

A banner image featuring a low-angle shot of a modern glass skyscraper against a bright blue sky with scattered white clouds. The text "Payden & Rygel" is overlaid in a white, elegant serif font.

Payden & Rygel

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# POINT *of* VIEW

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OUR PERSPECTIVE ON ISSUES AFFECTING GLOBAL FINANCIAL MARKETS

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*The Leverage Myth*

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# The Leverage Myth

What if a notion you hold about the world is widely accepted, yet wrong?

We've all heard the old wives' tales: wait at least 30 minutes after eating before going for a swim. If you go outside with wet hair, you *will* catch a cold. As humans we weave plausible stories together to help make sense of the world around us.

Myths surround the financial markets, too. Perhaps the most ingrained myth, since 2008 has been a story concerning leverage. Inquire as to the cause of the financial crisis and don't be surprised to hear, "It's all about *leverage*." If we ask a colleague to explain the depth and duration of the recession? "It's all about deleveraging." The reply would come as if on cue from a playwright's script.

In fact, it's become an all-purpose word. Why is inflation subdued? "Deleveraging!" Why are bond yields low? "Deleveraging!" One renowned investor even labeled the post-crisis economic process as the "beautiful deleveraging."

Just as the cold symptoms begin shortly after the post-shower evening stroll, a semblance of truth exists. Borrowing *is* down, inflation *is* low, economic growth *is* slow, and government debt levels *are* high as measured as a share of national output (henceforth debt/GDP). Is leverage (the accumulation of debt) the unifying theme?

Just as exploding the myth of the old wives' tale helps us understand the fundamental mechanics at work in the world, the same is true for investors: expose the heart of the problem to make better informed investment decisions. Here we go.

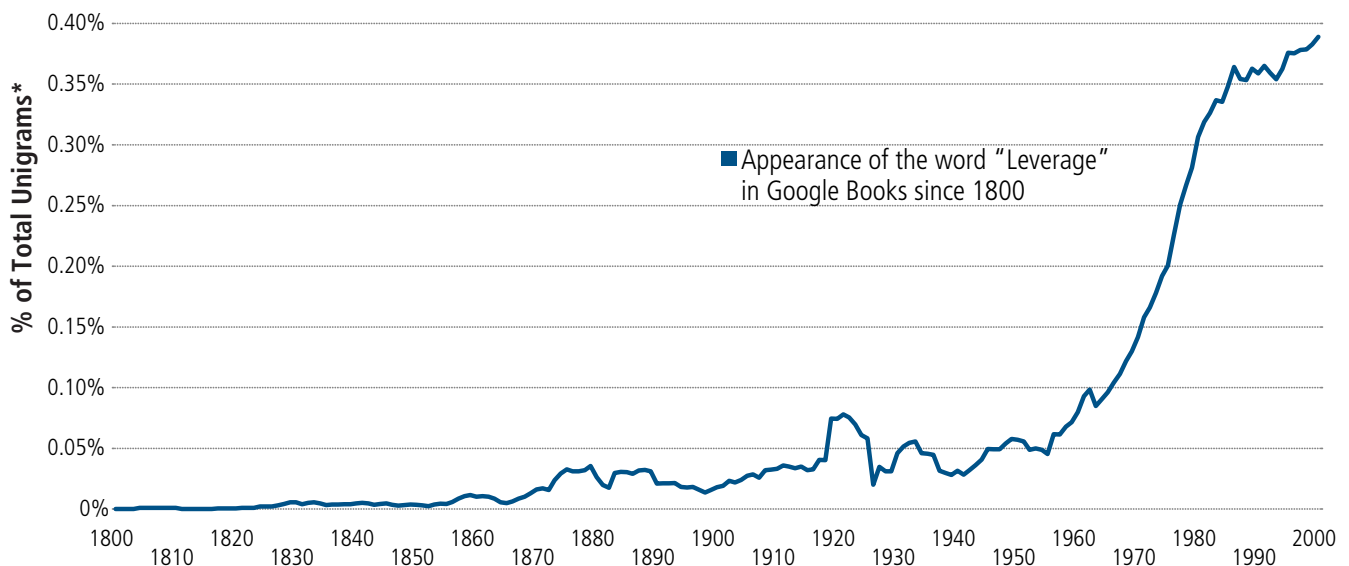
“PERHAPS THE MOST INGRAINED MYTH, SINCE 2008 HAS BEEN A STORY CONCERNING LEVERAGE.”

