



## A Literature Review of Non-Performing Loan

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### ABSTRACT

*Lending is the primary business of retail banking and non-performing loans (NPLs) have been the focus of attention in recent years. In the wake of the 2008–2010 financial crisis, non-performing loans (NPLs) had increased everywhere, but in some countries they had reached unprecedented heights. Several banks have experienced a particularly challenging period over recent years and the Great Financial Crisis has highlighted the weakness of the banking system and the need to further investigate banks' asset quality and transparency from both a regulatory and an accounting perspective, which pressure by different institutions for a more accurate assessment of loan portfolios led to the general need for higher provisioning in a period characterized by extremely low interest rates and low bank profitability. The objective of this research is to determine the factors associated with non-performing loans. We presented a literature study using systematic literature review of relevant publications and as a result of this process, we included 21 articles and then examined the bibliographical references to check the validity of the inquiry and to avoid any potential omissions. We identified several variables that affect NPLs and those that are influenced by NPLs. We found no variables that associate with policies, and strongly suggest research for variables that associate with policies.*

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### Introduction

Lending is the primary business of retail banking and non-performing loans (NPLs), have been the focus of attention by European regulators in recent years, as many banks still face difficulties disposing of those that materialized on their balance sheets during the financial crisis (Bellotti et al, 2020). European banks have experienced a particularly challenging period over recent years and the Great Financial Crisis (GFC) has highlighted the weakness of the European banking system and the need to further investigate banks' asset quality and transparency from both a regulatory and an accounting perspective, which pressure by different institutions for a more accurate assessment of loan portfolios led to the general need for higher provisioning in a period characterised by extremely low interest rates and low bank profitability (Bolognesi et al, 2020).

In the wake of the 2008–2010 financial crisis in the euro area, non-performing loans (NPLs) had increased everywhere, but in some countries they had reached unprecedented heights ([Karadima & Louri, 2020a](#)). Although the Euro area stock of NPLs has declined by almost 50% since 2014 ([ECB, 2020](#)), large dispersions are still observed among euro countries. The ratio of non-performing loans to total gross loans (NPL ratio) of the euro area declined to 3.4% in Q3 2019 following a downward trend since its peak of around 8% in 2012 ([Karadima & Louri, 2020b](#)). Large dispersions remain across euro area countries (NPL ratios range between 0.9% and 37.4%) placing serious constraints on the lending capacity of banks, endangering financial stability and delaying economic growth ([ECB, 2020](#)). After the global financial crisis, banks in several European countries reported high levels of non-performing loans over a number of years ([Aiyar et al., 2015](#); [European Banking Authority, 2016](#)). That prompted a reaction on the policy side to address the slow reduction of non-performing loans ([Suarez and Sánchez Serrano, 2018](#); [European Systemic Risk Board, 2019](#)). The objective of this research is to determine the factors associated with non-performing loans.

## Literature Review

NPLs have been found to be affected by macro variables, such as GDP growth, unemployment and inflation, and bank-related variables, such as bad management and market structure ([Beck et al., 2015](#); [Anastasiou et al., 2019](#)). Economic policy uncertainty (EPU), which can be defined as the difficulty faced by economic agents in predicting the future course of fiscal, monetary, regulatory and trade policy, has recently been found to affect credit risk as the frequent and vague changes to economic policies may lead to misallocation of banks' credit resources or deterioration of borrower firms' operations ([Chi and Li, 2017](#)). [Louzis et al \(2012\)](#) shows that NPLs in the Greek banking system can be explained mainly by macroeconomic variables (GDP, unemployment, interest rates, public debt) and management quality. [Kauko \(2012\)](#) presents empirical results concerning the statistical interrelationship of the current account and the development of the amount of NPLs in the recent financial crisis, which focus is on macroeconomic factors, not on the usefulness of banking sector solvency and liquidity under adverse conditions.

The academic literature has found that macroeconomic factors are key in determining the level of non-performing loans in an economy ([Louzis et al., 2012](#); [Beck et al., 2015](#); [Ghosh, 2015](#)). The stock of non-performing loans has been associated with a negative impact on GDP growth, productivity and employment, as a result of unaddressed vulnerabilities in the financial and in the corporate sectors ([Espinoza and Prasad, 2010](#); [Nkusu, 2011](#); [Klein, 2013](#); [Balgova et al., 2018](#)). high stock of non-performing loans may have detrimental effects on banks, as they typically generate low profits, require high provisions and need large resources to be managed ([Aiyar et al., 2015](#)). Non-performing loans may absorb managerial attention, becoming the main focus of bank's management, leading to negative consequences in terms of efficiency and new activities ([Berger and DeYoung, 1997](#); [Caballero et al., 2008](#); [Cucinelli, 2015](#);

[Blattner et al., 2019](#)). Finally, nonperforming loans are usually used as an indicator to forecast bank failures ([Kaminsky and Reinhart, 1999](#); [Kolari et al., 2002](#); [Lu and Whidbee, 2013](#)). [Betz et al \(2017\)](#) show that the default resolution time (DRT) can be great importance in direct and indirect ways, while it immediately impacts liquidity of financial institutions it also plays an important role with regards to credit costs, such as discounting costs and lower non-discounted rate of returns due to longer resolution processes and the analysis of DRT helps us in better understanding the occurrence of credit losses and, thus, improves risk assessments.

