Financial Analysis of the Small, Privately Held Business – An Active Learning Approach

Irv DeGraw, St. Petersburg College
Robin Wilber, St. Petersburg College

ABSTRACT

Small, privately owned businesses are widely recognized for their large volumes and as the most challenging to successfully operate. Their constrained resources, in general, and limited cash, in particular, are most critical and reflect the segment's high failure rates. While small business management education has grown, courses tend to be topic-driven vs. providing an integrated practitioner focus. Emphasis on critical cash flow assessment and management is also limited.

Reflecting regional business demands, we have developed an active learning intense course addressing small business needs and emphasizing an intense practitioner driven focus. Combining principles and applications, a series of analytic models and comprehensive cases, and emphasizing cash flow analysis (the small firm's most limited resource), students make, experience, and then correct the business and cash consequences of their decisions.

While only two years old, the course's initial response by students and the business community has been positive. Both report that the "hands on" practitioner focus and cash flow emphasis provides a very realistic and useful experience.

INTRODUCTION

Although the majority of businesses are small and privately held (Internal Revenue Service, 2006; Small Business Administration, 2011), most management and financial analysis education tends to focus on the larger publicly-held firms. This emphasis creates an educational anomaly since those firm's with the largest volume; the highest rates of new entries; the highest risk and failure rates (Headd, 2003); and highly demanding finance and management requirements are not all that well addressed. Clearly small, private firms are materially different from public firms, especially with regards to scale, resources, liquidity, and risk. In fact it is their limited resources and high risk that make effective financial management such an essential and critical skill (Cole, 2011).

Responding to this challenge, there has been some growth in the number of small business management, and entrepreneurship, courses being offered. Emphasizing broad foundations and concepts, they tend to be principles-intense courses that are focused on introducing and developing a comprehension of the core disciplines. While they are a solid step forward, the transition from student to practitioner remains incomplete. Specifically, the ability to comprehend the critical interactions among various functions and disciplines, the dynamics of the environment, and the ability to assess their consequences is not yet well developed. This is especially prevalent within the small business financial analysis disciplines.

Notably, considerable academic research has recognized and addressed some of the challenges of small business finance. However, that research does not appear to have broadly crossed-over into the classroom. Courses addressing comprehensive and practitioner-intense small business finance, funding, analysis, and their influence on business interactions and performance continue to appear somewhat limited in the present environment (Neck & Greene, 2011). While some entrepreneurship and small business management courses appear to initially address this finance segment, most tend to be incomplete and typically shift their focus to publically-held firm perspectives. Additionally, finance-intense texts specifically addressing the needs of the small business segment also appear to be limited. Consequently, the educational needs of this large and highly challenging business segment are not well addressed. Table 1 provides a summary list of some of the leading small business management and finance textbooks.

Insert Table #1 About Here

COURSE GOALS AND OBJECTIVES

Responding to this gap and to the demands of our regional business and banking communities, we have created a course which is explicitly dedicated to addressing the financial, managerial, and operational characteristics of the small, privately held business. Entitled "Financial Analysis of the Small Business", the course emphasizes development of effective, practical, and practitioner-driven financial management skills while concentrating on two key dimensions that are essential for small business success. They are:

1. A focus on the Future.
   Past performances may be positive, but they are history and do not necessarily reflect effective responses to future demands and challenges. Being prepared for what is coming next is critical to on-going small business success, especially given the limited cash and productive resources. Notably, anticipating and assessing the future is among the most challenging tasks for small business management.
2. A focus on Cash.
   In any small business, cash is the critical "engine" that drives all operations. Both cash flow and liquidity (amount and timing) are essential to survival. Without sufficient cash, available when needed, the small business can't meet its obligations – effectively halting its activities. And under those circumstances the best business ideas, products, and operations cannot exist. Consequently,

ensuring sufficient cash flow and liquidity are a challenging and an absolutely essential skill for small business management.

