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Asset quality in a crisis period: An empirical examination of Ghanaian banks

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Abstract

This paper examines the factors that account for the deterioration in the asset quality of Ghanaian banks during a period of financial crises using a unique dataset on 25 banks from 2005 to 2010. Based on system Generalized Method of Moments estimations, we find that the persistence of non-performing loans in addition to loan growth, bank market structure, bank size, inflation, real exchange rate and GDP growth are the significant determinants of banks asset quality in Ghana. The findings have implications for both bank management and regulators in emerging economies.

JEL classification: G21; G32

Keywords: Asset quality; Non-performing loans; Ghana; Banks; Financial stability

1. Introduction

An efficient financial intermediation requires a stable banking system to channel surplus funds into savings for investments to promote rapid economic growth (King and Levine, 1993; Brown et al., 2009). This is done through the creation of loan assets by banks and other financial intermediaries. However, the creation of the loan assets exposes banks to the risk of defaults by borrowers as well as liquidity constraints. This does not only affect the bank profitability but also the stability of the banking system. Numerous empirical studies[1] have found high levels of non-performing loans to have preceded banking crises, as evidenced from the recent sub-prime mortgage crises. In many African countries, high levels of non-performing loans resulted in the banking crises from 1982 to 1989. For instance in Ghana, Kapur et al. (1991) and Daumont et al. (2004) documented evidence that about 41% of loans to private borrowers in Ghana were non-performing and that seven (7) of the eleven (11) audited banks were declared bankrupt. The major source of loan defaults, as argued by Keeton (1979) and Stiglitz and Weiss (1981), are from information imbalances in credit markets. Due to information asymmetry, banks are more likely to adversely select high risk loan clients because they can afford the high loan price demanded by the banks. Additionally, the high loan rates may also induce ex-post behaviour by borrowers in investing in risky projects which increases probability of default.

Like in the other African countries which experienced banking crises in the 1980s, several reforms were undertaken to improve the stability of the financial system. However, financial stability risk within the Ghanaian banking industry is still high largely due to the continuous deterioration in the asset quality of the banking sector (IMF, 2011).[2] This current empirical investigation is motivated by this worrying trend and seeks to provide insights into the factors that contribute to the continuous deterioration in bank asset quality in Ghana. While several studies have examined the stability of banking systems in developed economies and developing Asian economies, empirical evidence for emerging African economies appear to be scant. In an early study on the fundamental drivers of loan losses, Keeton and Morris (1987) found that adverse macroeconomic environment leads to high increases in provisions for bad and doubtful debt. Meanwhile Keeton (1999) provided first evidence on the linkage

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[1] Demirgüç-Kunt (1989) and Demirgüç-Kunt and Detragiache (1998).

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[2] See IMF Financial Stability Update Report on Ghana. The report further asserts that any slight deterioration in the quality of banking industry loans will lead to a collapse of the banking industry.

between credit growth and the resultant lower credit standards[3] which contributed to high loan defaults among US banks. Kalirai and Scheicher (2002) also concluded that the quality of bank loan assets was mainly influenced by macroeconomic factors such as nominal interest rate, production index, stock returns and business confidence. Bofondi and Ropele (2011) examined the effect of macroeconomic factors on banks' loan quality over a 20-year period in Italy. While the authors find household non-performing loans to vary directly with unemployment rate and nominal interest rate, growth in GDP and housing prices had an inverse relationship with the performance of loans granted to households over the study period. Using the vector autoregressive (VAR) methodology to perform a stress test of the banking system in Ghana, Amediku (2006) employed quarterly data from 1995 to 2005 to conclude that a deterioration in bank non-performing loans resulted from adverse output shock and rise in inflation.

Using a sample of commercial and savings banks in Spain from 1985 to 1997, Salas and Saurina (2002) examined the determinants of bank asset quality. The authors find credit expansion, bank size, efficiency, economic growth, portfolio composition, interest spread, equity and market structure as the significant determinants of problem loans. By employing both dynamic and static panel regression models, Pain (2003) identified both bank-specific and macroeconomic determinants of non-performing loans for major UK banks. The panel regression estimates indicated that GDP growth, real interest rates and lagged aggregate lending growth, and loan portfolio composition explained loan loss provisioning of the major United Kingdom banks studied. Louzis et al. (2012) examined both macroeconomic and bank-specific determinants of loan quality in the Greek banking sector to identify economic growth, unemployment rate, lending rates and public debt as the significant factors that explain variations in bank non-performing loans. The authors find that the type of bank loan significantly affects the performance of overall bank loan portfolio. Specifically, while the quality of consumer loans and business loans is greatly affected by lending rate fluctuations and real GDP growth respectively, mortgages were found to be least affected by macroeconomic developments.

