The Value of Loyal Customers

Is there a rational reason that stock prices in some industries greatly exceed book values? The answer may lie in the idea that customers are capital.

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BY LEENA RUDANKO

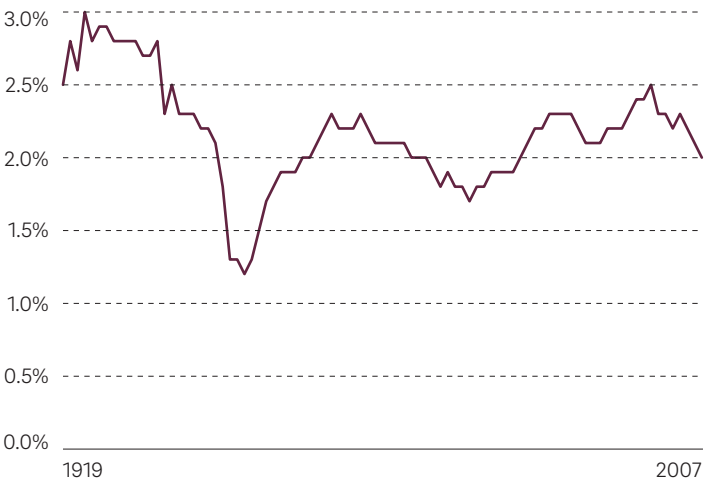
No business can survive, let alone profit, without customers. For most businesses, it takes money and creative effort to attract and retain customers. Businesses therefore have clear incentives to spend resources on these activities. Reflecting how important it is to secure a steady stream of customers, a recent study finds that U.S. businesses spend as much as 8 percent of their revenue on marketing the value of their products, services, or brand for the purpose of generating sales.[1] Total U.S. marketing spending has been estimated to amount to 8 percent of the gross domestic product—a substantial share of the nation's output—while advertising, which makes up a big part of marketing, amounts to 2 to 3 percent of GDP just on its own (Figure 1).[2]

Customers are obviously essential for businesses as a source of current revenue, but is there more to it than that? Once customer loyalty comes into the picture, customers become particularly valuable to those businesses that need to spend resources to attract them. A company's base of existing and repeat customers becomes an asset for the firm, while the money it spends on marketing and selling activities aimed at attracting additional customers becomes a form of investment in the customer base of the firm—its "customer capital."

FIGURE 1

Businesses Spend Big to Entice Customers

Annual U.S. advertising spending as a share of GDP, 1919–2007.



Source: Douglas Galbi, "U.S. Annual Advertising Spending Since 1919," http://galbithink.org/ad-spending.htm.

The notion that loyal customers are capital for firms has intrigued economists in part because it may explain why young firms grow so slowly. The gradual pace at which new businesses accumulate customers has been shown to be a key factor limiting firm growth.[3] New businesses start out small relative to existing ones, and this gap closes only slowly over time. The slow growth does not appear to be due to lower productivity or higher prices at new businesses, however. If anything, new businesses appear to be more productive and set lower prices, suggesting their growth is constrained by insufficient demand amid the gradual growth of their customer base.

As further evidence that the gradual accumulation of customers limits firm growth, it has also been shown that businesses that begin during economic downturns start out smaller—and remain smaller throughout their existence—than those beginning during expansions, despite being more productive.[4] Similar patterns characterize export growth in new markets: Sales start out small and grow only slowly as the exporting firm accumulates customers in the new market.[5]

Based on these observations, macroeconomists have found that the notion of customer capital can explain such varied phenomena as how the long-run decline in the cost of advertising may have led to greater industry concentration over time due to heightened competition among businesses,[6] how the costly and time-consuming process of gaining market penetration can explain patterns in volume and pricing in international trade,[7] and why output prices might not respond fully to changes in costs in general.[8]

There is yet another pricing puzzle that the concept of customer capital helps us understand and that I will focus on in this article: stock market prices.

Customer Capital and the Stock Market

The stock of many U.S. firms increasingly trades well above the value of the net assets reported on their books, with the total financial value of the firms listed on the stock market clearly exceeding the corresponding value of the hard assets–plants, equipment, inventory–of these firms.[9] This disparity between the share price and the book value per share is sometimes cited as evidence that the stock market is overvalued.

