Italy after the crisis: a case of recoveryless credit growth

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Abstract
In this study I compare the credit condition with the economic growth in Italy from January 2007 onward. Starting from the literature on the creditless recovery, I highlight the specific features of the Italian situation in which, notwithstanding the prolonged and deep economic crisis, the credit has persistently continued to grow. A comparison with the German case confirms the peculiar characteristics of the Italian condition. An econometric study supports this idea and, in order to depict this Italian economic situation, I propose a new expression: the recoveryless credit growth.

Keywords: Italy, credit, recovery

Jel: E32, E50,

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1. Introduction

Recent studies have analysed a phenomenon that can characterize the post-crisis periods: the so called creditless recovery. When a creditless recovery occurs one can observe economic growth together with a negative, null or very limited credit expansion. Abiad, Dell'Ariccia and Li (2011), and Coricelli and Roland (2011) recently focused on this specific issue. In the first cited work the authors stated that the creditless recovery has been not so uncommon in the past. Indeed, the creditless recovery has been frequently observed in their sample, the twenty per cent of the recoveries they analysed occurred without a credit growth. Coricelli and Roland (2011) focused on the credit flows instead of the credit level. They discovered that, in certain circumstances, a nation can grow even if the credit does not support the economy. According to their work, it is necessary that firms have alternative sources of financing, through a developed financial framework, in order to observe a creditless recovery. Moreover, the authors underlined that, when a creditless recovery occurs, industrial sectors more linked to banking system undergo a slower recovery. The crucial point in this strand of literature is that a recovery can occur even if the credit does not show a brilliant upturn after a recession.

A study by Calvo, Izquierdo and Talvi (2006) analysed this type of economic framework and found that the creditless recovery has been not so infrequent in the past, especially in the emerging economies. Furthermore, other works, like the one by Claessens, Kose and Terrones (2008) found that the creditless recoveries occurred in industrialized countries too. In addition, as pointed out by Calvo, Izquierdo and Talvi (2006), even the Great Depression showed some features that are typical of a creditless recovery. Following this last study, Calvo and Loo-Kung (2010) proposed a short work in which they focused on the subprime crisis in the US underlining the common traits between the Great Crisis and the so called Phoenix Miracle. According to their opinion, even the US ongoing crisis is showing features that are very similar to the ones of a creditless recovery.

Demirgüç-Kunt, Detragiache, and Gupta (2006) analysed 36 banking crises in 35 countries, included Italy, and, among the other results, they emphasized that the economy returned to pre-crises level in a shorter time if compared to the credit performance. They also stated that, during the banking crises they analysed, recoveries did not seem to be driven by resumption in bank lending. In other words, they found a decoupling of these two indicators in the aftermath of these crises.

This type of recovery is interesting because, as affirmed by Kroszner, Laeven and Klingebiel (2006), the productive sectors linked in a close way to the banking system, and that operate in a country with a well-developed financial system, suffer a deeper value added decrease in comparison with sectors that have a lighter linkage with banks. This feature is confirmed by Dell'Ariccia, Detragiache and

Rajan (2007). They found that, in case of a banking crisis, sectors highly dependent on external finance show a very negative performance and this result is even more evident in developing countries or in countries with limited access to foreign finance. This aspect can be useful to understand the different performance of the industrial sectors if the banking system decides to cut loans, creating a credit crunch. Moreover, on this issue, Holmstrom and Tirole (1997) linked credit tightening to firms condition and established that enterprises with low levels of capital suffered with more intensity the impact of a credit crunch.

Given this strong linkage between credit and real economy, it seemed interesting to analyse the situation in Italy during the last years in order to establish if the inversion of the economic cycle has been characterized by a slow or a rapid credit growth. In fact, in Italy firms are deeply linked to the national banking system and this could act as a brake to recovery if banks decide to limit or reduce the credit flows. Besides, Italy did not experienced bank failures or financial instability but the Great Crisis has had a large impact on real economy.

