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EUROSISTEMA

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(Occasional Papers)

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# HOW SLOW IS THE RECOVERY OF LOANS TO FIRMS IN ITALY?

by Ginette Eramo<sup>\*</sup>, Roberto Felici<sup>\*</sup>, Paolo Finaldi Russo<sup>\*</sup>  
and Federico M. Signoretti<sup>\*</sup>

## Abstract

This paper studies the characteristics of the recent evolution of loans to non-financial firms in Italy from an historical perspective, with the aim of ascertaining whether the ongoing recovery is creditless; the main demand- and supply-side determinants of credit are also discussed. We find the following results. First, bank loan dynamics have been weak compared to the universe of recoveries in 13 euro-area countries since 1980; however, credit has evolved in line with the median pattern in the restricted sample of recoveries following deep and long recessions and/or recessions associated with banking crises. Second, the reduction in loans has been common to firms of all sizes, though it has been more pronounced for smaller ones. Third, based on a review of credit market indicators, survey evidence and econometric studies, the weakness of lending to firms has been in line with subdued dynamics of demand; the stringency of lending criteria has also contributed, in particular for smaller and riskier firms.

**JEL Classification:** E32, E50, G20.

**Keywords:** creditless recovery, credit demand, credit supply, small firms financing.

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<sup>\*</sup> Bank of Italy, DG Economics, Statistics and Research.



## 1 Introduction\*

Following the sovereign debt crisis of 2011-12 the Italian economy experienced a long and deep recession: real GDP contracted for 7 quarters in a row (between 2011q3 and 2013q1), with a total cumulated loss of more than 5 per cent; in the same period, the unemployment rate surged by about 4 percentage points, to 12.5 per cent. GDP returned to growth in 2013q2, increasing at a modest pace until the end of 2014 (0.3 q-on-q annualized, on average), and then accelerating somewhat thereafter (to 1.3 on average, between 2015q1 and 2017q4); at the end of 2017 the unemployment rate was still equal to 11.1 per cent.

The flow of bank credit quickly reduced during the recession: the annual growth rate of loans to non-financial corporations (NFCs) fell from 5.2 per cent in the summer of 2011 to -2.7 per cent at the end of the recession. The contraction extended long into the phase of economic recovery: annual growth rates of business loans were negative between 2013q2 and the end of 2015 and hovered around zero until the end of 2017<sup>1</sup>; since the end of the recession the ratio of NFC loans to GDP dropped by 12 percentage points, to 47 per cent. Based on the most common definitions in the literature, these figures qualify the current recovery as a *creditless recovery*, at least as loans to firms are concerned (Calvo *et al.*, 2006; Abiad *et al.*, 2011; Bijsterbosch and Dahlhaus, 2011).<sup>2</sup>

Our paper aims at answering two related sets of questions aimed, respectively, at qualifying the current weakness of credit flows and discussing its determinants. The questions in the first set are as follows: how does the dynamics of loans during the current recovery in Italy compare with those observed in similar cyclical phases, both in Italy and in other euro-area countries? Do developments in loans and output at the aggregate level mirror those observed in some particular sectors of economic activity or firms' size classes? Or is the *creditless recovery* a statistical artefact resulting from a composition effect?<sup>3</sup> In order to answer this first set of questions we compare the developments of real GDP and real credit during the current recovery with those observed during 81 recovery phases in 13 euro-area countries (including Italy) since 1980. In addition, both for the

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\* The views reported here are those of the authors only and do not necessarily reflect those of Banca d'Italia. We thank Francesco Columba, Vincenzo Cuciniello, Giuseppe Ferrero, Andrea Gerali, Giorgio Gobbi, Silvia Magri, Stefano Neri, Alessandro Secchi and Stefano Siviero for useful comments and suggestions. All remaining errors are our own.

<sup>1</sup> At the end of 2017 the stock of outstanding loans in real terms was still 8 per cent lower than in 2013q1.

<sup>2</sup> In these papers a creditless recovery is defined as a period of 3 or more years of negative cumulated lending growth after GDP starts increasing. Other authors define a creditless recovery as a recovery in output without a pick-up in the growth rate of credit (Biggs *et al.*, 2009). Differently from our approach, in most of these analyses the authors consider aggregate credit to the private sector, i.e. including loans to households and other financial institutions; an analysis of these sectors is outside the scope of this paper.

<sup>3</sup> The possibility that the divergent trend in output and credit reflects a composition effect was highlighted by Huntley (2008). In particular, a spurious effect may arise aggregating, for example, a sector with a relatively higher share of real value added (such as the services) that is experiencing a recovery in both lending and production, and a sector with a relatively higher share of lending (such as the constructions) that is experiencing a contraction in both lending and production.

current recovery and for the one that followed the recession of 1992-93, which was very similar along a number of dimensions, we break down developments of credit and real activity in Italy by sectors of economic activity and by firms' size classes.

We find the following results. First, while credit developments in the current recovery are weak when compared to the median in the entire set of expansion episodes in the euro area countries, they have been in line with the median calculated for the smaller sample of cyclical upswings following deep and long recessions and downturns associated with banking crises;<sup>4</sup> in particular, developments in real lending in the current recovery are very similar to those already recorded in Italy during the recovery after the 1992-93 recession. Second, during the current cyclical upswing loans have decreased and value added has increased for all firms' size classes; relative to the increase in activity, the contraction in loans has been particularly strong for smaller companies. Similarly, loans declined for business operating in all the main sectors of economic activity; the only difference with aggregate developments is that in the construction sector real value added continued to decline throughout the analyzed period. This evidence excludes the possibility that the association between a weak lending dynamics and positive output growth just reflects a composition effect.

After documenting the characteristics of the current creditless recovery, it is crucial to highlight the possible determinants of such lending dynamics: to the extent that credit is held back by weak demand there is little room for policy action beyond standard cyclical macroeconomic policies, while policy intervention aimed at restoring a correct functioning of the credit channel is more desirable the more supply constraints are relevant. For this reason, the second set of questions we intend to address in this work includes the following issues: what was the contribution of *demand* and *supply* factors? Did the relative weight of these factors vary across different types of firms? While a fully-fledged disentangling of the contribution of demand and supply factors would require a rigorous identification strategy – which is beyond the scope of this paper – our discussion reviews a number of standard indicators of lending conditions, evidence from surveys conducted at the bank and business level, as well as econometric evidence from recent studies that have investigated these issues with (more) sophisticated methodologies.<sup>5</sup>

This analysis reveals that weak demand has been an important determinant of the subdued credit dynamics during the expansionary phase. In turn, this has reflected the slow recovery of investment

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<sup>4</sup> Not surprisingly, we reach the same conclusion if we restrict the comparison to the sample of *creditless recoveries* as defined by Abiad *et al.* (2011), which largely overlaps with the previous two subsets.

<sup>5</sup> One important caveat, discussed in Section 4, is that some of the demand- and supply-side indicators that we analyze may suffer from an endogeneity problem.

expenditure, increasing firms' self-financing (via higher profits) and their improved capacity to bear the interest expenses, which benefited from the extraordinarily low level of interest rates. At the same time, while loan supply conditions have significantly eased during the recovery – reflecting firms' and banks' balance sheets improvements as well as monetary policy effectiveness in re-establishing a smooth functioning of the credit channel –, there are signs that access to bank funding has remained difficult far behind the end of the recession; according to the Italian banks participating to the Eurosystem Bank Lending Survey lending criteria are still tighter than before the start of the financial crisis. In particular, access to credit remains particularly problematic for smaller and riskier enterprises, for which constraints in the availability of loans still weigh on their investment and expenditure decisions. A number of interrelated factors are likely to be responsible for these developments: banks' lower propensity to take on risks; their continued effort to strengthen their balance-sheet and increase capitalization, in the context of low profitability; the tighter regulatory and supervision regime emerged in response to the crisis.

The results discussed here have much in common with those of Abiad *et al.* (2011). They find that creditless recoveries are not rare; are more frequently associated with banking crises and/or deeper recessions; and tend to be slower than normal recoveries. Moreover, they find evidence that during creditless recoveries output growth is significantly lower in sectors more dependent on external financing: this finding is qualitatively comparable with our evidence of tighter financial constraints for smaller (and more bank-dependent) firms.

The rest of the paper is organized as follows. In Section 1 we present the comparison between the current recovery and the set of 81 recoveries in the euro area countries; in Section 3 we focus on the comparison with the Italian recessions; in Section 4 we analyze loan demand and supply; Section 5 concludes.

## **2 Credit and output growth across international recoveries. Where do we stand?**

In this section we compare developments in real loans and real GDP in the current Italian economic upturn to those of the recoveries in 13 euro-area countries (including Italy) since 1980.<sup>6</sup> The analysis focuses on loans to non-financial corporations according to the ECB harmonized definition. We reconstruct notional stocks based on growth rates corrected for reclassifications and

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<sup>6</sup> The countries are Austria, Belgium, Germany, Spain, Finland, France, Greece, Ireland, Italy, Luxembourg, The Netherlands, Portugal and Slovenia.

other variations not related to economic transactions.<sup>7</sup> We then obtain real loans deflating nominal amounts with the consumer price index.

### 2.1 Dating recessions and recoveries

The starting point of our analysis is the *dating* of recessions and recoveries. Recessions are identified as periods of two or more consecutive quarters of negative real GDP q-o-q growth; recoveries start in the first quarter with positive real GDP growth after a recession. We then consider developments in loans and economic activity in the 16 quarters following the trough of a recession (*recovery period*). The choice of the length of the recovery period, though somewhat arbitrary, strikes a balance between the need to consider a sufficiently long time span and that of limiting problems associated with “double dip” recessions;<sup>8</sup> moreover, using 4 years – rather than 3, as sometimes considered in the literature<sup>9</sup> – allows us to analyze the current economic upturn for longer (up to 2017q1). According to these definitions, Italy’s last recession occurred between 2011q3 and 2013q1 and the current recovery started in 2013q2, although real GDP growth has become steadily positive only since 2014q3.

In the 13 countries in our sample we identify 81 recessions followed by as many recoveries since 1980 (Figure 1; a full list is reported in Table A1 in the Appendix).<sup>10</sup> According to the definition by Abiad *et al.* (2011), 41 of these episodes (or 50%) are *creditless* recoveries (i.e., with outstanding real bank loans still lower than the end of the recession, after 3 years). Based on the classification of the ESRB’s European financial crises database (2017), 17 recoveries (21%) followed recessions associated with a banking crisis;<sup>11</sup> finally, 31 episodes (38%) followed “long” recessions, defined as involving four or more quarters of decline of real GDP. As expected, the set of *creditless* recoveries largely overlaps with the other two subsamples, as 25 *creditless* recoveries have followed long recessions, banking crises or both.

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<sup>7</sup> From 2003 data are also adjusted for loan securitizations.

