
**Banks' Accounting Policies and Monitoring Mechanisms:
The Case of Loan Loss Provisions in the European Union**

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Dedicated to my late father

Ioannis



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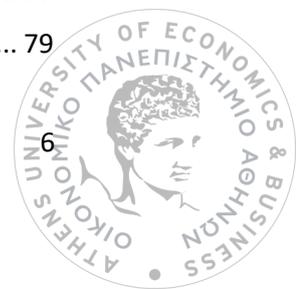
My parents, Ioannis and Despoina, provided me with their care, love and valuable principles that will accompany me in every moment of my life. They always supported my decisions and inspired me to excel in every aspect of my life. Thus, I would like to express my deep gratefulness given that this dissertation would have never been completed without their help.

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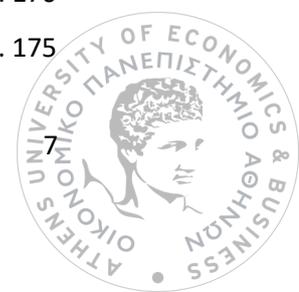


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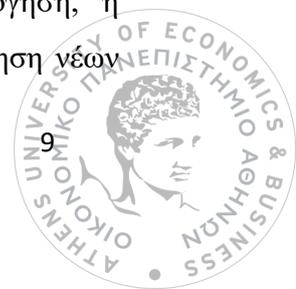


ΠΕΡΙΛΗΨΗ

Η χρηματοπιστωτική κρίση που ξεκίνησε το 2007 και συνεχίστηκε μέχρι το τέλος του 2008 έχει θεωρηθεί ως η πιο βαθιά κρίση μετά τη Μεγάλη Ύφεση της δεκαετίας του 1930. Η συγκεκριμένη κρίση, η οποία ξεκίνησε στις ΗΠΑ, είχε ως αποτέλεσμα την κατάρρευση μεγάλων τραπεζικών ιδρυμάτων όπως οι Bear Stearns, Lehman Brothers και Merrill Lynch. Ένα χρόνο αργότερα, η έκθεση πολλών ευρωπαϊκών τραπεζών στον κίνδυνο συγκεκριμένων κρατών μελών οδήγησε στην κρίση του ευρωπαϊκού χρέους. Ως αποτέλεσμα, πολλές τράπεζες στην Ελλάδα, την Πορτογαλία, την Ιρλανδία και την Ισπανία χρειάστηκαν κυβερνητική βοήθεια προκειμένου να ανακεφαλαιοποιηθούν.

Ο απόηχος της χρηματοπιστωτικής κρίσης βρήκε τραπεζίτες, πολιτικούς και ρυθμιστικές αρχές τόσο στις ΗΠΑ όσο και στην Ευρωπαϊκή Ένωση (εφεξής, Ε.Ε) να αναλύουν τα αίτια της κρίσης και να υιοθετούν μέτρα για να αποτρέψουν την επανάληψη μιας τέτοιας κρίσης. Η Ε.Ε είχε ήδη υιοθετήσει τη Συμφωνία της Βασιλείας II, με στόχο την ενίσχυση του κανονιστικού πλαισίου του Ευρωπαϊκού Χρηματοοικονομικού Τομέα και τη βελτίωση της διαφάνειας. Συγκεκριμένα, η Συμφωνία της Βασιλείας II αποτελείται από 3 Πυλώνες. Ο πρώτος πυλώνας αναθεωρεί το πλαίσιο για τις ελάχιστες κεφαλαιακές απαιτήσεις και καθιστά τα τραπεζικά κεφάλαια πιο ευαίσθητα στον κίνδυνο, δεδομένου ότι τα νέα πρότυπα απαιτούν πρόσθετο κεφάλαιο τόσο για τον κίνδυνο αγοράς όσο και το λειτουργικό κίνδυνο. Ο δεύτερος πυλώνας στοχεύει στην ενίσχυση της εποπτείας των τραπεζών καθορίζοντας μια σειρά αρχών που θα βελτιώσουν το έργο των τραπεζικών εποπτών. Τέλος, ο τρίτος πυλώνας σχετίζεται με την πειθαρχία από την αγορά και συμπληρώνει τις ρυθμίσεις των ελάχιστων κεφαλαιακών απαιτήσεων και της διαδικασίας εποπτικής αναθεώρησης. Αυτό επιτυγχάνεται με την υποχρέωση των τραπεζών να παρέχουν ένα σύνολο γνωστοποιήσεων που θα επιτρέψουν στους συμμετέχοντες της αγοράς να διακρίνουν τους τραπεζικούς κινδύνους και να λάβουν αναγκαίες πληροφορίες σχετικά με την κεφαλαιακή τους επάρκεια.

Εκτός από τη Συμφωνία της Βασιλείας II, Η Ευρωπαϊκή Επιτροπή ανακοίνωσε ότι θα εξετάσει τους κανόνες και τις πρακτικές εταιρικής διακυβέρνησης των χρηματοπιστωτικών ιδρυμάτων. Οι τραπεζικές αποτυχίες κατά τη διάρκεια της χρηματοπιστωτικής κρίσης προκάλεσαν σοβαρές ανησυχίες μεταξύ των ενδιαφερομένων μελών σχετικά με την αποτελεσματικότητα των συστημάτων εταιρικής διακυβέρνησης των τραπεζών. Μετά την αρχική αξιολόγηση, η Ευρωπαϊκή Επιτροπή θα προχωρούσε είτε στην έκδοση συστάσεων είτε στην υιοθέτηση νέων



ρυθμιστικών μέτρων, ώστε να εξαλειφθούν ενδεχόμενες αδυναμίες στο σύστημα εταιρικής διακυβέρνησης αυτού του τόσο βασικού τομέα της οικονομίας. Σε αυτό το πλαίσιο, η Ευρωπαϊκή Επιτροπή εξέδωσε την Πράσινη Βίβλο για την εταιρική διακυβέρνηση του τραπεζικού τομέα το 2010, σημειώνοντας πως *«αν και η εταιρική διακυβέρνηση δεν προκάλεσε άμεσα την κρίση, η έλλειψη αποτελεσματικών μηχανισμών ελέγχου συνέβαλε σημαντικά στην ανάληψη υπερβολικού κινδύνου από τα χρηματοοικονομικά ιδρύματα»*. Για να αντισταθμίσει τις αρνητικές επιπτώσεις από τις αδυναμίες των συστημάτων διακυβέρνησης, η Ευρωπαϊκή Επιτροπή πρότεινε: την αύξηση της ανεξαρτησίας και των δεξιοτήτων των μελών του διοικητικού συμβουλίου, την καθιέρωση ενός τυποποιημένου κώδικα διαχείρισης των μετόχων, την αύξηση των εθνικών εποπτικών πόρων και τη ρύθμιση των αποδοχών των στελεχών.

Η Ευρωπαϊκή Επιτροπή εξέδωσε και μια δεύτερη Πράσινη Βίβλο τον Απρίλιο του 2011 όπου περιλάμβανε συγκεκριμένες κατευθυντήριες γραμμές σχετικά με τις πολιτικές αποδοχών των επιχειρήσεων. Η Επιτροπή επισήμανε ότι η κρίση του 2008 έφερε στο φως μια αναντιστοιχία μεταξύ των εταιρικών επιδόσεων και των αποδοχών των εκτελεστικών διευθυντών. Επομένως, οι μη αποδοτικές πολιτικές αποδοχών ή / και οι δομές κινήτρων δύνανται να οδηγήσουν σε αδικαιολόγητες μεταβιβάσεις αξίας από τις εταιρείες και τους μετόχους τους προς τα στελέχη. Σε αυτό το πλαίσιο, η Ευρωπαϊκή Επιτροπή συνέστησε στις εταιρείες (συμπεριλαμβανομένων των τραπεζών) να γνωστοποιούν την πολιτική αμοιβών τους και τις ατομικές αμοιβές κάθε μέλους του διοικητικού συμβουλίου, συμπεριλαμβανομένου και του Διευθύνοντος Συμβούλου.

Παράλληλα, οι ευρωπαϊκές αρχές εστίασαν την προσοχή τους και στον κρίσιμο ρόλο των ελεγκτών. Αρκετά ενδιαφερόμενα μέρη είχαν ήδη δηλώσει ότι, παρόλο που σε πολλές τράπεζες δόθηκαν εκθέσεις ελέγχου με σύμφωνη γνώμη κατά την περίοδο της κρίσης, αναγνώρισαν τεράστιες απώλειες από τα εντός και εκτός ισολογισμού κονδύλια, γεγονός που υποδηλώνει ότι το υφιστάμενο νομοθετικό πλαίσιο ήταν ανεπαρκές για την προστασία των ενδιαφερομένων μερών στον τραπεζικό κλάδο (ανακοίνωση της Επιτροπής της 4ης Μαρτίου 2009). Ως αποτέλεσμα, τον Οκτώβριο του 2010, η Ευρωπαϊκή Επιτροπή εξέδωσε άλλη μία Πράσινη Βίβλο με σκοπό να αντιμετωπίσει τα πιθανά προβλήματα που σχετίζονται με τις πολιτικές ελέγχου και τον ρόλο των ελεγκτών. Η νέα Πράσινη Βίβλος για τον έλεγχο είχε σκοπό να ανοίξει μια συζήτηση σχετικά με τον ρόλο του ελεγκτή, τη διακυβέρνηση και την ανεξαρτησία των ελεγκτικών εταιρειών, την εποπτεία των ελεγκτών, τη ρύθμιση της αγοράς ελεγκτικών υπηρεσιών, τη δημιουργία μιας ενιαίας αγοράς για την παροχή ελεγκτικών υπηρεσιών, την απλούστευση των κανόνων για τις μικρές και μεσαίες επιχειρήσεις (ΜΜΕ) και τους

επαγγελματίες (SMPs) και τη διεθνή συνεργασία για την εποπτεία των παγκόσμιων δικτύων ελέγχου.

Εκτός από τις ανησυχίες σχετικά με το κανονιστικό πλαίσιο και το πλαίσιο διακυβέρνησης των τραπεζών, η οικονομική κρίση της περιόδου 2007-2008 προξένησε ερωτήματα σχετικά με την επίδραση των λογιστικών προτύπων στην προκυκλικότητα των τραπεζικών κεφαλαίων. Συγκεκριμένα, οι ρυθμιστικές αρχές υποστήριξαν ότι το μοντέλο της πραγματοποιηθείσας ζημιάς δανείου, το οποίο εισήχθη από το Διεθνές Λογιστικό Πρότυπο (εφεξής, ΔΛΠ) 39, ενισχύει τις προκυκλικές επιπτώσεις της ρύθμισης του τραπεζικού κεφαλαίου και, ως εκ τούτου, πρέπει να αλλάξει ώστε να επιτρέψει στις διοικήσεις των τραπεζών περισσότερη διακριτική ευχέρεια στην ενσωμάτωση μελλοντικών εκτιμήσεων κατά την αναγνώριση προβλέψεων για επισφαλή δάνεια.

Το Φόρουμ Χρηματοοικονομικής Σταθερότητας (εφεξής, το Φόρουμ) (2009) δήλωσε ότι κατά τη διάρκεια της οικονομικής ύφεσης *«ένα εξασθενημένο χρηματοπιστωτικό σύστημα δεν μπορεί να απορροφήσει περαιτέρω απώλειες χωρίς να προκαλέσει ενίσχυση της περικοπής»*. Το Φόρουμ αναγνωρίζει τις προβλέψεις για επισφαλή δάνεια ως μία από τις τρεις προτεραιότητες των πολιτικών δράσεων που προσδιορίζουν τις δυνάμεις θετικής ανατροφοδότησης μεταξύ του χρηματοοικονομικού και του πραγματικού τομέα. Ομοίως, το 2009, ο Αμερικάνος υπεύθυνος νομισματικής πολιτικής John C. Dugan υποστήριξε ότι ο περιορισμός των εκτιμήσεων κατά την εφαρμογή του τρέχοντος μοντέλου αναγνώρισης ζημιών, ήταν ένας θεμελιώδης περιορισμός που οδήγησε *«στην αποφασιστική αύξηση προκυκλικότητας από τις προβλέψεις για επισφαλή δάνεια, μεγεθύνοντας τον αντίκτυπο της οικονομικής ύφεσης»*.

Οι υποστηρικτές της άποψης ότι το υφιστάμενο μοντέλο προβλέψεων είναι προκυκλικό ισχυρίζονται πως όταν οι τράπεζες εισέρχονται σε περίοδο ύφεσης, η διοίκησή τους αναμένεται να μειώσει τον δανεισμό και να αυξήσει τις προβλέψεις για επισφαλή δάνεια. Σε αυτό το πλαίσιο, μια αύξηση των τραπεζικών προβλέψεων κατά τη διάρκεια μιας περιόδου ύφεσης θα μειώσει περαιτέρω το καθαρό περιθώριο τραπεζικού επιτοκίου και κατ' επέκταση το συνολικό κέρδος της τράπεζας, επιδεινώνοντας την κατάσταση των τραπεζών κατά τη διάρκεια της ύφεσης. Κατά συνέπεια, εάν η ύφεση παραταθεί, το τραπεζικό κεφάλαιο μπορεί να εξαλειφθεί εντελώς. Τα εμπειρικά ευρήματα υποστήριξαν αυτήν την άποψη, παρέχοντας αποδείξεις ότι οι προβλέψεις για επισφαλή δάνεια σχετίζονται αρνητικά με τον επιχειρηματικό κύκλο, καθότι οι τράπεζες καθυστερούν το χρονοδιάγραμμα των προβλέψεων για επισφαλή δάνεια έως ότου τεθούν σε περίοδο ύφεσης, ενισχύοντας την τρέχουσα κατάσταση της οικονομίας.

Από την άλλη πλευρά, οι Barth και Landsman (2010) υποστήριξαν ότι «ο βαθμός στον οποίο η πρόβλεψη για επισφαλή δάνεια είναι προκυκλική, φυσιολογικά ή τεχνητά, και παρέχει πληροφορίες εξαρτάται από τον τρόπο καθορισμού των προβλέψεων». Ειδικότερα, θεωρούν ότι το μοντέλο του ΔΛΠ 39 για την απομείωση δανείων δεν είναι τόσο προκυκλικό όσο άλλα μοντέλα αναγνώρισης ζημιών επειδή καθυστερεί την αναγνώριση ζημιών. Στην πραγματικότητα, αναφέρουν ότι «μπορεί να είναι προκυκλικό μόνο κατά τη διάρκεια της οικονομικής ύφεσης, διότι βάσει αυτού του μοντέλου τα δάνεια μόνο απομειώνονται και δεν παρέχεται δυνατότητα αύξησης της εύλογης αξίας τους».

Η συζήτηση για τις προκυκλικές επιπτώσεις του μοντέλου της πραγματοποιηθείσας ζημιάς του ΔΛΠ 39 ξεκίνησε μόνο λίγα χρόνια μετά την υιοθέτηση των Διεθνών Προτύπων Χρηματοοικονομικής Αναφοράς (εφεξής, ΔΠΧΑ) από την Ευρωπαϊκή Ένωση. Στην πραγματικότητα, η Ε.Ε υιοθέτησε τα ΔΠΧΑ για τη βελτίωση της ποιότητας των χρηματοοικονομικών αναφορών και τον περιορισμό της διακριτικής ευχέρειας της διοίκησης. Σύμφωνα με τις αρχικές προσδοκίες των ρυθμιστικών αρχών, τα ευρήματα των Leventis et al. (2011) και Gebhardt and Farkas (2011) παρείχαν ουσιαστικά στοιχεία ότι η υποχρεωτική υιοθέτηση των ΔΠΧΠ από τις ευρωπαϊκές εισηγμένες τράπεζες βελτίωσε την λογιστική ποιότητα περιορίζοντας τη διακριτική ευχέρεια των τραπεζών για χειραγώγηση των αποτελεσμάτων μέσω των προβλέψεων για επισφαλή δάνεια.

Σε αυτό το πλαίσιο, η διατριβή μου στοχεύει στην περαιτέρω διερεύνηση της συμπεριφοράς εξομάλυνσης των αποτελεσμάτων από τη διοίκηση τραπεζών μέσω των προβλέψεων για επισφαλή δάνεια. Συγκεκριμένα, εξετάζω εάν συγκεκριμένοι μηχανισμοί παρακολούθησης των τραπεζών επηρεάζουν τη λογιστική ευχέρεια της διοίκησης παρέχοντας αποδεικτικά στοιχεία στα ακόλουθα θέματα:

- Χρησιμοποιούν οι διοικήσεις των τραπεζών τις προβλέψεις για επισφαλή δάνεια για να εξομαλύνουν τα αποτελέσματα μετά την υιοθέτηση των ΔΠΧΑ και της Συμφωνίας της Βασιλείας II;
- Η πειθαρχία της αγοράς, όπως ασκείται από τους καταθέτες, ενθαρρύνει τις τραπεζικές διοικήσεις να εξομαλύνουν τα αποτελέσματα των τραπεζών τους;
- Παρακολουθούν αποτελεσματικά οι μηχανισμοί εταιρικής διακυβέρνησης τη λογιστική διακριτική ευχέρεια των διοικήσεων των τραπεζών;
- Η επίδραση της ποιότητας του ελέγχου στη συμπεριφορά εξομάλυνσης των αποτελεσμάτων των τραπεζών εξαρτάται από το επίπεδο κινδύνου των τραπεζών;

Το Κεφάλαιο 1 αναλύει τα θέματα που σχετίζονται με τη θεσμική ρύθμιση των χρηματοπιστωτικών ιδρυμάτων και ειδικά των τραπεζών. Αυτό το κεφάλαιο είναι σημαντικό για την κατανόηση του τραπεζικού περιβάλλοντος και την αλληλεπίδραση των ενδιαφερομένων μερών με τις τράπεζες. Πρώτον, συζητώ τη θεωρία για την ύπαρξη χρηματοπιστωτικών διαμεσολαβητών και παρουσιάζω τις υπηρεσίες που παρέχονται από τις τράπεζες. Δεύτερον, εξετάζω τη θεωρία σχετικά με το ρυθμιστικό πλαίσιο και συζητώ τα κύρια επιχειρήματα για την επιβολή περιορισμών στον τραπεζικό κλάδο. Τρίτον, συζητώ τα ζητήματα που σχετίζονται με το δίκτυ ασφαλείας και την αναγκαιότητα ενός συστήματος ασφάλισης καταθέσεων. Τέταρτον, εξετάζω τα θεωρητικά επιχειρήματα σχετικά με τις ελάχιστες κεφαλαιακές απαιτήσεις και παρουσιάζω το κανονιστικό πλαίσιο της Βασιλείας I και της Βασιλείας II. Επιπλέον, παρουσιάζω άλλους ρυθμιστικούς μηχανισμούς που συνυπάρχουν με τις ελάχιστες κεφαλαιακές απαιτήσεις και στοχεύουν στον περιορισμό των κινήτρων υπερβολικού ρίσκου των τραπεζών. Πέμπτον, εξετάζω τη σχετική νομοθεσία για την Ε.Ε που αντιμετωπίζει όλα τα ζητήματα που σχετίζονται με τη θεσμική ρύθμιση των τραπεζών. Τέλος, παρουσιάζω το δείγμα που χρησιμοποιείται για τον ερευνητικό σχεδιασμό που παρουσιάζεται στα κεφάλαια 2-4.

Το Κεφάλαιο 2 ασχολείται με τα ζητήματα που προκύπτουν από τον αντίκτυπο της πειθαρχίας από την αγορά στις αποφάσεις λογιστικής πολιτικής των τραπεζών. Οι Barth και Landsman (2010) υποστήριξαν ότι το μοντέλο αναγνώρισης προβλέψεων του ΔΛΠ 39 μπορεί να μειώσει την αποτελεσματικότητα της πειθαρχίας της αγοράς. Ειδικότερα, προτείνουν ότι οι αγορές δεν μπορούν να λάβουν έγκαιρες πληροφορίες σχετικά με την αξία των τραπεζικών περιουσιακών στοιχείων, επειδή το μοντέλο που εισήγαγε το ΔΛΠ 39 οδηγεί στην καθυστερημένη και ασύμμετρη αναγνώριση των ζημιών. Ο τρίτος πυλώνας της Συμφωνίας της Βασιλείας II έδωσε έναν επίσημο ρόλο στην πειθαρχία της αγοράς ως ρυθμιστικός μηχανισμός μιας τράπεζας. Στην πραγματικότητα, η συμφωνία της Βασιλείας απαιτεί από τις τράπεζες να παρέχουν μια σειρά γνωστοποιήσεων που θα διευκολύνουν τους συμμετέχοντες στην αγορά να ασκήσουν πειθαρχία. Παρόλο που οι λογιστικές πληροφορίες στοχεύουν στη βελτίωση της διαδικασίας λήψης αποφάσεων των ενδιαφερομένων μερών, η πειθαρχία από την αγορά μπορεί να επηρεάσει τις λογιστικές αποφάσεις των διοικήσεων των τραπεζών και κατά συνέπεια τη λογιστική ποιότητα. Ως εκ τούτου, οι αντιδράσεις των καταθετών μπορεί να προκαλέσουν είτε την παρέμβαση εποπτών είτε την πίεση ρευστότητας προς μία τράπεζα. Επομένως, οι διοικήσεις των τραπεζών μπορούν να χρησιμοποιούν τις προβλέψεις για επισφαλή δάνεια για να καλύψουν τα κίνητρα ανάληψης υπερβολικού κινδύνου και να προσαρμόσουν τα κέρδη και τους ρυθμούς κεφαλαίων.