Shareholders, of course, have an interest in knowing whether they are paying too much. And to the extent that the overall economy is vulnerable to severe market corrections, economists and policymakers are also interested in determining whether investors are accurately pricing firms' prospects or are instead driving the market to unsustainable heights–in other words, creating a bubble.

But what if market prices are actually not out of line with firms' fundamental value? What if high price-to-book ratios reflect "hidden" assets? In today's consumer- and information-oriented economy, it is generally acknowledged that the value of a business may lie less in the physical assets tallied on its books such as buildings and equipment and more in intangibles such as patents and trademarks.[10] Yet, confirming whether investors are indeed pricing in intangible worth is problematic, since, by their nature, intangibles resist precise measurement.[11] As this article will show, progress in solving the valuation puzzle may lie in exploring one type of intangible–firms' customer base.

Are Investors Pricing in Customer Capital?

From an accounting perspective, spending on marketing and selling is counted on the expense side of a firm's balance sheet, not as investment in a durable asset owned by the firm. But to the extent that it inspires brand loyalty, the resulting customer affinity takes on the quality of productive capital capable of driving future profits, just as investment in more efficient equipment would. And expensing this investment today even when it is made in anticipation of profits accruing later, leads to the present discounted value of those future profits raising the market value of the firm above the value of the assets that are on its books.[12] Therefore, because it is costly to attract new customers, investors recognize a loyal customer base as an asset and factor its value into the price they are willing to pay for equity in the firm.

Industries also vary significantly in how much firms spend on marketing and selling activities–what we would think of as investment in customer capital.[13] While firms do not always report their spending on these activities, one possible way to quantify these differences is to use a variable in their accounting statements called selling, general and administrative (SG&A) expenses. SG&A is not a perfect measure, beause it includes various overhead expenses that are not directly related to promoting sales. But the category is clearly positively correlated with a firm's advertising spending, so there is nevertheless reason to view SG&A as a plausible measure of investment in customer capital.[14]

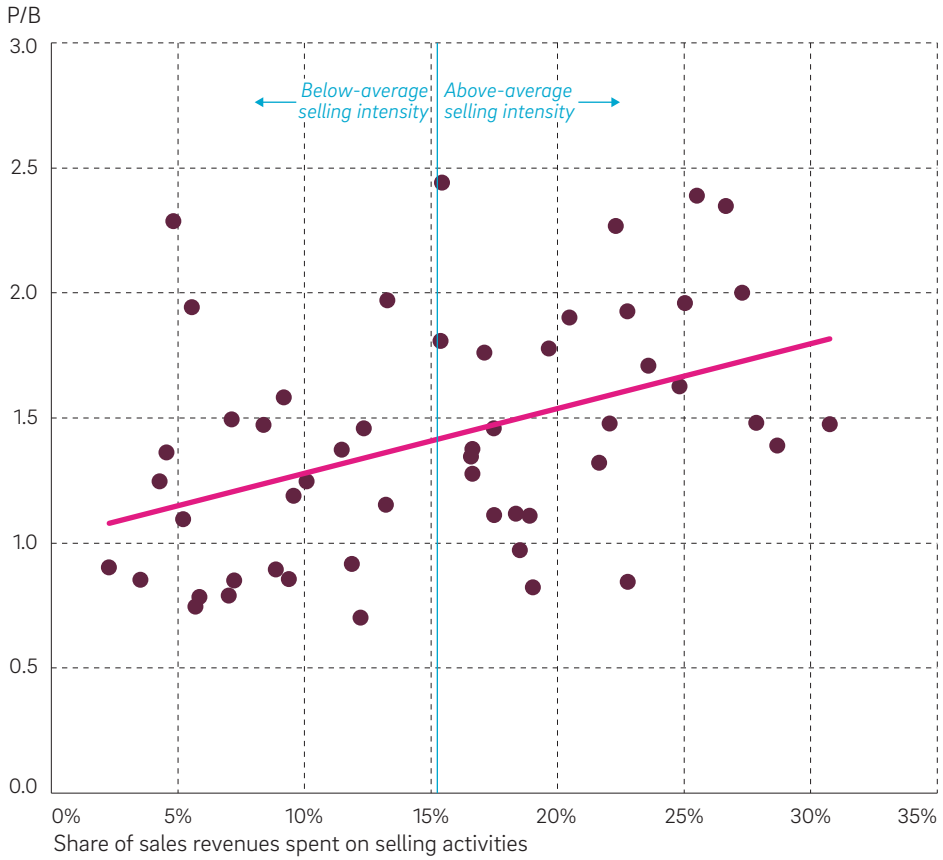
This variation across industries in SG&A reflects how much more important customer capital is to certain types of businesses than to others, as the value of existing customers is critically linked to how costly it is for firms to attract new customers.[15]

