Update of the methodology used for Cooperative Banks

Eric Jondeau and Michael Rockinger
Center for Risk Management – Lausanne
University of Lausanne

February 2, 2014

As of end of January 2014, risk measures have been adjusted for two large French cooperative banking groups, namely Crédit Agricole and BPCE. More precisely, we have moved from measures for the bank (Crédit Agricole SA and Natixis) to measures for the group (Crédit Agricole Group and BPCE Group). This change is the conclusion of a long, internal as well as external, debate, on the way to deal with co-operative or mutual capital structures. In the case of Crédit Agricole and BPCE, we had to face two issues: (1) Both groups are among the largest banks in Europe with a high leverage, so that they have significant contributions to the aggregate European SRISK measure. (2) The capital structure of both groups is relatively complex and this complexity renders difficult the computation of their actual risks and leverage.

This note briefly describes the capital structure of Crédit Agricole Group and BPCE Group, the way we have adjusted the methodology, and the risk measures as of end of June 2013.

1. Capital structure of Crédit Agricole

Crédit Agricole Group (CAG) is composed of two types of entities:

- The bank (Crédit Agricole SA, CASA) is involved in global financial activities, investment banking, international operations, etc. It includes Crédit Agricole CIB (investment banking division), Amundi (its asset management entity), and LCL (a large French bank). Crédit Agricole SA is the main listed entity of the group.

- The Regional banks (RBs) are co-operative entities, involved in retail banking, mostly lending to their clients, firms and households. Some RBs (13 over 39) are listed, but the floating is very limited and certificates are highly illiquid.

The 39 RBs jointly hold (via SAS Rue la Boétie) 56.3% of CASA. CASA itself holds approximately 25% stakes in most of the RBs (except the Corsican regional bank).

The balance sheet of Crédit Agricole Group consolidates the balance sheets of CASA and RBs. The main issue concerns the entity that will guaranty the liquidity and solvency of CASA if needed.

As stated in the "Update A01 of the 2012 Registration document" of Crédit Agricole Group (page 29), "it is important to recall that the Regional Banks have granted Crédit Agricole S.A. their joint and several guarantee up to the total of their capital and reserves (€54 billion at 31 December 2012), should Crédit Agricole S.A. prove unable to meet its obligations. This guarantee reciprocates the commitment of Crédit Agricole S.A., as central body, to maintain the solvency and the liquidity of the Regional Banks. Consequently, international rating agencies award the same ratings to the issuance programmes of Crédit Agricole S.A. and of the rated Regional Banks."

Consequently, given the full commitment of the various entities with respect to each other, CAG is considered by the French and European authorities as the scope of consolidation for Crédit Agricole. Also rating agencies attribute the same ratings to the issuance programs of CASA and of the rated RBs.

2. Capital structure of BPCE Group

BPCE Group is a cooperative banking group formed in 2009 from the merger of two cooperative banks, Groupe Caisses d'Epargne and Groupe Banque Populaire. It is composed of three types of entities:

- The bank (Natixis) is involved in global financial activities, investment banking, international operations, etc. Natixis is the main listed entity of the group.

- BPCE (for Banque Populaire Caisses d'Epargne) is the central institution of the Group. It holds 71.98% of Natixis. It has other subsidiaries such as Crédit Foncier or Crédit Maritime Mutuel.

- 19 Banques Populaires and 17 Caisses d'Epargne are co-operative entities, involved in retail banking, mostly lending to their clients, firms and households. The Banques Populaires hold 50% of BPCE and the Caisses d'Epargne hold 50% of BPCE. Banques Populaires and Caisses d'Epargne are held by 8.7 million cooperative shareholders and are not listed.

As stated in "Affiliation of Natixis to BPCE and guaranty and solidarity system within Groupe BPCE" (page 1), BPCE "must take all necessary measures to guaranty the liquidity and solvency of Groupe BPCE and institutions affiliated with BPCE as central body, as well as to organize the financial solidarity within Banque Populaire and Caisse d'Epargne networks. […] Should the situation of Natixis require the triggering of the guaranty and solidarity system, BPCE may draw financial means from four different and complementary sources: firstly BPCE will draw on its own capital (in compliance with its shareholder duties); secondly it will call upon the Mutual Guaranty Fund; thirdly it will make a call on the two networks' guaranty funds (Banques Populaires and Caisses d'Epargne); finally BPCE will request the contribution capacity of the Banques Populaires and the Caisses d'Epargne (37 credit institutions) up to the full amount of their equity."

