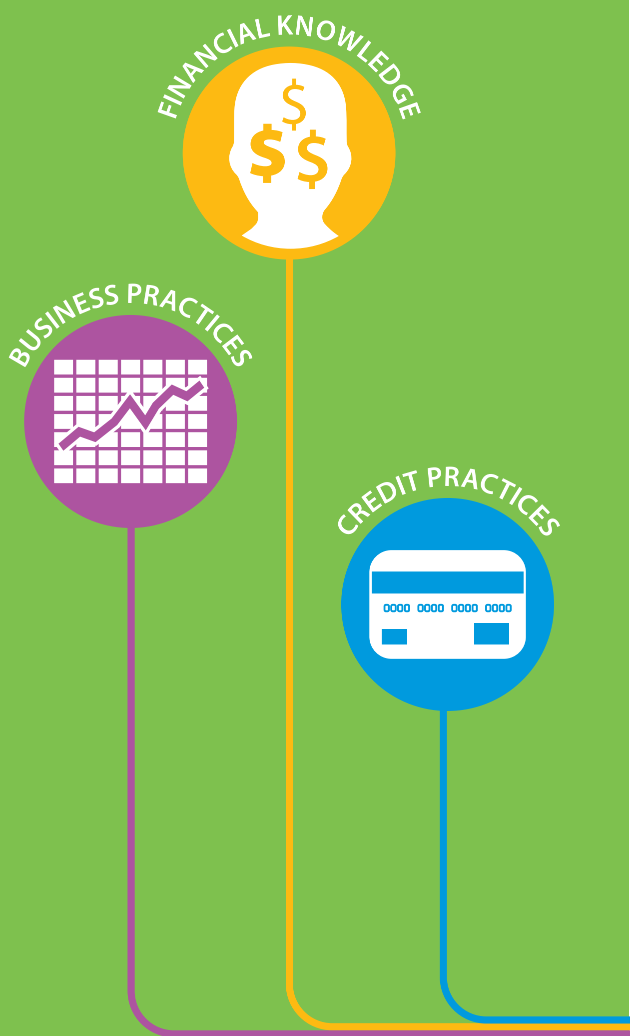

Small Business Financial Health Analysis

A RESEARCH REPORT PREPARED BY

FEDERAL RESERVE BANK OF CHICAGO

PEPPERDINE PRIVATE CAPITAL MARKETS PROJECT
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PEPPERDINE UNIVERSITY
Graziadio School of Business and Management

FundWell

About the Small Business Financial Health Project:

The Small Business Financial Health Project is a joint initiative of the Community Development divisions of the Federal Reserve Banks of Chicago and San Francisco[1], FundWell, Inc and Pepperdine University Private Capital Markets Project. The purpose of the project is to raise awareness about small business financial health, in order to highlight policies, investments, financial and technical assistance resources needed to help small businesses achieve their goals. This report presents the results and findings from a Financial Health Business Survey that was administered in 2013 and initiates a discussion around the factors that drive the sustainability and growth of small enterprises.

The core project team includes: Chinwe Onyeagoro, chief executive and cofounder of FundWell, Inc.; Craig R. Everett, assistant professor of finance at Pepperdine University's Graziadio School of Business and Management and director of the Pepperdine Private Capital Markets Project; John K. Paglia, associate dean of Fully Employed Programs, associate professor of Finance, and director of Accreditation; Susan Longworth and Robin Newberger, senior business economists in the community development and policy studies division at the Federal Reserve Bank of Chicago; and Ian Galloway, senior research associate at the Federal Reserve Bank of San Francisco.

The development of the project and the Financial Health Business Survey was informed by Advisory Board members who represent key stakeholders within the small business community, including lenders, philanthropic institutions, technical assistance providers, researchers, and public policy advocates. They individually and collectively offered important perspectives about the importance of research and public dialogue on the topic of small business financial health, helped inform the study and survey design, and recruited businesses to be profiled as part of the case study work. The Advisory Board members include: (Illinois) Jim Allison, Insperity; Hans Bonner, Chicago Minority Supplier Development Council; David Boulay, Illinois Manufacturing Extension Center; Jonathan Brereton, Accion Chicago; Roberto Cornelio, Illinois Hispanic Chamber of Commerce; Emilia Dimenco, Women's Business Development Center; Joseph Gregoire, PNC Bank; Liz Jellema, World Business Chicago; Mark Petrilli, Illinois Small Business Development Center Network; Jennifer Tescher, Center for Financial Services Innovation; Bob Weissbourd, RW Ventures and Brookings Institution Fellow; (California) Steven Aldrich, GoDaddy; Michael Banner, Los Angeles Local Development Corporation; Jose Corona, Inner City Advisors; Penelope Douglas, Social Capital Markets/ The HUB San Francisco; Beth Sirull, Pacific Community Ventures; Darien Louie, East Bay Community Foundation; Wisdom Lu, Dun & Bradstreet DataWorks; Brett Palmer, Small Business Investor Alliance; Alicia Robb, Kauffman Foundation; Josh Silver, National Community Reinvestment Coalition; David Smith, Pepperdine University Graziadio School of Business.

This publication was written by Craig R. Everett, Ph.D., assistant professor of finance at Pepperdine University's Graziadio School of Business and Management and director of the Pepperdine Private Capital Markets Project, Chinwe Onyeagoro, CEO and co-Founder of FundWell, and Alex Davidson, a freelance writer and business journalist.

1 The views expressed herein do not necessarily reflect the views of the Federal Reserve Banks of Chicago or San Francisco or the Federal Reserve System.

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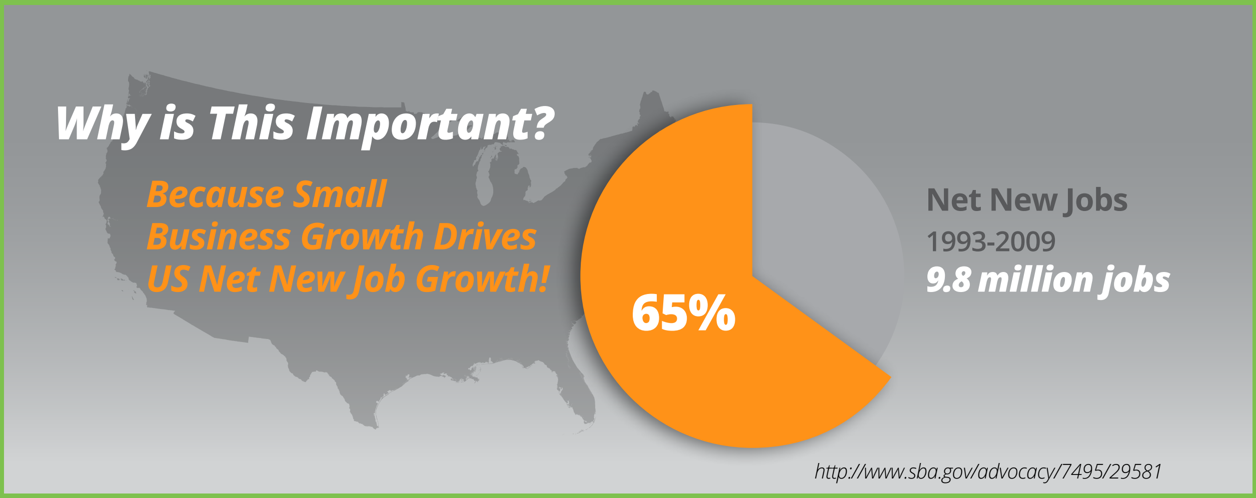
Small Business Financial Health Analysis

Executive Summary



Introduction:

Why do we need to measure the financial health of small businesses? Small businesses are vital components of our nation's economy, accounting for 14.3 million of the 22.9 million net new jobs created between 1993 and mid-2013, according to the Small Business Administration's March 2014 *Frequently Asked Questions About Small Business*. Yet few studies attempt to define what it means to be financially resilient and identify the factors behind such resiliency. Instead most examinations of small businesses focus on owner perceptions like confidence in the economy or on business demographics such as years in operation and payroll expense levels.

Our study is a first step to quantifying small business financial health and identifying key drivers and common indicators of businesses that are in a state of weak or strong financial health. The objective of this study is to create a useful measure of small business financial health that can be used to assess individual small businesses. Within the context of this study, we define the term small business financial health as the degree to which a small business consistently generates positive net profits, has the means to meet short and long-term obligations and to sustain through unexpected downturns/shocks as well as the capacity to fund growth, using debt financing and cash from earnings. We derive a measure of financial health based on factors correlated with business practices and financial outcomes, identified through a survey of more than 900 small business owners. (See Appendix 1 on survey questionnaire and sampling method.) The businesses surveyed were given scores ranging from 0 to 100 based on their success in three underlying facets that emerged as most relevant for the financial health of small business owners. (See Appendix 2 for an explanation of the methodology and Appendix 3 for a break-down of the financial health ranges). These areas are:

- knowledge about financing products
- the credit experiences of business owners
- financial planning and management practices

We then evaluate survey respondent's financial health along these three dimensions – referred to as the index drivers—concluding that businesses ranking poorly have less knowledge about financing products, lower personal credit scores, less access to financing and fewer formal financial management practices in place. Whereas those businesses scoring "excellent" have experience navigating the lending landscape, have more available credit to use when necessary, and frequently monitor their business cash flow. Using these results we then compare the financial health of different groups of respondents: minority-owned businesses, women-owned businesses, and businesses with different revenue sizes. This approach allows us to assess the financial health of both small businesses surveyed as well as those we did not survey.

In the next section, we take a closer look at the index drivers – again, knowledge, credit experience, and financial planning and management – to understand the specific financial skills and experiences that comprise them. We incorporate the concept of capacity indicators to further illustrate how specific financial characteristics of companies, such as tax liabilities, reinvestment in business operations, and personal credit scores, correlate to a company's position on the spectrum of financial health. (See Appendix 4 for the full list of capacity indicators and results.). This capacity indicator analysis shows how respondents in each financial health segment from poor (0 to 18) to excellent (51 to 100) answered survey questions about their ability to pay bills on time, access credit to cover cash shortfalls, and invest in growth.

Next we look specifically at the outcomes for minority and female-owned businesses and examine how these businesses compare to the broader sample. (See Appendix 7 for a full list of variables that influenced financial health scores for women and minority-owned businesses.) Last, we explore implications and suggest topics for future study to better understand and improve the health of small, privately owned companies.

Methodology

The findings are based on a small business financial health survey we developed for the project, and a factor analysis based on the answers provided. The survey was administered from September 5, 2013 to February 18, 2014 following meetings with advisory groups in Illinois and California, during which small business experts helped develop questions based on their experiences of what constitutes small business financial health. The survey was sent to 19,472 businesses, which included over-sampling of minority- and women-owned businesses in order to compensate for a lower response rate from these groups. (See more on survey methodology in Appendix 1.) There were 940 small business owners who answered the survey. In addition, we conducted interviews with businesses in Illinois and California in order to create case studies highlighting real-life illustrations of small business financial health.

Findings:

Index Drivers

Three underlying skills and experiences emerge from the factor analysis as being the most relevant to the financial health of small business owners. These are knowledge about financing products, the credit experiences of business owners, and financial planning and management practices (See Appendix 5 for full review of the index drivers).

Knowledge: Small businesses that had a better understanding of asset based financing, including inventory financing, accounts receivable financing, trade credit, and equipment leasing financing, scored higher on the financial health index.

- Over 33% of businesses that had excellent financial health reported they were either very knowledgeable or extremely knowledgeable about the four asset-based financing products outlined above.
- Over 33% of businesses with poor financial health responded that they had never heard of or had limited knowledge of those same four funding options.
- Over 65% of businesses in excellent financial health responded that they were very knowledgeable or extremely knowledgeable about equipment leases compared to just 25% of businesses in poor financial health.

Credit Experience Driver: Businesses with high financial health scores had more experience securing business credit cards and/or long term business loans from banks.

- Over 45% of businesses with excellent financial health responded that they successfully raised the funding referenced above from bank lenders.
- Over 97% of businesses that had poor or below-average financial health had never successfully raised those types of funding.
- Not a single business in the poor or below-average financial health ranges secured financing from a bank lender, compared to 38% and 75% of businesses in the above-average and excellent financial health segments, respectively.

