Do the Comprehensive Assessment 2014 and Stress Test Exercise 2016 resolve the information asymmetry?

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Background

- Danger of bank opaqueness and information uncertainty – erratic banking system and deficient confidence in it
- Regulators' instrument: Large Scale Standardized Public Assessments (LSSPAs) (Steffen, 2014)
- Aims: to foster transparency, support market discipline and enhance investors' confidence

Incidence

- Do LSSPAs achieve the planned objectives of fostering transparency and supporting market discipline? Do LSSPAs deliver novel information to the market?
- No informational value: No significant market (price) reactions (Sahin and de Haan, 2016)
- Informational value (idiosyncratic info): The LSSPAs helped market to sort "good" from "bad" banks (Morgan et al., 2014; Carboni et al., 2017; Georgescu et al., 2017; Fernandes et al., 2017) or market reacted to bank specific risk factors contained in the reports (Petrella and Resti, 2013)
- Informational value (systemic info): The reports signal systemic issues for whole banking industry rather than supervisory policy stance only for tested banks (Fernandes et al., 2017; Flannery et al., 2017) or signal harsher policy stance for tested banks (Carboni et al., 2017; Lazzari et al., 2017)
- It is evident that majority of the previous studies, observing the price reactions, reject the 'value irrelevance' hypothesis, however they provide mixed evidence regarding the source of the informational value.

The CA 2014 and STE 2016

- ECB, before becoming the supervisor of the Euro-zone's "significant" banks (Single Supervisory Mechanism – SSM), undertook the CA
- Elements: Analysis of bank processes, organizational structure and business models, Assets Quality Review (AQR) and Stress Test Exercise (STE)
- Scale: 130 significant banks in 19 countries (81.6% of the total assets in the SSM)
- Automatic trigger: if bank failed to retain the minimum CET1 ratio (after the AQR and STE), it had to execute an ECB approved capital recovery plan to retain its license
- The STE 2016: EBA in charge, smaller in scale (SSM and non-SSM banks), no automatic trigger

Leverage (Trading around Public Announcements Literature)

- Trading patterns:
- Before scheduled (negative news) announcement, liquidity traders (Chae, 2005, Park et al., 2013) and informed traders (short-sellers) (Akbas, 2016) refrain from trading due to high adverse selection costs and short sales constraints, respectively.

H1.1. The CA 2014/STE 2016 results announcement reveals novel information, if the trading volume decreases prior to the announcement and increases afterwards

- Volume and returns co-movements:
- When the public announcement resolves the information asymmetry, there is a temporary increase in the correlation between the firm's trading volume and the magnitude of absolute price changes around the announcement (Tetlock, 2010)

H1.2. The CA 2014/STE 2016 results announcement reveals novel information, if the post-event volume-absolute return correlation is higher than the prior-event one

Event Study

Measures:

- Abnormal volume calculated using market model (EuroStoxx50);

measure: log of $Turnover_{i,t} = \frac{Trading\ Volume_{i,t}}{Shares\ Outstanding_{i,t}}$ (Chae, 2005); Significance: simple t-test

- Abnormal return calculated using market model (EuroStoxx50) with Kolari and Pynnonen (2010) corrections to account for the event induced variance and the cross-section correlation (Lazzari et al., 2017)

More details:

- We avoid using diff-in-diff methodology due to potential weak control group (Lazzari et al., 2017)
- Dates: Firstly, on 10th October 2014, the public was informed that 26th October 2014 would be the date of results announcement. Later, on 22nd October 2014, the public was reassured that no official results would be published prior to 26th October (Carboni et al, 2017). Similarly, for the STE 2016, on 19th July 2016 the EBA announced that the results report would come up on 29th July 2016, previously informing about the use of the results in the SREP.
- Estimation windows: (-133, -26) and (-40, -11) (Chae, 2005)
- Event windows: (-5, 0) (-1, 0) (0, 1) (0, 5)
- Sample: for the CA 2014, 37 listed banks sufficiently traded to be part of the event study; for the STE 2016, 18 listed banks (only SSM, but we plan to extend to non-SSM banks)