The results shown in the next pages will highlight a very particular picture for the Italian case.

The rest of the paper is organized as follows. A macro scenario and some economic data about Italy are proposed in the second section. In section three I show data on gross domestic product, industrial production and credit in Italy and I compare the Italian case with the German one. The fourth section is focused on the econometric results used to support the main idea of the paper. The last section ends the paper with conclusions.

2. The macroeconomic scenario

As pointed out by many studies, creditless recoveries usually take place if the previous economic downturn has been characterized by banking or/and real estate crises. When these two destabilizing economic phenomena led to a crisis, the following recovery has been quite always characterized by a very slow increase in credit. Given the fact that the Great Crisis has been preceded by both global banking and real estate crises the importance of studying the Italian situation after the crisis is increased.

In the previously cited works some explanations of the creditless recovery have been proposed. For example, after a slump it is possible that firms increase the production using the unused capacity and, in so doing, they do not need new or additional funding. As a consequence, one can observe an increase in industrial production and in gross domestic product accompanied by a stable amount of loans.

A second explanation could be linked to the operational choices of the banks. During a post crisis

period, banks could focus on high productivity industrial sectors that usually show a better performance in the short to medium run and, on the same time, they can reduce loans to mature sectors that typically have low productivity and a slower upturn. This behaviour can lead to a growth in production and GDP even if the total amount of loans remains stable. So, a different behaviour of the banking system towards the borrowers can explain the decoupling between credit and economic growth.

A third possible explanation of a creditless recovery is that firms can search for new funding through different channels by-passing the banking system. As a consequence, statistics do not register an increase in banking loans because firms receive new flows of funding from other sources but, at the same time, we observe a recovery.

Finally, another possibility is that firms use their own liquidity and capital to restart the activity in the immediate aftermath of the crisis. This can also lead to a different trend between production and loans.

These possible explanations of the creditless recovery do not reduce the importance of studying what has happened in Italy after the recession. Indeed, Italy has been one of the nations that suffered a very deep decrease in the GDP in 2008 and 2009, see table 1. It could be interesting to find some linkages between the Italian economic trend and the state of the credit.

Table 1: GDP trend in major economies.

Yearly percentage change	2007	2008	2009	2010
Australia	4.6	2.6	1.3	2.7
Canada	2.2	0.5	-2.5	3.1
France	2.3	0.1	-2.5	1.5
Germany	2.8	0.7	-4.7	3.5
Italy	1.5	-1.3	-5.2	1.3
Japan	2.3	-1.2	-6.3	3.9
South Korea	5.1	2.3	0.2	6.1
Singapore	8.8	1.5	-0.8	14.5
United Kingdom	2.7	-0.1	-4.9	1.3
United States	1.9	0	-2.6	2.8

Source: International Monetary Fund

It is essential to remember that Italy registered a great reduction in the GDP but the decrease of real estate prices has been very limited and banks did not suffer any problems thanks to a traditional way of making their own business. This framework is compelling because one can suppose that, given a not so dramatic situation for the banking system, the natural consequence should have been a rapid recovery of both the real economy and the credit aggregates. But data depict a different scenario.

3. The Italian situation

This paragraph shows some data about the Italian economic scenario. After a very deep recession, the industrial production and the GDP showed a recovery. But, the economic growth has been very light during the period analysed in this section. The indicators remain really far from the peaks reached before the crisis. Starting from the first quarter 2007, figure 1 shows the trend of real GDP, industrial production and loans to firms and households, while figure 2 plots the annual change of the loans.

Loans show a positive stable trend during 2007, then we observe a reduction in the growth trend and only during the last quarters it seems that the growth restarts with a more intensive pace, see figure 2 for more details[2]. The evolution of real GDP and industrial production is completely different. The real GDP remained stable from the first quarter of 2007 to the mid 2008, then we observe the recession and only in the second part of 2009 the cycle became again positive, even if the growth has been very slow. A similar trend has been traced by the industrial production. But, in this case, the decrease of the index has been stronger. Indeed, the industrial production index declined from a value of 101 in the first quarter of 2008 to 76.5 in the second quarter of 2009.

