb

- Easy to Apply Formula or Rule Leading to Supposedly Precise Equity Value
- Examples:

Business Sector	Rule of Thumb
Accounting and Bookkeeping Services	1-1.5 x Annual Revenue
Barbers, Hair Stylists, Nail Salons	.35 x Annual Revenue + Fixtures
Chiropractors	.6-.65 x Annual Revenue
Daycare Centers	.4-.45 x Annual Revenue
Dental Practices	.6-.65 x Annual Revenue
Primary Care Doctors	.4-.45 x Annual Revenue
Cleaning and Janitorial Services	.45 x Annual Revenue
Landscapers and Lawn Maintenance	.45-.5 x Annual Revenue
Plumbers	.25-.3 x Annual Revenue + Inventory
Veterinarians	.72 x Annual Revenue

Advantages and Disadvantages of Rules of Thumb

- Simple to Use
- Often based on Gross Revenue not Net Income
- Seemingly Precise
- Arbitrary
- Ignores important economic conditions

The Popularity of Rules of Thumb

- Despite problems Rules of Thumb are used on virtually all brokered sales of equity in small service firms.
- Other more formal methods are not widely accepted by the brokerage community or practical minded buyer and sellers.
- Rules of Thumb become cognitive anchors for future equity sales.
- Rules of Thumb may be just good enough to not cheat either buyer or seller.
- Appraisal theory still should strive to do better.

Market Methods

- Motivating idea: if you can find recent equity sales of companies similar to the Subject Company (SC) then these sale prices ought to be useful in appraising the equity value of that SC.
- Transactional Data Base Approach
- Publicly Traded Company Approach: Guideline Public Company (GPC) Method

Transactional Data Base Approach

- Based on completed equity transactions reported on various databases such as *Done Deals*, *Pratt Stats*, *Bizcomps* and *IBA Market Data.*
- Logic is simple: if buyers were willing to pay an average of say .45 times annual revenue for the firms sold in the database, and the SC operates at a similar scale with similar operating results then it is reasonable to suppose another buyer will .45 times the annual revenue of the SC.
- Often not enough information to determine if the firms reported in the database have sufficiently similar operating characteristics to the SC.
- Reports only include brokered transactions. May not be representative. Non-brokered transactions may indicate better management and higher valuations.
- Databases fail to disclose the appraisal method utilized to determine the price of the equity. Almost assuredly rule of thumb used in most cases. Method reinforces rules of thumb.

Guideline Public Company Method (GPC)

- Basic idea: if you can find a publicly traded company offering the same line of products or services as the SC, you ought to be able to utilize the pricing of these shares as a guideline to pricing the equity of the SC.

Example: An SC has earnings of $100,000. Assume just one share of outstanding stock. Assume the average selling price per share for a group of public traded companies thought to be in the same line of business as the SC is $36. Assume average earnings per share for the public group is $3 (earnings per share= net after tax profit/total commons shares). This entails that the average price/earnings ratio is 12 (the quoted per share market price $36 divided by the earnings per share, $3). Here is the algebra:

P_{pc} = Average price per share of guideline publicly traded companies = $36

EPS_{pc} = Average earnings per share of guideline publicly traded companies = $ 3

EPS_{sc} = Earnings per share SC = $100,000

P_{sc} = Value of Shares of SC =?

GPC Example Continued

$$\text{(i)}\ \frac{P_{pc}}{EPS_{pc}} = \frac{P_{sc}}{EPS_{sc}}$$

- The GPC method assumes that the ratio of the price to earnings per share of the SC ought to be the same as the ratio of the price to earnings per share of the public companies. Substituting the known values:

$$(ii)\ \frac{\$36}{\$3} = \frac{P_{sc}}{\$100{,}000}$$

$$(iii)\ P_{sc} = \$1{,}200{,}000$$

- The key practical problem with the GPC approach is comparability: ***impossible to find virtually any publicly traded companies with sufficiently similar operating characteristics to smaller service sector closely held firms.***

Asset Methods

- Basic idea: the value of an SC's equity is the sum of the values of the firm's assets less its liabilities; the whole is equal to the sum of its parts.
- Appraising value of tangible assets and liabilities not that difficult. Intangible asset appraisal harder.
- Treasury or Excess Earnings Method: the presence of goodwill can be detected and measured by the existence of profits in excess of some "average" rate of return on a firm's tangible assets.
- Three step method:

1) compute a "fair" rate of return on tangible assets.

2) "fair" return on tangible assets is subtracted from the total net income to arrive at an excess earnings figure.

3) convert excess earnings figure into a lump sum by dividing by an appropriate rate (this rate is called a capitalization rate).

Treasury Excess Earnings Example

SC has $45,000 of tangible assets, $10,000 of liabilities and $50,000 net income. Fair return on tangible assets is 10% and an appropriate capitalization rate is 20%.