Financial Planning and Management Driver: Better financial planning and management contribute to a higher financial health score. Financial management practices include creating a budget, having available credit, employing more than five full time staff, and establishing a separate bank account for payroll

- More than 60% of businesses with excellent financial health always developed a budget and established a separate bank account for payroll. Fewer than five percent of businesses with poor financial health engaged in these two financial planning and management practices.
- Greater than 98% and 86% of businesses with poor and below average financial health have five or fewer employees, respectively. While only 26% and 6% of businesses with above-average and excellent financial health, respectively, reported the same employee count.
- 65% of businesses in poor financial health reported that they had no available credit on their credit cards. Whereas, 87% and 95% of businesses with above-average and excellent financial health, respectively, reported that they still had credit available to use.

Capacity indicators

Capacity indicators further illustrate how specific financial characteristics of companies, such as tax obligations, reinvestment in business operations, and personal credit scores, signal a company's position on the spectrum of financial health. (See Appendix 4 for the full list of capacity indicators and results.)

Capacity indicators are characteristics related to cash and credit availability that correlate with financial health scores. By examining capacity factors, we are able to identify common financial resources and constraints in each business financial health range from poor to excellent.

For example:

- **Tax Indicators:** Businesses in above-average and excellent financial health segments were 1.5 to 3.4 times, respectively, more likely to have had a $5,000 business tax bill in the previous year than their below average and poor financial health counterparts.
- **Payroll Indicators:** Businesses with above-average and excellent financial health were more likely to report consistently paying from available cash employees, payroll taxes, employee health insurance/benefits, and owner salaries than businesses in the below-average and poor financial health ranges.
    - Over 90% and 84% of excellent and above-average financial health businesses, respectively, had cash from operations to ALWAYS meet their employee payroll, payroll taxes, and health insurance/benefits obligations.
        - While only 50% and 67% of poor and below-average financial health segment businesses, respectively, ALWAYS met payroll obligations.

Additional segmentation of respondents by size and ownership profile:

A financial health index score is created for each respondent by assessing specific variables that correlate to small business financial health. This index is scored from 0 to 100, allowing us to compare the aggregate financial health of small businesses by owner demographics, such as minority- and woman-owned businesses, size of revenue, as well as by geographic location, such as in California and Illinois (see Appendix 8). We find that businesses with above-average or excellent financial health scores are more likely to be male- and non-minority-owned. Overall, more than **72% of businesses** with an above-average or excellent financial health rating are either male-owned or non-minority owned. In contrast, only **28% of female-owned businesses** and **21% of minority-owned businesses** achieve the above-average or excellent designations in our survey. Minorities comprise **25% and 32% of below-average and poor financial health businesses**, according to our findings.

In terms of business size, we find revenue level alone is not a determinant of greater or lesser financial health. Among our survey respondents, **22% and 8% of above-average and excellent financial health businesses** generated less than $1 million in annual revenues, while **12% and 30% of poor and below-average financial health businesses** earned more than $1 million in annual revenues. However, there does appear to be a concentration of below-average and poor financial health businesses with low revenues, and above-average and excellent financial health businesses with high revenues. 88% and 70% of poor and below-average financial health businesses have revenues under $1 million, with **40% of all poor financial health businesses** at less than $100,000 in annual revenues. Meanwhile, **78% and 92% of above-average and excellent financial health businesses** have revenues over $1 million, with **50% of all excellent financial health businesses** at greater than $10 million in annual revenues (see Appendix 7 for a break-down of respondents by revenue size).

The variables impacting lower scores for women- and minority-owned businesses were the amount of unused, available credit they had on credit cards, number of full time staff employed, whether they had success securing various types of financing, including short-term non-bank business loans, business credit cards, 30-day trade credit, bank loans, and vendor loans. Overall, women- and minority-owned businesses scored lower than their peers in the credit experience and financial planning and management categories but achieved higher scores in the funding product knowledge section. *(See Appendix 6 for a full list of variables that influenced financial health scores for women and minority-owned businesses.)*

    - And roughly 30% to 40% of those same business segments could ALWAYS cover employee health insurance and benefits.
  - Businesses in above-average and excellent financial health segments were 1.8 to 3.3 times, respectively, more likely to ALWAYS pay owner salaries than those with below-average and poor financial health.
- **Bill Payment Indicators:** Those businesses in the above-average and excellent health ranges were far more likely to have cash available to pay their rent, utilities, suppliers, company car/truck bills on time than their below-average and poor financial health counterparts.
  - Excellent and above-average financial health businesses were 1.4 to 1.5 times more likely, respectively, to ALWAYS pay rent and utilities on time.
  - Those in the excellent and above-average ranges were 1.3 and 1.6 times, respectively, more likely to ALWAYS pay inventory supplier bills on time.
  - And that same segment, was 1.6 to 2.9 times more likely than their below-average and poor financial health peers to ALWAYS make their company car/truck payments on time.
- **Investment Indicators:** With the exception of investments in computer/software/other technology, the majority of businesses in all financial health segments except the

above-average and excellent segment did not have cash available to invest in growth/expansion.

- The vast majority of businesses (between 79% and 95%) across all financial health ranges reported that they had sufficient cash from operations to invest in computers/software/other technology.
- Above-average (50%) and excellent (64%) financial health businesses had the capacity to purchase equipment and machinery. While less than 30% of below-average and poor financial health businesses had the resources available from operations to do the same.
- Approximately 20% of excellent financial health businesses had the cash to invest in/acquire other private companies or commercial real estate while less than 6% of below-average and poor financial health businesses could make those types of investments.

- **Available Credit Indicators:** Excellent (71%) and above-average (58%) financial health businesses ALWAYS had access to credit to cover operating cash shortfalls while their below-average and poor financial health segment peers (~30%) ALWAYS had credit available when needed.
- **Personal Credit Score Indicators:** Poor and below-average financial health businesses were 5.5 to 5.8 times, respectively, more likely to have business owners with personal credit scores of less than 680 than their excellent and above-average financial health peers.

Implications:

Our study provides a first step in understanding the drivers of small business financial health. While small businesses are recognized as a driver of job creation in the U.S. economy, job gains can be undermined by high rates of small business failure. Some small business failure can be attributed to competitive or macroeconomic factors, issues related to knowledge, management practices, and capacity can also increase the vulnerability of a small enterprise, as indicated by our research.

Understanding and mitigating those internal factors has the potential, therefore, to increase the survival rates of small business and the jobs they ultimately create. However, we recognize that our 'findings' are limited to the conclusions that can be drawn from correlations and that without longitudinal data and analysis, we lack a complete picture of the small business landscape. Nevertheless, a few thoughts emerge that may help inform future research and interventions.

Our audience for this information is broad and varied. Beyond small business owners themselves who may benefit from a deeper understanding of the factors – within their control—affecting their success, these include, but are not limited to, small business intermediaries (technical assistance providers), lenders (both alternative and traditional), researchers, as well as a broad range of organizations that support small business development activities (including, philanthropies, financial institutions—to the extent small business support activities are Community Reinvestment Act-eligible, state and federal government programs, and a host of public and private interests). Our hope is that each of these audiences will draw conclusions from our research that assist them—from their respective perspectives and mandates—to better understand and serve this vital segment of our economy.

Given the drivers of financial health that we have identified—knowledge, credit experience and financial planning, and management practices—some conclusions can be drawn.

- **The study demonstrates that there is a direct correlation between financial management and small business financial health.** Understanding one's finances and financial statements is a critical part of being able to assess what a business needs to survive and grow. These critical numbers include profitability, cash flow cycle, working capital requirements, available liquid/near liquid assets and credit to fund operations/expansion, and personal credit score. Tools and programs that enhance both the understanding and applicability of small business financial literacy will contribute to the sustainability of small businesses.
- **Those entities with the capacity to provide financial support to small businesses (directly or indirectly) may consider adjusting how they measure the success of their initiatives.** While traditionally, much emphasis is given to job creation or small business starts (for example) as outcome measures of success, our findings may lend support to a shift to measuring the indicators of small business financial health and sustainability. For example, measuring changes in owner financial management practices, measuring increases in profitability and owner equity, documenting growing profit margins, or days cash on hand or reductions in days receivable, can all be indicators of increased resilience. As demonstrated by our research, these are all indicators that a business is moving towards financial sustainability and a platform from which the owner will have the resources to strategically grow the business and ultimately create new, quality jobs. This shift

would enable funders of small businesses to ensure that their measurement indicators and goals are aligned with the long-term objectives of small business owners.

- **Our analysis suggests a need for caution regarding placing too much emphasis on revenue growth and encouraging business owners and those that work with them to focus on measures of profitability, supported by sound management practices.** We noted that larger businesses (those with revenues greater than $1 million) tended to be healthier. While it may seem self-evident that greater revenues would be an indication of survivability and resilience, this was not always the case as greater than 40 percent of those larger businesses were in poor or below-average health. Going hand in hand with this finding is one that indicates that small businesses – especially very small ones, with under $100,000 in revenues – tend to be in poor financial health. While, again, it may seem self-evident that low revenues would correlate with financial vulnerability, it is also possible that targeted interventions teaching and promoting sound financial management skills may put some of these very small businesses on sound footing for growth, early in their development.
- **Our research also suggests that more insight into the role of employment in business health and success could help inform how business owners plan for and manage paying themselves, covering staff payroll/benefits/payroll tax expenses, and investing in people as they grow.** In the Index Driver analysis, we found that those who employed more full time staff were typically in a much better position on the financial health continuum than those that did not. Based on the scope of the study, we cannot yet assign a causal relationship between employment and financial health; however, it is clear that it matters in the overall equation.
- **Building on this, our findings indicate that there are certain things small business owners can do to prepare themselves for future decisions, as well as unforeseen events.** These include, educating oneself about various financing options. This is particularly important in light of an increasing number of on-line and other non-traditional funders targeting small businesses. Small business owners should learn to weigh the costs and benefits of financing options before the need for cash becomes acute. Other actions indicated by our findings that can be taken by small business owners to avoid cash 'crunches' that are also applicable to very small businesses include, budgeting regularly, maintaining a level of unused credit and setting aside funds for payroll and other 'non-deferrable' expenses (including benefits and taxes).
- **As a business grows and potentially seeks outside capital having these practices in place will help ensure favorable capital decisions at favorable prices, as indicated by our credit experience driver.** To the extent that sound financial management practices (budgeting, managing credit, etc.) correlated with strong financial health, having strong financial health was strongly correlated with the ability to secure bank financing. As stated above "not a single business in poor or below-average financial health secured financing from a bank," according to respondents. While the bank financing process may seem opaque to many potential borrowers, our study indicates that there are some strategies that a small business owner can use to at least increase their chances of a positive response to their application.
- **Our research also demonstrated that businesses with above-average or excellent financial health were more likely to be male and majority owned.** Other research has detailed the disproportionate resource constraints faced by women-owned and minority-owned businesses – financial, social and informational. While our study cannot provide insight into how to overcome those challenges, it does provide some direction in terms of factors that can be measured to determine whether mitigation strategies are effective.
- **However, our findings also indicated that regardless of financial health status or ownership profile, many respondents lacked growth capital** – that is, the resources needed to fund an expansion requiring an investment in machinery/equipment or commercial real estate. Helping businesses acquire those resources, in part by making affordable growth capital products available is an area that merits further exploration.

Conclusion:

By uncovering specific factors that correlate with a higher level of financial health, we were able to break these factors into three categories: knowledge, credit experience, and financial planning and management practices. We also took an in-depth look at companies' cash and credit availability, reviewing how they relate to financial health.

Our analysis also included an examination of demographic segments such as size, race and gender, which merits further, dedicated exploration.

Future research will build upon this data, including longitudinal studies to examine the relationship between specific financial management behaviors/ practices and the financial outcomes/performance of small business owners. Potentially, a small business financial health index, overtime, could serve as a measurement tool to assess a small business' financial health with a degree of certainty. The underlying algorithm based on specific variables would establish the causal relationship between financial management practices and behaviors and financial health. The algorithm and supporting data would also show the extent to which a company's financial health results in greater financing options and increased rates of survivability.

Developing research on the financial management behaviors and practices of small business owners could supplement and complement SBA, Census, and IRS data, resulting in a fuller and more nuanced picture of the small business ecosystem.

