

Equity is cheap for large financial institutions: The international evidence

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21 August 2016

Governments and regulators are commonly assumed to offer special protection to the stakeholders of large financial institutions during financial crises. This column measures the ex ante cost of implicit shareholder guarantees to financial institutions in crises, and suggests that such protection affects small and large financial institutions differently. The evidence suggests that in the event of a financial crisis, stock investors price in the implicit government guarantees extended to large financial institutions, but not to small ones.



Around the world, governments and regulators are commonly perceived to offer special protections to the depositors, bondholders and even shareholders of large financial institutions in times of financial distress. A key question for policymakers and regulators is how to measure the distortions and the costs of implicit guarantees extended to financial institutions. We look for the signature of these guarantees in the returns that investors expect to earn on financial stocks.

Most studies use ex post data to estimate the fiscal cost of the subsidies provided to large financial institutions in the aftermath of a financial crisis. For example, after the recent credit crisis, Veronesi and Zingales (2010) estimate the costs of these subsidies to be \$21-44 billion for financial institutions in the US. However, estimating the entire ex post realised cost of the various measures implemented by local and international regulators in the face of a recent crisis is a challenging endeavour. In a new paper, we set out to measure the ex ante effect of these implicit shareholder guarantees by closely examining the returns that stock market investors expect to earn on the stocks of large financial institutions for a sample of 31 developed and emerging market countries from 1980 to 2013 (Gandhi et al. 2016).

Why study the effects of bailout on bank equity? It is more likely than not that government guarantees – commonly referred to as ‘too big to fail’ (TBTF) – also protect the shareholders of large financial institutions. The reluctance of governments and regulators to let large financial institutions fail can benefit the shareholders, even though they are last in line when the bank actually fails. In principle, regulators could insist on wiping out shareholders when bailing out large banks and other financial institutions, but, in practice, they may decide not to do so because this could risk unduly complicating the bailout itself and creating additional systemic risk.

In stock markets, the returns that stock investors expect are determined by the riskiness of the underlying cash flows. If sophisticated stock investors correctly price the explicit/implicit guarantees in financial crises, we expect that, all else equal, the average realised returns on stocks of large financial institutions in a sample without financial disasters would be abnormally low, in anticipation of the guarantees kicking in when a disaster is realised.



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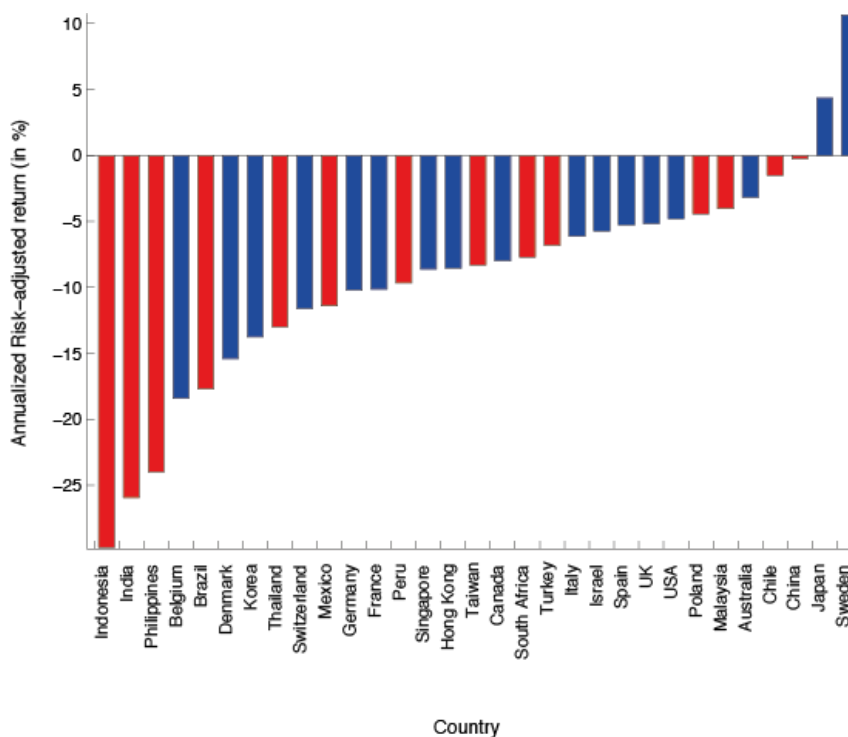
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Empirical results