For example, some businesses sell very specialized goods or services, which means that it likely takes more effort on the part of salespeople to persuade a customer to make a purchase. Consider apparel retailing. This sector includes many competitors offering different styles and levels of quality, and as a consumer you likely have some preferences that influence where you purchase your clothing. The marketers and salespeople of these retailers work hard to help you in these decisions, and once you have found a store or brand you like, you may stick with them for some time to avoid having to shop around for alternatives. By

FIGURE 2

Positive Correlation Is Clear

52 U.S. industries by price-to-book ratio and selling, general & administrative spending.



Sources: Compustat and author's calculations.

contrast, in deciding where to buy gas for your car, the choice is much simpler, as there is much less variation in the product across sellers. For these types of businesses, whose products cannot be easily differentiated, marketing efforts are less likely to significantly boost sales.

As there is significant variation across industries in how much firms' market values exceed their book values, we would like to know whether these measures of customer capital can help rationalize these differences. To test the hypothesis that customer capital contributes to the high market values of firms, we compare an industry's overall intensity of selling-related activities—SG&A spending relative to sales revenue—with the difference between the market and book values of firms in that industry. Do more selling-intensive industries have larger differences?

To answer this question, we start by comparing industries with above-average selling intensity against those with below-average selling intensity. The first group includes, for example, apparel retailers and business services, whereas the second group sells commodities such as petroleum products and primary metals. How do the two groups compare in terms of their average price-to-book ratios (sometimes called P/B or market-to-book ratios)? Do share prices in selling-intensive industries exceed book values by a greater margin? Yes, substantially. The more selling-intensive industries have an average P/B ratio of 2.0, meaning that their market value is twice their book value, whereas the less selling-intensive industries have an average P/B ratio of only 1.3. The difference between the two groups is large as well as statistically significant.

Looking at the evidence on a more detailed, industry-by-industry level reveals significant variation across industries in both variables and a clearly positive correlation between the two (Figure 2). Firms in more selling-intensive industries tend to have higher P/B ratios. This evidence shows that customer capital does help explain the stock market valuation of firms.

Are Other Factors Driving Prices?

The evidence so far supports the idea that customer capital helps explain the market values of firms. But of course you might be concerned that our empirical measure of customer capital is perhaps correlated with some other explanation that might be driving the differences in firm values, rather than the one we have in mind here. What else might allow some industries to have higher stock prices? Can we rule out that some other factor is driving market values above book values? One such factor is market power.

By market power we have in mind a situation in which one firm—or a few firms—dominate a market and are consequently able to raise their prices above competitive levels. The extreme example is a monopoly, in which a single firm serves the whole market and is able to immediately and costlessly profit from the absence of competition by naming its price. Limited competition generally leads firms to produce too little and charge too much in their effort to profit from the position—not beneficial from a social welfare point of view.

By contrast, the story of customer capital boosting stock prices hinges on a firm investing in customer capital through its marketing spending and profiting only later as those customers continue to purchase its products. This also looks as if the firm is making profits above what should be possible in a competitive market. But if high valuations reflect profits accruing from its prior spending to accumulate customer capital, that is simply a matter of earning a return on its investment and need not imply market inefficiencies.

