Economics from the Top Down

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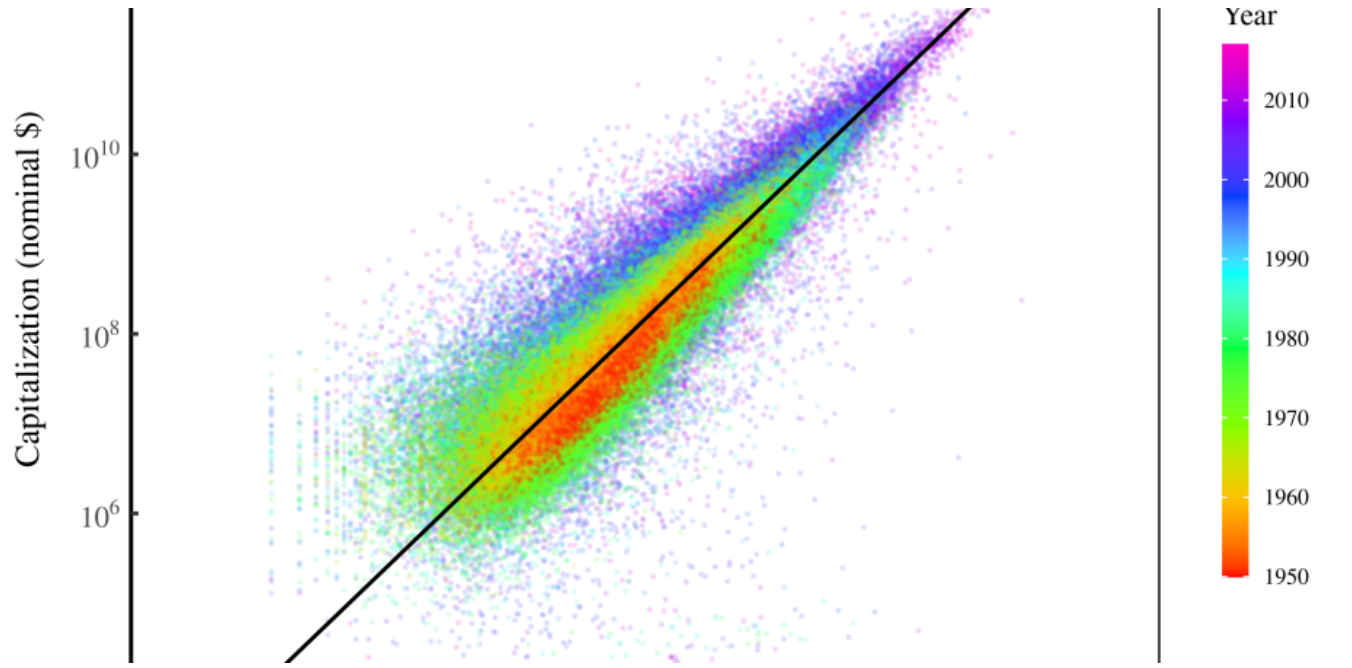

JUNE 2, 2021 BLAIR FIX

The Ritual of Capitalization

There's something mysterious about finance. The symbols are arcane. The math is complex. The practitioners are impressively educated. And the stakes are high. All of this gives finance the veneer of higher truth — as if quants are uncovering a reality not accessible to the rest of us. In a sense they are. But the 'reality' is not what you think.

When you look at stock-market numbers, they do point to a truth about the world. But it is a truth not about natural law or of human nature. It is a truth about human *ideology*. The reality is that finance is a quantitative belief system. At its center is a universal ritual — the ritual of capitalization. It is this ritual that underlies all stock-market numbers.

In this post, we'll look at the regularities that stem from the ritual of capitalization. They are astonishing in scope — a breathtaking consistency to human behavior. They beg the mind to look for some material basis for their existence. But that is a mistake. The reality is that the regularities of capitalization are an artifact of ideas — a manifestation of capitalist ideology itself. A regularity from ritual.

Giving property a number

The ritual of capitalization starts with the institutional act of exclusion — namely *property*.[1] Property, of course, has a deep history that long predates capitalism. I won't wade into this history here. Instead, I'll defer to Jean-Jacques Rousseau's succinct

(but apocryphal) telling of property's emergence. Property arose when

> [t]he first person who, having enclosed a plot of land, took it into his head to say 'this is mine' and found people simple enough to believe him …
>
> (Jean-Jacques Rousseau, 1755)

Putting a fence around something and calling it 'property' is step 1 of capitalization. But property alone is not enough. Romans had property. So did most feudal kingdoms. But these societies did not have capitalization. To capitalize property, there is a second step. You must mix property with *finance*.

The word 'finance' evokes a sense of awe — a sense of other-worldly complexity. But at its heart, finance is simple. It is the act of reducing property to a number — a *price*. Merge property and finance, and you have capitalization. How this merger happened historically is complicated. But let's again reduce history to an apocryphal story. To paraphrase Rousseau:

> Having enclosed a plot of land, the first capitalist took it into his head to put a *number* on his property and found people simple enough to believe him.

This act of giving property a number, political economists Jonathan Nitzan and Shimshon Bichler observe, is the central ritual of capitalism. It is the ritual of *capitalization* … and it comes with a problem.

Because 'capitalization' is literally just slapping numbers onto property, any number is as good as the next one. My property can be a 23. It could also be a 10^{23}. In other words, property can have any conceivable price. But which price is 'correct'? Ever since our apocryphal capitalist put a number on his property, capitalists have agonized over this question. 'What is the *true* value of my property?'

Like so many human-created enigmas, the scientific answer is that the question has no meaning. Determining the 'true' value of property is like discovering the 'true' nature of the Holy Trinity. It cannot be done because there is no objective 'truth' to uncover — there are only subjective human beliefs. The 'true nature' of the Holy Trinity is whatever church clergy define it to be. The same holds for capitalization. The 'true value' of property is whatever capitalists define it to be.

This arbitrariness is why capitalists need a *ritual*.

If you're going to answer unanswerable questions, there is no better way than through ritual. Think of a ritual as a mystified habit — a repetitive behavior that you reify with significance. As an example, take the ritual of gesturing the cross. It is a reified habit that Catholics use to symbolize both their faith in the Holy Trinity, and to remind them of how the Trinity has been defined (the Father, Son, and Holy Spirit).

Rituals are surprisingly powerful, especially when ingrained during youth. I'll use myself as an example. During my childhood, my family went to a Catholic church, and I attended Catechism (Sunday school) weekly. I learned all the rituals that are part of Mass. After being 'confirmed' as a Catholic at age 13, however, I stopped going to church. The truth is, I'd always been an atheist … I just didn't know it until adulthood.[2] And yet, atheist that I am today, if I hear the words 'in the name of the Father, Son, and Holy Spirit', I have the near-irresistible urge to gesture a cross. That's the power of ritual.

Capitalists have invented a similar ritual, but it is not physical. It is *mathematical*. Faced with the desire to know the 'true value' of their property, capitalists have invented a formula that defines it. A property's capitalized value is the discounted value of its future income:

$$\text{capitalized value} = \frac{\text{future earnings}}{\text{discount rate}}$$

In textbooks, this equation is put more succinctly as:

$$K = \frac{E}{r}$$

Looking at this equation, Jonathan Nitzan and Shimshon Bichler note something interesting. The formula ostensibly capitalizes property — the *stuff* that capitalists own. And yet the capitalization equation makes no mention of this stuff. There are no symbols for factories, machines, or infrastructure. Instead, there is only *income* (*E*). And that, Nitzan and Bichler observe, is precisely the point. The capitalization ritual tells us how capitalists see the world. Capitalists care not for the things they own. They care about their property *rights* — their right to earn income by putting up an (institutional) fence.

Because it reflects an ideology, the capitalization formula is delightfully circular. It defines one monetary sum in terms of another. Nothing in science says that the equation should hold. It holds only because we've convinced ourselves that it should.

As Nitzan and Bichler see it, the spread of capitalism boils down to the spread of the capitalization ritual. It allows anything and everything to have a capitalized value. Take *music*. In 2020, Bob Dylan sold his entire song catalogue to Universal for some $300 million. The truth, though, is that Universal didn't buy songs. It bought *income*. The copyright on Dylan's songs ensured a sizable annual income — by some accounts about $4 million per year. Assuming this sum is accurate, Universal capitalized Dylan's royalties by assuming a discount rate of 1%:

$$K = \frac{E}{r} = \frac{\$4 \text{ million}}{0.01} = \$300 \text{ million}$$

Bob Dylan traded future income (from his property rights) for a lump sum. And Universal traded a lump sum for future income. That's capitalization in action.

Regularity from ritual

Unsurprisingly, rituals give rise to astonishing regularity. Every Sunday, Catholics gesture the cross. Five times a day, Muslims bow towards Mecca. Regularity from ritual. Like these religious rituals, the secular ritual of capitalization gives rise to astonishing regularities. Let's have a look at them.

We'll start by noting that capitalization is defined only when property changes hands. Put another way, capitalized value is contested until property is sold. Take, as an example, Donald Trump. He proclaims daily that his property is worth billions. Critics counter that Trump's empire is worth far less. Neither side is correct. Capitalized value is undefined until the property is sold. If tomorrow, Trump sold his business for $1 billion, that would be its capitalized value.

In the past, capitalization was poorly defined because property changed hands rarely. An aristocratic family, for instance, might run a merchant business for many generations without ever knowing its capitalized value. Today things are different. That's because in modern capitalism, *partial* ownership has become the norm. Portions of firms are bought and sold every second, which means we know capitalized value with exquisite detail.

Take Amazon as an example. The business is preposterously large, employing about 1.2 million people. And yet the unit of ownership — the Amazon share — is minuscule. One Amazon share buys you about 2 billionths of the company. Because the unit of ownership is tiny, it is trivial to buy and sell. The result is that unlike aristocratic businesses that changed hands once a century, Amazon shares change hands every second. As such, Amazon's capitalized value is known exactly. As of May 28, 2021, it was:

$$\text{Amazon market cap} = \text{share price} \times \text{number of shares}$$

$$= \$3223 \text{ per share} \times 0.51 \text{ billion shares}$$

$$= \$1.6 \text{ trillion}$$

That's nice. But *why* is Amazon capitalized at $1.6 trillion? The answer is that the company has a massive income stream — its profits in 2020 were $21 billion. Discount that income at 1.3% and you get Amazon's capitalized value:

$$K = \frac{E}{r} = \frac{\$21.3 \text{ billion}}{0.013} = \$1.6 \text{ trillion}$$

Next question. Where did the discount rate of 1.3% come from? The answer: out of thin air. Like the capitalization ritual itself, the discount rate is whatever we define it to be. Capitalists employ the capitalization ritual by ritualistic choosing a discount rate that they deem 'proper'. Ritual within ritual.