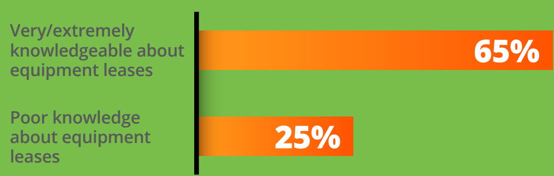
However, at this initial stage, we hope we have increased transparency around small businesses financial capacities and constraints. Ideally, this new information will allow for a more robust discussion on how to help small businesses improve their health and succeed. In addition, we hope our findings inform the work of all those with a vested interest in developing financially healthy small businesses, including lenders, philanthropic institutions, technical assistance providers, researchers, and public policy advocates.

Quantifying the Three Factors of Financial Health

Businesses that are financially healthy have the following three factors in common:

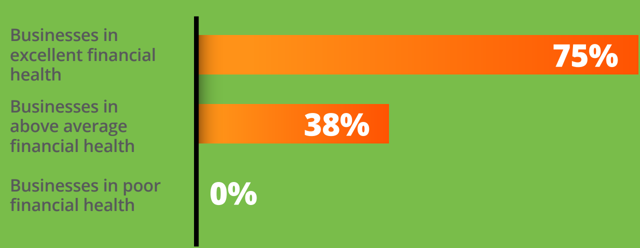
1 Financial Knowledge

Equipment Leases



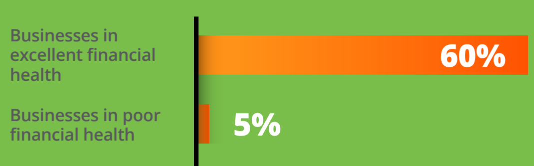
2 Credit Experience

Have Secured Financing from a Bank



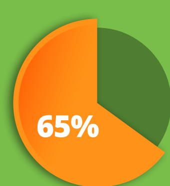
3 Business Practices

Always Develop a Budget and Maintain Separate Bank Account for Payroll



$0 Available, Unused Credit

Businesses in poor financial health



87% and 95% of businesses with above average and excellent financial health, respectively, reported that they still had credit available to use.

Small Business Financial Health Analysis

Full Report

Four Common Practices of Financially Healthy Businesses

Had a strong knowledge of and experience with certain credit products

Sustained a higher level of unused credit balances

More regularly took steps to budget

Intentionally set aside cash to meet payroll obligations

Introduction:

Why do we need to measure the financial health of small businesses? Small businesses are vital components of our nation's economy, accounting for 14.3 million of the 22.9 million net new jobs created between 1993 and mid-2013, according to the Small Business Administration's March 2014 *Frequently Asked Questions About Small Business*. Yet few studies attempt to define what it means to be financially resilient and identify the factors behind such resiliency. Instead most examinations of small businesses focus on owner perceptions like confidence in the economy or on business demographics such as years in operation and payroll expense levels.

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- knowledge about financing products
- the credit experiences of business owners
- financial planning and management practices

We then evaluate survey respondent's financial health along these three dimensions—referred to as the index drivers—concluding that businesses ranking poorly have less knowledge about financing products, lower personal credit scores, less access to financing and fewer formal financial management practices in place. Whereas those businesses scoring "excellent" have experience navigating the lending landscape, have more available credit to use when necessary, and frequently monitor their business cash flow. Using these results we then compare the financial health of different groups of respondents: minority-owned businesses, women-owned businesses, and businesses with different revenue sizes. This approach allows us to assess the financial health of both small businesses surveyed as well as those we did not survey.

In the next section, we take a closer look at the index drivers—again, knowledge, credit experience, and financial planning and management—to understand the specific financial skills and experiences that comprise them. We incorporate the concept of capacity indicators to further illustrate how specific financial characteristics of companies, such as tax liabilities, reinvestment in business operations, and personal credit scores, correlate to a company's position on the spectrum of financial health. (See Appendix 4 for the full list of capacity indicators and results.). This capacity indicator analysis shows how respondents in each financial health segment from poor (0 to 18) to excellent (51 to 100) answered survey questions about their ability to pay bills on time, access credit to cover cash shortfalls, and invest in growth.

Next we look specifically at the outcomes for minority and female-owned businesses and examine how these businesses compare to the broader sample. (See Appendix 7 for a full list of variables that influenced financial health scores for women and minority-owned businesses.) Last, we explore implications and suggest topics for future study to better understand and improve the health of small, privately owned companies.

Methodology

The findings are based on a small business financial health survey we developed for the project, and a factor analysis based on the answers provided. The survey was administered from September 5, 2013 to February 18, 2014 following meetings with advisory groups in Illinois and California, during which small business experts helped develop questions based on their experiences of what constitutes small business financial health. The survey was sent to 19,472 businesses, which included over-sampling of minority- and women-owned businesses in order to compensate for a lower response rate from these groups. (See more on survey methodology in Appendix 1.) There were 940 small business owners who answered the survey. In addition, we conducted interviews with businesses in Illinois and California in order to create case studies highlighting real-life illustrations of small business financial health.

Findings:

Index Drivers

Three underlying skills and experiences emerge from the factor analysis as being the most relevant to the financial health of small business owners. These are knowledge about financing products, the credit experiences of business owners, and financial planning and management practices. (See Appendix 5 for full review of the index drivers.)

1. **Knowledge:** Small businesses that had a better understanding of asset based financing, including inventory financing, accounts receivable financing, trade credit, and equipment leasing financing, scored higher on the financial health index.
   - Over 33% of businesses that had excellent financial health reported they were either very knowledgeable or extremely knowledgeable about the four asset-based financing products outlined above.
   - Over 33% of businesses with poor financial health responded that they had never heard of or had limited knowledge of those same four funding options.
   - Over 65% of businesses in excellent financial health responded that they were very knowledgeable or extremely knowledgeable about equipment leases compared to just 25% of businesses in poor financial health.

"When I bought these three existing businesses, there wasn't a bank that was going to do business with me—the businesses themselves had lost money. I had to come up with some creative financing in order to do the acquisition and ended up working with a factoring company. I agreed to sell all of the receivables which was ungodly costly—more than 50 percent—and had to contract to do that for two years. They received $250,000 in fees from this deal. Factoring is extremely painful, but you need working capital to grow the business." ***– IL Manufacturer***

"Factoring works for me given that I have to pay my employees net 15 and I get paid net 30. Factoring company takes a percentage, but I have to give that up so I can pay my people every two weeks. Factoring pays 80 percent of invoice up front. Once I get money, I pay them back plus 4 percent. If I get paid late, I pay the factor late, and the factor takes additional percentages." ***– IL Engineering Firm***

2. **Credit Experience Driver:** Businesses with high financial health scores had more experience securing business credit cards and/or long term business loans from banks.
   - Over 45% of businesses with excellent financial health responded that they successfully raised the funding referenced above from bank lenders.
   - Over 97% of businesses that had poor or below-average financial health had never successfully raised those types of funding.
   - Not a single business in the poor or below-average financial health ranges secured financing from a bank lender, compared to 38% and 75% of businesses in the above-average and excellent financial health segments, respectively.

"I have a line of credit with (National Bank) and a business credit card with (National Bank). Vendors offer a line of credit. I've been in a financial crisis in the past, learned from it [and] I never want it to happen again." ***– IL Aesthetician***

"Really having no personal credit and running a business on steam for the past five years, there is no way for me to build business credit. I've been running as a ghost. No [I have not applied for a loan]. I already know they are going to turn me down." ***– CA Car Detailing Service***

3. **Financial Planning and Management Driver:** Better financial planning and management contribute to a higher financial health score. Financial management practices include creating a budget, having available credit, employing more than five full time staff, and establishing a separate bank account for payroll
   - More than 60% of businesses with excellent financial health always developed a budget and established a separate bank account for payroll. Fewer than five percent of businesses with poor financial health engaged in these two financial planning and management practices.
   - Greater than 98% and 86% of businesses with poor and below average financial health have five or fewer employees, respectively. While only 26% and 6% of businesses with above-average and excellent financial health, respectively, reported the same employee count.
   - 65% of businesses in poor financial health reported that they had no available credit on their credit cards. Whereas, 87% and 95% of businesses with above-average and excellent financial health, respectively, reported that they still had credit available to use.

"We have a very sophisticated model that was developed for us by our CFO. We are able to plug in numbers and look at different scenarios." ***– CA Catering Company***

"I have an accountant who manages a lot of my finances. It's been a great learning lesson. I do the bookkeeping. I use Quicken. I am there for every step of the process. I know how much I'm spending on personal and business. They are mingled right now and we are separating them. I have separate accounts. It's been great. (A CDFI) told me that I needed a business account. They wouldn't make the loan without it. It will help my credit in the long run. It makes making decisions much easier." ***– IL Aesthetician***

"I use an application on my phone. You can just add your customers and all the expenses come out." ***– CA Car Detailing Service***

"Because work is up and down I don't have regular work for my employees. I lose out on good talent." ***– IL Engineering Firm***

"There are a number of credit cards that I have been delinquent on. I am negotiating with them, but it's been kind of a mess." ***– CA Architectural Firm***

Capacity Indicators

Capacity indicators further illustrate how specific financial characteristics of companies, such as tax obligations, reinvestment in business operations, and personal credit scores, signal a company's position on the spectrum of financial health. (See Appendix 4 for the full list of capacity indicators and results.)

Capacity indicators are characteristics related to cash and credit availability that correlate with financial health scores. By examining capacity factors, we are able to identify common financial resources and constraints in each business financial health range from poor to excellent.

For example:

- **Tax Indicators:** Businesses in above-average and excellent financial health segments were 1.5 to 3.4 times, respectively, more likely to have had a $5,000 business tax bill in the previous year than their below average and poor financial health counterparts.
- **Payroll Indicators:** Businesses with above-average and excellent financial health were more likely to report consistently paying from available cash employees, payroll taxes, employee health insurance/benefits, and owner salaries than businesses in the below-average and poor financial health ranges.

"You have to pay labor every week." ***– CA Staffing Firm***

"We are in business because we pay for top guys." ***– IL Manufacturer***

- Over 90% and 84% of excellent and above-average financial health businesses, respectively, had cash from operations to ALWAYS meet their employee payroll, payroll taxes, and health insurance/benefits obligations.
  - While only 50% and 67% of poor and below-average financial health segment businesses, respectively, ALWAYS met payroll obligations.
  - And roughly 30% to 40% of those same business segments could ALWAYS cover employee health insurance and benefits.
- Businesses in above-average and excellent financial health segments were 1.8 to 3.3 times, respectively, more likely to ALWAYS pay owner salaries than those with below-average and poor financial health.

- **Bill Payment Indicators:** Those businesses in the above-average and excellent health ranges were far more likely to have cash available to pay their rent, utilities, suppliers, company car/truck bills on time than their below-average and poor financial health counterparts.
  - Excellent and above-average financial health businesses were 1.4 to 1.5 times more likely, respectively, to ALWAYS pay rent and utilities on time.
  - Those in the excellent and above-average ranges were 1.3 and 1.6 times, respectively, more likely to ALWAYS pay inventory supplier bills on time.
  - And that same segment was 1.6 to 2.9 times more likely than their below-average and poor financial health peers to ALWAYS make their company car/truck payments on time.
- **Investment Indicators:** With the exception of investments in computer/software/other technology, the majority of businesses in all financial health segments except the above-average and excellent segment did not have cash available to invest in growth/expansion.
  - The vast majority of businesses (between 79% and 95%) across all financial health ranges reported that they had sufficient cash from operations to invest in computers/software/other technology.
  - Above-average (50%) and excellent (64%) financial health businesses had the capacity to purchase equipment and machinery. While less than 30% of below-average and poor financial health businesses had the resources available from operations to do the same.
  - Approximately 20% of excellent financial health businesses had the cash to invest in/acquire other private companies or commercial real estate while less than 6% of below-average and poor financial health businesses could make those types of investments.
- **Available Credit Indicators:** Excellent (71%) and above-average (58%) financial health businesses ALWAYS had access to credit to cover operating cash shortfalls while their below-average and poor financial health segment peers (~30%) ALWAYS had credit available when needed.
- **Personal Credit Score Indicators:** Poor and below-average financial health businesses were 5.5 to 5.8 times, respectively, more likely to have business owners with personal credit scores of less than 680 than their excellent and above-average financial health peers.