Tangible Assets	$	45,000
Fair % Return on Tangible Assets		10%
Fair $ Return on Tangible Assets	$	4,500
Total Firm Net Income	$	50,000
Less Normal $ Return on Tangible Assets	$	(4,500)
Excess Earnings	$	45,500
		÷
Capitalization Rate applied to Excess Earnings		20%
Imputed Value of Goodwill	$	227,500
Equity Value of Firm		
Tangible Assets	$	45,000
Imputed Value of Goodwill	$	227,500
Total Assets	$	272,500
Less Liabilities	$	(10,000)
Equity Value of Firm	$	262,500

Treasury Excess Earnings Continued

Problems with the method:

- There is no obvious way to separate the overall net income of a company into two components. There are no databases showing historical rates of return derived strictly from tangible assets and or historical rates of return derived strictly from goodwill.
- Usually net income from any business derives from a synergistic use of *all* operating assets, tangible and intangible. There are no theoretical grounds for assuming that the tangible assets provide a base level of return and that any excess above this base level is attributable to goodwill. Why not assume the reverse order?

Replacement Cost Method

- The value of an asset cannot be worth more than the cost it would take to replace it. This replacement cost concept has been applied to the appraisal of goodwill. Example:

An SC has 200 transferrable customers whose value we seek to appraise. SC has an annual marketing budget of $10,000 and that on average the firm's marketing efforts lead to 10 new customers per year. Thus the cost per new customer is $1,000. So a reasonable estimate of the cost to replace a 200 customer base would be $200,000 (200 x the average marketing cost per new customer) and this would be an upper bound value for the goodwill of the firm.

- Problem: in the service sectors, marketing costs are vanishingly small because direct marketing is less than cost-effective for gaining any significant amount of new customers.
- Problem: the cost of acquiring new customers does not necessarily reflect their *value.* The value of a customer base ought to reflect the future economic benefits that customer base will generate and this cost approach ignores this factor.

Customer Attrition Combined with Excess Earnings Method

- The customer attrition approach explicitly recognizes that the value of a customer base resides in the future profits it will generate. Approach also recognizes that an acquired customer base has a finite life. Customers are lost due to relocation, death, or competition.

Example: An SC with a customer base of 100 customers expected to generate $500 in net income per year, per customer. Suppose after firm is acquired precisely 20 customers per year will be lost over the next five years. As with the excess earnings method, it is assumed that some of the net income represents a return on tangible assets and the balance represents a return on the customer base. Assume that 3/4 of net income is a return on tangible assets and only the remainder represents a return on the customer base itself. Finally, a present value factor of 10% is assumed.

Customer Attrition Example Continued

	Year 1	Year 2	Year 3	Year 4	Year 5
Customers Remaining	100	80	60	40	20
Net Income Per Customer	$ 500	$ 500	$ 500	$ 500	$ 500
Total Customer Net Income	$ 50,000	$ 40,000	$ 30,000	$ 20,000	$ 10,000
Net Income Allocated to Tangible Assets	(37,500)	(30,000)	(22,500)	(15,000)	(7,500)
Net Income Allocable to Customer Goodwill	$ 12,500	$ 10,000	$ 7,500	$ 5,000	$ 2,500
Present Value (PV) Factor	0.9091	0.8264	0.7513	0.6830	0.6209
PV of Profit Allocable to Customer Goodwill	$ 11,364	$ 8,264	$ 5,635	$ 3,415	$ 1,552
Total Present Value of Customer Goodwill	$ 30,230				

- As noted earlier there is no theoretical or empirical way to allocate net income between tangible and intangible assets.

Income Methods

- Appraisals are not simply about predicting exchange prices. Appraisal theory and practice is concerned with *stipulating* what exchange prices *ought* to be. We want to know what a *fair* and *reasonable* price ought to be for a given SC.
- The income method specifies the criteria for rational exchange value. Income appraisal methods are explicitly *normative* and not merely descriptive.

Income Method's Normative Principle

- The present value of an equity interest ought to be directly proportional to the expected future free cash flows and inversely proportional to the risk of realizing those cash flows. Stated as an equation:

  Present Value of Equity = Future Free Cash Flow/Risk.

The Present Value Concept

- A present value computation is a means of converting a stream of future cash flows to a lump sum.
- A future stream of cash flows from an SC is converted to a present value using a special type of rate called a discount rate.
- A discount rate is built up from three components: inflation, opportunity cost, and risk.

The Present Value Concept: Inflation

- Purchasing power of money generally declines over time. A dollar today will buy more goods and services then it will in the future.
- Discounting future cash flows allows us to factor in the impact of inflation.
- Terminology:

  Let r = the inflation rate (stated as a decimal percentage)

  n = the number of future periods of cash flow

  fv = the annual face value amount of expected cash flows

  pv= present value discount factor = $1/(1+ r)^{n}$

The Present Value Concept: Inflation Example

Assume that an SC will generate cash flows of $1,000 in each of the next five years. Here is the conversion of these cash flows discounted at an assumed annual inflation rate of 3%.

