Eurasian Journal of Business and Management, 6(3), 2018, 53-60
DOI: 10.15604/ejbm.2018.06.03.006

EURASIAN JOURNAL OF BUSINESS AND MANAGEMENT

www.eurasianpublications.com

IFRS 9 IMPACT ON BANK LANDING POLICY AND STRUCTURAL RISK MANAGEMENT

Roberto Ercegovac
University of Split, Croatia
Email: roberto.ercegovac@efst.hr

Abstract

International Financial Reporting Standard 9 (IFRS 9) introduced new principles of classification and measurement of financial instruments, financial assets impairment management, and hedging accounting. In initial recognition and accounting classification of financial assets in amortized costs category, fair value through other comprehensive income, or fair value through profit or loss, IFRS 9 implemented new solely payments of principal and interest (SPPI) test and related benchmark test. Bank landing policy has to take in consideration the IFRS 9 principles of initial recognition of loan contract. In case that the loan contract has terms that give cash flows like solely payments of principal and interest, than the financial assets is consistent with the base landing agreement and can be measured by amortized costs. Otherwise, the loan has to be fair valued with influence on bank structural risk position. Bank landing policy has to be adjusted with banking book management to avoid structural risk hedging costs. If contractual cash flows are not solely payments of principal and interest it is necessary to make a business model test. Business lines in banking firm have to be introduced to IFRS 9 request in product supply definition that is in compliance with bank risk policy.

Keywords: IFRS9, Financial Assets, Fair Value, Lending Policy, Structural Risk

1. Introduction

International Financial Reporting Standard 9 (IFRS 9) has been developed by International Accounting Standard Board (IASB, 2014) to replace present International Accounting Standard 39 (IAS 39) in the context of classification and measurement of financial instruments, impairment, and hedge accounting principles. The major contribution of the new standard is elimination of "held to maturity" and "available for sale" category of financial assets, elimination of separation of imbedded derivative from base instrument, changes in financial liabilities fair measurement, and new approach in equity instrument classification and measurement. IFRS 9 introduced new measurement categories of financial instruments: financial assets measured at amortised costs, financial assets measured by fair value through other comprehensive income separately for debt and equity instruments, and financial assets measured by fair value through profit or loss (Beerbaum and Pieshocki, 2017). While the IFRS 9 impact on banking firm is most significant in impairment model implementation, regulatory capital level, internal credit risk model structure, and stress testing of capital buffers ratios, the impact on structural risk management and loan policy cannot be underestimated. Loans that belongs to banking book,

including the other receivables, investment in bonds that are not held for trading, and term deposits, are usually measured by amortised cost principle (Boumediene *et al.* 2014).

Financial assets measured at amortized cost under the IFRS 9 have to follow hold to collect (HTC) business model. HTC business model objective is to hold the financial assets to collect contractual cash flows rather than profit or loss from trading activities. Second condition of classification of financial assets under amortized cost valuation is that financial assets need to meet SPPI contractual cash flow test. If the banking firm offers the imbedded options or other additional conditions that disturb continuity of contractual cash flows from initial loan agreement, standard SPPI test and benchmark measurement has to be done. In case of negative result loans has to be measured by fair value that open the structural risk position what has to be managed. The paper will analysed the standard SPPI and benchmark testing models in a context of management structural risk of banking book.

2. Asset Classification Business Model

The business model definition is critical step in classification of financial assets (IFRS 9, 4.1). Business model determines the management of financial assets in a context of cash flow generation (Schleicher *et al.* 2010): collection of contractual cash flows, cash flow of selling the financial assets, or both. In case that financial assets is held with objective to collect cash flows until maturity date, holding to collect (HTC) contractual cash flow is implemented. An HTC financial asset is measured at amortised costs accounting principle. Standards do not isolate the HTC from selling opportunities in case of business objective with obligation in providing information about business reasons of previous sales that have to be matched with current selling decision (BDO, 2016). Holding to collect contractual cash lows and selling (HTCS) include the objective in collecting contractual cash flow from financial assets and selling in case of business needs of assets liabilities management. Financial assets under the HTCS business model is valuated through other comprehensive income. A financial asset that is not held with HTC or HTCS business models is fair value to profit and loss. A financial asset is usually part of the trading book of the bank, and is measured by mark to market or mark to model accounting principles. The management objective is to make cash flows through the sales of the assets. Models of the assets classification under the IFRS 9 can be explained by Figure 1.