We sort stocks of financial institutions into market capitalisation deciles, and contrast the returns to small (bottom decile) and large (top decile) financials. Controlling for the standard Fama and French (1993) risk factors, the returns of large financial institutions are on average 10.47% lower per year than the returns on small financial firms within a country. This result is indeed consistent with the idea that stock investors in financial markets price in the implicit government guarantees extended to large but not small financial institutions in the event of a financial crisis. This is a true size effect, not a market cap effect. When we sort banks by total book value, the spread is even larger.

The magnitude of this size anomaly varies significantly in the cross-section. Figure 1 reports the risk-adjusted return of the large-minus-small spread across all the countries considered for financial versus non-financial firms. We see that for 29 out of 31 countries we observe negative spreads (the only two exceptions being Japan and Sweden). The spread is nearly -30% for an emerging market like Indonesia, but developed markets such as Belgium and Korea also experience similarly large spreads. The US spread, at -4.8%, is below average, and is in line with Gandhi and Lustig (2015). Clearly, the anomaly in size-sorted financial returns is not a US-only phenomenon.

Figure 1 Risk-adjusted returns of size-sorted portfolios, financials minus non-financials



Significant differences also exist between developed and emerging market countries in the type of institutions that are driving our results. In developed market countries, only the largest banks exhibit lower (negative) risk-adjusted returns (-3.29% per annum), but we do not detect a similar premium for the largest insurance and real estate companies. The government's umbrella does not seem to protect the shareholders of non-bank financial institutions in these countries. By contrast, in emerging market countries, the spread is mainly attributable to negative risk-adjusted returns for large non-bank financial firms such as real estate investment companies. In many emerging markets, financial services are provided by non-bank institutions. For example, in India, HDFC is a leading provider of housing finance and also offers deposits to retail customers, but it is classified as a real estate investment.

The evidence of abnormally low returns for large financial institutions contrasts with that for large non-financial firms over the same period. Figure 2 reports the difference between the annualised risk-adjusted return of financial stocks in a given size decile and that of non-financial stocks in the same decile. The abnormal return of large financials in the top decile is 3.41% lower than that of large non-financials, and the difference is highly significant. Small financials, instead, are found to deliver abnormally higher returns compared to non-financial stocks in the same decile. The negative abnormal return of large financials persists even when considering additional risk factors such as

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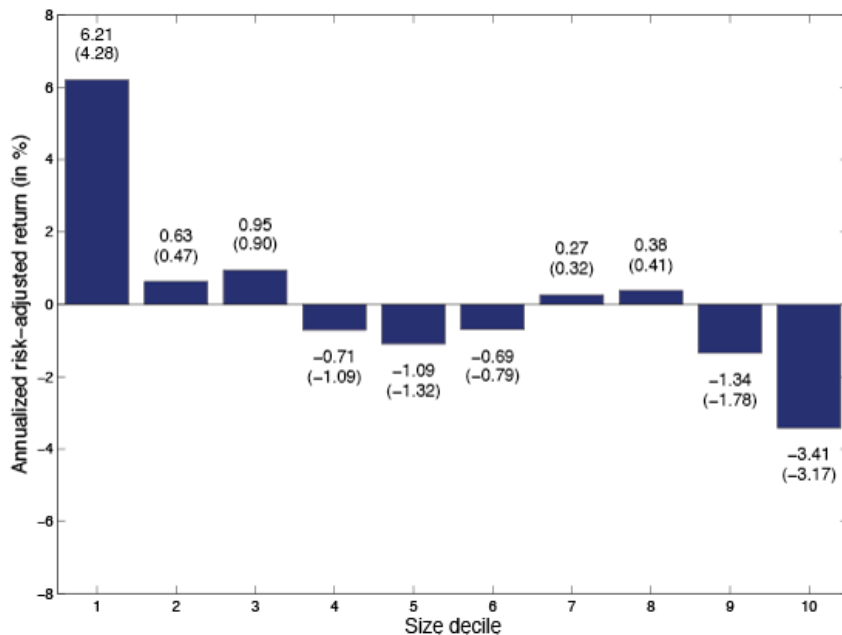
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idiosyncratic volatility (Ang et al. 2009), co-skewness (Harvey and Siddique 2000), or a betting-against-beta factor (Frazzini and Pedersen 2014). Our results imply that large financial institutions can typically raise equity at a lower cost than large non-financials. That is not the case for small financials.