	End of Year				
	1	2	3	4	5
Annual Inflation Rate	3%	3%	3%	3%	3%
Future Cash Flow	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000
Present Value Factor					
$1/(1+.03)^n$	0.9709	0.9426	0.9151	0.8885	0.8626
Present Value=					
Future Cash Flow x Present Value Factor	$ 971	$ 943	$ 915	$ 888	$ 863
Total Present Value	$ 4,580				

The Present Value Concept: Opportunity Costs

- By investing a lump sum of cash today investor is foregoing the present use of that cash.
- Presumably this cash would have been available to purchase some *other* investment opportunity.
- A plausible assumption is that that alternative investment would have a return at least equal to the *safest* possible investment available (usually a short or mid-term U.S. treasury note).
- In conversion of future cash flows to present values must take into account not merely the loss of purchasing power due to inflation but also interest income that was foregone(also known as opportunity cost) had the investment not been made.

The Present Value Concept Discounting for Risk

- It seems reasonable that potential investors demand a higher rate of return on investments that are deemed more risky.
- All variants of the income method add a risk premium to the risk free treasury rate and inflation rate in developing an overall discount rate to apply to future expected cash flow.
- The risk premium is the additional rate of return required to accept the risk of the investment.

Discounting for Risk Example

Example. Five year expected cash flow of $1,000, 3% annual inflation rate and 3% treasury rate of. Assume a rational investor should demand a 10% return to reflect the risk associated with the investment. All three of these rates are added together (or built up) to develop a discount factor which then yields a present value for the equity investment as follows:

	End of Year				
	1	2	3	4	5
Annual Inflation Rate	3%	3%	3%	3%	3%
Risk Free Treasury Rate	3%	3%	3%	3%	3%
Risk Premium	10%	10%	10%	10%	10%
Combined Discount Rate	16%	16%	16%	16%	16%
Future Cash Flow	$ 1,000	$ 1,000	$ 1,000	$1,000	$ 1,000
Present Value Factor					
$1/(1+.16)^n$	0.8621	0.7432	0.6407	0.5523	0.4761
Present Value=					
Future Cash Flow x Present Value Factor	$ 862	$ 743	$ 641	$ 552	$ 476
Total Present Value	$ 3,274				

Problems with Risk Return Model

- Risk premium is a hurdle rate. In small service sectors expertise required to own and successfully operate a firm. Expertise is sunk cost. It is not rational to apply hurdle rates to sunk costs.
- Risk premiums apply to free cash flow not owner compensation. But additional owner compensation is often the key driver of value in sales of small service firms.
- Income method attempts to condense all risk into one rate. No attempt to analyze the impact of specific risks on future cash flows.

Problems with Risk Return Model

- No broad agreement in appraisal community as to where to look for benchmark risk premiums. Many believe that risk premiums should derive from historic rates of return of publicly traded firms. Ibbotson analysis of historical returns on publicly traded securities the usual source.
- Many others believe that publicly traded equity shares should not be used as benchmarks. Paul Slee with Pepperdine University has developed annual surveys of lenders and investors in privately held firms as an alternative source of risk premiums.
- The whole idea of applying one risk premium to future revenues is wrong! Risk should be built into forecasts directly.

The Big Fudge: The Capitalization Rate

- Virtually no appraisals in current accepted practice make a serious effort to project cash flows to a buyer beyond three to five years into the future. Instead they use a terminal value computed on the basis of a capitalization rate which is the difference between the risk adjusted discount rate and the expected growth rate.

Example. Suppose an SC has an expected cash flow of $10,000 in year 1, and then projected to grow at differing rates through year five as summarized by the following table. An appraiser will assume that after year five the cash flow will increase at a constant growth rate. Say 2%. Assume the appraiser applies a risk adjusted discount rate at 13%. The post year five cash flow will be capitalized at 11% (13%-2%). The capitalized cash flow for years six forward is the year five cash flow divided by this capitalization rate, 11,466/.11 or $104,236. This is the value shown in year six.

The Big Fudge: The Capitalization Rate Continued

	End of Year					
	1	2	3	4	5	6
Future Cash Flow	$ 10,000	$ 10,500	$ 10,920	$ 11,138	$ 11,466	
Terminal Value						$ 104,236
Present Value (PV) Factor						
$1/(1+.13)^n$	0.8850	0.7831	0.6931	0.6133	0.5428	0.4803
PV=						
Future Cash Flow x PV Factor	$ 8,850	$ 8,223	$ 7,568	$ 6,831	$ 6,223	$ 50,067
Total Present Value	$ 87,762					

The Big Fudge: The Capitalization Rate Continued

- Use of capitalization rate formula (AKA Gordon growth factor) is based on two wildly absurd assumptions: the SC will generate cash flow forever and the growth rate will be constant forever.
- Most firms do not last much beyond twenty years.
- Buyer should not have to share revenues with seller for more than a few years.
- There are economic constraints that set upper bound values of equity that are not factored into forecasts that utilize Gordon growth factors.