Within this context, our course has three core goals and objectives. They are:

1. Prepare competent practitioners who can effectively evaluate, assess, manage, and operate small, non-public businesses. This practitioner scope includes: managers & owners, investors, and community bank credit analysts and loan officers. Bankers are included since they must be able to effectively evaluate small business firms in order to make realistic and responsible lending decisions.
2. Emphasize a comprehensive and practical assessment of all aspects and challenges of a small business, especially including interactions, endogeneity, and funding criteria (Ang, Cole, & Lawson, 2010). This goal combines: anticipating ***future*** operational, cash, and liquidity demands and requirements; recognizing and assessing environmental dynamics; and assessing the firm's demonstrated performance and caliber.
3. Utilize active learning pedagogies in order to develop students into effective and competent practitioners. This teaching approach requires students to "get their hands dirty". We combine principles, case applications, and then have them actually experience the short and long term consequences of their activities, decisions (Brockbank & McGill, 2007), and cash flow needs.

Supplementing the course materials, and reflecting the limited number of small business finance texts, we have also prepared an "early stage", customized textbook to use with the course.

In this paper, we describe and share the pedagogy, structure, methods, and key components that we employ in this course.

PEDAGOGICAL APPROACH

Reflecting the practitioner intense goals, we employ an intense "active learning" teaching approach. Students are required: to conduct fully integrated "whole firm" analyses; to recognize and experience the interactions among multiple business functions; to accurately assess resource and funding needs; to follow the firm over time; and to actually experience (and correct) the consequences of their decisions. Built around a series of continuing cases, using firms in different industries, we create a comprehensive and integrated experience. It provides students with the opportunity to evaluate, assess, and experience all aspects of a complete firm, and their interaction, in context. Students actually see how their decisions influence both short and long term performance, how all business components relate and interact, how they affect limited resources, how they influence subsequent decisions, and how errors are made and then corrected (Neck & Greene, 2011).

Students also learn to recognize that business is conducted in a highly dynamic world. Subject to continuing political, economic, social, and technological changes, they must continually recognize, assess, and respond to a changing environment. These changes must also be assessed in terms of their influence on their industry and their firm. Consequently, they learn that analyses are neither static nor one-time events, but must be continually updated.

Tactically, students initially learn core principles and their characteristics. Then, armed with these principles, they now apply them to the continuing case firms; assessing and evaluating their situations, making decisions, experiencing the consequences, and subsequently making corrections. Highlighting the active learning objective, each class session consists of several case analyses and presentations. In each class, assigned cases are presented, discussed, and debated. Working in pre-assigned teams (of three students), at each class a team is randomly selected to present and initiate discussion of each case. The presentation is followed by a class-wide debate of their conclusions.

Upon completion of the course all students will have worked with and evaluated all aspects of both the short and long term performance of several complete firms, in different industries. Given the practitioner goal, this comprehensive active learning experience using complete firms appears to be more effective that a series of discrete or un-integrated problems or examples. Supplementing the continuing case analyses, we also employ some traditional homework assignments and several formal tests.

COURSE STRUCTURE

The Course is organized into six major components. Each of the continuing case "whole firms" are then examined within this entire six component context. The major components include:

Foundations

Sufficient future cash flows are essential to the success of any small business firm. Consequently the core of this course, and all of the subsequent firm evaluations, are built around a basic series of questions. They are:

1. "Is the firm able to generate sustainable cash flows that are sufficient to support its business activities?" Without sufficient cash, available when needed, the firm will be unable to operate. This question is further organized into four evaluation factors, including: cash profitability; liquidity; efficiency; and stability.
2. "What are the anticipated the future capabilities and needs of the firm?" Assessing the challenges that will be presented in the future is clearly very difficult to predict. Yet we need some indicator of the firm's anticipated abilities. As a proxy, we assess the management's past performance record as a qualification vehicle. Positive and consistent past performance doesn't guarantee future performance. But it does signal the caliber of the firm and its management by demonstrating their demonstrated ability to respond to various challenges and issues over time. While not guaranteeing future performance, it does immediately "weed out" those firms who have not performed well in the past.

Assessing the Environment

No firm can be evaluated without a comprehensive understanding of its environment. This includes the influence of the dynamics of the broad political, economic, social, and technological spectrums. Understanding the firm's industry provides an essential framework for analysis and assessment, and is an absolutely crucial first step of any evaluation process. It is the industry that defines the environmental, business, competitive, and financial parameters influencing the firm and its on-going viability. Clearly firm's cannot materially diverge from the context and parameters of their industry characteristics and expect to remain successful. We also recognize that this is a highly dynamic environment, and any analyses must be continuing and responsive vs. static.