Yes, the whole endeavour smacks of arbitrariness. But that is the nature of ritual. What is important is the regularity to which the ritual gives rise. This regularity is not visible when looking at a single firm. It's only by looking at thousands of firms that you can see it. On that front, let's turn to Figure 1.

I've plotted here data for the profit and capitalization of US public firms dating back to 1950. Each point is a firm in a given year. (There are about 200,000 observations in total.) From this sea of firms, the regularity of capitalization is unmistakable. Capitalization is proportional to profit discounted at a rate of 7%.

Regularity from ritual.

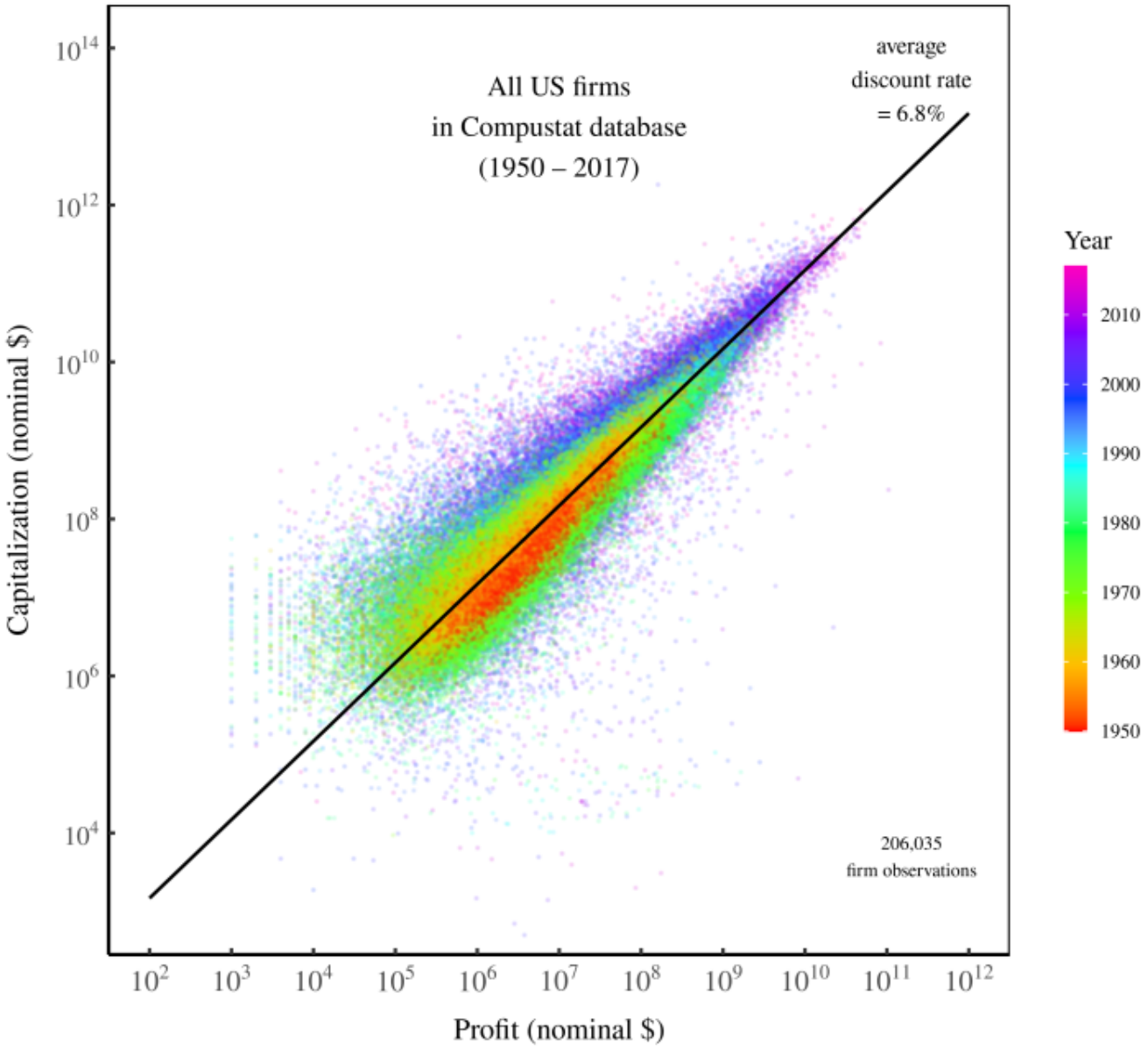

Figure 1: Profit and capitalization of US firms, 1950 – 2017. Each point represents a US firm. Color indicates the year of observation. The black line shows how capitalization relates to profits for a discount rate of 6.8% — the average found in the data. [Sources and methods].

The discount rate

Is there something special about the discount rate of 7%? The answer is yes and no. That rate is special in the sense that it's what US capitalists have deemed to be 'proper'. But this rate is banal in the sense that it has no deeper meaning. US capitalists discount at 7% because that is the norm they have accepted. Gesture the cross. Discount at 7%. Regularity from ritual.

How does this regularity come to exist? In the past, it was by decree. Much like how church clergy decreed the nature of the Holy Trinity, they decreed the 'proper' rate of discount:

> Until the emergence of capitalization in the fourteenth century, [the 'proper' discount rate was] seen as a matter of state decree, sanctioned by religion and tradition, and modified by necessity. The nobility and clergy set the just lending rates as well as the tolerated zone of private divergence, and they often kept them fixed for very long periods of time.

> (Nitzan and Bichler, 2009)

Today, the 'proper' discount rate still has an element of decree. Governments (via central banks) set the benchmark interest rate, which in turn affects the benchmark discount rate on equity.

If you're a finance outsider, you may be wondering what the interest rate has to do with discounting. The two rates are related because the principle of capitalization is the reverse of the principle of interest. Here's an example. Suppose you put $100 in your savings account at 5% interest. In a year, you'd have $105. Now ask yourself — how much would you pay *now* to receive $105 in a year? The answer, if you're a 'rational' capitalist, is $100. That's the sum that would earn $5 when put in a savings account for a year. So by thinking about interest, you've capitalized a $5 future income at $100.

Although the principle of discounting stems from the principle of interest, the two rates (benchmark discount and interest) are not the same. This we can see from history. But before we get to the data, let's think a bit more about the discount rate. Here's some simple math. Start with the capitalization equation:

$$K = \frac{E}{r}$$

Now rearrange for the discount rate r:

$$r = \frac{E}{K}$$

The second equation defines the 'effective' discount rate at which investors capitalize income. I call it the 'effective' rate because the capitalization ritual is technically about *future* income, which is unknown. In practice, capitalists pin down earnings E by looking at the recent past (i.e. the last quarterly income report). Assuming this habit, the effective discount rate is the ratio of present income and present capitalization.

For an example calculation, let's return to Amazon. Last year, the company raked in $21 billion in profits. And today, its market cap is about $1.6 trillion. So Amazon is currently capitalized at an effective discount rate of 1.3%:

$$r = \frac{E}{K} = \frac{\$21.3 \text{ billion}}{\$1600 \text{ billion}} = 0.013$$

This effective discount rate varies between firms. And it varies within firms over time. Let's have a look at this variation.

The benchmark discount rate

We'll start with the *benchmark* discount rate. I define this benchmark as the average of the effective discount rate across all firms.

The math: to calculate the benchmark discount rate, we first take every public firm (with available data) and divide income by capitalization. That gives the effective discount rate for each firm in a given year. The benchmark rate is then the average across all firms in that year. (Because we're dealing with growth rates, I calculate the average using the geometric mean.)

Figure 2 shows how the US benchmark discount rate varied over the last 70 years. It oscillated around the average rate of 7%. But there are conspicuous departures from this average. In the mid 1970s, for instance, the benchmark rate soared to a high of 20%. What happened then?

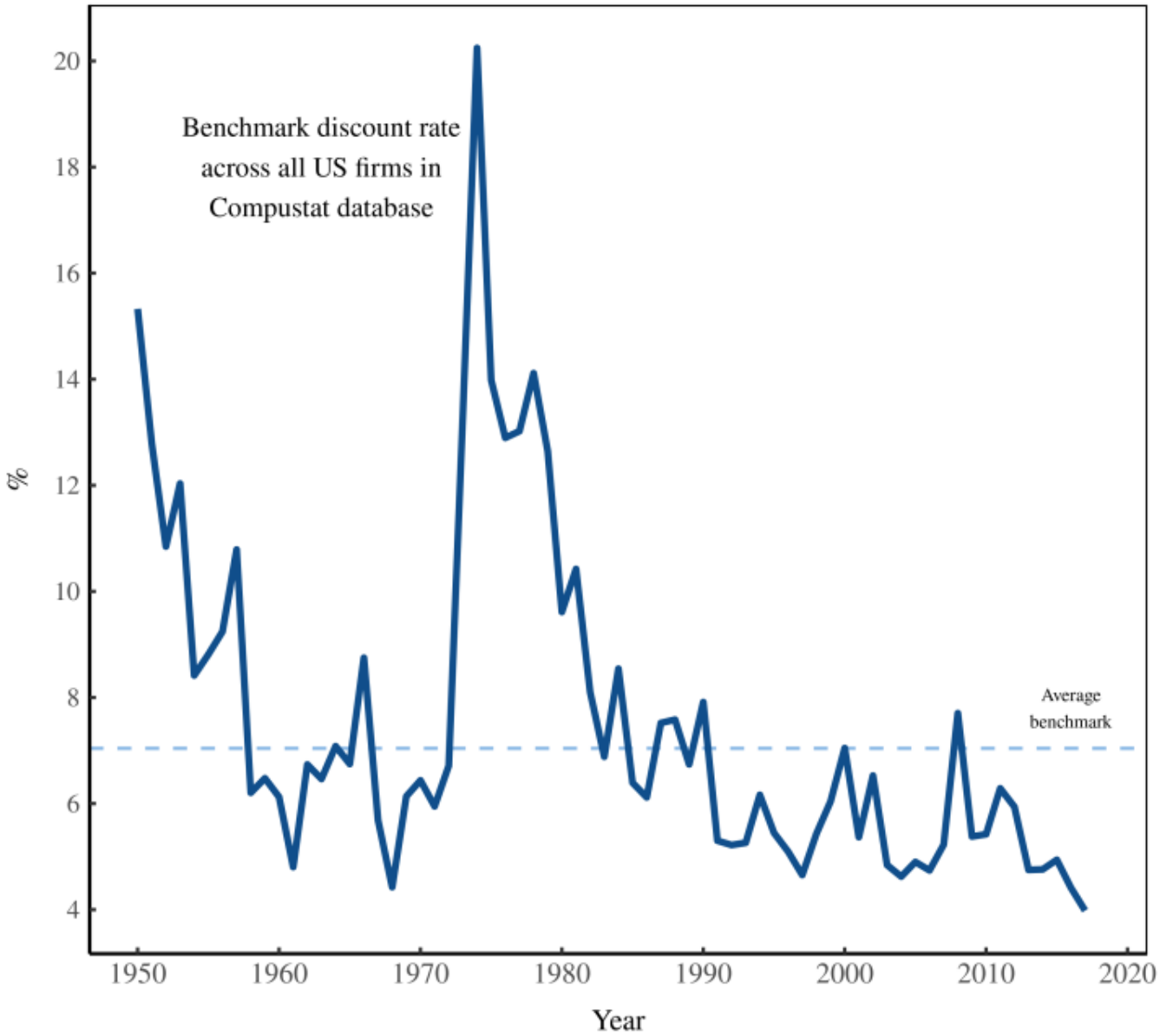

Figure 2: The US benchmark discount rate. I've plotted here the trend in the average discount rate across all US firms in the Compustat databases. The dashed horizontal line is the average benchmark since 1950 (geometric mean, weighted equally across years). [Sources and methods].

