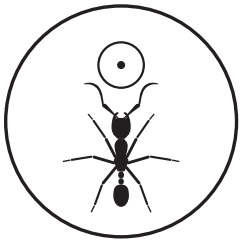

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Anatomy of Leverage

Among the more dangerous doctrines of Keynesianism is the assertion that debt levels are immaterial. Every dollar owed by A is a dollar anticipated by B: debt and credit cancel on a societal basis. Paul Krugman explained: "the debt we create is basically money we owe to ourselves."

Like most of Keynes' ideas, this fallacy was not novel to him, but was vigorous enough in an earlier age that David Hume felt the need to dispatch it in 1742:

> We have, indeed, been told, that the public is no weaker upon account of its debts; since they are mostly due among ourselves, and bring as much property to one as they take from another. It is like transferring money from the right hand to the left; which leaves the person neither richer nor poorer than before. Such loose reasonings and specious comparisons will always pass, where we judge not upon principles. I ask, Is it possible, in the nature of things, to overburthen a nation with taxes, even where the sovereign resides among them? The very doubt seems extravagant.

Yet, three centuries later court economists continue to ply the folly that debt levels don't matter. Perhaps the seductions of power can explain the motivation of the political class to persist in an erroneous defense of a huge public debt, but what could motivate a private company to risk its integrity by grievously overburdening itself with debt?

The Capital Asset Pricing Model (CAPM) in which generations of MBA students have been indoctrinated, accepts the Keynesian view that debt is neutral in aggregate, but raises the insanity by suggesting it is better to be on the debtor side of the balance sheet. Equity capital demands a higher return than debt capital because it is more at risk – if the firm falters, the equity is wiped out before the debt holders lose any claim on assets. Debt, therefore, is a much cheaper form of capital than equity, and adding debt to a capital structure lowers the blended cost of capital. The tax shield from the ability to deduct interest payments is an added bonus.

Though the CAPM was formulated only the 1960s, the argument has older roots. Walter Bagehot's 1873 definitive text on banking contains the following passage:

> If a merchant have 50,000 L. all his own, to gain 10 per cent on it he must make 5,000 L. a year, and must charge for his goods accordingly; but if another has only 10,000 and borrows 40,000 L. by discounts (no extreme instance in our modern trade), he has the same capital of 50,000 L. to use, and can sell much cheaper. If the rate at which he borrows be 5 per

> cent, he will have to pay 2,000 L. a year; and if, like the old trader, he makes 5,000 L. a year, he will still, after paying his interest, obtain 3,000 L. a year, or 30 per cent, on his own 10,000 L. As most merchants are content with much less than 30 per cent, he will be able, if he wishes, to forego some of that profit, lower the price of the commodity, and drive the old-fashioned trader - the man who trades on his own capital - out of the market.

The least bit of analysis reveals the flaws with this analysis. First, the premise is completely unsound. In the first two lines, Bagehot supposes the trader prices his wares in order to make 10% on his capital. In a free market, however, the supply and demand of the goods put at sale determines their price, not the merchant's view of what his capital should return. To render the sentence coherent, a *be able to* must be added after *must*, and when the new trader enters the market, presumably the return on assets will fall.

Consider the result if the return on capital employed in this line falls from 10% to 4% because of the new competition. The old-fashioned trader continues to make 2,000 L. a year. Meanwhile, the levered trader's income is reduced to zero, since all of the profit must go to the debt holders. With no one to manage the firm, the debt holders must either reduce their interest requirements (i.e., take losses) to provide additional equity to entice new management to exert the effort of running the firm, or, more likely, liquidate the assets at a loss and allow market prices to revert to their previous levels.

Some of the traders' and creditors' losses are compensated by gains to the consumer, who pays lower prices during the period of oversupply. But, the effort of organizing the competing business, which could have been allocated more profitably, is deadweight loss both to investors and society.

