The value of Italian non-performing loans

- Banks and potential investors place very different valuations on non-performing loans.
- The differential in the yield sought by each of these groups is the main source of the difference.
- The reform of Italian bankruptcy law is likely to improve the valuation of non-performing loans and make them easier to sell into the market.

Eurozone banks with high levels of non-performing loans were given until 31 March 2017 to submit to the European Central Bank (ECB) “ambitious but realistic” plans\(^1\) for the reduction of their non-performing loans. Banks under the direct supervision of the Single Supervisory Mechanism (SSM) and where non-performing loans represented “considerably” more than 5.4% of their total loan book in the third quarter of 2016\(^2\) were liable to be affected by this requirement. This threshold corresponds to the average, weighted by banking assets, of the non-performing loan ratios in European Union (EU) member states. The median ratio of non-performing loans was 4.8% and the unweighted average was 9.8% (see Chart 1), indicating that the problem of non-performing loans concerns a limited number of banking systems, which in turn make up a modest part of the overall EU banking system.

Although the names of the establishments required to submit a plan to the ECB have not been revealed for reasons of confidentiality, it seems reasonable to suppose that the list includes several Italian banks. Indeed, the Italian banking system had a 16.4% ratio of non-performing loans in the third quarter of 2016. Only the Greek, Cypriot and Portuguese banking systems had higher ratios at 47%, 47% and 20% respectively. However, their assets only represented respectively 1.2%, 0.3% and 1.4% of total eurozone bank assets. The figure for the Italian banking system is 13%, making it the third biggest in the eurozone, after France (27%) and Germany (25%).

Non-performing loans are an inherent feature of the lending business. Associated losses are managed through provisions.

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However, these doubtful assets can contribute to the blocking of the bank lending channel once they exceed a critical threshold. Increases in non-performing loans tend to reduce banks’ profitability, increase their cost of financing or their cost of liquidity and can threaten their solvency. Thus, non-performing loans are likely to exert a growing constraint on the distribution of credit. This phenomenon is exacerbated by the accompanying contraction in demand, under the combined effect of borrowers’ lower solvency and lower investment due to changes in forecasts of economic growth. A deterioration in economic conditions can thus, on its own, result in a widespread deterioration in bank loan books. The ‘threshold’ above which the activity of a bank can be hampered by non-performing loans depends on its risk profile and its initial solvency.

Economic growth and banking activity interact with each other. Thus, non-performing loans explain, alongside other factors, the lack of vigour in Italian bank lending (see Chart 2). This contributed to the weak growth in real GDP (less than 1%) in 2016. In return, the lacklustre recovery in Italy to date cannot, in and of itself, be sufficient to clean up bank balance sheets. In contrast, the combination of crisis management plans at the
banks and the application of the ECB guidance to banks on non-performing loans (see Box 1) will feed a “virtuous circle” of reduction in non-performing loans\(^3\). The clean-up in bank balance sheets and the ensuing support to growth thus appear as a necessary condition of a real recovery in the Italian economy.

**Box 1**

**The ECB guidance to banks on non-performing loans**

In March 2017, the SSM published “guidance to banks on non-performing loans”. This guide to good practice is intended to be universal but is addressed in the first instance to the banks with the highest ratios of non-performing loans in the EU. Although not yet enforceable, these guidelines set out the strategy that banks should adopt so as to better identify and manage their non-performing loans. These correspond to “non-performing exposures” (NPE) as defined by the EBA\(^2\). Such exposures include past-due loans (principal, interest or fees not paid on the due date) for more than 90 days as well as loans on which it is unlikely that the borrower will meet all of their obligations without realisation of collateral. This standardised definition for supervisory reporting purpose is broader than the prudential definition of exposures in default\(^6\) and the accounting definition of impaired exposures\(^5\). Banks are encouraged to use this definition in all communication and in their internal control processes. The treatment of impairment and write-offs is also set out.