Evidence suggests that differences in our measure of customer capital across industries are not directly related to differences in market power across industries. Comparing an industry's selling intensity with the degree to which it is dominated by a few firms, as measured by the Herfindahl index, does not indicate a systematic relationship between the two measures across industries, suggesting that the story of customer capital is distinct from the story of market power (Figure 3).

Another possibility is that firms' P/B ratios are elevated because they face financing constraints that prevent them from acquiring as much productive capital as they could profit from, raising their potential value to investors relative to the book value of their current capital. An industry's average firm size and dividend payout can both be viewed as proxies for whether its firms face financing constraints. It turns out, however, that there is no clear relationship between an industry's selling intensity and either dividend payouts or firm size. This finding illustrates that the customer capital story appears separate from financing issues as well.

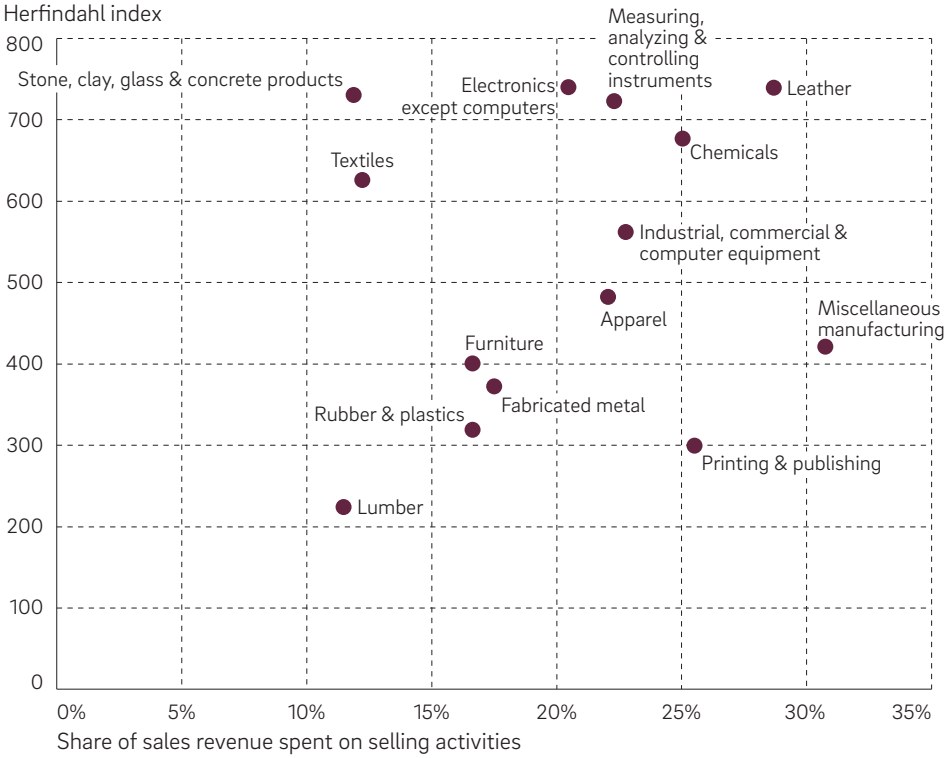
A Long-Standing Puzzle

The evidence we have seen suggests customer capital plays a potentially important role in explaining the market values of firms and calls for developing a theory to rationalize these observations. With such a theory, economists can use our measure of customer capital to test additional implications against the data—including a perplexing issue regarding firms' investing behavior.

A theory that François Gourio and I have proposed posits that consumers search for sellers whose products they like, and once they find one, continue to purchase from that seller for some time, to avoid the costs of searching for a new one. Put another

FIGURE 3

Market Power and Selling Intensity Not Correlated



Sources: Compustat and author's calculations.

The Herfindahl Index

The Herfindahl Index, as the Herfindahl-Hirschman Index is more commonly known, measures concentration. In this article, I use it to look at market concentration—that is, the number of companies dominating their respective industries.

You can calculate the index by squaring the market shares of the companies in the market and then summing the squares. Depending on whether you use fractions or percentages, the index can range from either 0–1.0 or 0–10,000. The closer to 1.0 or 10,000, the more concentrated the market.

