THE CREDIT AND CREDIT RISK MANAGEMENT DURING THE CRISIS

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Abstract: Considering the importance of credit risk management to ensure the financial system stability, the paper presents financial and real sector interaction highlighting that credit growth based on increase of credit demand, of income, of assets prices, of currency availability, the interest rate differential between countries and relaxation of regulatory framework, leaves banks more vulnerable to subsequent downturn in economic activity and asset prices. It also outlines the steps taken or those I think that should be implemented in terms of improving credit risk management, implementation of regulatory measures to limit credit expansion, enforcing the regulatory requirements for covering the expected and unexpected losses, introduction of new surveillance tools aimed to lead to a more resilient financial system.

Key words: *financial stability, prudential surveillance, credit risk, equity, provision*
JEL classification: G01, G21, G32

1. Introduction

The approach of this issue is motivated by the important role played by the credit in sustaining economic growth, the major impact of the credit risk over the financial soundness of credit institutions as well as current economic conditions that require adaptability and effectiveness of the prudential supervision tools.

In the specialty literature the credit is considered an active factor in economic development by its influence on maximizing production, services, income and consumption (Ganea, 2007) [5]. Also, through the large share held in the activity of a bank, it represents a major risk whose management depends on individual and system financial stability, supervisory authority and credit institutions paying a great attention.

The paper is organized as follows. The second part presents developments in Romania at the macroeconomic level of the Gross Domestic Product (GDP), wage, the credit and banking related key risk indicators, identifying the weaknesses of the system. In the third part is presented the measures taken by the supervisory authority to mitigate the effect on credit risk of factors identified and proposals to improve the prudential supervision, and, in the end, some conclusions.

2. The credit and the economic situation before and during the financial crisis

In order to perform analysis, data from monthly bulletin issued by the National Bank of Romania (NBR) was taken, period 2004-2011[7], as follows:

Table no.1 (lei million, unless otherwise indicated)

Indicators / Period	Nominal GDB	Domestic credit				Net monthly average wage(annual changes %)	Credit risk ratio (annual changes %)	Provisions
		Private	Public	Foreigncurrency private	Long term -foreign currency-households			
2004	246,469	41,019	2,883	25,375	3,518	23.7	2.87	511
2005	288,048	59,806	3,297	32,762	6,148	23.3	2.61	688
2006	344,651	92,379	3,545	43,797	11,409	16.1	2.81	1,294
2007	416,007	148,181	9,570	80,468	34,727	20.3	4	3,579
2008	514,700	198,056	17,205	114,413	54,400	25.6	6.52	7,587
2009	498,008	199,887	46,811	120,175	57,534	4	15.29	14,953
2010	513,641	209,294	61,374	131,935	62,332	1.3	20.82	23,633
2011_{T1}	106,724	203,956	61,488	126,949	59,198	-1,1	22	24,478
2011_{T2}	126,995	213,651	67,267	134,457	62,446	3.5	21.89	27,021

Analyzing the data presented and considering the other conjectural aspects, the following main aspects could be mentioned:

a. The period 2004-2008 was a growth one. Gross Domestic Product (GDP) and the volume of credit oriented to the private sector recorded an ascending trend, supporting each other, lending growth being greater than the GDP one (annual percentage variation of GDP and the credit was: in 2007 compared to 2006, 20.7% against 60.4%, in 2008 compared to 2007, 23.73% against 33.65%);
b. Financial intermediation (calculated as weight of non-government credit in the GDP) recorded values which increased from 26.8% in 2006, to 40.1% in 2009, with a stagnation in 2010, due to economic downturn and turbulence on the international financial market, which shows a better use of banking services;
c. Until 2009, the strong positive evolution of credit was the result of a positive trend of revenues, both in case of population and economic operators, as well as optimistic expectations on the financial situation;
d. Continuous growth of private credit in foreign currency which exposing credit institutions to currency risk for unhedged borrowers (households/non-financial corporations not receive income in foreign currency or which have not contract with a financial institution). Annual variation was 83.72% in 2007, 42.18% in 2008, recording a slowdown in 2009 (5.03%) and 2010 (9.78%). Long-term foreign loans to households, mostly for home purchases, have increased sharply in 2007 and 2008 (annual percentage change being 204% in 2007 and 56.65% in 2008). As a share of annual percentage changes in foreign private credit was 63.58% in 2007 and 57.95% in 2008. The share of foreign currency lending has increased since 47.41% in 2006 to 63.03% in 2010. This was determined by the interest rate differentials compared to the main advanced economies, by lower interest rates than borrowing in local currency, by prolonged nominal exchange rate appreciation and expectations of further appreciation and by the expectations of near-term euro adoption;