Αυτό το κεφάλαιο περιγράφει τα κίνητρα των τραπεζικών διοικήσεων για την εξομάλυνση των αποτελεσμάτων τους μέσω των προβλέψεων για επισφαλή δάνεια όπως επίσης και τη λογιστική τους αντιμετώπιση. Επιπλέον, εξετάζω την προηγούμενη βιβλιογραφία σχετικά με την πειθαρχία της αγοράς και παρουσιάζω ένα θεωρητικό πλαίσιο σχετικά με τον αντίκτυπο της αντίδρασης του καταθέτη στις αποφάσεις λογιστικής πολιτικής της διοίκησης. Επιπλέον, παρουσιάζω το εμπειρικό μου μοντέλο και εξετάζω παρόμοια μοντέλα που έχουν χρησιμοποιηθεί σε προηγούμενες μελέτες για την εξέταση της εξομάλυνσης των αποτελεσμάτων μέσω των προβλέψεων για επισφαλή δάνεια.

Τα ευρήματά μου παρέχουν αποδείξεις ότι η ζήτηση για υψηλότερα επιτόκια καταθέσεων περιορίζει τη λογιστική ευχέρεια της διοίκησης. Αντιθέτως, η απόσυρση καταθέσεων δεν φαίνεται να επηρεάζει τις λογιστικές αποφάσεις. Επιπλέον, διερευνώ εάν η συστημική σημαντικότητα και η κεφαλαιακή επάρκεια μίας τράπεζας επηρεάζουν την αλληλεπίδραση μεταξύ της αντίδρασης των καταθετών και των πρακτικών εξομάλυνσης των αποτελεσμάτων από τη διοίκηση. Οι παρατηρούμενες συσχετίσεις φαίνεται να εξαρτώνται από τη συστημική σημαντικότητα των τραπεζών και το επίπεδο της κεφαλαιακής τους επάρκειας.

Το Κεφάλαιο 3 πραγματεύεται θέματα που σχετίζονται με την εταιρική διακυβέρνηση των τραπεζών. Μετά την οικονομική κρίση, η ΕΕ αποφάνθηκε ότι τα συστήματα εταιρικής διακυβέρνησης των τραπεζών είχαν σημαντικές αδυναμίες. Στο πλαίσιο αυτό, η Ευρωπαϊκή Επιτροπή διατύπωσε μια σειρά συστάσεων για την εξάλειψη των ουσιωδών αδυναμιών στα συστήματα διακυβέρνησης των τραπεζών. Συγκεκριμένα, η Ευρωπαϊκή Επιτροπή έκανε μια σειρά συστάσεων για την εξάλειψη κάθε ουσιώδους αδυναμίας στα συστήματα διακυβέρνησης των τραπεζών και ξεκίνησε μια ανοιχτή συζήτηση για τη βελτίωση διαφόρων μηχανισμών διακυβέρνησης, όπως: κρίσιμες αλλαγές για το διοικητικό συμβούλιο, τα δικαιώματα των μετόχων, η αποκάλυψη των αμοιβών των διευθυντών, οι ευθύνες και τα καθήκοντα των εξωτερικών ελεγκτών και ο ρόλος των εποπτικών αρχών.

Η προηγούμενη βιβλιογραφία υποστηρίζει ότι η αποτελεσματικότητα των μηχανισμών εταιρικής διακυβέρνησης επηρεάζει τα κίνητρα των διευθυντικών στελεχών για εμπλοκή σε χειραγωγούμενες λογιστικές πολιτικές (Brown et al., 2011). Στην περίπτωση των τραπεζών, τα προβλήματα διακυβέρνησης ενδέχεται να γίνουν πιο περίπλοκα λόγω του ηθικού κινδύνου που απορρέει από την ασφάλιση καταθέσεων και την ασύμμετρη πληροφόρηση των περιουσιακών στοιχείων των τραπεζών. Σε αυτό το πλαίσιο, εξετάζω εάν συγκεκριμένοι μηχανισμοί εταιρικής διακυβέρνησης που περιλαμβάνονται στις προτάσεις της Ευρωπαϊκής Επιτροπής σχετικά με τη

βελτίωση των μηχανισμών εταιρικής διακυβέρνησης επηρεάζουν τις αποφάσεις λογιστικής πολιτικής των τραπεζών. Συγκεκριμένα, εξετάζω εάν η δομή του διοικητικού συμβουλίου και η αποκάλυψη των αμοιβών του Διευθύνοντος Συμβούλου σχετίζονται με το επίπεδο των προβλέψεων για επισφαλή δάνεια. Επιπλέον, εξετάζω εάν η κεφαλαιακή δομή των τραπεζών λειτουργεί ως αποτελεσματική πρακτική εσωτερικής εταιρικής διακυβέρνησης.

Τα ευρήματά μου υποδηλώνουν ότι οι τράπεζες της ΕΕ χρησιμοποιούν τις προβλέψεις για επισφαλή δάνεια για να εξομαλύνουν τα αποτελέσματά τους. Η συμπεριφορά εξομάλυνσης των αποτελεσμάτων τους φαίνεται να διαφέρει ανάλογα με τη δομή του διοικητικού συμβουλίου και το επίπεδο μόχλευσης. Επιπλέον, ο τρόπος εξομάλυνσης των αποτελεσμάτων των τραπεζών διαφέρει μεταξύ των τραπεζών που αποκαλύπτουν τις αμοιβές του Διευθύνοντα Συμβούλου τους και των τραπεζών που δεν παρέχουν τέτοιες πληροφορίες.

Το Κεφάλαιο 4 διερευνά τον αντίκτυπο της ποιότητας του ελέγχου στη συμπεριφορά εξομάλυνσης του εισοδήματος των τραπεζών. Οι ελεγκτές αποτελούσαν ένα από τα εργαλεία διακυβέρνησης που τράβηξαν την προσοχή των ευρωπαϊκών αρχών λόγω μιας σειράς αποτυχιών σε τράπεζες για τις οποίες οι ελεγκτές είχαν δώσει ανεπιφύλακτη γνώμη.

Η προηγούμενη βιβλιογραφία εξέτασε την επίδραση των διαφόρων χαρακτηριστικών ποιότητας ελέγχου στις επιλογές λογιστικής πολιτικής των εταιρειών. Στην περίπτωση των τραπεζών, λίγες μόνο μελέτες έχουν εξετάσει τον αντίκτυπο που έχει η ανεξαρτησία του ελεγκτή και η ποιότητα του ελέγχου στις οικονομικές καταστάσεις που καταρτίζονται από χρηματοπιστωτικά ιδρύματα. Σε αυτό το πλαίσιο, διερευνώ κατά πόσο συγκεκριμένες διαστάσεις ποιότητας ελέγχου επηρεάζουν τη συμπεριφορά εξομάλυνσης του εισοδήματος των τραπεζών της Ευρωπαϊκής Ένωσης και αν τα χαρακτηριστικά των επιχειρήσεων επηρεάζουν αυτές τις διαστάσεις. Συγκεκριμένα, εξετάζω εάν η ανεξαρτησία των ελεγκτών επηρεάζει την απόφαση των διοικήσεων των τραπεζών να εξομαλύνουν τα αποτελέσματα και αν αυτό το χαρακτηριστικό εξαρτάται από τον τραπεζικό κίνδυνο και τη συστημική σημαντικότητα. Ομοίως με άλλες μελέτες, χρησιμοποιώ την εξειδίκευση των ελεγκτών σε ένα κλάδο και τη θητεία των ελεγκτών ως μεταβλητές προσδιορισμού της ανεξαρτησίας των ελεγκτών.

Παρέχω στοιχεία ότι η εξειδίκευση των ελεγκτών σε έναν κλάδο περιορίζει τη λογιστική ευχέρεια της διοίκησης των τραπεζών υψηλού κινδύνου σε μεγαλύτερο βαθμό σε σχέση με τις τράπεζες χαμηλού κινδύνου. Αντιθέτως, τα ίδια αποτελέσματα υποδηλώνουν ότι οι τράπεζες που διατηρούν τον ίδιο ελεγκτή για μια συνεχόμενη οικονομική χρήση είναι πιο πιθανό να εμπλακούν με την εξομάλυνση των αποτελεσμάτων μέσω των προβλέψεων για επισφαλή

δάνεια. Επιπλέον, εξετάζω εάν οι διαστάσεις της ποιότητας του ελέγχου έχουν διαφορετικά αποτελέσματα στις αποφάσεις εξομάλυνσης του εισοδήματος μεταξύ παγκοσμίως συστημικά σημαντικών τραπεζών και των υπόλοιπων τραπεζών. Τα αποτελέσματά μου παρέχουν σημαντικές ενδείξεις ότι ο αντίκτυπος της εξειδίκευσης του κλάδου και της θητείας των ελεγκτών στις αποφάσεις λογιστικής πολιτικής των τραπεζών της Ε.Ε διαφέρει μεταξύ παγκοσμίως συστημικά σημαντικών τραπεζών και των λοιπών τραπεζών.

Πιστεύω ότι η έρευνά μου έχει σημαντικές επιπτώσεις για τους υπεύθυνους λογιστικών προτύπων, τις ρυθμιστικές αρχές, τους πολιτικούς και τους ελεγκτές. Το Συμβούλιο Διεθνών Λογιστικών Προτύπων (εφεξής, ΣΔΛΠ) αποφάσισε να αντικαταστήσει το μοντέλο του ΔΛΠ 39 για την πραγματοποιηθείσα ζημιά δανείου με το μοντέλο προβλέψεων αναμενόμενων πιστωτικών ζημιών του ΔΠΧΑ 9. Το νέο μοντέλο δεν καθορίζει συγκεκριμένη μεθοδολογία μέτρησης για την εκτίμηση των προβλέψεων για επισφαλή δάνεια, αλλά επιτρέπει την ενσωμάτωση των εκτιμήσεων τη διοίκησης σε σημαντικό βαθμό κατά τον καθορισμό των εκτιμήσεων των προβλέψεων για επισφαλή δάνεια. Συνεπώς, η παρεχόμενη ευχέρεια επιτρέπει στις τράπεζες να ανταποκρίνονται στις ανάγκες των ρυθμιστικών αρχών / εποπτικών αρχών μέσω λογιστικών προσαρμογών. Σε αυτό το πλαίσιο, τα ευρήματά μου υποδηλώνουν ότι η συμπεριφορά εξομάλυνσης των τραπεζικών αποτελεσμάτων δεν καθορίζεται μόνο από το μοντέλο πρόβλεψης επισφαλών δανείων, αλλά και από μια σειρά παραγόντων που σχετίζονται με το ευρύ λειτουργικό περιβάλλον του τραπεζικού τομέα.

Οι ρυθμιστικές αρχές και οι πολιτικοί υιοθέτησαν τη Συμφωνία της Βασιλείας II ώστε να βελτιώσουν την παρακολούθηση και τη διαφάνεια των τραπεζών. Ειδικότερα, η νέα Συμφωνία ενισχύει το προηγούμενο πλαίσιο για κεφαλαιακές απαιτήσεις και δίνει ειδικό ρόλο στην πειθαρχία της αγοράς ως συμπληρωματικό μηχανισμό παρακολούθησης των τραπεζών. Η έρευνά μου αποδεικνύει ότι οι μηχανισμοί πειθαρχίας από την αγορά μπορούν να επηρεάσουν τις διοικήσεις των τραπεζών ώστε να χρησιμοποιούν λογιστικά κονδύλια και να προσαρμόζουν τα αποτελέσματα ως απάντηση στις ανησυχίες των καταθετών. Επιπλέον, τα αποτελέσματά μου υποδηλώνουν ότι η συστημική σημαντικότητα και η κεφαλαιακή επάρκεια των τραπεζών μεταβάλλουν τα κίνητρα της διοίκησης για εξομάλυνση του αποτελέσματος. Στο πλαίσιο αυτό, οι ρυθμιστικές αρχές μπορεί να ενθαρρυνθούν ώστε να εμπλουτίσουν και να ενισχύσουν τις κανονιστικές απαιτήσεις σχετικά με την πειθαρχία της αγοράς.

Με τη σειρά τους, οι πολιτικοί ενδιαφέρονται για τη βελτίωση των μηχανισμών εταιρικής διακυβέρνησης. Οι ευρωπαϊκές αρχές εξέδωσαν συγκεκριμένη πρόταση για μια σειρά

μηχανισμών διακυβέρνησης. Αυτή η έρευνα παρέχει ευρήματα ότι τα προβλήματα του «ελεύθερου-αναβάτη» που κυριαρχούν στα μεγάλα διοικητικά συμβούλια μπορεί να επηρεάσουν την λογιστική ποιότητα των τραπεζών. Επιπλέον, οι γνωστοποιήσεις και η μόχλευση των τραπεζών φαίνεται να ενθαρρύνουν τα λογιστικά κίνητρα των διοικήσεων. Σε αυτό το πλαίσιο, ενδέχεται να εξετάσουν περαιτέρω τις κατευθυντήριες γραμμές διακυβέρνησης σχετικά με την επιλογή της δομής του διοικητικού συμβουλίου και τη γνωστοποίηση των αμοιβών των τραπεζών.

Τέλος, οι ελεγκτές διαδραματίζουν σημαντικό ρόλο στη λογιστική ποιότητα και διαφάνεια των τραπεζών. Τα αποτελέσματά μου υποδηλώνουν ότι η ανεξαρτησία των ελεγκτών μπορεί να επηρεάζεται από τον ατομικό κίνδυνο των τραπεζών. Στην πραγματικότητα, τα πρότυπα εξομάλυνσης των αποτελεσμάτων φαίνεται να διαφέρουν μεταξύ τραπεζών διαφορετικού επιπέδου κινδύνου. Επομένως, οι ελεγκτές πρέπει να εφαρμόσουν πιο αναλυτικές και βαθιές μεθοδολογίες για τον προσδιορισμό του κινδύνου των τραπεζών. Επιπλέον, οι υπεύθυνοι χάραξης πολιτικής μπορούν να επανεξετάσουν τη σχετική νομοθεσία για υποχρεωτική εναλλαγή ελεγκτών αλλά και για αλληλεπικαλυπτόμενους ελέγχους.

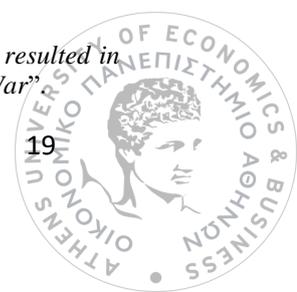
General Introduction

The financial crisis that began in 2007 and continued through the end of 2008 has been considered the most disruptive crisis since the Great Depression of the 1930s¹. The crisis was originated in the US and resulted in the collapse of high profile institutions such as Bear Stearns, Lehman Brothers and Merrill Lynch. One year later, the exposure of many European banks to the sovereign risk of specific Member States started the European debt crisis. As a result, many banks in Greece, Portugal, Ireland and Spain needed governmental assistance in order to be recapitalized.

The aftermath of the financial crisis found bankers, policy-makers and regulators both in the USA and the European Union (hereinafter, EU) analyzing the causes of the crisis and adopting measures in order to prevent the repeat of such a crisis. The EU had already adopted the Basel Accord II, aiming to enhance the regulatory framework of the European Financial Sector and improve transparency. In particular, the new Accord consists of 3 Pillars. The first pillar updates existing minimum capital requirements and makes bank capital more risk-sensitive, given that the new standards require additional capital for market and operational risk. The second pillar aims to enhance banking supervision by determining a series of principles that will improve supervisory process. Finally, the third pillar is related with market discipline and aims to complement the minimum capital requirements and supervisory review process by developing a set of disclosure requirements which will allow the market participants to discern bank risks and obtain adequate information about their capital adequacy.

The European Commission announced that it would examine corporate governance rules and practices within financial institutions as well. The banking failures during the financial crisis raised serious concerns among banks' stakeholders regarding the effectiveness of banks corporate governance systems. After the initial assessment, the European Commission would make recommendations, or even propose regulatory measures, in order to eliminate any weaknesses in the corporate governance system of this key sector for the economy. Within this context, the European Commission issued a Green Paper on banking sector's corporate governance in 2010 and noted that "*although corporate governance did not directly cause the*

¹ For instance, Barth and Landsman (2010) mention that "*The near collapse of the financial sector has resulted in the greatest economic contraction that the US and Europe have seen since the end of the Second World War*"



crisis, the lack of effective control mechanisms contributed significantly to excessive risk – taking on the part of financial institutions”. To offset the negative ramifications of weak governance systems, the European Commission proposed: the increase of independence and skills among board members, the establishment of a standardized shareholder stewardship code, the increase of national supervisory resources and the regulation of the executives’ remuneration.

The European Commission issued a second Green Paper in April 2011 where included specific guidelines about firms’ remuneration policies. The Commission outlined that the crisis of 2008 brought into light a mismatch between performance and executive directors’ remuneration. Therefore, poor remuneration policies and/or incentive structures may lead to unjustified transfers of value from companies and their shareholders to executives. Within this context, the European Commission recommended that firms (included banks) should disclose their remuneration policy and the individual remuneration of each member of the board including the CEO.

The critical role of auditors attracted the attention of the European authorities as well. Several stakeholders had already indicated that although numerous banks were given clean audit reports during the crisis period, they recognized huge losses from on and off-balance sheet figures, implying that the existent legislative framework was inadequate for protecting bank’s stakeholders (Commission Communication of 4 March 2009). As a result, in October 2010, the European Commission issued another Green Paper in order to address potential problems that were related with audit policies and the role of auditors. The new Green Paper on auditing aimed to open a debate on the role of the auditor, the governance and the independence of audit firms, the supervision of auditors, the configuration of the audit market, the creation of a single market for the provision of audit services, the simplification of rules for Small and Medium Sized Enterprises (hereinafter, SMEs) and Practitioners (hereinafter, SMPs) and the international co-operation for the supervision of global audit networks.

In addition to the concerns regarding banks’ regulatory and governance framework, the financial crisis of 2007-2008 raised questions regarding the impact of accounting standards on banks’ capital pro-cyclicality. In particular, policy-makers argued that the incurred loan loss model, which was introduced by the International Accounting Standard (hereinafter, IAS) 39, reinforces pro-cyclical effects of bank capital regulation and should therefore be changed to allow bank

managers more discretion and incorporate forward-looking judgments into loan loss provisions (hereinafter, LLPs)²³.

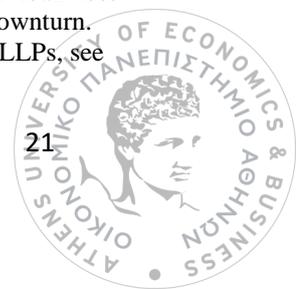
The Financial Stability Forum (hereinafter, FSF) (2009) states that during economic downturns *“a weakened financial system cannot absorb further losses without causing amplifying retrenchment.”* The FSF identifies loan loss provisioning as one of three policy action priorities addressing the driving forces of positive feedback between the financial and real sectors. Similarly, in 2009, the US Comptroller of the Currency John C. Dugan argues that the limitation on judgment in applying the current *“incurred loss model,”* was a fundamental constraint leading *“loan loss provisioning to become decidedly pro-cyclical, magnifying the impact of the economic downturn.”*

The arguments of regulators suggested that when banks enter a recessionary period, management is expected to decrease lending and increase LLPs. Within this context, an increase in bank provisioning during recessionary periods will further reduce bank net interest margin and decrease bank overall profit and worsen the state of banks during the recession (Bikker and Hu, 2002; Laeven and Majnoni, 2003; Bikker and Metzmakers, 2005; Bouvatier and Lepetit, 2008). If the recession is prolonged, bank capital can be completely wiped out. Empirical findings supported this perspective, implying that LLPs are negatively related with the business cycle (Borio et al., 2001) and banks delay the timing of LLPs until recessionary periods set in, reinforcing the current state of the economy (Beatty and Liao, 2011).

On the other hand, Barth and Landsman (2010) argued that the *“extent to which loan loss provisioning is pro-cyclical, natural or amplified, and provides information depends on how provisions are determined”*. They argue that the IAS 39 loan loss model is not as pro-cyclical as other loss models because it delays loss recognition. In fact, they mention that *“it can only be pro-cyclical during economic downturns because under this model loans are only written down, not up”*.

² U.S. GAAP and IFRS utilize an incurred loss model where loan losses are recognized only after loss events have occurred prior to the reporting date that are likely to result in future non-payment of loans. This accounting does not generally allow for consideration of future expected losses based on trends suggestive of additional future losses. Pro-cyclicality refers to the exaggeration of cyclical tendencies in aggregate economic activity that amplifies business cycle fluctuations. When loan loss reserves cannot absorb recessionary credit losses, greater loan loss recognition reduces capital adequacy, potentially causing banks to reduce lending and so exacerbate the downturn.

³ For an analysis of the different perspectives of regulators and accounting standard setters with regard to LLPs, see Wall and Koch (2000).



The debate for the pro-cyclical effects of the IAS 39 loan loss model started only a few years after the adoption of the International Financial Reporting Standards (hereinafter, IFRS) by the European Union⁴. In fact, the EU adopted the IFRS in order to improve financial reporting quality and limit managerial discretion. In line with policy makers' initial expectations, the findings of Leventis et al. (2011) and Gebhardt and Farkas (2011) provided substantial evidence that the mandatory adoption of the IFRS from the European listed banks improved accounting quality by limiting banks' managerial discretion through LLPs.