Given international experience of non-performing loan crises (e.g. Japan and Sweden in the 1990s, Ireland and Spain following the 2007/2008 crisis), the disposal of these loans appears to be an effective means of cleaning up bank balance sheets (Aiyar et al., 2016; Garrido et al., 2016). Banca delle Marche and Banca dell’Etruria e del Lazio\(^6\), as well as Monte dei Paschi di Siena and UniCredit, have sold, or are in the process of selling, all or part of their non-performing loan portfolios. These disposals can be voluntary, encouraged by market discipline, or can represent an obligatory element of rescue and resolution plans for banks. Establishing a price for these doubtful assets is an essential part of the process. This price depends not only on the intrinsic characteristics of the non-performing loans (expected cash flows, effective interest rates, etc.) but also on parameters specific to potential investors (internal rates of return, fees and commissions supported, etc.).

With this in mind, we set out several highly schematic examples of the valuation of a theoretical portfolio based on what it might be seen in Italy. Our intention is primarily to provide information, and we do not set out to give an exhaustive description of the present or future reality in Italy.

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\(^3\) Danièle Noug, 15 March 2017, interview with SKAI TV.
\(^4\) https://www.bancaditalia.it/media/approfondimenti/2015/info-soluzione-crisi/index.html?com.dotmarketing.htmlpage_language=1

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**Non-performing loans valued (almost) like other loans**\(^5\)

When a loan becomes non-performing, the bank revalues it on the basis of the anticipated recoverable amount. This accounting estimate is developed using a probabilistic approach based on experience relative to recovery rates and recovery times in particular. The estimated value must be a faithful representation of the value of the asset. In this sense, it adheres to the same principles as used for any other loan.

Initially, the gross book value (GBV) of a loan is calculated by discounting the value of anticipated future cash flows (CF\(_t\)) using the initial effective interest rate (i) over the life of the loan \((t=1,\ldots, T)\). In accordance with the amortised cost method as defined in IAS 39 (to be replaced by IFRS 9 in January 2018), the calculation is as follows:

\[
GBV_t = \sum_{t=1}^{T} \frac{CF_t}{(1+i)^t} \quad (1)
\]

In the event of a deterioration in the quality of a loan, the expected future cash flows are revalued to take account of the possible recourse to collateral and the associated costs (maintenance or foreclosure costs for instance). Where appropriate, the calendar of future cash flows may also be delayed in time. The effective interest rate is the only factor left unchanged. These changes result in the calculation of the net book value (NBV) of a loan:

\[
NBV_t = \sum_{t=1}^{T'} \frac{CF_t'}{(1+i)^t} \quad (2)
\]

\(^5\) This section draws freely from the work of Ciavoliello et al. (2016), together with the guidance to banks on non-performing loans (2017).
The difference between the GBV and NBV corresponds to the bank’s expected loss. It is therefore covered by an equivalent provision.

The NBV of a non-performing loan can, however, differ substantially from the price offered by potential investors. Although such investors make their calculations using the same discounted future cash flow method, they do not necessarily have the same level of information about the loan and the borrower as the originating bank. In order to cover this risk, potential investors use an internal rate of return (IRR) which is above the effective interest rate. They also include their indirect costs, arising from the management of non-performing loans, such as infrastructure, staff and commission costs. Potential investors deduct these costs from the price at which they buy non-performing loans, unlike banks which are required to recognise the costs annually. Potential investors therefore carry out a calculation equivalent to this:

$$\text{NPL Value}_t = \sum_{i=1}^{T'} \frac{\text{CF}_i}{(1 + \text{IRR})^t} - \text{Fees & commissions}$$  \hspace{1cm} (3)

**Substantial valuation differences**

The computerised applications that follow provide estimates of the value of a theoretical portfolio of Italian non-performing loans. We suppose that this consists of bad debts (sofferenze) with a gross book value of 100. Banks consider loans to be bad debts when the borrower is insolvent or in an essentially similar position.