"At this point, my definition of business success is cash flow. Cash flow is everything. I know I'm doing well when the business is paying its bills on time. This is sad but true." ***– IL Manufacturer***

"I have been told time and again that people cannot believe how organized our books are. They are GAAP-compliant. We invoice clients usually within 24 hours of the event and collect payment 24 hours after that. We do have a net 15 collection policy, but I believe our days capital is 6 days." ***– CA Catering Company***

"Our cash cycle just doesn't match up with the payable demands. The oil and gas people generally are not paying until 75 days. They are dragging us out. They create a labyrinth pay process by design. It's amazing that they get away with it. Our domestic waste runs closer than that. Domestic is 30 and our industrial is probably net 60. So you can see the heart of our problem. We have to pay our bills in 30. It's just cash flow issues." ***– CA Waste Management Company***

"We got (an) SBA (loan) to help buy $1.3 million of machinery, so I have no complaints. I'm just happy to get the machine up and running." ***– IL Manufacturer***

"My credit score after all the financial turmoil has made it impossible for me to get a credit card. Before the business crisis, I tracked my credit regularly and it was in the mid-700s in 2008. Now, my personal credit score is in the 500s. No bank is going to get past this low score. Now, my credit score is sort of on the mend but it's still terrible." ***– IL Manufacturer***

Additional segmentation of respondents by size and ownership profile:

A financial health index score is created for each respondent by assessing specific variables that correlate to small business financial health. This index is scored from 0 to 100, allowing us to compare the aggregate financial health of small businesses by owner demographics, such as minority- and woman-owned businesses, size of revenue, as well as by geographic location, such as in California and Illinois (see Appendix 8). We find that businesses with above-average or excellent financial health scores are more likely to be male- and non-minority-owned. Overall, more than **72% of businesses** with an above-average or excellent financial health rating are either male-owned or non-minority owned. In contrast, only **28% of female-owned businesses** and **21% of minority-owned businesses** achieve the above-average or excellent designations in our survey. Minorities comprise **25% and 32% of below-average and poor financial health businesses**, according to our findings.

In terms of business size, we find revenue level alone is not a determinant of greater or lesser financial health. Among our survey respondents, **22% and 8% of above-average and excellent financial health businesses** generated less than $1 million in annual revenues, while **12% and 30% of poor and below-average financial health businesses** earned more than $1 million in annual revenues. However, there does appear to be a concentration of below-average and poor financial health businesses with low revenues, and above-average and excellent financial health businesses with high revenues. **88% and 70% of poor and below-average financial health businesses** have revenues under $1 million, with **40% of all poor financial health businesses** at less than $100,000 in annual revenues. Meanwhile, **78% and 92% of above-average and excellent financial health businesses** have revenues over $1 million, with **50% of all excellent financial health businesses** at greater than $10 million in annual revenues (see Appendix 7 for a break-down of respondents by revenue size).

The variables impacting lower scores for women- and minority-owned businesses were the amount of unused, available credit they had on credit cards, number of full time staff employed, whether they had success securing various types of financing, including short-term non-bank business loans, business credit cards, 30-day trade credit, bank loans, and vendor loans. Overall, women- and minority-owned businesses scored lower than their peers in the credit experience and financial planning and management categories but achieved higher scores in the funding product knowledge section. (See Appendix 6 for a full list of variables that influenced financial health scores for women and minority-owned businesses.)

"I am way over-involved in the day-to-day and it keeps me from growing the business. At the very small stage your ratios don't matter because you're so worried about making a buck and you know whether you are making that buck."

– IL Construction Management Company

Implications:

Our study provides a first step in understanding the drivers of small business financial health. While small businesses are recognized as a driver of job creation in the U.S. economy, job gains can be undermined by high rates of small business failure. Some small business failure can be attributed to competitive or macroeconomic factors, issues related to knowledge, management practices, and capacity can also increase the vulnerability of a small enterprise, as indicated by our research.

Understanding and mitigating those internal factors has the potential, therefore, to increase the survival rates of small business and the jobs they ultimately create. However, we recognize that our 'findings' are limited to the conclusions that can be drawn from correlations and that without longitudinal data and analysis, we lack a complete picture of the small business landscape. Nevertheless, a few thoughts emerge that may help inform future research and interventions.

Our audience for this information is broad and varied. Beyond small business owners themselves who may benefit from a deeper understanding of the factors—within their control—affecting their success, these include, but are not limited to, small business intermediaries (technical assistance providers), lenders (both alternative and traditional), researchers, as well as a broad range of organizations that support small business development activities (including, philanthropies, financial institutions—to the extent small business support activities are Community Reinvestment Act-eligible, state and federal government programs, and a host of public and private interests). Our hope is that each of these audiences will draw conclusions from our research that assist them—from their respective perspectives and mandates –to better understand and serve this vital segment of our economy.

Given the drivers of financial health that we have identified—knowledge, credit experience and financial planning, and management practices—some conclusions can be drawn.

- **The study demonstrates that there is a direct correlation between financial management and small business financial health.** Understanding one's finances and financial statements is a critical part of being able to assess what a business needs to survive and grow. These critical numbers include profitability, cash flow cycle, working capital requirements, available liquid/near liquid assets and credit to fund operations/expansion, and personal credit score. Tools and programs that enhance both the understanding and applicability of small business financial literacy will contribute to the sustainability of small businesses.

"I look at my financials at least five to six times a day." ***– CA Waste Management Company***

"We have developed a three-year proforma that triples our business in three years. Pretty aggressive, but we put the investments in the infrastructure to support that growth." ***– IL IT Training Company***

- **Those entities with the capacity to provide financial support to small businesses (directly or indirectly) may consider adjusting how they measure the success of their initiatives.** While traditionally, much emphasis is given to job creation or small business starts (for example) as outcome measures of success, our findings may lend support to a shift to measuring the indicators of small business financial health and sustainability. For example, measuring changes in owner financial management practices, measuring increases in profitability and owner equity, documenting growing profit margins, or days cash on hand or reductions in days receivable, can all be indicators of increased resilience. As demonstrated by our research, these are all indicators that a business is moving towards financial sustainability and a platform from

"I Would like it if my bank were an advisor." ***– IL IT Training Company***

"As small business owners a lot of things are in our head and we make decisions from the gut. (Because of a national technical assistance program) I've changed that completely and we really try to plan." ***– IL IT Training Company*** which the owner will have the resources to strategically grow the business and ultimately create new, quality jobs. This shift would enable funders of small businesses to ensure that their measurement indicators and goals are aligned with the long-term objectives of small business owners.

- **Our analysis suggests a need for caution regarding placing too much emphasis on revenue growth and encouraging business owners and those that work with them to focus on measures of profitability, supported by sound management practices.** We noted that larger businesses (those with revenues greater than $1 million) tended to be healthier. While it may seem self-evident that greater revenues would be an indication of survivability and resilience, this was not always the case as greater than 40 percent of those larger businesses were in poor or below-average health. Going hand in hand with this finding is one that indicates that small businesses—especially very small ones, with under $100,000 in revenues—tend to be in poor financial health. While, again, it may seem self-evident that low revenues would correlate with financial vulnerability, it is also possible that targeted interventions teaching and promoting sound financial management skills may put some of these very small businesses on sound footing for growth, early in their development.

"We've developed a 5-year plan that we approved in November. My goal is to get to $15 million EBITDA within 5 years, but our plan calls for $9 million of sustainable EBITDA. Yes, we'll definitely have to grow in order to get that, but the pathway is absolutely crystal clear." ***– CA Waste Management Company***

- **Our research also suggests that more insight into the role of employment in business health and success could help inform how business owners plan for and manage paying themselves, covering staff payroll/benefits/payroll tax expenses, and investing in people as they grow.** In the Index Driver analysis, we found that those who employed more full time staff were typically in a much better position on the financial health continuum than those that did not. Based on the scope of the study, we cannot yet assign a causal relationship between employment and financial health; however, it is clear that it matters in the overall equation.

- **Building on this, our findings indicate that there are certain things small business owners can do to prepare themselves for future decisions, as well as unforeseen events.** These include, educating oneself about various financing options. This is particularly important in light of an increasing number of on-line and other non-traditional funders targeting small businesses. Small business owners should learn to weigh the costs and benefits of financing options before the need for cash becomes acute. Other actions indicated by our findings that can be taken by small business owners to avoid cash 'crunches' that are also applicable to very small businesses include, budgeting regularly, maintaining a level of unused credit and setting aside funds for payroll and other 'non-deferrable' expenses (including benefits and taxes).

"We also have to be hungry to look for the next opportunity. We needed to diversify our customers, which is what we did." ***– IL Manufacturer***

- **As a business grows and potentially seeks outside capital having these practices in place will help ensure favorable capital decisions at favorable prices, as indicated by our credit experience driver.** To the extent that sound financial management practices (budgeting, managing credit, etc.) correlated with strong financial health, having strong financial health was strongly correlated with the ability to secure bank financing. As stated above "not a single business in poor or below-average financial health secured financing from a bank," according to respondents. While the bank financing process may seem opaque to many potential borrowers, our study indicates that there are some strategies that a small business owner can use to at least increase their chances of a positive response to their application.

" (National technical assistance program) really taught us how to be bankable. That was a great thing for me. I never knew that we had to sell our business to our bank. I wrote up a 'rocket pitch' – uses and sources of money, risks, etc. This helped me get the loan." ***– IL IT Training Company***

- **Our research also demonstrated that businesses with above-average or excellent financial health were more likely to be male and majority owned.** Other research has detailed the disproportionate resource constraints faced by women-owned and minority-owned businesses—financial, social and informational. While our study cannot provide insight into how to overcome those challenges, it does provide some direction in terms of factors that can be measured to determine whether mitigation strategies are effective.
- **However, our findings also indicated that regardless of financial health status or ownership profile, many respondents lacked growth capital**—that is, the resources needed to fund an expansion requiring an investment in machinery/ equipment or commercial real estate. Helping businesses acquire those resources, in part by making affordable growth capital products available is an area that merits further exploration.

"(We) moved to (a National Bank), got a line of credit, and an SBA loan. Process took us 8 months. Why did it take so long? So many questions. Every week there was something different. SBA requires a lot of things. The bank requires a lot of things. They need everything I own. It's very frustrating. I need this money to grow my business." ***– IL IT Training Company***

Conclusion:

By uncovering specific factors that correlate with a higher level of financial health, we were able to break these factors into three categories: knowledge, credit experience, and financial planning and management practices. We also took an in-depth look at companies' cash and credit availability, reviewing how they relate to financial health.

Our analysis also included an examination of demographic segments such as size, race and gender, which merits further, dedicated exploration.

Future research will build upon this data, including longitudinal studies to examine the relationship between specific financial management behaviors/ practices and the financial outcomes/performance of small business owners. Potentially, a small business financial health index, overtime, could serve as a measurement tool to assess a small business' financial health with a degree of certainty. The underlying algorithm based on specific variables would establish the causal relationship between financial management practices and behaviors and financial health. The algorithm and supporting data would also show the extent to which a company's financial health results in greater financing options and increased rates of survivability.

Developing research on the financial management behaviors and practices of small business owners could supplement and complement SBA, Census, and IRS data, resulting in a fuller and more nuanced picture of the small business ecosystem.

However, at this initial stage, we hope we have increased transparency around small businesses financial capacities and constraints. Ideally, this new information will allow for a more robust discussion on how to help small businesses improve their health and succeed. In addition, we hope our findings inform the work of all those with a vested interest in developing financially healthy small businesses, including lenders, philanthropic institutions, technical assistance providers, researchers, and public policy advocates.

Research Partners:

About the Federal Reserve

The Federal Reserve System is the central banking system of the United States. It was created in 1913, with the enactment of the Federal Reserve Act. Its duties today are to conduct the nation's monetary policy, supervise and regulate banking institutions, maintain the stability of the financial system and provide financial services to depository institutions, the U.S. government, and foreign official institutions. Through the Community Affairs program, it engages in outreach, educational, and technical assistance activities to help financial institutions, community-based organizations, government entities, and the public understand and address financial services issues affecting low- and moderate- income persons and communities. Its unique structure includes a federal government agency, the Board of Governors, in Washington, D.C., and 12 regional Reserve Banks. The Chicago Federal Reserve Bank (http://www.chicagofed.org) serves the Seventh Federal Reserve District that consists of Iowa, and most of Illinois, Indiana, Michigan and Wisconsin. The San Francisco Federal Reserve Bank (http://www.frbsf.org/) serves the Twelfth Federal Reserve District, which consists of Alaska, Arizona, California, Hawaii, Idaho, Nevada, Oregon, Utah, Washington, Guam, American Samoa, and the Northern Mariana Islands.