Given that the principle of capitalization works by reversing the principle of interest, one might think that the benchmark discount rate is a simple reflection of the rate of interest. If so, the discount-rate spike in the 1970s should correspond with an interest-rate hike.

While reasonable, it turns out that this expectation is wrong. Figure 3 tells the story. Here I compare the benchmark discount rate to US interest rates. (I've used the US Federal Reserve interest rate — the so-called 'effective federal funds rate'. This is the interest rate at which banks trade money with the Federal government. It sets the benchmark for all other interest rates.)

We can in see in Figure 3 that interest rates did spike in the past. But the hike came about 7 years *after* the spike in the discount rate. Clearly, then, interest rates are not driving how US capitalists discount income. To understand capitalists' herd behavior, we must look elsewhere.

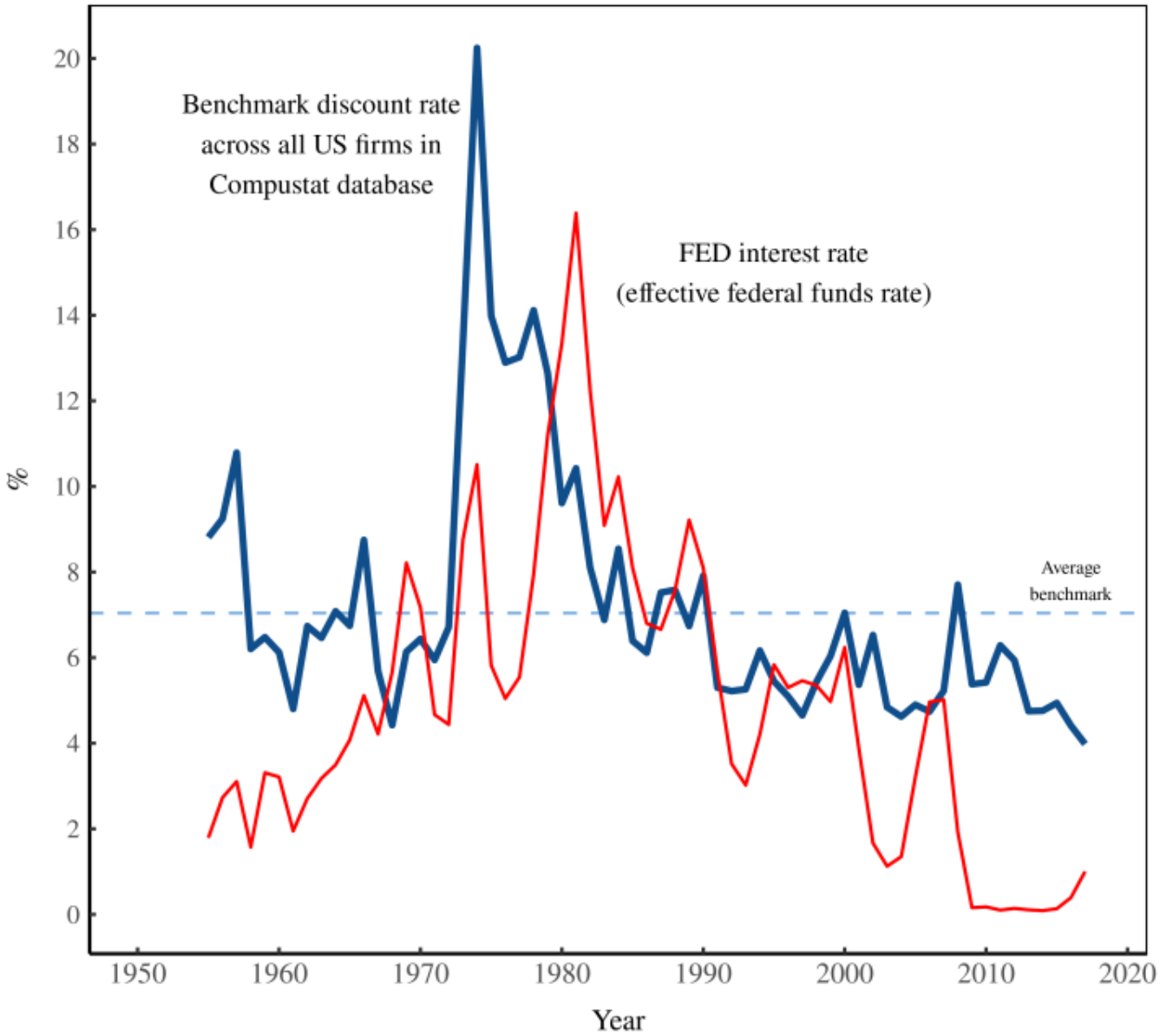

Figure 3: The US benchmark discount rate vs. the FED interest rate. The blue line shows the trend in the average discount rate across all US firms in the Compustat databases. The red line shows the US FED interest rate. [Sources and methods].

While only loosely related to the rate of interest, it turns out that the benchmark discount rate *is* related to another rate: the rate of inflation (Fig. 4). The inflation rate is a measure of how rapidly prices tend to rise. Because price change varies by commodity, there is no such thing as 'the' rate of inflation. Instead, think of inflation like discounting: it has an average rate surrounded by a sea of deviation.

The most comprehensive measure of the average rate of inflation is called the 'GDP deflator'. (It measures the average price change of all the commodities included in the calculation of GDP.) In Figure 4, I compare this inflation rate to the benchmark discount rate. The two rates are clearly connected. When the benchmark discount rate spiked in the 1970s, so did the rate of inflation.

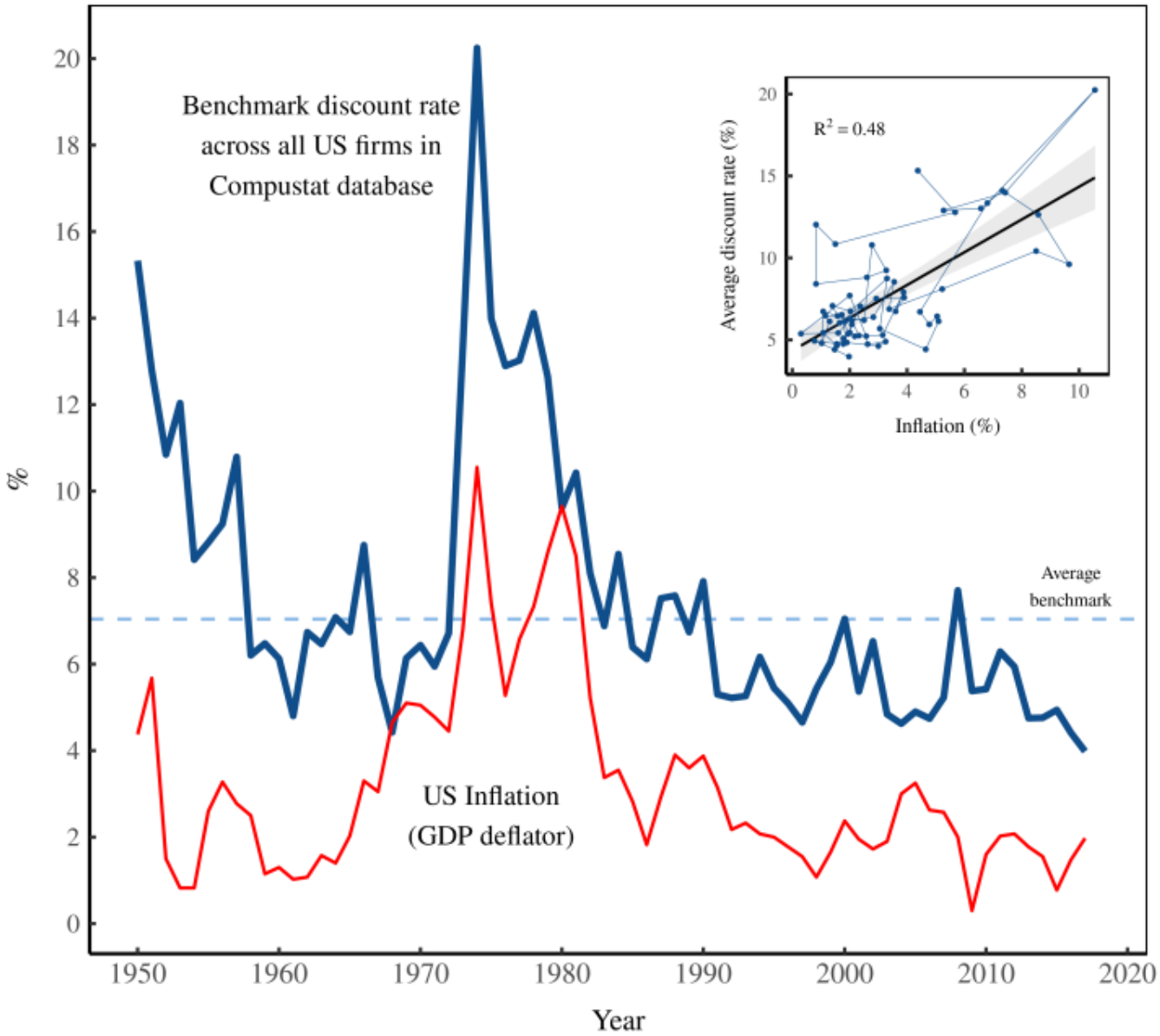

Figure 4: The benchmark US discount rate vs. inflation. The blue line shows the trend in the average discount rate across all US firms in the Compustat databases. The red line shows the US GDP deflator, a measure of inflation. The inset plot shows the correlation between the two series. [Sources and methods].

Why is the discounting benchmark related to inflation? In a word, *uncertainty*. Remember that capitalization is the ritual of putting a price on (unknown) *future* income. Capitalists make this leap of faith by assuming that *present* income will continue in perpetuity. But that's a risky assumption, especially when the social order is in turmoil.