The aspects highlighted at points c) and d) were the results and of capital account liberalization, availability of financial resources from parent banks and also the result of relaxation of regulatory framework (prudential – increase of the maximum indebt degree, the maximal limit of funding, eligibility criteria for borrowers and from fiscal point of view - the reduction of the income tax).

e. Annual percentage variation in net average earnings in economy recorded a positive trend until 2009, after which it enrolled on a downward trend. Positive values created a potential for consumer credit on short term and mortgage credit on long term, while the negative trend restricted the access to new credits and impossible to reimburse loans;
f. The credit inflation increased automatically the value of assets, creating an asset price booms.

The financial crisis generated by decrease in liquidity in the global credit markets and also within the banking systems, due to the failure of subprime mortgage investments in USA, lead to a decrease in the global economic activity and inevitable in our country also since the end of 2008.

On the background of financial crisis the following can be highlighted:

a. Economic activity decreased with a lower intensity in 2010 compared to 2009 (real GDP decline only with 1.3% comparative with 7.1% previous year), enrolling on a positive up-wards line at the beginning of 2011, being of 1.4.% in the second quarter;
b. There is a slowdown of credit for non-governmental sector (annual percentage change being 0.95 in 2009 and 4.7% in 2010), banks acting cautionary in lending strategy due to many uncertainties regarding the general economic situation;
c. Increased credit to government sector (annual percentage change was of 79.78% in 2008, 172% in 2009, and 31.11% in 2010). Its share in total domestic credit reached to 22.68% in 2010 compared with 18.97% in 2009. This orientation was influenced by the decline in demand from the private sector, the uncertainty on its economic development, the increasing financing needs of the governmental sector, as well as by agreement with banking groups to maintain their exposures to Romania market. Reorientation of the financing appétit of the banking sector to lending the private sector is a necessity for its contribution to economic recovery;
d. Loan portfolio deterioration. Credit risk ratio (calculated as a percentage of Gross exposure related to non-bank loans and interest under "doubtful" and "loss" in total loans and interest classified related to non-bank loans, excluding off-balance-sheet items) reached to 21.89% in June 2011 (compared to 6.52% in December 2008, 15.29% in December 2009 and 20.82% in December 2010). This deterioration was mainly caused by deterioration of economic activity, reduction of debtors income, depreciation of the national currency (e.g. EUR average exchange rate was of 4.23 lei in June 2011,comparative to 3.33 lei in 2007 and 3.36 lei in 2008; CHF average exchange rate was of 3.5 lei in June 2011, comparative to 2.02 lei in 2007 and 2.32 lei in 2008;
e. The deterioration of loan portfolio quality is reflected in the increase of provisions forcredit risk, the annual percentage variation was of 58% in 2010 compared to 97% in 2009 and 111% in 2008. In addition to worsening of the economic and financial situation of debtors another cause was represented by the decrease of the values of guarantees, influencing and recovery rates;
f. In the context of economic growth, credit growth may worse the dynamic of nonperforming loans and affect the performance of bank;

g. Banks have adopted a pro-cyclical credit policy, by relaxing the credit conditions during growth and strengthening them during the fall. Private credit growth dynamics (calculated as difference between the value of loan in the current period and value of loan in previous period) following the same trend as GDP (figure no.1);