In order to highlight the difference between the parameters used by banks and by investors, estimates of the characteristics of non-performing loans (cash flows and recovery times) are assumed to be the same for everyone. This is equivalent to implicitly adopting the hypothesis that no investor is able to obtain, through its own actions, a better return than the bank itself. If ad hoc investment funds or collection agencies could take actions that allowed them to obtain a higher recovery rate than the bank, this would increase the value they placed on non-performing loans. Lastly, none of the parties is assumed to have negotiating power that would allow it to influence the price in its favour (i.e. there are no price makers). On the whole, these hypotheses are relatively close to the reality in Italy (see below).

For reasons of simplification, non-performing loans are assumed to give rise to no repayment flows before the realisation of collateral. Future cash flows (CF$_i$) are thus equal to a single flow, received in its entirety at the end of the recovery period. It incorporates the realisation of collateral, reduced by maintenance and liquidation fees, which are assumed to be the same for all lenders. Carpinelli et al. (2016) estimate this figure at 41% of GBV on average between 2011 and 2014 in Italy under all recovery processes taken together (liquidation, restructuring, etc.). This figure is sensitive to economic conditions and a figure of 47% of GBV has been used in accordance with Ciavoliello et al. (2016). This level is closer to the recovery rate seen in less unfavourable economic periods in Italy (i.e. in 2011) and makes the results obtained easier to apply more widely. By way of comparison, Deloitte (2017) estimates gross recovery rates of non-performing loans in 2015 were 90% in Slovenia, 70% in the Czech Republic and 47% in the Baltic states. Moody’s (2013) estimates that the final recovery rate in OECD countries stands at around 80%. Thus the recovery rate in Italy is significantly below those observed in comparable economies.

By hypothesis, the residual time required to collect the assumed single cash flow is set at 4.2 years. This corresponds to the average period observed by the Italian Ministry of Justice in cases of real estate foreclosure (Quaestio, 2016). However, this is likely to be shortened by the implementation of the reform of bankruptcy law in Italy since 2015. It is the case that the length of the procedures relating to the management of non-performing loans has often been cited by supporters of bankruptcy reforms as one of the main causes of accumulation of such assets in Italy (see Garrido et al., 2016; Jobst & Weber, 2016).

The effective interest rate is set at 3.1%, in line with the average observed in 2016 for bank loans to the non-financial private sector (NFPS) in Italy. This is the lowest rate seen since December 2011, when it peaked at 4.5%. The rest of the eurozone has seen the same downward trend in the intervening period and the interest on bank loans to the NFPS averaged 2.8% in 2016. The risk premium is due, among other things, to the level of public sector debt (133% of GDP in 2016), but also to domestic economic conditions that remain fragile relative to other eurozone countries.

Given these parameters, the net present value of the portfolio of non-performing loans is estimated at 41% of their GBV (see Table 1). Thus the provisioning requirement for the bank is 59%. These proportions correspond to those recently observed in Italy for bad debts (see Ciavoliello et al., 2016).

By assumption, potential investors are divided between an asset management company (AMC) specialising in non-performing loans and “the rest of the market”. This distinction serves to highlight the reasons why the Atlante private fund⁶ or the hypothetical EU-wide ‘bad bank’ proposed by the EBA (see Box 2) would buy non-performing bank loans at a higher price than the rest of the market.

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⁸ Source: ECB

⁹ Placed under the aegis of Quaestio Capital Management, the Atlante fund is intended to participate in the recapitalisation of banks and the purchase of their non-performing loans.
Box 2

An EU-wide ‘bad bank’

At the end of January 2017¹, EBA Chairperson Andrea Enria detailed the outlines of a EU-wide asset management company specialising in non-performing loans. The aim would be to purchase between €200 billion and €250 billion of non-performing bank loans using a mixture of public and private funds. Losses will neither be supported by this entity nor mutualised between EU members thanks to a clawback clause: if the AMC has to sell a non-performing loan back into the market at a price below what it paid to the bank, it is this bank that will bear the loss. In the event that the bank does not have the capacity to absorb the loss, the member state in which the bank is registered will be responsible for making a precautionary recapitalisation, providing that the bank is eligible. This loss would be added to the one already recorded by the bank at the time the doubtful asset is sold with a haircut to the AMC.

