
Stock Market Reaction to European Banks' Acquisitions

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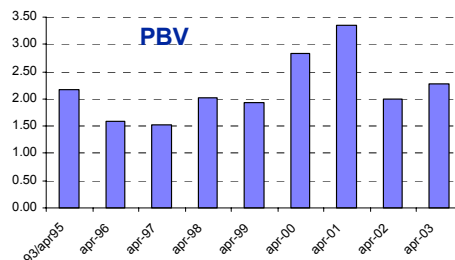
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M&A in the banking sector: are bid prices too high?

In the market for bank control, bid prices have shown an upward trend until 2001.

According to many banks'EO, Italian bid prices have reached excessive levels (the acquisitions destroy value for the bidder banks' stockholders).



If this were the case, the stock price of bidder banks should have a negative reaction when the acquisition is announced.

Empirical evidence on stock market's reaction

There are many event studies relating to the behavior of bidder banks' stock prices. Most of them analyses US banks.

- US evidence is mixed. However, in the latest studies and in those restricted to acquisitions, negative reactions (statistically significant) prevail, both on the announcement day, and on the days around it*.
- A study covering bidder banks in 14 European countries (Cibo-Ottone & Murgia, 2000) reveals a positive reaction in the M&A sample, but a negative one in the sample restricted to acquisitions.
- A positive response is found in the only study concerning Italian banks. The sample is very small (5 *bidders*), the event day is not the announcement of the deal but the formal transfer of controlling shares, the time period is 1992-97.

* (DeLong 2001: + for activity and geographic focusing mergers)

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Our event study: the sample of banks' acquisitions

75 announcements from the end of 1994 to april 2000

- 35 by Italian banks, 40 by banks of other European countries.
- All the Italian acquisitions have a domestic status, while the foreign sample includes 28 cross-border deals. In the Italian sample 24 bidders out of 35 are cooperatives bank, while targets are mainly commercial banks (33 out of 35). In the foreign sample half of the targets are banks and half are other financial firms (securities, insurance, consumer credit companies).
- Four event windows: the event day (day 0), from -1 to +1, from -2 to +2, from -30 to +30.
- Event day: day in which "Il Sole 24 Ore" first published the news of the conclusion of the acquisition agreement for Italian bidders, and the day before for foreign bidders.

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Our event study: the sample of banks' acquisitions

Tab. 2 – Characteristics of the events sample (banking acquisitions)

Years	Total	Italian bids	Foreign bids	UK	D	NL	E	Other European countries
1994	3	3	0	0	0	0	0	0
1995	21	12	9	4	3	0	1	1
1996	7	3	4	2	1	1	0	0
1997	12	5	7	0	1	3	0	3
1998	11	4	7	0	4	2	1	0
1999	16	4	12	5	1	2	1	3
2000	5	4	1	0	0	0	1	0
	75	35	40	11	10	8	4	7

SOURCE: IL SOLE 24 ORE, OUR PROCESSING.

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Our event study: the abnormal returns

Abnormal Returns (AR_t)

$$\text{Model 1} \quad AR_{jt} = R_{jt} - R_{bt} \quad b = \text{Banking Index}$$

$$\text{Model 2} \quad AR_{jt} = R_{jt} - R_{mt} \quad m = \text{General Index}$$

- For every day t , a simple average over the ARs of individual stock is computed (portfolio ARs).
- Statistical significance of portfolio ARs is measured by the T test.

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Our event study: results in the event day and around it

- The sample of Italian events and that of other European events do not show reactions statistically significant in any of the 3 time windows.
- Excluding British bidders, the “foreign” sample reveals negative and significant reaction on the event day, with both models (-0.53%, -0.38%), and in the three day interval with regard to model 1 only (-0.63%).
- Italian bidders show the largest, although not significant, negative reactions with model 2 in the three and five day windows (-0.81% and -1.03%)

Over the whole time period, market reactions appear fairly modest. The idea of value destroyer bid prices seems not well-founded. The risks of over evaluation of target banks apply more to bidders of continental Europe than to Italian bidder banks.

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Our event study: results in the event day and around it

Tab. 3 - Abnormal returns around the announcement day (bidder banks, whole period)

Samples	Model [1]: banking index			Model [2]: general index		
	AR	Test	+/-	AR	Test	+/-
Announcement day (t=0)						
Italian banks (35 events)	+0.04%	+0.15	20 / 15	+0.02%	+0.10	16 / 19
European banks (40 events)	-0.24%	-1.55	20 / 20	-0.18%	-0.87	17 / 23
European banks (29 events)*	-0.53%	-3.68 [^]	11 / 18	-0.38%	-2.16 [^]	12 / 17
Interval with t from -1 to +1						
Italian banks (35 events)	-0.55%	-1.31	18 / 17	-0.81%	-1.98 [°]	16 / 19
European banks (40 events)	-0.11%	-0.39	19 / 21	+0.32%	+0.93	17 / 23
European banks (29 events)*	-0.63%	-2.55 [^]	15 / 14	-0.17%	-0.57	12 / 17
Interval with t from -2 to +2						
Italian banks (35 events)	-0.58%	-0.97	17 / 18	-1.03%	-1.70	13 / 22
European banks (40 events)	+0.05%	+0.12	23 / 17	+0.07%	+0.15	21 / 19
European banks (29 events)*	-0.62%	-1.79	17 / 12	-0.41%	-0.96	15 / 14

(*) WITHOUT UK. (^) AT LEAST 5% SIGNIFICANT (°) SIGNIFICANCE A LITTLE BELOW 5%. SOURCE: OUR PROCESSING.