Motivated by the economic and banking crises between the 1980s and mid-1990s in a large number of Sub-Saharan African countries, Fofack (2005) examined factors that caused the high non-performing loans for both the CFA and non-CFA[4] countries; identifying economic growth, depreciation in the exchange rate, real interest rate, net interest margins and interbank loans as the significant contributing factors of the banking crises. In a study into banking consolidation after the banking crises in Nigeria, Ezeoha (2011) provides evidence to suggest that consolidation of banking system leads to a deterioration in bank asset quality. While the author finds liquidity and equity capital to have worsened asset quality over the study period, profitability, unsecured credit, and credit expansion improved the performance of bank loan portfolio. De Bock and Deymyanets (2012) assessed the linkages between banks' asset quality and macroeconomic factors in 25 emerging banking markets[5] from 2006 to 2010. The authors identified fall in exchange rate and worsening terms of trade as the correlates of bank asset quality. More recently, Klein (2013), in examining the causes of non-performing loans in Central, Eastern and South Eastern Europe (CESEE) from 1998 to 2011, found bank equity, profitability, excessive lending, unemployment, inflation and exchange rate as the factors that cause fluctuations in the performance of bank loan portfolios.

From the empirical literature, bank-specific determinants of asset quality appears to be scanty in many emerging markets with vast empirical studies on American, European and Asian banking systems.[6] The less stringent regulatory framework of banking systems in emerging markets makes it inappropriate for wholesale application of the findings from developed banking markets in such markets. While a number of studies[7] have examined various aspects of the Ghanaian banking industry, to the best of our knowledge, no study[8] has examined the bank level factors that explain the performance of bank loan portfolio. With Ghana having a bank dominated financial system[9] like many African and emerging economies, examining the factors that account for deterioration in bank asset quality would not only lead to banking system stability but also improve the soundness of the financial system in general. Also, the quality of banks assets not only has greater implications for bank management and supervisory authorities, but also poses great challenges to governments in the pursuit of stable economic environment to stimulate growth and enhance the welfare of its citizenry. Against this background, this study examines bank-specific determinants of asset quality in the Ghanaian banking industry using bank level data on 25 banks from 2005 to 2010. Unlike prior studies, this study makes use of a unique dataset to disaggregate non-performing loans into its different classes. This enables us to identify the source(s) of persistence. From our results, we find that non-performing loans account for 7.1% of banking industry assets, supporting what Caprio and Klingebiel (1996) describe as "a silent form of distress" in which a significant portion of the banking system is insolvent, but still remains open. Our empirical estimation from the system generalized method of moments (GMM) provides evidence in support of the persistence of non-performing loans in addition to loan growth, market concentration, size, income diversification, inflation, GDP growth and real exchange rates as the significant determinants of banks asset quality in Ghana

[3] The relaxing of credit requirements.

[4] Did not include Ghanaian banks although the study period covered the banking crises in Ghana.

[5] Argentina, Brazil, Bulgaria, Chile, China, Colombia, Dominican Republic, Hungary, India, Indonesia, Israel, Korea, Malaysia, Mexico, Peru, Philippines, Poland, Romania, Russia, South Africa, Thailand, Turkey, Ukraine, Uruguay, and Venezuela.

[6] Keeton and Morris (1987), Keeton (1999), Gambera (2000) Rajan and Dhal (2003), Jimenez and Saurina (2006), Hoggarth et al. (2005) Bofondi and Ropele (2011) and Louzis et al. (2012).

[7] Buchs and Mathiesen (2008), Bawumia et al. (2005), Amediku (2006), Aboagye et al. (2008a), Aboagye et al. (2008b), Biekpe (2011), Saka et al. (2012), Aboagye (2012), Zangina and Bokpin (2012).

[8] Amediku (2006) examined the effect of macroeconomic factors on non-performing loans.

[9] In all, 75% of the assets of the financial sector are made up of bank assets.