The Gordon Growth Factor Continued

$$(1.9) \qquad V = \frac{C_0(1+g)}{(k-g)}$$

Based on sum of an infinite geometric progression!

More Nonsense: Discounts for Lack of Marketability

- Because many appraisers use risk factors derived from returns on publicly traded securities and such securities are highly liquid it was felt that a further discount for lack of marketability liquidity (DLOM) of closely held investments was needed.
- DLOM is economically absurd. No investor concerned with liquidity would ever invest in a small closely held firm.
- Real Estate and art appraisers do not use DLOMs neither should business appraisers.

The Current State of the “Art”

- Attorneys can select experts who choose different risk adjusted discount rates and different DLOMs to arrive at appraisals most advantageous to clients.
- Current appraisal theory and practice must be significantly changed to lead to appraisals that are fairer to all parties and make economic sense.

"You tell me who's paying the expert and I'll tell you what the bias is and where it is going in the analysis."

Aswath Damodaran

"The problem is not that we don't have enough appraisal methods, the problem is that we have too may…and none of them are any good."

Retired Anonymous Appraiser

"… I have yet to find an appraiser of value of non-real estate that ever says anything that's cogent and persuasive."

Stan Bernstein, Bankruptcy Judge

Value of Goodwill= Fair “Commission” Rate

- No seller’s share in profits of customers acquired after equity sale.
- No seller’s share in profits of customers who do not transfer.
- No seller’s share in profits once transferred customers leave buyer.
- All customer’s ultimately leave firm => Goodwill is a wasting asset .
- Value constrained by local competitive market conditions.
- Value determined by negotiation.

Value of Goodwill Depends on Buyer

- Not every potential buyer is good fit. All buyers not equally capable of extracting profit from seller's customer base.
- Departing owner not available to manage or provide services beyond short transition period.
- ***Buyers most capable of exploiting goodwill likely to be either larger or smaller than seller***.
- Always an optimal buyer capable of extracting most profits form seller's customer base.

Profits vs Owner Compensation
Discretionary Earnings (DE)

- Presence of full time owner manager makes distinction between profit and compensation somewhat arbitrary. GAAP and tax rules compound problem.
- Discretionary Earnings (DE) measures all cash flow available to buyer ignoring arbitrary classification.
- ***DE is a relative and not absolute property of a small firm.***
- ***Owner provides more direct service => DE rates higher***
- ***Higher overhead => DE rates lower.***

Goodwill Value Always Has An Upper Bound

- Upper bound value depends on scale of buyer
- Large regional buyers use Maximum Competitive Advantage(MCA) estimate.
- Local competitor firm use Compete or Buy (COB) estimate.
- Employee buyer uses Differential Compensation estimate.

MCA: Large National or Regional Buyer

Dental Practice: MCA Computation 5 % Attriition Rate		
Year	Customers	Annual DE
1	400	$200,000
2	380	$190,000
3	360	$180,000
4	340	$170,000
5	320	$160,000
6	300	$150,000
7	280	$140,000
8	260	$130,000
9	240	$120,000
10	220	$110,000
11	200	$100,000
12	180	$90,000
13	160	$80,000
14	140	$70,000
15	120	$60,000
16	100	$50,000
17	80	$40,000
18	60	$30,000
19	40	$20,000
20	20	$10,000
NPV @ 4%		$1,209,054

MCA= the present value of all DE derivable from transferred customers in the future.

Example. Dental Practice, 450 patients. Optimal buyer: Large regional firm. Expects 400 customers transfer in. Attrition rate 5% per year. DE per customer per year: $500. 4% discount rate.

Compete or Buy (COB) Forecast: Local Competitor

Compete or Buy (COB) forecast = PV of difference between DE (buying vs. competing) over a time period needed to attain targeted customers.

Example. Seller dental practice. Buyer is local competitor dentist. Target 400 patients. Now 300 patients. Smaller dental practitioner with 125 patients retiring. Buyer expects at least 100 will transfer. Alternatively, five years of competition to gain the additional sought for 100 patients. COB estimate:

Dental Practice Example of a Compete or Buy Forecast					
Assumed DE per patient per year	$ 1,000.00				
	Year 1	Year 2	Year 3	Year 4	Year 5
Customers if firm buys smaller practice	400	400	400	400	400
Customers if firm competes	300	325	350	375	400
Difference in patients	100	75	50	25	0
Difference in DE	$ 100,000	$ 75,000	$ 50,000	$ 25,000	$ -
Upper Bound Value at Present Value at 4%	$231,315				

