

Crisis Recovery and the Role of Credit: Do Phoenix Miracles Exist?

Evidence from the 1990s and the 2008 financial crisis provides little support for the notion of creditless recoveries

One of the most hotly debated policy questions relating to the 2008 global crisis is how to stimulate business recovery. Because the crisis started in and severely affected the financial sector, the conventional assumption is that this sector must recover before the corporate sector can. While this conjecture appears reasonable, it has been challenged by numerous crises in recent years in which the real sector recovered before the financial sector did.

Of particular interest are episodes characterized as Systemic Sudden Stops, or 3S episodes, where declines in output are associated with sharp declines in the liquidity of a country's financial sector (Guillermo Calvo, Alejandro Izquierdo, and Ernesto Talvi, "The Economics of Sudden Stops in Emerging Economies," *American Economic Review* 96 [2006]: 405–10). These creditless recoveries—where external credit collapses with output but fails to recover as output bounces back to full recovery—have been termed "Phoenix Miracles."

Empirically, 3S episodes offer an unusual natural experiment: they provide an opportunity to observe how firms are affected in economies that have been subjected to a financial shock that precedes or occurs at the same time as a recession. Until now there has been little firm-level evidence on how corporations respond to crises in general. A new paper by Ayyagari, Demirgüç-Kunt, and Maksimovic uses a database of listed firms in emerging markets to analyze the recovery process after a financing crisis. The authors ask, Do firms experience Phoenix Miracles—where their sales recover without a recovery in external credit?

The authors use firm-level data from the Bloomberg database for nine emerging market 3S episodes over

the 1990s—Argentina, Indonesia, the Republic of Korea, Malaysia, Mexico, the Russian Federation, Thailand, and two episodes in Turkey. Using data on U.S.-listed firms from Compustat, they then study recovery from the 2008 financial crisis in the United States and compare the U.S. experience with the 3S episodes. The analysis leads to several main findings.

First, while averaged macro data across the nine 3S episodes are consistent with the notion of Phoenix Miracles—with output recovering one period before credit—a closer look at the evidence suggests heterogeneity across countries. For example, in Korea and the two crisis episodes in Turkey private credit recovers at the same time as GDP, calling into question whether these cases are truly Phoenix Miracles.

Second, the evidence at the micro level is weaker. Aggregate firm-level data provide little support for Phoenix Miracles, since sales and short-term borrowing recover simultaneously. Analysis of the financial statements of individual firms shows that only a small fraction of firms follow a pattern of recovery in sales without a recovery in external credit, and even these firms have access to external sources of cash.

Third, the authors find no evidence that the U.S. recovery is a Phoenix Miracle. At the macro level, GDP and bank credit (defined as the aggregate assets held by banks excluding vault cash) decline in 2008 but begin to recover simultaneously in 2009. At the firm level, sales and debt in current liabilities (aggregated across publicly traded firms in Compustat) recover simultaneously, suggesting that output recovery was not creditless.

Fourth, analysis of what drives the recovery process suggests that recovery is not creditless and that on average firms replace short-term credit with long-term external finance through long-term borrowing or capital issuance. Thus these potential miracles are miracles in a very restricted sense, if at all, since firms rely not on

short-term but on long-term financing. So the analysis finds little support for the mechanism suggested by Phoenix Miracles—that firms finance themselves primarily through cash saved by cutting investments following a crisis.

Finally, examination of the investment and financing behavior of firms during the crisis period and recovery finds that in both the emerging markets and the United States firms use positive cash flow shocks to add to their cash balances and repay short-term debt. Firms that face a negative cash flow shock and are presumably financially constrained are still able to borrow in the long-term debt markets and issue equity, calling into question the notion of creditless recoveries.

Overall, the results provide little support for the phenomenon of Phoenix Miracles, with even the macro evidence showing a great deal of heterogeneity in the relationship between GDP and credit recovery across the emerging markets. Since the firms in the sample are large publicly listed corporations, and thus able to access long-term debt and equity markets to finance their recovery even when short-term bank credit declines, Phoenix Miracles for small firms are likely to be much more difficult. The findings therefore justify efforts of governments to offset the credit crunch and ensure a continuous flow of credit after the latest crisis.

Meghana Ayyagari, Asli Demirgüç-Kunt, and Vojislav Maksimovic. 2011. "Do Phoenix Miracles Exist? Firm-Level Evidence from Financial Crises." *Policy Research Working Paper 5799*, World Bank, Washington, DC.