Summing up these first data, we can observe two main features. GDP and industrial production showed a reduction while loans showed only a slowdown in their trend. Loans annual change has always been positive, see figure 2. The second peculiar feature is that the situation showed in the last quarter of the sample is really odd in the light of the previously cited literature: loans are more than 20 points above the value of the first quarter of 2007 while GDP and industrial production are 4,5 and 15,4 points below the starting value.

This situation is completely different from the so called Phoenix Miracle proposed by Calvo, Izquierdo and Talvi (2006) or by Biggs, Mayer and Pick (2009). In Italy we did not observe either a reduction of the stock of loans or negative global flows of the credit to firms and households. The consequence is that Italy did not certainly experience a creditless recovery, given the fact that the trend of the loans objectively induces to reject this scenario.

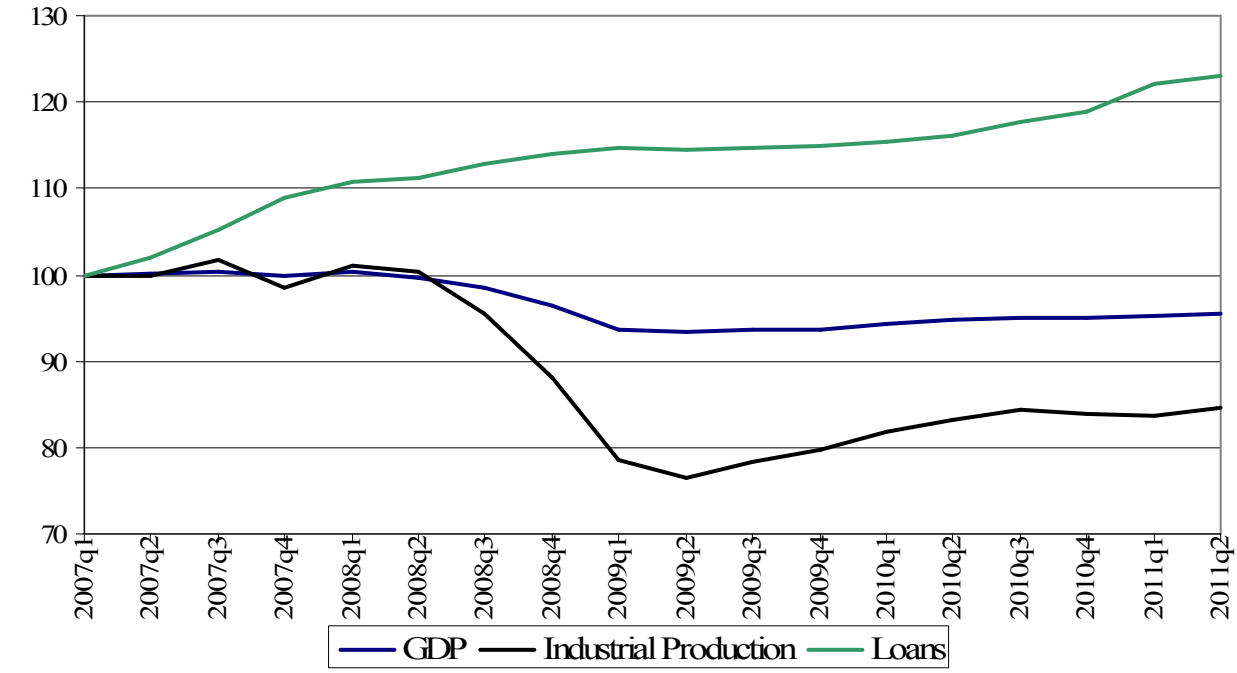
At the same time, we can also reject the hypothesis, made by Kannan (2010), of a linkage between the slow growth of firms that are more linked to banking funding and a reduction of the credit flows supplied by banks after the financial crises. This situation has not been observed in Italy because the total amount of loans has increased.