Differential Compensation

Dental Practice Example of a Differential Compensation			
	DE Buying Practice	Expected Wage	Difference
Year 1	100,000	75,000	25,000
Year2	103,000	77,250	25,750
Year 3	106,090	79,568	26,523
Year 4	109,273	81,955	27,318
Year 5	112,551	84,413	28,138
Year 6	115,927	86,946	28,982
Year 7	119,405	89,554	29,851
Year 8	122,987	92,241	30,747
Year 9	126,677	95,008	31,669
Year 10	130,477	97,858	32,619
Year 11	134,392	100,794	33,598
Year 12	138,423	103,818	34,606
Year 13	142,576	106,932	35,644
Year 14	146,853	110,140	36,713
Year 15	151,259	113,444	37,815
Year 16	155,797	116,848	38,949
Year 17	160,471	120,353	40,118
Year 18	165,285	123,964	41,321
Year 19	170,243	127,682	42,561
Year 20	175,351	131,513	43,838
Present Value @ 4%			$439,286

Differential Compensation Estimate: Employee Buyer

Differential compensation = PV of DE from acquiring less PV of future compensation if buyer remains employee.

Employee optimal buyer currently earns $75,000 per year. Salary and DE increase 3% per year. Assume buyer retains 100 patients. $1,000 in DE per patient per year.

More on Upper Bound Value Estimates

- ***Upper bound estimates computed before taking into account the amount that the Buyer will pay seller***.
- Upper bound estimates determine size of the "value" pie divided between buyer and seller in negotiation of equity exchange price.
- If buyer offers nothing to seller => buyer keeps all value
- if buyer offers upper bound value to seller=> seller keeps all value
- upper bound is *starting point* for negotiation of a fair equity price.

Refining the Optimal Buyer's Fair and Rational Bid

- Buyers will use reference levels of discretionary earnings (DE) to determine a fair bid.
- Employee buyer may use seller DE at sale as fairness reference point.
- Competitor buyer may use past realized DE rate as reference point
- Inherent paradox: If buyer pays ***anything*** to seller, buyer receives lower DE than seller realizes at time of sale.
- Optimal buyer recognizes accepting less than reference level OK ***but only for a limited amount of time.***

Employee Buyout Matching Seller's DE

Retiring lawn maintenance owner employs optimal buyer niece who earns $45,000 per year. Uncle owner earns $80,000 DE on gross revenue of $160,000. Niece will accept a net DE less than $80,000 if within short period her DE will rise close to this level. Hypothetical structured buyout over five years:

Smaller Landscape Buyer Fair Bid					
	Year 1	Year 2	Year 3	Year 4	Year 5
Gross Revenue from Acquired Customers	$ 160,000	$ 160,000	$ 160,000	$ 160,000	$ 160,000
DE Margin@50%	80,000	80,000	80,000	80,000	80,000
Acceptable New Owner Niece Compensation	52,000	59,000	66,000	73,000	80,000
Difference	28,000	21,000	14,000	7,000	-
Fair Bid Net Present Value @4%	$64,768				

Competitor Buyout of Landscape Firm

Optimal Buyer competitor usually realizes 40% DE rate but willing to accept only a 35% margin over five years.

Larger Landscape Buyer Fair Bid					
	Year 1	Year 2	Year 3	Year 4	Year 5
Gross Revenue from Acquired Customers	$ 160,000	$ 160,000	$ 160,000	$ 160,000	$ 160,000
Typical Margin 40%	64,000	64,000	64,000	64,000	64,000
Acceptable Margin 35%	56,000	56,000	56,000	56,000	56,000
Difference	8,000	8,000	8,000	8,000	8,000
Net Presnt Value @4%	$35,615				

Buyer's Summary Fairness Criteria for a Fair Bid

- Net of cost of equity, buyer must be immediately better off.
- Net of the cost of the equity, the buyer DE must approach in short period a *fair* level determined by the seller's DE or buyer's customary DE.

Deviations from Fairness

- No absolute rule that employee buyer must realize same level of DE as seller either in the short or long term.
- No absolute rule that a competitor firm buyer must realize past DE rate in the short or long term.
- Objective economic conditions can dictate if a bid is rational, but only individual buyers and sellers can determine if a bid is ***fair***.

False Promises: False Certainties

- Rules of thumb and all current appraisal methods in wide use promise to deliver a precise equity value. This is their advantage.
- All economists, appraisers and investors would agree that the value of the equity of a closely held firm is a function of the future discretionary earnings that the firm will generate.
- The future is uncertain. Using non-probabilistic, non-statistical methods to predict future firm revenues is foolish. See again the widespread use of the Gordon growth factor which absurdly assumes cash flows will be generated forever with the firm realizing the same growth rate year after year.
- Current appraisal practice and theory put little or no emphasis on meaningful forecasting. All emphasis is on picking risk adjusted hurdle rates and discount rates.
- Emaphasis must shift to probabilistic forecasting.

It is better to be approximately right than precisely wrong.