About the Pepperdine Private Capital Markets Project

The Pepperdine Private Capital Markets Project at the Pepperdine University Graziadio School of Business and Management (http://bschool.pepperdine.edu/privatecapital) is the first simultaneous, comprehensive, and on-going investigation of the major private capital market segments. The research seeks to understand the true cost of private capital across market types and the investment expectations of privately-held business owners; providing lenders, investors and the businesses that depend on them with critical data to make optimal investment and financing decisions, and better determine where the opportunities to create lasting economic value may be realized.

About FundWell

FundWell (www.thefundwell.com) is an online resource that matches small businesses seeking funding with a growing number of bank loans, non-bank debt funding, and other credit related financing options. At its core, FundWell is endeavoring to create much needed efficiencies in the small business capital raising market for small businesses and lenders and in doing so:

- Increase transparency of funding options in order to streamline the capital raising process, drive down the cost of debt financing, and improve terms for borrowers
- Disseminate the information and insights necessary to help small businesses improve their financial health and increase funding approval rates

Since 2012, FundWell's online financing marketplace and financial health information has reached over 24,000 small businesses, working in partnership with over 300 lending partners across the country that span 13 different types of loan products from merchant cash advances and microloans to bank loans, SBA loans and factoring.

Appendix 1: The Survey Questionnaire and Process for Building the Survey Panel

The survey questionnaire included questions about accounting, receivables and payables management, tax reporting, and credit management, as well as financing goals, credit product awareness, and funding results. To inform the design of the survey tool, the core study team recruited an Advisory Board, comprised of a broad network of stakeholders with a diverse range of interests and expertise within the small business ecosystem, including lenders, representatives of philanthropic institutions, technical assistance providers, researchers, and public policy advocates. In 2013, the Chicago and San Francisco Federal Reserve Banks each hosted two Advisory Board meetings in Illinois and California. As part of those meetings, Advisory Board members assisted in developing a definition for small business financial health, offered insights about how research on this topic could inform their organizational mission and interests, and provided suggestions about the design and content of the survey.

The sampling objective for this study was to build a survey panel that would be representative of the size distribution of businesses in the actual US population. In order to minimize sample bias, we developed a process to randomly select records from the LexisNexis Business Database. In the LexisNexis database, each firm has a unique 8-digit identification number called a "Dossier Id." These Dossier Id numbers are randomly assigned and range from 1,000,000 to 99,999,999. We wrote a program that generated 100,000 random integers within this same range, and then downloaded the associated business dossiers from LexisNexis.

Approximately 20% of these randomly generated numbers corresponded to valid firms based on the following criteria:

- headquartered in the United States
- privately held
- for-profit
- not a subsidiary

We then matched these records against business data provider Infogroup's commercial email database to gather contact information for each business. Survey participants were then contacted via email to take the survey electronically. Because these firms were chosen randomly from the LexisNexis database, which is a large representative sample that approaches the size of the actual population of businesses, the firms in the sample are well distributed across the revenues categories.

Additional evidence that our sample is representative of the population is provided by the following table, which compares the percentage of businesses in our sample headquartered in each state to that state's percentage of the total U.S. population (according to the 2010 Census). The underlying assumption here is that the number of businesses in each state will be highly correlated with the number of residents of that state. As can be seen in Table 1, the percentages are very similar, which supports the idea that our sample is indeed representative.

Table 1. Comparison of Percentage of Sample Firms in Each State to the Actual Population

State	Population %	Sample %
Alabama	1.5%	1.5%
Alaska	0.2%	0.2%
Arizona	2.0%	1.9%
Arkansas	0.9%	1.0%
California	11.9%	11.3%
Colorado	1.6%	2.1%
Connecticut	1.1%	1.3%
Delaware	0.3%	0.3%
District of Columbia	0.2%	0.3%
Florida	6.0%	8.2%
Georgia	3.1%	3.4%
Hawaii	0.4%	0.3%
Idaho	0.5%	0.6%
Illinois	4.1%	3.5%
Indiana	2.1%	1.8%
Iowa	1.0%	0.9%
Kansas	0.9%	1.0%
Kentucky	1.4%	1.3%
Louisiana	1.5%	1.8%
Maine	0.4%	0.5%
Maryland	1.8%	1.8%
Massachusetts	2.1%	2.1%
Michigan	3.2%	3.2%
Minnesota	1.7%	1.9%
Mississippi	0.9%	0.9%
Missouri	1.9%	1.6%
Montana	0.3%	0.5%
Nebraska	0.6%	0.7%
Nevada	0.9%	0.7%
New Hampshire	0.4%	0.5%
New Jersey	2.8%	2.8%
New Mexico	0.7%	0.6%
New York	6.2%	5.9%
North Carolina	3.1%	3.2%
North Dakota	0.2%	0.3%
Ohio	3.7%	3.4%
Oklahoma	1.2%	1.3%
Oregon	1.2%	1.3%
Pennsylvania	4.1%	3.9%
Puerto Rico	1.2%	0.2%
Rhode Island	0.3%	0.3%
South Carolina	1.5%	1.5%
South Dakota	0.3%	0.4%
Tennessee	2.0%	1.8%
Texas	8.0%	8.0%
Utah	0.9%	0.8%
Vermont	0.2%	0.3%
Virginia	2.6%	2.4%
Washington	2.2%	2.4%
West Virginia	0.6%	0.4%
Wisconsin	1.8%	1.5%
Wyoming	0.2%	0.2%

Upon analysis of an initial group of responses, we found woman-owned and minority owned businesses categories to be underrepresented. We subsequently augmented our panels for those categories with additional panels from a third party business data provider (Infogroup). The additional panelist records were generated from their database using a random process called "nthing" where the number of candidate records in the database is divided by the number of panelists required, thus generating the quotient "n." Then the program runs through the database and selects every nth record. As demonstrated by Table 2, the percentages are very close, which supports the idea that our sample is indeed representative for women- and minority-owned firms.

Table 2. Representation of Woman-Owned and Minority-Owned Businesses in the Sample

	2007 SBA Statistics	SBFHI Sample	SBFHI %
Woman-owned			
United States	29.6%	260/785	33.1%
Illinois	31.6%	59/201	29.4%
California	31.3%	49/211	23.2%
Minority-owned			
United States	22.8%	171/785	21.8%
Illinois	21.0%	30/141	21.3%
California	38.2%	42/129	32.6%

Appendix 2: SBFHI Methodology Overview

The methodology used in this study is called a factor analysis, which is an exploratory data analysis technique commonly used in the creation of economic indices. Factor analysis allows researchers to discover an unobserved dependent variable that is "hiding" in a set of observations because it is an outcome that cannot be directly observed. In this case, we are seeking an unobserved dependent variable that reflects small business financial health.

This type of exploratory method is appropriate when observed variables are correlated. There are almost 200 variables from the survey that are potential indicators of small business financial health. This method organizes the data into a smaller number of variables by describing linear combinations of the variables that contain most of the information expressed by respondents. The factor analysis (performed by statistical software) determines how the correlations between the answers of all the survey questions naturally cluster together and calls each of these groups a factor. (This procedure involves our conducting a factor rotation; we do a varimax rotation on the factor analysis to be able to easily identify the factor that has the highest load for each variable). Table 3 reveals….

Table 3. Factor Loadings

Variable		Factor 1	Factor 2	Factor 3	Uniqueness
knowledgee~e	Kn. Equipe.Leases Fin	0.798	0.0577	0.1193	0.3456
Knowledgear	Kn. Acc. Receivable Fin	0.7948	-0.0183	0.066	0.3635
knowledgee~n	Kn. Equip. Loan	0.7811	0.1078	0.1024	0.3678
Knowledgeinv	Kn. Inv. Manage Fin	0.776	0.0306	0.0479	0.3946
knowledgeb~k	Kn. Comm Banking Loan	0.7362	0.1031	0.1535	0.4238
knowledgec~t	Kn. Contract Fin.	0.7284	0	0.0135	0.4693
knowledgen~k	Kn. Non-Bank Loans	0.7189	0.0135	-0.0558	0.4798
knowledgeb~c	Kn. Biz Credit Card	0.7135	-0.0476	-0.0145	0.4884
knowledget~t	Kn. Trade Credit	0.7096	0.0605	0.0543	0.4899
creditty~zcc	Recvd Funding thru Bus CC	0.0542	0.695	0.105	0.503
knowledgep~c	Kn. Personal CC	0.7	-0.0467	-0.0447	0.5059
knowledgeh~c	Kn. Home Equity LOC	0.6935	-0.0411	0.0207	0.517
gotloa~mbank	Recvd Funding thru Bank Ln	0.0801	0.6275	0.2857	0.5183
knowledgef~n	Kn. Friends & Family Loan	0.6684	0.0388	-0.1427	0.5313
empft	No. FTE	0.213	0.3577	0.5409	0.534
knowledgepo	Kn. Purchase Order Fin	0.6287	-0.1237	-0.012	0.5892
knowledge~7a	Kn. 7a SBA Loan	0.6067	0.0703	-0.0472	0.6247
knowledg~504	Kn. 504 SBA Loan	0.5923	0.1146	-0.0418	0.6342
cr~ltbizloan	Recvd Funding thru Short Term Bus Ln	0.1155	0.5179	0.2426	0.6596
revenues	Business Revenue	0.1507	0.236	0.4812	0.69
creditty~lcc	Recvd Funding thru Personal CC	0.0182	0.5454	0.1016	0.6919
gotloanf~dor	Recvd Funding thru Vendor	0.0239	0.5424	-0.0145	0.705
ccavailcre~t	Available Credit on CC	0.1094	0.1984	0.4805	0.7178
knowledgem~z	Kn. Mezzanine Lending	0.5052	0.1213	0.0872	0.7225
credittyp~se	Recvd Funding thru Equip Lease	0.094	0.509	0.0475	0.7298
credittyp~30	Recvd Funding thru 30-day Trade Cr	0.088	0.5097	0.0328	0.7314
bizage2014	Age of Business	0.0996	0.095	0.4915	0.7395
ccbalance	Biz CC Balance	0.0664	0.2787	0.42	0.7415
credittyp~90	Rcvd $ thru 90 day Trade Credit	0.039	0.5015	-0.0624	0.7431
creditty~120	Rcvd $ thru120 day Trade Credit	0.0344	0.4871	-0.0898	0.7535
credittyp~60	Rcvd $ thru 60 day Trade Credit	0.0703	0.4836	0.0154	0.7609