Results: Trading around the CA 2014 results

Days	Whole Sample	Italian vs. Non-Italian banks			Low vs. Extreme shortfall/buffer banks			Fail, pass-low and pass-high banks			
	AAV	AAV (Ita)	AAV (non-ita)	Difference	AAV (low shortfall/buffer)	AAV (extreme shortfall/buffer)	Difference	AAV (fail)	AAV (pass-low)	AAV (pass-high)	Difference (p-value)
-5	-0,50985***	-0,38408***	-0,57022***	0,186147	-0,48202**	-0,53923***	0,057206				
-4	-0,26659**	-0,08105	-0,35565**	0,274601*	-0,31253*	-0,21811*	-0,09442				
-3	-0,09577	-0,05821	-0,11379	0,055588	-0,02465	-0,17083	0,146177				
-2	-0,12626**	-0,06951	-0,1535**	0,083991	-0,1111**	-0,14227	0,031164				
-1	0,089133	0,350857***	-0,03649	0,387351**	0,025951	0,155825	-0,12987				
1	4,09E-01***	5,79E-01***	3,27E-01***	0,251435	3,77E-01***	4,42E-01***	-0,06522				
2	-0,04985	0,110798	-0,14624	0,257039	-0,05886	-0,03964	-0,01923				
3	-0,04514	0,083919	-0,10709	0,191006	-0,1291	0,043487	-0,17259				
4	0,131027	0,414027***	-0,00481	0,41884**	0,160579*	0,099833	0,060745				
5	0,08259	0,194796	0,028732	0,166064	0,030655	0,137411	-0,10676				
Cumulative Average Abnormal Volume											
CAAV (-5; 0)	-0,90934***	-0,24199	-1,22967**	0,987678*	-0,90435*	-0,91461*	0,010258	-1,24161*	-0,72653	-0,73272	0,646
CAAV (-1; 0)	0,089133	0,350857***	-0,03649	0,387351**	0,025951	0,155825	-0,12987	0,230011	-0,07838	0,12061	0,181
CAAV (0; 1)	4,09E-01***	5,79E-01***	3,27E-01***	0,251435	3,77E-01***	4,42E-01***	-0,06522	0,469333***	0,277252***	0,493251**	0,741
CAAV (0; 5)	0,53432	1,382384**	0,127249	1,255135*	0,386694	0,690148	-0,30345	0,765229	0,23595	0,614047	0,377

***, **, * refer to 1%, 5% and 10% significance levels

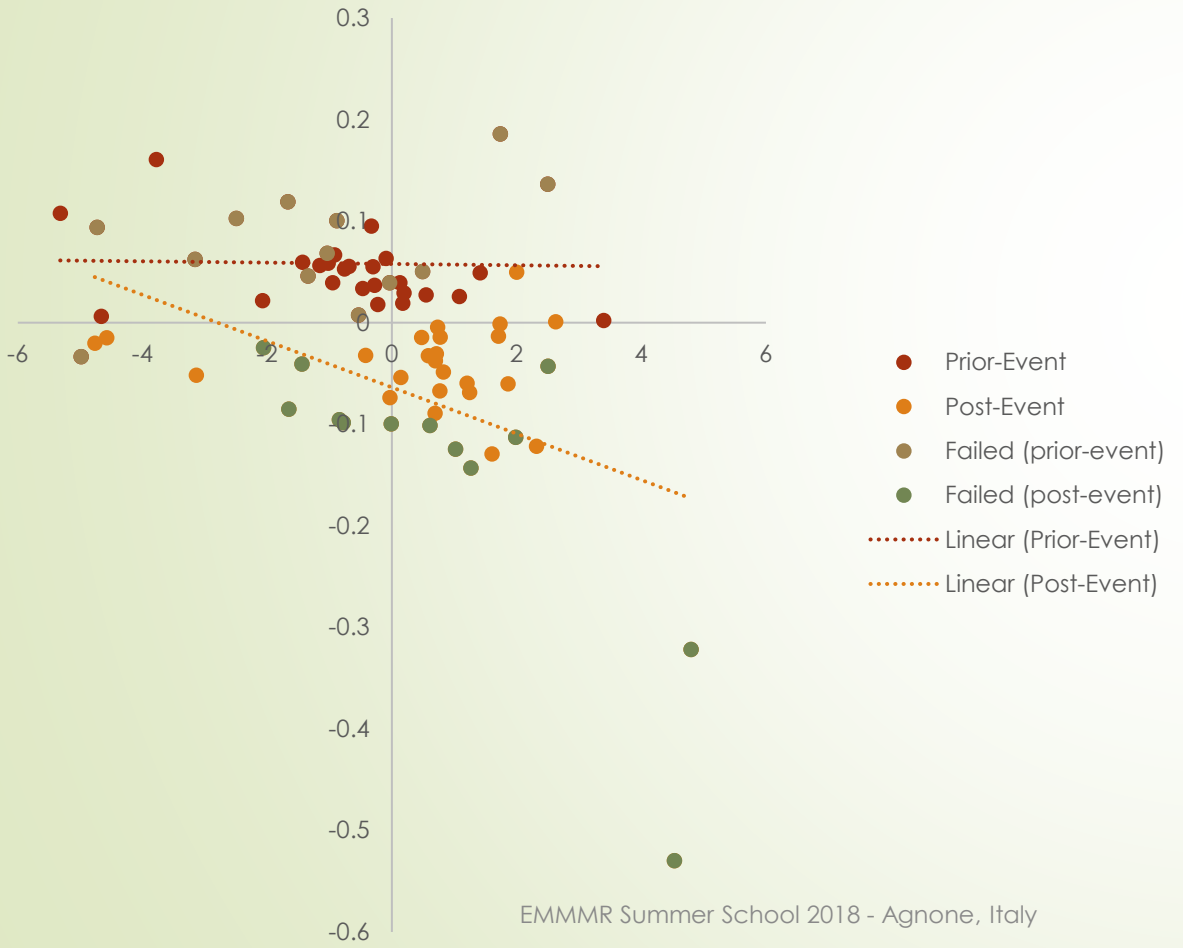
Results: Trading around the STE 2016 results

