

# Surfing through the Cycle

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## How Central Banks Policies Sabotage Basel Regulations

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The Basel Committee has been the response of the central bankers for almost all international crises since it was created in 1974. Its guidelines serve as a benchmark to almost all public agencies around the world which are in charge of the regulation and supervision of the banking system in each country. The control has increased as new financial crisis have mock older versions of the international regulations proposed by Basel. The guidelines focus mainly in improving the risk management, as well as, increasing capital and liquidity requirements in the banking system. As this paper will try to show, the risk exposure that the Basel regulation wants to tackle have been exacerbated by the policies of central banks in an attempt to stimulate the economy. These policies have promoted an excessive risk taking by creating artificial return opportunities for private banks that follows a mismatching maturity strategy and lowers its credit standards. Arguably, the blame for the Basel unsuccessful outcomes can be found on its own founding members and sponsors. For these purposes, we will use the theories of capital, interest and credit cycle of the Austrian School of Economics to try to explain why the Basel guidelines fails to prevent further financial international crises. Also the insights in the treatment of time, uncertainty and the market process can be valuable for the comprehension of the theory and practice of risk management in banking.

## Introduction

After the collapse of the Bretton Woods system, the central bank governors of the G10 countries created the Basel Committee on Banking Supervision. Its aim *“was and is to enhance financial stability by improving supervisory knowhow and the quality of banking supervision worldwide The Committee seeks to achieve its aims by setting minimum standards for the regulation and supervision of banks; by sharing supervisory issues, approaches and techniques to promote common understanding and to improve cross-border cooperation; and by exchanging information on developments in the banking sector and financial markets to help identify current or emerging risks for the global financial system.”* Since the Bretton Woods turmoil, almost all financial crises have been followed up by a new Basel Regulation with no sign of success to prevent future financial crisis.

The explanation of the failure of Basel Guidelines can be found in many of the Austrian School of Economics approach especially in its capital, interest and credit cycle theory. The pioneering work of Ludwig von Mises (1912) and Frederich von Hayek (2008) helped to understand how central banks policies can discoordinate savings and investments by lowering the interest rate from its market or natural level causing a boom and bust cycle which ended up in a severe crisis causing devastation of capital accumulation, unemployment and decrease on growth. Where Basel focus primarily on precise measures of capital and liquidity requirements to face credit, market and liquidity risk, the Austrian Business Cycle Theory (ABCT) explains why these risks are not considered in the boom phase and why they are exacerbated in the bust phase of the cycle.

## Basel Guidelines Evolution

This section doesn't pretend to be an exhaustive review of all the changes in regulation done by Basel. Also, it doesn't serve as a guide to explain how Basel guidelines apply to banks. It's important to mention that public agencies in charge of the supervision and regulation of banks in each country adapt Basel Guidelines as they see fit. In this spirit, this section's goal is to review:

1. How Basel Guidelines have evolved

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<sup>1</sup> Basel Committee on Banking Supervision (2014) “A brief history of the Basel Committee”

2. How the historical context via financial crisis have affected its evolution
3. And what has been the principal problem that Basel authorities wanted to solve.

As a response to the Latin America sovereign debt crisis, the Basel Committee launched the Basel 1988 Accord. In its origin, the Basel Committee addressed the minimum capital requirement based on risk weighted assets hold by private banks. The standardized approach was introduced as a method to measure the credit risk of the bank's operations where the percentage of the risk weighted assets were fixed and given by Basel Committee. As table 1 show, with these 5 classifications Basel attempted to capture all the credit risk from all the banks.

**Table No. 1**

<b>Risk Weight</b>	<b>Assets</b>
0%	Cash, Gold, Obligations to OECD governments and US Treasuries
20%	Claims on OECD banks, Securities Issued by U.S. government agencies, claims on municipalities
50%	Residential Mortgages
100%	Corporate Bonds, Less developed country debt, claims on non OECD banks, equities, real state, plant and equipment

The last amendments were made on the late 90's to cover market risk management with the Value at Risk metric developed by Risk Metrics<sup>2</sup>. This was known as "Basel I: the Basel Capital Accord". Basel I required to hold a relation of 8% between capital and risk weighted assets.