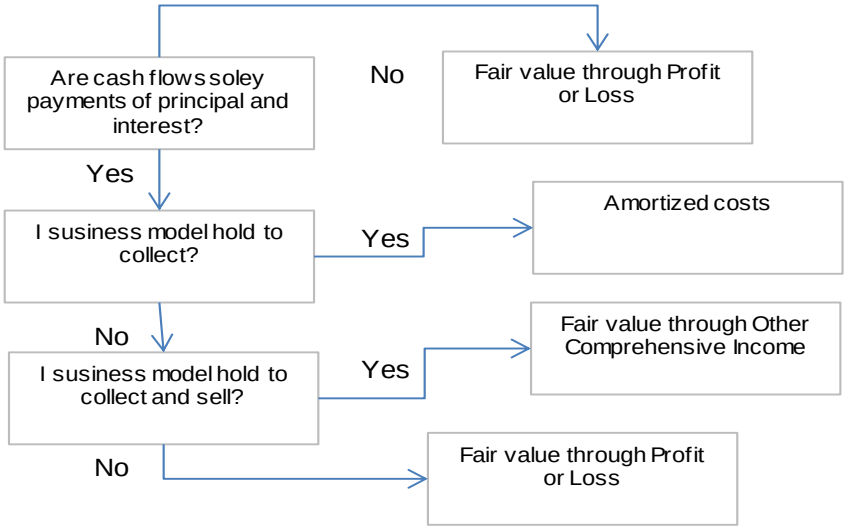

Figure 1. Models of assets classification
Source: Grand Thornton (2015)

Table 1 shows the structure of the European Union banks assets based on the model of assets classification.

Table 1. European banks assets structure as per 31.12.2016 (in billion EUR)

Assets Type	Amount	Ratio in total assets (%)
Assets held to collect	17,225.00	57.60%
Loans and receivables	16,886.30	56.50%
Hybrid instruments (host contracts)	38.50	0.10%
Other held to collect asset	338.70	1.10%
Assets at fair value other than derivatives	7,411.40	24.80%
Cash and cash balances at central banks	1,999.90	6.70%
Financial assets held for trading other than derivatives	2,024.80	6.80%
Financial assets designated at fair value through profit or loss	885.70	3.00%
Hold to collect and sale financial assets	2,501.10	8.40%
Equity instruments	108.60	0.40%
Derivatives	3,492.20	11.70%
Other assets	1,773.80	5.90%
TOTAL ASSETS	**29,902.40**	**100.00%**

Source: European Banking Authority (www.eba.org)

Loans and receivables measured at amortized costs make the major part of the assets of European Union banks. New international reporting standard ask for continuing SSPI testing of conditions of amortized costs accounting valuation model.

3. Sole payments of principal and interest test

.

Financial instruments with contractual cash flows make solely payments of principal and interest on the outstanding principal amount. IFRS 9 do not provide definition of principle inside the contractual cash flow collection. In general, principle is the value of the assets at initial recognition which can be changed under the repayment cash flow schedule. Interest is usual connected with basic lending agreement representing the time value of money, credit risk, liquidity risk, and other regulatory or business costs related with lending process. In some cases financial instruments can include contractual items which modify cash flows straightforward. In case that contractual cash flows are not solely payments of principal and interest it is necessary to make a business model test.

Base business model test includes contractual quantitative variable analysis, such as: purpose of financial investment, cash flow relations with equity financial instruments, collateral relations with cash flows volatility, interest rate conformity with market floating rates, interest rate variation with underlying variables, options related with reference rates, cross currency relations between interest and principles, interest rate reset conformity with interest rate term structure, interest rate relations with revenue structure, options for interest rate changes, interest rate relations with ownership structure, multicurrency options, interest and principle repayment method change opportunity, minimum income clause, conditional termination option existence, contractual termination extension opportunity, and other options under the standard loan condition. If quantitative test ask for business model change cash flow characteristic test should be applied. In case that test results exceeds defined threshold the financial assets reclassification is requested. There are different reclassification scenario shown in Table 2.

Table 2. Reclassification scenarios and accounting consequences

Original Category	New Category	Accounting Impact
Amortised Cost	FVPL	Fair value is measured at reclassification date. Difference from carrying amount should be recognised in profit or loss.
FVPL	Amortised Cost	Fair value at the reclassification date becomes its new gross carrying amount.
Amortised Cost	FVOCI	Fair value at the reclassification date. Difference from amortised cost should be recognised in OCI.
FVOCI	Amortised Cost	Fair value at the reclassification date becomes its new amortised cost carrying amount. Cumulative gain or loss in OCI is adjusted against the fair value of the financial asset at reclassification date.
FVPL	FVOCI	Fair value at reclassification date becomes its new carrying amount.
FVOCI	FVPL	Fair value at reclassification date becomes carrying amount. Cumulative gain or loss on OCI is reclassified to profit or loss at reclassification date.