Recognizing this context, this section of the course emphasizes the recognition, evaluation, and assessment of related industry requirements and conditions. It includes explicit consideration of:

1. Industry Life-Cycle stage (including growth rates and characteristics);
2. Customer Life Cycle stage and characteristics;
3. Industry Structure (Porter 5-Factor Analyses);
4. Liquidity and Operating Cycle characteristics;
5. Macro and Micro Economic conditions, including cost and price conventions;
6. Demand Function characteristics;
7. Production Function characteristics.

Considerations for assessing and interpreting these issues are described in TABLE 2.

Insert Table #2 About Here

<u>Assessing the Firm</u>

Once an understanding of the industry characteristics and conditions has been established, we are now prepared to begin an effective assessment of the firm itself. Clearly the firm must be examined in context of – and must reflect the characteristics of - its environment and cannot diverge too far from the industry criteria (Frank & Goyal, 2009). Within each firm, this section emphasizes the recognition, evaluation, and assessment of:

1. Historic performance, evaluated using conventional Financial Statement analyses. This analysis signals the firm's performance record and reflects the management's caliber. This stage includes a focus on: growth, ratio analyses, time series analyses, and cross-sectional analyses within context of the firm's industry parameters;
2. Consistency with its industry and environment;
3. Stability and performance consistency;
4. Strengths and Weaknesses, including the sustained competitive advantages;
5. Liquidity, Cash Flow, and operating cycle characteristics (including financial distress indicators);
6. Funding structure and capacity;
7. Competitive environment;
8. Management and employee skills and capacity;
9. Marketing – including customer, product (including ordering characteristics), sales, and distribution channel characteristics;
10. Production – including value chain, production cycle, manufacturing characteristics, and manufacturing capacity.

<u>Assessing the Future</u>

While positive past performances are encouraging, it is coping with the future that is the real challenge for the small, privately held firm. It's the "what comes next" that really determines both success and resource requirements. This section emphasizes the recognition, evaluation, and assessment of prospective growth and associated resource needs with an emphasis on its cash flow requirements.

Within each "case-firm" students examine the opportunities, possible growth rates, and expected impacts on marketing, products, and customers. Then, within that context, they assesses demands on liquidity and cash flows, employee skills, operating resources & capacity, current and fixed assets, and production capacity. While firms tend to pursue aggressive growth, students also learn that growth can be dangerous and can exhaust resources and destroy the firm's reputation. Here, and on an active learning, experiential basis, students learn the "costs" and consequences of growth decisions, and recognize that it is affordable growth that is essential for the success of the small firm.

Consequently, this section introduces and employs extensive pro-forma tools to recognize and assess appropriate and sustainable growth rates. Using these tools students learn to ensure the firm is able to adequately fund and maintain liquidity for its growth rates and strategies. Assessment and analysis activities include:

1. Defining operating priorities, sales growth, goals, growth rates, capacities, and funding and operating presumptions;
2. Assessing the consequences of the decisions, especially the consequences of growth, using criteria reflected in TABLE 3;
3. Preparing multiple period Pro-Forma Statements (Income Statement and Balance Sheet);
4. Preparing multiple period Cash Flow Statements (both indirect and direct versions);
5. Assessing cash flow needs and requirements;
6. Revising assumptions;
7. Repeating and re-assessing Pro-Forma's and most importantly the cash flow analyses until a reasonable and achievable plan and solution is developed.

Insert Table #3 About Here

<u>Analysis Tools, Applications, and Techniques</u>

A variety of tools, models, techniques, and applications are addressed throughout the course. During these times students are introduced to, apply, integrate, and evaluate a series of analysis tools – adapted especially for the small, privately held business. These analytic tools include:

1. Several models (Activity-Resources-Funding; Environment-Industry-Firm; etc.);
2. Relative industry-firm growth analyses;
3. Operating Cycle and Cash Conversion Cycle;
4. Leverage & Financial Distress analysis (including small, private firm evaluations);
5. Financial Statement analysis;
6. Cash Flow analyses (including both indirect and direct versions). Since familiarity with the Statement of Cash Flow – Direct (or Banker's) Method may be limited, a sample of this detailed statement has been included and is described in TABLE 4;
7. Cash Budgets;

8. Multi-period Pro-Forma's.

Insert Table #4 About Here

<u>Funding the Firm</u>

Once students have reached reasonable plans, the next step is to address the challenge of obtaining funding for the firm. This section examines the opportunities, implications, and affordability of various funding opportunities available. It includes detailed consideration for:

1. Internal Financing – Retained Earnings, Owner Personal Funding
2. Bank Financing - Lines of Credit, Term Loans, Leases
3. Private Investment Financing – Longer term, permanent funding via: Angels, Private Investors, Merchant Bankers, Corporate Associations, Specialized Foundations, etc.
4. Government Related Financing – SBA, SCORE, etc.