Within this context, my thesis aims to further investigate bank managers' income smoothing behavior through LLPs⁵. In particular, I examine whether specific banks' monitoring mechanisms determine managerial accounting discretion by providing supporting evidence to the following matters:

- Do bank managers use LLPs to smooth income after the adoption of IFRS and Basel Accord II?
- Does market discipline, as exerted by depositors, encourage managers to smooth income?
- Do corporate governance mechanisms monitor managers' accounting discretion efficiently?
- Is the impact of audit quality upon banks' income smoothing behavior conditioned upon banks' level of risk?

Chapter 1 discusses the issues that are related with the institutional setting of financial institutions and specially banks. This chapter is important for the understanding of banking environment and the interaction of banks' stakeholders. First, I discuss the theory for the existence of financial intermediaries and I present the services provided by banks. Second, I review the theory over the regulation and discuss the main arguments for the imposition of regulation on the banking industry. Third, I discuss the issues that are related with the safety net

⁴ The adoption of the IFRS was mandatory for all listed companies of the EU since the 1/1/2005.

⁵ Ozili and Outa (2018) review related literature with LLPs and summarize the reasons that make LLPs the most significant bank accrual. First bank recognize sufficient LLPs in order to offset credit risk that is inherent to their large portfolio of loans. Second, LLPs are often pro-cyclical and could worsen an existing recession if unanticipated. Third, LLPs comprise a significant accrual and bank managers have significant discretion in the determination of LLP estimates and such discretion can be exploited to meet opportunistic financial reporting objectives rather than solely for credit risk purposes. Fourth, LLP estimate is a crucial micro-prudential surveillance tool that bank supervisors use to assess the quality of banks' loan portfolio. Fifth, LLPs also comprise a crucial indicator of the informativeness of bank accruals from an accounting standard-setting perspective.

and the necessity for a deposit insurance scheme. Fourth, I review the theoretical arguments over minimum capital requirements and I present the regulatory framework of Basel I and Basel II. In addition, I present other regulatory mechanisms that co-exist with minimum capital requirements and aim to limit banks' excessive-risk taking incentives. Fifth, I review the related legislation for the EU that addresses all the issues that are related with institutional setting of banks. Finally, I present the sample that is used for the research design that is presented in chapters 2-4.

Chapter 2 deals with the issues that arise from the impact of market discipline (hereinafter, MD) on banks' accounting policy decisions. Barth and Landsman (2010) argued that the incurred loan loss model can reduce the effectiveness of market discipline. In particular, they suggest that markets cannot obtain timely information regarding the value of bank assets because the model introduced by IAS 39 lead to the delayed and asymmetric recognition of losses. The 3rd Pillar of the Basel Accord II gave a formal role to market discipline as a bank's regulatory mechanism. In fact, the Basel Accord requires banks to provide a series of disclosures that will facilitate market participants to exert discipline. Although accounting information aims to improve the decision-making process of firms' stakeholders, market discipline may influence the accounting decision of bank managers and consequently accounting quality (Bushman and Williams, 2012). Depositors' reactions may trigger either the intervention of supervisors or the bank's liquidity pressure (Berger, 1991). Therefore, bank managers may use LLPs in order to mask excessive-risk incentives and adjust earnings and regulatory capital ratios.

This chapter describes bank managers' incentives to smooth income through loan loss provisions and their accounting treatment as well. Furthermore, I review previous literature on market discipline and I present a theoretical framework about the impact of depositor's reaction on managers' accounting policy decisions. In addition I present my empirical model and I review similar models that have been used in past studies to examine income smoothing through LLPs.

My findings provide evidence that the demand for higher deposit rates limits management's accounting discretion. In contrast, deposits withdrawal does not appear to influence accounting decisions. Furthermore, I investigate whether systemic importance and banks' capital adequacy influence the interaction between depositors' reactions and managers' income smoothing practices. The observed associations appear to be conditioned upon banks' systemic importance and the level of their capital adequacy.

Chapter 3 deals with issues that are related with the corporate governance of banks. In the aftermath of the financial crisis, the EU anticipated that the corporate governance systems of banks had material weaknesses. Within this context, the European Committee made a series of recommendations for the elimination of material weaknesses in the governance systems of banks. In particular, the European Committee made a series of recommendations for the elimination of any material weakness in the governance systems of banks started an open discussion for the improvement of various governance mechanisms such as critical changes for the board of directors, the rights of shareholders, the disclosure of directors' remuneration, the responsibilities and duties of the external auditors and the role of supervisory authorities.

Previous literature argues that the effectiveness of corporate governance mechanisms influences firm managers' incentives to engage in discretionary accounting policies (Brown et al., 2011). In the case of banks, governance problems may become more complicated due to the moral hazard that stems from deposit insurance and the information asymmetry of banks' assets. Within this context, I examine whether specific corporate governance mechanisms included in European Commissions' proposals regarding the improvement of corporate governance mechanisms influence banks' accounting policy decisions. In particular, I examine whether the structure of the board of directors and the disclosure of the CEO remuneration are associated with the level of LLPs. Furthermore, I examine whether banks' capital structure operates as an effective internal corporate governance practice.

My findings imply that EU banks use LLPs to smooth income. Their income smoothing behavior appears to differ depending on the board structure and the level of leverage. In addition, banks' income smoothing pattern differs between banks that disclose their CEO remuneration and banks that do not provide such information.

Chapter 4 investigates the impact of audit quality on banks' income smoothing behavior. Auditors comprised one of the governance tools that attracted the attention of the European authorities due to a series of banks failures for which auditors had given an unqualified opinion.

Previous literature has examined the impact of various audit quality characteristics on firms' accounting policy choices. In the case of banks, only a few studies have examined the impact that auditor independence and audit quality have upon the financial statements prepared by financial institutions (Gaver and Paterson, 2007; Kanagaretnam et al., 2010). Within this context, I investigate whether specific audit quality dimensions have upon European Union Banks' income smoothing behavior and whether firms' characteristics influence these dimensions. In

particular, I examine whether auditors' independence influences bank managers' decision to smooth income and whether this attribute depends on bank risk and systemic importance. Similarly with other studies, I use auditors' industry specialization and auditors' tenure as proxies for auditors' independence.

I provide evidence that the auditors' industry expertise limits management's discretion of high risk banks to a greater extent relative to low risk banks. In contrast, these results imply that banks that retain the same auditor for a consecutive fiscal year are more likely to engage in income smoothing through LLPs. Furthermore, I examine whether audit quality dimensions have different outcomes on income smoothing decisions between globally systemically important banks (hereinafter, GSIBs) and the rest of banks. My results provide significant evidence that the impact of industry specialization and auditor tenure on EU banks accounting policy decisions differs between GSIBs and non-GSIBs.

I believe that my research draws significant implications for accounting standard setters, regulators, policy-makers auditors. The International Accounting Standards Board (hereinafter, IASB) decided to replace the IAS 39 incurred loan loss model with the expected credit loss provisioning model of IFRS 9. The new model does not specify any particular measurement methodology to estimate LLPs, rather it permits significant managerial discretion in determining what LLP estimates should be and such discretion is permitted to allow banks meet the needs of bank regulators/ supervisors. Within this context, my findings imply that banks' income smoothing behavior is not only determined by the incurred loan loss model but also from a series of factors that are related with the broad operational environment of the banking sector.

Regulators and policy makers adopted the Basel Accord II in order to enhance monitoring and improve banks' transparency. In particular, the new Accord enhances the previous minimum capital requirements framework and gives a special role to market discipline as a complementary monitoring mechanism for banks. My research suggests that MD mechanisms may influence bankers to use accounting accruals and adjust income as response to depositors' concerns. Furthermore, my results imply that systemic importance and banks' capital adequacy alter managers' incentives to smooth income. Within this context, regulators may be encouraged to enrich and strengthen the regulatory requirements regarding market discipline.



Policy makers are interested in the improvement of the corporate governance mechanisms. The European authorities issued specific proposals for a series of governance mechanism. This research implies that the ‘free-rider’ problems that dominate big boards (Yermack, 1996) may influence banks’ accounting quality. Furthermore, banks’ disclosure and leverage appear to encourage managers’ accounting incentives. Within this context, they may further examine governance guidelines regarding board structure choice and banks’ remuneration disclosure.

Finally, auditors play an important role for banks’ accounting quality and transparency. My results imply that auditors’ independence may be influenced by banks’ idiosyncratic risk. In fact, income smoothing patterns appear to differ between banks of different level of risk. Therefore, auditors should implement more analytical and profound methodologies in determining banks’ risk. Furthermore, policy-makers may review related legislation for mandatory audit rotation and overlapping audits.



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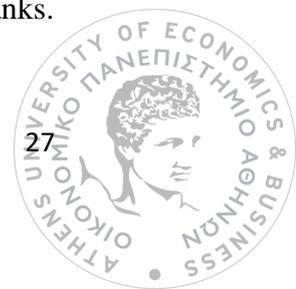
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Chapter I. Institutional setting of the banking industry

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CHAPTER I

Institutional setting of the banking industry

Summary

Similarly to the non-financial firms, banks face the same problems regarding market frictions such as taxes, information asymmetry and transaction costs. However, in the case of banks, there are two factors that complicate the analysis of their business and the incentives of their managers. Firstly, bank debt is held by small and generally uninformed investors. Secondly, their access to the safety net makes them susceptible to the moral hazard problem.

This chapter presents the institutional setting of the banking sector and focuses on the regulatory framework of the European Union. I review the theory for financial intermediation in order to explain the operations of banks. Furthermore, I present the special characteristics of banks that justify the reason for imposing regulation on the banking sector. In addition, I present the theoretical alternatives for the design of the safety net that aims to protect dispersed depositors from bank runs and banks' risk-shifting behavior. I also review the regulatory regime of the Basel Accord that comprises the base for the contemporary regulatory systems around the world.

I focus on the analysis of the institutional framework and the regulatory regime of the European Union that comprises the main subject of this thesis. Furthermore, I present previous results from analyses of the banking sector in the European Union and I explain the procedure for selecting my sample.

This chapter aims to explain the basic attributes of the banking sector and it is useful for the understanding of research questions that are investigated in the next chapters.



1.1. Introduction

Previous studies argue that banks are one of most valuable financial intermediaries due to their role as providers of liquidity and delegated monitors of their investors. Furthermore, banks' provision of transformation and divisibility services minimize transaction costs. Within this context, the functioning of banks has ramifications for the operations of firms and the prosperity of nations (Levine, 2004).

Although banks' operations are beneficial for the social welfare, they have special attributes that may distort the whole financial system. Firstly, similarly to non-financial firms, banks face the same agency problems from the separation of ownership and control. Secondly, banks' role as providers of liquidity requires the investment in long-term loans that are mainly financed by short-term deposits. Within this context, a sudden withdrawal of depositors' funds may force even a sound bank to go bankrupt if it is not able to return the funds of its creditors. The risk of a run gets even greater given that banks' loan quality is not observable and as a result they can hide problems by extending loans to clients that cannot service previous debt obligations⁶. Thirdly, the existence of a deposit insurance scheme, which aims to protect depositors, may lead to moral hazard by increasing bankers' risk-taking incentives.

The negative ramifications of a potential bank run on society comprise the main justification that the banking sector is one of the most heavily regulated industries (Freixas and Santomero, 2003). A series of regulatory mechanisms such as regulation on banking activities, minimum capital requirements, official supervision, private sector monitoring and government participation aim to limit banks' risk-shifting behavior and prevent their stakeholders. However, heavy regulation may cause adverse results by hampering competition or making banks to adjust their risk-shifting behavior accordingly (Freixas and Santomero, 2003).

The efficiency of regulation is also influenced by the differences of the institutional background between countries in the globalized economy. Therefore, many countries asked for the harmonization and the convergence of international capital standards. Within this context, the Basel Committee on Banking and Supervision (hereinafter, BCBS) released the first international regulatory framework in 1988. The framework that is known as the Basel Accord was initially adopted by the G-10 countries. Since then it was applied to a number countries and it has been amended several times.

⁶ Morgan (2002) finds that bond analysts disagree more over the bonds issued by banks than by nonfinancial firms.

Similarly to other countries, the European Union (hereinafter, EU) has fully adopted the principles and the guidelines of the Basel Accord in order to achieve the integration of its financial services sector. However, a series of failures during the financial crisis of 2008 raised serious questions about the efficiency of its institutional setting. Therefore, the EU took initiatives in order to enhance supervision and improve banks' transparency and the legislation that protects their stakeholders, as well.

The analysis of institutional setting of the banking sector is useful for understanding banks' complex activities. In addition, the analysis of the regulatory regime is useful for understanding the behavior of banks' managers who aim to maximize their shareholders' value or their private benefits by avoiding a potential regulatory intervention. Finally, this analysis is an integral part of the next chapters because it explains banks' functional background and presents the selection sample.

The rest of this chapter comprises of 7 sections. Section 1.2 explains the reasons for the existence of financial intermediaries and particularly banks. Section 1.3 examines the reasons for regulating banking industry. Section 1.4 presents alternative regulatory tools for preventing banks runs and Section 1.5 overviews the Basel Accord regulatory regime. Section 1.6 presents the institution framework of the EU and Section 1.7 presents the process for our sample selection. Finally, Section 1.8 concludes this Chapter.

1.2. Theory of financial intermediation

Financial intermediaries provide brokerage and qualitative asset transformation services as presented in Fig.1-1. Although financial intermediaries tend to specialize in the provision of specific services, banks have traditionally provided all these services (Bhattacharya and Thakor, 1993).

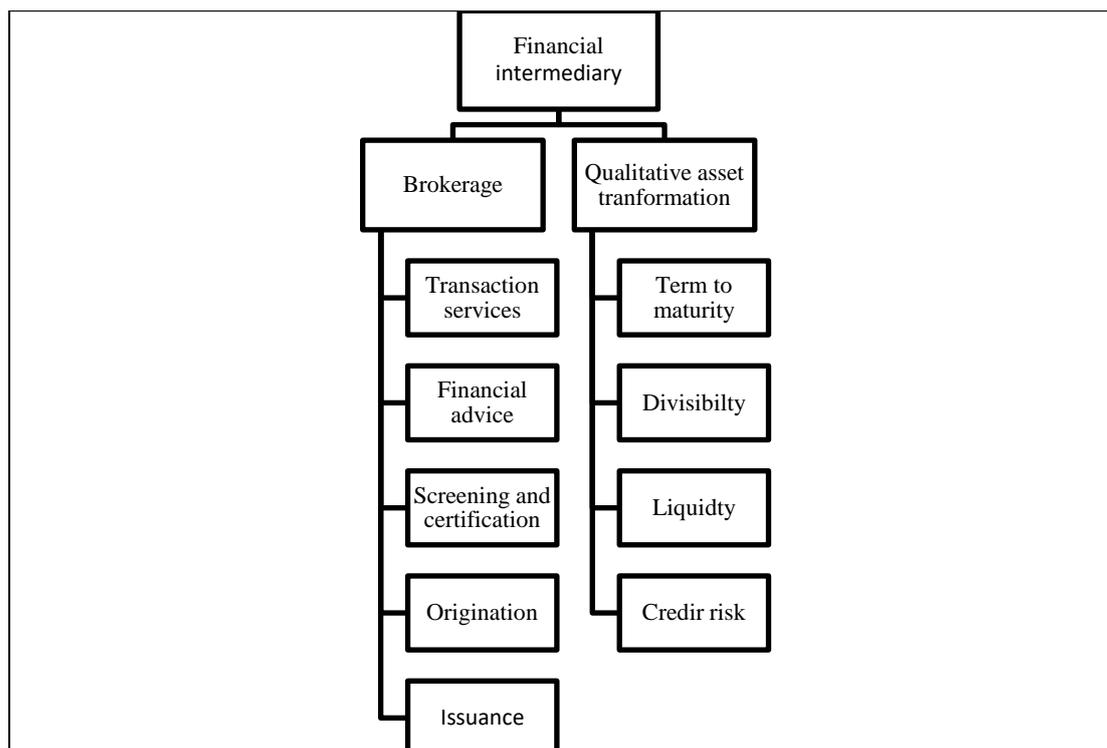


Figure 1-1. Services provided by financial intermediaries

Previous studies argue that there was no microeconomic theory of banking before 1980 because the complete market assumption of the Arrow-Debreu general equilibrium model cannot explain the economic role of banks (Freixas and Rochet, 2008)⁷. In fact, when markets are complete investors and borrowers can achieve efficient risk allocation on their own (Santos, 2001). However, in the real world markets are incomplete due to the presence of a series of frictions such as taxes, transaction costs and information asymmetry. The existence of such frictions comprises the departing point for the justification of the existence of financial intermediaries (hereinafter, FIs).

Earlier literature for financial intermediation suggests that the main activity of FIs is the transformation of securities issued by firms (shares and bonds) into securities demanded by investors (deposits) (Gurley and Shaw, 1962). Within this context, FIs are able to provide services of divisibility and risk allocation, which borrowers cannot obtain on their own due to transaction costs (Benston and Smith, 1976; Fama, 1980)⁸.

⁷ Freixas and Rochet (2008) used an extended model that included the banking sector and showed that households are completely indifferent between deposits and securities and firms are completely indifferent between bank loans and securities.

⁸ For a review of earlier banking literature, see Santomero (1984).

In contrast with early literature, modern theory of financial intermediation argues that the emergence of an intermediary sector is justified by the presence of information asymmetry.⁹ Bhattacharya and Thakor (1993) state “...*We believe that informational asymmetries are the most basic form of transaction costs, and thus information based theories of intermediation provide a more fundamental interpretation...* (p.8)”

The main justification for the fundamental role of FIs is the provision of liquidity insurance (Bryant, 1980; Diamond and Dybvig, 1983). In particular, households face idiosyncratic shocks due to their inter-temporal consumption needs that are not publically observable. Therefore, banks that issue demand deposits contribute to the improvement of risk-sharing among households. In addition to the provision of liquidity insurance, banks may contribute to the creation of a safe asset, as well. Gorton and Penacchi (1990) argued that intermediaries provide liquidity by designing securities that can protect uninformed investors from the costs they would incur when trading with investors that possess superior information.

The second justification for the existence of FIs arises from the role of banks as providers of monitoring services¹⁰. Diamond (1984) argues that FIs act as delegated monitors to investors and thus the duplication of monitoring costs is avoided. In particular, firms are assumed to have more information about their investments than their investors. However, investors can obtain the appropriate information but only after incurring a monitoring cost. Within this context, they can delegate monitoring to banks which will provide the firm with funds. As a result, investors save on monitoring costs and firms are funded with a lower cost than direct lending.

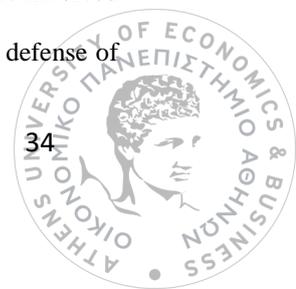
1.3. Regulating banking industry

Regulation is justified by the existence of market failures such as information asymmetry, transaction costs and other externalities. Regulation may become beneficial if it protects consumers and ensures the safe provision of goods and services that are important for society. In the case of banks, regulation is important due to their special characteristics¹¹. Firstly, the banking system is inherently unstable. Secondly problems in the banking sector may directly

⁹ For a review of modern banking theory, see Bhattacharya and Thakor (1993) and Freixas and Rochet (1997).

¹⁰ Models here have concentrated on the actual use of borrowed funds (Boot and Thakor, 1993), effort involved (Allen and Gale, 1988) and *ex post* outcome revelation (Diamond, 1984; Gale and Hellwig (1985).

¹¹ See Dowd (1996) and Benston and Kaufman (1996), who dispute of the arguments often presented in defense of bank regulation.



influence all other market participants. A sudden halt of bank payments will directly influence credit lines and investment across the entire economy. Thirdly, in contrast with other sectors, a potential bank run will weaken all competitor banks in the short-run due to the interdependence between financial institutions.

Previous literature argues that there are two specific arguments for imposing regulation in the banking industry; the systemic risk argument and the depositors' representative argument. Diamond and Dybvig (1983) argue that the role of banks as providers of liquidity makes them susceptible to runs. The rationale behind their argument is the maturity mismatch between a bank's assets and its liabilities. In particular, one of the main roles of banks is the provision of monitoring services. Within this context, banks have to hold a large portion of long term assets in the form of loans that are financed with short-term liabilities in the form of deposits¹². Therefore, a bank run may occur even when there is perfect information about the bank's assets due to depositors panic. For instance, if depositors panic they may try to withdraw their funds due to the fear that other depositors will do so first. Consequently, even a sound bank may be forced into bankruptcy.

Jacklin and Bhattacharya (1988) argue that the existence of information asymmetry may create another source of runs which is related with the release of information on the value of those assets.¹³ If the bank run is caused by the release of information about a bank's poor performance may be beneficial because it comprises a source of discipline.¹⁴ However, when information asymmetry is present it will impose costs in the system because it forces the premature liquidation of assets. Furthermore, a bank run may cause a consequent contagion run which may distort the whole financial system.¹⁵

Although the potential costs of a bank run provide an adequate explanation for regulation in banking. Dewatripont and Tirole (1993a, 1993b) suggest that regulation is also necessary due to the corporate governance problems that arise from the separation of ownership and control. They argue that, similarly to other firms, banks face the same problems of agency costs and information asymmetry. Therefore, investors have to monitor them efficiently. In the case of

¹² Bhattacharya and Gale (1987) suggest that if each bank's investment in the short-term asset were publicly observable then depositors could be fully insured against the liquidity risk faced by their bank if banks could lend to each other. However, the maturity mismatch of banks' assets and the information asymmetry will impede banks to provide depositors with full liquidity insurance.

