A closer look at Dexia: The case of the misleading capital ratios

Willem De Groen
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Willem Pieter de Groen
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Banking supervisors and regulators attach too much importance to the current
capital ratios, despite the multi-indicators approach encouraged by Basel III. The
recent experience of Dexia shows that reliance on this single capital indicator can be
very costly. A month before the announcement of the €94 billion rescue package on
October 10th,1 the Belgian-French bank stressed that it still had a solid capital
reserve.2 The bank quoted regulatory capital ratios at the end of June that were well
above the legal standards. Why then did this seemingly sound bank fail? And why
did the EBA stress tests, whose results were published only in July, fail to signal
Dexia’s problems?

When first published, the results of the stress tests performed by the European
Banking Authority (EBA) gave little evidence of Dexia’s vulnerability. The test was
based on the current criteria for Basel II capital (core Tier-1 ratio). Dexia was
ranked 12th of the 90 tested banks, with a stressed core Tier-1 ratio of more than twice the
benchmark of 5%. In turn, the equity ratio was only about 1.9%, representing one-sixth of the
core Tier-1 ratio at year-end 2010. In other words, for every €53 in assets, the bank had only
€1 in capital (see Table 1). Such a level of leverage is high, twice in fact the average of large
EU banks.3 The leverage and difference with other large banks are largely explained by the
calculation of the risk-weighted assets (RWA) and the definition of core Tier-1 capital, both
of which painted an overly optimistic picture.

1 In short, the rescue package agreed by Belgium, France and Luxembourg foresees a split of Dexia in which the
Belgium state will acquire Dexia Bank Belgium (excluding Dexia Asset Management) for €4 billion plus profit-
sharing when the bank is sold within five years. In addition, Belgium (60.5%), France (36.5%) and Luxembourg
(3%) will provide up to €90 billion in guarantees to Dexia. Furthermore, the bank will enter into negotiations for
the sale of Dexia Banque Internationale à Luxembourg to the Luxembourg state and to guarantee the funding of
local French municipalities with Caisse des Dépôts et Consignations (CDC) and La Banque Postale.

2 For Dexia’s response to a series of ‘negative’ news reports, see

3 The comparative data in this commentary were drawn from R. Ayadi, E. Arbak, W.P. de Groen (2011), Business
Models in European Banking: A pre- and post-crisis screening, CEPS Paperback, September
Table 1. Development of capital ratios (2006-10)

<table>
<thead>
<tr>
<th></th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>RWA as % of total assets</td>
<td>23.5%</td>
<td>26.4%</td>
<td>23.5%</td>
<td>24.8%</td>
<td>24.9%</td>
</tr>
<tr>
<td>Total equity as % of total assets</td>
<td>3.3%</td>
<td>2.7%</td>
<td>0.9%</td>
<td>2.1%</td>
<td>1.9%</td>
</tr>
<tr>
<td>Core Tier 1 ratio (min 4%)</td>
<td>8.7%</td>
<td>8.2%</td>
<td>9.6%</td>
<td>11.3%</td>
<td>12.1%</td>
</tr>
<tr>
<td>Capital adequacy ratio (min 8%)</td>
<td>10.3%</td>
<td>9.6%</td>
<td>11.8%</td>
<td>14.1%</td>
<td>14.7%</td>
</tr>
<tr>
<td>Leverage ratio (assets/equity)</td>
<td>30.7</td>
<td>36.9</td>
<td>115.9</td>
<td>48.2</td>
<td>52.8</td>
</tr>
</tbody>
</table>

Source: Author’s own calculations based on data in Tables A1-A3 in the Annex.

Dexia’s regulatory capital was much higher than its total equity due to over €10 billion of losses that were not recognised in the income statement. This balance sheet item mainly consists of reclassifications. Assets held in a bank’s trading book may prompt losses during downturns owing to the fact that they are valued according to the fair value of those securities. This can give banks an incentive to transfer assets to their banking books in order to avoid incurring further losses in the future. According to an amendment made by the International Accounting Standards Board (IASB) to IAS 39 on Financial Instruments: Recognition and Measurement in October 2008, these transfers can be made when these ‘unrealised’ losses (i.e. the difference between the market value and the fair value) are deducted from the company’s total equity – but not core Tier-1 capital. Dexia made extensive use of these transfers, which made the bank’s core Tier-1 ratio appear nearly twice as high, which is very uncommon.