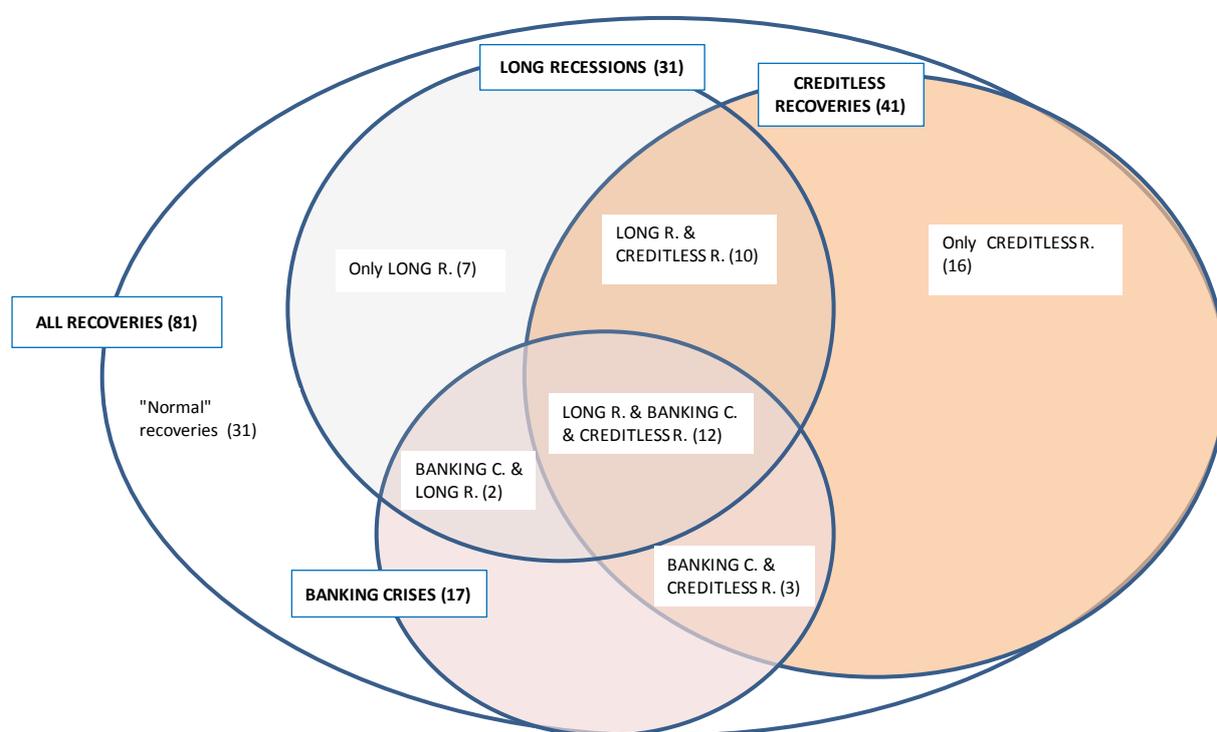
<sup>8</sup> Our choice, however is not immune from this concern. Indeed, an important caveat to our analysis is that in some cases our definition does identify double-dip recessions and considers the associated recoveries as two separate episodes. Our results are robust to excluding, for these cases, the short-lived recoveries after the first recession.

<sup>9</sup> For example, Abiad *et al.* (2011) consider a time span of 3 years.

<sup>10</sup> Including the recession preceding the current recovery in Italy.

<sup>11</sup> The ESRB’s (2017) dataset provides precise chronological definitions of crisis periods in EU countries from 1970 until 2016. Financial crises are identified by combining a quantitative approach based on a financial stress index with expert judgement from national and European authorities.

**Recoveries in 13 euro area countries, 1980-2017**  
(number of episodes)



## 2.2 The current Italian recovery in the international comparison

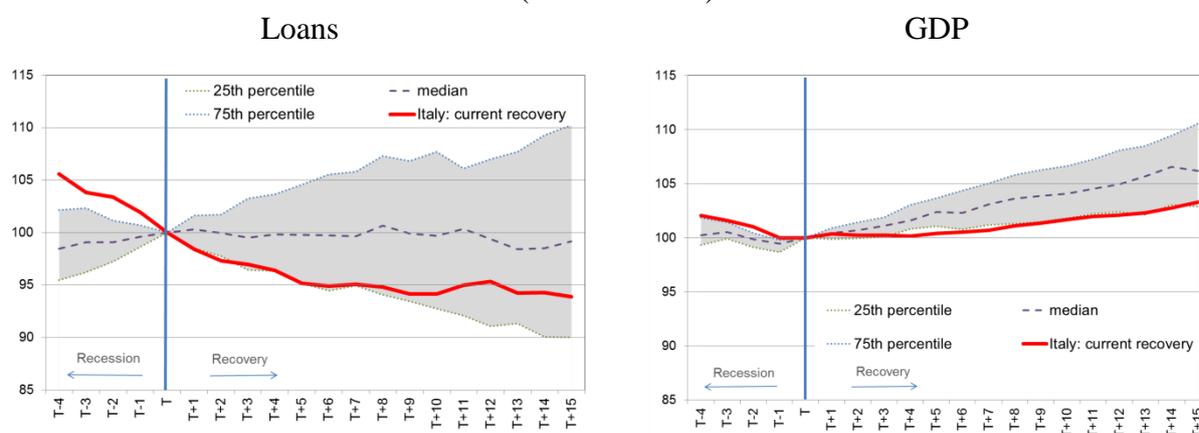
Figure 2 compares developments in real loans to non-financial corporations (left-hand panel) and real GDP (right-hand panel) in the current Italian recovery with the full set of 81 recoveries in euro area countries. Both variables are expressed as indexes, where 100 is the level in the quarter in which the expansion starts (identified as  $T$ ).<sup>12</sup> The sample period reported in the figure includes 4 quarters before the start of the recovery (i.e., until  $T-4$ ) and 16 quarters into the recovery (i.e., until  $T+15$ ). The red lines denote the values for the current Italian recovery; the dashed blue lines and the shaded area, respectively, the median and the interquartile range of the two variables for the full set of 81 episodes.

The figure shows that the current Italian recovery is characterized by a slow increase in real GDP: at the end of the 4-year horizon the median increase in the level of economic activity is about 7%, while it was 4% in the current recovery in Italy, which is in line with the 25<sup>th</sup> percentile of the distribution.

<sup>12</sup> Figure A2, panel a, in the Appendix shows a similar evidence for the loan-to-GDP ratio.

**Figure 2**

**Real GDP and real bank loans to non-financial corporations around recoveries:  
all episodes (81)  
(index:  $T=100$ )**



Source: European Central Bank and OECD.

Note: Cumulated flows for GDP; end-of-period stock for loans.  $T$ =quarter in which the recovery started (2013 Q2 for the current Italian recovery). Loans are deflated using the Consumer price index.

As regards loans, the median level of real lending remains roughly flat throughout the recovery period.<sup>13</sup> However, the distribution displays significant variability, as the 25<sup>th</sup> and 75<sup>th</sup> percentiles imply, respectively, cumulated changes of -10 and +12% 4 years into the recovery. For the current Italian recovery, differently than for GDP, the relative performance of lending is somewhat stronger than the 25<sup>th</sup> percentile, with a cumulated decrease in loans of 6%. Moreover, Figure 2 shows that loans were contracting sharply already before the start of the recovery (during the recession), which is not the case for the large majority of the episodes in our dataset (i.e., the red line lies significantly above the 75<sup>th</sup> percentile in the period  $T-4$  to  $T$ ). Indeed, loan growth was negative since 2012q2.

In Figure 3 we compare recoveries following different recessions, in terms of length, depth and origin (for example, associated or not to banking crises). This heterogeneity might be the source of the wide variability of loan developments. Indeed, Abiad *et al.* (2011), among others, highlight how *creditless* recoveries are more frequent after long-lasting recessions and downturns associated with financial crises. As a next step, we thus replicate the comparison considering three subsamples, including recoveries that follow recessions comparable to the current one. In particular, we consider samples that only include: (i) recoveries following recessions involving four quarters or more of negative GDP growth (“deep recessions”, 31 episodes; Figure 3, panel a); (ii) recoveries following recessions associated to banking crises (based on the ESRB’s database (2017), 17 episodes; panel

<sup>13</sup> As mentioned above, this implies that half of the recoveries have a negative cumulated growth of real loans and are thus classified as *creditless*.

b); (iii) *creditless* recoveries according to the definition by Abiad *et al.* (2011) (i.e., with loans below 100 at  $T+12$ , 41 episodes; panel c).<sup>14</sup>

Two main insights emerge from the inspection of Figure 3. First, panels a) and b) confirm that lending dynamics is typically much weaker in recoveries following deep recessions and banking crises than in other economic upturns: in both cases 4 years after the start of the recovery the median level of real loans is well below the initial amount. For the recoveries following banking crises the entire interquartile range lies in the cumulated-negative-growth area. A similar pattern emerges in panel c) where, however, real lending is below 100 at  $T+12$  by construction.

Second, and more importantly for our analysis, the dynamics of real lending in the current Italian recovery are fully in line with the median evolution of loans during recoveries following “similar” recessions (panels a and b) and somewhat better than the median associated with the subsample of the *creditless* recoveries (panel c). GDP performance, instead, is weak also compared to all three these restricted samples.

One additional dimension that may explain the heterogeneity of lending dynamics during economic recoveries is the depth of the recessions. In order to investigate the existence of a relationship between the severity of the recession and the performance of real loans (relative to that of real GDP), in Figure 4 we plot the cumulative change in GDP during the recession (on the x-axis) – our measure of recession depth – and the change in the loan-to-GDP ratio 4 years after the start of the recovery (y-axis) for the same set of episodes analyzed in Figure 1. The change in the loan-to-GDP ratio synthesizes the information of the left- and right-hand panels in Figures 2 and 3, showing the distance between the two lines at  $T+16$ , for each episode separately.

The data show evidence of a linear relationship between the depth of the recession and the change in the loan-to-GDP ratio, which is strongly statistically significant even when eliminating outliers. The coefficient of a linear regression (see Table A.2 in the Appendix) suggests that, following a 1 pp additional GDP loss during the recession, the decline in the loan-to-GDP ratio 4 years into the recovery is 2.5 pp. For the current Italian recovery, these coefficients imply that the -9 pp drop in the loan-to-GDP ratio observed since the end of the recession is perfectly in line with the values predicted on the basis of the cumulated GDP loss (i.e. the red diamond representing the current Italian recovery lies on the regression line), which exceeded 5%.<sup>15</sup>

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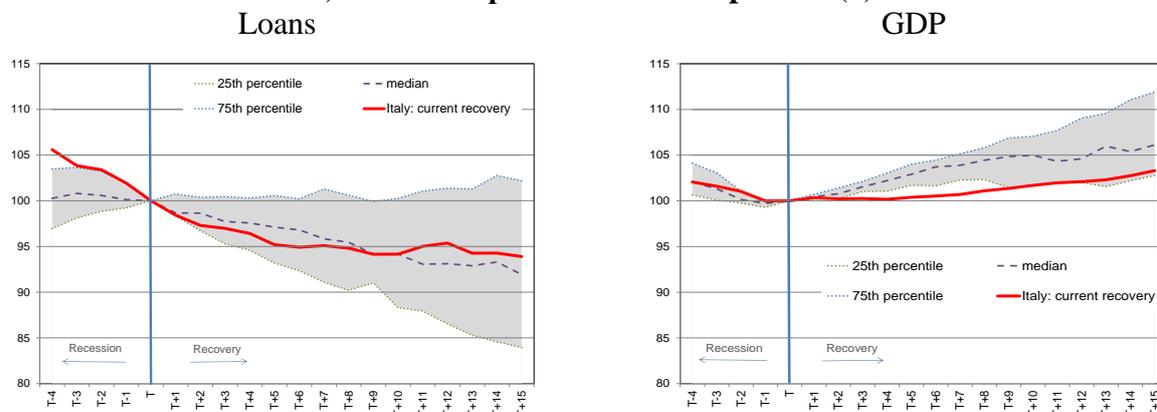
<sup>14</sup> Figure A2, panels b and c, in the Appendix shows similar evidence for the loan-to-GDP ratio after deep recessions and recessions associated with banking crises, respectively.