On the contrary, in Italy the credit condition has been positive during and after the crisis while the economy did not show a rapid inversion of the cycle. Just for this reason it is possible to reverse the structure of the sentence, together with its meaning, by constructing a new expression for the Italian

[2] In June 2010 the Bank of Italy changed the time series calculation for loans, but even if we correct the data for this change the trend of the loans remains positive.

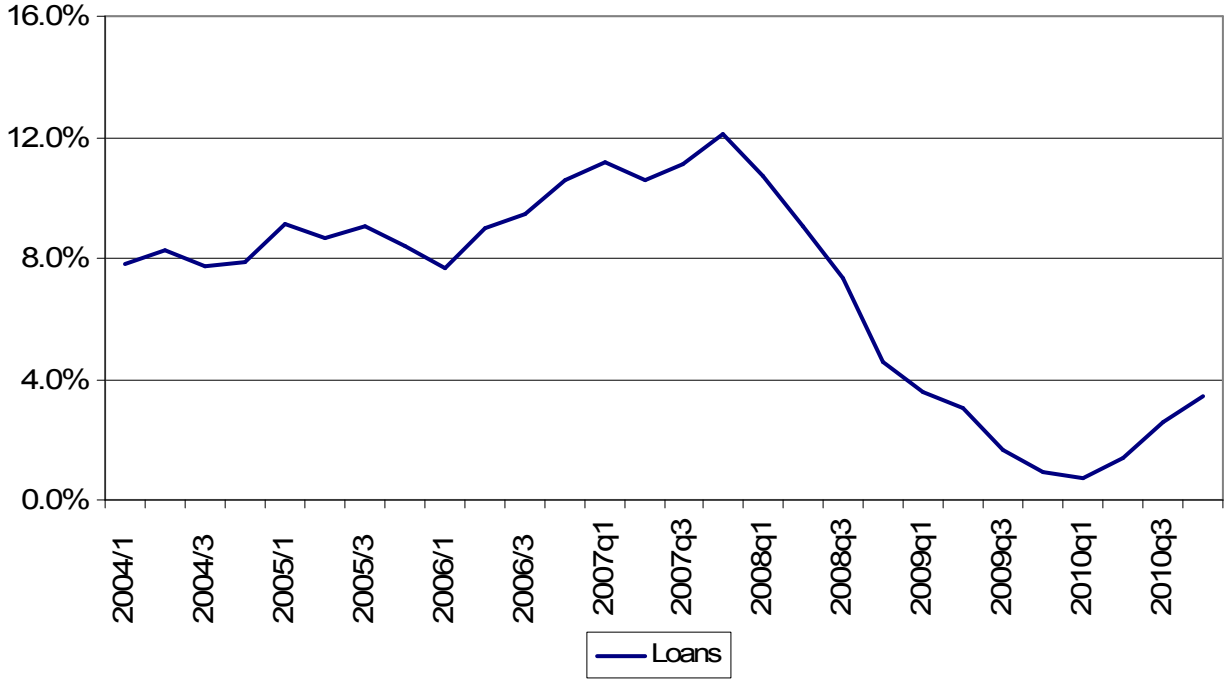
case: the *recoveryless credit growth*.

Figure 1: Industrial production, real GDP and loans in Italy.



Source: Personal elaboration on Central Bank of Italy and Istat data.

Figure 2: Annual change of loans in Italy



Source: Personal elaboration on Central Bank of Italy data. Loans: firms and households loans by banks.

This situation has been clearly depicted by Draghi (2011) in his Concluding Remarks during the

Ordinary General Meeting of Shareholders of the Bank of Italy in May 2011. He remembered that Italy "recouped only two of the seven points of output lost" during the crisis and, at the same time, "banks have stepped up their lending to firms markedly". He added that in April 2011 the annual rate of growth of loans to firms was "the highest among the main countries of the euro area". Even the Draghi's words confirmed the idea of a *recoveryless credit growth* for Italy.