The experience of the National Asset Management Agency (NAMA) in Ireland in 2009 and Sociedad de Gestión de Activos procedentes de la Reestructuración Bancaria (Sareb) in Spain in 2012, tend to suggest that such an approach is compatible with the EU’s state aid rules (but not necessarily with those set out in the Bank Recovery and Resolution Directive (BRRD), which significantly tightened the conditions for state intervention). In effect, the transfer of non-performing loans would be made at their “real economic value”. This price corresponds to the present value of expected cash flows discounted at the risk-free interest rate plus a risk premium (Medina Cas and Peresa, 2016).

According to the EBA, the use of an AMC would reduce informational asymmetry between banks and potential investors as this dedicated entity would have better knowledge about non-performing loans and higher quality information on the borrower and the nature of collateral. The price at which the market would be prepared to acquire the non-performing loans would be closer to that at which the banks would seek to sell them (the bid/ask gap). Moreover, if this ad hoc entity were to securitise the non-performing loans for resale, the risks would, theoretically at least, be diversified.

However, before such an entity is created, several points will need to be addressed, including its financing and governance².

The internal rate of return of the AMC is set at 6%, and that for the rest of the market at 17%. These rates correspond to the target for the Atlante fund and the median IRR gross of commissions observed for this type of investment (Quaestio, 2016). According to the fund’s management, governmental measures aimed at increasing the value of non-performing loans explain this 1:3 difference in ratio (Quaestio, 2016). The 6% target may, however, look low given the risk incurred. By way of comparison, the yield on US corporate bonds with a rating of CCC or lower was 12% on 30 September 2016 (Bank of America Merrill Lynch index).

Fees and commissions are set at 7% of the loan GBV for the AMC and 8% for the rest of the market, as estimated by the Atlante fund. These fees are slightly higher than the 6% suggested for all investors by Ciavoliello et al. (2016). The use of one or other of these values has little effect on the results.

Thus the valuation of non-performing loans for the AMC is 34% of their GBV, and for the rest of the market 21%. The price offered by the AMC is thus close to the 33% offered by the Atlante fund for a portion of Monte dei Paschi di Siena’s non-performing loan portfolio at the end of 2016¹⁰. It is also in line with the 32% paid by the fund on 10 May 2017 for the non-performing loans of Nuova Banca delle Marche, Nuova Banca Etruria e del Lazio and Nuova Cassa di Risparmio di Chieti (which will clear the way for their acquisition by UBI Banca).

The fund also values a theoretical portfolio at 34% of GBV in its presentation document (Quaestio, 2016). However, this figure is below the 40% at which Andrea Enria estimates the “real economic value” of non-performing loans, albeit at an EU-wide scale¹¹. For the rest of the market, the 21% estimate given here is in line with the consensus figure of 20%. The latter is based on the price paid during the rescue of four Italian banks in November 2015 (see Vercellone, 2016, for example).

Eventually, our results offer an illustration that is close to the situation currently observed in Italy. The difference between the value accounted by the bank and the price that an AMC or the rest of the market would offer can be explained, in large part, by the substitution of an investor’s internal rate of return for the effective interest rate on the loan agreement.

