

Debt and Duration: Why You Should Rethink Your Mix of Short-term Debt

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Problem of practice:

Financing of a business involves several choices and trade-offs: a key choice that CFOs often make is: “How much debt should we take on to finance our business?” A related question, often neglected is: “What kind of debt?” All forms of lending are not the same and one key dimension of debt is its maturity period. Short-term debt and long-term debt have different impacts on the profitability and valuation of a firm. Do investors demand higher returns on equity if the composition of debt includes more of certain kind of debt? The question has long bothered corporate finance as well as scholars.

Recent [research](#) by Friewald, Nagler, & Wagner has uncovered an insight that should help CFOs, as it found a clear link between the level of debt, the maturity (ranging from short to long term) of debt and equity returns.¹ The essence of their finding is: “... Equity returns increase in short-term leverage but not in long-term leverage”. Meaning that your equity investors expect higher returns on capital, the more your mix of short-term debt increases. In this essay, we explain why this happens, and we outline takeaways for managers of corporate finance. We illustrate how the nature of the industry in which your business operates, impacts your debt financing – both the level, as well as the mix of short- and long-term debt



¹ Featured in the August 2022 issue of the *Journal of Finance*, authors Nils Friewald, Florian Nagler, and Christian Wagner in their [article](#): “Debt Refinancing and Equity Returns.” – show how duration of debt affects equity returns

The Trade-Offs

Finance has well established the principle that an increase in financial leverage (the level of debt relative to total capital) increases the risk to the cash flows of a company. In turn, shareholders demand a higher return for allowing the company to maintain the **higher leverage** and the resulting increase in risk.² But when it comes to the question of which type of debt – short- vs. long-term – till recently, there had been less evidence.

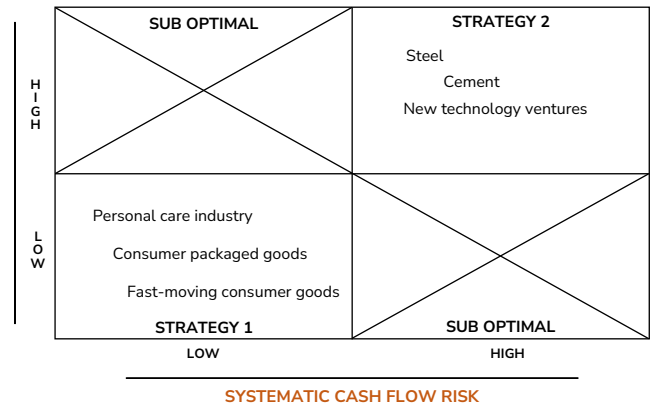
The reason for the lack of evidence is the complexity that stems from two trade-offs involved in this choice. First, there is the risk of refinancing the debt, which implies that if and when an existing loan has to be replaced with a new loan, conditions may be less favourable, for instance when interest rates are rising. Research has proven that long-term debt is less susceptible to this type of [rollover risk](#), as such debt typically locks in to favourable terms for a longer duration.³ Second, there is the risk of conflict between the interests of managers when they take on debt, and the interests of equity shareholders. Here, research points the other way: [Short-term debt](#) allows more flexibility to managers, which benefits equity shareholders.⁴ Also, when long-term debt increases, bond-holders demand a higher premium. Hence, the dilemma – when is short-term debt more beneficial than long-term debt?

One might well ask, what is the cause of the ‘conflict of interest’ between managers and shareholders? When managers take on new debt, the terms may be too constraining for the interests of shareholders. While shareholders might prefer that managers engage in relatively high-return and high-risk projects, managers are also obliged to deliver on debt-holders’ financial terms and metrics. Hence, the conflict of interest, which is in favour of short-term debt.

All else being equal, high-systematic risk businesses should opt for short-term debt while low-systematic risk businesses are better served by long-term debt

Friewald and team attempted to resolve this debate between short- and long-term debt by studying the monthly returns of more than 10,000 US firms from 1976 to 2019. They found that “... *shareholders demand a premium for short-term compared to long-term leverage*”. Conversely, equity returns remained unchanged or decreased with increase in long-term leverage. Their analysis revealed the following best strategy for debt financing:

*“...firms with **low systematic cash flow risk** optimally choose a higher leverage ratio and **lower refinancing intensity**. Conversely, firms with high systematic cash flow **risk** choose a lower leverage ratio and **higher refinancing intensity**”.*