¹³ Chari and Jagannathan (1988) develop a model where both types of runs can arise. Their model implies both "poor performance" runs and "panic" runs can occur when there is equilibrium in depositors' actions.

¹⁴ Calomiris and Kahn (1991) model bank runs as a way to prevent opportunistic behavior.

¹⁵ See Calomiris and Gorton (1991) for a review of the literature on bank panics.



banks, monitoring is costly because bank debt is mainly held by uninformed depositors who do not possess the necessary information to monitor banks efficiently. Furthermore, banks' depositors are dispersed and hold only a small portion of banks' deposits. Within this context, depositors should be represented by a private or public agent who will perform all the monitoring function on behalf of them. The role of this agent can be assigned to regulation that mimics all the monitoring procedure.

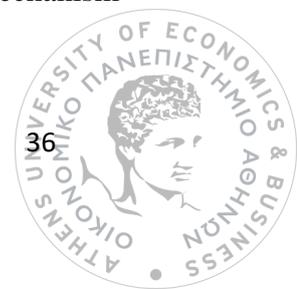
1.4. The safety net

The risk of a system failure and its negative ramifications in economy comprises the main justification for imposing regulation. The part of regulation that aims to prevent or limit bank failures is known as the “safety net”. Although the main objective of the “safety net” is to protect small and uninformed depositors, it can be further extended to other financial stakeholders in order to avoid all the undesirable externalities of a possible bank run.

The design and the implementation of such a mechanism influence a series of factors such as firms' risk-taking and investment activities by changing state-dependent returns and subsidizing risk-activity. Freixas and Santomero (2003) state that *“It is the cost of creating a safety net, which may have desirable aggregate and structural stability effects. The appropriate height of the safety net will involve a weighting of these costs of its assistance against the benefits of the implied financial stability it brings. (p.14)”*.

From an economic perspective, the probability of a bank run could be fully eliminated if banks were financed with equity rather than demand deposits. However, this choice could hamper system efficiency because demand deposits have more advantages than equity contracts in insuring households against random shocks of their consumption needs (Jacklin, 1987). Furthermore, Calomiris and Khan (1991) suggest that if banks stopped funding with demandable debt, depositors' incentives for efficient monitoring would be fully eliminated.

Another proposal is related with the suspension of convertibility. This proposal implies that banks should not liquidate more than the portion of their illiquid loans that is necessary for the repayment of those depositors who wish to withdraw their funds early. Within this context, the rest consumers will be discouraged to run on the bank. Santos (2001) states that this mechanism



provides full insurance only when the portion of early consumers is known at the beginning and liquidity shocks are perfectly diversifiable.

A third proposal is related with the development of narrow-banks¹⁶. Narrow banks are fully protected against runs given that they invest only in riskless securities. On the other hand, narrow-banking offsets the benefits from the provision of liquidity to households. Consequently, new firms will substitute banks as providers of liquidity, inheriting the problem of runs (Diamond and Dybvig, 1986; Wallace, 1996).

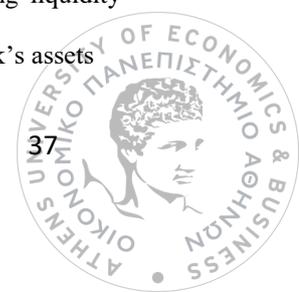
A fourth proposal suggests that banks can face liquidity difficulties, provided that they are solvent, could seek for funds from the Lender of Last Resort (hereinafter, LLR)¹⁷. The LLR should lend an illiquid bank with a premium in order to reduce banks' incentives to use these loans to finance normal business and only against good collateral. Flannery (1996) clarifies that a bank with good collateral is always able to borrow for the market. Therefore, the LLR is valuable only when there is information asymmetry about a bank's financial condition and the bank does not appear able to meet its liquidity needs in the interbank market. Although, the LLR comprises an efficient solution for liquidity issues, banks in financial distress have often used as a method to obtain a rescue package. This is because it is often impossible to distinguish *ex ante* (and even occasionally *ex post*) whether a loan is to solve an illiquidity problem being experienced by the institution or a solvency problem (Freixas and Santomero, 2003).

Finally, the governmental provision of deposit insurance was another efficient proposal to prevent bank from runs and protect depositors (Diamond and Dybvig, 1983). In fact, the provision of full insurance may offer banks a complete protection from runs (Santos, 2001). Merton (1977) used the arbitrage pricing method and showed that banks' risk-shifting incentives are completely eliminated if the deposit insurance premium is fairly priced.¹⁸ However, the opaque nature of bank assets implies that markets are not complete and information asymmetry is present. Thus, it is impossible to obtain a fair deposit insurance pricing (Chan et al., 1992). Within this context, deposit insurance is costly because it may lead to moral hazard.

¹⁶ For a discussion on narrow banks, see Kareken (1986), Litan (1987) and Gorton and Pennacchi (1992).

¹⁷ The classical justification of the lender of last resort dates from the 19th century and is based on the presumption that the money market may fail to allocate liquidity to solvent banks that require it. Bahegot (1873) argues that the central bank should make clear in advance its readiness to lend any amount to a bank that is having liquidity problems provided the bank is solvent.

¹⁸ Merton (1977) shows that that deposit insurance can be viewed as a put option on the value of the bank's assets with a striking price equal to the promised maturity value of its debt.



1.5. Minimum capital requirements

Deposit insurance is an efficient way to limit bank fragility. However, its benefits may be offset by the incurred costs of moral hazard (Merton, 1977; Kareken and Wallace, 1978). The provider of the deposit insurance offers a guarantee to depositors and simultaneously bears the risk that they would otherwise have borne. Within this context, it reduces depositors' incentives to monitor banks efficiently and demand interest payments which meet each bank's perceived level of risk. Furthermore, if banks are charged with a risk-insensitive premium, they are encouraged to engage in excessive risk activities because they do not internalize the full cost of risk.¹⁹ As a result, governments and policy-makers focused on other regulatory mechanisms such as the charge of banks risk-related insurance premium and regulation of capital structure.

1.5.1. Theoretical arguments for capital regulation

The theory of capital regulation is mainly based on the information asymmetry between banks and depositors. Flannery et al. (2004) argue that bank monitors' inability to value banks due to lack of timely and accurate information implies that market mechanisms cannot control bank managers and should be substituted by a regulator. Furthermore, Diamond and Dybvig (1983) suggest that banks are susceptible to runs due to the maturity mismatch between banks' assets and liabilities. Therefore, the regulation of bank capital has the potential to reduce the likelihood of a run because it limits bankers' risk-taking incentives.

Early literature on bank capital regulation explained the role of capital regulation by introducing deposit insurance (Kahane, 1977; Sharpe, 1978; Kareken and Wallace, 1978). These studies argue that deposit insurance reduces depositors' incentives to control banks. In addition, the charge of a flat insurance premium encourages banks to engage in risk-taking activities and as a result capital regulation is needed to limit banks' risk incentives.

Another stream of studies examined capital regulation and the imposition of a risk-based capital requirement. Koehn and Santomero (1980) and Kim and Santomero (1988) adopted a securities portfolio approach and showed that the adoption of flat capital requirement forces bank managers to reduce leverage and alter the composition of their risky assets portfolio. In

¹⁹ Boot and Greenbaum (1993) argue that when insurance premium is risk-insensitive the funding related benefits of reputation are eliminated because the implied premium fixes the bank's future funding costs.

particular, bank managers will invest in riskier assets in order to recover the loss from the reduction of leverage. Within this context, risk-based capital requirements can eliminate bankers' risk-taking incentives²⁰. Moreover, Furlong and Keeley (1989) and Keeley and Furlong (1990) provided evidence that a bank never increases portfolio risk as a result of increased capital standards when it pays a flat rate deposit insurance premium.

Santos (1999) explained the need for capital regulation through a principal-agent problem between a banks and the borrowing firm. His findings provided evidence that the contract between the bank and firm is distorted because the bank is funded with insured deposits. Consequently, an increase of capital standard forces the bank to adjust the shifting costs to the firm, which, in turn, reduces its risk. This procedure leads to the minimization of the risk for a banks' insolvency.

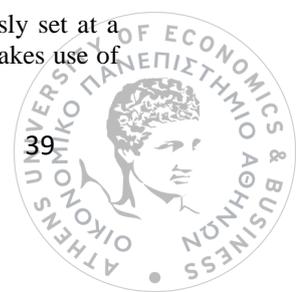
Finally, Dewatripont and Tirole (1993a) used an incomplete contracting approach and argued that regulation is needed when high-risk claims are held by dispersed and potentially unsophisticated investors. Within this context, the presence of a regulator increases managers' effort for performance improvement. In particular, they argue that bank managers do not care about monetary incentives but instead, they enjoy private benefits from running the bank in the absence of interference. Within this context, minimum solvency requirement could be part of such regulation defines the threshold for the transfer of control to the regulator.

1.5.2. The Basel Accord Capital Regulation

The opaque activities of international banks and the complaints for unfair competition prompted regulators to develop a regulatory framework which would promote the international convergence of capital standards and improve regulation across countries. Within this context, the Basel Committee on Banking Supervision (hereinafter, BCBS) was delegated to propose a new set of regulatory standards which is known as the Basel Accord.

The Basel Accord I was introduced in 1988 and came into effect by January 1993. The framework aimed to strengthen the soundness and the stability of the international banking system and diminish any source of inequality among internationally operating banks. The

²⁰ Rochet (1992) shows that when limited liability is taken into account and bank capital is exogenously set at a certain level, a bank may behave as a risk lover. In this case, even a risk-based capital regulation that makes use of "market-based" risk weights may not be enough to restrain the bank's appetite for risk.

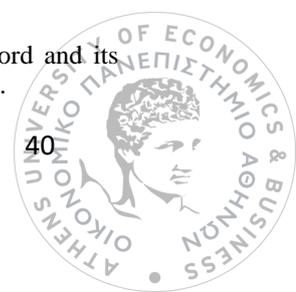


framework required banks to hold a minimum total capital equal to 8% of risk-adjusted assets, with at least half of this met by Tier I capital. The regulatory capital of each bank consisted of Tier I capital (equity capital and disclosed reserves) and Tier II capital, which include hybrid capital instruments, revaluation reserves, subordinated-term debt and a portion of general provisions²¹. Risk-adjusted assets were defined as the sum of the risk-adjusted assets on and off balance sheet and were explicitly sensitive only to credit risk. On-balance sheet assets were assigned to one of four risk buckets (0%, 20%, 50% and 100%) and then weighted by the bucket's weight. Off-balance sheet contingent contracts, such as letters of credit, loan commitments and derivative instruments, which are traded over the counter, needed to be first converted to a credit equivalent and then multiplied by the appropriate risk weight.

During 90s, financial innovation and the globalization of banking businesses increased information asymmetries and banks' opaqueness. In addition, regulators and policy-makers argued that banks are probably better informed about their risk than supervisors and that the uniform capital standards of the Basel Accord I cannot adequately fit to the operations of each and every bank. Thus, in 2001, the BCBS released its final proposal for a new capital adequacy framework which came into effect in 2008 and is known as the Basel Accord II. The new framework was based on three pillars: minimum capital standards, supervisory review process and market discipline.

The first pillar maintained the basic constituents of regulatory capital and provided changes with regard to the computation of risk-based assets. In particular, the framework required the maintenance of minimum regulatory capital not only for credit risk but also for market and operational risk. In addition, banks could calculate their risk-based assets with one of the following methods: the Standardized Approach, the Internal Ratings Based (hereinafter, IRB) method and the Advanced IRB method. Under the Standardized Approach, banks are required to use ratings from External Credit Rating Agencies to quantify required capital for credit risk. Under the IRB method, banks are allowed to develop their own empirical model to estimate the PD (probability of default) for individual clients or groups of clients. Finally, the advanced IRB approach permits banks to use their own quantitative models to estimate PD (probability of default), EAD (exposure at default), LGD (loss given default) and other parameters required for

²¹ See Cooke (1990) for the debate that led to the Accord and Basel Committee (1999a) for the Accord and its amendments. For a comparison of banks' and securities firms' capital standards, see Ball and Stoll (1998).



calculating their risk-adjusted assets. Then total required capital is calculated as a fixed percentage of the risk-adjusted assets.

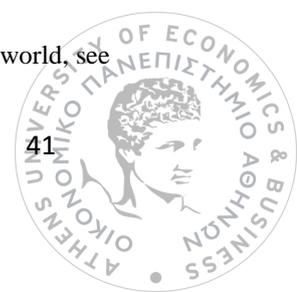
The second pillar of the new framework is related with the supervisory review. The framework anticipates the importance of the supervisory process to ensure bank stability. Thus, it proposes four principles for enhancing supervisory process. First, banks should have a process for assessing their overall capital adequacy in relation to their risk profile and a strategy for maintaining their capital levels. Second, supervisors should review and evaluate banks' internal capital adequacy assessments and strategies, as well as their ability to monitor and ensure their compliance with regulatory capital ratios. Third, supervisors should expect banks to operate above the minimum capital regulatory ratios and should have the ability to require banks to hold capital in excess of the minimum. Fourth, supervisors should seek to intervene at an early stage to prevent capital from falling below the minimum levels required to support the risk characteristics of a particular bank and should require rapid action if capital is not maintained.

Finally, the last pillar is intended to encourage banks to disclose information in order to enhance the role of market participants in monitoring banks. Within this context, the BCBS is proposing that banks have to continue disclosing information that are set by their accounting framework and should provide additional disclosures with regard to their components of regulatory capital, risk exposures and risk-based capital ratios computed in accordance with the Accord's methodology.

1.5.3. Complementary Regulatory Mechanisms

The implementation of the Basel Accord regulatory framework aims to improve supervisory practices and financial stability by introducing a set of "best practices" and harmonized regulatory standards around the world. However, there is no evidence that a set of best practices appeal have the same results in countries with different institutional settings (Barth et al., 2004)²². Boyd et al. (1998) found that in a country with generous deposit insurance that intensifies moral hazard problems broad banking powers provide excessive opportunities for risk-taking and therefore the restriction of banking activities is the most appropriate regulatory

²² For the diversity of institutional arrangements for financial regulation and supervision that exists in the world, see Carmichael, et al., (2004) and Healey (2001).



solution. Regarding minimum capital requirements, theory suggests that they may be beneficial when official supervision is weak and banking business are complex (Barth et al, 2004).

Although deposit insurance schemes and minimum capital requirements are the most dominant regulatory tools, policy-makers use more regulatory tools depending on each country's institutional setting. The most common regulatory mechanisms are: banking licensing and restriction on bank's activities, supervision, government ownership, and private monitoring.

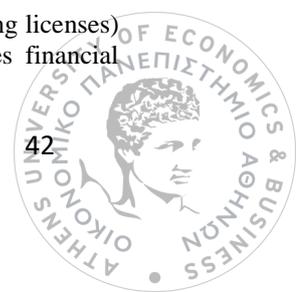
(i) Banking licensing and restriction on bank's activities

Licensing comprises the first component of banking regulation. A banking license is a legal prerequisite for a financial institution that wants to carry on a banking business. There are a series of banking licenses such as full banking licenses, international banking licenses and non-banking financial institution²³. Licenses are typically issued by a national banking regulator to applicant corporations that meet its banking requirements. The requirements may include minimum capital requirements, minimum number of directors, residence of shareholders, spread of shareholdings, disclosure of beneficial shareholders, besides other matters. These requirements may differ between jurisdictions, and may differ depending on the type of license being sought.

Licensing is useful for regulators because they can impose restrictions on banks' activities. Previous studies concentrate the benefits of such a regulatory mechanism. Firstly, the engagement of banks in diverse activities such as real estate investment, securities underwriting and insurance may cause a conflict of interest (Saunders, 1985; John et al., 1994). Secondly, Boyd et al. (1998) argue that a broader range of activities increase the opportunity of banks to take on excessive risk. Thirdly, large and complex banks concentrate economic and political power and they become "too big to discipline" (Barth et al., 2004). Furthermore, large financial conglomerates may hamper competition and efficiency.

In contrast, restricting bank activities may cause adverse results. Claessens and Klingebiel (2000) argue that fewer regulatory restrictions permit the exploitation of economies of scale. In

²³ Full banking licenses permit general banking activities. International banking licenses (offshore banking licenses) prohibit any local business activities. Non-banking financial institution is an institution that provides financial services but has to comply with fewer regulations than one with a full banking license.



addition, fewer regulatory restrictions may increase the franchise value of banks and thereby augment incentives for more prudent behavior. Lastly, broader activities may enable banks to diversify income streams and thereby create more stable banks.

Licensing is useful in imposing regulation on domestic and foreign banks entry, as well. The restrictions that are related with the entrance in the banking sector may promote stability because banks with monopolistic power have greater franchise value, which enhances prudent risk-taking behavior (Keeley, 1990). On the other hand, Shleifer and Vishny (1998) argue that such policies may hamper competition and stability.

(ii) Supervision

Supervision is an integral part of banking regulation and is related with the continuous assessment of banks' activities. Supervisory activities involve on-site inspection of the bank's records, operations and processes or evaluation of the reports submitted by the bank. Supervision may be performed either by a government regulatory body (e.g. Central Bank) or by another independent governmental agency.

Previous literature suggests that the delegation of bank's monitoring to official supervisors is advantageous for a series of reasons. Firstly, bank's depositors are usually dispersed and uninformed. Therefore, obtaining the necessary information is costly and weakens efficient monitoring. Secondly, banks' opaque operations make them prone to runs. Thirdly, the use of a deposit insurance scheme increases banks' excessive monitoring incentives and hampers efficient monitoring by stakeholders. Within this context, official supervisors can act prudentially and prevent banks and society from the aforementioned market failures.

In contrast, a stream of research suggests that powerful supervisors may act opportunistically and use their powers to obtain private benefits at the expense of tax payers (Shleifer and Vishny, 1998; Djankov, et. al., 2002; Quintyn and Taylor, 2002). As a result, supervision may increase corruption and hamper the system's stability.

(iii) Private sector monitoring

Some supervisory agencies require banks to produce a series of comprehensive information that enhance transparency and eliminate information asymmetries. Barth et al. (2004) state that “...some countries credibly impose a “no deposit insurance” policy to stimulate private monitoring... (p.9)”.

In fact the involvement of auditors and rating agencies in banks’ monitoring is questionable. Shleifer and Vishny (1998) argue that strict regulation will force banks to influence politicians and unduly influence supervisory oversight. In addition, private sector monitors can enhance supervision in cases that official supervisors act for their own interest. On the other hand, countries with poorly-developed capital markets, accounting standards, and legal systems may not be able to rely effectively on private monitoring. Furthermore, banks’ opacity may make private monitoring extremely difficult even in the most developed economies.

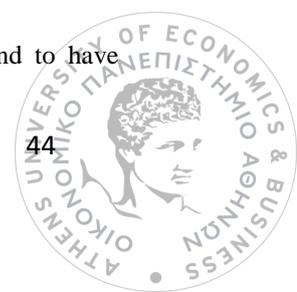
(iv) Government ownership²⁴

Economic theory suggest that governmental ownership of banks may be successful in preventing banks from market failures and promoting strategically important projects (Gerschenkron, 1962). The justification of this view is based on governments’ incentives to promote socially desirable investments.

In contrast, Shleifer and Vishny (1998) argue that government ownership instead politicizes resource allocation, softens budget constraints, and hinders economic efficiency²⁵. Freixas and Santomero (2003) mention that “*Budget constrained governments frequently use the banking system as a source of off-budget finance to fund initiatives for which they chose not to raise taxes or borrow... (p.8)*”. Furthermore, recent evidence showed that politically connected lending may influence the efficiency and soundness of the financial system (Santomero 1997, 1998).

²⁴ For a review of government involvement in banks’ ownership see LaPorta et al. (2002)

²⁵ LaPorta et al. (2002) found that countries with higher initial levels of government ownership tend to have subsequently less financial development and slower economic growth.



Although, the economic rationale for financial regulation is well-established, a potential over-regulation may impose huge costs in on the system and on the suppliers of financial services. In particular, regulatory and supervisory services are not provided through a market process but are imposed externally. Thus, the consumers have no choice regarding the amount of regulation they are prepared to pay for (Llewellyn, 2005). Within this context, Santomero and Freixas (2003) suggest that the optimal regulatory design is a complex work which have to take into account a series of factors such as the type of regulation, the number of supervisors and their incentives and the feedback of the market because both banks and consumers are expected to adjust their behavior depending on the regulatory supply.

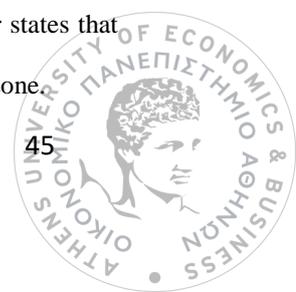
1.6. The banking sector in the European Union

The European System of Central Banks (hereinafter, ESCB) is established according to the paragraph 1 of the Article 1 of the Treaty for the European Union. The ESCB consists of the European Central Bank (hereinafter, ECB) and the national central banks (hereinafter, NCBs) of all 28 member states of the European Union. The main objective of the ESCB is the price stability across the EU and the improvement of financial cooperation between the Eurosystem²⁶ and member states outside the Eurozone.