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Our event study: results in the event day and around it

Has the market reaction changed over time? The time span is restricted to acquisitions announced from 1997 to april 2000.

- On the three and five day intervals, reactions to Italian bids not only remain the largest but acquire statistical significance. During the three day window the loss is 1.35% over the banking index and 1.8% over the general index. The abnormal loss reaches a 2.2% max in the five day interval with respect to the general index.
- Italian bidder banks also show the highest percentage of cases with individual negative ARs (66%).
- Continental Europe bidders retain a significant negative reaction with model 1 in the event day only (-0.38%).

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Our event study: results in the event day and around it

Tab. 4 - Abnormal returns around the announcement day (bidder banks, 1997-00)

Samples	Model [1]: banking index			Model [2]: general index		
	A R	Test	+/-	A R	Test	+/-
Announcement day (t=0)						
Italian banks (17 events)	-0.31%	-0.79	8 / 9	-0.34%	-0.87	5 / 12
European banks (27 events)	-0.40%	-1.81	12 / 15	-0.35%	-1.34	10 / 17
European banks (22 events)*	-0.38%	-2.20^	8 / 14	-0.40%	-1.62	9 / 13
Interval with t from -1 to +1						
Italian banks (17 events)	-1.35%	-1.98^	6 / 11	-1.79%	-2.65^	5 / 12
European banks (27 events)	-0.34%	-0.90	11 / 16	+0.22%	0.49	11 / 16
European banks (22 events)*	+0.11%	0.35	11 / 11	+0.59%	1.41	10 / 12
Interval with t from -2 to +2						
Italian banks (17 events)	-1.38%	-1.43	6 / 11	-2.18%	-2.28^	5 / 12
European banks (27 events)	-0.20%	-0.37	13 / 14	-0.25%	-0.38	12 / 15
European banks (22 events)*	+0.07%	+0.17	12 / 10	+0.18%	0.29	11 / 11

(*) WITHOUT UK. (^) AT LEAST 5% SIGNIFICANT 5%. SOURCE: OUR PROCESSING.

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Our event study: results in the long period

30 days before and after the event day

- Italian bidders still show the greatest negative reactions, especially in the most recent period (1997-2000): -3.6% with model 1 and -4.6% with model 2 in the 30 days prior to the event; -1.7% with model 1 and -5.4% with model 2 in the 30 days after the event.
- All the statistically significant ARs belong to the Italian sample. These cases occur with model 2 both before and after the event day in the period 1997-2000, and only in the 30 days after the announcement for the entire period.

Our event study: results in the long period

TAB. 5A— ABNORMAL RETURNS IN THE 30 DAYS BEFORE THE ANNOUNCEMENT (BIDDER BANKS)

Samples	Model [1]: banking index			Model [2]: general index		
	CAR	Test ^o	+/-	CAR	Test ^o	+/-
Whole period						
Italian banks (35 events)	-0.28%	-0.21	14 / 21	-0.93%	-0.68	18 / 17
European banks (40 events)	+0.50%	+0.58	22 / 18	+0.27%	+0.24	21 / 19
European banks (29 events)*	+0.80%	+1.02	17 / 12	+0.55%	+0.57	14 / 15
1997-2000 period						
Italian banks (17 events)	-3.58%	-1.65	4 / 13	-4.61%	-2.15 [^]	4 / 13
European banks (27 events)	+0.69%	+0.58	15 / 12	+0.07%	+0.05	15 / 12
European banks (22 events)*	+0.58%	+0.61	12 / 10	-0.27%	-0.20	12 / 10

Our event study: results in the long period

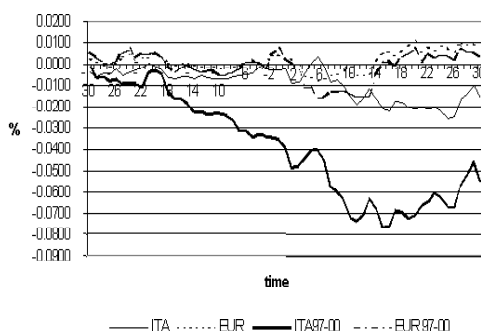
Tab. 5b –Abnormal returns in the 30 days after the announcement (bidder banks)