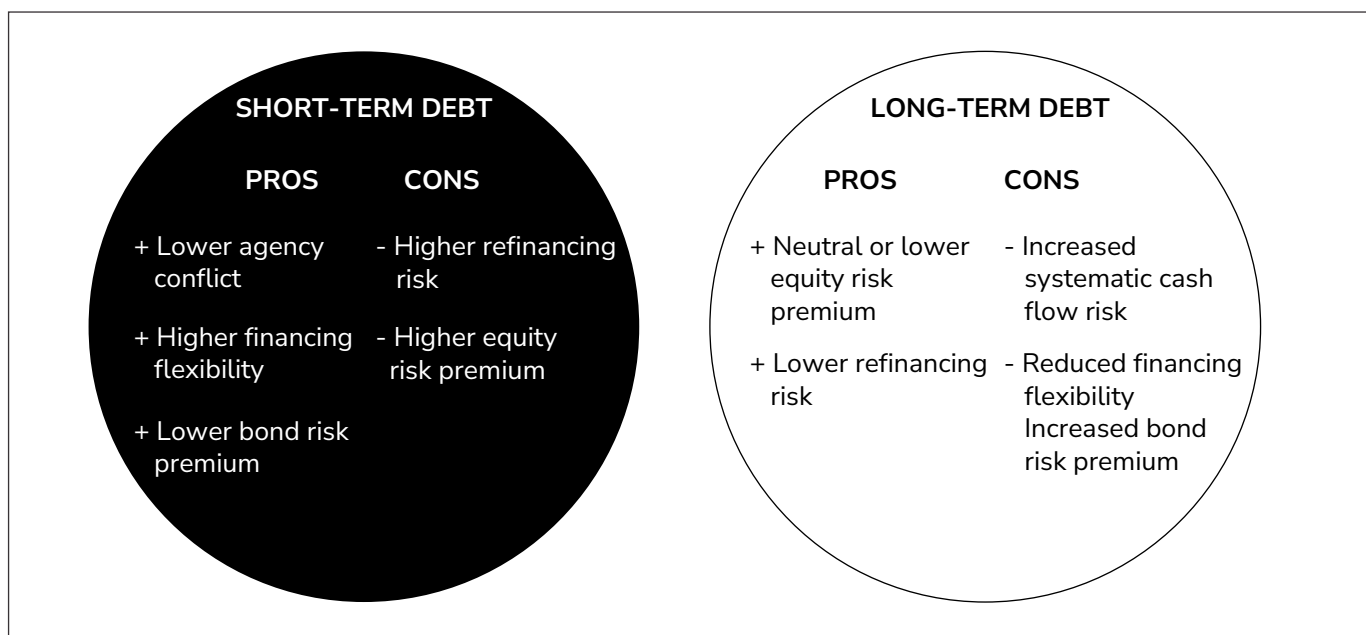
Source: Developed by the authors based on their interpretation of Friewald, Nils, Florian Nagler, and Christian Wagner. "Debt Refinancing and Equity Returns." The Journal of Finance 77, no. 4 (2022): 2287–2329.

Here we notice an added detail – systematic risk – which is the risk a company bears simply due to the nature of the industry in which it operates. Examples of companies that deal with low systematic cash flow risk might include those in consumer staples such as shampoos and biscuits (think Procter & Gamble, Unilever, and ITC). Examples of companies that face higher systematic cash flow risk includes those in cyclical industries (think steel and cement).

All else being equal, high-**systematic risk** businesses should opt for short-term debt while low-systematic risk businesses are better served by long-term debt. The authors also found that when all of these risks (refinancing, conflict of interest, and systematic cash flow risk) were measured and accounted for, short-term debt caused a higher level of risk for equity shareholders, who in turn demanded a higher return-on-equity premium (*see Figure 2*).



Figure 2: The risks and benefits of short-term vs. long-term leverage



Source: Developed by the authors

The ‘So What?’

The takeaway for executives and managers in the area of corporate finance are two-fold. First, corporates need to manage their financing risks prudently. Corporates with an inherently high level of systematic risk of cash inflows should not further add to the same risk by taking long maturity debt. Such companies should maintain low leverage and low maturity of debt. For instance, firms in cyclical industries like steel, cement, or construction suffer from a systematic cash flow risk. While companies in these capital-intensive sectors are used to having a high level of debt, their shareholders would be better served by *debt of shortermaturity*.