For a fuller explanation of the index, see a technical note from the Federal Reserve Bank of St. Louis at https://fraser.stlouisfed.org/files/docs/publications/FRB/pages/1990-1994/33101_1990-1994.pdf.

way, all else equal, consumers would rather keep buying what has worked out well for them in the past, making them more brand-loyal than brand-fickle. For their part, firms undertake costly marketing and selling activities to inform these searching consumers of their products with the goal of ultimately turning them into new customers. Some of those consumers then become part of the firm's loyal customer base, contributing to its revenues for a period of time.

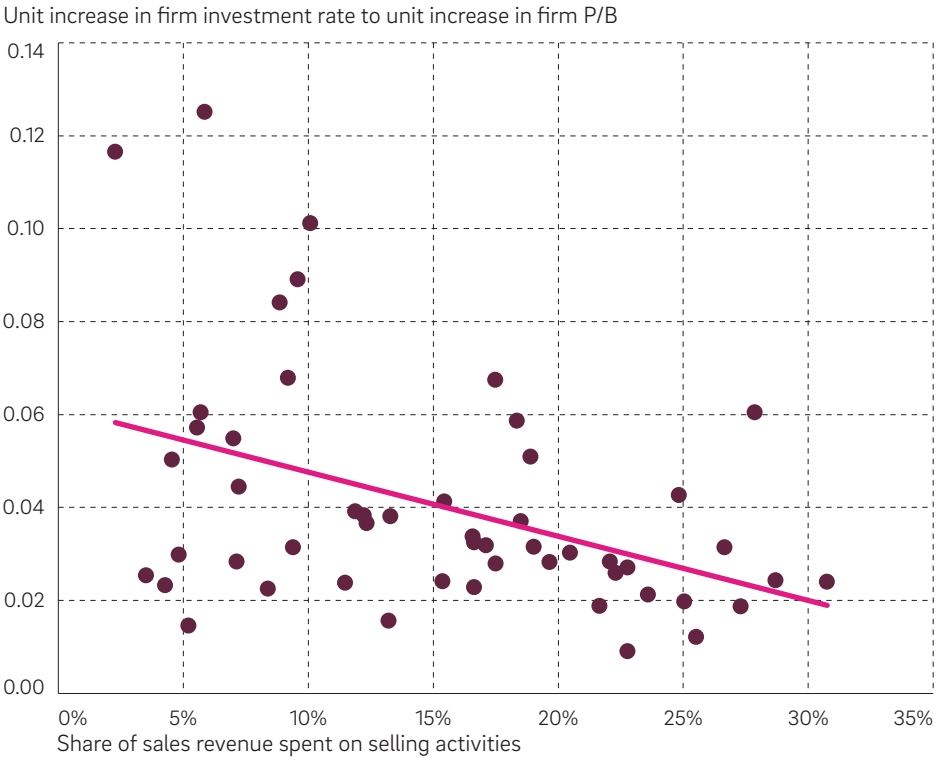
The model provides a simple framework for explaining how customer capital raises the firm's market value above its book value. In the theory, in markets where the costs of acquiring new customers are greater, firms spend more on marketing and selling and have greater price-to-book ratios, as their existing customer base is more valuable. In markets whose products can be differentiated by style or quality, firms must spend more on marketing and selling and they also have higher price-to-book ratios, as their customer base is more valuable to them than existing customers are to firms whose products are harder to distinguish from those of their competitors.

The theory has other predictions that allow us to better understand a long-standing puzzle regarding firm investment behavior. Standard business theory holds that a firm's decision to invest should generally depend on how much value it can derive from the additional capital. A high P/B ratio would indicate its assets are generating profits beyond the value of those assets, which would justify investing in more assets. In reality, though, businesses do not appear to systematically invest according to this seemingly simple logic.

Incorporating customer capital into the theory offers a new rationalization for firms' behavior. Again we group industries according to their selling intensity. Now we can observe how investment responds to higher price-to-book ratios depending on whether they are in industries with greater than average versus less than average selling activity. Our theory would predict that, in the presence of customer capital, the investment response to changes in P/B becomes weaker. And that is what the evidence indicates (Figure 4). In the theory, investment responds

FIGURE 4

Investment Less Responsive to P/B in Selling-Heavy Industries



Note: Responsiveness is measured by the covariance of a firm's investment rate with its price-to-book ratio relative to the overall variance of the price-to-book ratio. The measure is also equivalent to the regression coefficient in a linear regression of the investment rate on the price-to-book ratio.