Whole period						
Italian banks (35 events)	-1.36%	-1.02	10 / 25	-3.25%	-2.39 [^]	8 / 27
European banks (40 events)	+0.50%	+0.59	19 / 21	-0.37%	-0.33	18 / 22
European banks (29 events)*	+0.12%	+0.16	10 / 19	-0.74%	-0.77	10 / 19
1997-2000 period						
Italian banks (17 events)	-1.66%	-0.77	5 / 12	-5.38%	-2.51 [^]	3 / 14
European banks (27 events)	+0.09%	+0.07	12 / 15	-1.16%	-0.80	11 / 16
European banks (22 events)*	-1.34%	-1.41	8 / 14	-2.12%	-1.59	8 / 14

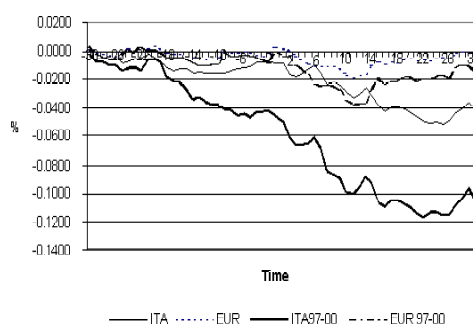
(*) WITHOUT UK. (°) PORTFOLIO TEST STATISTICS. (^) AT LEAST 5% SIGNIFICANT. SOURCE: OUR PROCESSING.

Our event study: results in the long period

Cumulated Abnormal Returns
model 1



Cumulated Abnormal Returns
model 2



A regression analysis of ARs (Italian sample)

Dependent variable: CAR from -30 to +30 (35 obs)

- Explanatory variables
 - timing of the acquisition (*dummy*: 0 if from '94 to '96; 1 if from '97 to 2000)
 - type of payment (*dummy*: 1 if cash and bidder shares; 0 if cash only)
 - bid premium (measured by the *PBV* of the target bank evaluated at the acquisition price)
 - relative size of the operation (cost of the target shares purchased over the stock market capitalization of the bidder bank)

A regression analysis of ARs (Italian sample): results

Tab. 7 - Regression analysis of abnormal returns (Italian bidder banks)

	Model [1]: banking index			Model [2]: general index		
	Value	Sd	T Test	Value	Sd	T Test
<u>CAR from -30 to +30</u>						
Constant	+0.039	0.078	+0.50	+0.058	0.128	+0.46
Form of payment	-0.014	0.045	-0.32	-0.069	0.069	-1.00
Timing of the acquisition	-0.080	0.039	-2.05 [^]	-0.104	0.039	-2.65 [^]
PBV of the target	-0.023	0.025	-0.93	-0.067	0.035	-1.94 [°]
Relative size of the target	+0.047	0.018	+2.60 [^]	+0.060	0.023	+2.61 [^]
R ² and adjusted R ²	22.7% and 12.4%			49.5% and 42.8%		
<u>CAR from -30 to +30</u>						
Constant	+0.011	0.019	+0.60	+0.166	0.048	+3.45 [^]
Form of payment	-	-	-	-	-	-
Timing of the acquisition	-0.086	0.033	-2.60	-0.124	0.031	-3.98 [^]
PBV of the target	-	-	-	-0.086	0.025	-3.45 [^]
Relative size of the target	+0.045	0.019	+2.37	+0.041	0.015	+2.66 [^]
R ² and adjusted R ²	20.0% and 15.0%			47.4% and 42.3%		

(SD) STANDARD DEVIATION. (^) AT LEAST 5% SIGNIFICANT. (°) SIGNIFICANCE A LITTLE BELOW 5%. SOURCE: OUR PROCESSING.

A regression analysis of ARs (Italian sample): results

- The signs of the coefficients suggest that:
 - the stock market reaction is increasingly negative the higher the *PBV* paid for the target bank
 - a payment in cash is less penalised than a share swap
 - the most recent acquisitions were accompanied by more pronounced falls in stock prices of bidder banks
 - the market looks more favourably on the acquisition of relatively large targets
- Relative size and timing are always significant, while *PBV* is so with ARs coming from model 2 only. The type of payment is never significant.

Final remarks

- The stock market reaction to banks' acquisitions is mainly negative. Italian bidders show a decline in stock prices greater than the one experienced by bidder banks of other European countries; this difference is statistically relevant in the most recent period (1997-2000) and support the hypothesis of an excessive increase of bid prices in the Italian market for bank control.
- From the regression analysis of Italian ARs, it seems that the growth in the stock market downward reaction that characterised Italian banks' acquisitions after 1997 cannot be completely ascribed to the increase of bid prices (both the timing *dummy* and the target *PBV* are statistically significant in model 2)
- It may be that aside the rise in bid prices there are increasing doubts about the effectiveness of a certain type of acquisitions (small and medium size commercial banks) as an appropriate strategy to face the banking market evolution