RESULTS & CONCLUSIONS

The "Financial Analysis of the Small Business" course has now been conducted over a two year period.

Notably, student responses to date have been positive. More importantly, responses from the professional business community have been very strong and supportive. The course has also received SBA and Federal Reserve attention and recognition.

Responses have been especially strong from the community banking community. Given the difficulties of preparing competent credit analysts at the community banking level, the course is viewed as a crucial mechanism for developing the skills needed to objectively assess the potential and expected long-term reliability of various small business borrowers. It's reported that the course, its instruction, and its materials reportedly help make them better analysts and lenders.

Presently, reflecting the course's limited life span, quantitative measures are limited. However, as the course proceeds we expect to be adding considerable quantitative assessments of the course impacts, performance, and application results.

REFERENCES

Ang, J., R. Cole, and D. Lawson (2010) "The Role of the Owner in Capital Structure Decisions", Journal of Entrepreneurial Finance 2010 (14-3) 1-36

Brockbank, A., and I. McGill (2007). Facilitating Reflective Learning in Higher Education, 2nd edition. New York: Open University Press.

Cole, R. (2011) "What Do We Know About the Capital Structure of Privately Held Firms? Evidence from the Surveys of Small Business Finance" DePaul University Working Paper (March 10, 2011)

DeGraw,Irv (2010) "Principles of Financial Analysis for the Smaller Business" Text-in process, August 2010

Frank, M. and V. Goyal (2009) "Capital Structure Decisions: Which Factors are Reliably Important?", Financial Management 2009 (38-1), 1-37

Headd, B. (2003). "Redefining Business Success: Distinguishing Between Closure and Failure". Small Business Economics 21 (2003), 51-61.

Neck, H. and P. Greene (2011). "Entrepreneurship Education: Known Worlds and New Frontiers". Journal of Small Business Management, 49(1), 55-70.

Small Business Economic Indicators and The Small Business Economy (Washington, DC: US Printing Office 2006), Executive Summary and Chapter 1.

TABLE 1

Small Business Management Textbooks

Small Business Management – Textbooks
Effective Small Business Management: An Entrepreneurial Approach 10th Ed. Scarborough - Pearson Prentice Hall 2011
Small Business Management: Launching and Growing Entrepreneurial Ventures 16th Ed. Longenecker, Petty, Palich, Hoy - Cengage South-Western 2012
Essentials of Entrepreneurship and Small Business Management 6th Ed. Scarborough, Wilson, Zimmerer - Pearson Prentice Hall 2011
Small Business Management: An Entrepreneur's Guidebook 7th Ed Byrd, Megginson - McGraw Hill 2013
Entrepreneurship and Small Business Management 1st Ed Mariotti, Glackin - Pearson Prentice Hall 2012
Small Business Management: Entrepreneurship and Beyond Hatten - Cengage Learning 2011
Small Business Finance – Textbooks
Entrepreneurial Finance 4th Ed Leach, Melicher - Cengage South-Western 2012
Principles of Financial Analysis for the Small Business 1st Ed DeGraw - In Process 2010