The Italian economic situation is probably affected by structural problems that reduce the potential growth of the economy, but the really slow recovery is not linked to credit problems.

In order to offer a more complete and robust framework, I compare the Italian situation to the German one. In this case I employ the same sources of the data to make them directly comparable. Data on industrial production and GDP are taken from Eurostat web site while data on loans to non financial corporations and households are taken from the ECB web site.

The situation is the one depicted in figures 3 and 4. It is straightforward to observe that loans to non financial corporations are more than 20 points above the reference period in Italy while in Germany they are 10 points above the first quarter of 2007. Moreover, if we compare the last datum with the pre-crisis pick we observe that loans are above the pre-crisis pick in Italy while they are still below in Germany. The two figures depict the loans to households too. In this case the difference between the German and the Italian trend is remarkable. In Germany this type of credit remained stable for the sample examined in the figure, while it showed a positive trend in Italy for the entire period. It is necessary to stress that between the second and the third quarter of 2010 this type of loans registered a change in the time series in Italy, so the increase registered during that period is abnormal. But, notwithstanding this, the trend remained positive for the whole period[3]. The situation is completely different for the industrial production. The last datum of the industrial production reached the pre crisis level in Germany while in Italy it is more than 15 points below. As regards the real GDP, Germany bridged the crisis losses and now the real GDP is at the same level of 2008, while real GDP is still below the 2007-2008 levels in Italy[4].

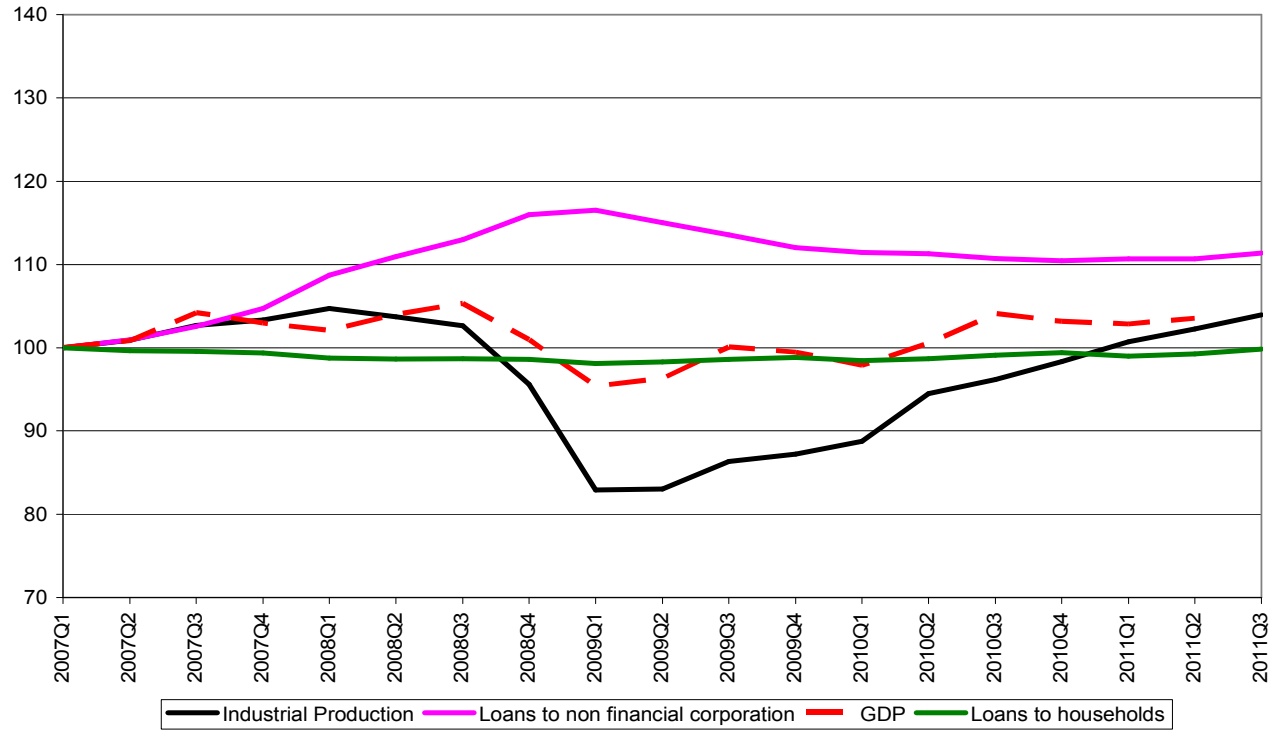
This comparison has highlighted the significant diversity between the German case and the Italian one. Given these results, it is possible to classify the German economic situation as a case of *creditless recovery* while, using the new terminology proposed in this paper, it is possible to assert that the Italian economic situation form 2007 to 2011 is a *recoveryless credit growth.*