Back to inflation. Milton Friedman proclaimed that inflation as 'always and everywhere a monetary phenomenon'. His slogan is a nice tautology, since anything to do with prices automatically has to do with money. The actual science lies in what Friedman omitted. The reality is that inflation is always differential — some companies raise prices faster than others. That means inflation is always and everywhere a restructuring of the social order. It's a boon for some firms, a bust for others. This is the inescapable conclusion reached by Jonathan Nitzan after an exhaustive look at the US data.

Far more than just a 'monetary phenomenon', then, the inflation rate signals instability in the social order. That instability, it seems, translates into capitalists' fears about the future. When the price system is more unstable, capitalists discount present

income more steeply.

Discount deviation

Let's back up now and look at the other component to discounting — *deviation* from the benchmark.

Over the last 70 years, the average (effective) discount rate for US public firms was about 7%. But although the aggregate data shouts this value to us, few individual firms were capitalized at exactly this rate. That's because like all averages, the benchmark discount rate is a herd behavior that is visible only in aggregate. The effective discount rate for any *single* firm can vary widely. Let's have a look at this variation.

Figure 5 plots the distribution of (effective) discount rates for every firm observation in my US dataset. The benchmark rate of 7% jumps out as big central lump in the histogram. But don't be confused by the tidy bell curve. The horizontal axis here uses a *logarithmic* scale, which compresses variation. The reality is that some firms are discounted at rates up to 1000%. And other firms are discounted at rates below 0.1%. That's variation over 4 orders of magnitude. Still, the vast majority of firms — about 90% — are discounted at rates between 1.3% and 25%.

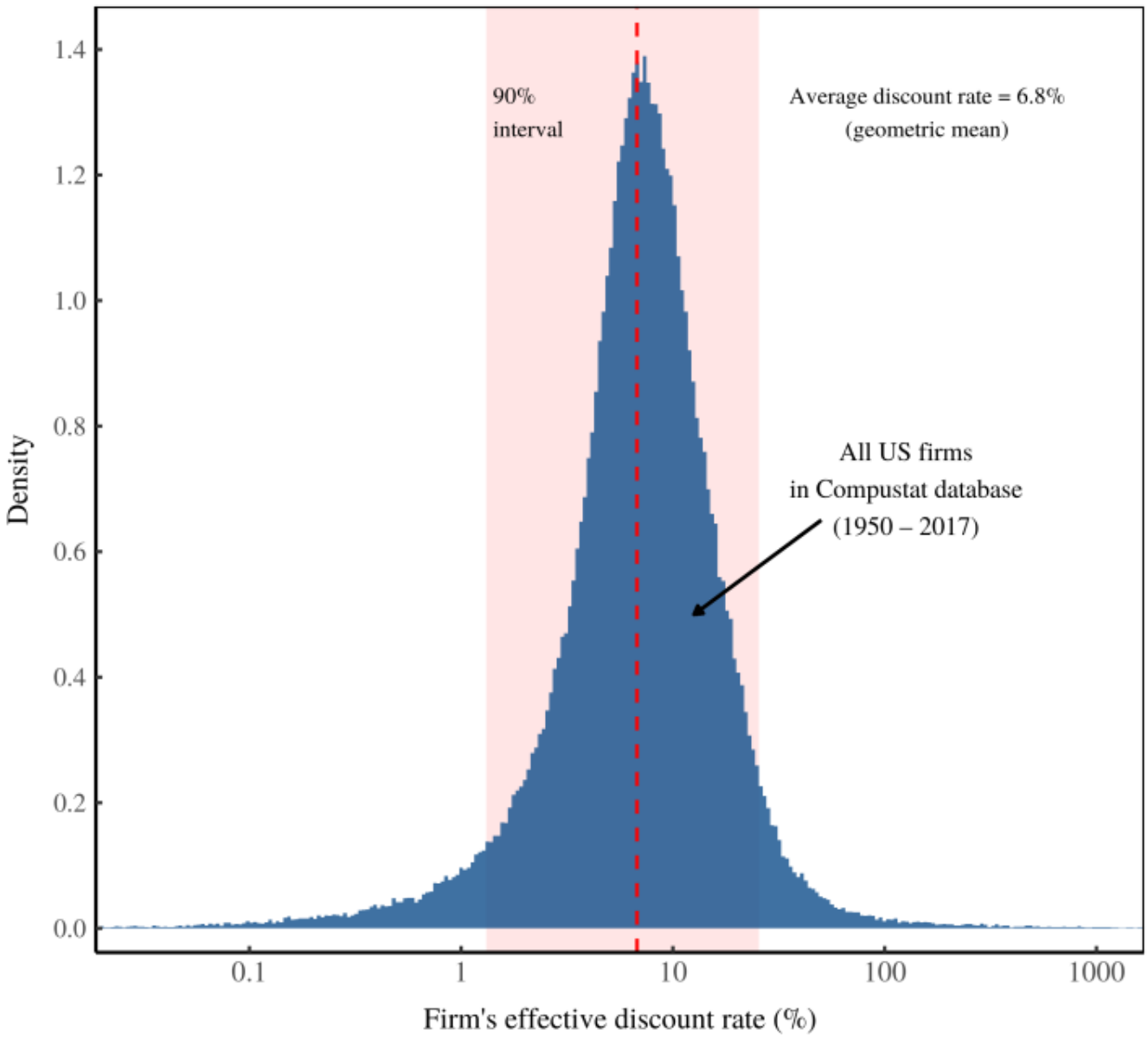

Figure 5: The distribution of the effective discount rate among US firms. I've plotted here the distribution of the effective discount rate for every US firm observation in the Compustat database. I calculate the discount rate by dividing annual profit by annual (closing) capitalization. The red line shows the geometric mean. The shaded region represents the 90% interval of the data. [Sources and methods].

Whenever we have variation, the next step is to look for its source. Why do some firms have a high (effective) discount rate and others a low one? It's here that things get interesting. Ostensibly, the capitalization ritual has a causal direction that flows from discounted earnings to capitalized value. Investors look at a revenue stream E, pick a discount rate r, divide the two, and poof … get a capitalized value:

$$\frac{E}{r} \longrightarrow K$$

There are instances where capitalization works in this simple way — but these instances are the exception, not the norm. The only time capitalization is so simple is when a firm is capitalized for the first time: during its initial public offering (IPO). Before an IPO, the firm opens up its books to let would-be investors see the income stream. Using the capitalization ritual, the firm picks a share price for the launch. From the IPO onward, the stock price floats on the market.

Other than during an IPO, then, the capitalization ritual has an element of circularity. The ritual is ostensibly about capitalizing an income stream. Yet the most known quantity in the ritual is not income, but *capitalized value itself*. You can know a company's market cap down to the second. In contrast, the firm's earnings get reported 4 times a year. So what happens in practice is that investors capitalize income by keeping one eye on capitalization itself. The result is that the discount rate is circularly related to capitalization.

Figure 6 shows the trend. Among US firms, the effective discount rate declines with capitalization. (Note that because I'm comparing capitalization across years, I've normalized the data within each year so that the median capitalization in my firm sample is 1.) Around the median market cap, the discount rate is the same as the global benchmark of 7%. But as relative capitalization gets smaller than the median, the discount rate grows. And as relative capitalization gets larger than the median, the discount rate declines.

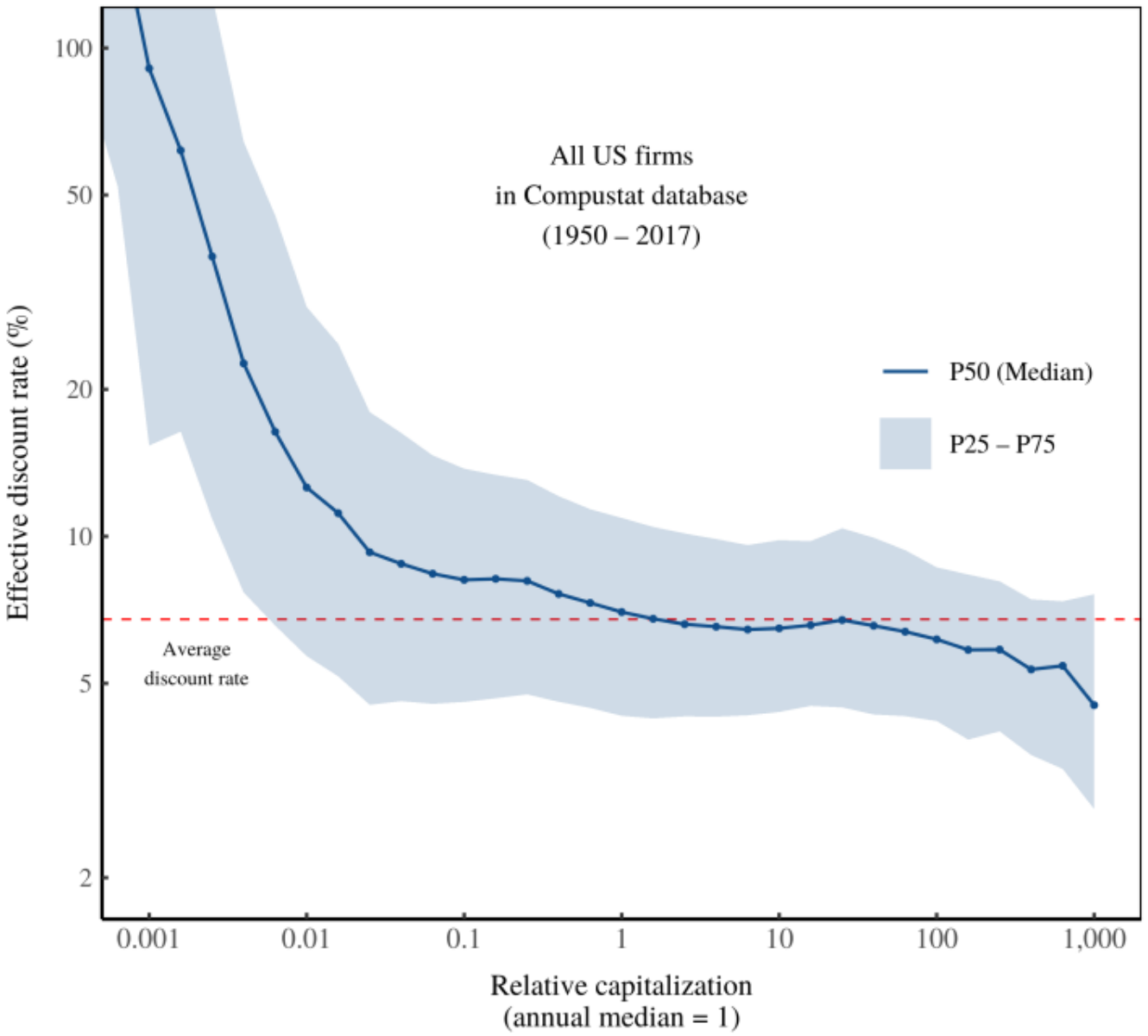

Figure 6: The effective discount rate vs. capitalization among US firms. The horizontal axis plots relative capitalization, normalized so that the median of the US Compustat sample in each year is 1. The vertical axis shows the corresponding discount rate, binned by capitalization. (Each point is the center of a bin.) [Sources and methods].