<sup>15</sup> In this analysis we are not considering that the recession occurred shortly after the end of the previous one, during the Global financial crisis (2008q2-2009q2). If we consider the cumulated change in GDP during the two recessions and the

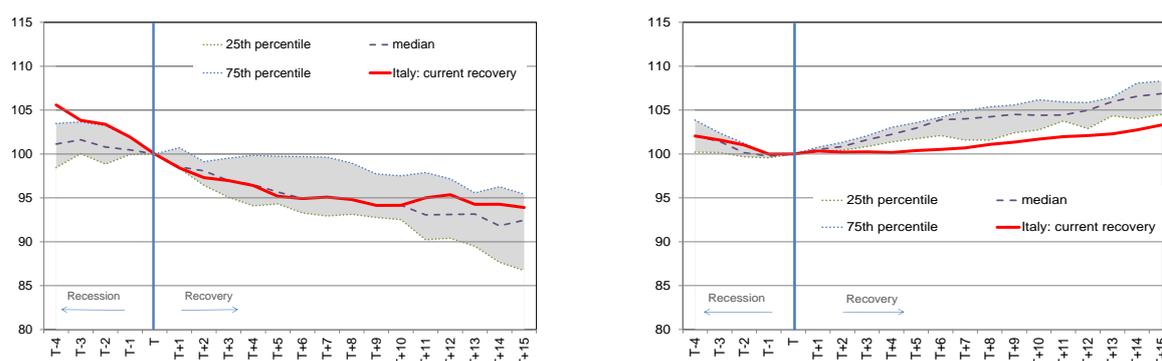
**Figure 3**

**Real GDP and real bank loans to non financial corporations around recoveries:  
subsamples  
(index:  $T=100$ )**

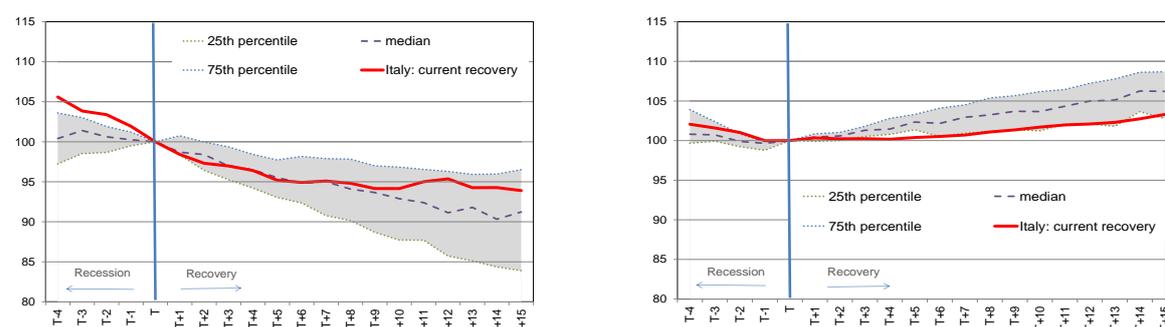
**a) After “deep” recession: 31 episodes (1)**



**b) After banking crises: 17 episodes (2)**



**c) Only creditless recoveries: 41 episodes (3)**



Source: European Central Bank and OECD.

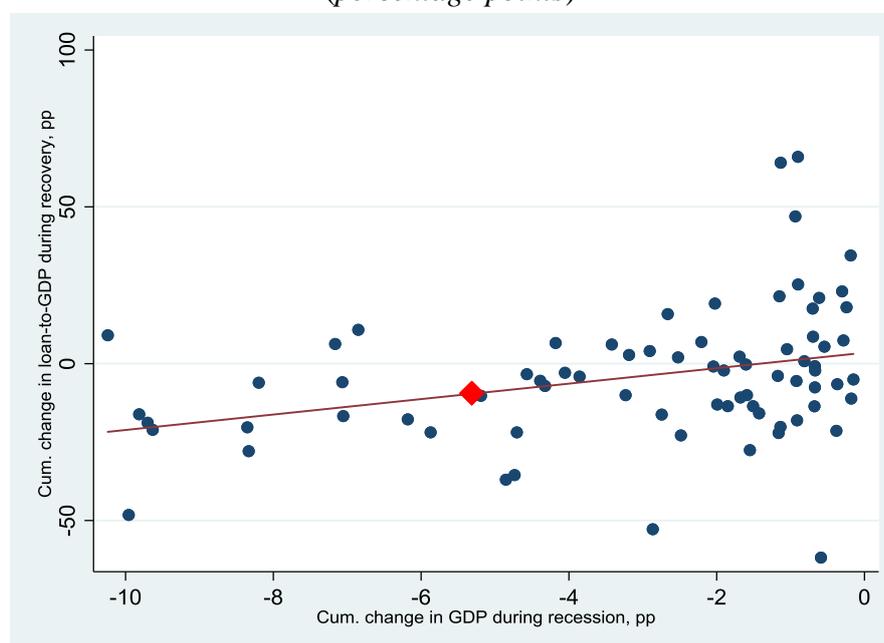
Notes: Cumulated flows for GDP; end-of-period stock for loans.  $T$ =quarter in which the recovery started (2013 Q2 for the current Italian recovery). Loans are deflated using the Consumer price index.

(1) Deep recessions are those in which GDP contracted for four or more quarters. – (2) Recessions associated with banking crises are identified on the base of the official ECB/ESRB EU database for financial crises in European countries. – (3) Creditless recoveries are episodes where real credit growth is negative in the first three years following the recession (see Abiad et al., 2011).

period in-between (i.e, the period 2008q2-2013q1), corresponding to about -10%, the predicted drop in the loan-to-GDP ratio is 25pp; in the same period, the *observed* drop in the loan-to-GDP ratio is 18 pp.

**Figure 4**

**Change in the loan-to-GDP and recession severity during 76 recoveries in euro area countries**  
(percentage points)



Note: 76 episodes out of the 81 included in the sample of Figure 2 (excluding 4 recoveries starting after 2013q4, for which the change in loan-to-GDP ratio after 4 years cannot be calculated and recovery for Greece starting in 2013q2, which is an outlier). The y-axis shows the cumulative change in the loan to GDP ratio in the 4 years since the start of the recovery (i.e., between T and T+15); the x-axis shows the cumulative change in GDP during the recession associated to each recovery. The red diamond shows the current Italian recovery (for which T=2013q2). The line shows the estimated regression line; the estimated coefficient for the cumulative change in GDP is 2.46 and is significant at the 1% level. See Table A.2 in the Appendix for the estimated regression.

### 3 A focus on Italy

In this Section we focus on a comparison between the current recovery and four other recoveries of the Italian economy included in our sample.<sup>16</sup> This allows us to control for institutional differences across countries; for instance, heterogeneities in financial systems, such as different role of bank versus market financing, could affect the intensity of recovery in lending. Furthermore, focusing on Italy, we have the possibility to exploit the availability of more granular information and, in particular, to break down loans and measures of output by firm size and sector of economic activity.

The four episodes we analyze are:

1. 1992q2-1993q3 recession and subsequent recovery (“1993 episode”);

<sup>16</sup> Out of the 6 Italian recoveries (besides the current one) identified in the full sample, we exclude the one identified as starting in 2008q1, which consists only of a 1-quarter expansion after a very mild recession in 2007; and the one starting in 1983q1, for the sake of brevity.

2. 2001q2-q3 recession and subsequent recovery (“2001 episode”);
3. 2003q1-q2 recession and subsequent recovery (“2003 episode”);
4. 2008q2- 2009q2 recession and subsequent recovery (“2009 episode”).

The first recession was severe, with a cumulative decline of real GDP of 1.5%. The second and third ones were “technical” recessions, with real GDP contracting for (only) two quarters, by about 0.7% in both episodes. In the fourth episode GDP contracted by about 8% and the downturn was followed by a short-lived recovery between 2009q3 and 2011q2, after which the last recession occurred; while it is difficult to consider this episode in isolation, it is interesting to see the trajectory that loans and GDP were taking before the sovereign debt crisis burst.

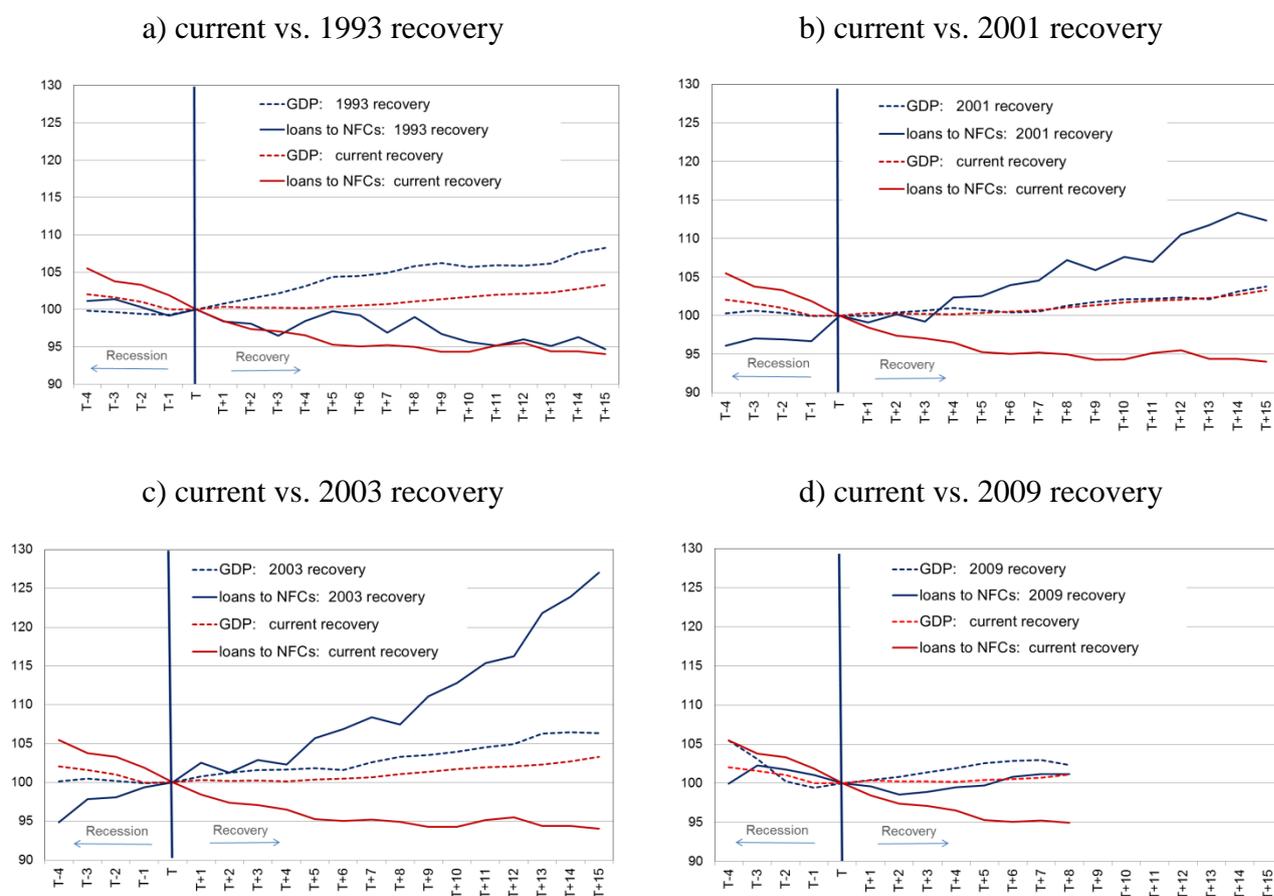
### *3.1 Italian GDP and credit during recoveries: the aggregate picture*