An interesting twist to this rule is from emerging market countries like India, where long-term debt markets or high-yield bond markets are less mature, or absent. Anecdotal evidence suggests that in India, most greenfield infrastructure projects begin with a contract for long maturity debt on their books. Ideally, such long debt – implying lower refinancing intensity – is better suited for situations with lower systematic risk such as later stages of infrastructure projects. In contrast, during early stages of an infrastructure project, the systematic cash flow risk is high, implying a fit with short-term debt. To work around this mismatch, many infrastructure projects in India use long-term debt contracts with clauses that enable a reset of the contracted interest rates at short intervals. In effect these

clauses serve as an interest rate option for the lender as well as the borrower. Thus, the debt contracts transform the maturity of debt from long term to short term. Such debt gets predominantly refinanced (pre-paid and replaced with fresh debt) every few years. One reason for this rapid refinancing is the absence of a long-term debt market or a high-yield bond market; this encourages lenders to terminate the originally issued debt rather than selling the same in a secondary market.

Key Takeaways

- Corporates with an inherently high level of systematic risk of cash inflows should not further add to the same risk by taking long maturity debt. They should maintain low leverage and low maturity of debt.
- Shareholders as well as lenders need to think beyond the debt to equity ratio of the companies. They should also look also at the companies’ proportion of short- versus long-term debt.

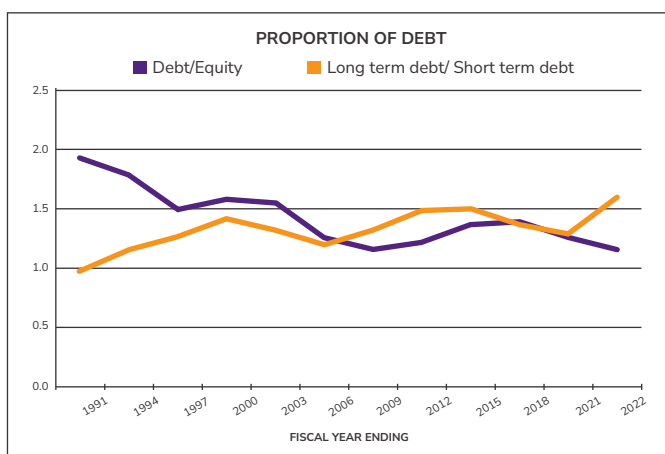
In a practical sense, most infrastructure projects in India at the construction and early operation stage have been financed over the past decade mainly through short-term

debt. This is in line with the findings of Friewald and team, but is expected to have an adverse impact on the valuation of the firm and the shareholders' equity.

The second takeaway for shareholders, as well as lenders, is to think beyond the debt to equity ratio of the companies and look also at the companies' proportion of short-versus long-term debt. Long-term debt, even though preferable to short-term debt, deserves a higher risk premium for the loan or the bond. While this is generally accepted in theory, the same is only grudgingly, and infrequently, allowed in practice. That leads to sub-optimal pricing of debt and other related consequences.

The period from 2011 to 2020 has witnessed a rising trend in the debt/ equity ratio and decline in the proportion of long-term debt for the Indian corporate sector (see Figure 3). This is expected to lead to an increase in the equity risk premium. The period after 2020 has seen a reversal in the trend, which bodes well for Indian corporates.

Figure 3: Corporate Leverage and Debt Maturity In India, 1991-2022



Source: Developed by the authors based on data extracted from the Centre for Monitoring Indian Economy.⁵

However, the same period also witnessed disruption in the corporate and financial sectors due the Covid pandemic and multiple policy interventions. Whether this trend continues over the next few years remains to be seen.

In conclusion, CFO's need to look closely at the maturity of debt in their capital structure, relative to the systematic cash flow risk they face. In general, a high level of short-term debt would lead to a rise in the cost of equity, and thereby the overall cost of capital.



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⁴Thomas Dangl and Josef Zechner, “Debt Maturity and the Dynamics of Leverage,” *The Review of Financial Studies* 34, no. 12 (2021): 5796–5840; Peter M DeMarzo and Zhiguo He, “Leverage Dynamics without Commitment,” *The Journal of Finance* 76, no. 3 (2021): 1195–1250.

⁵CMIE, “Corporate India : Financial Performance Summary” (Centre for Monitoring Indian Economy, November 2022), <https://prowessdx.cmie.com>.

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