### Valuations of non-performing loans

<table>
<thead>
<tr>
<th></th>
<th>Pre reform</th>
<th>Post reform</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bank</td>
<td>AMC</td>
</tr>
<tr>
<td>Gross Book Value (a)</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Value of cash flow at recovery (b)</td>
<td>47</td>
<td>55</td>
</tr>
<tr>
<td>Time required to collect cash flow (years) (c)</td>
<td>4.2</td>
<td>3.2</td>
</tr>
<tr>
<td>Effective interest rate (d)</td>
<td>3.1%</td>
<td>3.1%</td>
</tr>
<tr>
<td>Investor internal rate of return (e)</td>
<td>6%</td>
<td>17%</td>
</tr>
<tr>
<td>Fees &amp; commission rate (f)</td>
<td>7%</td>
<td>8%</td>
</tr>
<tr>
<td>Present value of cash flow (gb)/(1+i)^c or grb((1+r)^c)</td>
<td>41.4</td>
<td>36.8</td>
</tr>
<tr>
<td>Fees &amp; commissions (gb)</td>
<td>3.3</td>
<td>3.8</td>
</tr>
<tr>
<td>Value of non-performing loans (lng-h)</td>
<td>41.4</td>
<td>33.6</td>
</tr>
<tr>
<td>Additions to provisions (pa-l)</td>
<td>58.6</td>
<td>66.4</td>
</tr>
</tbody>
</table>

*By hypothesis, no provisions are made at this stage.

Table 1: Sources: Ciavoliello et al., 2016, Quaestio Capital Management, 2016, BNP Paribas

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¹¹ Andrea Enria, EBA wants Europe-wide bad bank to fix NPLs, Euromoney, 23 March 2017
Valuations likely to rise

The value of Italian non-performing loans could be increased by a package of reforms introduced by Matteo Renzi’s government. These address bankruptcy laws (essentially Law No. 132/2015 and No. 119/2016) and introduce a government guarantee mechanism for senior tranches of securitised non-performing loans (Garanzia Cartolarizzazione Sofferenze – GACS). One of the primary aims is to increase the recovery rate on non-performing loans and make them easier to sell (Marcucci et al., 2015; Brodi et al., 2016). The potential effects of these reforms on the valuation of non-performing loans are presented in a second set of hypotheses.

To illustrate a scenario in which the reforms bear fruit, the cash flow is assumed to increase to 55% of the loan GBV. This would correspond to an alignment of the cost of recovery (maintenance or foreclosure costs for example) of non-performing loans in Italy (23% of loan value) with the average observed in Germany, France, Greece and Portugal (15%)12.

The recovery period is reduced by one year to 3.2 years thanks to the acceleration of company liquidation procedures. Marcucci et al. (2015) estimate that the total duration of procedures relating to company bankruptcy could be cut from 6 to 3 years under the most favourable scenario. Given the rigidities involved and the time required for the whole of the economic environment to adjust to these reforms, this 3-year reduction may appear optimistic, which is recognised by the authors. We have therefore used the more conservative assumption that the time required to collect the cash flow will be reduced by just one year.

If the reforms prove credible in the eyes of the market, or better yet, produce effects, the return sought could be reduced, echoing the reduction in perceived risk. The IRR for the rest of the market is therefore, conservatively, reduced to 15%. However, the figure for an AMC is left unchanged, as it already incorporates the potential benefits of reforms.

Subject to the relevance of the various assumptions we have used, the implementation of reforms could increase the amount recovered by the bank by 9 percentage points (pp). Concomitantly, provisions would be reduced from 59% to 50% of loan GBV. Potential investors would therefore be able to offer higher prices: 8pp higher for an AMC and 10pp higher for the rest of the market. In the event of an ad hoc AMC buying a portfolio of non-performing loans, the provision requirement would be reduced to the one prevailing without the reforms if the bank keeps the portfolio, i.e. 58%.

Over and above accelerating the clean-up of bank balance sheets, increased valuations for non-performing loans would help ease the constraint they put on Italian bank solvency. In the event that provisioning became insufficient and/or that profitability was too low to allow additional provisions, capital would be eroded because it would have to be used to cover the unexpected element of losses recognised on the write-off or sale of non-performing loans.

The need for continued reforms

Given these factors, the continuation of measures to improve the value of non-performing loans would be a good move. A return to stability in the Italian banking sector would seem to require first the cleaning up of balance sheets, as required by the ECB. This will be easier to achieve if reforms are credible in the eyes of investors, and banks are encouraged to shed their non-performing loans. Italy’s banking sector and its wider economy could benefit from such a process.

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