Figure 5 compares the evolution of real GDP and real loans during the current cyclical expansion to those observed during the other four Italian recoveries under investigation (graphs are constructed similarly to those reported in Figures 2 and 3). In all panels the red lines report loans (solid line) and GDP (dashed) in the current recovery.

The evidence in the graphs suggests the following remarks. First, the 1993 recovery was also *creditless*: this is not surprising given the characteristics of that recession (as mentioned above). Indeed, the cumulated reduction in real loans was roughly the same as in the current recovery (about 6%; panel a) while the recovery of real GDP was more robust (10% cumulated increase as compared to 4%), especially in the first year of the recovery. This confirms that the dynamics of loans in the current recovery is not extraordinary, also when compared to a similar episode occurred in Italy in the past.

**Figure 5**

### Real GDP and real bank loans to non-financial corporations across Italian recoveries (index: $T=100$ )



Source: National accounts for GDP and supervisory reports for bank loans.

Note: Cumulated flows for GDP; end-of-period stock for loans.  $T$ =quarter in which the recovery started (2013q2 for the current Italian recovery; 1993q4 for the 1993 recovery; 2001q4 for the 2001 recovery; 2003q3 for the 2003 recovery; 2009q3 for the 2009 recovery). Loans are deflated using the Consumer price index.

Second, while during the recoveries in the 2000s GDP growth, was only marginally higher than in the current expansionary phase, the path of loans was completely different (panels *b* and *c*): in the 2000s credit continued to grow at a fast pace throughout the recovery (by around 15 and 30%, respectively, in the two episodes).

Finally, lending to firms picked up quite rapidly during the 2009 recovery and the cumulated growth (after two years) was positive (about 4 percentage points). This result confirms that the Italian financial system withstood very well the first phase of the global financial crisis, while it was more affected during the sovereign debt crisis and the ensuing double-dip recession.

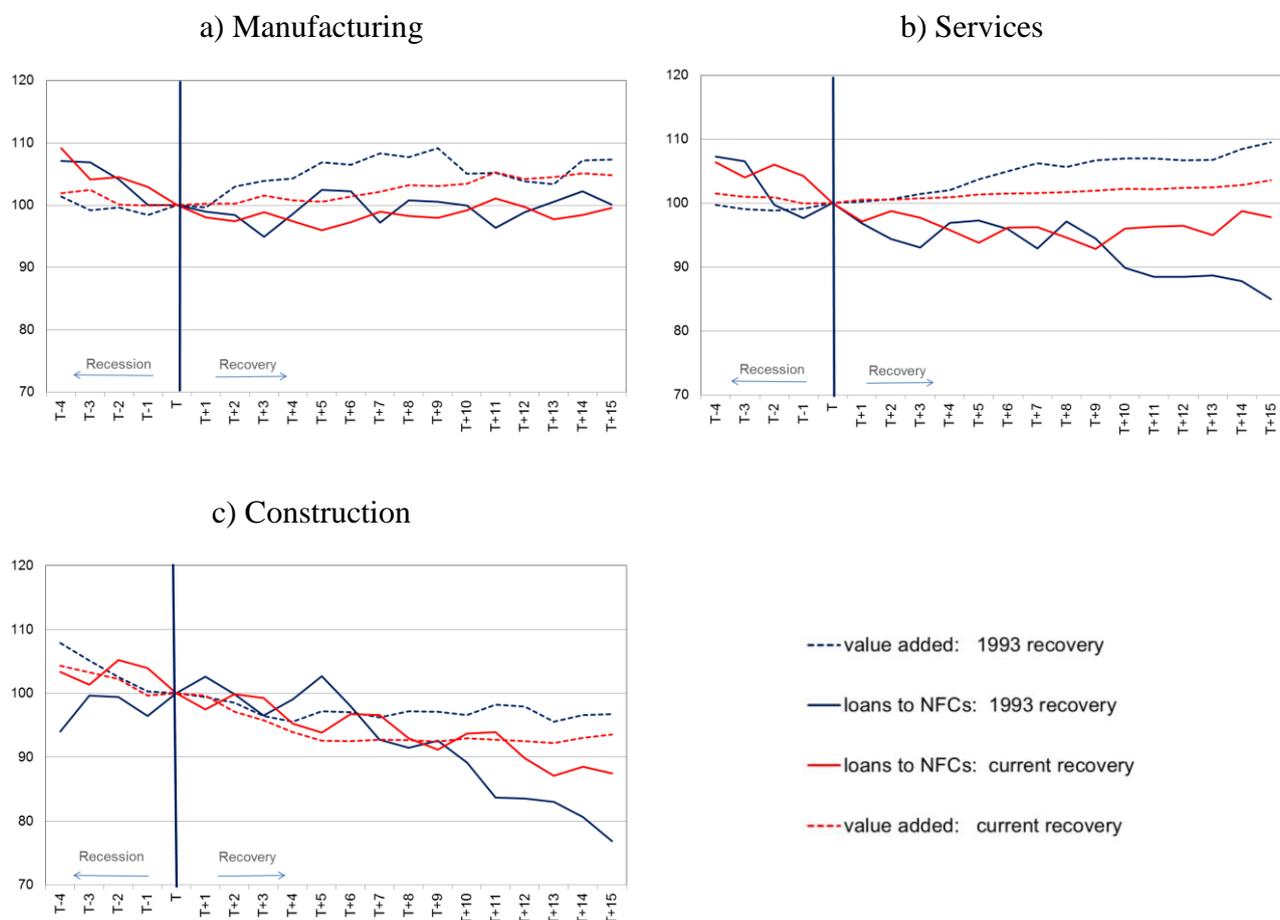
### 3.2 *Current vs. 1993 recovery, by sector of economic activity and size class*

In this section we further restrict our comparison between the current economic recovery and the economic upturn started in 1993 which – as mentioned – is comparable to the current one in terms of loan developments, exploiting the availability of both credit and output data by sector of economic activity and firm size class. This exercise aims at assessing whether in the current economic recovery aggregate data hide heterogeneous dynamics in different segments of the productive system and how these sectoral developments compare with the 1993 episode. Moreover, this exercise is also a check that the divergent trend between GDP and credit observed in the current recovery is *genuine* or, rather, it reflects a (spurious) compositional effect resulting from the aggregation of firms experiencing growth or contraction in both output and loans but with different relative weights of value added and loans (Huntley, 2008). This effect could result, for example, by combining a sector with a relatively high share of real value added that is experiencing a recovery in both lending and production with a sector with a relatively high share of lending that is experiencing a contraction in both lending and production.

The analysis by sector of economic activity (Figure 6) distinguishes firms operating in the manufacturing (panel a), services (panel b) and construction sectors (panel c). For the current period we find that lending has been contracting throughout the recovery in all the three sectors. In the manufacturing and services sectors the reduction in the stock of loans was about -4 and -2%, respectively, and was associated to a recovery in real value added, of about 5% in both sectors. In the construction sector the picture is quite different since credit and value added didn't show divergent patterns: the reduction in loans was severe (about 12%, significantly more than in the other sectors) and was associated with a prolonged negative trend also for value added, which was still ongoing 4 years after the start of the recession. During the 1990s recovery results are qualitatively similar; in terms of magnitudes, a noteworthy difference is that the reduction of lending to services and construction firms was more pronounced (about -15 and -23%, respectively) while loans to manufacturing were stagnant throughout the recovery (and even turned slightly positive at the end of the 4 year horizon).

**Figure 6**

**Current recovery vs 1993 recovery by sector of economic activity:  
real value added and real bank loans to non-financial corporations**  
(index:  $T=100$ )



Source: National accounts for value added and supervisory reports for bank loans.

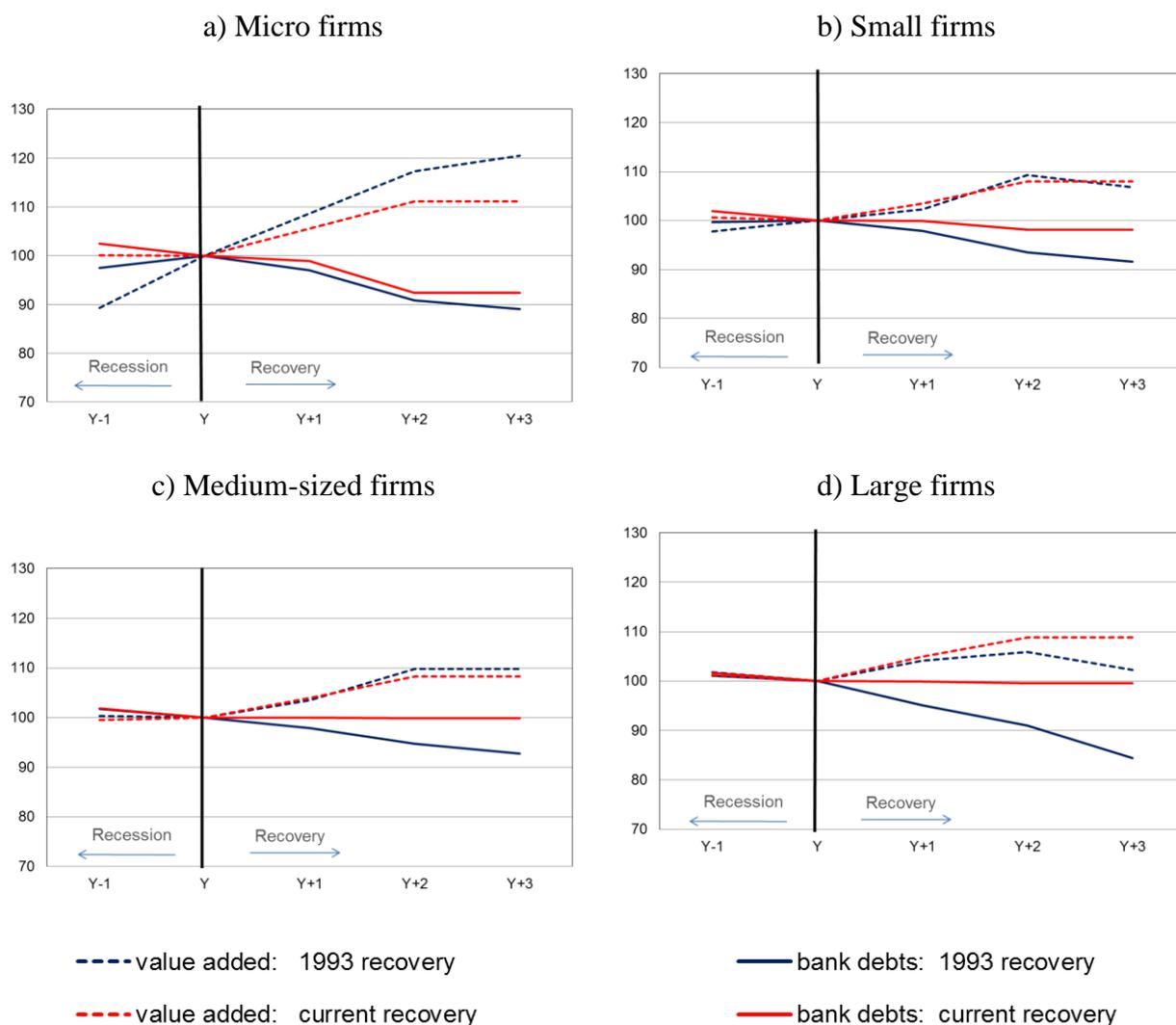
Note: Cumulated flows for value added; end-of-period stock for loans. T=quarter in which the recovery started (2013q2 for the current Italian recovery; 1993q4 for the 1993 recovery). Loans are deflated using the Consumer price index.