Days	Estimation window (-6m, -1m)		Estimation window (-40, -11)	
	AAV	AAR	AAV	AAR
-5	-0,01007	-0,01336**	0,0628	-0,01052**
-4	-0,13857	-0,01158**	-0,07844	-0,00878*
-3	-0,0538	0,001147	-0,05458	0,003275
-2	-0,09413	0,002645	-0,10405	0,0072
-1	-0,01476	0,009889*	-0,04877	0,01183**
1	0,081267	-0,01168	0,04934	-0,00757
2	0,033699	-0,02916***	-0,06265	-0,02335**
3	-0,11942	0,00399	-0,15098	0,006855
4	-0,15095	0,005332	-0,13663	0,007407
5	-0,15121	0,000968	-0,12131	0,002141
Cumulative Average Abnormal Volume (Return)				
CAAV(R) (-5; 0)	-0,31133	-0,0119	-0,22304	0,002101
CAAV(R) (-1; 0)	-0,01476	0,009942*	-0,04877	0,011804**
CAAV(R) (0; 1)	0,081267	-0,01161	0,04934	-0,00759
CAAV(R) (0; 5)	-0,30662	-0,03022**	-0,42223	-0,01463

***, **, * refer to 1%, 5% and 10% significance levels

Results: CAV (X axis) and CAR (Y axis) (five days) prior and after the event

CA 2014



STE 2016

Results: Correlations

Days	CA 2014		STE 2016	
	AV and |R|	AV and |AR|	AV and |R|	AV and |AR|
-10	-0,2695	-0,327**	0,0461	0,2689
-9	0,4464***	0,4366***	-0,0969	-0,1551
-8	0,3412**	-0,0631	-0,6015***	-0,4003*
-7	0,2402	0,2084	-0,2242	-0,2174
-6	-0,0265	-0,3671**	0,7065***	0,7289***
-5	-0,0948	0,007	0,2932	0,2637
-4	0,1719	-0,1179	0,2965	0,3441
-3	-0,1307	-0,1505	0,2954	0,3608
-2	0,0192	-0,262	0,2947	0,3041
-1	0,2516	0,3206*	0,1473	-0,0299
1	0,3507**	0,4374***	0,2589	0,1032
2	-0,2242	-0,5063***	0,0285	-0,1579
3	0,2499	0,2097	0,3385	0,3223
4	0,3677**	0,3628**	0,1326	-0,0911
5	0,575***	0,5621***	0,5081**	0,2546
6	0,1168	0,1985	0,3064	0,217
7	0,3041*	0,2019	-0,0882	-0,5725**
8	0,244	0,114	0,3335	0,2878
9	0,3184*	0,365**	-0,4915**	-0,6301***
10	-0,1152	-0,1505	0,4463*	0,3901
CAV and |CAR|				
CAV and |CAR| (-10; 0)		-0,12		0,0705
CAV and |CAR| (-5; 0)		-0,1209		0,0002
CAV and |CAR| (-1; 0)		0,3206*		-0,0299
CAV and |CAR| (0; 1)		0,4374***		0,1032
CAV and |CAR| (0; 5)		0,5002***		0,2971
CAV and |CAR| (0; 10)		0,2318		0,1555

***, **, * refer to 1%, 5% and 10% significance levels

Conclusions

- The CA 2014 reveals novel information that affects all tested banks, possibly signaling the risk factors relevant for the regulators
- The STE 2016 could be treated as non-event

Contribution

- New adjusted-metric
- Market reactions to the STE 2016 (different market model, estimation and event windows)
- Regulatory announcements