The European Central Bank (ECB) is the central bank of the ESCB and administers monetary policy within the Eurozone, which comprises 19 member states of the European Union. The bank's capital stock is owned by all 28 central banks of each EU member state. The primary objective of the ECB, mandated in Article 2 of the Statute of the ECB is to maintain price stability within the Eurozone. Furthermore, the ECB implements the monetary policy for the Eurozone, conducts foreign exchange operations and manages the foreign reserves of the ESCB and the market infrastructure under the TARGET2²⁷ payments system. Finally, the ECB has the exclusive right to authorize the issuance of euro banknotes.

²⁶ The Eurosystem is the monetary authority of the eurozone, the collective of European Union member states that have adopted the euro as their sole official currency

²⁷ TARGET2 is an interbank RTGS payment system for the clearing of cross-border transfers in the eurozone



1.6.1. Legislative framework 2000-2011

(i) Capital Requirement Directives

The European Union has introduced a regulatory framework that determines the capital standards and the minimum capital requirements for all EU banks through a series of Directives which are known as Capital Requirement Directives (hereinafter, CRDs).

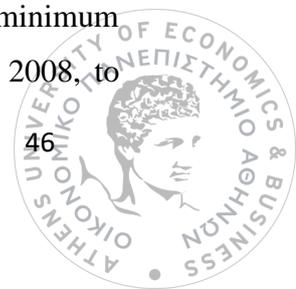
The CRD I (2000/12/EC) was introduced in 2000 aimed to improve the transparency of the EU banking legislation by replacing seven Banking Directives that had been issued before. The adoption of the Basel II regulatory regime was adopted through the recasting of the Banking Directive (Directive 2006/48/EC) and the issuance of the Capital Adequacy Directive (Directive 93/6/EEC). Both Directives entered into force on 20 July 2006.

On 16 September 2009, the Council and the European Parliament officially adopted Directive 2009/111/EC (CRD II), which is part, together with Directives 2009/27/EC and 2009/83/EC, of the second legislative package aimed at ensuring the financial soundness of banks and investment firms.

On 24 November 2010, the Council and the European Parliament officially adopted Directive 2010/76/EU (CRD III) on capital requirements for the trading book and for re-securitizations and the supervisory review of remuneration policies. CRD III (Directive 2010/76/EU) implemented in two phases. The first phase included a series of provisions for capital requirements and remuneration policies which should have come into force until 1st January of 2011. The remaining provisions had to be implemented by 31 December 2011.

(ii) Deposit Insurance Directives

The deposit insurance scheme was established by the Directive 94/19/EC on deposit-guarantee schemes which requires all member states to have a deposit guarantee scheme for at least 90% of the deposited amount, up to at least 20,000 euro per person. This Directive came into effect on May 1994. On October 7, 2008, the EU's ministers of finance agreed to increase the minimum amount to 50,000. The increased amount followed on Ireland's move, in September 2008, to



increase its deposit insurance to an unlimited amount. Many other EU countries, starting with the United Kingdom, reacted by increasing its limit to avoid that people transfer savings to Irish banks. From October 2008, many EU countries increased the amount covered by their deposit insurance schemes.

According to Article 7 (1a) of Directive 94/19/EC all EU Member States were expected to increase the amount to EUR 100,000 as of 31 December 2010. This is the case in all EU countries. For countries with non-EURO currency the limits are near to EUR 100,000. For instance the limit in Denmark is DKK 750,000 which is near to that limit, depending on EUR-DKK rate.

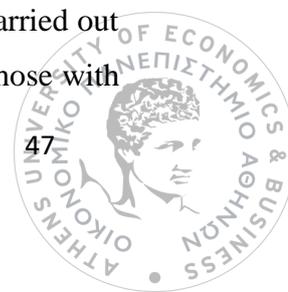
1.6.2. The Banking Union and related legislation

The aftermath of the financial crisis of 2008 raised serious questions among governments about the financial strength of EU banks and the sovereign credit of their home countries. Within this context, the EU moved on the next step for a Banking Union which requires the transfer of responsibility for banking policy from the national to the EU level in several countries of the European Union, initiated in 2012.

The changes in the EU financial market was based on the adoption of the Basel Accord III regulatory regime and the establishment of the Single Supervisory Mechanism (hereinafter, SSM) and the Single Resolution Mechanism (hereinafter, SRM).

The introduction of the Basel Accord III was made through the Capital Requirements Regulation Directive (CRD IV; Directive 2013/36/EU). The new regulatory framework adopts the proposals of the Basel Committee regarding banks' capital, liquidity and the leverage ratio and introduces a series of measures for banks' remuneration policy, requirements for corporate governance and enhanced transparency.

The SSM was established with the Council Regulation (EU) No 1024/2013 and the Regulation (EU) No 1022/2013. It is the legislative and institutional framework that provides the ECB with full authorization in licensing and supervising the banks of the EU. Eurozone countries are required to participate, while participation is voluntary for non-eurozone member states. While all banks in participating states will be under the supervision of the ECB, this will be carried out in co-operation with national supervisors. The most significant institutions, including those with



holdings greater than 30 billion euros or 20% of the GDP of the state where they are based, and those directly funded by the European Stability Mechanism or European Financial Stability Facility, or have applied for such financing, will be directly supervised by the ECB. Smaller banks will remain directly monitored by their national authorities, though the ECB has the authority to take over direct supervision of any bank.

The SRM came into force on 19 August 2014 and is directly responsible for the resolution of the entities and groups directly supervised by the European Central Bank as well as other cross-border groups. The SRM allows for troubled banks operating under the SSM (as well as other cross border groups) to be restructured with a variety of tools including bailout funds valued at least 1% of covered deposits of all credit institutions authorized in all the participating member states. Like the SSM, the SRM Regulation will cover all banks in the Eurozone, with other states eligible to join.

1.6.3. Banking sector evolution

Previous studies have examined the population of EU banks in order to investigate the structure and the main characteristics of the industry. Rajan and Zingales (2003a) explained the reasons that caused the change of the EU financial system from the period of 1980 to 2000. The authors concluded that after the market-based trend that dominated for the specific period in EU, new forces that seek the completion of the economic and political integration “...*might trigger a shift in the pro-market stand of the European Union...*”(p.58). Furthermore, they proposed that the EU should promote structural reforms in Southern Europe countries and focus on the enlargement of the Union in order to increase competition and move in to the integration of the financial services sector.

The financial integration of the financial services in EU required a minimum level of harmonization, home-country regulation and mutual recognition of the authorization of institutions. The convergence of the standards across EU Members was accomplished by the Lamfalussy committees the scope of which was to establish an institutional infrastructure to facilitate supervisory convergence, cooperation and information sharing by 2005. Despite the effort of the European Commission, Carletti and Vives (2009) outlined that the financial integration had not been fully achieved by the end of 2007. Although cross-border mergers and

money transfers increased rapidly, considerable cross-country differences in the legal and regulatory framework for financial institutions remained an impediment for the progress²⁸.

Liikanen et al. (2012) evaluate the business models of the EU banks in order to make a series of proposals for the improvement of regulation and the elimination of potential weaknesses. The authors found that the banking sector in the EU was characterized by high diversification regarding banks' size. In particular, they report that Germany, Austria and some other Member States have many small savings and co-operative banks most of which have assets of less than €1 billion. Furthermore they report that a second group of banks are medium sized and their assets range from 1 billion to 100 billion euro and these banks often operate on a country-wide scale. Finally, there are very large banks with assets from 100 billion to 2 trillion euros and they do a significant part of their business abroad.

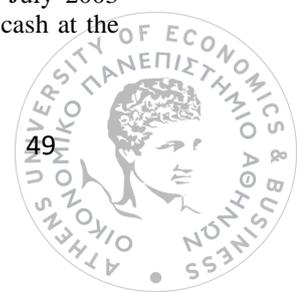
Their analysis implies that size appears to influence banks' activities since smaller banks engage more in traditional commercial banking business, resulting in a balance sheet that has more loans and fewer assets held for trading. Similarly, smaller banks also tend to have a more stable funding base given the higher proportion of total customer deposits and a higher tier 1 capital ratio.

With regard to the ownership structure of EU banks, Liikanen et al. (2012) found remarkable differences that are related with banks' size and range of activities. Smaller banks tend to develop their business with the form of a co-operative or savings bank. According to the European Association of Cooperative Banks, there are approximately 4,000 local cooperative banks²⁹. This type of banking is dominant in Austria, France, Netherlands, Italy, Finland, Germany and Spain as well. These banks are focused on retail services providing savings products and credit lending to consumers and SMEs.

In line with Liikanen et al. (2012), Cernov and Urbano (2018) examined a sample of 5,292 credit institutions that on a solo basis in the EU as of December 2015. Their findings showed that majority of banks – 57 % – were classified as cooperative banks or savings and loans associations. The next biggest categories in terms of number were savings banks (14 % of credit institutions) and local universal banks (10 %). Furthermore, they found that the business model of institutions varied from country to country. The authors classified EU countries into 4 groups

²⁸ Regulation 2560/2001 on cross border transfers and cash withdrawals according to which since 1 July 2003 consumers are charged the same for cross border transfers as for domestic transfers and can withdraw cash at the same cost in the 15 euro countries as in their own country.

²⁹ For a review of co-operative banks, see Ayadi et al., (2010)



regarding the dominant business model of the banking sector. The first group, comprising Germany, Greece, Spain, Italy, Hungary, Austria, Poland, Portugal, Finland, had more than 50 % of their institutions assigned to the business model of cooperative banks and savings and loans associations. The second group of countries – Estonia, Croatia, Cyprus, Latvia, Lithuania, Romania, Slovenia and Slovakia – was dominated by local universal banks or cross-border universal banks (more than 50 % of institutions). The third group of countries – Denmark– had a majority of institutions (more than 50 %) assigned to savings banks. Lastly, Belgium, Czech Republic, Ireland, France, Luxembourg, Malta, Netherlands, Sweden and United Kingdom had more diversity in the institutions’ business models without any specific business model outnumbering the others.

With regard to the governmental ownership, Schmit et al. (2011) found notable deviations with regard to the involvement of the public sector. Their results showed that the public sector was involved in the ownership of the 21% of the EU banks. In turn, almost the 50 % of these banks were public companies (more than 50% of control rights belong to the public authorities) and the rest of them were partially owned by public authorities (at least 5% participation).

1.7. Sample Selection

My sample consists of 1.064 annual observations from 26 countries for the period 2006 – 2013. The total number of observations represents 133 banks examined the EU of 15, using data for 90 banks. Similarly, Hamadi et al. (2016) examined 103 banks from 24 EU countries. Banks of Luxembourg are not included in our sample due to missing data. Year 2006 comprises the base year for our analysis. EU adopted IFRS from the 1st January of 2005. In many instances the financial statements of year 2005 were prepared under IFRS 1 which allowed a number of exceptions for first time adopters. If I would have chosen 2005 as a base year, it was likely that our sample would include sample firms that did not operate in a completely uniform accounting environment. My analysis ends in 2013 because new reforms in the banking sector came into effect after that year. The establishment of the Single Supervisory Mechanism (SSM) would change official supervisions between Euro-area and rest of banks. Furthermore, the preparation for the adoption of the Basel Accord III, the directive for resolution of banking crises (BRRD) and the actions for Shadow Banking could influence both managers and monitors’ incentives.



Banks and other public entities domiciled in the European Union were required to prepare their financial statements in accordance to IFRS from the 1st January 2005. Furthermore, European Union has adopted both Basel Accords (I & II). Subsequently, all banks in my sample report their financial statements under a uniform accounting framework (IFRS) and operate under a uniform regulatory environment.

Similarly with Gebhardt and Farkas (2011) and Hamadi et al. (2016), my data were hand collected by the annual reports of EU banks that were published on their websites. Hand collection of data was a result of large number of missing observations regarding LLPs, non-performing loans net charge-offs. Table 1-1 summarizes the way I ended up in the final sample. My initial database consisted of 8.019 active financial institutions according to the records of the European Central Bank in 2014³⁰. I excluded all financial institutions that were not assessed by an independent rating agency in order to discern banks that attract the interest of independent market participants. From my initial sample, 2.021 financial institutions were rated by at least one agency. Furthermore, in line with Anandarajan et al. (2007), each selected bank should provide data for all of our variables for the period of investigation in its annual report. Thus, I excluded every bank with at least one missing observation and I ended up to a sample of 133 banks from 26 countries of EU. All the banks included in the sample prepared their financial statements under IFRS.

Table 1-1. Sample Selection procedure

| | |
|--|--------------|
| Total number of credit institutions in the ECB record of 2014 | 8.019 |
| Minus: Credit institutions without assessment from a rating agency | 5.846 |
| Banks that attract the interest of market independent participants | 2.173 |
| Minus: Total numbers of banks without full range of accounting data for the period of 2006-2013 | 2.040 |
| Minus: Number of outliers | - |
| Total numbers of banks in the final sample | 133 |

The following table (Table 1-2) presents the selection process by country

³⁰ Schoenmaker (2011) reports that there are more than 8.000 banks in Europe as well.



Table 1-2. Sample selection per country

| Country | Total Banks | Rated | Excluded | Selected |
|----------------|--------------------|--------------|-----------------|-----------------|
| Austria | 752 | 86 | 77 | 9 |
| Belgium | 115 | 9 | 6 | 3 |
| Cyprus | 136 | 4 | 2 | 2 |
| Estonia | 40 | 3 | 0 | 3 |
| Finland | 319 | 4 | 2 | 2 |
| Greece | 55 | 5 | 0 | 5 |
| Ireland | 474 | 26 | 21 | 5 |
| Malta | 31 | 3 | 2 | 1 |
| Netherlands | 272 | 23 | 18 | 5 |
| Portugal | 156 | 10 | 5 | 5 |
| Slovakia | 30 | 5 | 2 | 3 |
| Slovenia | 25 | 8 | 2 | 6 |
| Latvia | 66 | 2 | 1 | 1 |
| Spain | 308 | 37 | 31 | 6 |
| Italy | 724 | 45 | 27 | 18 |
| France | 625 | 148 | 138 | 10 |
| Germany | 1,878 | 1,573 | 1,557 | 16 |
| Luxembourg | 159 | 23 | 23 | 0 |
| Czech | 60 | 4 | 1 | 3 |
| Denmark | 172 | 11 | 6 | 5 |
| Hungary | 190 | 11 | 8 | 3 |
| Lithuania | 95 | 2 | 0 | 2 |
| Poland | 696 | 16 | 12 | 4 |
| Sweden | 174 | 16 | 10 | 6 |
| United | 393 | 81 | 74 | 7 |
| Bulgaria | 31 | 11 | 9 | 2 |
| Romania | 43 | 7 | 6 | 1 |
| Total | 8,019 | 2,173 | 2,040 | 133 |

Finally the following table (Table 1-3) presents the selected banks from each country and the total number of observations.

Table 1-3. Selected banks by country

| Country | Bank Name | Obs |
|-----------------------|---------------------------------------|------------|
| Austria | BAWAG PSK | 8 |
| | Erste Group Bank AG | 8 |
| | Hypo Alpe Adria International | 8 |
| | Kommunalkredit Austria AG | 8 |
| | Oesterreichische Kontrollbank AG | 8 |
| | Oesterreichische Volksbanken AG | 8 |
| | Raiffeisen Bank International AG | 8 |
| | Raiffeisen Zentralbank AG | 8 |
| | UniCredit Bank Austria AG | 8 |
| Belgium | Belfius | 8 |
| | BNP Paribas Fortis SA | 8 |
| | KBC Bank | 8 |
| Bulgaria | First Investment Bank | 8 |
| | UniCredit Bulbank | 8 |
| Cyprus | Bank of Cyprus Public Company Ltd | 8 |
| | Hellenic Bank | 8 |
| Czech Republic | Ceska Sporitelna (Erste Bank) | 8 |
| | CSOB (KBC) | 8 |
| | Komerčni Banka (Societe Generale) | 8 |
| Denmark | Danske Bank | 8 |
| | FIH Erhvervsbank A/S | 8 |
| | Jyske Bank | 8 |
| | Nykredit | 8 |
| | Sydbank | 8 |
| Estonia | AS Eesti Krediidipank | 8 |
| | AS SEB Pank | 8 |
| | Swedbank AS | 8 |
| Finland | Nordea Bank Finland Abp | 8 |
| | Pohjola Pankki Oyj | 8 |
| France | BNP Paribas | 8 |
| | BPCE | 8 |
| | Caisse Centrale du Crédit Mutuel | 8 |
| | Credit Agricole | 8 |
| | Credit cooperatif | 8 |
| | Credit du nord | 8 |
| | Crédit Industriel et Commercial - Cic | 8 |
| | HSBC France | 8 |
| | La Banque Postale | 8 |
| Société Générale | 8 | |
| Germany | Aareal Bank AG | 8 |
| | Bayerische Landesbank | 8 |
| | Commerzbank AG | 8 |

| Country | Bank Name | Obs |
|----------------|--|-----|
| | DekaBank Deutsche Girozentrale | 8 |
| | Deutsche Bank AG | 8 |
| | Deutsche Postbank AG | 8 |
| | DVB Bank SE | 8 |
| | DZ BANK AG Deutsche Zentral-Genossenschaftsbank, Frankfurt am Main | 8 |
| | HSH Nordbank AG | 8 |
| | KfW IPEX-Bank GmbH | 8 |
| | Landesbank Baden-Württemberg | 8 |
| | Landesbank Berlin Holding AG | 8 |
| | Landesbank Hessen-Thüringen Girozentrale | 8 |
| | Landesbank Saar | 8 |
| | Norddeutsche Landesbank -Girozentrale- | 8 |
| | Volkswagen Financial Services AG | 8 |
| Greece | Alpha Bank | 8 |
| | Attica Bank S.A. | 8 |
| | Eurobank Ergasias (Eurobank EFG) | 8 |
| | National Bank of Greece | 8 |
| | Piraeus Bank | 8 |
| Hungary | CIB Bank (Intesa) | 8 |
| | MKB Bank (Bayerische Landesbank) | 8 |
| | OTP Bank | 8 |
| Ireland | Allied Irish Banks plc | 8 |
| | DePfa-Bank plc | 8 |
| | EBS Limited | 8 |
| | permanent tsb plc | 8 |
| | Ulster Bank | 8 |
| Italy | Banca Carige Spa | 8 |
| | Banca Imi S.P.A. | 8 |
| | Banca Monte dei Paschi di Siena Spa | 8 |
| | Banca Piccolo Credito Valtellinese Società Cooperativa | 8 |
| | Banca Popolare dell'Alto Adige Scpa | 8 |
| | Banca Popolare dell'Emilia Romagna Soc. Coop. | 8 |
| | Banca Popolare di Milano Scrl | 8 |
| | Banca Popolare di Vicenza - Società Cooperativa per Azioni | 8 |
| | Banca Sella Holding Spa | 8 |
| | Banco di Desio e della Brianza Spa | 8 |
| | Banco Popolare SC | 8 |
| | Credito Emiliano Spa | 8 |
| | Iccrea Holding S.p.A | 8 |
| | Intesa Sanpaolo SpA | 8 |
| | Unicredit, Società per Azioni | 8 |
| | Unione di Banche Italiane SCpA (UBI Banca) | 8 |
| | Unipol Banca Spa | 8 |
| | Veneto Banca S.C.P.A. | 8 |

| Country | Bank Name | Obs |
|-----------------------|--|-----|
| Latvia | TRASTA KOMERCBANKA | 8 |
| Lithuania | AB Swedbank“ | 8 |
| | AB DNB bankas | 8 |
| Malta | FIMBank plc | 8 |
| Netherlands | ABN AMRO Bank NV | 8 |
| | Credit Europe Bank N.V. | 8 |
| | ING Bank NV | 8 |
| | Rabobank Nederland | 8 |
| | SNS Bank NV | 8 |
| Poland | Bank Pekao (UniCredit) | 8 |
| | Bank Zachodni WBK (Santander) | 8 |
| | mBank (Commerzbank) | 8 |
| | PKO Bank Polski | 8 |
| Portugal | Banco BPI, SA | 8 |
| | Banco Comercial Portugues, SA (BCP or Millennium BCP) | 8 |
| | Banco Espírito Santo de Investimento, SA | 8 |
| | Caixa - Banco de Investimento, SA | 8 |
| | Caixa - Banco de Investimento. SA | 8 |
| | Caixa Geral de Depósitos, SA | 8 |
| Romania | Banca Transilvania | 8 |
| Slovakia | Slovenska Sporitelna (Erste Bank) | 8 |
| | Tatra Banka (Raiffeisen) | 8 |
| | VUB Banka (Intesa) | 8 |
| Slovenia | Abanka Vipava | 8 |
| | BANKA CELJE D.D. | 8 |
| | GORENJSKA BANKA D.D., KRANJ | 8 |
| | Nova Kreditna banka Maribor (NKBM) | 8 |
| | Nova Ljubljanska banka (NLB) | 8 |
| | SID-SLOVENSKA IZVOZNA IN RAZVOJNA BANKA, d.d., LJUBLJANA | 8 |
| | | 8 |
| Spain | Banco Bilbao Vizcaya Argentaria, S.A. | 8 |
| | Banco de Sabadell, S.A. | 8 |
| | Banco Popular Espanol | 8 |
| | Banco Santander | 8 |
| | Caja de Ahorros y Pensiones de Barcelona | 8 |
| | Ibercaja Banco, S.A. | 8 |
| Sweden | Aktiebolaget Svensk Exportkredit | 8 |
| | Nordea Bank AB (publ) | 8 |
| | SBAB Bank AB (publ) | 8 |
| | Skandinaviska Enskilda Banken AB (publ) (SEB) | 8 |
| | Svenska Handelsbanken AB (publ) | 8 |
| | Swedbank AB (publ) | 8 |
| United Kingdom | Barclays Bank plc | 8 |
| | FCE Bank plc | 8 |
| | HSBC Bank plc | 8 |

| Country | Bank Name | Obs |
|---------|--------------------------------------|-----|
| | Lloyds Bank plc | 8 |
| | Santander UK | 8 |
| | Standard Chartered Bank | 8 |
| | The Royal Bank of Scotland plc (RBS) | 8 |

1.8. Conclusion

Banks comprise one of the most valuable financial intermediaries due to their role as providers of liquidity insurance and as delegated monitors of their stakeholders. In particular banks cover households' consumption needs and produce valuable information about their customers which is difficult to obtain due to high transaction costs. However, the maturity mismatch between their assets and liabilities makes them prone to runs. This weakness may force a bank to go bankrupt and even worse may distort the whole financial system.