Next, we replicate the analysis grouping firms by size class. Differently from the analyses presented so far, in this case we draw information from a sample of companies' balance-sheets available at yearly frequency – as aggregate time-series data on economic performance and bank loans broken down by firm size are not available –. Before 1993 the sample includes about 30,000 firms each year (the “Centrale dei bilanci” database); after 1993 the sample includes virtually all Italian limited liability companies, about 600,000 firms each year (the “Cerved” database). Our sample is representative of the aggregate series of value added and bank loans: in the period 1990-1996 the correlation between the rate of change of total bank loans in the whole sample and the corresponding aggregate value is 0.70; the correlation between the sample value added and the GDP in the same period is 0.80. We divide firms in 4 classes, based on the definition by European

commission<sup>17</sup>. Since data are available at a yearly frequency, we date the start of the current recovery ( $Y$ ) in 2013 and report data on a 3-year window (the most recent available observation is 2016); we consider 1993 as the starting year of the 1990s recovery.

**Figure 7**

**Current recovery vs 1993 recovery by size of the firms:  
real value added and real bank loans to non-financial corporations  
(index:  $Y=100$ )**



Source: Centrale dei bilanci and Cerved.

Note: Cumulated flows for value added; end-of-period stock for loans.  $Y$ =year in which the recovery started (2013 for the current Italian recovery; 1993 for the 1993 recovery). Loans are deflated using the Consumer price index. Firm size is defined according to the EU Recommendation 2003/361. Values computed on two-year balanced revolving samples in real terms.

The results, reported in Figure 7, show that lending contracted throughout the current recovery for firms of all size classes. The cumulated reduction was, however, stronger for micro firms and small

<sup>17</sup> Classes of firms' size are defined in the EU recommendation 2003/361. Microfirms have less than 10 employees and less than 2 million of assets or turnover; for small firms the thresholds are 50 employees and 10 million of assets or turnover; for medium-sized firms 250 employees and 43 million of assets or 50 million turnover. Beyond these thresholds firms are considered large.

firms (-8 and -3%, respectively), while lending to medium and large firms was roughly constant throughout the recovery. The expansion in real value added was broad-based by firm size and of comparable magnitude. In the 1993 recovery the drop of bank loans was more pronounced in all size classes and, differently from the current recovery, the largest reduction was recorded for large firms.

All in all, based on the results of this section the divergent trend of output and loans in the current recovery does not seem to be the result of composition effect. Nonetheless, some heterogeneity emerges: when considering both the reduction in credit and the performance in economic activity, the reduction in loans was more severe for micro and small firms and firms in the services sectors.

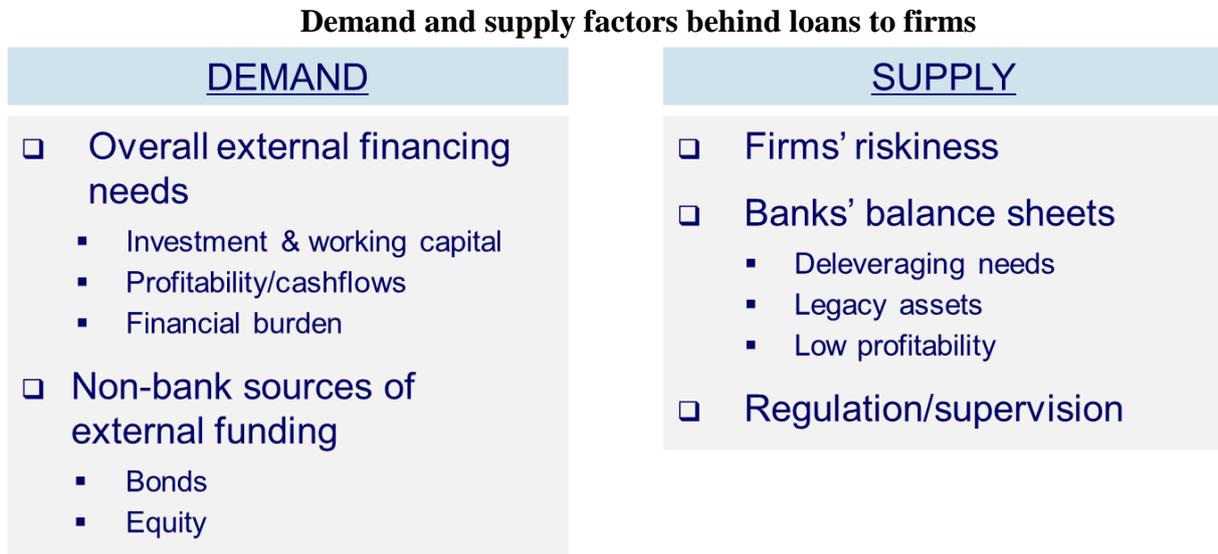
#### **4 The drivers of the Italian creditless recovery**

In the previous sections we have documented how lending to non-financial corporations has been weak throughout the current recovery. In this section we move on to discussing the main drivers of such weakness. Highlighting the relative importance of demand and supply factors has crucial policy implications: to the extent that lending is held back by weak demand there is little or no room for policy action beyond standard cyclical macroeconomic policies; on the contrary, policy intervention aimed at restoring a correct functioning of the credit channel is desirable when supply constraints are important (Abiad *et al.*, 2011).

In order to evaluate the contribution of demand and supply factors to lending dynamics during the recovery, in this section we review a large collection of evidence from (firm and bank) surveys, standard indicators of credit market conditions and available econometric studies. While this approach only partly tackles the identification issues connected with disentangling demand and supply, it has the advantage of combining information from various sources, which allows providing a robust assessment on the evolution of demand and supply. Figure 8 shows a schematic classification of the main demand and supply factors that may affect credit dynamics. Demand for bank loans increases with overall financing needs which, in turn, depend (positively) on firms' investment and working capital expenditure and (inversely) on self-financing. Demand for bank loans is also (negatively) related to demand for other (non-bank) sources of external funding: other things being equal, an increase in market-based financing (i.e., bonds or equity) reduces demand for bank loans. On the supply side, credit availability is negatively related to firms' riskiness and positively to banks' balance-sheets conditions, which in turn are related to banks' capitalization

level, asset quality, profitability.<sup>18</sup> Moreover, bank lending supply may be affected by regulation and supervision, which provide obvious and significant benefits in terms of financial stability but may limit banks' ability to extend credit in the short run (Mésonnier and Monks, 2015; Dagher *et al.*, 2016; Meeks, 2017; Bordo and Duca, 2018).

**Figure 8**



An important *caveat* to our methodology is that in many instances the distinction between *demand* and *supply* factors is somewhat arbitrary and some of our *demand* indicators may be affected by *supply* conditions, and vice-versa. For instance, to the extent that tight credit supply conditions limit firm investment, using capital accumulation as an indicator for firms' financial needs may underestimate the effective firms' demand for external financing. Similarly, an increase in corporate bond issuance – which we consider as being associated to lower demand for bank loans – could reflect a shift to this source of funding as a consequence of difficulties in obtaining bank credit. Moreover, bank balance-sheets as well as firms' riskiness are obviously affected by the conditions in the business cycle.<sup>19</sup>

#### 4.1 Demand

Overall, demand was low through the recent recovery. Starting from survey-based evidence, the net percentages of firms indicating higher demand of new financing constantly decreased since the start of the recovery (fig. 9, panel a).

<sup>18</sup> A negative relation between firm riskiness and credit supply is a standard result in the literature on the credit channel of monetary policy (e.g., Bernanke and Gertler, 1995). The literature on the risk-taking channel suggests that also the opposite relation may hold (Jimenez *et al.*, 2014; Dell'Ariccia *et al.*, 2017).

<sup>19</sup> For a recent analysis, see Albertazzi and Esposito (2017).

Hard indicators of financing needs confirm this broad assessment. The level of investment expenses (which typically represent the main driver of external financing) recovered very slowly through the recession and, as a ratio to GDP, stabilized at low levels compared with the pre-crisis period (in 2017 investment was 16 per cent lower than the peak reached in 2008; the ratio to GDP was 9 per cent, compared to 11 at the start of the financial crisis; fig. 9 panel b). The slow recovery of investment is a phenomenon typically observed during creditless recoveries;<sup>20</sup> in the current one both the uncertainty about macroeconomic prospects and the high level of unused capacity may also have contributed to the weak demand.

At the same time self-financing increased constantly since the start of the economic upturn due to the expansion of gross-operating income and the reduction of financing costs, which reflected the effect of extraordinarily accommodating monetary policy. Overall, the net lending position of the NFC sector as a whole steadily and significantly improved throughout the recovery. This holds true also if we consider only firms with investment expenses, who in 2016 (last available data) were able to completely self-finance fixed investment and working capital financing needs (panel c).

The strong dynamics of self-financing favored the accumulation of considerable cash-buffers, which increased by about one third since 2013, as a share of GDP (panel d).