3. Methodology for cooperative or mutual banks

We investigated different approaches to adjust our methodology to the case of mutual banks, where several entities may in fact constitute a unique group, with not all entities being listed on financial markets. For instance, for Credit Agricole, aggregating the equity of the different entities would be a good solution. However, only a limited number of RBs are listed, with in addition very limited liquidity (floating equity is approximately 1.5% of total market capitalization of the listed RBs). For BPCE, the cooperative banks are not listed on financial markets. As a consequence, no objective market-based value of equity can be found.

Our approach therefore consists in applying to the group the adjusted book-to-market (BTM) ratio of the bank to measure the "implicit" market capitalization of the group. The adjusted BTM ratio is defined as:

$$BTM_{bank} = \frac{\text{book equity}_{bank} - \text{intangibles}_{bank}}{\text{market capitalization}_{bank}}.$$

We exclude goodwill and other intangibles, following the approach used for computing Tier 1 Equity Capital, as they cannot be used to offset losses.

Then, we define the "implicit" market capitalization of the Group as:

$$\text{market capitalization}_{group} = \frac{\text{book equity}_{group} - \text{intangibles}_{group}}{BTM_{bank}}.$$

4. Crédit Agricole: Numbers as of end of June 2013

To illustrate how this approach works, we consider data from the 2013Q2 semi-annual report.

Simplified balance sheet of CASA

Assets		Liabilities	
Assets	1784.9	Debt	1739.8
of which:		Equity	45.7
Intangibles	15.7		

Simplified balance sheet of CAG

Assets		Liabilities	
Assets	1944.2	Debt	1866.4
of which:		Equity	77.8
Intangibles	16.5		

The book-to-market ratio of CASA is (45.7-15.7)/16.5=1.82. We deduce the "implicit" market capitalization of CAG as: (77.8-16.5)/1.82=33.7.

CASA	
Book leverage (*BL*)	39.1
Market cap. (*W*)	16.5
Quasi leverage (*QL*)	108.2
SRISK	88.2

CAG	
Book leverage (*BL*)	25.0
"Implicit" market cap. (*W*)	33.7
Quasi leverage (*QL*)	57.7
SRISK	86.6

Note: *BL* is Total Assets / Equity and *QL* is Total Assets / Market capitalization. *SRISK* is defined as $[\theta(QL-1)-(1-\theta)(1-LRMES)]W$, with $\theta = 5.5\%$ and *LRMES* the long-run expected shortfall.

We note that the assets of CAG are only slightly larger than the assets of CASA. This is because consolidation neutralizes the intra-group activities. Yet the equity of the different entities partly cumulates (excluding cross-holdings), so that the book leverage of CAG is significantly lower than the leverage of CASA, although still at a relatively high level. The implicit market capitalization of CAG is doubled relative to CASA, whereas quasi leverage is decreased by 47%. Eventually, SRISK is decreased by 1.8% at 86.6 billion Euros.

With this number, GCA is now ranked second as of end of September 2013, just below Deutsche Bank (88.9 billion Euros). However, the interpretation of the level of SRISK is quite different: the "implicit" market capitalization is now slightly above that of Deutsche Bank (33.7 billion Euros versus 33 billion) and the quasi leverage slightly below (57.7 versus 60.1).

5. BPCE: Numbers as of end of June 2013

We consider data from the 2013Q2 semi-annual report.

Simplified balance sheet of Natixis

Assets		Liabilities	
Assets	552.5	Debt	533.8
of which:		Equity	18.7
Intangibles	3.5		

Simplified balance sheet of BPCE Group

Assets		Liabilities	
Assets	1161.6	Debt	1111.8
of which:		Equity	55.7
Intangibles	5.6		

The book-to-market ratio of Natixis is (18.7-3.5)/9.9=1.54. We deduce the "implicit" market capitalization of BPCE Group as: (55.7-5.6)/1.54=32.6.

Natixis	
Book leverage (*BL*)	29.6
Market cap. (*W*)	9.9
Quasi leverage (*QL*)	55.8
SRISK	23.7

BPCE Group	
Book leverage (*BL*)	20.9
"Implicit" market cap. (*W*)	32.6
Quasi leverage (*QL*)	35.7
SRISK	42.1

The assets of BPCE are approximately twice as large as the assets of Natixis. This reflects a different organization compared to Crédit Agricole. In particular, the subsidiaries are held by BPCE, not by Natixis, so that the scope of BPCE is much bigger than Natixis only. The book leverage and quasi leverage of BPCE is significantly lower than the counterparts for Natixis. The implicit market capitalization of BPCE is increased by 130% compared to Natixis, whereas quasi leverage is decreased by 36%. Eventually, SRISK is increased by 77% at 42.1 billion Euros.

With this number, BPCE is now ranked 7 as of end of September 2013, whereas Natixis was ranked 13 with our previous methodology. Again, the interpretation of the level of SRISK is quite different: the SRISK is now mostly driven by the larger "implicit" market capitalization than by an excessive quasi leverage.