## HISTORICAL ECHOES

Neither leverage nor its antithesis, deleveraging, is new. A look at Google Ngram Viewer (see Figure 1) shows the epic rise of the term in the late 20th century. The inspiring author: one Irving Fisher, economist.

Mr. Fisher pondered the effects of "leverage" in the 1930s after wagering a healthy sum on stocks—and los-

fig. 1 THE LONG HISTORY OF "LEVERAGE": WHAT THE BOOKS TELL US



\*All numbers are exact when multiplied by  $10^{-7}$

Source: Google

ing it in the 1929 crash. Beginning in 1930, his theory of “debt deflation” appeared in numerous books and grew in popularity in the aftermath of the Great Depression before entering relative hibernation until the 1970s. The notion is simple and familiar to modern readers. As collateral values decline, a borrower’s ability to continue borrowing rapidly decreases, often resulting in a fire-sale of assets. In Fisher’s example, the stock market crash and ensuing depression after 1929 were signs of this “debt deflation.”

### THE MODERN VERSION, REPACKAGED TO ENTERTAIN INVESTORS

With that backdrop, modern variants of the same leverage story may ring true for certain investors today.

Here’s how it works. Imagine a US home owner in Las Vegas in 2004 borrowing using a house as collateral. If the house costs \$100,000 and Joe Homeowner borrows \$80,000, he pays \$20,000 as a down payment. The loan-to-value is 80% (\$80,000 divided by \$100,000). The “leverage” rate is the asset value divided by the cash re-

quired at purchase, \$100,000 divided by \$20,000, or 5 to 1. In modern parlance, the buyer is “leveraged 5 to 1.”

Or, if you prefer, by 2006, an investment bank could buy AAA-rated mortgage-backed securities (MBS) by using the MBS as collateral to finance the holdings on a rolling, overnight basis. Due to the perceived high quality of the collateral posted, the bank would pay upfront cash of just 1.6%. This investment bank in this example would be “leveraged” roughly 60 to 1.

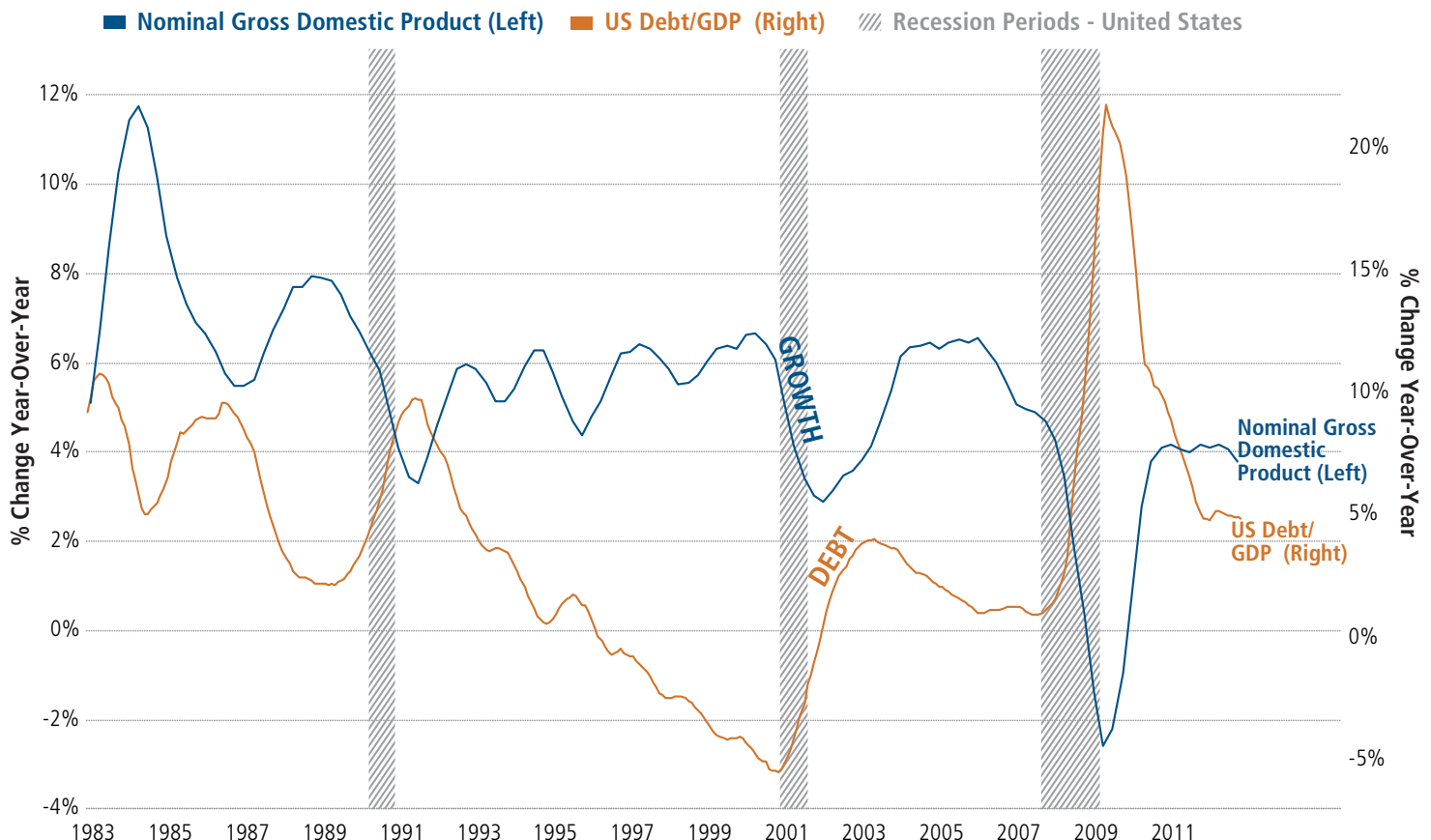
Both forms of leverage were indeed integral to the boom and the bust that followed from 2003 to 2007.