Source: PWC (2014)

The exception can be done if benchmark test shows non material differences (de minimis condition) or if the occurrence of event of cash flow modification is extremely rare (non-genuine condition).

4. Structural risk management in banking firms and lending policy nexus: SPPI test model implementation

Responsible department for managing structural risk (Ercegovac, 2016) in standard banking firm is Assets and Liability Management (ALM). The banking book is accounting term that refers to assets (including liabilities) in balance sheet what is expected to be held to maturity. Main objective of the ALM Department is to adjust the interest rate sensitive assets (IR_Sensitive_A) and interest rate sensitive liability (IR_Sensitive_L) matched to the maturities to make the net interest income (NII = Interest Income – Interest Expenses) unchanged in case of market interest rates volatility (Basel Committee on Banking Supervision, 2016). Structural risk position to interest rate changes is shown in the Table 3.

Table 3. Interest rate sensitivity of net interest income

Interest Rate Sensitivity Structural Risk	*Interest rate change*	*Effect on NII*
IR_Sensitive_A = IR_Sensitive_L	Increase	Stable NII
IR_Sensitive_A = IR_Sensitive_L	Decrease	Stable NII
IR_Sensitive_A > IR_Sensitive_L	Increase	NII increase
IR_Sensitive_A > IR_Sensitive_L	Decrease	NII decrease
IR_Sensitive_A < IR_Sensitive_L	Increase	NII increase
IR_Sensitive_A < IR_Sensitive_L	Decrease	NII decrease

Income risk is characteristic for financial assets and liabilities booked at amortized costs. In case that balance sheet positions is booked by fair value accounting principles, the daily value of financial assets or liabilities is sensitive on market interest rate movements, based on the equation is following:

$$\Delta PV = -CF_{t_1}\, t_1\, e^{-rt_1}\, \Delta r - \; CF_{t_2}\, t_2\, e^{-rt_2}\, \Delta r - \cdots - CF_T\, t_T\, e^{-rT}\, \Delta r \qquad (1)$$

where is:
ΔPV – net present value changes on market interest rate movement, (Δr),

CF – cash flow of the financial from settlement to maturity date, (t, T).

In European banking practice loans are originated to hold until maturity to collect interest and related principal payment ("originate and collect"). Loans are booked at amortized cost principle and exposed to income risk inside the overall bank book open position (Ellul *et al.* 2014). Most loans are under the standard conditions and satisfy the SPPI criterion. In case of loans with specific features that do not meet the SPPI criterion they have to be measured at fair value through profit or loss (European Systemic Risk Board, 2017). In case that bank implemented fund transfer pricing model, client related departments can be penalized by cost of structural risk management (cost of hedging). Client related business is faced with trade off between:

- Funding costs of structural risk management, and,
- Budget realization where is included non standard product supply.

Even in the case of variable rate loans with mismatch of interest reset date and variable interest rate term structure SPPI test should be done. Under the standard condition variable cash flow in loan contract is function of forward interest rate (Ercegovac, 2011):

$$CF_{t_n} = DA_{t_n} + UA_{t_m}\, e^{rf_{m(t_n,t_m)}(t_n - t_m)} \tag{2}$$

where is:
CF_{tn} – cash flow at date t_n,
DA_{tn} – due principal at date,
UA_{tm} – undue principal at date,
$rf_m(t_n,t_m)$ – forward interest rate at date t_m, for period (t_n-t_m) where is $t_m < t_n$.

Forward interest rate is function of spot interest rates and can be described with the equation is following:

$$rf_{m(t_n,t_m)} = \frac{r_n\ t_n - r_m\ t_m}{(t_n - t_m)} \tag{3}$$

Because forward interest rate is a function of spot interest rate under the non arbitrage market condition, fair value of the financial instrument is not sensible on market interest rate changes:

$$\Delta PV/\Delta r \cong 0 \tag{4}$$

In case that forward rate term structure, $rf_{m(t_n,t_m)}$, is not equal with reset period, *(t_q, t_m)*, and $t_q \neq t_n$, than:

$$\Delta PV/\Delta r \neq 0 \tag{5}$$

When the time value of money is modified it is necessary to ensure that the contractual cash flows represent solely payments of principal and interest. Comparison between the undiscounted cash flows of the contractual instrument and the undiscounted cash flows of a standard benchmark instrument is required. Comparison of the cash flows must be performed taking into consideration reasonably realistic scenarios (IFRS9, B.4.1.9 D). Standard benchmark test ask for minimum test threshold between the fair value of standard financial instrument and modified financial instrument, what can be shown in the equation is following:

$$Max\left[\frac{\sum_t^T CF_S - \sum_t^T CF_M}{\sum_t^T CF_S}, t \in (T,t)\right] < TH \quad (6)$$

where is:
$\sum_t^T CF_S$ – sum of the undiscounted cash flows of standard benchmark instrument,
$\sum_t^T CF_M$ – sum of the undiscounted cash flows of modified instrument,
TH – defined reasonable threshold.