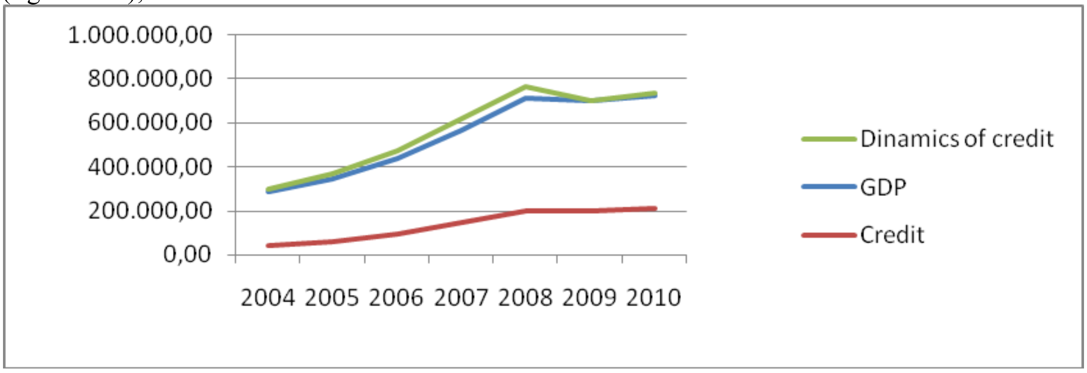

Figure no.1. Evolution of credit and GDP

h. The prudential regulatory framework affects the economic situation.

To summarize, I can say that before the financial crisis a rapid credit growth has been registered, as well as a positive and ascending development of the national economy. In the period that followed triggering of the financial crisis has been a economic downturn. Thus, there was a decline in GDP, a decline in net wages, an increase of the unemployment rate, a severe depreciation of the national currency, etc. All these factors led further on to deterioration of the credit portfolio at the level of the credit institutions, increasing the banks provisions for credit risks, decreasing their profitability, the solvency and liquidity indicators, and inevitably creating a vicious circle between the banking system and the other actors of the economy resulting a lower economic activity and to the threat of financial stability.

3. Tools for prudential supervision of the credit risk

In prudential supervision, the supervisory authority uses a variety of tools which must be adaptable to economic conditions in order to gain financial stability.

Prudential requirements have

- a quantitative aspect: indexes and predetermined limits;
- a qualitative aspect, which comprise guidelines for action.

Credit risk is the first of the risks facing a credit institution (Dedu, 2008) [4], being the main vulnerability of the Romanian banking sector, the quality of loan portfolio deteriorating quickly all over the banking system once the crisis started. Credit risk may produce significant systemic risks and may create conditions for negative cross-border spillover effects.

Summarizing the issues listed in section 2. *The credit and economic situation before and during the financial crisis*, we can say that the Romanian banking system confronted with the following shortcomings in the management of credit risk:

- ineffective or wrong application of lending strategies;
- tolerance for low reimbursement of the debtors and acceptance for inadequate collateral;
- adaptability of the specific credit risk provisions.

3.1. Ineffective or wrong application of lending strategies

Thus, credit institutions had an aggressive lending policy in order to gain a rapid increase of their profit and market share in a short time, leaving the second their exposure concentration to funding sources, currency and real estate collateral, weak correlation between maturities of assets and liabilities. These causes may produce significant systemic risks and may create conditions for negative cross-border spillover effects. Also, banks applied a remuneration policy of their staff mainly based on fulfillment of given targets, rewarding their employees with significant financial bonuses, encouraging imprudent risk-taking. Other important factor not considered by the banking system was the financial crisis in the U.S.A. and its imminent impact over the global market.

In order to reinforce the financial stability, the regulatory authority (NBR) has updated the risk management mode established in Regulation no.18/2009 on governance arrangements of the credit institutions, internal capital adequacy assessment process and the conditions for outsourcing their activities (R18)[7], adding mainly the following:

- modification of risk management approach from a short term perspective to medium and long term perspective;
- implementation of a solid process for identifying, measuring, managing and monitoring the liquidity positions;
- implementation of remuneration policies and practices of personnel to meet the credit institutions culture, objectives and long term strategy and its control environment;

- establishment of policies regarding selection, remuneration, monitoring and succession planning for those whose professional activities have a significant impact on the risk profile;
- promotion of high professional and ethics standards and a culture of sound internal control;
- reconsideration of the credit institution's business administration framework, at least once a year in order to assess any changes in internal and external factors affecting the credit institution;
- establishment of clear policies and procedures related to exposure to concentration risk;
- pay more attention to foreign currency lending risks in their internal risk management systems;
- establishmentof effective policies and credit administration processes, including ongoing analysis of capacity and willingness of customers to reimburse due debts, monitoring documentation, contract terms and guarantees;
- establishmentof solid policies and procedures and adequate risk mitigation techniques to control residual credit risk;
- improvement of internal procedures relating to operations restructuring/rescheduling of loans;
- strengthening the internal control system and monitoring its effectiveness.