The same pattern emerges when we look at different time periods separately. In Figure 7, I've animated 5-year snapshots of the discount-rate-vs-capitalization data. The trend shifts with time, but the overall pattern is consistent. The effective discount rate declines with capitalization. It seems that US capitalists agree that small-cap investments are riskier than large-cap investments. Hence they discount small-cap firms more heavily.

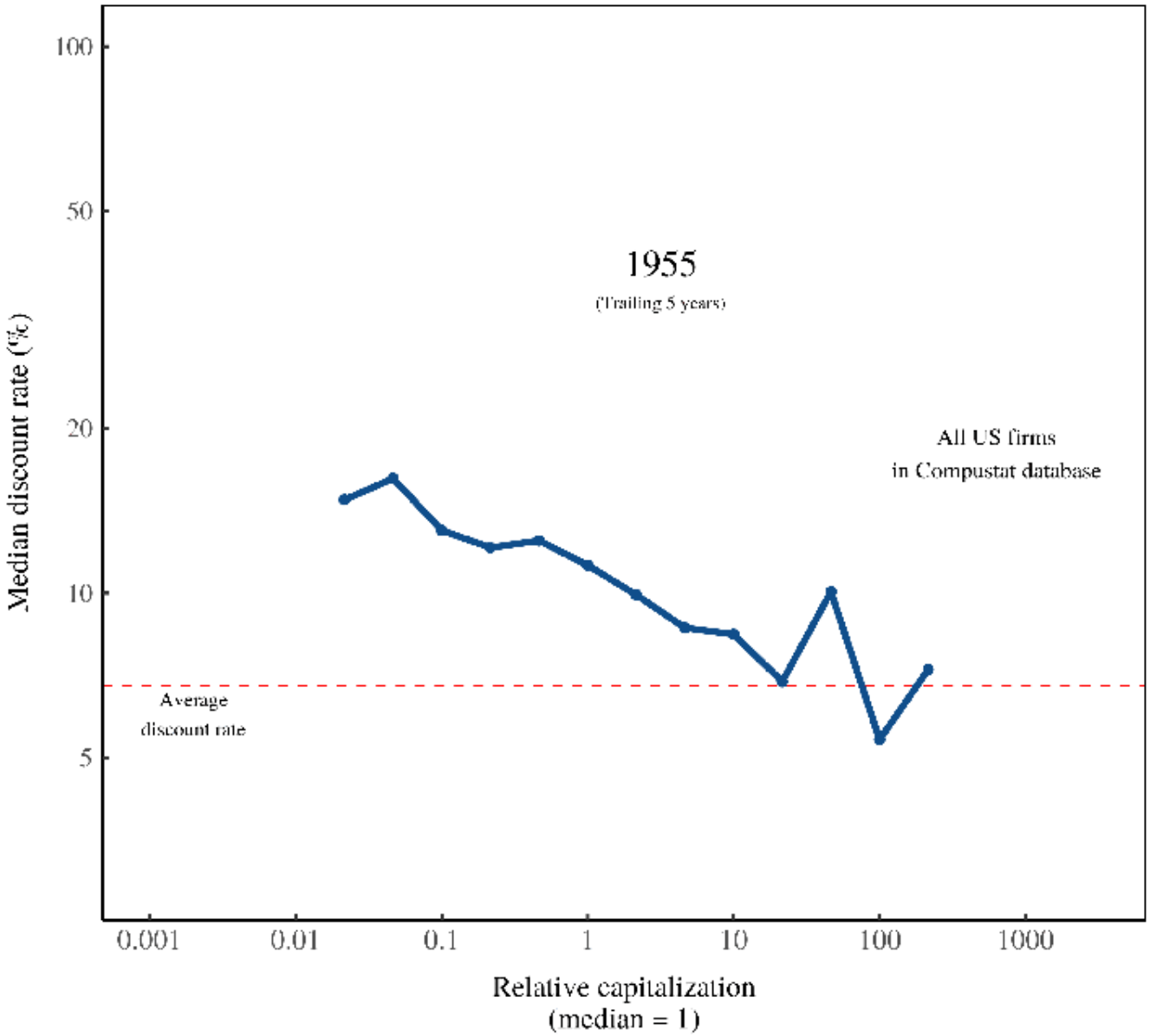

Figure 7: The effective discount rate vs. capitalization over time. Here's the same analysis as in Figure 6, but now differentiated by year. Each snapshot shows data grouped over the preceding 5 years. [Sources and methods].

Earnings risk

I've so far portrayed the discount rate as a number that capitalists pull out of thin air. But this portrayal is only partially true. The *absolute* value of the discount rate is arbitrary, just as is the absolute value of capitalization. I can capitalize my property at 23 or 10^{23}. In isolation, the difference is meaningless. Capitalization, however, does not happen in isolation. And that, observe Nitzan and Bichler, is the whole point. The only reason to have prices is to compare them to other prices. Hence capitalization is meaningful only in *relative* terms. The same is true of the discount rate.

The relative value of the discount rate quantifies capitalists' perception of *risk*. The rationale again has to do with the capitalization ritual itself. The ritual is ostensibly about quantifying the present value of *future* income. But the way capitalists calculate this value is to assume that *present* income continues indefinitely. That assumption is risky. And so capitalists try to bake future risk into their ritual. The more risk they perceive, the steeper they discount.

How, then, do capitalists assess future risk? Like all elements of the capitalization ritual, capitalists look to the past. They assess future risk by looking at past risk. On that front, we can see that the decline in the discount rate with capitalization is not arbitrary. It's firmly grounded in the variability of past income.

Figure 8 shows the trend. It's a bit complicated to interpret, so let me break down what I've done. I start with a firm — say General Motors. I then pick a year (say 1990) and observe GM's market cap. Then I look at the preceding decade and measure the variability of GM's profit over that period (1981-1990). I calculate the coefficient of variation of this profit (the standard deviation divided by the mean). Then I do the same operation in every year for which there is a preceding decade's worth of data for GM. When that's done, I repeat the whole process for every firm in the dataset. Finally, I analyze the aggregate trend by relative market cap.

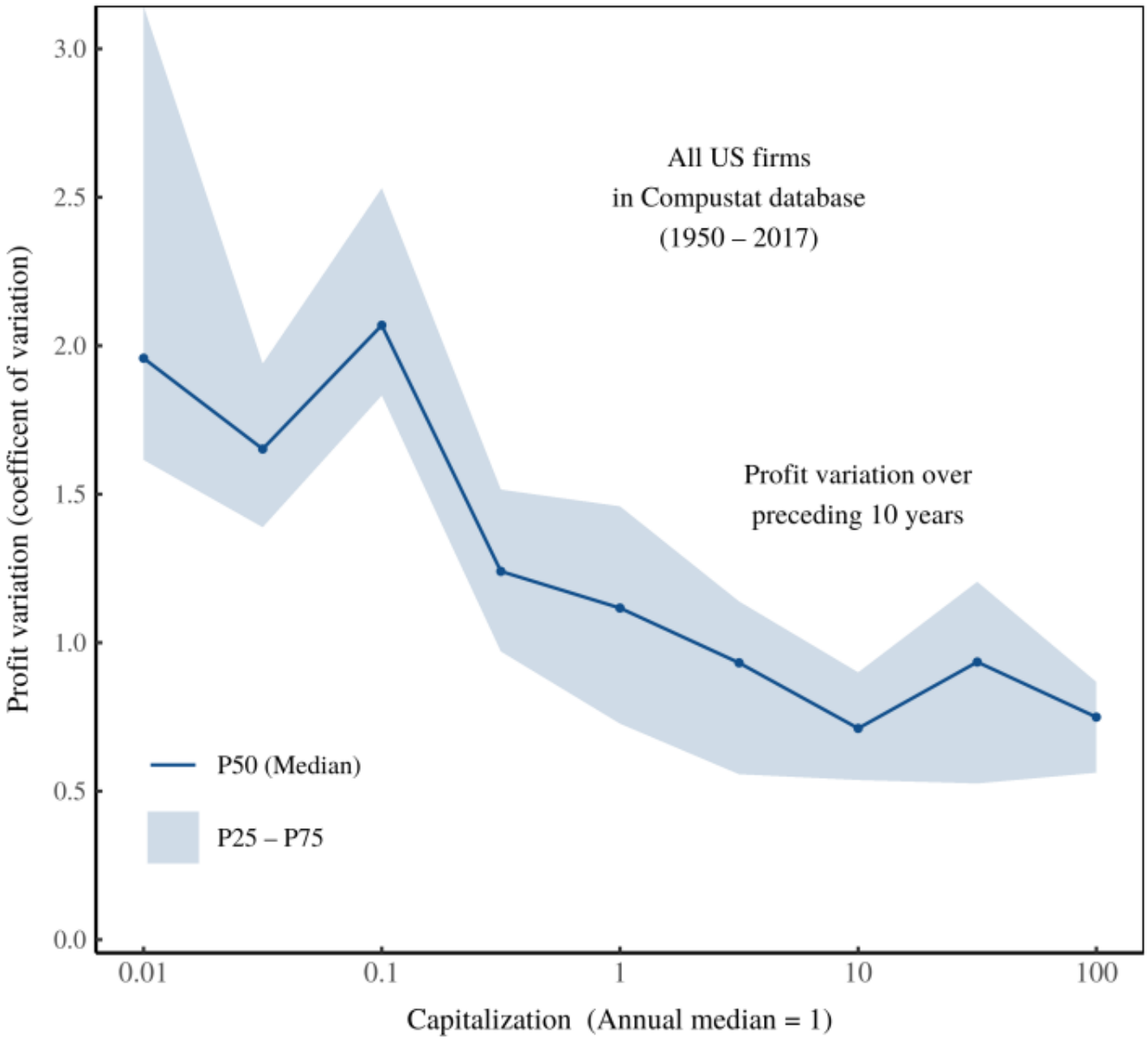

Figure 8: Profit variability vs. capitalization among US firms. I've analyzed profit variability (using the coefficient of variation) over a trailing 10-year window among firms grouped by capitalization. Each point on the blue line represents a market-cap bin. Note that I've normalized capitalization so that the median in each year is 1. [Sources and methods].