TABLE 2

Industry Life Cycle	> Signals industry risk, performance, product, market, size, growth, & outlook > Early stages – high risk; uncertain performance, size, growth, product, and market outlook > Growth & Maturity stages – lower risks, more proven & reliable performance characteristics > Decline stage – to be avoided; increasing share of declining market
Customer Life Cycle	> Customer nature & characteristics shift through life cycle > Early stages – customer characteristics different, emphasizing risk takers. Small market, accounting for up to 16% of possible customers, on average. Early stage growth rates misleading and typically hit a "limit" > Latter stages (i.e., growth & beyond) – customer nature changes and market size is materially larger (i.e., 68% of market on average). Growth rates more reliable signal > Chasm issue – transition from early to latter stages is not a continuous process and it may consume material amounts of time. In some cases it required more than 10 years to make transition.
Industry Structure	> Classic Porter analysis – with emphasis on assessing products, innovation, customers, suppliers, new products & substitutes, and competitive structure.
Liquidity & Operating Characteristics	> Cash flows from operations > Cash Conversion Cycle – and seasonal variances > Industry liquidity standards & requirements > Funding & asset structures
Macro & Micro Economic conditions	> Market size & growth interaction > Margins – price & costs > Key performance ratios and structures, including leverage > Competitive scope & concentration – fragmented, concentrated, or dominated competitive markets > Distribution channels
Demand function	> Value to customer? Why do they buy? > Customer characteristics – volume; new v. repeat; concentration; customer-industry concentration (correlation risk) > Product orders – size, volume, frequency, type, lead time > Product s – custom, uniform, feature intense, quasi-custom; sold to end-user or as a component is customer's product > Seasonality
Production function	> Resource intensity; Operational leverage; Technology innovation velocity > Production cycle length; produce to order or inventory; capacity criteria > Production methods – continuous or job shop

TABLE 3

Growth Analysis & Challenges
1. Growth => Resources => Funding > Greater leverage; greater firm risk
2. Cash Flows grow slower than Resource demand > Need more debt to fund additional resources > Exhausts credit availability (i.e., too much debt) > Reduces ability to service existing debt
3. Business Complexity increases > Manage core operations – now on a greater scale > Manage business changes – without disrupting core operations > Higher level skills needed to manage larger, more complex business > Need broader distribution of higher skilled staff
4. Production capacity stressed or exhausted > Production slack eroded > Must add shifts, defer maintenance > Add equipment & facilities
5. Marketing demands & expenses increased
6. Source of Growth must be clarified > New volumes of customers – or taking share from competitors; limits the upside growth if not new > New customers or increased demand from existing customers; again may limit upside growth if not new > Additional volume – or is it price driven; upside growth limited if price driven
More firms self-destruct from "over-growth" than most other causes. Consequently growth capacity is an important consideration and internally consistent growth rates can be assessed using the Internal Growth Rate (IGR) and the Sustainable Growth Rate (SGR).

TABLE 4
Statement of Cash Flows – Direct (or Banker's) Version

Wade's Furniture
Statement of Cash Flows - Banker's Version

	2003	2004
1. Sales	8,184	12,430
2. - A/R	(145)	(497)
3. Cash from Sales	8,039	11,933
4. CGS (less non-cash)	(5,424)	(8,255)
5. - Inventory	(45)	(559)
6. - A/P	72	374
7. Cash paid for prodtn	(5,397)	(8,440)
8. Cash from Trade (3 + 7)	**2,642**	**3,493**
9. Oper Exp (less non-cash)	(2,237)	(3,317)
10. - Ppd Exp	(3)	35
11. - Accrued Exp	53	90
12. Cash paid for Operations	(2,187)	(3,192)
13. Cash from Operations (8 + 12)	**455**	**301**
14. Other Income (expense)	(86)	(101)
15. - Other curr & non-Curr accts	-	-
16. Income Tax Expense	(95)	(188)
17. - Deferred Income Taxes	-	-
18. - Income Taxes Payable	21	17
19. Total Taxes & Other	(160)	(272)
20. Net Cash from Operations (13+19)	**295**	**29**
21. Interest Expense	(119)	(157)
22. - Interest Payable	-	-
23. Dividends / Owners Withdrawals	-	-
24. - Dividends Payable	-	-
25. Pmts for Interest & Dividends	(119)	(157)
26. Cash after Financing (20+25)	**176**	**(128)**
27. CPYTD (prior Yr)	(75)	(75)
28. Cash after Debt Amortization (26+27)	**101**	**(203)**
29. - Net Fixed Assets (+Deprec)	(49)	(157)
24. - Investments	1	(11)
24. - Intangibles	-	-
32. Cash paid for Plant & Investments	(48)	(168)
33. Financing Surplus / Need (28+32)	**53**	**(371)**
34. - ST Debt - N/P	(61)	310
35. - LTD (+ curr yr CPLTD)	-	-
36. - Preferred Stock	-	-
37. - Common Stock	-	-
38. Total External Financing	(61)	310
39. Financing Surplus / Need (33+38)	**(8)**	**(61)**
40. PROOF **- Cash & Mkt Securities**	8	61