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REVENUE REINFORCEMENT: OPTIMIZED RISK-WEIGHTED ASSET APPROACHES FOR RESILIENCE OPTIMIZATION

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Abstract: In the realm of banking and financial risk management, it is crucial to address the potential risk associated with insurance contract cancellations, as these scenarios can have devastating effects on the value of assets exposed to insurable damages. This paper advocates for a proactive approach by banks to safeguard against such risks, primarily through the implementation of fees that align with the risk-weight of assets when their insurance contracts are intentionally terminated. The consistent maintenance of insurance coverage to protect assets is paramount.

To achieve this, banks can adopt a systematic method of insurance verification by regularly requesting copies of insurance coverage documents. This approach aims to illustrate how banks can leverage risk-weighted assessment to generate fee income while mitigating risks. Such an approach aligns with practices like force-placed insurance, which is imposed on borrowers when they fail to maintain homeowners' insurance.

By incorporating these strategies, banks can adapt to the changing financial landscape and enhance their performance. This innovative fee generation model could help banks counter the effects of regulatory frameworks like the Basel III accord on their income-generating capacity.

Keywords: Insurance Contracts, Risk Mitigation, Fee Generation, Asset Protection, Basel III Accord

1. Introduction

It is imperative that the risk of insurance contracts being cancelled should be catered for by banks due to the severe possibilities of asset values being decimated in such scenarios that expose the assets to insurable damages. This intervention needs to be carried out through the use of raising fees that are commensurate with the risk-weight of the asset whose insurance contract was deliberately cancelled. Banks should be consistent in ensuring the existence of insurance cover to protect their assets. This can be achieved through monthly requests of copies of the insurance cover facilitated by systems and methods that could be developed for insurance verification. This approach is intended to demonstrate how banks can find ways to use risk-weights in generating fee income from a risk mitigation angle. Such a method could be seen as aiding practices such as force placed insurance which are imposed on borrowers as a result of homeowners who, after failing to keep in touch with their mortgage commitments, halted their homeowners' insurance (Cronkite-Chi and Kent, 2016). This momentous change to

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fee generation could improve the performance of banks to counter the effects of Basel III accord on the income generating capacity.

2. Objectives

The primary reason behind this paper is to reflect on how banks can counter the downward pressure exerted by Basel 111 on their capacity to generate revenue. This innovative way of using risk-weights as a means to fee generation is necessitated by the existence of a concerning scenario in the banking world whereby assets financed by banks may not be covered by insurance contracts during the tenure of the loans. The return on equity (ROE) which is impacted by a reduction in earnings, all else being equal, is difficulty to increase as a result of the potential constrained net-income generation due to full implementation of Basil III as displayed in the following equation and explanation:

$$ROE = \frac{Net\ interest\ income + Other\ income - (Operation\ expenses + provisions)}{Total\ assets} \times leverageage$$

Leverage has a maximum value imposed by regulation and liquidity coverage ratio as well as the Net stable funding ratio exert a downward pressure on net interest income. Banks should therefore look at “other income” to counterbalance the downward force.

Over the duration that the physical asset is financed by the bank, cancellation of insurance and the subsequent non-insurance exposure, assuming unforeseen developments, may:

- result in an asset losing value-no repairing or rebuilding
- result in an asset being partially repaired
- result in an asset being completely destroyed with no value

It is these negative consequences, assuming lack of insurance does not lead to replacement or proper rebuilt, that should call for redress using the existing weights of those assets to determine fees due to the banks. These fees can enhance the banks’ top line of revenue and alleviate the unintended downward pressure exerted by compliance.

3. Literature review

The aftermath of the 2007-09 crisis that prompted the Basel committee on banking supervision to devise a much tighter regulatory framework referred to as Basel III (Jayadev, 2013) has been highlighted through various strands of literature. The use of such a phrase as tighter regulatory framework is no coincidence. The intentions of this accord are well documented and understood-to ensure the soundness of the banking sector and its stability through both micro-prudentiality and macro-prudentiality reforms (Dedu and Nitesco, 2013). However, by attempting to achieve its intended purposes, Basel III comes about with strenuous demands that could hinder the profitability of banks and ultimately the capacity of banks to create long term value for investors (Paskellian and Bell, 2013). However, it still remains pertinent, despite the downward pressure on earnings, that regulation in the form of basel 111, which promotes the curbing of risk (Rudin, 2012) provides investors with a sense of comfort, considering the horrific events emanating from the debacle of 2007-09.