There is, of course, another scenario. What if inflation strikes and nominal prices soar? In this case, the levered trader does indeed make far more on his capital than the old-fashioned trader. As the real burden of debt is devalued, he makes not only the gains from trading, but he appropriates value that properly belongs to his creditors. Similarly, if nefarious forces push the rate of interest from its natural level of 5% to an artificial level of, say, 2%, then the new trader also gets to appropriate income that should go to debt holders.

What if, in fact, the new trader doesn't even supply the equity capital, having enticed his friends to contribute the 10,000 L. equity, and instead has a management contract promising him 25% of all of the gains to the equity? Then we would call him a modern, CAPM-trained executive. And, his incentives would be clear: take as much risk as possible. Any losses accrue to his friends and creditors, yet he takes a quarter of the gains.

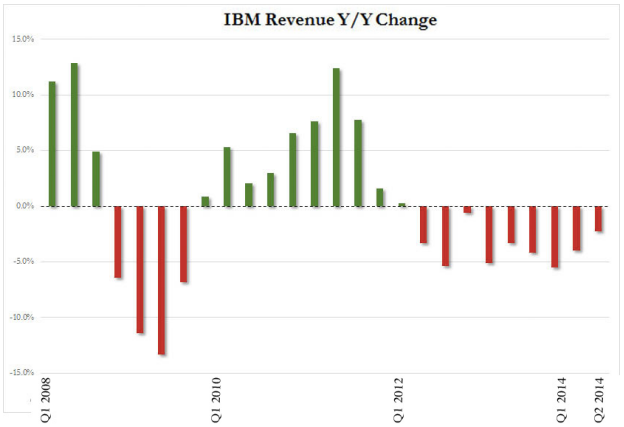
To add further realism, we should stipulate that the equity capital doesn't come from his friends at all, but from professional money managers who themselves also take call options on the upside to the equity, the reason why they acquiesce to the rickety capital structure. The beneficial owners must submit to these parasites, including taxes from the government, for any gains, but are responsible for bearing all of the losses.

The CAPM justifies this absurd corporate structure first because, from a societal perspective, it is claimed, distress merely transfers ownership from one set of stakeholders (equity holders) to a different (creditors), and, second, by assuming the costs of distress

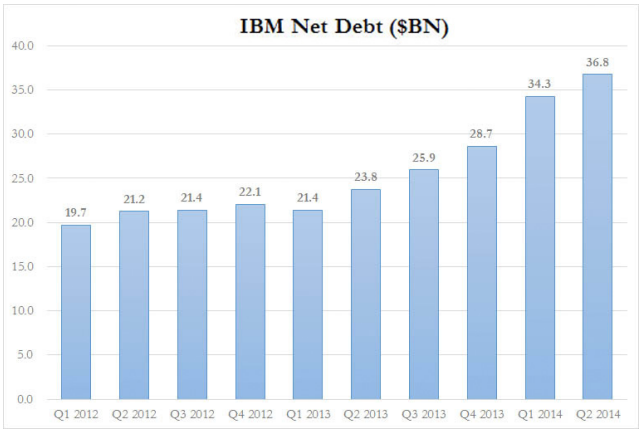
to be immaterial.[1] Indeed, this can be quite accurate . . . for management, since managers often persist after a restructuring and are granted new stock options to roll the dice with other people's money once again.

More or less every successful company in modern markets plays Bagehot's game to some degree. Exhibit 1 is a series of charts prepared by the conspiratorially-minded finance website Zerohedge.com showing IBM taking the CAPM to the limits.[2]

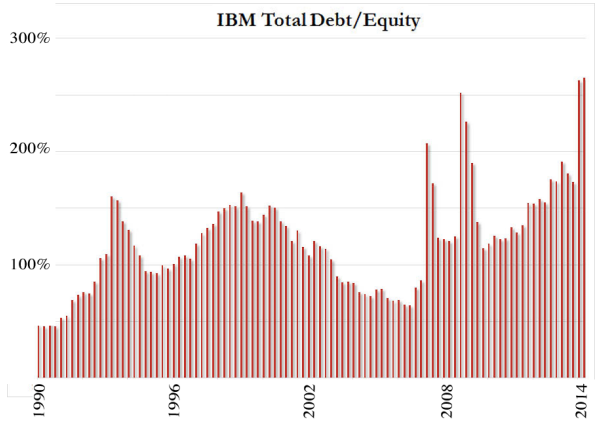
First we see that the business is not healthy. The top chart reveals that revenues have been shrinking every quarter since 2012. During this time of shrinking revenues, IBM raised $33.6 billion in debt to buy back $37.7 billion worth of shares: in other words, shares were repurchased not by the fruits of cash flow but mostly through debt issuance.