Over the past five years, Dexia’s RWA accounted for roughly one-quarter of its total assets (see Table A3 in the Annex). This share is significantly lower than for most other large banks in Europe, whose average ratio of RWA-to-assets is nearly 40%. Under current capital regulations, banks do not have to hold any capital charges for most public debt, even if the assets are potentially at-risk, as in the case of exposures to Greece. In Dexia’s case, exposures to public authorities represented over one-half of the bank’s total activities, of which over 80% had a negligible risk weight of 10% or less.

The large sovereign holdings made the bank very vulnerable to the eurozone sovereign debt crisis. Dexia’s credit risk exposure to Greece, Ireland, Italy, Portugal and Spain (GIIPS) was €100 billion, €22 billion of which was in government bonds. The scenario in the EBA’s stress test, however, factored in very limited losses on outstanding loans to the public sector. In the test, significant depreciation charges were taken only in the trading book for loans to the public sectors in Greece, Ireland and Portugal, whereas Dexia’s trading book holds only a fraction of its total exposure to public sector lending in these countries. Depreciations on loans in the bank book were limited, but they form the bulk of Dexia’s exposure. At worst, the charges were even still below the 21% write-down by the Institute for International Finance (IIF) on Greek sovereign debt, announced a week after the EBA disclosed the stress test results. In retrospect, the EBA was too conservative in its assumptions for the stress test.

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4 See also Table A1 in the Annex for the construction and development of Dexia’s equity.
6 This decrease is substantially larger than the average of between 5% to 10% deduction of core tier for most other major EU banks. See also Table A2 in the Annex for the calculation and development of Dexia’s core Tier 1 capital.
7 Among the various possible explanations for these differences, Dexia’s exposure to public debt is the most likely. These loans, which account for about 55% of Dexia’s total credit risk exposure, traditionally have no or only very limited risk weight in the RWA.
8 See Table A4 in the Annex for a distribution of the government bond holdings by country.
The limited absorptive capacity and substantial exposures to the GIIPS made the bank also prone to liquidity shortages. In fact, only one-tenth of Dexia’s (medium) long-term wholesale funding issued last year was uncovered.\(^9\) However, short-term funding was more important for the bank. The long-term loans to the public sector were to a large extent financed by short-term funds. As a result of the outbreak of the crisis and the uncertainty in the capital markets, this tiny margin business was no longer viable. Dexia became highly dependent on central bank funds and government guaranteed debt. This reliance on short-term liquidity was reduced in recent years, but was still substantial by year-end 2010.\(^{11}\) Attracting short-term funding became more and more difficult during the current eurozone sovereign debt crisis, due to increasing haircuts on assets pledged as collateral and the closing of the short-term government guarantee facility. The EBA’s stress test did not consider liquidity in its analyses.\(^{12}\) If the stress test had used the new indicators as suggested by Basel III (leverage-, liquidity-ratio, as well as stronger capital-criteria), it is more likely that Dexia would have been identified as a weak institution, given its high leverage and its dependence on short-term funding.

To conclude, the case of Dexia clearly shows that a high core Tier-1 ratio does not automatically imply that the bank is safer. Today’s RWA calculation is not perfect, with low-risk weights for loans to public services. Similarly, (core) Tier-1 capital depends to a large extent on its definition. These sensitivities should be sufficient to treat the core Tier-1 ratio carefully. If the EBA stress test had anticipated the introduction of the new Basel III criteria, it would be more likely that it would have exposed Dexia’s vulnerabilities, enabling a better resolution of the bank at a minimal social cost.

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\(^9\) The first EBA stress test has clearly provided more guidance on the exposures of the tested banks, than did the CEBS stress test in 2010. In the methodology note, however, EBA mentions that there are problems with the harmonisation of the data. Dexia’s sovereign data, for instance, do not include its loans to local public sector, in contrast to many other banks included in the test. The local public sector loans of Dexia have been classified as ‘institutions’ instead.

\(^{10}\) The remaining 90% consisted almost entirely of government-guaranteed debt (52%) and covered bonds (31%).

\(^{11}\) It is impossible for outsiders to make comparisons with other banks due to limited transparency. However, the scant information available showed that Dexia was, for example, one of the biggest users of the emergency loans from the FED after the collapse of Lehman Brothers in September 2008.