An additional factor that may have contributed to the low demand for bank loans – though to a limited extent, given the small size of the capital market in Italy compared to other advanced economies – is the increased recourse to alternative funding sources. Indeed, during the recovery gross issues of bonds by Italian firms have been high in historical perspective, at about 35 billion as an annual average (panel e; this compares to an average of 22 billion in period between 2002 and 2007); the corresponding value for net issues was 21 billion (7 between 2002 and 2007).<sup>21</sup> Moreover, equity increases have substantially expanded, contributing to the significant reduction in firms' leverage (panel f)<sup>22</sup>.

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<sup>20</sup> Abiad *et al.* (2011) similarly highlight that during creditless recoveries the contribution of investment to output growth falls by roughly an half with respect normal recoveries.

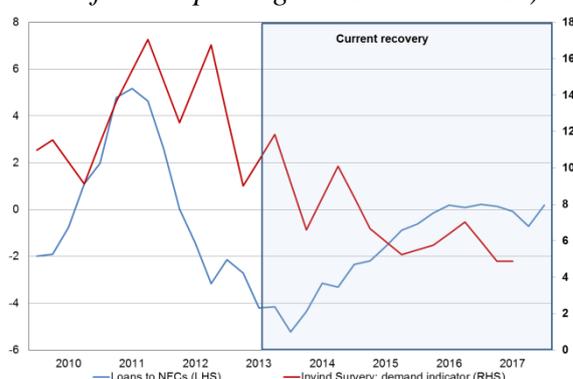
<sup>21</sup> The net issues are estimated on the basis of original maturities and do not consider early redemptions.

<sup>22</sup> Also new equity issuances (IPO) have increased but amounts issued are very small.

**Figure 9**

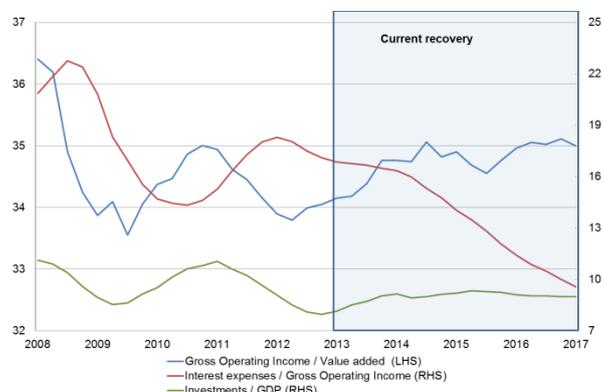
**Indicators of bank loan demand**

**a) Firms credit demand**  
(12-month growth, percent; net percentages of firms reporting increase/decrease)



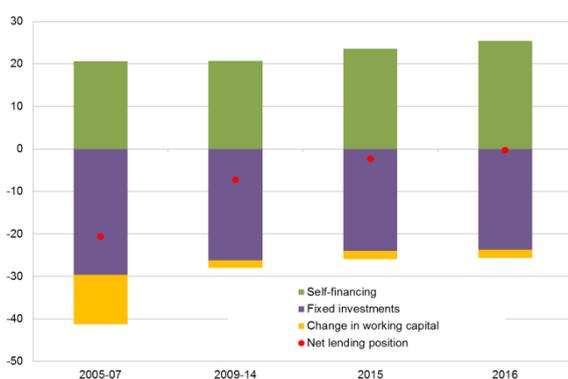
Source: Bank of Italy, Survey of Industrial and Service Firms and Business (INVIND).

**b) Determinants of firms' financing needs**  
(per cent)



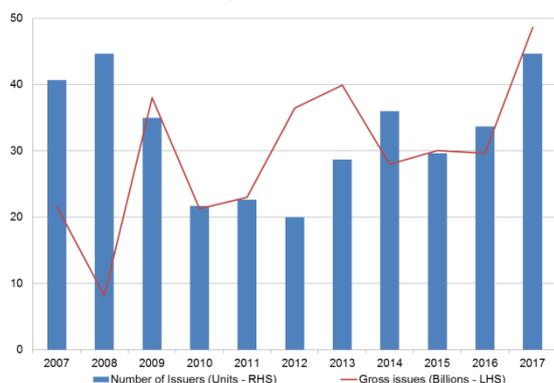
Source: Bank of Italy, Financial Accounts; Istat, National Accounts.

**c) Net lending position**  
(per cent of value added)



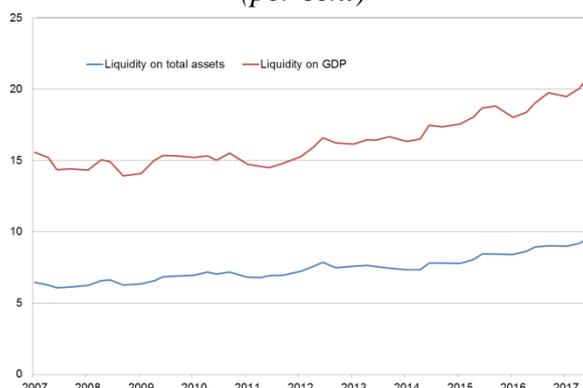
Source: ISTAT, National accounts.

**e) Bonds issued by Italian firms**  
(units of issuers and billions)



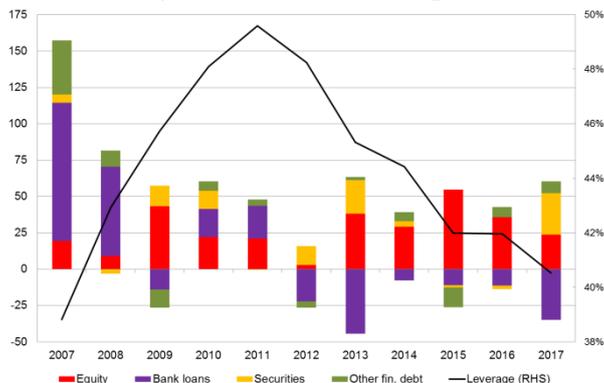
Source: Bank of Italy, Securities Database; Dealogic.

**d) Liquid assets**  
(per cent)



Source: Cerved; Istat, National accounts.

**f) Sources of funding and leverage**  
(annual flows in billions and per cent)



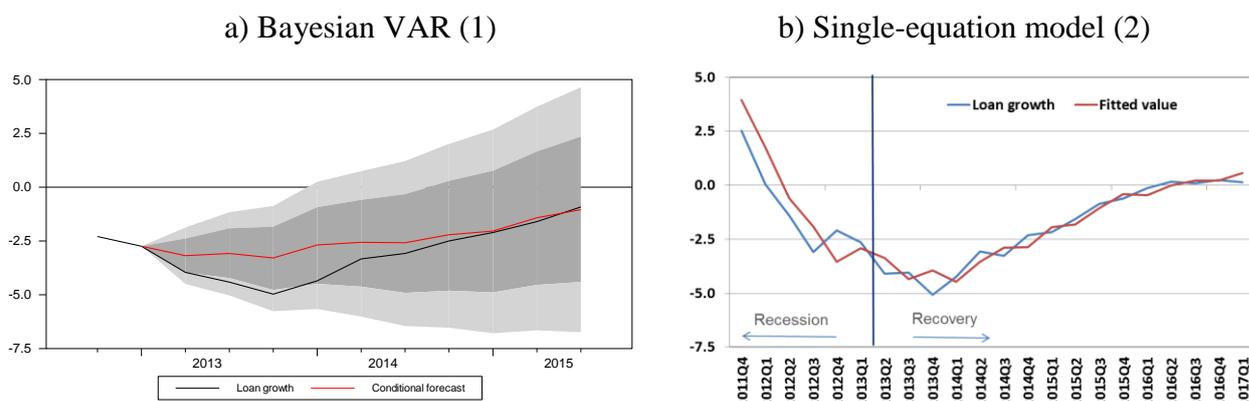
Source: Bank of Italy, Financial accounts.

Finally, econometric evidence confirms that loan growth during the recovery has been in line with its main demand determinants. According to both the models by Conti et al. (2018) and by Albertazzi et al. (2014), the forecast of loan growth conditional on GDP, inflation and firms'

financing needs predicts a very low level of firms' demand for new loans during the recovery (Figure 10).

**Figure 10**

**Conditional forecasts of demand for loans to NFCs**  
(12-month percentage change)



(1) Based on Conti *et al.* (2018): the red line is the median forecast of 12-m growth of loans to NFCs conditional on actual values of GDP, inflation and firms' financial needs; the black line is actual loan growth; the grey dark and light areas represent, respectively, 16-84 and 5-95 percentile ranges of the forecast distribution (based on 10,000 draws). – (2) Based on Albertazzi *et al.* (2014); the red line is the fitted value of the regression including nominal GDP, loan spread and firms' financial needs; the blue line is actual loan growth.

## 4.2 Supply

Standard indicators of credit supply conditions – such as the spread between the average and the minimum interest rate applied to short-term loans, the degree of credit line utilization and the share of guaranteed loans<sup>23</sup> – as well as evidence from surveys conducted both at firm- and bank-level show that on average during the recovery bank supply has been tighter as compared to the period before the crisis. This was the case notwithstanding a significant improvement in lending conditions, due to progressive strengthening of firms' balance sheets during the recovery and the effectiveness of monetary policy, which reestablished a well-functioning credit channel (Figure 11, panels a to c).

Similarly, the evidence from the Bank Lending Survey (BLS) signals a gradual easing of access to credit from the peak of severity reached between 2011 and 2013;<sup>24</sup> at the same time, however, the BLS confirms that in historical perspective the level of credit conditions is tighter than before the start of the financial crisis (panel d): in 2017 more than half of the banks participating to the BLS still reported the current level of credit standards to be tighter than their long-run average (i.e., the

<sup>23</sup> See Panetta and Signoretti (2010) for more details on these indicators.

<sup>24</sup> The BLS is the quarterly survey of credit demand and supply conditions conducted quarterly by the ECB and the euro-area national central banks. For Italy, ten large banking groups take part to the survey.

average between the beginning of the BLS reporting in 2003 and the current period); the corresponding percentage is smaller when the level of standards are compared to the average since the start of the sovereign debt crisis (i.e., since 2010q2), but still positive (about 30% in 2017).

The stronger selectiveness of banks in providing loans during the ongoing recovery is likely to reflect several factors: intermediaries' effort to strengthen their balance-sheet via increased capitalization (panel e); low profitability in the international comparison and increasing non-performing loans, and the associated rise in provisions, may have discouraged intermediaries from extending credit to business (Accornero *et al.*, 2017); moreover, some regulatory and supervisory initiatives may also have contributed to keeping lending standards somewhat tighter (Conti *et al.*, 2018).