Supervisory authority should monitor and modify loan credit conditions contributing to smoother credit cycles, to monitor and limit funding and liquidity risks arising from foreign currency lendingfor minimizing contagion through these channels, to encourage financial institutions to offer customers domestic currency loans to avoid foreign exchange risk.

A new instrument for assessing the non-reimbursement risk, introduced at European level, is the stress testing. This involves performing simulations regarding the behavior of exposures and related prudential indicators (e.g. volume of provisioning costs) under unfavorable evolution of the exchange rate, income, interest rate, market value of collateral and other macroeconomic indicators (e.g. unemployment rate, GDP, inflation, etc.). The major utility of the new instrument is to determine the capital requirements in order to cover the potential risks that credit institutions are exposed to, within a crisis situation.

I think the application of stress testing, is ineffective without understanding and considering the past realities and also the current and future scenarios of the borrowers in a context of macro economical conditions.

In order to identify at an early stage the customers whose reimbursement capacity will become uncertain I consider necessary to use by the credit institutions of early warning systems. For building such systems is necessary that besides the Central Credit Register, Payment Incidents Register and Credit Bureau, were information regarding the payment behavior of the debtors is exposed, to have a comprehensive data base about the characteristics of the debtors. In this sense each credit institution should collect data in order to build a common data base regarding the creditworthiness of clients. The data collect could be split in three categories:

1. financial (financial indicators: current assets /current liabilities; equity/total assets; net profit/revenue; turnover/total assets; total exposure/total security; monthly indebtedness/net income, etc.);
2. economic sector of activity (competition, relationships with suppliers and customers, cyclical economic sector, evolution of different macro economical variables, etc.);
3. nonfinancial (business age, quality of management, quality of products and services, job information, etc.).

For each one of these categories, most successful indicators in predicting firms' default are to be selected.

This information could be used to build statistical models in order to identify the link between payment capacity and various explanatory variables, the decision being made also on the experience and appreciation of analysts.

For strengthening the financial stability and to increase the surveillance efficiency, I consider necessary that supervision authority to have access to such information or to have and use a similar data base.

3.2. Tolerance for low reimbursement of the debtors and acceptance for inadequate collateral

NBR changed in early 2007 the prudential regulatory framework in order to implement the community acquis, allowing lenders to carry out lending activities based on their own standards which have replaced their previous limits of payment engagements (loan to income) and the degree of coverage with guarantees of credit (loan to value).

To mitigate the fast rhythm of credit growth in foreign currency, central bank established the obligation for the credit institutions to calculate also the risk for interest rate and the risk for exchange rate in order to establish the maximum leverage, differentiated minimum reserve requirements and also higher coefficients for provisioning of loans in foreign currency or indexed to a foreign currency, in case of those individuals exposed to currency risk, but these actions proved to be ineffective.

To increase the resilience of the financial system the NBR was adopted Regulation no. 24/2011 regarding the loans for individuals [7] aiming to limit the level of private debt, to balance the exposure on foreign currency, to improve the loans guarantees and to create proper conditions for a sustainable economic growth, registering among the measures taken to implement the Euro Plus Pact.The main provisions of the regulation refer:

- establishment of maximum allowed levels for total indebt degree in case of consumer credit by considering additional values in order to cope with the exchange rate, interest rate and income shock (debt-to-income - DTI), limiting the effects of their negative developments and protecting borrowers from over-indebtedness;

- setting up a maximum funding limit versus the value of guarantee (loan-to-value –LTV)protecting banks from excessive risk-taking, mitigating the bank's losses in the case of the borrower's default (lower loss-given- default);

I consider that regulatory authority will have to ongoing change the DTI and LTV ratios based on the stage of economic and credit cycle.

- warning customers about the possibility and consequences of rising credit costs in case of materialization of the exchange rate risk or interest rate risk, including also a demonstration of the impact on instalments of these changes,enabling borrowers to aware the risk and to take well-informed and prudent decisions;
- limiting of the maximum period of consumption credit to 5 years with the exception those with real estate destination.