### PROBLEMS WITH THE THEORY

It’s a great story. Elegant, intuitive, yielding interesting insights. And, as we highlighted above, multi-purpose. It also plots a path for public policymakers: put a cap on leverage (or at least recognize it) and you can help control economic fluctuations (“smooth out the business cycle”).

So what’s the problem?

fig. 2 WHEN ECONOMIC GROWTH SLOWS, DEBT/GDP SPIKES—NOT THE OTHER WAY AROUND



Sources: Bureau of Economic Analysis, Treasury Department

First, you might assert, banks were “over levered”, right? As It turns out, banks maintained leverage ratios in 2007 no greater than in 1997. We push on the theory: why no crisis in 1997? or 2003?

Second, what about households? Indeed, households were leveraged but household assets primarily included equities, mutual fund shares, and pension and life insurance reserves (37-56%), followed by real estate (30-42%) through 2010. Leverage spiked when household values *fell* sharply in the crisis, but at no time did debt exceed net worth by more than 28%. Once again, we wonder, if this is the problem, why no crisis in other years?

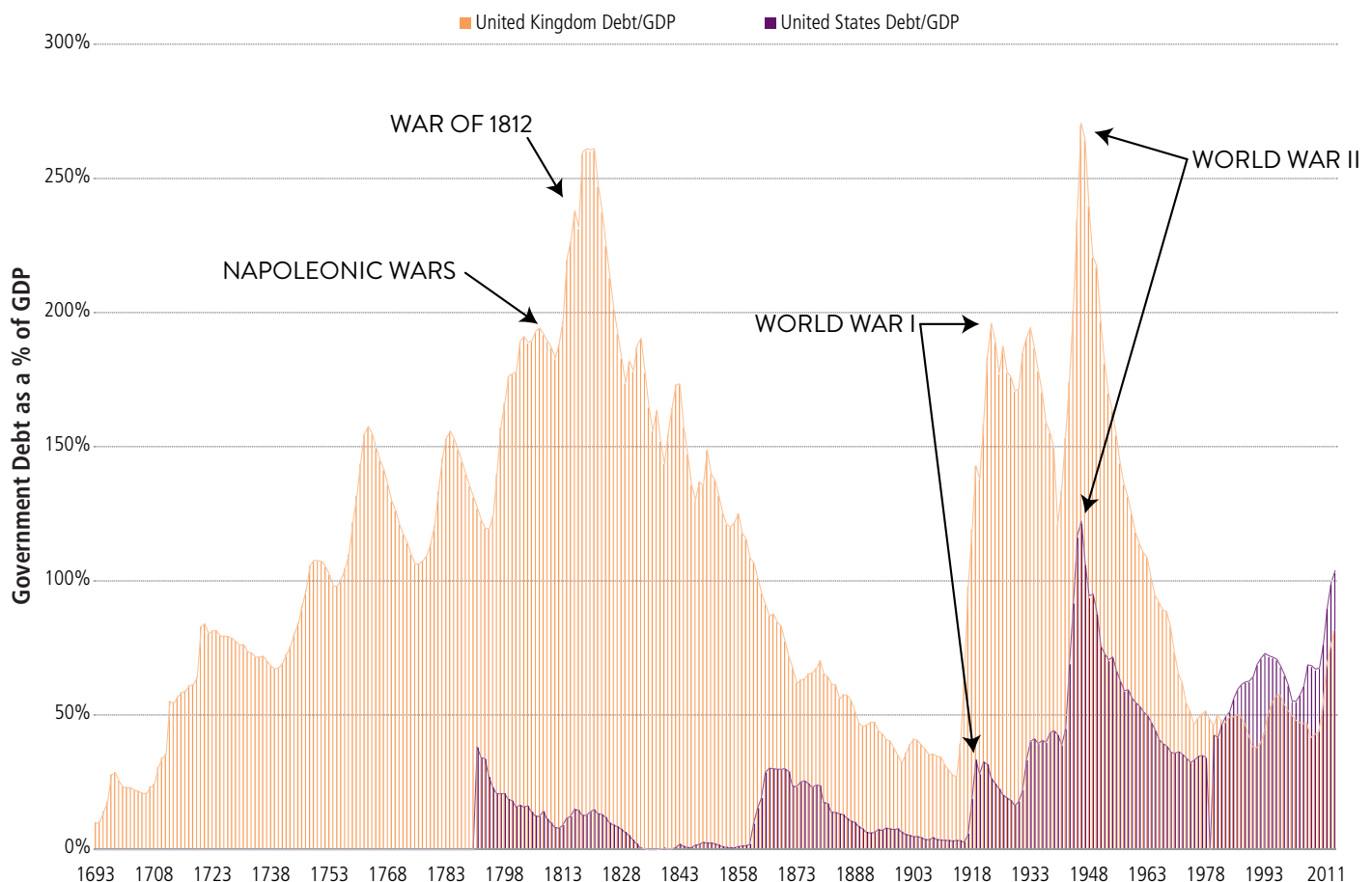
What about corporations? To the contrary, the words “thrifty” and “frugal” describe the nonfinancial business sector. Leverage actually fell in the run up to the crisis as corporations accumulated record levels of cash on balance sheet.

But, surely, broker-dealers were “over levered,” right? Well, as it turns out, banks were no more “levered up” in 2007 than in 2003.

To help understand, let us dial back 400 years. In William Shakespeare’s *The Merchant of Venice*, leverage provided the key plot device (only economists would arrive at this conclusion). As Yale economist John Geanakoplos asks: “Who can remember the interest rate Shylock charged Antonio? (It was zero percent) But everybody remembers the pound of flesh that Shylock and Antonio agreed on as collateral.”