Some recent empirical studies with a rigorous identification of demand and supply-side factors confirm the indications that, while during the sovereign debt crisis the severe tightening of supply conditions had a strong effect on lending dynamics, these effects gradually reduced since the start of the recovery, providing a positive contribution to the dynamics of loans (Del Giovane *et al.*, 2017; Buseti *et al.*, 2016).<sup>25</sup>

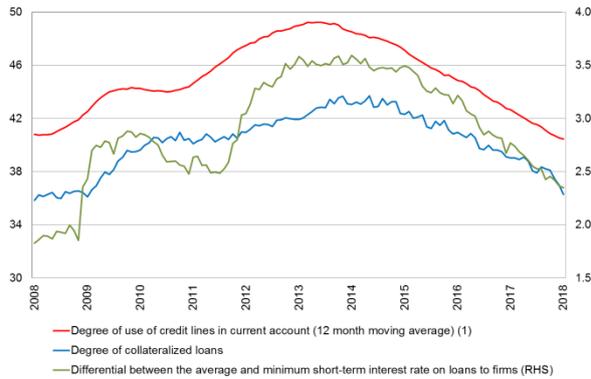
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<sup>25</sup> Del Giovane *et al.* (2017) show that supply tightening contributed to reducing the stock of loans to firms by about 4 per cent during the sovereign debt crisis (i.e., between 2010q2 and 2012q2), though the effect was stronger in the second half of 2011 and quickly reduced in the following quarters. Buseti *et al.* (2016) find that the constraints imposed by tight credit supply conditions were particularly severe only in 2009 and 2012, while during the recovery this factor began to contribute positively to investment growth.

**Figure 11**

**Indicators of bank loan supply conditions**

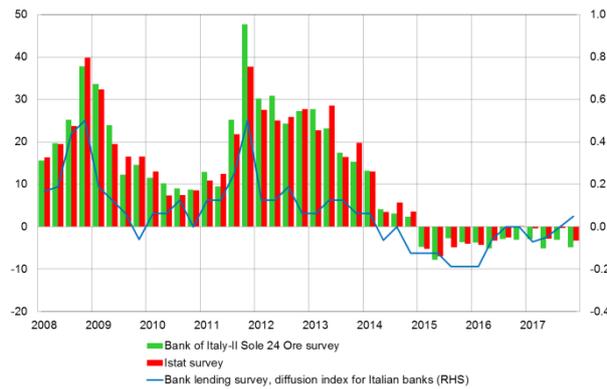
**a) Indicators of loan supply conditions**  
(monthly data; percentages)



Source: Bank of Italy, Supervisory Reports, Credit Register, 10-days Reports.

(1) Data refer to total borrowers with the exception of banks.

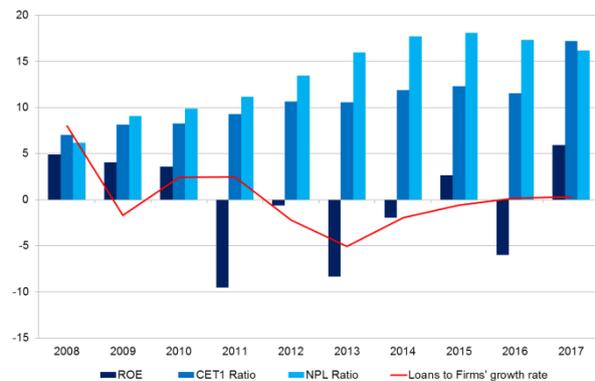
**c) Firms' access to credit from surveys**  
(net percentages and diffusion index)



Source: Bank of Italy, Il sole 24 ore, Istat.

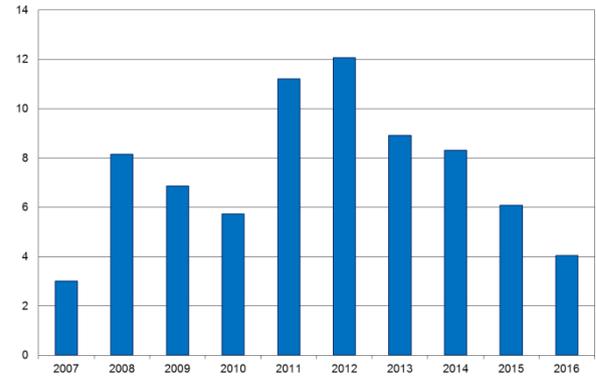
Note: Bars: difference between the percentage of firms indicating a worsening of credit access conditions and the percentage of those indicating an improvement. Line: diffusion index is the net percentage, weighted by reply intensity; cfr. [Banca d'Italia's BLS website](http://Banca.d'Italia's.BLS.website).

**e) Banks' balance-sheet indicators**  
(percentages)



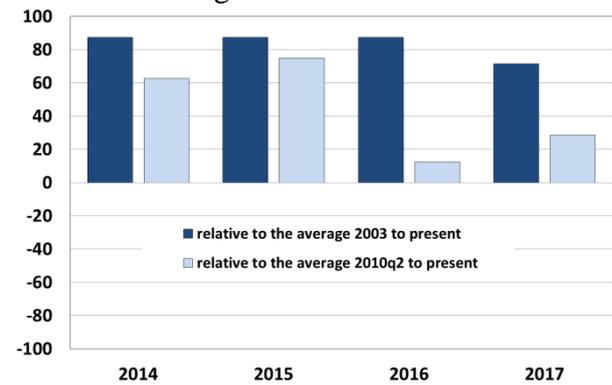
Source: Bank of Italy, Supervisory Reports (on solo basis).

**b) Credit rationing**  
(percentage of firms not obtaining loans)



Source: Bank of Italy, Survey of Industrial and Service Firms and Business (INVIND).

**d) Net percentage of banks with tighter credit standards**



Source: Bank Lending Survey.

Note: net percentage of banks reporting that credit standards in the reported date are tighter than the average level between 2003 and the reported date (blu bars) and between 2010q2 and the reported date (grey bars).

### 4.3 SMEs access to credit

In this section we focus on the relative impact of demand and supply factors on the dynamics of lending to SMEs during the recovery. This is justified on several grounds. First, the analysis presented in section 3.2 showed that lending was particularly weak for these companies during the recovery than for the rest of the firms, while at the same time developments in value added were similar across groups of firms. Second, more generally, small firms are typically riskier and more opaque than larger ones, so it is likely that supply conditions are overall tighter for these firms. Finally, SMEs represent a large share of employment and value added in the Italian economy.<sup>26</sup>

During the recovery demand for bank credit has been comparatively larger for small firms. This reflects lower self-financing capacity and reduced possibility to tap alternative sources of funding. Considering only companies with positive investment expenses, in 2016 large firms show a financing surplus whereas smaller ones, especially micro-firms, are net borrowers (Figure 12, panel a).

At the same time, supply conditions throughout the recovery have been tighter for this class of firms. The share of rationed firms has reduced less for SMEs than for larger enterprises (panel b). Small firms have also been charged significantly higher interest rates than larger ones, even if belonging to the same class of risk (panel c). Moreover, differently from other classes of size, risky and sound micro-firms tend to be charged with, on average, very similar interest rates, suggesting that bank pricing could be not sufficiently accurate for this kind of borrowers.

One could argue that difficulties in obtaining credit could depend on higher financial vulnerabilities of micro-firms, whose balance-sheets are more frequently classified among riskier classes of rating; however, even controlling for the quality of firms' balance-sheets, micro-firms' credit dynamic is weaker than for larger companies: Bonaccorsi and Finaldi Russo (2017) analyze the dynamics of loans to firms in 2015 taking into account a large number of firms' characteristics (profitability, liquidity, sales dynamics, capital expenditure, economic sector and geographical area). They find that the contraction in lending was especially pronounced for micro-firms; their greater financial fragility accounts for more than 70 per cent of the difference in the annual growth rate of loans to large companies and about 40 of that to small and medium-sized enterprises. Since a non-negligible proportion of these gaps is not explained by the firms' characteristics considered in the analysis, the authors conclude that it may reflect supply factors associated with a lower propensity on the part of some banks to finance small firms.

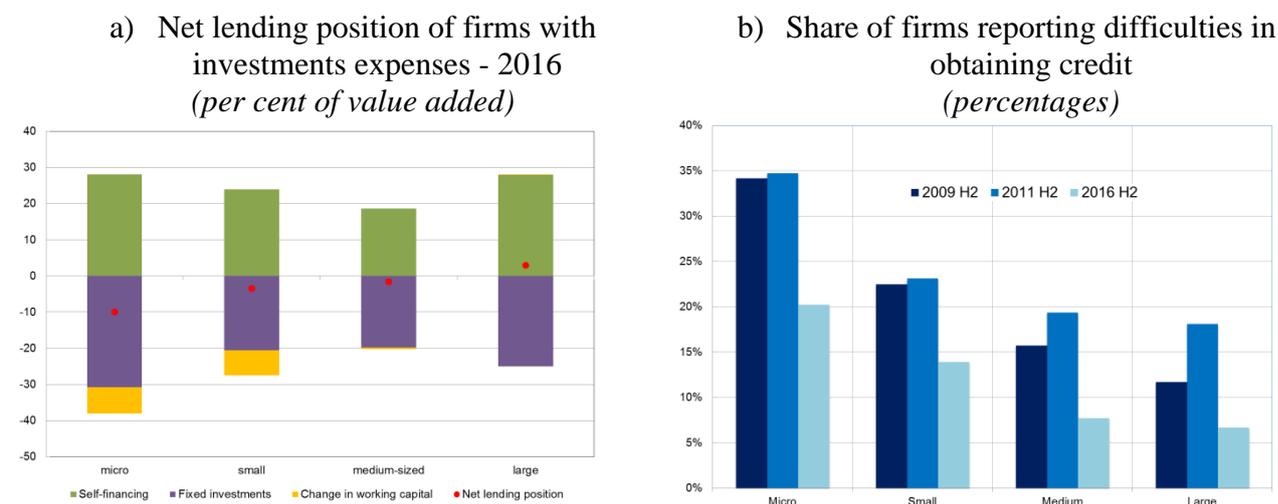
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<sup>26</sup> In 2016 the contributions of Italian SMEs to employment and value added in the non-financial business sector were, respectively, 78 and 68 per cent, significantly higher than for the European average (67 and 57 per cent); see European Commission (2017).

Overall, this section suggests that during the current recovery loan supply factors are likely to have been more important for SMEs than for medium and large firms; moreover, difficulties in accessing bank credit are likely to still weight on investment and expenditure decisions of smaller firms.

**Figure 12**

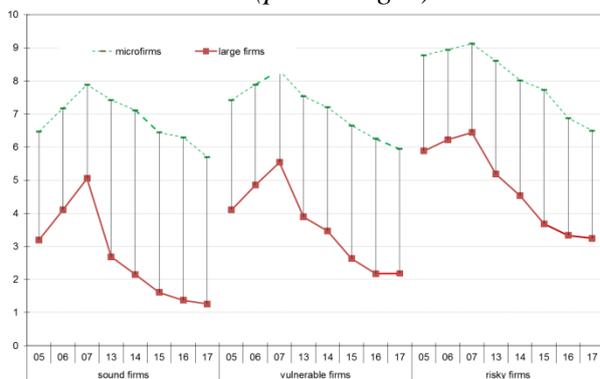
**Indicators of bank loan demand and supply by firms' size classes**



Source: Based on Cerved data.

Source: ECB, Survey on the access to finance of enterprises (AFE).

**c) Short-term interest rates on loans (percentages)**



Source: Bank of Italy.

**5 Conclusions**

While real GDP growth in Italy gradually returned positive following the long and deep recession associated to the sovereign debt crisis, the dynamics of loans to non-financial corporations has remained very weak; in real terms, at the end of 2017 the stock of loans was still significantly below the level at the end of the recession, in 2013q1.