As a reaction to crisis, credit institutions moved to healthier lending practices by establishing restrictive conditions for lending and implementing periodic assessment of collateral by using updated indexes that meet the exposure adjustment requirements for setting the credit risk specific provisions. By granting loans to customers that demonstrate their creditworthiness financial institutions would take on less credit risk.

3.3. Adaptability of the specific credit risk provisions

The importance for establishing the provisions resides in necessity to cover all the predicted loses in managing the credit risk, being in fact an early recognition of risk. Credit institutions shall have an adequate system for assets' classification and provisioning, as well as an adequate level of provisioning for prudential purposes.

Specific provisions for credit risk, or prudential value adjustment, is being calculated by applying the provisioning coefficients, specific for each classification category, to the net value of exposure, determined as difference between gross value and eligible collaterals. The classification categories are being determined by applying simultaneously the following criteria: financial performance, debt service and launching the judicial procedures. As the economic situation of the debtor deteriorates, it falls into a lower classification category, whose coefficient requires for higher provisioning.This method involves the provisioning for the entire period in which financial assets generate revenue without regard to the general risk of production losses (any losses are covered in advance).

Starting with January 1, 2012, since the International Financial Reporting Standards (IFRS) are being applied, the depreciation provisions, also called adjustments for accounting value, are no longer being early determined, but only when the credit risk is being materialized (NBR Regulation no.11/2011) [7]. Provisions for depreciation are being established when the trigger event causes a depreciation of the asset or a decrease/delay of the value/time for future cash flows. Among the triggering events can be included: significant worsening of debtor financial situation, the possibility of the bankruptcy of the debtor, default of the contractual clauses, observing a decrease in future cash flows, granting concessions to the debtor by the creditor, etc..Provisions for depreciation could be established both: at the individual level or financial assets group.

Judging the permissive approach for provisions establishment, it can be said that the proposed accounting model for setting up the risk provisions, does not meet the credit risk coverage requirements, not allowing the managers to recognize the credit risk during the periods of economic boom, under dimensioning the potential losses and threatening the financial stability of the credit institution. Transition to the provisioning accounting will lead to the release of provisions for exposures that are not affected by the triggering events and the establishment of additional provisions for those considered more risky.

To address this gap, I consider that, besides a careful prudential supervision, it is necessary to establish a compulsory minimum level of provision required for each asset to cover potential losses. At its establishment should take into account the amount of exposure and an average rate of recorded or expected losses.

Thus, the new method determining the provision will lead to better financial results in periods of economic growth and increase the loss decreasing, is pro-cyclical, credit risk being undervalued.

In context of existence of cross-border activities and cross-border financial institutions I consider necessary to use the same accounting methodology in order to ensure the comparability of information at the European Union level and for a better prudential surveillance.

With regard to the sovereign debt crisis, respectively the financial problems faced by states (e.g. debt reduction of Greece), I think necessary to reconsider the assessment and provisioning criteria of the governmental exposures, in order to reduce the impact that they can have on financial health of the credit institutions.

In addition to the losses the bank expects to record during a future period and which are admitted as provisions, it is possible that, under certain unpredictable conditions, the credit institution to confront with unexpected losses, whose impact could be considerable. These are losses with low probability of occurrence and low frequency, but whose coverage is realized from own funds of the credit institutions. Therefore, credit institutions must have sufficient equity to absorb the future losses.

In order to cover risks, credit institutions must have a level of own funds of at least 8% of total risk-weighted exposures. To maintain this level a continuous assessment of internal capital needs is provided, including macroeconomic stress tests.

To ensure a prudent approach in determining the capital requirements for covering the credit risk, the level of own funds will be adjusted against the gap between the size of the accounting loss and the level of prudential loss.

Determining capital requirements for credit risk is made by two approaches, the standard and the one based on internal rating models. In case of standard approach the positive difference between the prudential provisions and those determined based on IFRS standardswill decrease own funds. In the case of internal models approach for credit risk assessment, the positive difference between the accounting provisions and expected losses will add to their funds at a maximum rate of 0.06% and the negative will lead to reduce their own (NBR-NSCRegulation no. 18/2006 regarding own funds of credit institutions and investment firms) [7]. Moreover, the requirement for own funds, in case of internal ratings models approach, is more flexible to cover future losses, since it's using various risk parameters identical or similar to the triggered events, while the standard approach it's using various weights for credit risk, without such link. For the future, I consider that, in case of standard approach, in order to eliminate or reduce gaps, would be necessary to create a correlation between the underlying criteria determining the credit risk weights and those related to establishment of provisions.