The capital regulation is deemed by many to be strenuous for sustainable business (Wong, 2014). This implies that the amount of capital that banks are expected to raise in order to absorb potential losses could limit the extent to which banks can generate profits particularly from their lending activities. Again, through a reduction in scope, the profitability of banks is threatened (Lee and Chih, 2013). These are thought provoking scenarios which call for sustainable solutions. The solution revolves around addressing the contrasting effects of financial stability versus growth because financial stability which is aimed by Basel III could lead to a lack of growth by the same financial institutions.

A similar argument is given by Cosimano and Hakura (2011), when they postulated that the costs of financing would rise because of higher capital demand and due to higher costs of raising equity as compared to debt, leading to a muted growth in loans, culminating in a drop of profitability. A common contention in the drop in earnings

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was echoed when the pre-tax return on equity (ROE) of European banks was predicted to decrease by between 3.4% and 4.3% from the pre-crisis level of 15% under the assumption of full implementation of Basil III (Harle, Luders, Papanides, Pfetsch, Poppensleker and Stegemann, 2011). These arguments clearly capture the effect of regulation on loan extensions and the subsequent drop in earnings.

Employing data of more than 500 European banks, Sutorova and Teply (2013), predicted a small drop of 2% in loan extensions as a result of the new capital requirements, culminating in an increase in lending rates of close to 20%. The bottom line is the perceived drop in loan extensions. The increase in lending rates does not necessarily offset this reduction as it is dependent upon the affinity of customers towards borrowing. Questions are therefore being posed to management to address this negative impact using less risk endeavours. The dynamism of generating income through innovative means is sought in this paper as it alleviates the onerous demands of raising capital by identifying self-funding sources of revenue.

This is also an attempt to address the impact on profitability and ability to innovate as was postulated by Anthony (2015), when he cited the restrictions on maturity mismatches and leverage brought about by the implementation of Basil III accord. An adjusted business model is the answer (Nucu, 2011). Consequently, banks are now engaging in activities that generate earnings through non-interest revenue but bearing the associated risks, effectively moderating the intermediating function (Wang, 2014). We are of a similar view that banks should counter the stated effects by generating non-interest income without bearing the equivalent risk as in the case of generating interest income.

Leverage effects, just like capital standards are risk management measures which should prompt banks to look at other sources of revenue streams without compromising on risk management (Carande and Anzevino, 2010). This approach resonates with our proposal to ensure banks are able to bring more revenues not associated with aggressive lending behavior, thereby off-setting the pressure extended on income generation by Basel III.

The axiomatic potential effects brought about by full implementation of Basil III are not imponderable as reflected by Giordhana and Schumacher, 2013, when they asserted that the bank lending channels will no longer be effective once banks adhere to the liquidity requirements. Handorf (2014), succinctly asserted that compliance with the liquidity coverage ratio implies that banks have to steadily fund short-term securities, a move that will impact on the interest spreads with a corresponding decline in profitability. Rather than responding in a way that could cause unintended discomforts such as reduced supply of bank loans, incentives to securitize assets and adverse effects on risk monitoring (Dermine, 2013), bank officials should not vacillate on ways to mitigate the potential effects on interest income by raising the income generating capability through non-interest income.

Even though some banks have responded to regulation through the augmentation of their capital ratios by substituting toward low risk-weighted asset categories while reducing lending only in some specific circumstances (Aliaga-Diaz and Olivero, 2012), our approach is to use risk-weights as a guidance on how to impose fees associated with default on the different asset categories given the different risk-weights. This approach entails sound banking practice unlike devious practices that have been employed by banks to avoid or even evade regulation by utilizing off-balance sheet activities (Herrman, 2011). Several writers including Vanessa and Yurievna (2012) as well as Vallascas and Hagendorff (2013) have even noted concerns around the deteriorating confidence in reported risk-weighted assets based on ill-calibration as banks attempt to under-report their portfolio risk thereby undermining their capacity to hold out against adverse shocks. This obsession with the denominator of capital adequacy ratio which brings about all these concerns around its calculation should be addressed but more emphasis should be channeled on how these weights could be employed to address deviations pertaining to contractual agreements between banks and customers regarding different assets. Just like in the application of stress tests whereby it is determined whether a bank has enough capital requirement to withstand the impact of adverse developments, banks should carry out an appraisal on assets that were created on the basis of insurance being in place, to ensure those assets are still insured. In fact, all physical assets should be insured

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before usage. Any asset whose insurance is reported to have lapsed or cancelled deliberately should be accompanied by a fee that is aligned to the risk-weight of that asset. Remedial action by the customer should be requested thereafter. This measure is pertinent if one considers the impact on the value of the asset when subjected to damages that lead to either complete destruction or partial ruination. As long as repayments of the capital and interest quotas are in place, the business economics of the bank would reflect normalcy until an unwelcome event takes place and the bank takes repossession or as happened during the great recession when foreclosures became the order of the day. The realized values of those assets would be at odds from what was proffered.