## Annex

**Table A1. Equity construction (2006-10)**

<table>
<thead>
<tr>
<th>€ millions</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core shareholders' equity</td>
<td>14,433</td>
<td>16,112</td>
<td>17,488</td>
<td>18,498</td>
<td>19,214</td>
</tr>
<tr>
<td>Gains and losses not recognised in the statement of income</td>
<td>1,866</td>
<td>(1,587)</td>
<td>(13,572)</td>
<td>(8,317)</td>
<td>(10,269)</td>
</tr>
<tr>
<td>Non controlling interest and Discretionary participations</td>
<td>2,136</td>
<td>1,869</td>
<td>1,702</td>
<td>1,807</td>
<td>1,783</td>
</tr>
<tr>
<td>Total Equity</td>
<td>18,435</td>
<td>16,394</td>
<td>5,618</td>
<td>11,987</td>
<td>10,728</td>
</tr>
</tbody>
</table>

| Equity as % of total assets | 3.3% | 2.7% | 0.9% | 2.1% | 1.9% |

*Source: Dexia Annual Reports, 2006-2010.*

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**Table A2. (Core) Tier-1 ratios (2006-10)**

<table>
<thead>
<tr>
<th>€ millions</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core shareholders' equity</td>
<td>14,433</td>
<td>16,112</td>
<td>17,488</td>
<td>18,498</td>
<td>19,214</td>
</tr>
<tr>
<td>Minority interests</td>
<td>501</td>
<td>517</td>
<td>557</td>
<td>613</td>
<td>660</td>
</tr>
<tr>
<td>Intangibles, prudential filters, cumulative translation adjustments and other deductions</td>
<td>(3,329)</td>
<td>(3,503)</td>
<td>(3,340)</td>
<td>(2,959)</td>
<td>(2,872)</td>
</tr>
<tr>
<td>Core Tier-1 capital</td>
<td>11,605</td>
<td>13,126</td>
<td>14,705</td>
<td>16,152</td>
<td>17,002</td>
</tr>
<tr>
<td>Core Tier-1 ratio (min 4%)</td>
<td>8.7%</td>
<td>8.2%</td>
<td>9.6%</td>
<td>11.3%</td>
<td>12.1%</td>
</tr>
<tr>
<td>Hybrid capital</td>
<td>1,423</td>
<td>1,423</td>
<td>1,421</td>
<td>1,421</td>
<td>1,423</td>
</tr>
<tr>
<td>Tier-1 Capital</td>
<td>13,028</td>
<td>14,549</td>
<td>16,126</td>
<td>17,573</td>
<td>18,425</td>
</tr>
<tr>
<td>Tier-1 ratio</td>
<td>9.8%</td>
<td>9.1%</td>
<td>10.6%</td>
<td>12.3%</td>
<td>13.1%</td>
</tr>
<tr>
<td>Additional own funds</td>
<td>726</td>
<td>796</td>
<td>1,951</td>
<td>2,678</td>
<td>2,211</td>
</tr>
<tr>
<td>Capital adequacy capital</td>
<td>13,754</td>
<td>15,345</td>
<td>18,077</td>
<td>20,251</td>
<td>20,636</td>
</tr>
<tr>
<td>Capital adequacy capital ratio (min 8%)</td>
<td>10.3%</td>
<td>9.6%</td>
<td>11.8%</td>
<td>14.1%</td>
<td>14.7%</td>
</tr>
</tbody>
</table>

*Source: Dexia Annual Reports, 2006-2010.*

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**Table A3. Size of development assets and risk-weighted assets (2006-10)**

<table>
<thead>
<tr>
<th>€ millions</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total assets</td>
<td>566,743</td>
<td>604,564</td>
<td>651,006</td>
<td>577,630</td>
<td>566,735</td>
</tr>
<tr>
<td>Risk-weighted assets (RWA)</td>
<td>133,369</td>
<td>159,383</td>
<td>152,837</td>
<td>143,170</td>
<td>140,834</td>
</tr>
<tr>
<td>RWA as % of total assets</td>
<td>24%</td>
<td>26%</td>
<td>23%</td>
<td>25%</td>
<td>25%</td>
</tr>
</tbody>
</table>

*Source: Dexia Annual Reports, 2006-2010.*
Table A4. Government bond portfolio GIIPS (end-2010)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Greece</td>
<td>3,437</td>
<td>1</td>
<td>828</td>
<td>4,266</td>
</tr>
<tr>
<td>Ireland</td>
<td>-</td>
<td>-</td>
<td>326</td>
<td>326</td>
</tr>
<tr>
<td>Italy</td>
<td>12,354</td>
<td>5</td>
<td>1,143</td>
<td>13,502</td>
</tr>
<tr>
<td>Portugal</td>
<td>1,927</td>
<td>-</td>
<td>235</td>
<td>2,162</td>
</tr>
<tr>
<td>Spain</td>
<td>1,373</td>
<td>15</td>
<td>314</td>
<td>1,702</td>
</tr>
<tr>
<td>Total</td>
<td>19,091</td>
<td>21</td>
<td>2,846</td>
<td>21,958</td>
</tr>
</tbody>
</table>

*Source: Dexia Annual Reports, 2006-2010.*
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