As it was for Shylock and Antonio in 1597, so it was in 2007: collateral counts most in credit creation. When borrowing against collateral, as long as collateral values remain stable or rise, everything is fine. But, if collateral value declines a crisis ensues. The crisis corresponds to the case where information is produced and only good collateral can be used once it has been identified.

fig. 3 DID HIGH DEBT/GDP HOLD THE US AND UK BACK? NOT IF HISTORY IS A GUIDE



Source: Treasury Department and HM Treasury

Indeed, during the financial crisis, not all collateral was shunned by the marketplace as long as it was viewed as “good collateral.” For example, for broker-dealer banks before October 2008, corporate bonds maintained their pre-crisis collateral value and had no haircuts applied.

Furthermore, a critical question remains unanswered: why does the de-leveraging occur? The “big 5” US broker-dealers increased total assets from just 2% of GDP in 1980 to 35% in 2007! This accounts for roughly a third of assets of the banking system. This is a long road from 1980, when broker-dealers provided fee-based “broking” services to behemoths depending on the availability of good collateral to borrow. If perceived “good collateral” becomes tainted, borrowing becomes difficult.

### THE RELATED NOTION: DEBT BURDEN IN DELEVERAGING

Another related notion is that debt overhangs (the stock of debt) impede growth. This concept was popularized by Harvard Professors Carmen Reinhart and Ken Rogoff, of *This Time is Different* and “Growth in a Time of Debt” fame. They write: “When gross external debt reaches 60 percent of GDP, annual growth declines by about two percent; for levels of external debt in excess of 90 percent of GDP, growth rates are roughly cut in half.”