Variable		Factor 1	Factor 2	Factor 3	Uniqueness
freqreview~t	How Freq Revw Prftblty?	0.2592	0.0543	0.4109	0.761
knowledgeu~a	Kn. USDA loans	0.4651	0.0549	-0.0869	0.7731
credit~ploan	Rcvd $ thru Equip Ln	0.1029	0.4344	0.1556	0.7765
bizownreti~t	Does Biz Have Retirmnt Plan?	0.0618	0.0593	0.4603	0.7808
appliedfor~n	Applied for Bank Ln	0.0183	0.4506	0.0804	0.7902
gotloanfro~c	Got Funding from CC	0.0557	0.4221	-0.0035	0.8187
creditty~180	Rcvd $ thru 180 day Trade Credit	-0.0191	0.4082	-0.1125	0.8204
credittype~s	Rcvd $ thru 180+ day Trade Credit	-0.0191	0.4082	-0.1125	0.8204
credittyp~oc	Rcvd $ thru Home Equity LOC	-0.0193	0.4082	0.0898	0.825
howoftennsf	How Freq NSF Fees?	0.0387	-0.0264	0.4051	0.8337
bizownlife~e	Does Biz Provide Life Ins.?	0.0664	0.0948	0.3885	0.8356
bizowncomm~l	Biz Owns Commercial Real Estate	0.1331	0.1613	0.3351	0.844
emppt	Part time employees	0.0644	0.3692	0.11	0.8474
activityde~t	Using a Budget	0.282	0.1072	0.2449	0.849
havepayrol~t	Bk Acct for Payroll?	0.0902	0.101	0.3445	0.863
nufcreditt~s	Enough credit to pay bills	0.0229	-0.1056	-0.3514	0.8648
bizownsecu~s	Biz owns financial securities	0.0451	-0.0571	0.3539	0.8695
plantoappl~n	Plans to apply for loan	0.0302	0.3522	-0.0562	0.8719
yearsowned	# of years owning the business	0.0196	-0.0227	0.3541	0.8737
numcust12	Number of customers in 2012	0.0554	0.3414	0.0628	0.8764
filedta~2011	Filed tax return in 2011	-0.0011	0.021	0.3507	0.8765
vendorterms	Terms your vendors require from you	0.141	0.0655	0.3096	0.88
expmgmt	Years of experience in mgmt	0.1385	-0.0199	0.313	0.8825
ownerships~s	How many owners?	0.1211	0.176	0.2678	0.8826
expind	Years of experience in this industry	-0.0087	-0.1288	0.3121	0.8859
paybookkee~r	Do you pay a bookkeeper?	-0.1314	0.143	0.2693	0.8898
filedta~2012	Filed tax return in 2012	-0.0651	0.0708	0.3145	0.8919
cr~stbizloan	Rcvd $ thru short term biz loan	0.0123	0.3071	-0.088	0.8978
freqreview~h	How freq revw cash?	0.2015	0.0405	0.241	0.8997
activityre~r	Do you record other expenses & pymts?	0.1283	0.0226	0.2852	0.9017
credit~oloan	Rcvd $ thru purch order loan	0.0568	0.2989	-0.053	0.9046
filedta~2010	Filed tax return in 2010	0.018	0.0234	0.3049	0.9062
activ~rtrans	Do you record vendor transactions?	0.1525	0.0135	0.2644	0.9067
bizownvehi~s	Biz owns vehicles	0.0139	0.1162	0.2748	0.9108
freqrevi~les	How freq revw sales?	0.1957	0.0952	0.1923	0.9156
empfamily	How many family members you employ?	0.0442	0.1787	0.2198	0.9178
credit~floan	Rcvd $ thru friends and family ln	0.0008	0.2751	-0.0679	0.9197
origfundpe~c	Original funding through CC	-0.0848	0.1217	-0.2382	0.9212
ltgoalpaym~e	Long term goal to pay self more	-0.1329	-0.0422	-0.2416	0.9222
howoftenre~w	How often do you pay NSF fees?	-0.2384	-0.1016	-0.0975	0.9234
filedext2012	Filed tax extension in 2012	0.0819	-0.0948	-0.2457	0.9239
bizownsing~y	Biz owns single family residence	-0.0775	0.044	0.2611	0.9239
gotloanfro~n	Got loan from person	0.0005	0.2656	-0.0492	0.927
activitypr~s	Do you prepare your own taxes?	0.0867	0.0456	0.2492	0.9283
ltgoaltran~y	Long term goal to trans biz to family	0.0092	0.0236	0.264	0.9297

Variable		Factor 1	Factor 2	Factor 3	Uniqueness
bizownnone	Biz owns none of the listed assets	-0.011	-0.0715	-0.2532	0.9307
halfrevcus~s	Half of rev. from how many customers?	0.0076	0.2595	-0.0082	0.9325
bizownequi~t	Biz owns equipment	0.0881	0.1856	0.1572	0.9331
freqrevi~ces	How freq are revw invoices?	0.1247	-0.0726	0.2031	0.9379
entity_llc	Is the business an LLC?	0.0121	0.0668	-0.2372	0.9391
activ~ttrans	Do you record customer transactions?	0.1331	0.0436	0.2004	0.9402
howdetfun~ts	Do you calc funding needs by capital budgeting research costs?	0.1662	0.1514	0.0789	0.9432
entity_ccorp	Is the business a C Corp?	0.1553	0.0279	0.1775	0.9436
ltgoalpayo~t	Long term goal to pay off debt	-0.0086	0.0797	-0.2229	0.9439
freqreview~l	How frequently do you review payroll?	0.1584	0.0568	0.1621	0.9454
ownerage2014	What is the owner's age?	0.0175	-0.0159	0.2321	0.9456
entity_sole	Is the business a sole proprietorship?	-0.055	-0.1301	-0.1844	0.946
origfundot~z	Was this business originally funded by another business?	0.0209	0.2225	0.06	0.9465
bizowndont~w	Don't know what assets the business owns	-0.0676	-0.0225	-0.2149	0.9487
howoftenu~ls	How often do you update your books?	-0.1542	0.0498	0.1552	0.9497
howdetfun~re	Do you cal funding needs by estimating future activity?	0.0722	0.1883	0.0966	0.95
origfundsa~s	Was this business originally funded from savings?	-0.0175	-0.1059	-0.1951	0.9504
previndye~gr	How many years have you previously worked as a manager in this industry?	0.1017	-0.075	0.1752	0.9533
bizownsing~d	Is the owner's residence owned by the business?	-0.1092	0.0023	0.1857	0.9536
paidtax~2012	Did you pay business taxes in 2012?	0.021	0.0575	0.2056	0.954
willclosei~n	Business will close if unable to get loan.	-0.0689	0.1565	-0.1292	0.9541
credittyp~ce	Rcvd $ thru cash advance	0.0044	0.206	-0.049	0.9552
freqrevie~ns	How often do you review tax returns?	0.1056	-0.0787	0.1652	0.9554
personalcr~e	Personal credit score	0.0931	0.0373	0.1825	0.9566
gotloanfro~e	Got cash advance	0.022	0.1749	-0.1048	0.9579
haveperssa~s	Do you have personal savings account?	-0.0443	-0.0236	0.1988	0.958
origfundre~e	Original funding from retirement savings	0.0623	0.0351	-0.1871	0.9599
previndmgr	Have you previously worked as a manager in this industry?	0.067	-0.141	0.1204	0.9611
credit~rloan	Rcvd $ thru A/R loan	0.0141	0.1766	0.0721	0.9634
bizownmult~s	Business owns multi-family (5+) residence	0.0103	0.1685	0.0813	0.9649
ltgoalgetl~d	Long term goal to get loan to expand	0.0706	0.0875	-0.1441	0.9666
haveperch~g	Do you have personal checking account?	-0.0577	0.0646	0.1595	0.967
havebizsav~s	Do you have business savings account?	0.0157	-0.0223	0.1794	0.9671
revgrow~1112	Revenue growth from 2011 to 2012	-0.1015	-0.1315	-0.0717	0.9673
credittype~z	Rcvd $ thru Mezz loan	-0.0045	0.1516	0.0601	0.9734
origfundff~n	Original funding from friends & fam loan	0.0132	0.1329	-0.092	0.9737
previndy~ner	Number of years in industry as an owner	-0.0659	0.0592	0.1349	0.9739
entity_scorp	Is this business an S-Corp?	-0.0997	-0.0416	0.1183	0.9743
owetaxes2012	Did this business owe taxes in 2012?	-0.0028	-0.0407	-0.1493	0.976
freqreview~k	How often do you review bank statements?	0.058	-0.1226	-0.0685	0.9769

Variable		Factor 1	Factor 2	Factor 3	Uniqueness
gotloa~nbank	Got loan from Bank	0.0279	0.1409	0.0362	0.9781
howdetfun~rs	Do you dtermne funding needs by copying competitors?	0.0648	0.1019	-0.0803	0.979
ltgoalcont~e	Long term goal to continue in business	-0.053	-0.0438	0.1272	0.9791
origfundou~y	Original funding from outside equity	0.0492	0.127	-0.0459	0.9793
origfundmo~e	Original funding from mortgage	-0.0811	0.1126	-0.0262	0.9801
origfundot~r	Original funding from other source	0.0145	-0.0107	0.1399	0.9801
ltgoalsell~z	Long term goal of selling the business?	0.0288	0.0789	0.1124	0.9803
howdet~rends	Do you dtermne funding needs by researching trends?	0.0795	0.1088	0.0397	0.9803
origfundba~n	Original funding from bank loan	0.025	0.1182	0.0685	0.9807
howdetfun~pa	Do you detrmne funding needs by consulting cpa?	-0.063	0.1208	-0.0257	0.9808
howdet~iends	Do you dtermne funding needs by consulting friends?	0.0091	0.1295	-0.0394	0.9816
entity_par~r	Is this a business partnership?	-0.0427	0.0932	0.085	0.9823
education	What is your education level?	0.0615	-0.0476	0.1036	0.9832
previndowner	Have you previously owned a business in this industry?	-0.0983	0.0648	0.0543	0.9832
credit~vloan	Rcvd $ thru inventory loan	0.0381	0.1231	0.0083	0.9833
ltgoaldont~w	Long term goal (don't know)	0.0022	-0.0635	-0.1095	0.984
origfundpe~s	Original funding from personal assets	0.0457	0.0774	-0.0858	0.9846
ltgoalgetl~s	Long-term goal to get loan to pay bills	-0.0019	-0.0361	-0.1094	0.9867
bizownmult~l	Business owns multi-family small residence	-0.043	0.1059	-0.0133	0.9868
ltgoalretire	Long term goal to retire	-0.0779	-0.0021	-0.0836	0.9869
freqrevie~ls	How often do you review your bills?	0.0844	-0.0379	0.0644	0.9873
origfundpr~s	Original funding from presales	0.0491	-0.0292	-0.0951	0.9877
origfundff~t	Original funding from friends & fam gift	-0.0984	0.0467	-0.0064	0.9881
pctcustpay~e	What percentage of your customers pay late?	0.0842	-0.0558	0.036	0.9885
howdetfun~ce	Do you dtermne funding needs by using your own experience?	-0.0031	0.1003	-0.0275	0.9892
ltgoalincr~w	Long-term goal to increase cash flow	0.0294	0.0839	-0.0461	0.99
previndwor~r	Have you previously been a worker in this industry?	-0.0648	-0.0406	-0.062	0.9903
empcont	How many employees do you have?	0.0818	0.0091	0.0489	0.9908
howdetfun~or	Do you dtermne funding needs by consulting an advisor?	-0.0197	0.076	-0.049	0.9914
gotloanfro~w	Don't know where loan was from	-0.0351	0.0312	-0.078	0.9917
gotloanfro~z	Got mezzanine loan	0.0546	0.0582	0.0194	0.9932
gotloanfr~er	Got loan from other source	0.0095	0.0768	-0.0203	0.9936
howdetfun~ss	Do you dtermne funding needs by guessing?	-0.0224	-0.0268	-0.0704	0.9938
haveother~nt	Do you have other type of bank account?	0.0162	-0.0572	0.052	0.9938
previndy~ker	How many years have you previously spent in this industry as a worker?	-0.0505	-0.0534	-0.0242	0.994
timetocoll~t	How much time does it typically take to collect payment from customers?	-0.0333	-0.0325	-0.0067	0.9978

Variable		Factor 1	Factor 2	Factor 3	Uniqueness
credittype~w	Rcvd $ thru (don't know)	-0.0335	0.01	0.0255	0.9981
howdetfun~er	Do you dtermne funding needs by some other way?	0.0264	-0.0282	-0.0143	0.9983
havebizche~g	Do you have business checking account?	-0.0033	0.0004	0.0267	0.9993
credittype~r	Rcvd $ thru other source	0.0001	-0.0038	-0.0033	1

The statistical software can find the factors, but cannot interpret their meaning. Thus, the next step in the process is to look at each factor and identify common concepts underlying each cluster of variables with the strongest factor loadings within each of the identified factors. In Table 3, the strongest factor loadings within each of the identified factors are highlighted. For example, the common concept for Factor 1 represents "knowledge." Factor 2 appears to be related to the company's "experience" with various credit types. Factor 3 appears to be clustered around the questions related to "financial planning and management practices."

The next step is to narrow down the list of variables in each factor to a shorter list. To do so, we sort the factor list in ascending order by uniqueness (far right column in Table 2) and take the top variables in each factor that are controllable by the business owner and that are not close in meaning to any of the other top variables. (Since the factor analysis relies upon clustering of correlations between variables, we do not keep variables with the highest uniqueness scores since they are not correlated with the other variables and thus do not help reveal the unobserved dependent variable). This leaves us with a list of 21 variables with which to assess financial health.