Retracing the standardized approach method would be logical whereby claims on sovereigns, banks and securities companies, corporate, retail products, secured by residential property, secured by commercial real estate and even overdue loans, have the aspect of insurance that deserves to be noted for its paramount importance after the approval point. The internal ratings based approach (IRB) whose basis is the estimation of the probability of default by banks using regulator's prescribed loss given default (LGD) is not linked to the aftermath of a cancelled insurance policy. In our view, the LGD stands to be influenced by the non-existent of insurance contracts for physical assets when the assets are exposed to events that required insurance cover by the borrowers in order to put them back at the same or near the same financial value they possessed before the occurrence of that event.

The commensurate exposure at cancellation or lapse could take a different meaning and value. The balance sheet value of the asset could be impacted as a result of the lack of insurance by the borrower. Here, reference is made to the restoration of an asset value or at least near restoration after decimation due to unforeseen but insurable events. However, even those assets which are secured by residential or commercial real estate are indeed subjected to the risk of non-insurance which may surface along the term of the loan. It is this risk that should attract serious attention in the form of a synchronized risk-weights and commensurate fees.

4 Methodology

In this section, we show that applying risk-weight based fees to accounts that deliberately cancel insurance temporarily or permanently on a monthly basis to create a pool of income that can benefit banks in the long-term. This is in direct contrast to the current application by some banks whereby returned or dishonored debit orders of payments on different loans attract the same fees. This practice does not reflect the different risk categories of those assets. A dishonored retail mortgage payment whose risk-weight could be lower than a retail unsecured loan should not attract similar fees. Even though banks apply risk-based pricing taking into account the different weights, riskweight based insurance fees based on deliberate cancellation or lapse should be deployed to illuminate the riskweights. Apart from increasing fees especially if the banking book is comprised of higher risk-weighted assets with a corresponding high number in monthly cancellations and lapses, over time this can also induce a reduction in insurance cancellations and defaults as customers respond positively.

By taking the percentage of the amount of risk-weighted assets that are assumed not to be insured for the month in question and applying it to the sum of the risk-weighted assets per asset category, we determine the riskadjusted fee that is levied per customer. The fraction of the risk-adjusted weighted assets per category to total riskadjusted weighted assets multiplied by a base amount which is the current standard fee on dishonored payments should then give the bank the amount of the risk-based adjusted insurance cancellation fee. We simulate a banking book as shown in table 1.

Table 1.

ASSETS	1. Value-Rands	2.Risk-weight	3.RWA	4.% of insured RWA not	5.RBWA-3X4	RBWF 5
						x

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						base fee-10
Corporate	600 000	100%	600 000	1.4%	8400	84000
Retail Mortgage	440 000	40%	176 000	1.4%	2464	24640
Retail other loans	360 000	100%	360 000	1.4%	5040	50400
Property and equipment	50 000	100%	50 000	1.4%	700	7000
Other assets	50 000	100%	50 000	1.4%	700	7000
Totals	1500 000		1236 000	1.4%	17304	173040

In this way banks can generate a premium in fees than the current status quo. Since this can be instituted on a monthly basis taking into consideration the significance of deliberate non-existent insurance, the yearly fees become significant. We can further simulate the banking book in different ways by reducing high risk-weighted assets in favour of low risk-weighted assets but still show significant improved revenue collection as shown in table 2.

Table 2.

ASSETS	1. Value – RANDS- R	2.Riskweight	3.RWA	4.% of RWA not insured	5.RBWA- 3X4	RBWF 5 x base feeR10
Corporate	240 000	100%	240 000	1.4%	3360	33600
Retail Mortgage	800 000	40%	320 000	1.4%	4480	44800
Retail other loans	360 000	100%	360 000	1.4%	5040	50400
Property and equipment	50 000	100%	50 000	1.4%	700	7000
Other assets	50 000	100%	50 000	1.4%	700	7000
Totals	1500 000		1020 000		17304	147 280

We therefore derive the following compartmentalized asset models to get to the calculated risk-weight adjusted fees:

$$R_c = \frac{A_c \times Z_c \times W_c}{A_r \times Z_r \times W_r} \text{-----(1)}$$

$$R_r = \frac{A_r \times Z_r \times W_r}{A_c \times Z_c \times W_c} \text{-----(2)}$$