Sources: Compustat and author's calculations.

with a delay because an expanding firm must also accumulate additional customers, and that takes time. The theory thus helps explain why the basic prediction about business investment that researchers have tried to test has not held up.

Applying this idea to recent macroeconomic events, economists wish to better understand why business investment has remained low following the Great Recession. If customer capital explains the gap between stock prices and book values, then P/B ratios might not reflect the true return on firms' assets. It could be that firms are already investing in their operations in a way that reflects the value they can expect to gain from expanding. And today's low interest rate environment would imply a higher present value of customer capital, perhaps helping explain the higher market valuations of firms.

Intangible Capital Matters

Our work supports the idea that intangible capital—and not simply bubbles driven by changing sentiment—plays a role in explaining the high market values of firms.[16] But of course intangible capital is a broader concept than just customer capital, including things like organizational capital and research and development capital as well.[17] With this broader interpretation of intangibles in mind, economists have argued that intangible capital can explain, for example, the fact that the U.S. economy was booming during the 1990s, while a standard macroeconomic model would predict a recession![18] The key to the explanation lies in the observation that during that period, the economy was intensively accumulating intangibles that largely got expensed away in accounting instead of being treated as investment. Clearly, neglecting intangibles can give a very incorrect impression of how the economy is doing and of what policies are warranted. The challenge lies in finding ways to quantify these intangibles—a key motivation for the measures of customer capital proposed here, as well as a call for new work to deepen our understanding of intangible capital in general.

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Notes

1 See the CMO Survey.

2 Costas Arkolakis' article includes a measure of marketing as a share of GDP.

3 See the two articles by Lucia Foster, John Haltiwanger, and Chad Syverson.

4 See Sara Moreira's work.

5 See Doireann Fitzgerald, Stephanie Haller, Yaniv Yedid-Levi's work.

6 See Emin Dinlersoz and Mehmet Yorukoglu's article.

7 See the articles by Costas Arkolakis and by Lukasz Drozd and Jaromir Nosal.

8 See the article by Isaac Kleshchelski and Nicholas Vincent and the unpublished work of Luigi Paciello, Andrea Pozzi, and Nicholas Trachter. Taking the pricing implications a step further, a forthcoming article by Simon Gilchrist, Raphael Schoenle, Jae Sim, and Egon Zakrajzek explains why inflation did not fall more during the Great Recession by arguing that while firms in general had cut their prices to maintain their customer base, financially constrained firms were forced to raise their prices instead. Gilchrist and his coauthors also argue in an unpublished paper that related ideas may help explain the financial tensions created when the member countries of a monetary union differ in their fiscal soundness, as in the European Union, leading the weaker countries to run persistent trade deficits.

9 Robert Hall documented this discrepancy in his 2001 articles.

10 Hall attributed the difference in valuations to the value of intangible assets not being captured among the hard assets in the firms' accounts. He also showed that there is considerable variation in these differences across industries.

11 See Leonard Nakamura's work on intangibles and measurement.

12 In fact, in the face of large marketing expenses, the company Groupon has adopted the nonstandard accounting practice of treating marketing expenses as investment, amortizing the expenses over time rather than expensing them as the spending occurs. See the *Wall Street Journal* blog.

13 Hall's work forms the basis of this observation.

14 Ad spending for industries with above-average selling intensity averages 1.8 percent of sales versus 1.3 percent for those with below-average selling intensity. Data are from Compustat.

15 The loyalty of existing customers matters also and is likely to vary across industries, but we will abstract from that in what follows.

16 See also the work of Frederico Belo, Xiaoji Lin, and Maria Vitorino on differences across firms in asset returns.

17 See Leonard Nakamura's work on intangibles in Philadelphia Fed *Business Review* articles and working papers.

18 See Ellen McGrattan and Edward Prescott's research.