Figure 2 Risk-adjusted return of size deciles, financials minus non-financials



The origin of the size anomaly in financial stock returns

While we do not have smoking gun evidence that attributes these differences in average returns of large and small financial institutions to government guarantees, we provide a series of results which all point in this direction.

First, if the pricing of large financials embeds government guarantees, an increase in the likelihood of intervention should translate into an even bigger spread in the cost of capital between large and small financial institutions, because that increases the value of the protection afforded to shareholders. This argument suggests that differences in valuation between small and large banks should incorporate the probability of crisis increases. Indeed, we show that the difference in the dividend-yield between large and small financials is a good forecaster of large drops in GDP or in the stock market.

Second, we show that the magnitude of this anomaly depends on the regulatory, policy, and institutional framework of a country. The anomaly is significantly larger in countries with deposit insurance, and in countries whose economy is more dependent on banks, as measured by the percentage of the population having access to bank credit or by bank credit to GDP. The size of the anomaly also increases with the fiscal health of the government in a particular country, consistent with the work of Panageas (2010) and Acharya et al. (2014), who show that bailouts may be financed through fiscal transfers or taxation. Indeed, a higher ratio of surplus to GDP or lower sovereign credit spreads result in a larger spread, indicating that bailout guarantees are only credible if governments have the resources to back up these promises. The response of regulators and policymakers during past crises also matters. In particular, prior bank nationalisations amplify the effect of current fiscal health, as they strengthen the investors' beliefs that large financial firms will be supported in the event of a crisis. Overall, these results suggest that sovereign risk is always a large determinant of bank stocks' valuations, even before crises.

Finally, the magnitude of the large-minus-small spread is significantly higher in countries with a common law legal system. The existing literature (e.g. La Porta et al. 2000) shows that shareholders are perceived to be better protected from expropriation in common law countries. Governments in these countries may be unable or reluctant to wipe out the shareholders of large financial institutions in the process of a bailout. There are some precedents that lend support to this interpretation. Recently, the US courts ruled that the Federal Reserve had illegally taken a large

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equity stake in A.I.G. in 2008, thus expropriating its shareholders, while Fannie and Freddie shareholders have also challenged the Treasury's profit sweep in courts. Finally, we also find that the common law effect is mitigated in countries with stronger corporate governance or creditor rights. This finding is in line with Acharya et al. (2011), who show that firms in these countries do not take as much risk as compared to firms in other countries.

Collectively, this cross-sectional variation is not consistent with mispricing or behavioural biases, but instead provides compelling evidence that the pricing of equity of large institutions in financial markets reflects the presence of government guarantees. To put the size of this anomaly in perspective, we estimate that the implicit subsidy to the cost of capital of large financial institutions amounts to 3.45% of GDP across all countries in the sample over 2000 to 2013. This number can serve as a benchmark for evaluating costs and benefits of government intervention.

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