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$$R_o = \frac{A_o \times Z_o \times W_o}{A_p \times Z_p \times W_p} \text{-----(3)}$$

$$R_p = \frac{A_p \times Z_p \times W_p}{A_a \times Z_a \times W_a} \text{-----(4)}$$

$$R_a = \frac{A_a \times Z_a \times W_a}{A \times Z} \text{----- (5)}$$

R_c = risk-weighted fee on corporate loans

R_r = risk-weighted fee on retail mortgages

R_o = risk-weighted fee on other loans

R_p = risk-weighted fee on property and equipment

R_a = risk-weighted fee on other assets

A = risk-weighted assets

Z = % of A not insured W = base fee

Hence the total risk-weighted fees (R_t) are given by:

$$R_t = R_c + R_p + R_o + R_r + R_a \text{-----(6)}$$

4. Results

Taking the monthly total to be the average monthly fee for the year and based on the simulated figures, the yearly fees become very significant: Using equation 6 from our simulated banking book (table 1):

$$R_t = R_c + R_p + R_o + R_r + R_a \text{-----(6)}$$

It follows that the total fees $R_t = 84000 + 24640 + 50400 + 7000 + 7000$
 $= R173040$

Bearing in mind that the assets reflected are on a monthly basis, the total for the year is given by:
 $R173040 \times 12 = R2076480$.

This constitutes 11,67% on average for the risk-weighted assets for the year, assuming the total risk-weighted assets for the month stay the same.

As is the case in the banking sector whereby banks are moving towards low risk-weighted assets in order to lessen the amount of capital they need to set aside, it is reflected in table 2 that the retail mortgage assets have increased by 400 000, an increase of 91%. This is followed by a similar quantum move but in the reverse direction for the highly risk corporate assets dropping by 400 000, equating to a 67% drop.

However, using equation 6, the total monthly fees become:

$$\begin{aligned} R_t &= R_c + R_p + R_o + R_r + R_a \text{-----(6)} \\ &= 33600 + 44800 + 50400 + 7000 + 7000 \\ &= R142800 \end{aligned}$$

The yearly figure equates to R1713600, representing 14% of the total yearly risk-weighted assets, again assuming the monthly figures remain constant throughout the year. The combinations of risk-weighted assets can differ based on how a particular bank calculates its risk-weighted assets. This is a highly contested issue because it does not put banks on equal footing regarding the amount of capital they need to put aside. However, this issue is under discussion and could be topical in the next phase of Basel regulation. What remains evident though is the income generating ability presented by borrowers when they engage in acts of deliberately violating a precondition of having assets financed by banks insured during the tenure of the loans.

6. Conclusion

As long as insurance is not taken seriously by some borrowers, banks can intervene using this methodology. The income generating capability of banks remains appetizing. The reason behind this analogy is two-fold: the assumption that at any snap shot of the statement of affairs of a bank, there are customers whose insurance

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contracts have been deliberately cancelled and secondly, any given combination of risk-weighted assets that could exist could entail a commensurate combination of income based on monthly non-compliance to the terms and conditions of the loan as determined by the aspect of insurance. Our emphasis is on borrower instigated cancellation of insurance policy even as we note the culmination of surrender options embedded in some policies including life insurance products as clauses that allow policyholders to terminate the contracts early (De Giovanni, 2010).

As borrowers seek to avoid these charges, the upside is risk mitigation against deterioration in asset values. Surely banks cannot be complacent to allow for a bombshell to exist whereby their assets values are threatened by deliberate insurance cancellations. The risk that is allocated to risk-weighted assets should be completed decisively by incorporating the insurance component. Since this kind of risk cannot be priced in with certainty at loan origination, it can with certainty be adjusted upon detection.

Mostly, it is preconditioned that access to asset based finances should be accompanied by prior proof of insurance. Thereafter, the interest of banks seems to be dampened and even disappear immediately upon receiving that prior proof followed by the subsequent receipts of interest and capital payments. Most of the physical assets are financed in the medium to long-term and it becomes highly questionable when not much is done to appraise this fundamental requirement over the years. It then appears to be mere procedural for banks to tick the box and note the availability of insurance for loan approval purposes. What seems to matter thereafter is the flow of interest and capital quotas of the loan contracts. However, the assets can be devalued where insurance is non-existent without the possibility of restoring value. This could lead to asset values on the balance sheet reflecting a deviation from the true values. Even in the event of foreclosures, banks could recover lower values in an attempt to resell those assets. The same argument could be extended in the event of outright default. Repossessing those assets can result in banks realizing lower values than they could have if appraisal of the insurance contracts were carried out frequently. The risks posed to the banks are gargantuan.

Moreover, investor confidence could be dealt a big blow if this omission became public knowledge. Hence, the process of adjusting the levels on non-interest fees based on the risk-weight of the corresponding asset is an attempt to boost income and simultaneously curb the associated risk.

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