To consider what this would mean in Bagehot's stylized example, imagine the new trader begins with 30% return on his capital (3,000 L. on the 10,000 L. of equity), but then prices fall such that he only makes 2,000 L., or 20%. He responds by replacing an additional 5,000 L. of equity with debt. This incremental debt at 5% costs him 250 L., reducing his income to 1,750 L. But, now there is only 5,000 L. of equity capital, and so his return on equity capital rises to 35%. His shareholders cheer as he takes a large bonus.



This hypothetical is not far from reality. The bottom chart is IBM's net debt total debt to equity ratio.



What will happen to equity cash flow if interest rates rise? What will then happen to the shareholders who hold IBM on margin?

1 Academic papers (e.g., Warner (1977) and Weiss (1990)) assume 3%-5% of firm value in direct costs, plus some indirect costs, but even this is discounted by the chances of avoiding distress and the time value of money.

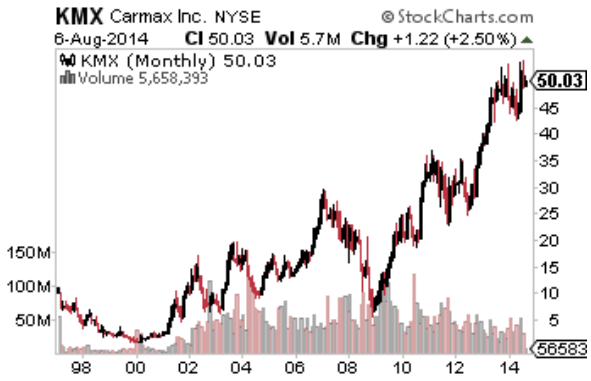
2 http://www.zerohedge.com/news/2014-07-17/scariest-chart-ibms-history

IBM, of course, has its defenders. The shrinking revenues reflects a shift in business from hardware to software, which has higher cash margins. Yet unknown are the resulting effects on customer stickiness, competition, the rate of capital obsolescence, etc.

The expanding debt, it is argued, is justified by IBM's entry into the banking business: the company offers its customers an "integrated financing facility." And, whereas the "Systems and Technology" segment has negative margins, and the "Software" segment has a pre-tax margin of 34%, the "Global Financing" segment has 51.8% pre-tax margins. Financing is where the money is.

It should be no surprise, then, that as of June 30, 2014, IBM had lent over $40 billion to its customers against shareholder equity of $17 billion. Let us hope that the creditors who have lent IBM over $52 billion – to allow the company to avoid the awkward request for cash when it sells its products and to buy back its own shares – are patient and understanding during the next credit crunch. In a normal downturn, a company can cut its expenses as revenue falls. With IBM, revenue already booked for products that have already shipped will be in jeopardy.

Exhibit 2 shifts from hi-tech to low-tech: used cars. Carmax has taken the used car market by storm, professionalizing a shady, fragmented market. It's a simple business model: "We provide low, no-haggle prices; a broad selection of CarMax Quality Certified vehicles; and superior customer service."



Carmax's most recent quarter showed net earnings of $170 million, giving the stock a P/E ratio of only 16. With an annualized earnings growth of 10% over the past three years, even at record highs the stock looks cheap. No wonder the board has authorized an additional $1 billion in share buybacks. Carmax's $11 billion equity value is a testament to management productivity, given book value of only $3.3 billion. Investors love it.