In the next section I support this analysis through an econometric study that focuses on Italy.

[3] In figure 1 and 2 this time series change has been eliminated using data by Central Bank of Italy.

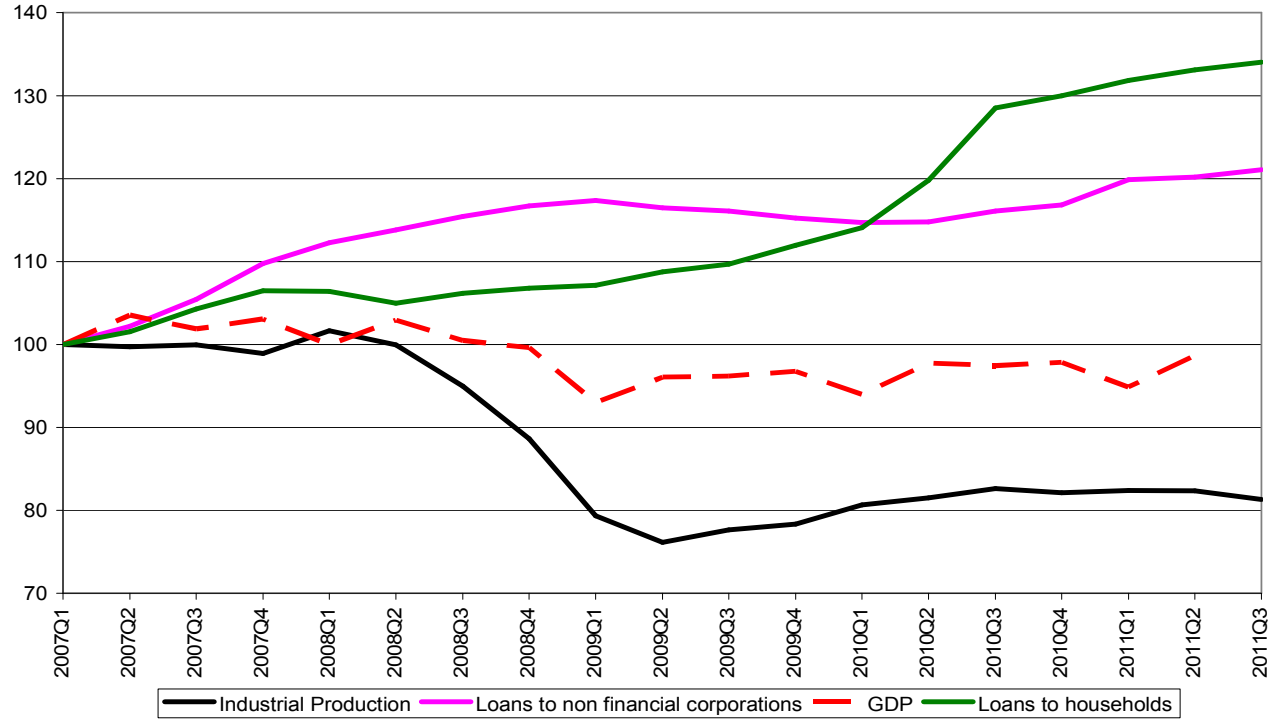
[4] Figure 1 and figure 4 show slightly different real GDP trends because data in figure 1, by Istat, are corrected for seasonal effects while data in figure 4, by Eurostat, are not.