Modification of the time cash flows can be caused by the embedded option, or if the interest rate that is periodically reset, but, the frequency of that reset does not match the tenor of the interest rate, or the interest rate is periodically reset based on the average of the interest rates observed during a specified period of time (IFRS 9, B4.1.9 C).

Theoretical model can be implementing of empirical example. Assume that at 31.12.2005 Bank granted loan with notional amount of 10.000.000,00 EUR, with variable interest rate where is reference rate 6 month EURIBOR with reset and repay frequency of one month. Using equation 2, 3 and 6 benchmark test can be done with real historical market interest rates (back test), and with forward rate calculated by equation 3 at the testing date with results are shown in Figure 2.

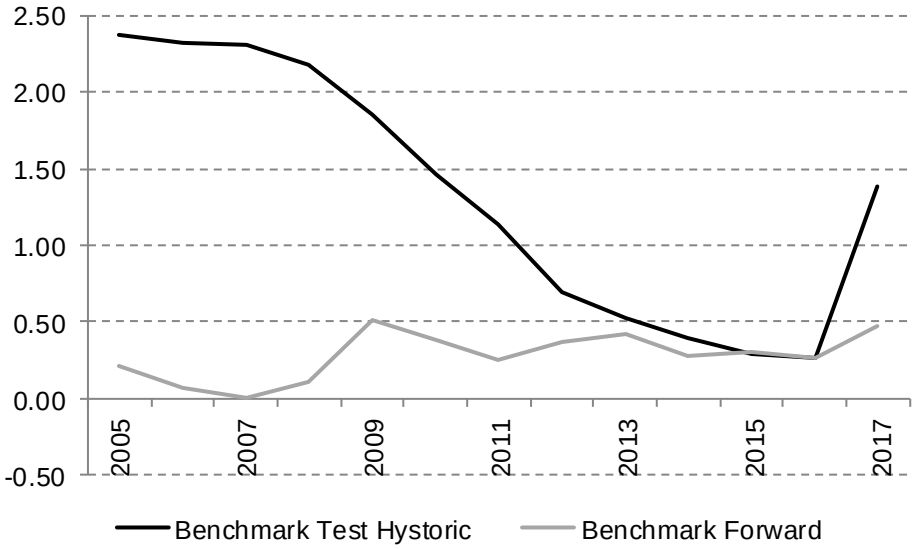

Figure 2. SPPI test result as per 31.12.2017 (%)
Source: Author calculation based on Bloomberg

In case that threshold amount is 5% difference of total notional amount, the results show positive SSPI test and reject loan reclassification to other assets category. The result is expected because of parallel shift of yield curves (see Figure 3).

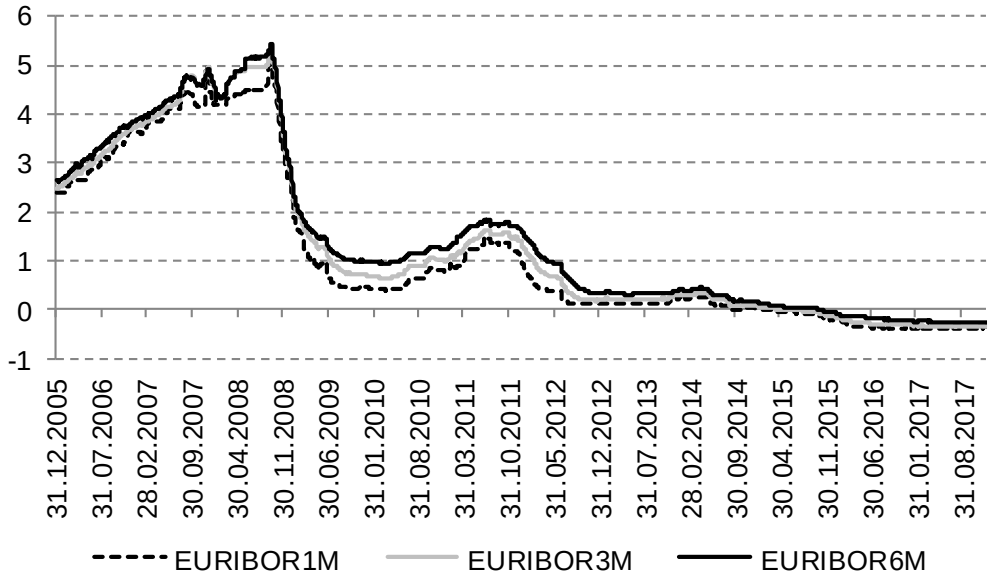

Figure 3. EURIBOR yield curve history: 1 month, 3 month, and 6 month time tenor (%)
Source: Bloomberg