Warren Buffet

Key Forecast Variables

- Transfer Rate: the percentage of the seller's customer base who will continue to patronize the firm after the equity transfer.
- Attrition Rate: the rate at which transferred customers will be lost. Recall the buyer should only pay a "commission" on customers that remain and for only as long as they remain customers.
- Discretionary Earnings per Customer per Year. Recall again that the commission rate must be set to insure that the buyer has sufficient net return to justify assuming the burdens of servicing the customer base.
- All of these variables are subject to variation and uncertainty.
- Two tools available to tackle variation and uncertainty: calibrated estimates and computer simulations.

Calibrated Estimates

- We never know with any certainty precisely the values of key variables but we almost always know much greater certainty the upper and lower limits of that variable.
- Example: transfer rate on most firms will almost certainly be greater than 50% and not more than 95%.
- In calibrated estimate method subject matter experts are asked to set values such that they are 90% confident that the true value falls within the upper and lower bound.
- Who are subject matter experts? Experienced employees, managers, owners.
- Credentialed appraisers are not necessarily subject matter experts.

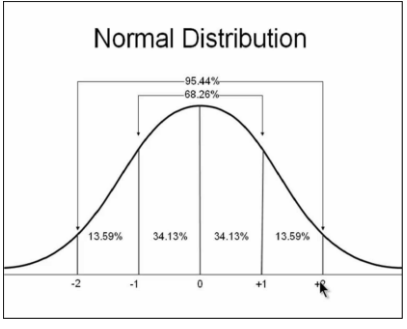
Computer Simulations

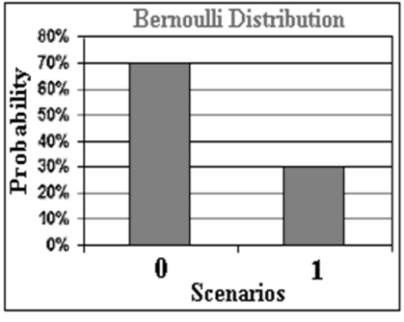
- Calibrated estimates are a starting point. To make appraisals useful we need a statistical technique to refine the values of key forecast variables that also directly measures impact of significant risks and normal variations on future DE.
- In a computer simulation, hundreds of alternative future revenue and DE paths can be forecast in seconds.
- Basic steps to develop a simulation forecast:

1. Develop a coherent economic model of the SC and its competitive environment that identifies the causal variables that drive future DE.
2. Identify key risks and embed risks in economic model.
3. Assign probability functions to key rates and risk variables.

Probability Functions

- A probability function is a mathematical expression that describes the expected frequency of certain future events.
- These functions best understood by the shape of their graphs. Two very familiar distributions are the normal and Bernoulli functions:





Computer Simulations Continued

- Computer simulation similar to a spinning drum lottery drawing that with hundreds of identically shaped ping pong balls each with a number on it.
- Numbering scheme depends on the shape of the probability distribution chosen.

Example: Heights of males. Number balls 36” to 90”. Since heights follow normal distribution number very few balls near the extreme values and many more near the mean value of 70”.

- In computer simulation every key variable subject to variation and risk can be assigned its own virtual drum of appropriately numbered ping balls. Each simulation run represents a future path for the DE of the investment.

Computer Simulations Continued

- Using lottery like simulations based on probability distributions that mirror the variations and risks buyers will encounter serves as a means of accurately forecasting the possible different levels of DE from the investment.
- When computer simulation calculates hundreds of possible future levels of DE, certain levels will occur more frequently than other Those levels of DE that occur most often are likelier to be realized than those levels that occur less frequently.
- Given a coherent model of DE and well chosen probability functions that mirror the risks and variation that an investor is likely to encounter, the mean or median of the outcomes as a basis for negotiating equity prices. ***These mean or median levels of DE do not have to be further discounted for risk because risk is already accounted for in the selection of the probability functions.***
- Simulation software now integrates with Excel spreadsheets. Each variable that drives DE is included in a separate cell. Some cells contain probability functions while other contain fixed constants (usually placeholders for averages).

Case Study

SC “male only” barbershop operated and owned by EE, a 31 year old, Hispanic who has been cutting hair since he was a teenager. EE operates a nine chair shop located in suburban Broward County, Florida. He has about 175 repeat customers that he personally serves. He has been operating at his current location for two years. EE has entered into a revenue and trade name sharing agreement with a local fellow barber who has financed the startup costs of his current shop in return for a percentage of chair rental revenue. The revenue that EE derives from cutting his customer’s hair personally is excluded from the chair revenue/cost sharing agreement. Appraising the value of EE’s equity in his customer base independently from his cost sharing arrangement. Any PA will *not* be assuming EE’s role in operating the chair leasing operation.

