

## Appendix: The Methodology

Using daily share and CDS prices from January 2, 2009, to April 18, 2013, we estimate the following pooled regressions:<sup>1</sup>

$$R_{ijt} = \alpha_1 + \alpha_2 * I_t + \beta_1 R_{jt} + \beta_2 COUNTRY_i + \beta_3 COUNTRY_j * I_t + \beta_4 SIZE_i + \varepsilon_{ijt},$$

where

$R_{ijt}$  are daily stock returns or changes in the CDS prices of 26 major banks from the euro area (15), UK (5), Switzerland (2), and the U.S. (4);

$I_t$  is an event indicator for the Cypriot crisis, which equals 1 if date is between March 15, 2013 and March 29, 2013, and zero otherwise;

$R_{jt}$  is the market stock return for the euro area (FTSE Eurofirst 300), UK (FTSE 100), Switzerland (Swiss Market Index), or the U.S. (S&P 500) in regressions of stock returns; and CDS prices of each country's sovereign debt in regressions of bank CDS prices.

$COUNTRY_i$  is an indicator variable for the home country of bank  $i$ , where  $COUNTRY$  equals 0 for U.S. banks; and

$SIZE_i$  is log total assets of bank  $i$  in dollars.

If investors viewed the Cypriot events as having negative implications for bank shareholders beyond their macroeconomic implications in Europe and elsewhere, then in the regressions with stock returns, we would expect  $\alpha_2 + \beta_3 < 0$  for all banks. Such a result would indicate that stock prices of large banks declined more than would be expected given their typical correlations with broad stock market indexes (as estimated during the period from January 2, 2009, to April 18, 2013). In the regressions, we set the country variable to zero for U.S. banks, allowing us to compare the responses of investors in other countries to those in the U.S. If the events in Cyprus had a disproportionately negative impact on shareholders of euro-area banks relative to U.S. banks, then we would expect  $\beta_3 < 0$  for euro-area banks. Similarly, if the Cypriot events represented negative news for senior bondholders of banks, then in regressions with CDS price changes, we would expect  $\alpha_2 + \beta_3 > 0$  for all banks. If we also find that  $\beta_3 > 0$  for euro-area banks, then the excess changes in the CDS prices of euro-area banks were greater than those at U.S. banks.

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<sup>1</sup> As a robustness check, we also estimated the model separately for banks in each country and the results were similar to those reported.

To examine whether any “excess” price movements in euro-zone bank securities were related to the financial condition of the banks, we estimate

$$R_{ijt} = \alpha_1 + \alpha_2 * I_t + \beta_1 R_{jt} + \beta_2 COUNTRY_i + \beta_3 SIZE_i + \beta_4 * COND_i + \beta_5 * COND_i * I_t + \varepsilon_{ijt},$$

where the additional variable  $COND_i$  is bank  $i$ 's financial condition as measured by either ROE or its Tier 1 capital ratio at the end of 2012, or the average level of its CDS price in July 2012 (at the height of the last flare-up in the European crisis).

If euro-bank investors viewed the Cypriot events as increasing the potential cost of future bank restructurings for them relative to the costs borne by taxpayers in past resolutions, then we would expect banks in more fragile financial condition (and hence more likely to require a resolution in the future) to have more negative stock returns and larger increases in CDS prices during the event window. That is, we would expect more profitable banks and banks with higher capital ratios to have smaller negative responses to the events than other banks. Similarly, if the average CDS prices of banks in July 2012—the most recent flare-up in the European crisis prior to the Cyprus events—was an indication of the banks' financial fragility and their exposure to eurozone problems, then we would expect banks that had lower CDS prices during that period to be in better financial condition and less exposed to any potential change in the European approach to bank resolutions. Therefore, we would expect investors at banks that had lower CDS prices in July 2012 to react less negatively to the Cypriot events. We include  $SIZE$  in the above regressions as an additional control.