Re-running the factor analysis using the variables that we deem to be the most relevant to the factors, we generate a new variable that "predicts" what each of these latent factors should be for each survey respondent, based on their responses to each of these 21 questions. It does this for each factor by multiplying the factor load times the survey respondent's value for that particular question (ordinal survey response value or likert—ranked—value, depending the structure of each question) for each of the 21 questions. These three predicted factor variable names are factor_knowledge, factor_experience and factor_operations (Factors 1, 2 and 3, respectively, in Table 2).

The calculation of the index values, on the other hand, is done at the aggregate level by taking the sample mean for each of these twenty-one variables, multiplying it by the factor loading coefficient for each factor, and then summing the results. The raw scores for the three factors are then summed to arrive at an overall raw financial health score, which is then scaled between zero and one hundred in order to facilitate interpretation.

Appendix 3: Financial Health Segments

Financial Health Segments:	Poor (Quintile 1)	Below Ave. (Quintile 2)	Average (Quintile 3)	Above Ave. (Quintile 4)	Excellent (Quintile 5)
INDEX SCORE RANGE:	0 - 18.13	18.17 - 24.27	24.31 - 33.93	33.99 - 51.25	51.70 - 100
N= # of Survey Respondents	138	138	137	138	137
Female Owned Business					
(% of Respondents)	49.28%	46.38%	42.34%	27.54%	20.44%
Male Owned Business					
(% of Respondents)	50.72%	53.62%	57.66%	72.46%	79.56%
Minority Owned Business					
(% of Respondents)	31.88%	24.64%	25.55%	21.01%	16.79%
Non Minority Owned Business					
(% of Respondents)	68.12%	75.36%	74.45%	78.99%	83.21%
Revenue Segments	**Poor (Quintile 1)**	**Below Ave. (Quintile 2)**	**Average (Quintile 3)**	**Above Ave. (Quintile 4)**	**Excellent (Quintile 5)**
$0 or pre-revenue	2.90%	0.73%	2.21%	0.00%	0.73%
$1 - $100,000	35.51%	21.90%	5.15%	5.07%	0.00%
$100,001 - $500,000	38.41%	32.12%	22.79%	10.14%	2.19%
$500,001 - $1,000,000	10.87%	15.33%	21.32%	6.52%	5.11%
$1,000,001 - $5,000,000	5.07%	21.90%	33.09%	43.48%	21.90%
$5,000,001 - $10,000,000	0.00%	0.00%	3.68%	13.77%	19.71%
$10,000,001 - $25,000,000	0.00%	1.46%	3.68%	10.87%	19.71%
$25,000,001 - $50,000,000	1.45%	0.00%	0.74%	1.45%	10.22%
$50,000,001 - $100,000,000	0.72%	0.73%	0.74%	0.72%	10.95%
$100,000,001 - $500,000,000	4.35%	2.19%	2.21%	2.90%	5.84%
> $500,000,000	0.72%	3.65%	4.41%	5.07%	3.65%
Total	**100.00%**	**100.01%**	**100.02%**	**99.99%**	**100.01%**

Appendix 4: Capacity Indicators

Financial Health Capacity Indicator	Range of Responses	% of Poor financial health businesses (Quintile 1) that have this indicator	% of Below Ave. financial health businesses (Quintile 2) that have this indicator	% of Average financial health businesses (Quintile 3) that have this indicator	% of Above Average health businesses (Quintile 4) that have this indicator	% of Excellent financial health businesses (Quintile 5) that have this indicator
Do you owe (or have you already paid) 2012 business income taxes?	Yes	58.33%	30%	66.67%	0%	50%
	No	41.67%	70%	33.33%	100%	50%
	I don't know	0%	0%	0%	0%	0%
	Total	**100%**	**100%**	**100%**	**100%**	**100%**
How much in 2012 business income taxes did you owe/ pay/expect to owe?	$1-$5000	25.26%	18.84%	14.60%	9.42%	8.76%
	$5,001-$25,000	11.59%	9.42%	12.41%	15.22%	8.76%
	$25,001-$50,000	1.45%	7.25%	8.03%	7.97%	6.57%
	$50,001-$100,000	1.45%	5.07%	3.65%	7.97%	8.76%
	$100,001-$250,000	1.45%	6.52%	3.65%	5.07%	9.49%
	$250,001-$500,000	1.45%	0.72%	2.19%	5.80%	8.76%
	$500,001-$1,000,000	0%	0.72%	0.73%	1.45%	5.11%
	$1,000,001-$5,000,000	0%	0.72%	0.00%	2.90%	9.49%
	$5,000,001-$10,000,000	0%	0.00%	0.00%	0.00%	0.73%
	$10,000,001-$25,000,000	0%	0.00%	0.00%	0.00%	0.00%
	$25,000,001-$50,000,000	0%	0.00%	0.00%	0.00%	0.00%
	More than $50,000,000	0%	0.00%	0.00%	0.00%	0.73%
	Did Not Answer	57.25%	50.72%	54.74%	44.20%	32.85%
	Total	**99.90%**	**99.98%**	**100.00%**	**100.00%**	**100.01%**
In 2012, did you have enough cash to pay your bills on time? *Employee payroll and payroll taxes*	Never	0.72%	0.00%	0.00%	0.00%	0.00%
	Rarely	2.17%	1.45%	0.73%	0.00%	0.00%
	Sometimes	5.07%	1.45%	2.92%	0.00%	0.00%
	Most of the time	15.22%	13.77%	12.41%	7.25%	8.03%
	Always	50.00%	66.67%	79.56%	92.03%	91.97%
	N/A	26.81%	16.67%	4.38%	0.72%	0.00%
	Total	**99.99%**	**100.01%**	**100.00%**	**100.00%**	**100.00%**
In 2012, did you have enough cash to pay your bills on time? *Owner salary*	Never	7.97%	4.35%	5.84%	2.17%	1.46%
	Rarely	15.94%	8.70%	5.11%	0.72%	1.46%
	Sometimes	15.22%	23.19%	12.41%	7.97%	4.38%
	Most of the time	19.57%	16.67%	29.93%	18.12%	11.68%
	Always	24.64%	38.41%	43.07%	67.39%	81.02%
	N/A	16.67%	8.70%	3.65%	3.62%	0.00%
	Total	**100.01%**	**100.02%**	**100.01%**	**99.99%**	**100.00%**
In 2012, did you have enough cash to pay your bills on time? *Employee and owner health insurance and benefits*	Never	7.25%	10.87%	8.03%	2.90%	0.73%
	Rarely	2.17%	1.45%	1.46%	0.72%	0.00%
	Sometimes	4.35%	4.35%	2.92%	0.00%	0.00%
	Most of the time	9.42%	5.80%	6.57%	3.62%	4.38%
	Always	29.71%	40.58%	60.58%	84.06%	91.24%
	N/A	47.10%	36.96%	20.44%	8.70%	3.65%
	Total	**100.00%**	**100.01%**	**100.00%**	**100.00%**	**100.00%**

Financial Health Capacity Indicator	Range of Responses	% of Poor financial health businesses (Quintile 1) that have this indicator	% of Below Ave. financial health businesses (Quintile 2) that have this indicator	% of Average financial health businesses (Quintile 3) that have this indicator	% of Above Average health businesses (Quintile 4) that have this indicator	% of Excellent financial health businesses (Quintile 5) that have this indicator
In 2012, did you have enough cash to pay your bills on time? *Inventory suppliers*	Never	0.00%	0.72%	0.73%	0.00%	0.00%
	Rarely	2.90%	0.00%	0.00%	0.72%	0.00%
	Sometimes	10.87%	7.97%	10.95%	2.17%	2.19%
	Most of the time	16.67%	21.74%	15.33%	16.67%	15.33%
	Always	49.28%	57.25%	61.31%	71.01%	78.83%
	N/A	20.29%	12.32%	11.68%	9.42%	3.65%
	Total	**100.01%**	**100.00%**	**100.00%**	**99.99%**	**100.00%**
In 2012, did you have enough cash to pay your bills on time? *Rent and utilities*	Never	0.00%	0.00%	0.00%	0.00%	0.73%
	Rarely	0.72%	0.00%	0.00%	0.00%	0.00%
	Sometimes	6.52%	5.80%	6.57%	0.00%	0.00%
	Most of the time	15.94%	22.46%	11.68%	10.14%	5.84%
	Always	60.14%	65.94%	78.10%	88.41%	93.43%
	N/A	16.67%	5.80%	3.65%	1.45%	0.00%
	Total	**99.99%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**
In 2012, did you have enough cash to pay your bills on time? *Company car/ truck lease(s)*	Never	0.72%	0.00%	1.46%	0.00%	1.46%
	Rarely	0.00%	0.00%	0.73%	0.00%	0.00%
	Sometimes	1.45%	2.17%	2.19%	0.72%	0.00%
	Most of the time	5.80%	7.97%	0.73%	3.62%	4.38%
	Always	26.09%	39.86%	45.99%	63.04%	75.18%
	N/A	65.94%	50.00%	48.91%	32.61%	18.98%
	Total	**100.00%**	**100.00%**	**100.01%**	**99.99%**	**100.00%**
In 2012, did you have enough cash to pay your bills on time? *Equipment lease(s)*	Never	0.00%	0.72%	1.46%	0.00%	1.46%
	Rarely	0.00%	0.00%	2.19%	0.00%	0.00%
	Sometimes	2.90%	5.07%	2.19%	0.72%	0.00%
	Most of the time	5.80%	6.52%	5.84%	3.62%	4.38%
	Always	19.57%	36.23%	42.34%	68.84%	78.83%
	N/A	71.74%	51.45%	45.99%	26.81%	15.33%
	Total	**100.01%**	**99.99%**	**100.01%**	**99.99%**	**100.00%**
In 2012, did you have enough cash to pay your bills on time? *Other vendors/ consultants*	Never	0.00%	0.00%	0.00%	0.00%	0.73%
	Rarely	2.17%	0.72%	2.19%	0.72%	0.00%
	Sometimes	13.77%	7.97%	8.76%	2.90%	0.73%
	Most of the time	16.67%	18.84%	16.06%	16.67%	12.41%
	Always	44.93%	57.25%	66.42%	77.54%	86.13%
	N/A	22.46%	15.22%	6.57%	2.17%	0.00%
	Total	100.00%	100.00%	100.00%	100.00%	100.00%

Financial Health Capacity Indicator	Range of Responses	% of Poor financial health businesses (Quintile 1) that have this indicator	% of Below Ave. financial health businesses (Quintile 2) that have this indicator	% of Average financial health businesses (Quintile 3) that have this indicator	% of Above Average health businesses (Quintile 4) that have this indicator	% of Excellent financial health businesses (Quintile 5) that have this indicator
In 2012, did you have enough cash to pay your bills on time? *Interest on loans and credit cards*	Never	1.45%	0.00%	0.00%	0.00%	0.73%
	Rarely	2.90%	0.72%	1.46%	0.72%	0.00%
	Sometimes	13.04%	10.14%	3.65%	0.72%	0.00%
	Most of the time	15.94%	13.04%	11.68%	6.52%	5.84%
	Always	43.48%	51.45%	62.04%	79.71%	89.05%
	N/A	23.19%	24.64%	21.17%	12.32%	4.38%
	Total	**100.00%**	**99.99%**	**100.00%**	**99.99%**	**100.00%**
In 2012, did you have enough cash to purchase any of the following? *(Please check all that apply)*	Computers, software, and other technology	78.99%	83.33%	83.21%	94.20%	95.62%
	Equipment and machinery	23.91%	29.71%	39.42%	50.00%	63.50%
	Acquire or invest in another private company	4.35%	5.80%	8.03%	18.12%	23.36%
	Commercial real estate (retail/office/industrial property)	2.17%	5.07%	5.11%	10.87%	21.90%
	Multifamily residential property (2+ units)	0.00%	3.00%	4.00%	3.00%	7.00%
	Non-owner occupied single family property (single family/townhome/condo)	0.72%	5.07%	3.65%	5.80%	8.03%
	No need	9.42%	6.52%	8.03%	1.45%	0.00%
	I don't know	8.70%	9.42%	4.38%	0.72%	1.46%
What is your personal credit score?	0-499	3.62%	1.45%	0.73%	0%	0.73%
	500-599	7.97%	6.52%	8.03%	0%	0%
	600-679	12.32%	15.22%	5.84%	3.62%	3.65%
	680-719	17.39%	15.22%	19.71%	25.36%	11.68%
	720+	36.23%	41.30%	48.91%	58.70%	66.42%
	I don't know	22.46%	20.29%	16.79%	12.32%	17.52%
	Total	**99.99%**	**100.00%**	**100.01%**	**100.00%**	**100.00%**
In 2012, did you have available credit/loan money to cover bills that were difficult to pay with your own cash?	Always	31.88%	28.99%	44.53%	57.97%	70.80%
	Most of the time	14.49%	15.22%	13.14%	16.67%	11.68%
	Sometimes	17.39%	10.87%	10.95%	6.52%	5.84%
	Rarely	8.70%	10.14%	5.84%	3.62%	3.65%
	Never	20.29%	22.46%	14.60%	10.14%	5.11%
	I don't know	2.90%	5.80%	2.19%	3.62%	1.46%
	N/A	4.35%	6.52%	8.76%	1.45%	1.46%
	Total	**100.00%**	**100.00%**	**100.01%**	**99.99%**	**100.00%**