[Staehr and Uuskula \(2020\)](#) show that many macroeconomic and macro-financial variables are leading indicators for non-performing loans in the EU countries, even years ahead, and higher GDP growth, lower inflation and lower debt are robust leading indicators of a lower ratio of non-performing loans in the future. [Ozili \(2020\)](#) finds that more profitable banks witness higher NPLs regardless of them being systemic or non-systemic and secondly, systemic banks (GSIBs) have fewer NPLs during economic booms and during periods of increased lending, while non-GSIBs experience higher NPLs during periods of increased lending. [Piatti and Cincinelli \(2019\)](#) find that, first, when the NPLs ratio remains below the threshold value estimated endogenously, an increase in the quality of monitoring has a positive impact on the NPLs ratio, and second, if the NPLs ratio exceeds the estimated threshold, the relationship between the NPLs ratio and quality of monitoring assumes a positive value and is statistically significant.

## Method

We presented a literature study using systematic literature review of relevant publications ([Skrzek-Lubasinska and Szaban, 2018](#)). As a result of this process, we included 21 articles and then examined the bibliographical references to check the validity of the inquiry and to avoid any potential omissions ([Conz and Magnani, 2019](#)).

## Result and Discussion

The results are presented in table 1 below:

Table 1. Selection references listed according to non-performing loan (NPL)

Author (Year)	Variable(s)	Result(s)
<a href="#">Zhang et al (2015)</a>	Bank behavior	NPL has a significant effect on bank behavior
<a href="#">Dimitrios et al (2016)</a>	Unemployment, growth, management skills, risk preferences, the role of tax on personal income, the output gap	Unemployment, growth, management skills, risk preferences, the role of tax on personal income, the output gap have significant effects on NPL

Author (Year)	Variable(s)	Result(s)
<a href="#">Us (2016)</a>	Global crisis	Global crisis has a significant effect on NPL
<a href="#">Vithessonthi (2016)</a>	Bank credit growth	Bank credit growth has a significant effect on NPL
<a href="#">Ghosh (2017a)</a>	Real GDP growth, employment growth	NPL have significant effects on real GDP growth and employment growth
<a href="#">Ghosh (2017b)</a>	Housing prices, real GDP growth, and housing starts	NPL has a significant effect on housing prices, real GDP growth, and housing starts
<a href="#">Tarchouna et al (2017)</a>	Bank corporate governance	Bank corporate governance has a significant effect on NPL
<a href="#">Grigoli et al (2018)</a>	Economic contractions	Economic contractions have a significant effect on NPL
<a href="#">Pop et al (2018)</a>	Management skill, ownership concentration, unemployment and budget deficits	NPL has a significant effect on management skill, ownership concentration, unemployment and budget deficits
<a href="#">Saada (2018)</a>	The presence of foreign directors on bank board	The presence of foreign directors on bank board has a significant effect on NPL
<a href="#">Wan (2018)</a>	Housing prices	Housing prices have significantly negative impact on NPL
<a href="#">Yrigoy (2018)</a>	Derivative rents	Derivative rents have a significant effect on NPL
<a href="#">Boumparis et al (2019)</a>	Sovereign credit ratings	<ul style="list-style-type: none"> <li>• NPL has a significant effect on sovereign credit ratings</li> <li>• Sovereign credit ratings have a significant effect on NPL</li> </ul>
<a href="#">Lafuente et al (2019)</a>	Return on assets (ROA), board competence	<ul style="list-style-type: none"> <li>• NPL has a significant effect on ROA</li> <li>• Board competence has a significant effect on NPL</li> </ul>

Author (Year)	Variable(s)	Result(s)
<a href="#">Pandey (2019)</a>	the prices bid by asset reconstruction companies	the prices bid by asset reconstruction companies has a significant effect on NPL
<a href="#">Radivojevic et al (2019)</a>	Gross domestic product (GDP), household finale consumption expenditure (HFC), unemployment rate (UNR), inflation rate (INF), bank's capital to assets (CAR), lending interest rate (LIR)	<ul style="list-style-type: none"> <li>• GDP has a significant effect on NPL</li> <li>• There is a negative relationship between HFC and NPL</li> <li>• UNR, INF, CAR and LIR have no statistically significant impact on NPL</li> </ul>
<a href="#">Yurttadur et al (2019)</a>	Capital adequacy, asset quality, profitability	Non-performing loans have negative effects on capital adequacy, asset quality and profitability
<a href="#">Bolognesi et al (2020)</a>	Strategic managements	Strategic managements have significant effects on NPL
<a href="#">Karadima &amp; Louri (2020a)</a>	Post-crisis consolidation	Post-crisis consolidation facilitates the faster reduction of NPL
<a href="#">Karadima &amp; Louri (2020b)</a>	Economic policy uncertainty (EPU)	EPU has a significant effect on NPL
<a href="#">Serrano (2020)</a>	Performing loans	Higher rates of non-performing loans are associated with lower growth rates of performing loans

The results above show the variables that associates with non-performing loans. Some variables affect non-performing loans, and others are affected by non-performing loans. Microeconomic, for example global crisis, GDP growth, inflation rate, and macroeconomic variables, for example capital adequacy, asset quality, profitability identified in the table. The results show there are no variables that associates with policy, either at national level or global.

## Conclusion

The results of the research show the variables that associates with non-performing loans. Some variables affect non-performing loans, and others are affected by non-performing loans. Microeconomic and macroeconomic variables identified in the table. The results show there are no variables that associates with policy, either at

national level or global. Future research should investigate about variables that associates with policy, either national policy or global. The research's contribution is identifying microeconomic and macroeconomic variables that associate with non-performing loans. This study has limitations in terms of the time span of the study, which is 7 years. Future studies should use a longer time span.

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