The provision of governmental guarantees through deposit insurance systems and the fact that the most of a bank's debt is held by dispersed depositors may encourage bankers to invest in riskier assets. Within this context, policy-makers use a series of regulatory mechanisms in order to limit or eliminate banks' risk-taking incentives.

Previous studies suggested that the most successful way to minimize bank's risk is the regulation of bank capital. Therefore, the vast majority of countries around the world have adopted the regulatory framework of the BCBS which is known as the Basel Accord. The Basel Accord regulatory regime provides specific guidelines about uniform and efficient capital standards.

Similarly to other countries, the EU adopted the Basel Accord regulatory framework combined with a series of other regulatory mechanisms. The Basel Accord regulatory framework comprises an important part of the regulation in EU, because the integration of the financial services sector has been influenced by institutional differences across EU countries (Carletti and Vives, 2009). Besides, the aftermath of the financial crisis of 2008 raised serious concerns with regard to the regulatory weakness of the banking sector. Thus, the EU took a series of initiatives in strengthening the regulatory mechanisms of the banking sector by adopting stricter standards and imposing enhanced supervision.

Despite that regulation aims to protect the social welfare from banks' opportunistic behavior, it may create costs for the economy, as well. Firstly, the regulatory framework is going to change

the incentives and strategies of the regulated agents (Kroszner and Rajan, 1993; Aghion et al., 1999). Secondly, if regulation is not optimal, competition benefits may decline (Freixas and Santormero, 2003). Therefore, regulatory design should always be determined carefully and accompanied by high standards of transparency that can alleviate the negative impact of banks' opaqueness.

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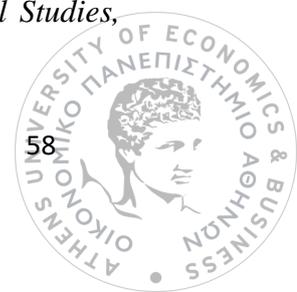
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CHAPTER II

EU Banks Accounting Policy Decisions and Market Discipline

Summary

The aftermath of the financial crisis raised serious concerns about bank's financial strength and the ability of supervisors to monitor efficiently banks' risk-shifting incentives. Within this context, regulators and policy-makers took initiatives in order to enhance market discipline which comprises a complementary regulatory tool for official supervision. In particular, the 3rd Pillar of the Basel Accord II gave a formal role to market discipline as a bank's regulatory mechanism. In fact, the Basel Accord requires banks to provide a series of information that will facilitate market participants to exert discipline.

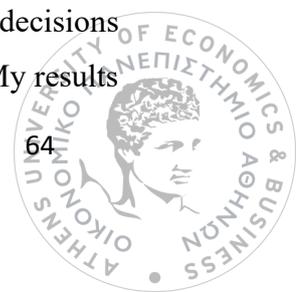
Although accounting information aims to improve the decision-making process of firms' stakeholders, market discipline may influence the accounting decisions of bank managers and consequently accounting quality. In particular, depositors' reactions may trigger either the intervention of supervisors or the bank's liquidity pressure. Therefore, bank managers may use accounting accruals in order to mask excessive-risk taking incentives and adjust earnings and regulatory capital ratios.

This chapter describes bank managers' incentives to smooth income through loan loss provisions and their accounting treatment as well. Furthermore, I review previous literature on market discipline and I present a theoretical framework about the impact of depositors' reactions on managers' accounting policy decisions.

I use a sample of 133 banks from 26 European Union countries for the period 2006-2013 and I investigate the association between deposits' withdrawal and deposit rates increase with the level of Loan Loss Provisions in order to explore whether depositors' discipline actions motivate banks to engage in earnings adjustments through accounting accruals.

My findings provide evidence that the demand for higher deposit rates limits management's accounting discretion. In contrast, deposits withdrawal does not appear to restrict accounting discretion. The observed associations appear to be conditioned upon banks' systemic importance and the level of their capital adequacy.

The findings of this study contribute to the existing literature banks' accounting policy decisions by focusing on the impact of market influence on banks' income smoothing behavior. My results



may be useful to regulators and academics that aim to explore bank managers' incentives and improve mechanism that limit managers' discretion and risk-shifting incentives.



2.1. Introduction

Market discipline (hereinafter, MD) refers to a situation in which private sector agents produce information that helps supervisors recognize problem situations and implement appropriate corrective measures (Flannery and Nikolova, 2004). Previous studies suggest that accounting can facilitate MD by providing high quality information to market participants (Rochet, 2005; Bushman and Williams, 2012). In fact, the 3rd Pillar of the Basel Accord II requires banks to provide a set of complete and high quality information in order to facilitate market participants to monitor banks efficiently. Yet, the association between MD and accounting information may be approached by an alternative angle. Managers' perceptions regarding the intensity and the effectiveness of MD mechanisms may lead them to adopt particular accounting policy decisions. Along with equity and debt holders, depositors can be classified as market participants (Bliss, 2004; Stephanou, 2010). This study investigates whether specific depositors' reactions - as MD mechanism - have an impact upon European Union (hereinafter, EU) banks' accounting policy decisions, with special reference on their income smoothing behavior.

Prior research has found that MD effectiveness is conditioned upon two distinct components: effective monitoring and market influence (Bliss and Flannery, 2001). Effective monitoring occurs when market participants' perceptions about a firm's condition, are reflected by changes into the firm's stock and bond prices. Market influence describes the ability of market participants to affect a firm's financial decisions. Within this study I focus on the market influence component of MD.

I investigate the impact of two specific depositors' reactions on banks' accounting policy decisions: the demand for higher deposit rates and the withdrawal of depositors' funds. Market discipline may force banks to alter their funding decisions. For instance, an increase of deposit rates may encourage banks to increase their capital (Fonseca and Gonzalez, 2010). Specifically, I investigate if banks respond to market pressures by increasing capital through accounting accruals and whether this decision differs between adequately and non-adequately capitalized banks. In addition, I investigate whether bank depositors can efficiently monitor large banks with international activities. The aftermath of the financial crisis raised a series of questions concerning monitors' ability to limit bankers' risk taking incentives. A series of failures of large banks forced regulators to discern systemically important banks and impose stricter regulatory requirements on them. Within this context, I examine whether MD efficiency differs between Globally Systemically Important Banks (hereinafter, GSIBs) and other banks.



I use a sample of 133 banks from 26 European Union countries (1.064 observations) for the period 2006-2013. In line with previous research, I examine loan loss provisions (hereinafter, LLPs) as a smoothing accounting tool. To test my empirical hypotheses I conducted a univariate analysis and I run a multivariate regression model. Similarly to previous research on income smoothing I use an OLS analysis to test our results.

The results of this study imply that depositors' discipline mechanisms comprise a critical factor for bank managers' accounting discretion. In particular, this study provides evidence that depositors' decisions to withdraw their funds or ask higher deposit rates motivates managers to engage in earnings adjustment through LLPs in order to avoid supervisory intervention or liquidity pressure. The multivariate results for the pooled sample imply that an increase of deposit rates reduces income smoothing through LLPs. In contrast, when depositors withdraw their funds, banks seem to engage more in income smoothing through LLPs. Furthermore, the MD mechanisms' efficiency appears to differ between adequately and non-adequately capitalized banks. Finally, my results imply that MD influences more GSIBs than the rest of banks. The robustness of the results is enhanced by the fact that the EU banking sector is regulated by uniform regulatory rules (Basel regulatory regime) and accounting standards (IFRS).

The findings of this study contribute to the existing literature concerning firms' accounting discretionary behavior with special reference to banks. Banking sector comprises a heavy regulated industry and banks have special characteristics that require special examination. My findings complement the findings of Hamadi et al. (2016) who examined the impact of the 1st Pillar of the Basel Accord II on banks' income smoothing decisions through LLPs. Moreover, my results complement the findings of Peterson and Arun (2018) who examined the income smoothing behavior of GSIBs vs. non-GSIBs. Furthermore, my analysis contributes in the existing body of research by focusing on the impact of MD on managements' accounting discretion, an issue that has drawn relatively limited attention until now (Flannery and Nikolova, 2004). I investigate whether depositors efficiently discipline banks and influence their accounting policy decisions. In addition to researchers and other academics, my findings can be useful to practitioners and regulators since I examine the effectiveness of regulators' decision to assign MD an important role within EU banks' monitoring framework. An issue that can be of particular importance, as the recent financial crisis has indicated.

The remainder of this chapter is organized as follows. Section 2.2 presents the literature review on bank's income smoothing behavior and MD process. In Section 2.3, I develop a framework for the influence of market participants on bank's income smoothing behavior and I formulate my hypotheses. In Section 2.4, I present other models on income smoothing through LLPs and the research methods used. Section 2.5 reports the empirical results of the univariate and multivariate analyses. The final section (Section 2.6) concludes the chapter and discusses the practical implications of our results.

2.2. Literature Review

Similarly to non-financial firms, banks are influenced by a series of market imperfections such as taxes, information asymmetry and agency problems. Furthermore, banks' opaqueness and the moral hazard problem, which derives from the existence of deposit insurance, encourage managers to act opportunistically at the expense of banks' stakeholders. Within this context, bank managers may engage in excessive risk-taking activities and/or use accounting accruals in order to adjust income and regulatory capital ratios.

2.2.1. Loan Loss Provisions and accounting adjustments

Previous literature posits that banks' loan loss provisions comprise the main income smoothing tool of banks. The next subsections describe the accounting treatment of loan loss provisions and the theoretical arguments about management's incentive to smooth income through LLPs.

2.2.1.1. The mechanics of loan loss provisions

Previous studies on banks' discretionary accounting choices have focused on the use of loan loss provisions as the main discretionary accounting accrual of banks³¹. Beaver and Engel (1996) argue that banks' "... allowance for loan losses is a plausible arena for the study of

³¹ Fonseca and Gonzalez (2008) argue that that banks have substantial latitude in determining the amount of provisions and that banks high leverage makes them quite vulnerable to volatility in asset values, prompting adequate LLPs which become banks' main accrual.

discretionary behavior (p.182)...” Firstly, the loan loss allowance comprises a large fraction of a banks’ capital. Secondly, accounting standards do not provide specific guidelines regarding the estimation of loan losses and the calculation of LLPs and consequently managers may recognize LLPs based on subjective assumptions.

At each balance sheet date, bank managers have to estimate the amount of LLPs that is expected to cover future loan losses due to the deterioration of banks’ borrowers’ credit quality. LLPs can be recognized either for large loans that can be individually impaired (specific provisions) or for a portfolio of small and homogeneous loans based on average historical and expected loan losses (general provisions). LLPs are an expense that is deducted from the annual banks’ income. The recognition of LLPs increases the loan loss allowance, which is presented in financial statements either as a contra-asset, or as a deduction from the value of the loan. When banks loans are assumed to be uncollectible, they are charged off against the LLA account, which does not affect income.

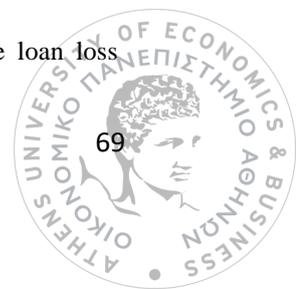
The accounting treatment of LLPs in the EU before the adoption of the IFRS significantly differed between Country Members. The diversity was justified due to the lack of uniformity between accounting regimes and regulatory framework (Gebhardt and Farkas, 2011)³². After the adoption of the IFRS accounting framework the accounting treatment of LLPs is determined by IAS 39. The Standard introduces an “incurred loan loss model” that requires the recognition of LLPs only when there is ‘objective evidence’ that impairment has occurred, as of the balance sheet date³³. As a result, provisions for expected losses of events expected to occur after the balance sheet date may not be recognized. Specifically, the Implementation Guidance in IAS 39.IG.E.4.6 clarifies:

“Amounts that an entity might want to set aside for additional possible impairment in financial assets, such as reserves that cannot be supported by objective evidence about impairment, are not recognized as impairment or bad debt losses under IAS 39.”

Furthermore, the Standard requires that the amount of the losses is measured as the difference between the asset’s carrying amount and the present value of estimated future cash flows discounted at the financial asset’s original effective interest rate. Although IAS 39 provides

³² For an analysis of the differences of LLPs’ accounting treatment before the adoption of the IFRS see Gebhardt and Farkas (2011).

³³ The incurred loss approach is to reduce the scope of judgment and discretion in determining the loan loss provision relative to the more forward forward-looking regimes that were in place before IFRS adoption.



analytical guidelines regarding the measurement of the amount of LLPs, it does not provide specific guidelines for the determination of a loss event. Instead, it provides a non-exclusive list of ‘trigger events’ that are indicators of impairment. Within this context, managers are permitted to use discretionary judgments in estimating the amount of expected losses that influence a banks’ financial position at the end of the balance sheet date.

2.2.1.2. Earnings management incentives

Previous studies have extensively investigated bank managers’ incentives to adjust earnings through LLPs. Empirical findings provide substantial evidence that there are three main incentives that encourage managers to engage in discretionary accounting adjustments: (i) signaling, (ii) regulatory capital management and (iii) income smoothing.

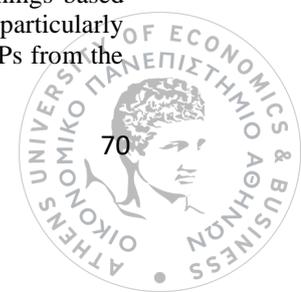
(i) Signaling hypothesis

Bank managers are strongly encouraged to signal their private information when they perceive that a bank’s market price is below its true value³⁴. Within this context, they will try to distinguish their ‘strong’ bank from other ‘weak’ banks (Kanagaretnam et al., 2004). Changes of dividend policy, stock repurchase and increases of investments comprise the main mechanisms for conveying information. However, the use of these mechanisms appears costly because they require cash outflows and have a negative impact on banks’ regulatory capital as well.

Signaling literature suggests that the credibility of a signal depends on the cost of the signal (Grossman, 1981; Milgrom, 1981). In particular, the credibility of the signal must be increasing in the signal itself and must be greater for weaker firms. As a result, LLPs comprise a credible signal given that they have a significant impact on banks’ income. On the other hand, they do not affect cash flows.³⁵ Therefore, they may comprise a more favorable signal for conveying

³⁴ Kanagaretnam et al. (2004) suggest that there may be incentives to signal for overvalued banks. However, those incentives may not be as strong as the incentives for undervalued banks. Rather, managers of overvalued banks may choose to voluntarily disclose adverse news to mitigate potential lawsuits from shareholders and/or to decrease reputation costs in financial reporting (Teoh and Hwang, 1991; Healy and Palepu, 1993).

³⁵ Wahlen (1994) points out that increased provisions appear costly to managers of banks in terms of earnings-based compensation but also increase regulatory capital ratios, which is beneficial to bank managers (particularly managers of under-capitalized banks). However, the Basel Accord regulatory framework eliminated LLPs from the computation of regulatory capital making them less attractive for adjusting earnings.



information. Beaver et al. (1989) argue that investors interpret an increase of LLPs as a sign of strength, “because it indicates that management perceives that the earnings power of the bank to be sufficiently strong that it can withstand a hit to earnings in the form of additional provisions.” Furthermore, Walhen (1994) argues that investors may interpret unexpected LLPs as a signal of management’s expectations about future loan losses because the recognition of provisions requires managers’ judgment³⁶.

Previous research on signaling hypothesis has focused on the factors that influence the association of discretionary LLPs with the signal for a bank’s future prospects. Empirical findings provide evidence that the use of LLPs as a signaling tools is dependent on the different conditions that banks face and the extent to which investors interpret high LLPs as a signal for improved loan quality or as a signal in anticipation of large nonperforming loans (Beaver and Engel, 1996; Kanagaretnam et al., 2004; Liu et al, 1997).³⁷

(ii) Regulatory capital management hypothesis

In contrast with non-financial firms’ management, bank managers have additional incentives to adjust income through accounting accruals, due to the imposition of minimum capital requirements. In particular, falling below the minimum regulatory capital may cause a direct regulatory intervention and includes sanctions such as a termination of federal deposit insurance, limiting banking activities, limitations on dividend policy and management change.³⁸

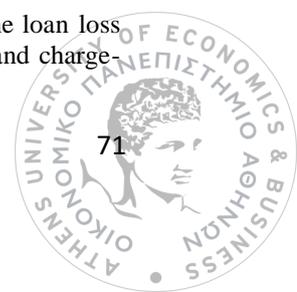
In the pre-Basel period, LLPs comprised a constituent of banks’ primary capital. Within this context, banks that face an earnings decline could offset a potential regulatory intervention by increasing LLPs and boosting their capital ratios above the minimum level (Moyer, 1990).³⁹ The findings of Beatty et al. (1995) and Moyer (1990) implied that banks manage LLPs in order to

³⁶ Beaver and Engel (1996) suggest that loan loss allowances consist of two components. The nondiscretionary portion of the allowance is predicted to be negatively priced because it reflects an impairment of the loan assets due to expected nonpayment of principal. In contrast, the discretionary portion is predicted to be positively priced or valuation-neutral and, therefore, is predicted to have a positive incremental coefficient to the nondiscretionary component.

³⁷ Ahmed et al. (1999) did not find evidence to support the signaling hypothesis.

³⁸ Bishop (1996) argues that large banks in particular could continually violate minimum capital standards without provoking regulatory intervention.

³⁹ Moyer (1990) explains that manager can increase the primary capital adequacy ratio by increasing the loan loss provision alone or decreasing loan charge-offs alone. Increasing the difference between the provision and charge-offs by increasing the provision or reducing charge-offs increases the capital adequacy ratio.

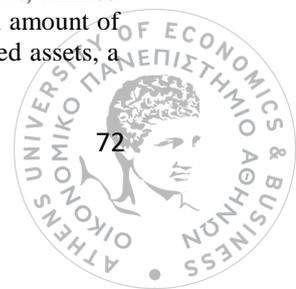


adjust their regulatory ratios. In contrast, Collins et al. (1995) findings did not show any significant association between LLPs and regulatory capital ratios.

The adoption of the Basel regulatory framework in 1990 altered the incentives of regulatory capital management. In particular, the new regulatory regime eliminated LLPs from the computation of the primary regulatory capital (Tier I capital).⁴⁰ Within this context, bank managers could adjust LLPs and simultaneously smooth income and regulatory capital ratios (Kim and Kross, 1998; Ahmed et al., 1999). In particular, banks that face a decline of earnings could understate the amount of LLPs and increase both income and regulatory capital. Furthermore, Kilic et al. (2012) suggest that in the absence of minimum regulatory capital ratios, banks will view LLPs as a form of bank capital. When equity capital is low banks will overstate LLPs to compensate for their low capital level and will understate LLPs when they have sufficient equity capital, reflecting banks' use of LLPs for capital management purposes.

A series of studies examined the relationship between LLPs and regulatory capital after the adoption of the Basel Accord. The findings of Kim and Kross (1998) implied that, after the adoption of the new regulatory regime, banks with low capital ratios reduced their loan loss provisions. Similarly, Ahmed et al. (1999) provided evidence that banks use LLPs to manage regulatory capital in the new regime. Furthermore, Anandarajan et al. (2007) found that Australian banks use LLPs for capital management but there was no change in their behavior despite the implementation of the Basel Accord guidelines. On the other hand, Perez et al. (2008) did not find any evidence to support the regulatory capital management hypothesis for Spanish banks under a dynamic provisioning model. Similarly, Leventis et al. (2011) found no association between regulatory capital and LLPs after the adoption of the IFRS from the EU.

⁴⁰ Instead, a small portion of general loan loss provisions could be included in the computation of the supplementary regulatory capital (Tier II capital) (up to a maximum of 1.25% of risk-weighted assets) Within this context, Ahmed et al (1999) explain that a dollar increase in loan loss provisions *decreases* Tier I capital by the after-tax amount of the provision. However, since loan loss reserves still count as Tier II capital up to 1.25% of risk-weighted assets, a dollar increase in loan loss provision increases Total capital by the tax rate times one dollar.