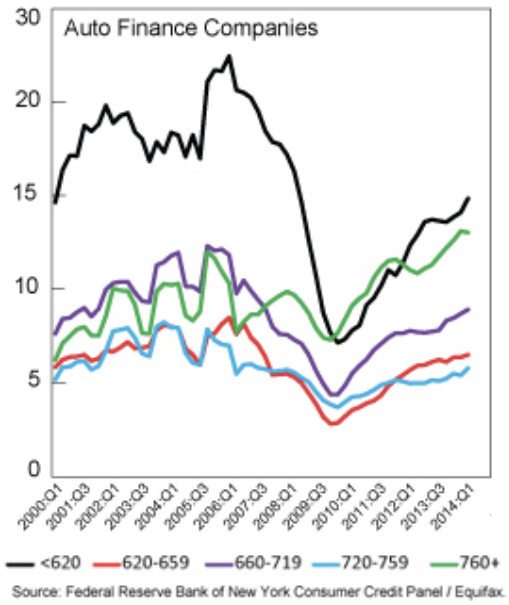
Looking under the hood at the balance sheet, however, reveals some interesting figures. Of the $12 billion in assets, nearly 25% are what one would expect: property and equipment (namely the stores) and inventory, or used cars sitting on the lot. An additional $7.5 billion of the assets are characterized as "Auto loan receivables, net." These receivables are balanced by $7.6 billion of "non-recourse notes payable."

It turns out that 41.3% of Carmax's customers drive off the lot leaving behind an IOU. Even more eye-popping, the weighted *average* interest rate on this debt is 7.2%: the Fed's zero percent interest rate policy is more zero for some than for others. The debtors are stuck servicing this high-yield debt for years: the weighted *average* maturity is 65.5 *months* . . . on pre-used assets that depreciate rapidly and have a propensity to break down. Even if the car winds up in the junk yard, the debt persists. Perhaps Carmax will launch a used scooter & bicycle business for these unfortunates – rain gear not included.

Carmax has a proprietary, internal model of assigning its customers credit grades of A – C. Less than half its customers rank Carmax's own A grade, even though the company's website cautions: "Most financial institutions recommend that you spend no more than 15% of your gross monthly income (GMI) on your monthly vehicle payment." That means pre-tax. Working through Carmax's helpful "Payment Estimator," reveals that if someone making $33,000 per year walks into a Carmax, the company will recommend he spend not more than $20,000 on his used car. What is left for housing and student loan payments, not to mention food?

Apparently, Carmax thinks that having such quality debtors at such low interest rates with such modest amounts of their incomes directed toward their car leaves money on the table. The latest filing includes this gem: "In January 2014, CAF launched a test to originate loans for customers who typically would be financed by our third-party subprime providers."

Auto Loan Originations by Credit Score



Source: Federal Reserve Bank of New York Consumer Credit Panel / Equifax.

Carmax isn't in the car business as much as, like IBM, it seeks to be in the banking business. And, as long as a credit boom is expanding, the more leverage, the greater the profits: expanding into sub-prime increases current cash flow; buying back shares leverages the capital structure of the firm to the sub-prime leverage. Management, of course, is compensated with call options, which expose them to none of the downside but leverage of the third order on the upside.

In the past three months alone, insiders have extracted $45 million through selling shares. The CEO, over the past two years has dumped personally net $35 million worth of stock. This figure does not include his multi-million dollar per year cash compensation package. And, miraculously, whereas he owned 489,818 shares two years ago, after selling 1.3 million shares, he now owns 546,690 shares.[3]

When the next downturn in the credit cycle hits, Carmax's CEO will retreat to his new summer home on Martha's Vineyard. The beneficial owners, meanwhile, will be stuck with huge losses on the $7 billion loan portfolio, not to mention the exposure to depreciating cars sitting on the levered real estate that houses the parking lots. Investors should consider the 80% plunge the stock suffered during the 2008 crisis as a preview of how this business model will respond to the next credit shock.

Perhaps the company learned from the 2008 disaster: a footnote on the balance sheet suggests that the auto-loan receivables have been placed in securitized structures, insulating the company from this toxic sludge by foisting it onto others, such as, perhaps, pension fund beneficiaries. But, if this be the case, why, then, do the figures appear on Carmax's own balance sheet?