Figure 3: Industrial production, loans and GDP in Germany, reference period: first quarter of 2007.



Source: personal elaboration on ECB and Eurostat data.

Figure 4: Industrial production, loans and GDP in Italy, reference period: first quarter of 2007.



Source: personal elaboration on ECB and Eurostat data.

4. An econometric study on the Italian case

I decided to support these findings through an econometric study. In this way it is possible to confirm the idea that the Italian economy behaved in a different way during the last years. To this aim, in this paragraph, I show the regressions and the data used for the estimations.

I decided to employ data on GDP, from Istat, on 3 months Euribor rate, from Eurostat, on loans to non financial firms and households, from the Central Bank of Italy[5], and data on employees, from Istat. The dependent variable is the real GDP. None of the regressors are used in the calculation of the GDP. The choice of the regressors has been made in order to use three indicators of the economic situation: a monetary indicator, the Euribor rate, a credit condition indicator, the loans, and a real economy indicator, the number of employees. All the series have been downloaded in November 2011.

I computed the quarterly percentage change of these series to limit or to eliminate the presence of the unit root. The presence of unit roots has been tested through the Phillips Perron and the KPSS tests. Results are shown in table 2 and they confirm the absence of stationarity problems.

Table 2: Unit root analysis. 1999:1q-2010:4q

variable	PP test (lags:4, no trend)	KPSS test (lags:4, no trend)
Δ Euribor3m	-3.087 **	0.057
Δ empl	-4.251 ***	0.443
Δ real gdp	-3.061 ***	0.296
Δ loans	-2.923 *	0.386
* significant at 1 per cent level, ** significant at 5 per cent level, *** significant at 1 per cent level. Δ = quarterly percentage change.		

Using these data, I estimated two equations. The first equation is the following one:

$$\Delta rgdp = c + \beta_1 * \Delta loans(-1) + \beta_2 * \Delta Euribor3m(-2) + \beta_3 * \Delta empl(-1) + \beta_4 * \Delta rgdp(-1)$$

where Δrgdp is the quarter over quarter real GDP growth rate, c is a constant, Δloans is the quarter over quarter percentage change of loans to non financial firms and households, ΔEuribor3m is the quarter over quarter percentage change of the 3 months Euribor rate, Δempl is the quarter over quarter percentage change of the total employees in Italy. There is a lagged dependent variable too. All the regressors are lagged. Loans and employees are one-period lagged while the Euribor rate is two periods lagged. This difference is linked to the slowness of the effects of the monetary policy. The

[5] As regards data on loans, I employed data published by the Central Banks of Italy instead of the data by ECB because the first series covers a more extended sample.

series of the loans has been corrected, using data form the Central Bank of Italy, in order to eliminate the statistical break of June 2010. The results of this regression are shown in table 3.

This equation is useful in order to find a long period linkage between loans and growth. There is a statistically significant linkage between loans and real GDP. The coefficients on Euribor rate and lagged dependent variable are also significant. The coefficient on Euribor rate has the expected sign. β_3 is not statistically significant. This means that from 1999 to the end of 2010 an increase in loans contributed to boost the economic growth.

Table 3: OLS estimation

Dependent variable: real GDP quarter over quarter percentage change; Sample:1999:1-2010:4, robust standard errors			
variable	coefficient	t statistic	p-value
c	-0,0075	-2,7301	0,00921***
Δ loans (-1)	0,3709	3,1823	0,00275***
Δ Euribor3m (-2)	-0,0246	-3,4990	0,00112***
Δ empl(-1)	0,2908	1,1839	0,24310
Δ real gdp(-1)	0,5277	2,9759	0,00483***
Adj R^2: 0.542	D.W.: 2.24	F test: 6.62 ***	
* significant at 1 per cent level, ** significant at 5 per cent level, *** significant at 1 per cent level. Δ = quarterly percentage change..			