(iii) Income smoothing hypothesis

Banks' income smoothing through has caused a prolonged debate between accounting standard setters and regulators⁴¹. At the aftermath of the financial crisis, banks regulators accused the IFRS proposed "incurred loan loss model" for its pro-cyclical influence during the financial crisis^{42,43}. They argued that this model should be replaced by another model that would encourage managers to recognize forward-looking provisions that will be adequate to cover future expected losses.⁴⁴

Previous studies have investigated bank managers' incentives to smooth income through LLPs. Greenawalt and Sinkey (1988) suggest that "*When bank income is up, it makes sense to inventory some of it as a provision for loan losses—the notion of saving for a rainy day. When income is down, the inventory can be drawn down to cover actual loan losses (p.301).*" They argue that management may be encouraged to engage in income smoothing practices for various reasons such as altering risk perceptions, dealing with regulatory constraints or handling agency problems.

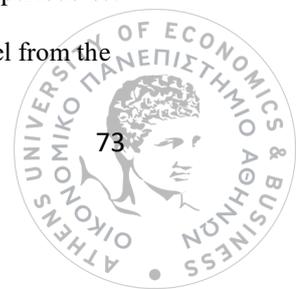
Bank managers have strong incentives to smooth income in order to reduce earnings variability and their banks' perceived risk (Kanagaretnam et al., 2004). Collins et al. (1995) argue that "*It is difficult to separate a bank's demand for increased earnings from its demand for regulatory capital because earnings are a source of capital. (p.268)*". However, the level of reported earnings comprise an individual concern for banks, given that all banks' stakeholders rely on reported accounting numbers in order to allocate their property rights. On the other hand, Beatty et al. (1995) argue that banks' earnings management incentives are less obvious than capital management, because banks' high earnings may attract the interest of regulators. Furthermore, bank managers may engage in income smoothing practices due to job security concerns. Kanagaretnam et al. (2003) found that managers who wish to secure their jobs engage in earnings manipulation taking into account their banks' current and future performance.

⁴¹ For an analysis of the difference between the perspectives of the accounting standard setters and regulators, see Wall and Koch (2000).

⁴² For an analysis of the differences between the LLPs model see Barth and Landsman (2010).

⁴³ Borio et al. (2001, pp. 1-57) find a strong negative relationship between LLPs and the business cycle for 10 OECD countries while Beatty and Liao (2009) observe that banks delay the timing of LLPs until recessionary periods set in, reinforcing the current state of the economy.

⁴⁴ The introduction of the IFRS 9 substituted the "incurred loan loss" model by an expected loss model from the 1/1/2018.



Kanagaretman et al. (2005) argue that managers have incentives to smooth income to reduce the variability in reported earnings and their bank's perceived risk. Therefore, management will take actions to increase reported income when actual income is low or decrease reported income when actual income is high.

Empirical findings have supported that LLPs comprise the main smoothing tools of banks since a series of studies have provided supportive evidence regarding the positive association between LLPs and banks' income before provisions and taxes (Ahmed et al., 1999; Laeven and Majnoni, 2003; Kanagaretnam, et al., 2004; Bikker & Metzmakers, 2005; Liu and Ryan, 2006; Anandarajan et al., 2007; Perez et al., 2008; Fonseca and Gonzalez, 2008; Leventis et al., 2011; Ozili, 2017a,b).

2.2.2. Market Discipline

The lessons of previous banking failures motivated policy-makers to enhance regulatory mechanisms in order to limit banks' risk-shifting behavior. This trend was formally exemplified by the inclusion of market discipline (hereinafter, MD) as one of the three pillars (Pillar 3) of the Basel II regulatory framework. The main objectives of this Pillar are to complement minimum capital requirements and official supervision by enabling market participants to obtain key information about banks' capital and risk profile⁴⁵.

According to Peria and Schmukler (2001) MD can be beneficial in several ways Firstly, MD may reduce the moral hazard problem incentives which derive from deposit insurance system that encourage bank to undertake excessive risk. Secondly, MD may improve the efficiency of banks by pressuring them either to operate more efficiently or exit the industry. Thirdly, MD may lower the social cost of supervising banks since regulators delegate banks' monitoring to market participants. Finally, MD can better align the interests between agents and principals and mitigate the agency costs that derive from inefficient contracting.

Previous literature defines MD as the mechanism through which market participants monitor and discipline excessive risk-taking behavior by banks⁴⁶. MD's framework derives from a broader

⁴⁵ Stephanou (2010) clarifies that Pillar 3 disclosures are not required to be audited and banks managements if free to determine the appropriate manner for the provision of such disclosures.

⁴⁶ Flannery and Nikolova (2003) define market discipline as follows: "Market discipline describes a situation in which private sector agents – equity-holders and debt-holders – produce information that helps supervisors

literature of the efficient market hypothesis and posits that depositors and creditors could significantly rein in risk at banks by acting in their own interest. In particular, with the absence of a deposit insurance system and its distortive effects, depositors could discipline risky banks since the withdrawal of funds is a vote of confidence in the activities of the banker (Calomiris and Kahn, 1991).⁴⁷

MD may be exerted in various forms. Stephanou (2010) distinguished the forms of MD into direct and indirect. Direct MD occurs when market participants themselves can take actions against banks' risk-taking behavior. For instance, MD is exerted when depositors decide to withdraw their funds or investors sell their shares at low prices. On the other hand, indirect MD is usually caused by regulatory intervention, when supervisors notice a market signal about a banks' probability of failure. Furthermore, MD can operate either on an *ex-ante* basis or on an *ex post* form (Bliss, 2004; Stephanou, 2010). The *ex-ante* form of MD occurs when market participants discourage bank managers to engage in excessive risk-taking activities. On the other hand, *ex post* MD occurs when MD results in bank runs, share price collapses and lawsuits.

Bliss and Flannery (2001) describe two distinct components of MD – market monitoring and market influence. Effective monitoring occurs when investors can accurately assess changes in a firm's condition, and promptly impound those changes into the firm's equity prices and yield spreads. Monitoring requires the market participants to have the incentives and ability to monitor the actions of the firm and its managers (Bliss, 2004).⁴⁸ Market influence describes the ability of market participants to affect a firm's financial decisions. In fact, market influence is a kind of feedback from the monitors which induces firm managers to adjust their behavior.

MD studies have mainly centered on the effective monitoring hypothesis due to the difficulty of investigating the market influence hypothesis⁴⁹. A series of studies have examined the existence of efficient monitoring by investigating whether banks' investors and particularly retail

recognize problem situations and implement appropriate corrective measures". Hellwig (2005) attributes the eminence of the term on emotional appeal of its association with markets and the market-based system.

⁴⁷ Peria and Schmukler (2001) explain that deposit insurance may affect the extent of market discipline. If depositors know that their funds are safe and liquid, they will not have an incentive to withdraw their deposits from their bank when they see other banks fail. In contrast, a credible deposit insurance system reduces the incentives of depositors to monitor banks, diminishing the degree of market discipline.

⁴⁸ Bliss (2004) argues that the incentives to monitor depend on the cost/benefit trade-offs of doing so. Furthermore, ability involves both access to necessary information about the firm (transparency) and the ability to properly interpret that information (competence).

⁴⁹ Rajan (2001) argues that market influence is hard to identify because market prices impound expected future actions. The impact of any shock on a firm's value therefore depends on the shock itself and the managers' anticipated reaction to the shock.

depositors, are able to monitor banks. The vast majority of these studies concluded that depositors manage to discipline banks either by withdrawing deposits (Billet et al., 1998; Jordan, 2000; Calomiris and Wilson, 1998; Davenport and McDill, 2005; Shimizu, 2009) or by asking higher deposit rates (Baer and Brewer, 1986; Hannan and Hanweck, 1988; Ellis and Flannery, 1992; Hess and Feng, 2007). Similarly to depositors, banks' subordinated debt holders can also exert MD. These investors are more sophisticated than depositors and consequently they may exert or implement MD more efficiently. Related studies found that subordinated debt holders exert MD in riskier banks (Flannery and Sorescu, 1996; Jagtiani et al., 2000; De Young et al., 2001; Evanoff and Wall, 2001; Blum, 2002).

The interbank market may comprise an alternative MD mechanism that safeguards depositors' interests without the government's intervention (Bhattacharya and Gale, 1987). However, the presence of information asymmetry and the provision of monitoring services from banks require a large portion of their assets to be in the form of illiquid loans. Within this context, monitoring may become more effective and depositors' funds may be safe because excessive risk-taking will be limited. However, this process may deter banks' from maintaining adequate liquid assets to refund depositors. Therefore, interbank market will not generally be able to provide depositors with full liquidity insurance (Santos, 2001). MD exerted by other banks may comprise a strong source of discipline for banks (Min 2015). First, interbank loans are short-term (often overnight). Thus, bank lenders can immediately react to new information about a bank's condition. Second, interbank loans are usually uninsured and therefore, lenders have increased incentives to monitor their borrowers. Third, bank lenders have better information about banking business and consequently have a relative advantage in monitoring in comparison with other market participants. Fourth, interbank loan markets are fairly liquid and this condition encourages more efficient market responses. Empirical findings provide evidence that bank lenders, similarly to depositors, enforce MD and the extent of this discipline depends on their exposure to liabilities issued by other banks (Furfine, 2001; King, 2008).

The substantial evidence about the ability of market participants to monitor banks efficiently led some policy-makers to argue that MD can substitute financial market supervision and regulation to a certain extent. Although the debate for the deregulation of the financial services sector is in progress, Stephanou (2010) suggests that informational asymmetries and regulatory forbearance may deter supervisors to discipline riskier banks efficiently. Consequently, the existence of market participants that monitor banks provides an additional tool of discipline that complements supervision and limits forbearance. Within this context, MD took the role of an official

regulatory tool as it was incorporated in the Pillar III of the Basel Accord II. In particular, the Basel Committee on Banking Supervision (2001) noted that *'Market discipline imposes strong incentives on banks to conduct their business in a safe, sound and efficient manner, including an incentive to maintain a strong capital base as a cushion against potential future losses arising from risk exposures'*. Therefore, under the guidelines of the Basel Accord II, banks should provide additional disclosure with regard to their capital and risks. This disclosure will improve transparency and facilitate banks' discipline from market participants.

2.3. Hypotheses

The sub-section 2.3.1 describes the mechanism via which depositors' reactions may influence bank managers' decisions. Furthermore, sub-section 2.3.2 presents my empirical hypotheses.

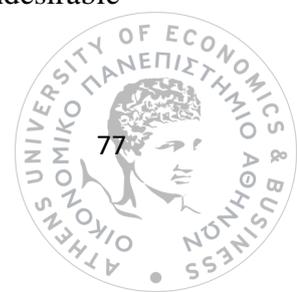
2.3.1. Market influence on bank managers' decisions

Previous studies suggest that banks' income smoothing behavior is driven by managers' own incentives. However, managers accounting policy decisions may be the result of market influence. Bliss (2004) argues that MD becomes efficient when there is a feedback from the monitors which induces firm managers to adjust their behavior. In particular, managers are in the heart of the market discipline process and are continuously monitored by market participants.

Market participants may influence bank managers' decisions in various ways that depend on their own incentives⁵⁰. Equity holders can monitor managers either through the board of directors or through stock prices. Similarly, large debt holders can adjust risk premiums depending on a bank's perceived risk or demand collaterals that will ensure their funds. In turn, official supervisors seek for detailed information regarding banks' operations and may intervene when they assess that a bank does not manage to meet regulatory requirements. Finally, depositors exert MD either through withdrawing their funds or through asking higher interest rates.

Although all market participants monitor managers depending on their incentives and ability, depositors' (insured or uninsured) special attributes may cause the most undesirable

⁵⁰ For an extensive discussion about the incentives of market participants, see Bliss (2004).



consequences.⁵¹ Despite that a stream of research suggests that depositors should change their behavior in response to firm risk (Berger and Turk-Ariss 2015), they appear unable to adjust gradually to changes of a bank's risk profile (Bliss and Flannery, 2001). Depositors are usually diffused and as a result they face high costs when they collect information to assess banks' financial position. Consequently, when depositors perceive that a bank is risky, they will withdraw funds suddenly in a "run" to reduce losses of their funds. Furthermore, depositors tend to use information about one bank to infer incorrectly the condition of others (Docking et al., 1997; Jordan et al., 2000). As a result, a bank's failure may trigger contagious runs and widespread panics⁵².

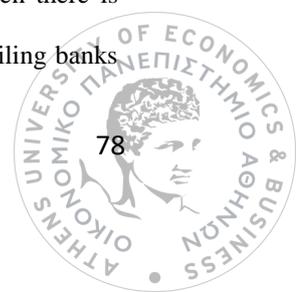
The unexpected reactions of depositors make them a critical factor regarding managers' decision-making process. Similarly with other market participants, depositors may influence bank capitalization. According to Van den Heuvel's (2002) model, banks invest in long term assets and finance them with equity and short term-debt (including deposits). The maturity mismatch between assets and debt makes banks vulnerable to interest rate changes and shortage of deposits. Therefore, an increase of deposit interest rates will cause a profit decline, because a bank's interest cost will rise faster than its interest revenue. In addition, a withdrawal of deposits will force banks either to increase capital and replace lost funds or to forgo profitable investments on risky assets. In the case that a bank appears unable to return depositors' funds, it will go bankrupt.

Within this context, a financial firm can keep its default probability constant if it manages to offset changes in assets' risk with changes in capital. Flannery and Nikolova (2004) argued that the causality in the relationship between risk and capital can flow in either direction. Banks can first accumulate capital and then choose to substitute into riskier activities, perhaps because they need to take on more risk in order to pay for their higher overall financing cost. On the other hand, they may decide to increase risk and then build up capital to reduce the probability of default.

Given that equity issuance is expensive, bank managers may use LLPs and adjust earnings and capital in order to offset the imposed costs from an increase of deposit rates or a shortage of deposits. In particular, when depositors influence banks' profitability, bank managers may

⁵¹ Peria and Schmukler (2001) suggest that depositors are prompted to exercise market discipline when there is uncertainty about the future availability of their deposits, insured or uninsured.

⁵² Calomiris and Mason (1997) find no evidence to support such a belief. Their findings implied that failing banks could be distinguished from non-failing banks at least six months before the panic.

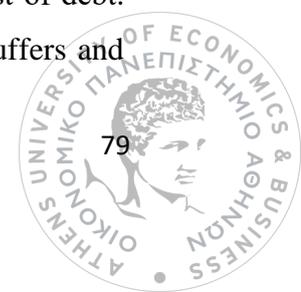


understate LLPs and increase income and capital. On the other hand, when depositors perceive that a bank is safe; managers can overstate LLPs and keep a part of earnings as inventory in order to use it when their bank faces market discipline.

2.3.2. Hypotheses Development

Although the current framework of LLPs provides banks with substantial latitude to over(under)state income deliberately, MD and regulation impose a series of disciplinary costs. Similarly to all market participants, depositors face costs that increase as firms undertake risks. Within this context, depositors' reaction to these costs can be classified into three categories. First, depositors can monitor banks' condition and discipline them by requiring higher coupon or deposit rates from riskier banks. In this case, official supervisors will receive a signal that some investors have noticed a change in a bank's risk levels (Berger, 1991). Second, if banks refuse to provide the higher rates that market demands, at least some market participants will withdraw uninsured funds from the bank (Billet et al., 1998). The withdrawal of funds may not comprise a signal to supervisors, but it may force a bank to shrink if it is unable to find alternative sources of funds and repay its obligations. As a result banks' position will be affected. Third, market reactions may force a bank to restore its initial default probability either by reducing asset size or issuing new equity. In this case, supervisor does not receive any signal, but the market directly influences banks' management investing and financing decisions (Berger, 1991).

The efficiency of MD may influence the financing decisions of banks. In fact, banks face a combination of regulatory and market discipline. The results of these two forms of discipline determine the cost of risk-taking (Billet et al., 1998). Depositors can discipline banks for increasing risk either by increasing the costs of debt or by withdrawing deposits. Moreover, regulators impose discipline through risk-based capital requirements and continuing monitoring. If the costs of regulatory and market discipline differ, banks are expected to prefer the less costly option (Billet et al., 1998). An alternative approach suggests that MD is the main reason that banks maintain high capital ratios that exceed the minimum capital requirements (Fonseca and Gonzalez, 2010). When bank liabilities are not totally insured, depositors will demand higher returns in order to limit managers' excessive risk-taking. Thus, if bankers deem that MD costs are higher, they will be encouraged to increase capital and reduce banks' risk and cost of debt. Flannery and Rangan (2008) analyzed the influence of market discipline on capital buffers and



found that large bank holding companies raised their capital ratios in 1994 and none of them was constrained by official supervisors until 2000. Nier and Baumman (2006) investigate the influence of MD on capital buffers and found that stronger MD results in higher capital ratios. Furthermore, Fonseca and Gonzalez (2010) investigated capital buffers in a cross-country study and found that higher capital buffers are related with higher costs of deposits.

The above arguments imply that when banks take financing decisions, they are influenced by depositors' reactions such as deposit rates fluctuations or withdrawals of deposits. Banks can respond by increasing regulatory capital either through equity issuance or by reducing the level of their assets. However, both decisions may convey negative signals to market participants. In the case of an equity issuance and when information asymmetry exists, investors may perceive that a bank's is not able to serve its obligations because the value of its assets is less than the value of its liabilities (Myers and Majluf, 1984). On the other hand, assets reduction means that a bank may have to forgo positive net present value projects or sell assets at prices below their fair value (Fonseca and Gonzalez 2008).

Within this context, banks may prefer to adjust income through accounting accruals and avoid potential costs from an equity issuance or an asset reduction. In the case of depositors, when bankers receive signals from their reactions, they will decide to over(under)state LLPs and adjust both income and regulatory capital as a response to MD mechanisms. Depositors will probably not receive any signal from managements' actions because they are usually diffused and uninformed. Therefore, managers who engage in discretionary accounting decisions in order to conceal banks' risk and adjust income act for their own interest.

The demand for higher rates and the withdrawal of deposits is an ongoing process that occurs throughout the fiscal year. Banks' records and data provide timely information about depositors' behavior before the preparation of a bank's financial statements. Managers are better informed about their banks' risk than regulators (Santos, 2001), thus banks are expected to analyze market signals faster than their official supervisors and other banks' monitors. Subsequently, managers may decide if they have to adjust LLPs in order to smooth income and regulatory capital ratios. In particular, if managers observe a decline of the current year's deposits, they will have to understate LLPs in order to improve bank's equity through an income increase (Walhen, 1994; Beatty et al., 1995; Collins et al., 1995). When the confidence of market returns, they will be able to recognize the residual portion of their discretionary LLPs. On the other hand, if managers observe high confidence from investors, they may deliberately overstate LLPs and allocate a

capital buffer that will be available for a ‘rainy day’ (Greenawalt and Sinkey, 1989; Moyer, 1990). Therefore, I formulate the following hypothesis:

H1: There is no difference in the association between LLPs and earnings before provisions and taxes between banks with an increase of deposits and banks with a decrease of deposits.

Bank managers are likely to adjust income through LLPs, when they observe investors’ demand for higher deposit rates. When depositors anticipate that bank risk increases, they will demand higher deposit rates in order to continue investing their funds in the bank. Subsequently, official supervisors are expected to receive a signal about the bank’s increased risk and intervene in management’s operations. Therefore, banks are expected to understate LLPs and increase income and regulatory capital upwards in order to avoid a potential regulatory intervention. When, depositors feel certain about the specific banks’ financial health, managers will reverse the capital buffer that was created through discretionary LLPs. Therefore, I formulate the following hypothesis:

H2: There is no difference in the association between LLPs and earnings before provisions and taxes between banks with an increase of deposit rates and banks with a decrease of deposit rates.

The decision of banks to engage in discretionary accounting practices imposes costs on banks because a bank’s capital ratio at any particular time will differ from its target ratio (Fonseca and Gonzalez, 2010). For instance, if banks deem that depositors are likely to withdraw their funds because they anticipate a bank as risky, managers will understate LLPs and increase both income and regulatory capital in order to improve bank’s perceived risk⁵³. Banks that have relatively lower capital ratios than their target will face higher costs to achieve these adjustments. In contrast, banks that have already high capital ratios are less likely to attract supervisors’ attention and consequently they will face lower costs.⁵⁴

⁵³ Berger et al. (2008) document that U.S. banks hold capital in excess of the most stringent regulatory requirements and consider whether this is consistent with a pecking order view of capital structure or an optimal capital structure based on market conditions. They conclude that banks actively manage their capital ratios, which is inconsistent with the pecking order view and they target a specific capital ratio that typically exceeds the regulatory capital requirements.

⁵⁴ Several studies attempt to explain why targeted capital ratios are significantly higher than regulatory minimums. For example, Peura and Keppo (2006) find that return volatility explains a fraction of the variation in bank capital ratios. Kashyap et al. (2010) and Allen et al. (2011) argue that the reason why banks are determined to operate with high leverage is because of the competitiveness nature in financial services. On the other hand, Gropp and Heider (2009) argue that unobserved time-invariant bank fixed effects are ultimately the most important determinant of banks’ capital structures and that banks’ leverage converges to bank specific time invariant targets.

