

## How Does Debt Affect Corporate Investment in Periods of High Uncertainty?



Investment rates are substantially reduced for firms with higher leverage and higher risk of default.



For firms with low risk, higher leverage does not reduce investment; in fact, in these cases we find that higher debt may be associated with higher investment.



Economic crises provoke the most problematic debt-overhang problems, and low investment rates can persist for two to three years after the recession has ended.

### CONTEXT

Corporate leverage has been increasing in the region since the end of the Global Financial Crisis, reaching record highs during the Covid pandemic. As leverage levels reached these highs in the first half of 2020, there was considerable concern regarding the possibility of a “debt overhang” whereby high corporate debt levels prevent a firm from accessing new lending, leading to low investment. Understanding the impact of debt on investment for firms with different risk profiles allows policymakers to design alternative policies to speed up the recovery following the Covid-19 pandemic.

### PROJECT

To help identify the effect of debt on firm investment, we created a dataset combining quarterly balance-sheet data with daily data on stock market valuations for 25,000 firms in 47 countries from 2002 to 2021. We use firm balance sheets to construct leverage ratios and investment rates and data on stock prices to estimate firm-level measures of default risk using a distance-to-default framework. We analyze the implications of debt for firm investment, particularly i) the differential experiences of firms with different levels of risk and ii) large economic crises such as the global financial crisis and the Covid-19 pandemic.

#### Key Concept



#### DEBT OVERHANG

A corporate debt overhang refers to a situation in which companies with high debt burdens cannot issue additional debt, even if the firm has profitable investment projects.

#### Key Concept



#### DISTANCE TO DEFAULT

A firm's distance to default is an estimate of the probability that it will default and depends on the leverage and the volatility of the firm's stock price.

## RESULTS

---

---

The analysis suggests a nuanced view of a potential post-Covid corporate debt overhang problem. For firms of high risk, higher debt results in a significant debt overhang inducing lower investment. On the other hand, for investment-grade firms with a low probability of default, the debt overhang effect tends to vanish, and higher debt levels are often associated with higher rather than lower investment. In other words, we find a positive complementarity between high debt and low risk (see [Figure 1](#)).

The total overhang effect in the five Latin American countries considered (Brazil, Chile, Colombia, Mexico and Peru) ranges from around -3.9 percentage points (p.p.) of total assets for the riskiest firms to around -1 p.p. for the safest firms; the baseline effect for the median firm is -2.3 p.p. The figure also reveals differences between advanced and emerging economies. For instance, firms on the brink of default in emerging economies suffer a larger overhang effect (-4.5 p.p.) than their advanced country counterparts (-2.9 p.p.). The negative effect of high leverage on investment decreases when firms are less likely to default, and the effect even becomes positive for some firms with a very low likelihood of defaulting.

In addition, economic crises provoke greater debt overhang problems. [Figure 2](#) illustrates differential investment performance after the Global Financial Crisis (panel (A)) and the Covid-19 recession (panel (B)), for firms with high (above-median) leverage versus firms with low leverage. After these recessions, investment rates in percentage points of assets fell steeply for highly levered firms. The quantitative results are robust across regions with an impact effect of around 1-1.5 percentage points during the first year after the shock. Over time, the estimated effect persisted for two to three years.

## POLICY IMPLICATIONS

---

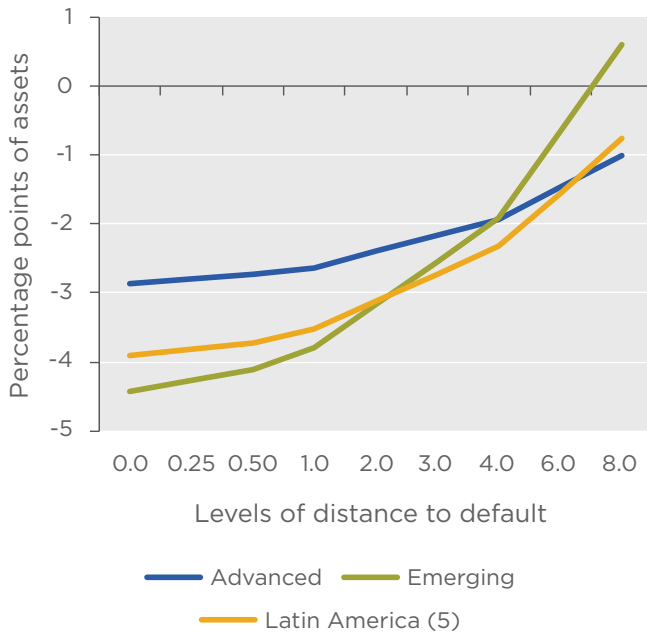
---

Policymakers face a particularly challenging environment after the Covid-19 pandemic, coupled with additional uncertainty coming from monetary normalization in advanced economies, the war in Ukraine and strains in financial systems in the United States and Europe. Credit policies in times of uncertainty should distinguish between small owner-run enterprises facing liquidity constraints and large corporations run by a management team in the interest of outside equity holders facing a debt overhang problem. For small and medium-sized enterprises, for which the social costs of bankruptcy are high, and restructuring is infeasible, the optimal credit policy is likely to involve subsidizing credit, helping viable firms survive the recession. In contrast, in the case of larger corporations, it may be preferable to force equity holders to recognize losses and, if necessary, transfer control to creditors.