In the nineties, Basel I wasn't enough to prevent a Latin American crisis again. In the 1994, it all started with the Mexico currency crisis known as Tequila Crisis which has a significant impact on others countries of the region such as Ecuador, Argentina and Brazil who also entered in a crisis. Other countries like Japan and Russian were also destined to a financial meltdown<sup>3</sup>.

These events led to the Basel Committee to prepare a new set of rules in capital requirements. Entering the new century, the "Basel II: the New Capital Framework" was develop to *"improve the way regulatory capital requirements reflect underlying risks and to better address the financial innovation that had*

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<sup>2</sup> See Taleb (2010) for a critical view of the VaR technique.

<sup>3</sup> For a complete historical account of financial and sovereign crisis see Reinhart and Rogoff (2011)

occurred in recent years. The changes aimed at rewarding and encouraging continued improvements in risk measurement and control.<sup>4</sup> Its three pillars where:

1. Minimum capital requirements, which sought to develop and expand the standardized rules set out in the 1988 Accord;
2. Supervisory review of an institution's capital adequacy and internal assessment process; and
3. Effective use of disclosure as a lever to strengthen market discipline and encourage sound banking practices.

The more important changes where in the credit risk measurement. On the one hand, the standardized approach added maturities and credit ratings to improve the measure risk weighted assets. On the other hand, Basel II introduced the Internal Risk Based Approach (IRBa) where the bank can estimate its own risk in its balance sheet to compute capital requirements. This methodology it's based on three components:

1. PD: the probability of default
2. LGD: loss given default
3. EAD: Exposure at default

Only banks that have enough data to calculate these components can use the IRBa. Gradually, the banks started to estimate the probability of default from its assets operations. For the other components they used standards parameters proposed by the Basel Committee. This was called the foundation IRBa. Banks who estimated all the components used the Advanced IRBa.

Unfortunately, these improvements where shadowed by the 2008 subprime crisis. It started in the United States where its systemic effects spread through the entire world. Soon this became an international financial crisis that was called the Great Recession. Later it turned to a sovereign crisis especially in PIGS countries in Europe (Portugal, Italy, Greece and Spain). After the diagnosis of the Great Recession, the Basel Committee put forward Basel III to strengthen up the liquidity measures and capital requirements. One of the major problems that were identified was maturity mismatches in banks that make it difficult to meet its obligations. In this sense, Basel developed three main metrics:

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<sup>4</sup> Basel Committee on Banking Supervision (2014) "A brief history of the Basel Committee"

1. The Liquidity Coverage Ratio (LCR): high-quality liquid assets have to cover total net cash outflows over 30 days
2. The Net Stable Funding Ratio (NSFR): the available amount of stable funding to exceed the required amount of stable funding over a one-year period of extended stress
3. Leverage Ratio: A minimum of 3% between capital and banks average total assets

Basel III also gives stress test a more important role as the capital can be assign depending on its results. Also most of credit, market and liquidity measures have to take in account stress test scenarios. Basel III it's in its way of implementation but their own sponsors has been already critical with it (Blundell-Wignall and Atkinson 2010). In summary, Basel Guidelines have focused on how to measure or estimate credit, market and liquidity risk without going any further in deepen on why this risk appears suddenly in a with significant negative effects for banks.

## Risk as a component of the interest rate and its role in Business Cycle Theories

Unfortunately, the role of risk in the business cycle has been scarcely studied by Neoclassical economics and Austrian economics. Following Mises (1949), Huerta de Soto (2006) and Garrison (2001), argue that the interest rate is composed of three components: the time preference, the inflation premium and risk premium. These authors related factors such as duration, credit quality, legal conditions as determinants of risk. Nonetheless, the ABCT was developed using only the time preference component of the interest rate without studying how the other two components interact in the economy.

An attempt to analyses the dynamics of risk in with a mix of the ABCT framework and modern financial theory is in Cowen (1997), which defines those risky investments that meet the following conditions: long-term, expensive to reverse, high and sensitive to future information returns. In contrast, little risky investments would be the opposite. Another interesting paper can be found in Cachanosky (2014) who adds risk in the Garrison Model of ABCT. Both studies offers valuable insights such as risk is associated with time and more roundabout process of production inherently contains more risk. However, some conclusions are against the ABCT theory (see Barnett II and Block 2006).