Further, in the words of Reinhart: “What the data seem to reveal is that at lower ranges of debt, you really can’t make a link between debt and growth. But once you hit a certain threshold, you hit a wall.”

While more recent research throws into question the precise magnitude of the growth slowdown, the real problem seems to be a case of “correlation versus causation.” If umbrellas appear on the streets of New York City as raindrops begin to blanket the sidewalks, did the instruments *cause* the rain?

With regard to government debt, we find that the rise in debt/GDP follows a slowdown in the economy. Why? Quite simply: an economic slowdown hits government revenue coffers, reducing sales, and income tax receipts. Meanwhile, governments usually maintain previous spending plans at least for a time. This gap—the “budget deficit”—widens and must be financed through increased borrowing. So, just as the GDP growth slows, borrowing adds quickly to the overall debt burden. The

most popular metric—debt/GDP—records a sharp increase.

But, this is not the *cause* of slow growth, quite the opposite, in fact. When growth slows, tax revenues fall, and debt burdens rise (See Figure 2 on previous page).

We suggest the same has always been true. In the spirit of Reinhart and Rogoff, if we track back hundreds of years the same pattern abides. Take for example, the United States and the UK over the past two centuries. Periods of high debt/GDP were followed by growth slowdowns (the Great Depression) or war. Did these periods portend slow growth?

Once again, quite the opposite: from the absolute peak of Britain’s debt/GDP after the Napoleonic Wars (by the way, a far cry away from today’s British debt/GDP levels and more “Japan-like”), what happened (See Figure 3)? The industrial revolution: or the greatest period of economic growth in world history (prior to the emerging markets phenomenon over the last two decades).

There is no critical threshold for debt/GDP. What’s more, high debt/GDP do not suggest an economy is doomed to slow and sluggish growth. In fact, history tell us spectacular growth periods often follow for good reason:

“WHO CAN REMEMBER THE INTEREST RATE SHYLOCK CHARGED ANTONIO? (IT WAS ZERO PERCENT) BUT EVERYBODY REMEMBERS THE POUND OF FLESH THAT SHYLOCK AND ANTONIO AGREED ON AS COLLATERAL.”

the preceding period of slow or negative growth drives the much-feared debt/GDP ratios. Growth cures many ailments.

### LESSONS FROM EXAMINING OLD WIVES’ TALES

What have we learned? First, collateral is paramount in any financial system. Leverage is a symptom or conse-

quence of the use of collateral. Further, if this is true, interest rates (such as the Federal Reserve's overnight interest rate) remain but one piece of the monetary policy puzzle. Keeping the overnight interest rate at the zero lower bound (ZLB) will not necessarily ignite the risk-taking and credit creation desired by the Fed due to a general shortage of "good collateral."

Nor is "quantitative easing" (see our Centerpiece, "The World Biggest Bond Portfolio", for more on this) an answer. With quantitative easing, the central bank *removes* high-grade collateral in attempt to levitate the scarcity-value of remaining collateral. Will it work? Perhaps we should ask Shylock.

## SOURCES

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- 2 Gorton, Gary and Andrew Metrick, (2010). "Regulating the Shadow Banking System." NBER Working Paper.
- 3 John Geanakoplos, "The Leverage Cycle", April 9, 2009.
- 4 Carmen M. Reinhart and Kenneth S. Rogoff, "Growth in a Time of Debt," American Economic Review: Papers & Proceedings 100 (May 2010): 573–578.

## “WHEN GROWTH SLOWS, TAX REVENUES FALL, AND DEBT BURDENS RISE”

Second, unlike the field of physics, stable relationships between macroeconomic variables do not exist. There is no debt/GDP leverage "trigger point." The less scientific phrase, "it depends," comes into play. A sharp contraction in economic activity preceded the spike in developed world debt/GDP ratios. One path out: economic growth. Watch the pages of newspaper for articles on "the incredible shrinking budget deficits" as the economic recovery progresses.

Third, we suggest investors avoid simple, one-size-fits-all explanations for economic puzzles. The "de-leveraging" concept does not explain everything. The all-too-common problem in economic analysis is the "theory of everything" problem. Elegant, plausible, appealing and... false.

Remember that the next time you sneeze.