Case Study Continued 2

Age of Customer Base	
18-29	40%
30-44	30%
45-60	20%
>60	10%

Number of Years Using EE	
1-3	10%
3-5	10%
5-7	10%
7-9	20%
9-11	50%

Average Revenue Per Patronization

	$ 20	$ 23	$ 28	$ 31	Total	%
Weekly Customers	7	21	11	6	45	25.9%
Bi Weekly Customers	4	11	6	4	25	14.4%
Monthly Customers	7	21	12	7	47	27.0%
Every Six Weeks	5	14	8	5	32	18.4%
Every Other Month Customers	4	11	6	4	25	14.4%

Total Gross Annual Revenue

	Frequency Factor	$20	$23	$28	$31	Total	%
Weekly Customers	52	$7,280	$25,116	$15,730	$9,672	$57,798	59%
Bi Weekly Customers	26	$2,080	$6,578	$4,290	$3,224	$16,172	16%
Monthly Customers	12	$1,680	$5,796	$3,960	$2,604	$14,040	14%
Every Six Weeks	8.7	$870	$2,801	$1,914	$1,349	$6,934	7%
Every Other Month Customers	6	$480	$1,518	$990	$744	$3,732	4%
						$98,676	100%

Gross Revenue per Customer

	Total	Annual Revenue	Revenue Per Customer
Weekly Customers	45	$57,798	$1,284
Bi Weekly Customers	25	$16,172	$647
Monthly Customers	47	$14,040	$299
Every Six Weeks	32	$6,934	$217
Every Other Month Customers	25	$3,732	$149
	174	$98,676	

Case Study Continued 3

- Any PA will have to have the skill, cultural and age compatibility, and time to service EE's customer base. Promoting from within might not work if such a barber has a fairly big customer base of their own they will not be able to service EE's customers and their own existing customers as well.
- Only a barber with a small base of customers would be in best position to take advantage of EE's customer base. Such a barber would likely either be inexperienced or completely new to the area. An inexperienced barber may lack the financial resources to acquire the customer base or lack the depth of experience to adequately manage it. Optimal PA would be an experienced barber with some financial resources who is relocating into the area.

Case Study Continued 4

- Total adjusted DE of $91,200. On a per customer basis, about $525 DE per year. This will be subject to variation depending upon how close the PA can maintain the total customer base at a full capacity level (assumed to be 175 customers).
- EE estimates the rate of referrals from existing customers to be between 30 and 40 per year. This would translate to a referral rate of between 15% and 20%.
- EE estimates that he loses no more than between 5 and 10 existing customers per year. This translates into an attrition rate of between 2.5% and 5%.

Case Study Continued 5

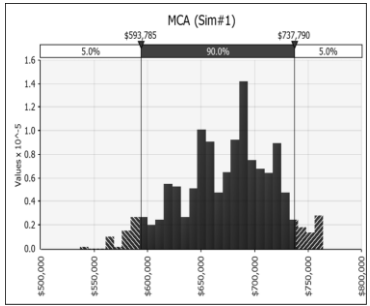
- Summary of the key forecast parameters and their associated probability distributions for the forecast of the MCA. Note there is no identified major uninsured risk included because none exist for this location or service sector.

Model Assumptions				
	PDF	Low	Expected	High
Customers Available	Constant	175	175	175
Transfer Rate	Triangular	60.0%	75.0%	80.0%
Second Year Attrition	Triangular	5.0%	8.0%	15.0%
Buy DE per year per Customer	Triangular	$490	$525	$540
Normal Attrition	Constant	5.0%	5.0%	5.0%
Potential New Customers Per Year	Triangular	40	50	60
Compete DE per year per Customer	Triangular	$450	$475	$490

Case Study Continued 6

- Twenty Five year 1,000 run simulation of maximum competitive advantage:

MCA Simulation Results	
Minimum	$536,918
Maximum	$764,110
Mean	$673,933
Mode	$688,352
Median	$680,043
Std Dev	$42,906
Skewness	-0.3115
Kurtosis	2.6308
Values	1,000



Case Study Continued 7

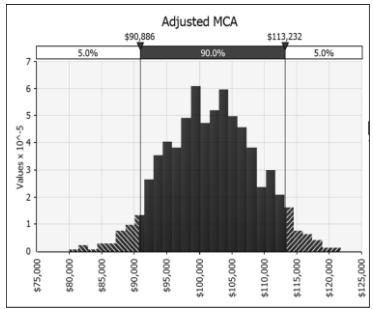
- Compete or Buy estimate. There is an ability to acquire new customers fairly quickly in this location so optimal buyer has the option to compete for customers in lieu of buying EE's "book". Optimal PA could enter into a chair rental arrangement and start from scratch and attain 175 customers in three to four years. Here is comparative model for one possible path if the optimal buyer chooses to compete:

Compete vs. Buy	Year 1	Year 2	Year 3	Year 4	Year 5
Beginning Balance Customers	0	53	105	163	175
New Customers	53	52	58	48	54
Ending Balance Customers	53	105	163	175	175
DE Rate	$457	$453	$478	$483	$471
DE	$24,221	$47,565	$77,914	$84,525	$82,425
Inflation Adjustment		1.040	1.061	1.082	1.104
Net DE	$24,221	$49,487	$82,683	$91,493	$91,004
Non-Attrition Buy Customers	175	175	175	175	175
DE Rate	$457	$453	$478	$483	$471
DE	$79,975	$79,275	$83,650	$84,525	$82,425
Inflation Adjustment		1.040	1.061	1.082	1.104
Net DE	$79,975	$82,478	$88,770	$91,493	$91,004
Difference Compete vs. Buy	$55,754	$32,991	$6,087	$ -	$ -
PV @4% COB	$89,523				