Now that you (hopefully) understand the analysis, let's interpret the results. According to Figure 8, the variability of past profit

declines with relative capitalization. In other words, small-cap firms have more past risk than large-cap firms. If capitalists know this fact, then it is sensible to discount small firms more heavily than large firms.

It's debatable, however, that individual capitalists know much about the aggregate trend plotted in Figure 8. Instead, it's more likely that they rely on rules of thumb — something like 'venture capital is more risky than blue-chip capital'. This rule then gets baked into the capitalization ritual as a sub-ritual: discount small firms more heavily than large firms.

Capitalizing markup

Continuing the theme of rituals within rituals, let's look at another aspect of capitalization: the markup. We start with the capitalization formula:

$$K = \frac{E}{r}$$

Here, E is the firm's net earnings — what the non-corporate laity call 'profit'. Now ask yourself, how can you earn a profit? To think about this question, consider the following equation:

$$\text{profit} = \text{sales} \times \frac{\text{profit}}{\text{sales}}$$

$$= \text{sales} \times \text{markup}$$

According to this equation, there are two routes to more profit:

1. increase sales (gross income)
2. increase profit as a portion of sales (the markup)

The two routes to profit are very different. When you increase sales alone, everyone gets more income in the same proportion. Wages and profits increase at the same rate, so their share of the pie remains constant. This is *not* true, however, when you increase profit using the markup. When you fatten the markup, a greater portion of gross income goes to the firm's owners, leaving less for workers (and for other firms).

Looking at our basic capitalization equation, we can see that it says nothing about how profits are earned. All that matters is their size (net earnings, E). But when investors *apply* the capitalization ritual, it turns out that they do have a profit preference. Investors prefer to capitalize a high markup.

Figure 9 shows the trend. I've plotted here the markup as a function of relative capitalization among all US public firms (since 1950). Each point indicates the median markup when firms are grouped by relative market cap. (I've normalized capitalization so that the median cap in each year is 1). It's easy to spot the trend. The markup grows reliably with capitalization.

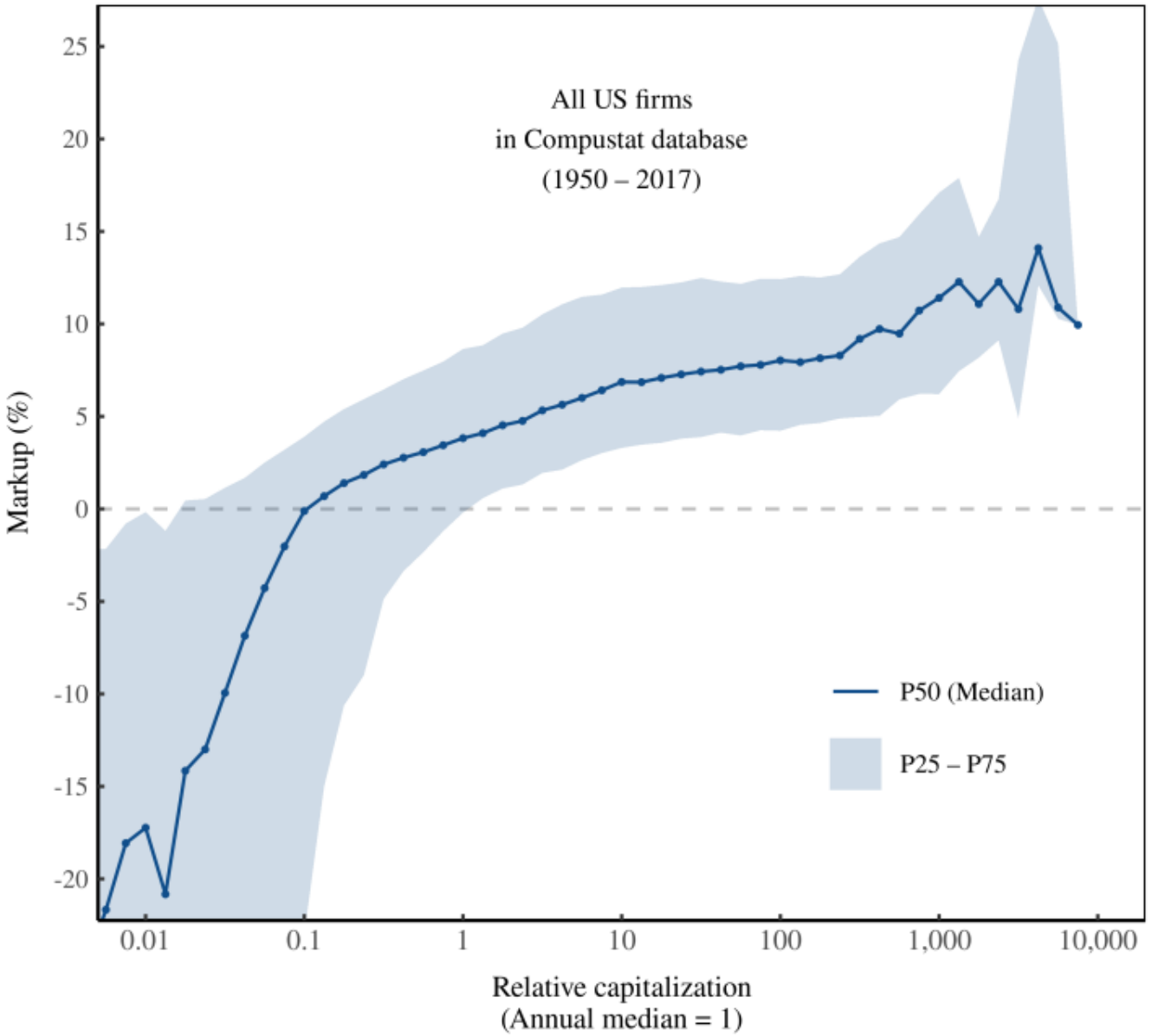

Figure 9: Markup vs. capitalization among US firms. I've analyzed firms' markup among firms grouped by capitalization. Each point on the blue line represents a market-cap bin. The vertical axis shows the markup. Note that I've normalized capitalization so that the median in each year is 1. [Sources and methods].

We can see the same pattern when we look at different time periods. In Figure 10, I've animated 5-year snapshots of the markup-vs-capitalization data. The trend shifts with time, but the overall pattern is consistent. The markup grows with relative capitalization. When US investors capitalize profit, it seems they prefer it be reaped on a fat margin.

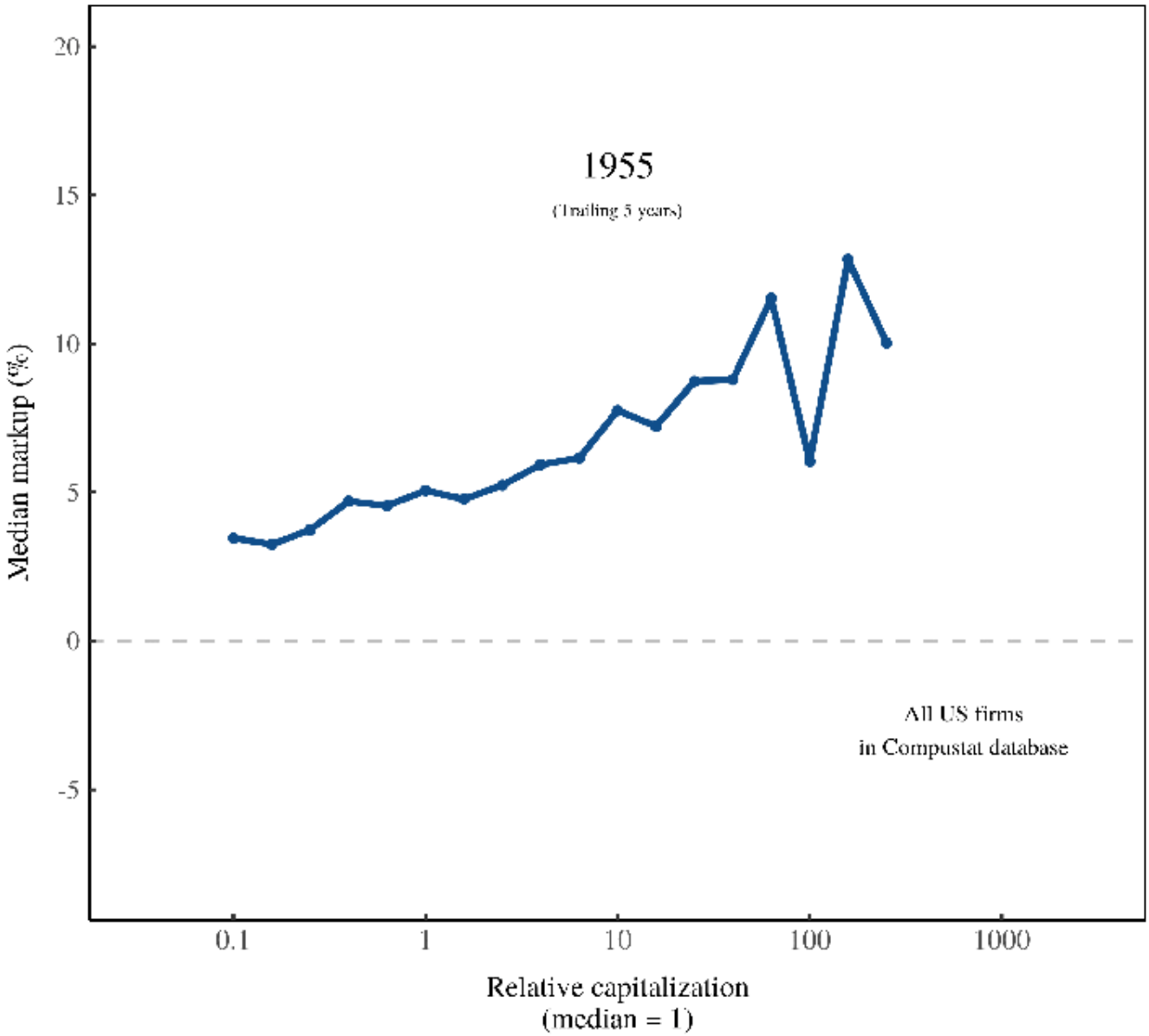

Figure 10: Markup vs. capitalization by year. Here's the same analysis as in Figure 9, but now differentiated by time. Each frame shows data grouped over the preceding 5 years. [Sources and methods].

Why do investors award greater capitalization to firms with a higher markup? Perhaps it again comes down to perceptions of risk. Consider two companies with similar-sized profits. One company has mammoth sales but a razor thin markup. The other company has smaller sales, but a fat markup. Which one do investors deem more 'risky', and so discount more steeply?

We need not leave this question hypothetical. It's easy to find two real-world firms that match the criteria. Consider the difference between Walmart and Apple, summarized in Table 1. In order-of-magnitude terms, the two firms have similar-sized profits. But they take different routes to this windfall. Walmart has enormous sales and a thin markup. Apple has smaller sales and a fat markup.