Knowing a priori whether a large corporation requires restructuring constitutes a challenge. Our results provide some guidance. For firms with relatively low leverage and where there is reasonable confidence regarding the firm's economic prospects, guarantees on new debt may continue to be a helpful policy tool. However, guaranteeing more borrowing may lead to a deeper debt overhang for firms with high leverage and a high risk of default. An alternative would be to offer an equity-like instrument or a combination of equity and debt so that investors can benefit ex post when the firm recovers. In cases where debt is already very high, it may be preferable to seek a renegotiation of the firm's financial structure before considering further investment through either debt or equity.

Optimal credit policies for firms ultimately need to balance the trade-off between allowing a healthy reallocation process versus the scarring effects of letting viable firms fail. Policies should progressively move from large-scale programs to more targeted support. The scale and type of support should be calibrated carefully, given firm characteristics, fiscal space, and institutional capacity.

**Figure 1. Effects of High Leverage on Investment Rates**



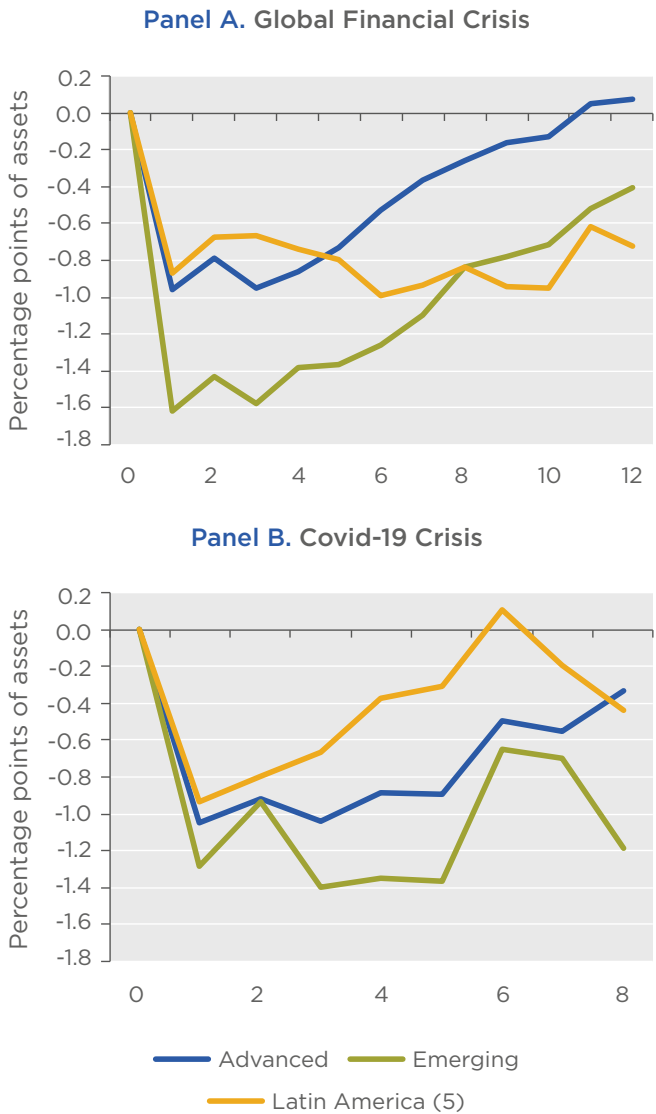
Source: Chapter 12 of Powell and Valencia (2023).  
 Note: The figure reports the effect of high (above-median) leverage on investment rates (in percentage points of assets) for firms with different levels of distance to default.



**FULL STUDY**

[Powell, A., and O. Valencia. 2023. "Balance Sheet Vulnerabilities in the Wake of the Pandemic." In \*Dealing with Debt: Less Risk for More Growth in Latin America and the Caribbean\*, edited by A. Powell and O. Valencia, 285-307. Washington, DC: Inter-American Development Bank.](#)

**Figure 2. Debt Overhang and Slow Recoveries in the Aftermath of Large Recessions**



Source: Chapter 12 of Powell and Valencia (2023).  
 Note: The figures report dynamic coefficients based on Local Projections, measuring the differential investment performance (in percentage points of assets) in the aftermath of a crisis of firms with high (above-median) leverage versus firms with low leverage.

**DEPARTMENT OF RESEARCH AND CHIEF ECONOMIST**

The Department of Research and Chief Economist generates new ideas to enrich the knowledge base that supports the policy agenda of the Inter-American Development Bank (IDB) and its member countries for achieving sustainable and equitable development in the region. To maximize the impact of its research, the Research Department carries out activities that serve as inputs to other IDB departments, governments, the academic community and public opinion in the region.

**Authors:** Rodrigo Heresi and Andrew Powell

Copyright © 2023 Inter-American Development Bank. This work is licensed under a Creative Commons IGO 3.0 Attribution-Non-Commercial-NoDerivatives (CC-IGO BY-NC-ND 3.0 IGO) license (<https://creativecommons.org/licenses/by-nc-nd/3.0/igo/legalcode>) and may be reproduced with attribution to the IDB and for any non-commercial purpose. No derivative work is allowed.

Any dispute related to the use of the works of the IDB that cannot be settled amicably shall be submitted to arbitration pursuant to the UNCITRAL rules. The use of the IDB's name for any purpose other than for attribution, and the use of IDB's logo shall be subject to a separate written license agreement between the IDB and the user and is not authorized as part of this CC-IGO license.

Note that link provided above includes additional terms and conditions of the license.

The opinions expressed in this publication are those of the authors and do not necessarily reflect the views of the Inter-American Development Bank, its Board of Directors, or the countries they represent.