In order to test the *recoveryless credit growth* hypothesis, I decided to add an interaction dummy variable to observe the magnitude of this linkage in a more limited period. So, the second step is designed to find an econometric pillar to the idea depicted in the previous paragraph.

To this aim, I estimated a second equation with the same structure of the previous one, but with one more regressor.

$$\Delta rgdp = c + \beta_1 * \Delta loans(-1) + \beta_2 * \Delta Euribor3m(-2) + \beta_3 * \Delta empl(-1) + \beta_4 * (dummy * \Delta loans(-1)) + \beta_5 * \Delta rgdp(-1)$$

The meaning of the symbols is the same of the previous regression but I added an interaction variable, dummy*Δloans. The dummy is equal to 1 from the first quarter 2007 onward and equal to 0 otherwise. I decided to set the dummy in this way because I suppose that the crisis modified the linkage between loans and economic growth in Italy. The results of this second regression are shown in table 4.

The coefficient on the dummy is statistically significant and it has the expected sign. The interaction between dummy*Δloans and Δloans shows that during the last period of the sample, from the first quarter 2007 to the end of 2010, the linkage between loans and real GDP has been lower than during the previous quarters. This result supports the finding of the previous section: the role of the credit in

stimulating the economic growth has changed during the crisis. This linkage has been weak and the consequence is a milder positive relationship between credit and economic growth.

Table 4: OLS estimation

Dependent variable: real GDP quarter over quarter percentage change; Sample:1999:1-2010:4, robust standard error			
variable	coefficient	t statistic	P-value
c	-0,0074	-2,5404	0,01496**
Δ loans (-1)	0,4169	3,0335	0,00418***
Δ Euribor3m (-2)	-0,0230	-3,4371	0,00136***
Δ empl(-1)	0,2712	1,0884	0,28278
dummy*Δloans(-1)	-0,1623	-2,6845	0,01043**
Δ real gdp(-1)	0,4706	2,6309	0,01194**
Adj R^2: 0.568	D.W.: 2.21	F test: 7.01***	
* significant at 1 per cent level, ** significant at 5 per cent level, *** significant at 1 per cent level. Δ = quarterly percentage change.			

5. Conclusions

In this paper I studied the relationship between credit and economic growth in Italy from 1999 to 2010. The results have highlighted a specific situation in Italy. The credit condition has been positive during the recession and even during the very light recovery. For this reason the Italian case seems to be in contrast with the finding by Rajan and Zingales (1998). They stated the importance of the financial sector in supporting the economic growth. Notwithstanding Italy had a well developed financial sector, a banking sector that did not suffer huge problems during the crisis and a flow of loans that has been vigorous during the last years, the economic growth has been very light after the recession. Moreover, this result is not in line with the study by Dell'Ariccia and Garibaldi (2005) too. In this work, studying the 1991 recession in the US, they found that high credit contraction is a key feature of the cyclical downturn. Even this feature is absent in the Italian case. Finally, a study by Bernanke and Lown (1991), about the same 1991 crisis in the US, underlined that a linkage between credit crunch and economic crisis exists but they also said that demand factors can explain a big portion of the lending slowdown. In Italy even this linkage seemed to be absent during the months of the crisis. In fact, Italy experienced a very deep recession and a slow economic recovery during the sample I examined, while loans continue to grow with a good pace. So, even the demand factors cannot explain this situation.

This is a real new puzzle that economists should investigate. This has led me to mint the expression *recoveryless credit growth* in order to describe the economic scenario that Italy went through from 2007 to 2010. A period in which a robust increase in loans has been accompanied by a slack or absent economic growth.

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