Table 1: Walmart vs. Apple

	Walmart	Apple

Profit (billions $)	21	57
Sales (billions $)	520	275
Markup	4.0%	20.9%
Capitalization (billions $)	400	2127
Effective discount rate	5.1%	2.7%

Source: Walmart 2020 Annual Report, Apple 2020 Annual Report

Investors, it seems, prefer the Apple route to profit. Even though Apple's profit is of similar size to Walmart's, investors reward Apple with far more capitalization. The difference? Walmart has a thin markup, Apple a fat one.

Framed in terms of the capitalization ritual, investors discount Walmart more steeply than Apple. They obviously have reasons for doing so, but these reasons need not be object. That's because we're dealing with an ideological Russian doll — rituals within rituals within rituals.

The finance ethos

It's time to wrap up our dive into the capitalization ritual. We'll end where we started — with the mystique that surrounds high finance. This mystique is reinforced by textbooks, which make hefty use of complicated math, giving the appearance of profound 'scientific truth'. Heck, you often need a PhD in physics to understand the equations. Does that mean that like physics, finance is a 'hard science'?

The answer is a hard no.

Finance does not describe our social world. Finance *defines* it. Finance outlines the rituals whereby capitalists impose order onto society, turning the qualities of ownership into a single quantity. Finance, Jonathan Nitzan and Shimshon Bichler observe, is *the* ideology of our time:

> The 'science of finance' is first and foremost a collective ethos. Its real achievement is not objective discovery but ethical articulation. Taken together, the models of finance constitute the architecture of the capitalist *nomos*. In a shifting world of nominal mirrors and pecuniary fiction, this *nomos* provides capitalists with a clear, moral anchor. It fixes the underlying terrain, it shows them the proper path to follow, and it compels them to stay on track. Without this anchor, all capitalists — whether they are small, anonymous day traders, legendary investors such as Warren Buffet, or professional fund managers like Bill Gross — would be utterly lost.
>
> Finance theory establishes the elementary particles of capitalization and the boundaries of accumulation. It gives capitalists the basic building blocks of investment; it tells them how to quantify these entities as numerical 'variables'; and it provides them with a universal algorithm that reduces these variables into the single magnitude of present value. Although individual capitalists differ in how they interpret and apply these principles, few if any can transcend their logic. And since they all end up obeying the same general rules, the rules themselves seem 'objective' and therefore amenable to 'scientific discovery'.
>
> (Nitzan and Bichler, 2009)

Make no mistake, the regularities of corporate finance are majestic in scope. But these regularities stem not from any laws of nature. They are *regularities from ritual*. Gesture the cross. Discount present income.

Perhaps the most important question is where this ritual is headed. Does capitalization have a long-term future? Neoclassical economists like William Nordhaus think so. They're happy to apply the capitalization ritual to existential crises like climate change. And the net present value of their calculations tells them (surprise surprise) that we should do essentially nothing. But of course, by applying a heavy discount rate to future income, that is what they assumed in the first place. It's ritualized apathy.[3]

Back to the present. The ritual of capitalization is surrounded by a mystique of 'higher truth'. Whenever you encounter such a mystique, it's a good bet that you're dealing with ideology. The point of the 'mystique' is to stop you from looking under the ideology's hood. When you do, you see that the whole thing is a house of cards. The 'higher truth' of the Holy Trinity is that it is an ideological invention of church clergy. So too with finance. The only difference is that with finance, the clergy aren't priests … they're economists.

Sources and methods

All firm financial data comes from Compustat. Data series are as follows:

- capitalization: number of shares outstanding (series `CSHO`) × annual closing share price (series `PRCC_C`)

- profit (net income): series `NI`
- sales: series `SALE`
- markup (profit as a portion of sales): `NI` / `SALE`

Interest rates (Fig. 3) are from FRED series `DFF`. The GDP deflator (Fig. 4) is from FRED series `A191RI1Q225SBEA`

THE EFFECTIVE DISCOUNT RATE

For each firm f, I define the firm's effective discount rate r_f as

$$r_f = \frac{E_f}{K_f}$$

where E_f is the firm's profits and K_f is the firm's capitalization (in a given year). I define the average discount rate for all firms, $\bar{r}$, as the geometric mean of r_f over all firms:

$$\bar{r} = (r_1 r_2 \cdots r_n)^{1/n}$$

When calculating the effective discount rate, I exclude firm observations with negative profit.

Notes

1. Here's how Nitzan and Bichler describe the exclusionary act of property:

   > The most important feature of private ownership is not that it enables those who own, but that it disables those who do not. Technically, anyone can get into someone else's car and drive away, or give an order to sell all of Warren Buffet's shares in Berkshire Hathaway. The sole purpose of private ownership is to prevent us from doing so. In this sense, private ownership is wholly and only an institution of exclusion, and institutional exclusion is a matter of organized power.
   >
   > (Nitzan and Bichler, 2009)

   ↩

2. One of my only memories from Sunday school was my incredulity at hearing the story of Jonah and the whale. "You've got to be joking," I remember saying to the church teacher. "This is a myth, right?" The teacher assured me it was not. This interaction cemented in my mind that I wanted nothing to do with religion.↩
3. If you're interested in the economics of climate change, Steve Keen's debunking of Nordhaus' work is a must read. See his paper 'The appallingly bad neoclassical economics of climate change'. For a discussion of how Nordhaus uses the capitalization ritual to discount future income, see Bichler and Nitzan's research note 'The Nordhaus Racket'.↩

Further reading

Nitzan, J. (1992). *Inflation as restructuring. a theoretical and empirical account of the US experience* (PhD thesis). McGill University.

Nitzan, J., & Bichler, S. (2009). *Capital as power: A study of order and creorder*. New York: Routledge.

Uncategorized

CAPITAL AS POWER CAPITALIZATION DISCOUNT RA INFLATION MARKET CAP MARKUP MONEY
PROPERTY PROPERTY RIGHTS REGULARITY FROM UAL OF CAPITALIZATION STOCK MARKET

Published by Blair Fix

Political economist. Blogger. Muckraker. Foe of neoclassical economics. *View all posts by Blair Fix*

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JUNE 2, 2021 AT 12:42 PM

[…] ritual of capitalization starts with the institutional act of exclusion — namely property.1 Property, of course, has a deep history that long predates capitalism. I won't wade into […]

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REPLY

brillient

JUNE 2, 2021 AT 1:12 PM

Is this article arguing that market capitalization is an invalid way to estimate relative value? Or is it arguing that there is no objective—or even best—way for a society to achieve consensus on the value of anything? Is capitalist ideology relatively bad—are there better ideologies for deciding how to distribute wealth—or are all ideologies equally ineffective?

I tried to follow carefully, although the article is pretty dense. Thankfully, it was also well written, and generally easy to follow. But sometimes it is difficult to make out the fundamental philosophical motivation. Although one premise is pretty clear: that those in power use their ideology as a means to justify and rationalize their status, even though, in reality, their social rank is mostly arbitrary. (But is it completely arbitrary?)

Can we imagine a world where everyone knows—and admits—that power is distributed more-or-less arbitrarily? Is that even true? To what degree do people earn their higher status?

Some people make certain claims about why they have—and deserve to have—more power than others, but the actual means by which they achieve power are very different than their claims. Instead of their higher productivity, or superior understanding of market forces, or being better leaders, or whatever, they are, in fact, better at manipulating people: specifically, better at telling misleading stories and mythologizing themselves as inherently superior. Some of them use stories of communicating with spirits in the sky; others with stories of their wizardly powers over numbers.

Unfortunately, I cannot foresee a future time when people are immune to the seductions of mythology and ideology, or even the idea that some people are better and more deserving of others. Humans compete to persuade one another—either by force or fiction—of who is most esteemable. From this, all forms of cruelty and dehumanizing treatment descend. I'd like to believe we can all transcend our illusions, but I am pessimistic.

Still, it's important to keep the powers-that-be as honest as possible. Maybe it will at least restrain their worse transgressions.

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REPLY

Blair Fix

JUNE 2, 2021 AT 2:30 PM

> Is this article arguing that market capitalization is an invalid way to estimate relative value?

No … at least if I understand the question. It's actually the reverse. Any method of valuation is 'valid' if other people accept it. That's because valuation is not 'measuring', it is 'defining'. I can define a word anyway I want. If other people accept it, that's what the word means. Same goes for capitalization

> Or is it arguing that there is no objective—or even best—way for a society to achieve consensus on the value of anything? Is capitalist ideology relatively bad—are there better ideologies for deciding how to distribute wealth—or are all ideologies equally ineffective?

Valuation, or better yet *values*, are always contested. Who gets to see their values put into action always involves a power struggle. In a sense, how we resolve this struggle is *the* question of civil society. Democracy is probably the best solution we've come up with so far.

> Can we imagine a world where everyone knows—and admits—that power is distributed more-or-less arbitrarily? Is that even true? To what degree do people earn their higher status?

There's a few layers here. There are always belief systems that legitimize power, and within these systems the rules of the game are clearly spelled out. In feudalism, for instance, your status is assigned by birth right. Most people focus on the internal logic of the rules. And from that vantage point, there is no 'arbitrariness'. But if you step back and look at the rules themselves, you see that they could easily work differently. Get rid of birthright. Substitute something else. It's in this sense that the ideology is arbitrary. We made it … and we could make it differently.

> Unfortunately, I cannot foresee a future time when people are immune to the seductions of mythology and ideology, or even the idea that some people are better and more deserving of others. Humans compete to persuade one another—either by force or fiction—of who is most esteemable. From this, all forms of cruelty and dehumanizing treatment descend. I'd like to believe we can all transcend our illusions, but I am pessimistic.

I agree. People will always be seduced by a good story. But I still think there is hope. Capitalist ideology is arguably better than feudalism in that it produces a more just society. I think there is still much room for improvement. That said, I am a scientist, and not in the business of building the next ideology. For that, I am

but a spectator.

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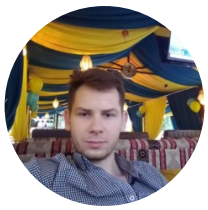
REPLY



James Harris

JUNE 2, 2021 AT 3:06 PM

I would be careful with using rituals to describe so much behavoir. It's very easy to call any form of repeated action a ritual, it is much more difficult to prove it. Psychologists frequently have debates about what kind of bahavoir is irrational or rational, what is learned and what is natural. And even within CASP it's hypothesized that 7% isn't just an arbitrary number, going over that risks social instablity.

The other issue is that while I understand your stances are anti-religion and anti-capitalist, tossing rituals under the bus too would likely sour a few anthropologists in your audience as well.

Unless I have other anthropologists backing me or anthro citations, I would only use the ritual explaination as a last resort when I've exhausted all other possibilities. You kind of have to show that the ritual has a placebo effect and does nothing else.