In modern portfolio theory, Markowitz (1952) defines risk as the volatility (standard deviation) of the financial instrument being analyzed. Uyemura and van Deventer (1992) follow the empirical and statistical approach to risk and classify it by:

Market Risk: Losses caused by variation in the interest rate

- Credit Risk: Probability of bankruptcy
- Liquidity Risk: Ability to obtain sufficient liquidity to continue normal business activities

Finally, three theories to explain the relationship between the interest rate and term (Fabozzi 2012) were developed. This functional relationship is called the yield curve. First, the pure expectations theory tries to explain the shape of the yield curve reflects expectations of future interest rates. An investor looks at two investment alternatives within the same period. The first is an investment in a particular period while the other investment matures in less than the previous term and renews the expectation of interest rates in the future are taken into account. The interest rate would be one that leaves the investor indifferent between these two options for a given period. The next theory is the liquidity premium which basically incorporates the element of pure expectations theory plus a market risk component to compensate for the increased sensitivity of the price of long-term investment to variations in the interest rate. Segmented market theory states that an interest rate exist to balance supply and demand in each period.

In summary, none of these approaches accomplish to explain from a subjective point of view the concept of risk and its fundamental role in business cycle theory.

## Towards a subjective theory of risk

Vaughn(1994) trace back the themes of the Austrian school of economics from its founding father Carl Menger (2007). This school of thought have centered and studied the time, knowledge, ignorance, uncertainty, unintended orders, process and complex phenomena. The economic problem for the Austrians its best sum up by Hayek (1945) *"is thus not merely a problem of how to allocate "given" resources—if "given" is taken to mean given to a single mind which deliberately solves the problem set by these "data." It is rather a problem of how to secure the best use of resources known to any of the members of society, for ends whose relative importance only these individuals know."*

Is the ignorance and disperse knowledge condition that explains the emergence of institutions such as:

- Money and markets (exchange of private property) to make economic calculation and rational resource allocation possible (see Mises 1949)
- Endogenous rules and law that maximize freedom (see Hayek 2012)

These institutions help acting men to deal with uncertainty. In this sense, the component of risk in the interest rate it's so important because it's the indicator by which entrepreneurs evaluates the adaptability of plans that can be accounted as another signal to deal with uncertainty.

The point of departure is the dispersed knowledge assumption (Hayek 1937) where the entrepreneur knows beforehand that the perceived profit opportunities (Kirzner 2013), not all will be successful because the action plans of other individuals are not known in disequilibrium. Furthermore, the plans of the individuals change with the new information the market process itself generate (Lachmann 1940 and Huerta de Soto 2009)<sup>5</sup>. The individual will be interested in studying which action is more adaptable to new plans of other individuals that may arise in the market. In this sense, entrepreneurial function not only take into consideration those actions where economic calculation more profitable (wider spread between prices and costs) but also contemplate which plan will provide greater flexibility to adapt to possible changes in the course of action of the other individuals who were not originally intended. The entrepreneur analyzes that plans can be modified to fit more easily transition to a new Hayekian equilibrium (Hayek 2007). It is noteworthy that the equilibrium is not a point but a direction as Rizzo and O'Driscoll argues (1996). Perceive subjective difficulty of adapting to changes in plans of other individuals it's what we call risk. It's notably that Kirzner (2010) refers to capital as unfinished plans and Lachmann (1971) and Lewin (2011) makes allusion to plan contingencies but none of them connects these subjective concepts with the component of risk in the interest rate.

## Attractive risk taking in central banks systems

Now that an explanation of risk have been offered grounded in a subjective and Austrian perspective, this section it's going to analyze how central banks policies affects private banks strategies in choosing plans or investment with more risk than others. It will become evidently that central banks encourage risk

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<sup>5</sup> Embodied in Lachmann's phrase "As soon as we permit time to elapse, we must permit knowledge to change."

positions that Basel Guidelines wants to limit. The important thing to note is that if the bank wants to increase profits can always do and when you increase your risks. Uyemura and van Deventer (1992) stated that it is not possible to simultaneously maximize bank profits and minimize their risks (there is no free lunch). In this sense, what the bank can only choose is different combinations of risk and return according to your preferences and risk appetite. Therefore, the objective of the bank is to maximize risk-adjusted returns. This is consistent with the theory developed in this work. The bank plans to evaluate different action not only profitability but also analyze the risk understood as the adaptability of their investments to the emergence of a new Hayekian equilibrium.