3 Morningstar reports gross sales of $50 million balanced by $15 million of stock option exercises since January 2012. Share holding data from Nasdaq.com

From a societal perspective the answer is immaterial. The point of this analysis is not to issue a buy/sell recommendation on Carmax, but to demonstrate how the financialization of the economy has allowed audacious management to make fortunes, not through innovation or efficiency, but through gaming the CAPM and Bagehot's folly. Their fortunes are the fruits of extracting value from beneficial owners. The Carmax business model is what the Fed saved by its extraordinary policies in 2008.

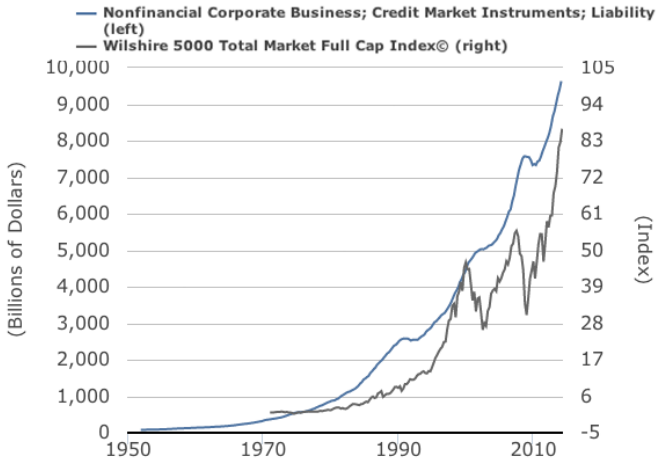
Who would invest in a company with such a crazy capital structure? It turns out most beneficial owners don't even know they own it. Nearly 70% of the stock is held by institutions through funds with names such as "T. Rowe Price Mid-Cap Growth" and "Wells Fargo Advantage Growth Inv" and "Vanguard Capital Opportunity Inv"; Lord only knows who owns the bonds.

If Carmax does blowup when the credit cycle turns, at least the CEO will be able to focus on the other company of which he is a director – a home-builder that incorporates a mortgage banking operation that boasts: FHA qualified buyers can put as little as 3.5% down!

Exhibit 3 is not a business that wants to become a bank, but a bank that wants to become a hedge fund. Legislation originally constrained the Federal Reserve from holding anything other than gold and commercial and government bills with maturity dates not exceeding 90 days. Needless to say, the unit of liability of the Fed, which became known as the "dollar," was sterling.

By 1970, 70% of the Fed's assets were government debt with a weighted average maturity of two years, while only 12% remained gold. The market became suspicious of the value of Fed assets and, therefore, the value of the Fed's unit of liability, and a great devaluation followed.

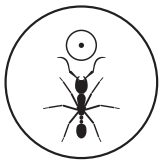
Today, the Fed's assets comprise a toxic mixture of mortgage-backed securities and long-term Treasury bonds – the most sensitive to interest rates – of a spendthrift Congress beholden to debilitating entitlements. It acquired these assets in an effort to drive down interest rates and stoke inflation, a policy that encourages the assumption of debt throughout the economy, a policy that shifts wealth from the cautious to the reckless, a policy that sanctions, nay, as the chart reveals, mandates executives across the economy adopt the Carmax/IBM business model in their own self-interest at the expense of other stakeholders.



As the chart makes clear, equity returns have been driven by leverage. Leverage is fantastic on the upside, but if there is any hiccup in the financial system, this mountain of debt has priority over the assets shareholders think they own.

In the next credit crisis, will the Fed really have the stomach to double down, to buy the debt of Carmax and IBM and all of the companies like them to bail out the economy? If not, what happens to the "wealth affect" as investors are eviscerated? If so, what happens to its own balance sheet and the unit of liability it issues against its assets, i.e., the "dollar"?

Gold offers the only safe haven from the madness revealed in the previous chart. Gold shares offer leverage to the debt collapse, and an opportunity for those who have been swindled by corporate managers to recover some of their losses. The beneficial owners of conventional investments will be crushed.



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