Appendix 5: Index Drivers

Driver/Question	Range of Responses	% of Poor financial health businesses (Quintile 1) that have this response	% of Below Ave. financial health businesses (Quintile 2) that have this response	% of Average financial health businesses (Quintile 3) that have this response	% of Above Average health businesses (Quintile 4) that have this response	% of Excellent financial health businesses (Quintile 5) that have this response
KNOWLEDGE FACTOR						
Please rate your level of knowledge for the product about what it is, the eligibility criteria, and where you can access it: *Inventory Management*	Never heard of	23.53%	14.18%	15.15%	10.53%	5.19%
	Limited knowledge	19.85%	23.88%	39.39%	27.07%	22.22%
	Have some knowledge	18.38%	18.66%	10.61%	18.05%	15.56%
	Moderately knowledgeable	22.06%	16.42%	18.18%	15.04%	23.70%
	Very knowledgeable	11.03%	14.93%	12.88%	16.54%	19.26%
	Extremely knowledgeable	5.15%	11.94%	3.79%	12.78%	14.07%
Please rate your level of knowledge for the product about what it is, the eligibility criteria, and where you can access it: *Accounts Receivable*	Never heard of	19.85%	11.94%	17.42%	9.02%	3.70%
	Limited knowledge	27.94%	21.64%	28.79%	21.80%	17.04%
	Have some knowledge	9.56%	17.91%	10.61%	19.55%	17.78%
	Moderately knowledgeable	25.74%	18.66%	17.42%	24.06%	25.93%
	Very knowledgeable	9.56%	17.16%	15.91%	14.29%	20.74%
	Extremely knowledgeable	7.35%	12.69%	9.85%	11.28%	14.81%
Please rate your level of knowledge for the product about what it is, the eligibility criteria, and where you can access it: *Equipment Leases*	Never heard of	11.76%	2.24%	3.03%	4.51%	0.74%
	Limited knowledge	22.79%	18.66%	16.67%	12.03%	4.44%
	Have some knowledge	16.91%	16.42%	12.88%	8.27%	5.93%
	Moderately knowledgeable	22.79%	20.90%	25.00%	21.80%	22.96%
	Very knowledgeable	16.91%	23.88%	26.52%	30.08%	42.22%
	Extremely knowledgeable	8.82%	17.91%	15.91%	23.31%	23.70%
Please rate your level of knowledge for the product about what it is, the eligibility criteria, and where you can access it: *Trade Credit*	Never heard of	22.06%	13.43%	14.39%	6.77%	8.89%
	Limited knowledge	24.26%	23.13%	29.55%	24.81%	17.04%
	Have some knowledge	12.50%	12.69%	9.85%	13.53%	14.07%
	Moderately knowledgeable	18.38%	17.16%	18.18%	15.79%	14.07%
	Very knowledgeable	13.97%	17.91%	19.70%	21.80%	27.41%
	Extremely knowledgeable	8.82%	15.67%	8.33%	17.29%	18.52%
Please rate your level of knowledge for the product about what it is, the eligibility criteria, and where you can access it: *Contracts*	Never heard of	27.94%	14.93%	18.94%	12.03%	6.67%
	Limited knowledge	21.32%	21.64%	31.82%	25.56%	21.48%
	Have some knowledge	14.71%	20.15%	7.58%	18.80%	20.00%
	Moderately knowledgeable	17.65%	15.67%	18.94%	24.06%	24.44%
	Very knowledgeable	11.76%	15.67%	12.88%	9.02%	14.81%
	Extremely knowledgeable	6.62%	11.94%	9.85%	10.53%	12.59%

Driver/Question	Range of Responses	% of Poor financial health businesses (Quintile 1) that have this response	% of Below Ave. financial health businesses (Quintile 2) that have this response	% of Average financial health businesses (Quintile 3) that have this response	% of Above Average health businesses (Quintile 4) that have this response	% of Excellent financial health businesses (Quintile 5) that have this response
CREDIT EXPERIENCE FACTOR						
Please specify from which type(s) of lenders you raised financing from.	Bank lender	0.00%	0.00%	5.84%	37.68%	75.18%
	Vendor/supplier with trade credit terms	0.00%	0.00%	0.73%	5.07%	12.41%
Please specify which type(s) of financing you have raised.	Business credit card	0.00%	1.45%	2.19%	20.29%	45.26%
	Personal credit card	0.72%	0.00%	2.19%	17.39%	26.28%
	Long-term business loan	0.00%	0.00%	1.46%	14.49%	57.66%
	Short-term non-bank business loan	0.00%	1.45%	0.00%	2.17%	2.92%
BUSINESS PRACTICES FACTOR						
Which of the following financial activities is regularly done for your business? *Develop Budget*	Never	28.26%	12.32%	4.38%	4.35%	3.65%
	Rarely	25.36%	10.14%	10.95%	10.87%	5.11%
	Sometimes	23.19%	23.91%	19.71%	15.22%	15.33%
	Most of the time	17.39%	24.64%	18.25%	16.67%	13.87%
	Always	5.80%	28.99%	46.72%	52.90%	62.04%
In 2012, how much credit did you have available? *(Total loans/credit card financing still available and unused)*	$0	65.05%	37.25%	21.00%	12.50%	5.47%
	$1-25,000	10.68%	16.67%	16.00%	16.67%	8.59%
	$25,001-$50,000	9.71%	11.76%	16.00%	18.33%	9.38%
	$50,001-$100,000	0.97%	8.82%	15.00%	20.00%	9.38%
	$100,001-$250,000	0.00%	2.94%	3.00%	5.83%	10.16%
	$250,001-$500,000	0.00%	0.98%	1.00%	5.83%	14.06%
	$500,001-$1,000,000	0.00%	0.00%	2.00%	5.00%	16.41%
	$1,000,001-$5,000,000	0.00%	0.00%	1.00%	0.83%	10.94%
	$5,000,001-$10,000,000	0.00%	0.00%	0.00%	0.00%	3.13%
	$10,000,001-$25,000,000	0.00%	0.00%	0.00%	0.00%	0.78%
	$25,000,001-$50,000,000	0.00%	0.00%	0.00%	0.83%	1.56%
	$50,000,001-$100,000,000	0.00%	0.00%	1.00%	2.50%	4.69%
	More than $100,000,000	0.00%	0.00%	9.00%	5.00%	3.13%
	Unknown	13.59%	21.57%	15.00%	6.67%	2.34%

Driver/Question	Range of Responses	% of Poor financial health businesses (Quintile 1) that have this response	% of Below Ave. financial health businesses (Quintile 2) that have this response	% of Average financial health businesses (Quintile 3) that have this response	% of Above Average health businesses (Quintile 4) that have this response	% of Excellent financial health businesses (Quintile 5) that have this response
How many full-time employees do you have?	0	40.58%	19.57%	7.30%	4.35%	0.73%
	1 to 2	44.20%	36.96%	18.25%	7.25%	0.73%
	3 to 4	13.04%	28.99%	24.09%	14.49%	4.38%
	6 to 10	1.45%	10.14%	27.01%	17.39%	8.03%
	11 to 15	0.72%	2.17%	14.60%	13.04%	7.30%
	16 to 20	0.00%	1.45%	3.65%	13.77%	1.46%
	21 to 30	0.00%	0.00%	3.65%	7.25%	8.03%
	31 to 40	0.00%	0.72%	0.73%	12.32%	8.03%
	41 to 50	0.00%	0.00%	0.00%	4.35%	8.76%
	51 to 75	0.00%	0.00%	0.00%	2.17%	9.49%
	76 to 100	0.00%	0.00%	0.73%	0.72%	8.76%
	101 to 200	0.00%	0.00%	0.00%	2.90%	17.52%
	201 to 300	0.00%	0.00%	0.00%	0.00%	5.84%
	301 to 400	0.00%	0.00%	0.00%	0.00%	4.38%
	401 to 500	0.00%	0.00%	0.00%	0.00%	2.92%
	More than 500	0.00%	0.00%	0.00%	0.00%	3.65%
Do you have any of the following bank accounts? *Payroll Account*	Yes	2.90%	5.80%	20.44%	0.4275	60.58%
	No	97.10%	94.20%	79.56%	0.5725	39.42%

Appendix 6: Analysis of the Primary Questions Driving the Index Scores

Variable	National	California	Illinois	Minority	Woman
Using a Budget	3.640	3.740	3.289	3.763	3.429
Available Credit on Credit Card	3.104	3.130	3.328	2.444	2.765
Number of Full-time Employees	4.522	4.610	3.750	4.088	3.400
How Frequently Do You Review Profitability?	4.470	4.547	4.333	4.367	4.344
Do you have a separate bank account for payroll?	0.234	0.325	0.164	0.298	0.192
How Infrequently do you get NSF fees assessed?	5.309	5.218	5.301	5.006	5.199
Knowledge of Accounts Receivable	2.902	3.357	2.957	3.129	2.904
Knowledge of Commercial Banking	3.878	4.143	4.078	4.082	4.112
Knowledge of Contracts	2.744	3.156	2.897	2.930	2.781
Knowledge of Equipment Leases	3.496	3.896	3.759	3.661	3.708
Knowledge of Inventory Management	2.773	3.084	2.957	2.924	2.796
Knowledge of Non-Bank Loans	3.098	3.416	3.224	3.380	3.319
Knowledge of Trade Credit	2.982	3.370	3.198	3.012	3.050
Received funding from Short Term Non-Bank Business Loan	0.129	0.071	0.069	0.070	0.088
Received funding from Personal Credit Card	0.082	0.084	0.052	0.076	0.073
Received funding from Business Credit Card	0.121	0.123	0.078	0.105	0.092
Received funding from 30-day Trade Credit	0.046	0.039	0.034	0.029	0.027
Received funding from Equipment Lease	0.043	0.052	0.026	0.041	0.042
Got Loan from Bank	0.208	0.169	0.181	0.164	0.173
Got Loan from Vendor	0.032	0.026	0.034	0.029	0.027

Appendix 7: Distribution of Respondents vs. U.S. Businesses By Revenue

For the purposes of this study, small businesses are defined as establishments that generate $5 million in revenues or less. Businesses with revenues between $5 million and $25 million serve as a control group for the small businesses that generate less than $5 million in annual revenues.

	2007 U.S. SBA Statistics	SBFHI Sample	SBFHI %
Revenue-level	6,049,655	709	100.0%
$0 - $100,000	22%	103	14.5%
$100,001 - $500,000	40%	148	20.9%
$500,001 - $1,000,000	15%	84	11.8%
$1,000,001 - $5,000,000	18%	177	25.0%
$5,000,001 - $10,000,000	3%	55	7.8%
$10,000,001 - $25,000,000	2%	52	7.3%
$25,000,001 - $50,000,000	1%	19	2.7%
$50,000,001 - $100,000,000	0.3%	20	2.8%
$100,000,001+	0.3%	51	7.2%

Survey factors were constructed to examine business financial health in general rather than just small business financial health. As a result, it was more important for our survey results that there be at least 20 responses in each segment rather than looking solely at the distribution of respondents.

Appendix 8: Financial Health Index Score by Respondent Demographic Group

The Financial Health Index number for the entire sample is 53.2, reflecting low level of overall financial health among respondents.

	Whole Sample	Small Business	Large Business
National	53.2	44.9	74.6
California	57.9	47.9	80.0
Illinois	49.5	41.0	80.3
Minority-Owned	48.0	38.3	73.9
Woman-Owned	46.2	40.2	69.2