5. Conclusion

European banking firms have implemented International Financial Reporting Standard 9 since January 2018. International Financial Reporting Standard 9 changed the principles of classification and measurement of financial assets. In order to be compliant with new financial reporting standards, banks changed the business model in managing of financial products and services in the context of risk management and the new accounting principles in measuring of fair value of financial assets.

International Financial Reporting Standard 9 introduced the SSPI test of the particular financial assets with non-standard contractual condition. The major impact is related with classification and measurement of bank loan assets. A financial asset that usually belongs to banking book is under the challenge of reclassification in measurement under the fair value. Initial recognition of bank assets and valuation methodologies will increase structural risk factor volatility and make new challenges to assets and liability management.

SSPI cash flow test requirements of client related loans will impact the bank landing policy. The standard test compares the effect of contractual clause in comparison with defined threshold. In case the contractual clause or embedded derivative exceed threshold value, the loan has to be reclassified to the financial assets measured by fair value with direct impact on asset and liability management and structural risk position.

Business units in supply of the financial products have to take into consideration the cost of structural risk management. Banks will reduce supply of loans with extraordinary clauses or embedded derivatives because of the impact on structural risk position in banking book. The introduction of IFRS 9 will reshape landing landscape for some products and can open the risks of increasing competition of the financial institutions out of restrictive regulatory framework.

References

Basel Committee on Banking Supervision, 2016. *Interest rate risk in the banking book* [online]. Available at: <https://www.bis.org/bcbs/publ/d319.pdf> [Accessed on 18 July 2018].

BDO, 2016. IFRS in Practice – IFRS Financial Instruments [online]. Available at: <https://www.bdo.global/getattachment/Services/Audit-Accounting/IFRS/IFRS-in-Practice/IFRS9_print.pdf.aspx?lang=en-GB> [Accessed on 18 July 2018].

Beerbaum, D. and Pieshocki, M., 2017. IFRS 9 for financial institutions - the case for IFRS and FinRep – Taxonomies: A conceptual gap analysis. *Journal of Accounting, Finance and Auditing Studies*, 3(1), pp. 80-90.

Boumediene, S.L., Nafti, O. and Boumediene, E., 2014. The impact of IFRS adoption during the 2008 financial crisis on the relationship between yield and accounting variables. *Accounting & Taxation*, 6, pp. 51-67.

Ellul, A., Jotikasthira, C., Lundblad, C. and Wang, Y., 2014. Mark-to-market accounting and systemic risk in the financial sector. *Economic Policy*, 29, pp. 299-341. https://doi.org/10.1111/1468-0327.12030

Ercegovac, R., 2011. Računovodstvo zaštite u funkciji upravljanja rizikom kamatnih stopa u bankama, [Hedging Accounting in the Function of Interest Rate Risk Management, in Banking]. Conference Proceedings of 12th International Scientific and Professional Conference - RIM, Zagreb-Split, pp. 28-28.

Ercegovac, R., 2016. *Teorija i praksa bankovnog menadmenta [Theory and practice of banking management].* Split: University of Split Faculty of Economics.

European Systemic Risk Board, 2017. Financial stability implication on IFRS 9, July, 2017.

Grand Thornton, 2015. Get Ready for IFRS 9. Classifying and measuring financial instruments. November, 2015.

International Accounting Standards Board (IASB), 2014. *International Financial Reporting Standard 9* (IFRS 9).

PWC, 2014. *IFRS 9 - Classification and measurement* [online]. Available at: <https://www.pwc.nl/nl/banken/assets/documents/in-depth-ifrs9-classification-measurement.pdf> [Accessed on 20 July 2018].

Schleicher, T., Tahoun, A. and Walker, M., 2010. IFRS adoption in Europe and investment-cash flow sensitivity: Outsider versus insider economies. *The International Journal of Accounting*, 45, pp. 143-168. https://doi.org/10.1016/j.intacc.2010.04.007