The new Basel agreement (Bank for International Settlements, 2011) [2] provides a higher level and better quality capital (share capital must be of at least 4.5%, tier I for at least 6% and total capital of at least 8%), implemented since 2013. At the same time it also provides a capital "buffer" in times of rising up and down in times of crisis, to avoid economic cycles. It will be introduced progressively from January 2016 until December 2018. These measures, designed to counter pro-cyclicality and to strengthen its financial soundness will be implemented by Romania.

Under the conditions of an increased systemic risk, triggered by sovereign debt crisis, banks have been urged to reinforce their capital by setting up, by the end of June 2012, temporary reserves against sovereign debts exposure, representing a tier 1 capital ratio of 9 % (European Banking Authority, 2011) [3]. These reserves will allow the banks to better resist to various shocks, strengthening in this sense the financial stability.

Given these provisions is expected that growth will be affected but could be a favorable side effect. Evaluation of long term impact of new rules highlighted by a study of the 15 countries that for a 1% increase capital, economic results will fall to 0,09% (Angelini, P and others, 2011) [1]. Implementation of Basel III will lead, most likely, to a call for substantial additional capital injections to credit institutions in Romania. High share of tier I in total own funds (80% in June 2011) and hybrid capital instruments lack limits the impact on Basel III capital requirements for local entities (NBR, 2011) [6].

Taking into account the economic and financial international context, sovereign debt crisis, continued growth of loans to state sector, budget deficits, debt reduction of Greece, increased risk of default at national level from the perspective of credit default swap - CDS securities market (in Romania, according to Reuters – [9], recorded in November 2011, close to 465 basis points) I can say sovereigns are not practically risk-free borrowers. Otherwise, financial stability depends on the link between banks and the sovereign.

Thus, the influence of sovereign risk on the banking sector is directly manifested through exposure held by banks to it, and indirectly by increasing counterparty risk, increasing funding costs, decreasing access to credit by reducing the value of government securities, decreasing value of government guarantees granted to banks, decreasing credit demand and the quality of private debt, through fiscal consolidation measures.

On the other part the banking sector affects the public sector. Thus, during economic growth, mainly generated by private credit booms, an improvement on budget is recorded by unsustainable revenue growth, encouraging policymakers to reduce tax rates and to increase long-term spending commitments, which could lead to the ending of this period, reduction of revenues and appearance of fiscal deficits. When a deterioration of the banking system is recorded and a state intervention for the capitalization of the system occurred, the public budget is affected, making it necessary to adopt fiscal policy measures to prevent such situations. Also, for situations when, during the deteriorated economic situation, banks having no sufficient capital and liquidity reserves, a credit constraint is recorded along with the deterioration of the quality of credit portfolio.

Taking into account that Exposures to Member States' central government denominated and funded in the domestic currency of that central government hasassign a risk weight of 0% according to Article 89(1)(d) of the CRD (amended by Directive 2009/111/EC or "CRD II"), and Annex VI Part 1 paragraph 4 [8]I consider that it is necessary to review the risk weight of these exposures in order to allocate capital.

4. Conclusions

To prevent the threats exercised by the credit risk to the financial stability, it is necessary to identify, assess, monitor and manage the factors influencing its development and to be established reserves for mitigation the negative effects of its manifestation.

In order to prevent and limit manifestation of credit risk supervisory authority and credit institutions have responded to economic conditions through a more rigorous risk management.

For its efficiency is necessary to apply uniform regulations at European Union level to avoid regulatory arbitrageand circumvention of measures through cross-border activity.

The existence of a stable financial system is a prerequisite to carry out the crediting functions and thus supporting the economic activity further on.

The innovations contained in the paper refers to the establishment by credit institution and prudential surveillance authorities of early warning systems for early identification of debtors who will have difficulties in repayment of debts, DTI and LTV ratios continuous change depending on economic conditions, minimum provisioning requirement regardless of the risk associated with asset, creating a correlation between the underlying criteria determining the credit risk weights and those related to establishment of provisions and setting risk weights for governmental exposures in order to allocate capital for coverage of possible losses from such exposures.

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