Case Study Continued 8

- Here are the results of a 1,000 iteration run of the COB estimate:

Compete or Buy	
Minimum	$79,952
Maximum	$121,779
Mean	$101,848
Mode	$103,912
Median	$101,787
Std Dev	$6,908
Skewness	0.0218
Kurtosis	2.787
Values	1,000



Case Study Continued 9

- Value of the benefit of buying versus competing is about $100,000. This is not the likely bid because this reflects the competitive advantage before considering the cost of the equity. Must also consider that optimal PA has another alternative to work as a salaried employee for a chain barber.
- Based on BLS survey data assume as an employee optimal buyer can command a salary of $45,000 per year working for a chain shop. Assume that buyer is willing to wait five years to attain the level of DE EE now earns. Because the optimal buyer will not be assumed to take over management of the other barbers, use an $80,000 figure for the targeted DE rather than the $99,000 EE currently earns. Over five years, this would translate to an increased salary of $35,000 total or an increase of $7,000 per year. Here is *one* possible scenario for the differential compensation:

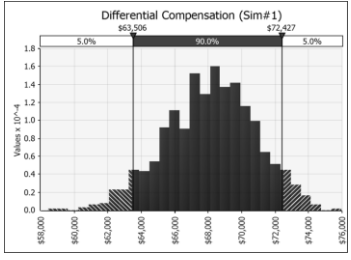
Case Study Continued 10

	Differential Compensation				
	Year 1	Year 2	Year 3	Year 4	Year 5
Customers	175	175	175	175	175
DE Rate	$474	$473	$486	$474	$470
DE	$82,950	$82,775	$85,050	$82,950	$82,250
Inflation Adjustment		1.040	1.061	1.082	1.104
Net DE	$82,950	$86,119	$90,256	$89,788	$90,811
Salary Requirement	$52,000	$61,384	$72,569	$86,128	$102,821
Buyout Payment: Differecnce Salary vs. Buy	$30,950	$24,735	$17,687	$3,660	$0
PV @4%	$71,480				

Case Study Continued 11

- Here are the simulation results based on 1,000 iterations:

Differential Compensation	
Minimum	$58,434
Maximum	$75,948
Mean	$68,125
Mode	$69,417
Median	$68,221
Std Dev	$2,689
Skewness	-0.1822
Kurtosis	2.8777
Values	1,000



Case Study Continued 12

- Based on the simulation runs, the optimal PA should be willing to acquire EE's customer base for between $60,000 and $75,000. Such a buyout price is less than the COB and still allows the buyer to attain the level of DE currently realized by EE within a three to four year period. Buyout terms would probably call for annual payments of between $20,000 and $25,000 for three years.
- Compare my appraisal method with rule of thumb. The *Business Reference Guide* stipulates a rule of thumb at 10% to 25% of seller's discretionary earnings plus $1,500 a chair and inventory. Using $80,000 as EE's DE, this would lead to an appraised value of between $10 and $22,000.
- Utilizing an income approach first convert EE's DE to free cash flow (difference between EE's DE and what buyer could earn as an employee). Using $45,000 compensation figure would leave $35,000 in free cash flow. If appraiser chose risk adjusted discount rates of between 10% and 15% and a growth rate of 2% this would entail net capitalization rates of between 8% and 13%. This would lead to appraised values of between $270 and $438,000. Applying DLOM somewhere in the range of 25% leading to final appraised values of between $200 and $328,000!

Case Study Continued 13

- Both rule of thumb and income method fail because they attempt to answer the most fundamental appraisal questions.
- My approach starts with the simple notion that an SC with enterprise goodwill has value only if there is a buyer who has the motivation and capacity to replace the retiring owner.
- Such a buyer must compare acquiring SC versus their next best alternative. If the PA is a competitor, the next best option is competing for customers. If the PA is an employee the next best option is staying an employee.
- The final step involves determining the reference level of DE the PA will deem to be a fair reward for assuming the responsibilities of servicing the SC. My method assumes that the PA will defer reaching this DE target for no more than there to five years. The present value of the difference between expected DE and the required additional compensation for the PA during this short period yields the range of equity bid.
- Variation and risk is built into the simulation models so no added risk adjustment is needed.

Summary

- Goodwill = transferrable customer base.
- Value of Goodwill depends on future earnings from customer base.
- Negotiated goodwill value = negotiated fair commission rate.
- Seller and buyer have different and competing ideas of fairness.
- Value depends on competence and motivations of buyer.
- There always is an optimal buyer.
- Optimal buyer can always estimate a rational upper bound value.
- Optimal buyer uses reference levels of fair earnings in setting value.