### Maturity mismatch strategies

In the previous section, it was cleared that Basel III objective was to limit maturity mismatches by proposing the LCR and the NSFR to strengthen up liquidity positions. Bagus (2010) explores the incentives and disincentives mismatch with and without the central bank. His analysis centered in the feasibility of mismatch strategies that depends on the actions of the competitors in the market. The effectiveness of the mismatch depends on the strategic behavior of the competition. However, the study in this section will try to show that the incentives affect the banking system as a whole.

When the typical boom phase starts, the credit expansion causes recurrent decreases in interest rates (see Hayek 2008, Huerta de Soto 2006 and Garrison 2001). With this policy, the central bank has created an artificial profit opportunities for private banks. The banks that decide to mismatch its assets maturities with its liabilities maturity will experiment an increase of its capital position and profits. In detail, banks who borrow in a short term and lend in a long term will benefit because as short term debt reach its maturity date, it will be renewed with a lower interest rate. In the same way, as assets are placed long term, it will not suffer the lower interest done by the central bank. Following these arguments, with the credit expansion, banks pay less for its funds and gain more for its investments provoking an increase in its profits or net interest income. Capital also gains in value as long term investment are discounted with a lower rate of interest in the market. Also, as more leverage has the bank, more profitable it is. In this way it's proved that Basel Guidelines are useless because central banks policy provide the incentive to mismatch to take advantage of artificial profitable opportunities.

## Lowering credit standards

A pervasive incentive that central bank policy induces it's the lowering of credit standards for private banks. As more liquidity it's injected to the economy though the central bank in the boom phase, banks have to lower credit requirements and increase limits exposure to lend more money to segments of the markets that couldn't enter before. In addition, by lowering interest rates and providing unlimited liquidity to private banks, credit risk and liquidity risk it's miscalculated by entrepreneurs by having a lender of last resort.

Another point made by ABCT is that malinvestments will appear after a credit expansion. Banks can't be immune to this effect in spite of Basel Guidelines and models. Credit risk will arrive as a form of mal investment increasing the probability of default in an IRBa model.

Also, the mismatch strategy gives an additional incentive to place more loans or investments into the market in a longer term increasing the credit risk exposure. With increasing the maturity of the assets, the financial health of the company which has been granted the loan can change and no longer be compatible with the original Hayekian equilibrium. In other words, the financial conditions that the company that passed the filter of risk controls of the bank may be affected as time goes by. Banks try to mitigate this risk by requiring collateral. However, the market value of the collateral becomes more uncertain as in longer-term time horizons. In this regard, the bank funding costs will increase because creditors will demand a higher return for the greater risk they are taking. In this sense, if interest rates rise, the bank's capitalization level is reduced. This can be exacerbated by central bank policy to increase the interest rates to stop inflation. Therefore, the possibility that the bank will not honor its debt increases because it has fewer resources to deal with its creditors.

## Excessive sovereign exposure

From its beginnings, it has been cleared that Basel favored sovereign positions in banks as no risk weighted it was assign in the standard approach. As Reinhart and Rogoff (2011) shows most of the crisis are either financial or sovereign both in developed and developing countries so there is no evidence that sovereign exposure is risk free.

## Conclusion

As it's shown in this paper, the fundamental difference is that Basel approach concentrates on the consequence of the business cycle instead of focusing on the causes as the Mises-Hayek theory does. So continuing this chain of reasoning, it can be found that the reason that Basel Guidelines doesn't succeed it's because central banks distorts markets signals that encourage excessive risk taking of private banks to take advantage of artificial profitable opportunities planting their seeds of their own destruction. In summary, it's not a problem of management or correct measurement of risk as Basel Committee efforts focus on. It's rather a problem of discoordination, fake opportunities and miscalculation that central banks policies produces.

Someone may ask what would happen in a market without a central bank. Its pertinent to cite Hayek (2008) in these respect *“why do the forces tending to restore equilibrium become temporarily ineffective and why do they only come into action again when it is too late?... One instance of these disturbances in the price mechanism, brought about by monetary influences—and the one which is most important from the point of view of trade cycle theory—is that putting out of action of the “interest brake” which is taken for granted by the trade cycle theories...”*. In a free market, the interest rate would reflect the time preference component and the risk component reflecting the preferences and expectations of banks, entrepreneurs, consumers and firms in coordination with each other.

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