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REPLY

Blair Fix

JUNE 2, 2021 AT 3:15 PM

I disagree. Many repeated actions (such as drinking a morning coffee) get called 'rituals'. It's not necessarily a derogatory term. It just refers to a habit that you deem significant. And don't know what you mean by 'prove' something is a ritual. Do you mean prove that the justification for the ritual is false? As in, show that ritual slaughter does not bring rain?

If you read *Capital as Power*, you see chapter after chapter that debunks official (read neoclassical economics) claims about the capitalization ritual. The basic idea, according to economists, is that efficient markets reveil the true productivity of the underlying capital. Trouble is, there's no objective way to verify this claim.

About 'throwing rituals under the bus', am I really doing that? What I'm saying is that we should understand why we act the way we do. And that comes down to ideology.

But yes, I am happy to throw religion and capitalist ideology under the bus. I've been explicit about that for a long time.

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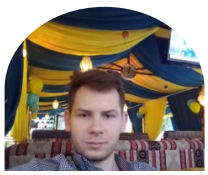

James Harris

JUNE 2, 2021 AT 3:52 PM

Oooph, I think we are talking past eachother for once. In social science, habit


and ritual are not synonymous terms. Drinking coffee every morning is a habit or an addiction, that is a different form of behavoir than a religious ceremony and both psychologists and anthropologists will usually attest to that. What I mean is that you need to prove an action is indeed a ritual and not some other form of repeated behavoir.

The other thing is you should perhaps demonstrate that the behavoir also has no other value than as a ritual.
If it the ritual serves some other larger function, then you should defer to that function as an explaination of social behavoir. It's not a placebo effect if the pill really does work. (I'm using this as an example because in cultural psychology the psychological effects of rituals are compared to placebos).

I've read Capital as Power multiple times now which is why I'm saying the function is the relative stablity that comes with 7%. When capitalists try to go higher and use inflationary practices it is short lived because it's very risky. I re-read Nitzan's chapters on inflation just yesterday actually. 7% isn't just an arbitrary number like waving your hands in a cross. There are lower bounds you mention (interest rates) and higher bounds too (revolts). 7% is what American capitalists have seemingly found to be somewhat stable, though they like to test it.

I basically agree with everything you're stating, but how you're stating it makes it less compatible than it could be with other social sciences. If you want to make New Athiests your audience be my guest, but I'd love to see you respected by psychologists and anthropologists too.

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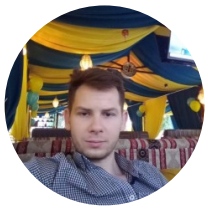

James Harris

JUNE 2, 2021 AT 4:25 PM

"It's not necessarily a derogatory term. It just refers to a habit that you deem significant." I guess if you're just writing for the laymen that is right. Heck, we even throw around the word addiction or insane in the same fashion in everyday chit-chat. But you're trying to do science here and ritual has a more specific meaning than that in social science. That's all.

When you spend a whole article associating rituals only with things you vehemently oppose you make it a bit derogatory (I would also argue it already has a deregatory meaning in our Liberal society). I hope that clears things up a bit and we can find common ground again.

Funny you should bring up neoclassical econ though. CASP and neoclassicals make the same mistake of abstracting from money. You skipped a big step in going from property to prices without discussing money at all. CASP only fixes half the capital controversy because of this and then has to rely on "rituals" to explain it because it lacks a detailed theory of money. Tim Dimuzio hasn't fully bridged the gap either so I'm working on it. I think CASP is a bright new beginning for value theory, but it only fixes half the problem if tries to discuss property without money.

I know your familiar with MMT and Graeber already, so I'd like to point to Perry Merhling who has an idea called "The Hierarchy of Money" which is a title that should appeal to you. Not all kinds of

money are equal, sometimes this is obvious like with reserve currencies and exchane rates, other times it is deceptively subtle like the difference between cash and deposits. I'm sorry for going off topic near the end here but it's something I've wanted to introduce to you for some time. I'm incorporating CASP's approach to prices into Merhling's 4 prices of money. CASP only explains 1 or 2 and has difficulty explaining exchange rates or par.

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Blair Fix

JUNE 2, 2021 AT 5:10 PM

Thanks, James. I'll check out Merhling's work.

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The ritual of capitalization | Real-World Economics Review Blog

JUNE 2, 2021 AT 4:56 PM

[…] ritual of capitalization starts with the institutional act of exclusion — namely property.1 Property, of course, has a deep history that long predates capitalism. I won't wade into this […]

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REPLY

Kymmenen askelta pääomasuhteen yhteiskunnallistamiseksi – Volanen vasemmalta

JUNE 9, 2021 AT 2:30 PM

[…] https://economicsfromthetopdown.com/2021/06/02/the-ritual-of-capitalization/ […]

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REPLY

Grey Lusty

JUNE 10, 2021 AT 6:43 PM

My comments may not be terribly sophisticated as I'm just an engineer, but regardless… Have you considered that just because you can't necessarily prove a basis for 7% doesn't mean there isn't one? There have been many mathematical and scientific constants and relationships that were discovered long before they were proven. It seems to me that it's possible it wasn't arbitrarily decided upon, but instead the data just naturally gathers around that average due to some inherent relationship between current value and future value, like a monetary harmonic?

In the same way, I can't sign on to the idea of price being arbitrary. Price is always ultimately what we a person will pay, so when you introduced the idea of price as relative, that seems closer to correct. Still, even that doesn't capture it, because a buyer can evaluate a price relative to a similar recent or potential purchase, but at the end of the day, the buyers subjective estimation of the value of is something that inevitably introduces variability.

Is it possible that interest rates, in particular lower interest rates, introduce more variability as they open up more room for subjectivity as the borrowing risk is reduced?

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REPLY

Blair Fix

JUNE 11, 2021 AT 5:09 PM

Hi Grey,

I won't discount the possibility that the 7% discount rate could have some significance. But if so, my guess is that it is likely psychological. Before we lend it too much significance, though, best to look at the data in other countries and over longer time periods.

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REPLY

John E Kurman

AUGUST 27, 2021 AT 4:05 PM

I've always thought capitalism and finance stink of magic. The 16rh century Anglo-Dutch version just happened to occur with the so-called Enlightenment and yet was only just tagging along for the ride. There is ample evidence of glamours and spells cast by marketers and advertisers. Indeed, the whole AI (neither A nor I) and cryptocurrency scams stink to high heaven of ritual incantations in a demon haunted world.

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REPLY

With Great Power Comes Great Fear – Economics from the Top Down

AUGUST 30, 2021 AT 1:52 PM

[…] is not productivity. They care about income. Capitalist look at their income and then, through the ritual of capitalization, turn it into a lump sum — the capitalized […]

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REPLY

Weekend read – With great power comes great fear | Real-World Economics Review Blog

SEPTEMBER 4, 2021 AT 1:47 PM

[…] not productivity. They care about income. Capitalists look at their income and then, through the ritual of capitalization, turn it into a lump sum — the capitalized […]

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REPLY

Weekend read – With great power comes great fear - ECONOMICS

SEPTEMBER 4, 2021 AT 1:49 PM

[…] not productivity. They care about income. Capitalists look at their income and then, through the ritual of capitalization, turn it into a lump sum — the capitalized […]

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REPLY

Institution Size as a Window into Cultural Evolution – Economics from the Top Down

OCTOBER 18, 2021 AT 1:33 PM

[…] of capitalism are tied to the evolution of the public firm. That's because public firms take the ritual of capitalization to its most extreme. (We know the capitalized value of public firms down to the […]

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REPLY

Institution Size as a Window into Cultural Evolution - Resilience

OCTOBER 25, 2021 AT 6:08 AM

[…] of capitalism are tied to the evolution of the public firm. That's because public firms take the ritual of capitalization to its most extreme. (We know the capitalized value of public firms down to the […]

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REPLY

In Search of Sabotage – Economics from the Top Down

MARCH 11, 2022 AT 9:40 AM

[…] difficult, until we realize that capitalists do the work for us. Every day, capitalists use the ritual of capitalization to convert their property rights to a number. Then they broadcast the result far and wide. Of […]

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REPLY

Weekend read – In Search of Sabotage – ECONOMICS

MARCH 11, 2022 AT 1:05 PM

[…] difficult, until we realize that capitalists do the work for us. Every day, capitalists use the ritual of capitalization to convert their property rights to a number. Then they broadcast the result far and wide. Of […]

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REPLY

Javier Antonio Quinones Ortiz

MAY 16, 2022 AT 8:49 AM

Capitalization, or economics, is, per Mises, human action; thus the foibles in this article…

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REPLY

How to Make the Oil Industry Go Bust – Economics from the Top Down

SEPTEMBER 24, 2022 AT 7:29 AM

[…] practice is called ‘capitalization’, and it is not appropriate for valuing the future income of the oil industry.10 That’s because […]

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REPLY

taojonesing

MARCH 31, 2023 AT 2:10 PM

Currently, WMT’s earnings yield (E/P ratio), what you call the “effective discount rate,” is less than AAPL’s (2.9% v. 3.5%), and yet AAPL’s market cap increased significantly while Walmart’s decreased slightly since you posted this piece. (AAPL went from 2.1T to 2.6T, while WMT went from 400B to 396B.) So, what useful insight does the “effective discount rate” provide, if any?

You should look into how investors actually use earnings yields in valuation, to the extent they do. Also, what you call “markup” (profit/sales) is not what finance calls markup (profit/costs). Businesses mark up their costs, not their revenues (hence the term).

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REPLY

Blair Fix

APRIL 3, 2023 AT 7:41 PM

Point taken. About the ‘effective discount rate’, its useful if we think it tells us something important about human behavior. And yes, I’m aware that the markup is often defined differently (I learned the cost definition in my first job at a clothing store).

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REPLY

The Ritual of Capitalization (2021) by benaadams - HackTech

JUNE 10, 2023 AT 12:38 AM

[…] Read More […]

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大文字の儀式（2021年） – 世界の話題を日本語でザックリ素早く確認!

JUNE 10, 2023 AT 5:03 AM

[…] この記事はHackerNewsに掲載された下記の記事およびそれに対するHackerNews上のコメントを元に作成されています。The Ritual of Capitalization (2021) […]

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The Ritual of Capitalization (2021) – TOP Show HN

JUNE 10, 2023 AT 5:32 AM

[…] Read More […]

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资本化仪式（2021） - 偏执的码农

JUNE 10, 2023 AT 8:04 AM

[…] 详情参考 […]

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REPLY

Billionaires Are So Predictable – Economics from the Top Down

SEPTEMBER 3, 2023 AT 9:52 AM

[…] the catch here is that the capitalization ritual is based on two quantities that are undetermined. Future earnings are, by definition, unknown. And […]

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