In this paper we have analyzed the characteristics of this *creditless recovery* in historical perspective and speculated on its possible drivers, assessing the contribution of demand and supply factors to the weak dynamics of lending.

In the first part we find that recent credit developments are fully in line with those observed in the recoveries following deep and long recessions and recessions associated to banking crises; moreover, the drop in lending was especially severe for smaller firms, while at the same time developments in value added were similar across groups of firms. In the second part we review standard credit market indicators, survey evidence and econometric studies and conclude that the weakness of lending to firms has been in line with the subdued dynamics of credit demand; the stringency of lending criteria, which slowly reduced throughout the recovery, also contributed; in particular, constraints on the availability of credit are still relevant for smaller and riskier firms.

The fact that supply-side constraints in the access to credit may have been at work long into the recovery, especially for SMEs, suggests a number of policy-related considerations. First, it underpins the importance of monetary policy support during recoveries following severe recessions: in the current Italian recovery the high degree of monetary accommodation has sustained economic activity and therefore helped strengthening firms' balance sheets and reducing their riskiness; it has improved banks' funding and liquidity conditions and thus supported lending capacity and loan supply.

Second, measures supporting access to finance for SMEs may be particularly beneficial after a recession, as these firms typically find it more difficult to regain access to credit during the recovery and their ability to tap alternative sources of funds is rather limited. Besides instruments that directly tackle the limited capacity of SMEs to obtain bank loans, such as public guarantees schemes, it could be important to develop non-bank financing channels, both for debt and equity instruments, which could play a role in supporting economic growth in times of severe stress of the banking system.

Finally, while tight bank regulation and supervision is essential to ensure financial stability, it is likely to affect lending supply conditions, also interacting with monetary policy. This confirms the importance that the instruments used under the two policies be well calibrated and carefully coordinated.

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APPENDIX

Table A1  
**Comparison of the recoveries: our crisis database**

Episode	Country	Quarter in which the recovery started	Deep recession (1)	ESRB banking crisis (2)	Creditless recoveries (3)
1	AT	1982-Q1	0	0	0
2	AT	1983-Q1	0	0	0
3	AT	1984-Q3	0	0	0
4	AT	1993-Q2	0	0	0
5	AT	2001-Q3	0	0	1
6	AT	2009-Q3	1	1	1
7	BE	1981-Q1	0	0	1
8	BE	1993-Q2	0	0	1
9	BE	2002-Q1	1	0	1
10	BE	2009-Q3	1	1	0
11	BE	2013-Q2	1	0	0
12	DE	1981-Q1	0	0	0
13	DE	1982-Q4	0	0	0
14	DE	1991-Q4	0	0	1
15	DE	1993-Q2	1	0	0
16	DE	1996-Q2	0	0	0
17	DE	2003-Q2	0	1	1
18	DE	2009-Q2	1	1	1
19	DE	2013-Q2	0	0	1
20	ES	1981-Q3	0	1	1
21	ES	1993-Q3	0	0	0
22	ES	2010-Q1	1	0	1
23	ES	2013-Q4	1	1	1
24	FI	1981-Q2	0	0	0
25	FI	1992-Q1	1	1	1
26	FI	1993-Q3	1	0	1
27	FI	2009-Q3	1	0	0
28	FI	2013-Q2	1	0	0
29	FI	2014-Q3	0	0	0
30	FI	2015-Q2	0	0	0
31	FR	1993-Q2	1	1	1
32	FR	2009-Q3	1	1	0
33	GR	1989-Q4	0	0	0
34	GR	1981-Q3	0	0	0
35	GR	1982-Q4	0	0	1
36	GR	1983-Q3	0	0	1
37	GR	1984-Q3	0	0	1
38	GR	1987-Q3	0	0	1
39	GR	1989-Q4	0	0	1
40	GR	1990-Q4	0	0	1
41	GR	1993-Q2	0	0	0
42	GR	1995-Q2	0	0	0
43	GR	2005-Q2	0	0	0
44	GR	2008-Q1	0	0	1
45	GR	2009-Q2	1	0	1
46	GR	2013-Q2	1	1	1
47	GR	2016-Q3	0	0	0
48	IE	1983-Q3	0	0	0
49	IE	1986-Q3	1	0	0
50	IE	2007-Q4	0	0	0
51	IE	2009-Q2	1	0	1
52	IE	2010-Q1	0	1	1
53	IE	2012-Q1	0	0	1
54	IT	1983-Q1	1	0	0
55	IT	1993-Q4	1	1	1
56	IT	2001-Q4	0	0	0
57	IT	2003-Q3	0	0	0
58	IT	2008-Q1	0	0	0
59	IT	2009-Q3	1	0	1
60	IT	2013-Q2	1	1	1
61	LU	1981-Q3	1	0	0
62	LU	1992-Q3	0	0	0
63	LU	1995-Q4	0	0	0
64	LU	2003-Q2	0	0	0
65	LU	2009-Q3	1	0	1
66	LU	2012-Q2	0	0	0
67	LU	2015-Q4	0	0	0
68	NL	1980-Q4	0	0	0
69	NL	1981-Q4	0	0	0
70	NL	2009-Q3	1	1	1
71	NL	2012-Q2	0	0	1
72	NL	2013-Q1	0	0	1
73	PT	1980-Q4	0	0	1
74	PT	1984-Q3	1	1	1
75	PT	1993-Q2	1	0	1
76	PT	2003-Q1	0	0	0
77	PT	2005-Q1	0	0	0
78	PT	2009-Q2	1	1	1
79	PT	2013-Q1	1	0	1
80	SI	2009-Q3	1	0	1
81	SI	2013-Q2	1	1	1
<b>Recoveries total number (81 in total)</b>			<b>31</b>	<b>17</b>	<b>41</b>

(1) Deep recessions are those in which GDP contracted for four or more quarters. – (2) Recessions associated with financial crisis are identified on the base of the official ECB/ESRB EU database for financial crises in European countries. – (3) Creditless recoveries are episodes where real credit growth is negative in the first three years following the recession (see Abiad et al.).

Table A.2  
**Relation between cumulative change in the loan-to-GDP ratio during recoveries  
and cumulative change in GDP during recessions (“recession severity”)  
in 13 euro area countries since 1980**

dependent variable:  
change in loan-to-GDP ratio during the recovery

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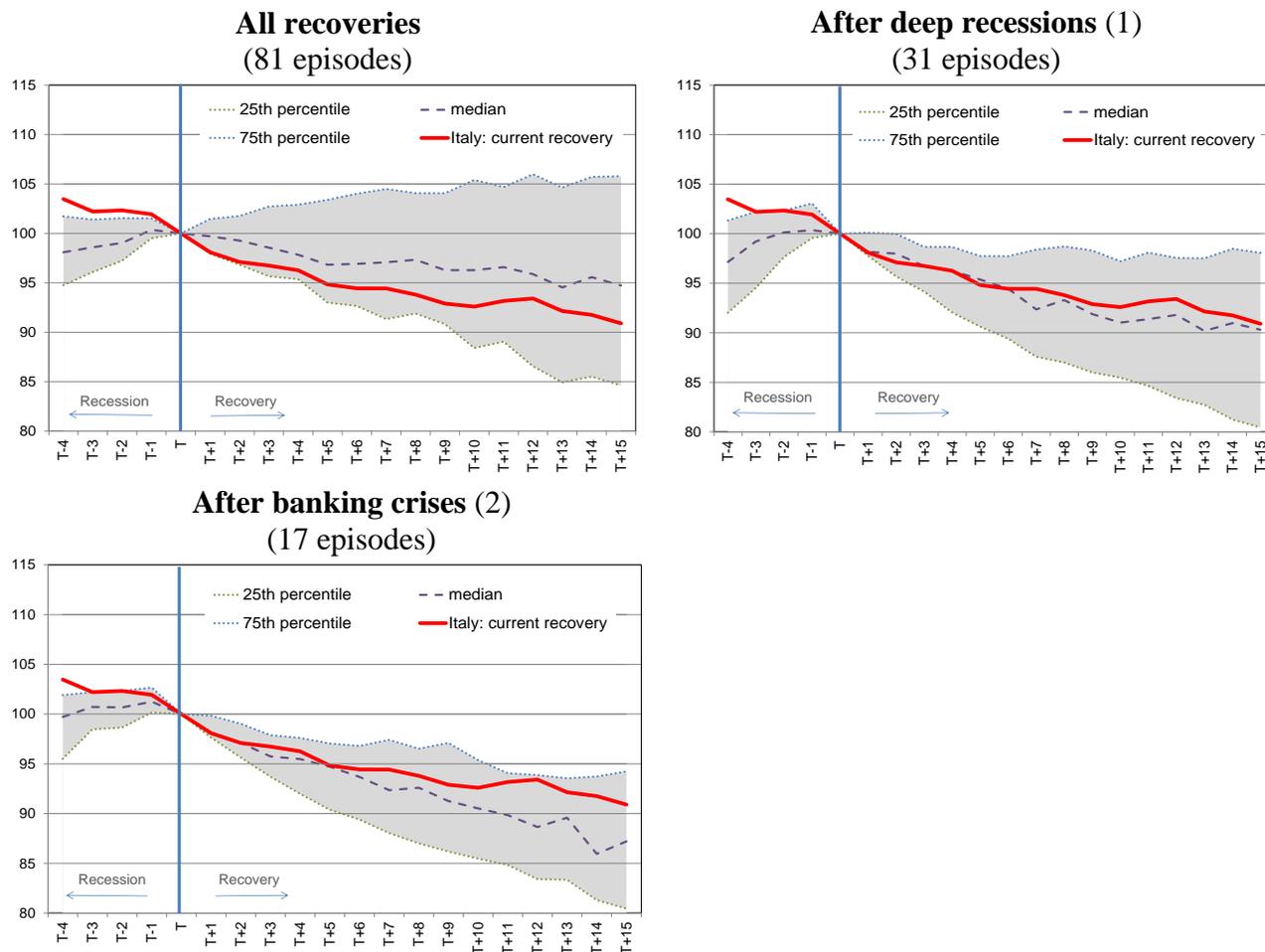
Depth of recession (cum. GDP loss, pp)	2.462*** [0.83]
Constant	3.485 [3.48]
Observations	76
R-squared	0.11
Adj. R2	0.0936

---

Standard errors in brackets  
\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Note: OLS estimation. 76 episodes out of the 81 included in the sample of Figure 2 (excluding 4 recoveries starting after 2013q4, for which the change in loan-to-GDP ratio after 4 years cannot be calculated and recovery for Greece starting in 2013q2, which is an outlier). The dependent variable is the cumulative change in the loan to GDP ratio in the 4 years since the start of the recovery (i.e., between T and T+15); the “depth of recession” variable is the cumulative change in GDP during the recession associated to each recovery.

Figure A.1  
**Loan-to-GDP ratio during recoveries**  
*(index: T=100)*



Source: European Central Bank and OECD.

Note: T=quarter in which the recovery started (2013 Q2 for the Italian current recovery). Real loans are obtained using the Consumer price index. – (1) Four quarters or more negative GDP growth. – (2) Based on ESRB’s Crisis Database.