Similarly, capital structure may influence banks' accounting adjustments in the case of demand for higher rates. In particular, banks with higher capital ratios than their target may absorb more easily the losses from the provision of higher deposit rates. Thus, such banks may not select the adjustment of capital through accounting accruals. On the other hand, banks with lower capital ratios than their target may face a greater pressure when they have to compensate depositors with higher rates. Therefore, managers of not adequately capitalized banks have greater incentives to understate LLPs and offset the negative impact from higher rates. Within this context, banks capital adequacy may influence bank managers' income smoothing decisions and subsequently the efficiency of MD. Therefore I investigate whether capital adequacy influences the association between MD and managers' accounting decisions by formulating the following hypotheses:

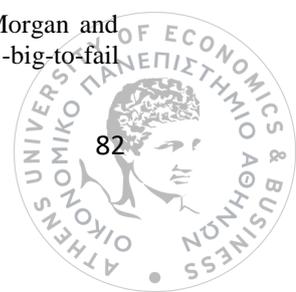
H1a: The impact of MD through the withdrawal of deposits on income smoothing through LLPs for adequately capitalized banks is not significantly different from the impact of MD on income smoothing through LLPs for non-adequately capitalized banks.

H2a: The impact of MD through the increase of deposit rates on income smoothing through LLPs for adequately capitalized banks is not significantly different from the impact of MD on income smoothing through LLPs for non-adequately capitalized banks.

The effectiveness of MD may also be influenced by a bank's size since large banks may be deemed as 'too-big-to-fail' (Thomson, 2009). Governments may provide guarantees of repayment for large uninsured creditors of the largest banks so they do not suffer any loss, even when they are not automatically entitled this guarantee (Mishkin, 1999).⁵⁵ Within this context, large depositors have fewer incentives to monitor large banks since they are certain that they will not suffer any losses. Bernanke (2010) argued that the 'too-big-to-fail' policy and the existence of systemically important banks comprise significant factors that intensified financial crisis. Firstly, moral hazard is increased because depositors are reluctant to withdraw their deposits or demand higher rates. Secondly, the competition between large and small banks becomes unfair. Thirdly, the high complexity of large and interconnected banks may disrupt the whole financial system in the absence of an appropriate resolution mechanism.

In the aftermath of the financial crisis the Financial Stability Board (hereinafter, FSB) aimed to find a solution for the ramifications of the 'too-big-to-fail' problem. The FSB developed a

⁵⁵ Flannery and Nikolova (2004) mention the example of the takeover between Bear Sterns and JP Morgan and argue that market participants' incentives to monitor and discipline banks were blunted by too-big-to-fail considerations.



method in order to identify globally systemically important banks (GSIBs) to which a set of stricter requirements would have been applied since 2009. In 2013, the European Banking Authority (hereinafter, EBA) followed FSB and initiated a process for the identification of systemically important banks across EU countries. The process included not only GSIBs but also other large institutions which are potentially systemically important (e.g. institutions with an overall leverage exposure measure of more than 200 billion Euros). These banks would be subject to stricter capital requirements, which will enhance the going-concern loss absorbency of GSIBs and reduce the probability of their failure.

Prior evidence supported the argument that size influences banks' operations. Beatty and Liao (2011) found that large banks are more vulnerable to capital constraints in the post Basel Period. Olszak et al. (2016) argued that size influences banks' risk while banks of different size adopt different provisioning patterns. Peterson and Arun (2018) found that income smoothing is pronounced among GSIBs in the post-crisis period and pronounced among non-GSIBs in the pre-crisis period. Moreover, empirical findings implied that the 'too-big-to-fail' policy reduces MD (Kane, 2000; Penas and Unal, 2004). In addition, Demirguc-Kunt and Huizinga (2013) distinguish between absolute size large banks and systemically large banks and found that MD is higher for the latter ones.

Within this context, MD may differ between systemically important and not systemically important banks. If MD is greater for large banks, then managers' accounting discretion may differ depending on a bank's importance and the extent of market participants' discipline. In particular, governments' forbearance policies for GSIBs may deter depositors from withdrawing their funds from risky banks. Thus, GSIBs may not use accounting accruals to adjust income and capital and avoid supervisory intervention. In contrast, the rest of banks may have to offset such market reactions through accounting adjustments, attracting the attention of official regulators. Similarly, demand for higher deposit rates may have a controversial impact on GSIBs and the rest of banks. When GSIBs have to provide higher rates to depositors, they may use LLPs to adjust income and capital as a response to market participants' reactions. However, GSIBs importance may cause supervisory forbearance which, in turn, increases GSIBs incentives to smooth income through accounting accruals.

In order to investigate whether banks' systemic importance has an impact on the association between income smoothing and MD I formulate the following hypothesis:



H1b: The impact of MD through the withdrawal of deposits on income smoothing through LLPs for GSIBs is not significantly different from the impact of MD on income smoothing through LLPs for non- GSIBs.

H2b: The impact of MD through the increase of deposit rates on income smoothing through LLPs for GSIBs is not significantly different from the impact of MD on income smoothing through LLPs for non- GSIBs.

2.4. Research Design

2.4.1. Review of previous models

Beatty and Liao (2014) reviewed past discretionary LLPs models and concluded that the identification of the best LLPs model is not feasible due to differences in the assumptions and the research design. In particular, some studies treat charge-offs and loan loss allowance as discretionary while others treat them as exogenous. The authors identified nine LLPs' models which are presented in Table 2-1.

Table 2-1: Specification of Provision Models

| | Authors | Models Excluding Earnings and Regulatory Capital Variables |
|----|------------------------------|--|
| 1. | Beaver and Engel, 1996 | $LLP_t = \alpha_0(1/GBV)_t + \alpha_1CO_t + \alpha_2\Delta Loan_t + \alpha_3\Delta NPA_t + \alpha_4\Delta NPA_{t+1} + \varepsilon_t$ |
| 2. | Kim and Kross, 1998 | $LLP_t = \alpha_0 + \alpha_1 Loan_{t-1} + \alpha_2\Delta Loan_t + \alpha_3\Delta NPA_t + \alpha_4 NPA_{t-1} + \alpha_6 CO_t + \alpha_6 SIZE_{t-1} + \varepsilon_t$ |
| 3. | Kanagaretnam et al., 2010 | $LLP_t = \alpha_0 + \alpha_1 ALW_{t-1} + \alpha_2 NPA_{t-1} + \alpha_3 CO_t + \alpha_4\Delta Loan_t + \alpha_5 Loan_t + \varepsilon_t$ |
| 4. | Beck and Narayanmoorth, 2013 | $LLP_t = \alpha_0 + \alpha_1 CO_t + \alpha_2 \Delta NPA_t + \alpha_3 SIZE_{t-1} + \alpha_4 CSRET_t + \alpha_5 \Delta UNEMP_t + \alpha_6 ALW_{t-1} + \varepsilon_t$ |
| 5. | Wahlen, 1994 | $LLP_t = \alpha_0 + \alpha_1 E\Delta NPA_t + \alpha_2 NPA_{t-1} + \alpha_3 ALW_{t-1} + \varepsilon_t$ |
| 6. | Collins et al., 1995 | $LLP_t = \alpha_0 + \alpha_1 ALW_{t-1} + \alpha_2 NPA_{t-1} + \alpha_3 \Delta NPA_t + \varepsilon_t$ |
| 7. | Beatty et al., 1995 | $LLP_t = \alpha_0 + \alpha_1 NPA_{t-1} + \alpha_2 ALW_{t-1} + \varepsilon_t$ |
| 8. | Liu and Ryan, 2006 | $LLP_t = \alpha_0 + \alpha_1 \Delta NPA_t + \varepsilon_t$ |
| 9. | Bushman and Williams, 2012 | $LLP_t = \alpha_0 + \alpha_1 \Delta NPA_{t+1} + \alpha_2 \Delta NPA_t + \alpha_3 \Delta NPA_{t-1} + \alpha_4 \Delta NPA_{t-2} + \alpha_5 SIZE_{t-1} + \alpha_6 \Delta GDP_t + \varepsilon_t$ |

ALW: Loan loss allowance divided by total loans
CO: Net charge off divided by lagged total loans

| | |
|-------------------|--|
| <i>CSRET</i> : | The return on the Case-Shiller Real Estate Index over the quarter. |
| <i>GBV</i> : | Common shareholders' equity plus loan loss allowance |
| <i>LLP</i> : | Loan loss provision scaled by lagged total loans |
| <i>Loan</i> : | Total loans divided by total assets |
| <i>NPA</i> : | Non-performing assets divided by lagged total loans |
| <i>SIZE</i> : | The natural log of total assets |
| ΔGDP : | Change in GDP over the quarter. |
| $\Delta Loan$: | Change in total loans divided by lagged total loans |
| ΔNPA : | Change in non-performing assets divided by lagged total loans |
| $\Delta UNEMP$: | Change in unemployment rates over the quarter. |
| $E\Delta NPA_t$: | Predicted value of from: $\Delta NPA_t = \alpha_0 + \alpha_1 \Delta NPA_{t-1} + \varepsilon_t$ |

2.4.2. Research Methodology

In order to test my empirical hypotheses I run a multivariate model. The development of the model is based on the analysis of models presented in Beatty and Liao (2014). I modified those models in order to examine the interaction between certain market discipline reactions and EU banks income smoothing behavior. In order to investigate separately the impact of deposit withdrawal and increase of deposit rates I use the following equations:

$$LLP_t = \beta_0 + \beta_1 NPL_t + \beta_2 \Delta NPL_t + \beta_3 CO_t + \beta_4 ALW_{t-1} + \beta_5 SIZE_{t-1} + \beta_6 \Delta GDP_t + \beta_7 \Delta UNEMP_t + \beta_8 \Delta LOAN_t + \beta_9 LOAN_t + \beta_{10} EBPT_t + \beta_{11} \Delta DEPOSITS_t + \beta_{12} CAPITAL_{1t} + \beta_{13} (EBPT_t * \Delta DEPOSITS_t) + \varepsilon_t \text{ (MODEL 1)}$$

$$LLP_t = \beta_0 + \beta_1 NPL_t + \beta_2 \Delta NPL_t + \beta_3 CO_t + \beta_4 ALW_{t-1} + \beta_5 SIZE_{t-1} + \beta_6 \Delta GDP_t + \beta_7 \Delta UNEMP_t + \beta_8 \Delta LOAN_t + \beta_9 LOAN_t + \beta_{10} EBPT_t + \beta_{11} \Delta DEPOSITS_t + \beta_{12} CAPITAL_{1t} + \beta_{13} (EBPT_t * \Delta INTEREST_t) + \varepsilon_t \text{ (MODEL 2)}$$

Where:

| | |
|----------------------------|--|
| <i>LLP_t</i> : | Loan loss provisions at the end of year t scaled by lagged total loans |
| <i>NPL_t</i> : | Change in non-performing assets at the end of the current year t divided by lagged total loans |
| ΔNPL_t : | Change in non-performing assets at the end of the current year t divided by lagged total loans |
| <i>CO_t</i> : | Net Charge-offs of the current year t scaled by lagged total loans |
| <i>ALW_{t-1}</i> : | Loan loss allowance at the end of the previous year t-1 divided by total loans |

| | |
|---|--|
| SIZE _{t-1} : | The natural log of total assets of the previous year t-1 |
| ΔGDP _t : | Change in GDP at the end of the current year t |
| ΔUNEMP _t : | Change in unemployment rates at the end of the current year t |
| ΔLOAN _t : | Change in total loans at the end of current year t divided by lagged total loans |
| LOAN _t : | Total loans at the end of the current year t divided by total assets |
| EBPT _t : | Earnings before taxes and provisions at the end of the current year t scaled by lagged total loans |
| ΔEPOSITS _t : | Dummy variable that takes the value if the change of a bank's deposits is negative at the end of the year and 0 otherwise |
| ΔINTEREST _t : | Dummy variable that takes the value if the change of a bank's deposit rates is negative at the end of the year and 0 otherwise |
| CAPITAL1: | The reported Tier I ratio at the end of the year t |
| EBPT _t *ΔEPOSITS _t : | Interaction term between earnings before taxes and provisions (EBPT _t) and change of deposits (ΔEPOSIT _t) |
| EBPT _t *ΔINTEREST _t : | Interaction term between earnings before taxes and provisions (EBPT _t) and change of deposit rates (ΔINTEREST _t) |

My multivariate model is based on the assumption that LLPs are influenced by credit risk and management's incentives (Beaver and Engel, 1996). The first part aims to capture factors that influence LLPs' non-discretionary components (Beatty et al. 1995; Collins et al. 1995; Moyer, 1990). In particular, banks will recognize an amount of LLPs that will reflect the credit risk of their assets. This amount is related with factors that determine credit risk and is not associated with management's incentives. The second part of my model consists of variables that aim to capture the relation of LLPs with income smoothing and its interaction with MD factors.

The dependent variable is the reported LLPs (LLP_t) at the end of the each period. LLPs reflect management's expectations about future loan losses that arise from past due loans. Within this context, banks' managers ought to recognize a loan loss provision at each year-end. These provisions will be reversed during next year, when actual loan losses will occur. Although, banks recognize LLPs depending on their assets' credit risk, the unspecific guidelines of accounting standards encourage them to deliberately adjust the level of LLPs and smooth income.

According to IAS 39 guidelines, banks should recognize LLPs after an assessment of their loan portfolio's credit risk. Banks should assess either their large individual loans or groups of smaller and homogeneous loans and compute loan losses and probability default based on past experience and statistical analysis of previous credit losses. Similarly to previous studies (Nichols et al., 2009; Gebhardt and Farkas, 2011; Hamadi et al., 2016), I capture bank loans' credit risk by using the change of non-performing loans (ΔNPL_t) and the amount of non-performing loans (NPL_t) at the end of the current year. Within this context, non-performing loans of the current year (NPL_t) and their change during the current year (ΔNPL_t) are expected to be positively associated with loan loss provisions. Furthermore, I use net charge-offs (CO_t) of the current year because according to IAS 39, banks should recognize LLPs when there is strong probability for the occurrence of a future loss. Within this context, banks will recover actual loan losses from charge-offs by reversing LLPs of previous years (Gebhardt and Farkas, 2011). Therefore, net charge-offs (CO_t) of the current year are expected to be negatively correlated with loan loss provisions.

Past LLPs accounting policies may have an impact on current year's LLPs. The rationale for controlling for past allowance is that if banks recognize sufficiently high provision in the past, the current year's LLPs may be lower. However, if past allowance reflects the overall credit quality of the bank's clients, then lagged allowance and provision may be positively correlated (Beatty and Liao, 2014). Within this context, I control for the impact of loan loss allowance of the previous year (ALW_{t-1}) on current years' LLPs and I expect a positive correlation between LLPs and loan loss allowance of the previous year (ALW_{t-1}). In addition, I control for bank size ($SIZE_{t-1}$) because banks of different size may be subject to a different level of regulatory scrutiny or monitoring. Furthermore, Olszak et al. (2016) found that banks of different size follow different patterns with regard to LLPs' recognition. Although the 'political costs' hypothesis implies a positive sign between accounting accruals and size (Watts and Zimmerman, 1986), I have no clear prediction for the sign of size. Moyer (1990) did not find evidence to support the political costs hypothesis, while Bishop (1996) suggests that regulators are reluctant to intervene in operations of large banks.

Previous studies suggest that the amount of LLPs is influenced by macroeconomic factors. I follow Laeven and Majnoni (2003) and Bikker and Metzmakers (2005) and I control for a country's macroeconomic condition by including the annual growth of GDP (ΔGDP_t), the annual growth of a bank' loans ($\Delta LOAN_t$), the annual unemployment rates ($\Delta UNEMP_t$) and total banks

lending amounts ($LOAN_t$). The growth of GDP and the unemployment rate reflect the overall economic condition of a country. Therefore, during economic booms GDP growth is expected to be positive and unemployment rates low. Consequently, the credit risk of banks' loan portfolio will not require the recognition of high amounts of LLPs since bank borrowers will be able to repay their loans. In contrast, banks will recognize higher provisions during recessions due to the low credit quality of bank's counterparties. Therefore, I expect a negative association between LLPs with GDP growth (ΔGDP_t) and a positive relation with unemployment rates ($\Delta UNEMP_t$). With regard to banks' loan growth ($\Delta LOAN_t$) and total lending ($LOAN_t$), Laeven and Majnoni (2003) and Beatty and Liao (2011) argue that LLPs may be higher when a bank extends credit to more clients with lower credit and vice versa. Within this context, I predict a positive association between our dependent variable and loan growth ($\Delta LOAN_t$) and total lending ($LOAN_t$).

The income smoothing hypothesis suggests that managers deliberately increase LLPs when earnings are high and create a buffer of capital. When earnings are low, managers can either deliberately understate LLPs or reverse the previous year's recognized provisions to offset unexpected losses (Greenawalt and Sinkey, 1988; Laeven and Majnoni, 2003). Given that the introduction of Basel Accord eliminated LLPs from the computation of regulatory capital, banks can use LLPs and simultaneously adjust income and regulatory capital (Kim and Kross, 1998). Therefore, I investigate the association of LLPs with income, which in turn influences regulatory capital. Within this context, I include earnings before provisions and taxes ($EBPT_t$) to investigate banks' income smoothing incentives. Therefore, if earnings before provisions and taxes are not positively associated with LLPs, the income smoothing hypothesis has to be rejected.

In order to test hypotheses H1 and H2, I construct the variables $\Delta DEPOSITS_t$ and $\Delta INTEREST_t$. My first hypothesis (H1) investigates whether depositors' exertion of MD has an impact upon managers' decisions to smooth income through LLPs. The independent variable $\Delta DEPOSITS_t$ is a dummy variable that takes the value 1 if the change of bank's deposits is negative at the end of the year and 0 otherwise. The change of deposits equals to the difference between total deposits at the end of the year minus total deposits at the end of the previous year. I do not use the total amount of deposits change to capture depositors' reactions, because absolute difference has not the same impact on banks of different size and operations. To capture the impact of depositors' reactions on banks' income smoothing behavior I include the interaction term $EBPT_t * \Delta DEPOSITS_t$. If depositors exert MD and influence banks' accounting decisions, the association of LLPs with the interaction term will be negative.

My second hypothesis (H2) examines whether bank lenders and depositors exert MD and influence managers' incentives to smooth income by demanding higher deposit rates. Therefore, the independent variable $\Delta\text{INTEREST}_t$ is a dummy variable that takes the value 1 if the change of a bank's deposit rates is positive at the end of the year and 0 otherwise. To compute deposit rates, I follow the alternative approach of Fonseca and Gonzalez (2010) and I compute deposit rates by dividing total interest expense by total deposits. I do not examine a direct association with the percentage change of deposits, because such number could not be interpreted for banks with differences in capital structure and size. To capture the impact of interbank discipline I use the interaction term $\text{EBPT}_t * \Delta\text{INTEREST}_t$. If market participants exert MD, which has an impact upon managers' incentives to smooth income, I expect a negative association between LLPs with the interaction term.

Finally, I follow Berger and Turk-Ariss (2015) and control for the potential impact of bank risk on depositor actions. Berger and Turk-Ariss (2015) examined the association between depositor discipline and bank risk-taking behavior, finding that depositors' discipline, proxied by the annual deposit growth rate, was related to the bank's equity-to-assets ratio. Accordingly, I use the variable CAPITAL1 to control for banks' risk level. My control variable is the reported Tier I ratio at the end of the year.

My third (H1a) and fourth (H2a) hypotheses investigate whether MD, exemplified by the demand of higher deposit rates and the withdrawal of deposits, has an impact upon income smoothing behavior of banks which operate under different levels of capitalization. When depositors demand higher rates, non-adequately capitalized banks are expected to increase their capital by understating LLPs. In contrast, adequately capitalized banks may afford the imposed costs by depositors and overstate LLPs in order to create capital buffers for future use. Similarly, in the case of deposits withdrawals, adequately capitalized banks may adjust LLPs less than non-adequately capitalized ones when they try to substitute deposits with capital. To classify banks into adequately and non-adequately capitalized I compute their target ratios as the difference between their reported Tier I ratio at the end of the current year minus the minimum capital requirement. This logic is based on the fact that most of the banks in our sample operate with

capital ratios that exceed a lot the minimum capital requirements.⁵⁶ A bank is classified as adequately capitalized if its average target ratio exceeds the median of the sample. All other banks are classified as non-adequately capitalized. The dummy variable CAP_CLASS takes the value 1 if a bank is classified as adequately capitalized and 0 otherwise.

To investigate whether the extent of MD impact differs between adequately and non-adequately capitalized banks I use the interaction terms $EBPT_t * \Delta DEPOSITS_t * CAP_CLASS$ and $EBPT_t * \Delta INTEREST_t * CAP_CLASS$. The first interaction term examines if the impact of MD through deposits withdrawal differs between adequately and non-adequately capitalized banks. Similarly, the second interaction term examines whether the impact of MD through increased deposit rates differs between the two clusters. If MD mechanisms reduce income smoothing through LLPs for adequately capitalized banks relative to non-adequately capitalized ones, I expect that the level of income smoothing for the former cluster is significantly lower relative to the latter one.

My fifth (H1b) and sixth (H2b) hypotheses examine the effectiveness of MD on income smoothing behavior between globally GSIBs and non-GSIBs. The classification of the banks into the above categories is based on 2014 EBA's list which classifies 35 EU banks into this category.⁵⁷ All these banks are included in the selected sample. I use the dummy variable GSIB that takes the value one if a bank is classified in the category of systemically important banks and 0 otherwise. I also use the dummy variable $\Delta DEPOSITS_t$, which takes the value 1 if the change of a bank's total deposits is negative and 0 otherwise. The interaction term $EBPT_t * \Delta DEPOSITS_t * GSIB$ captures the influence of LLPs on the income smoothing behavior of each control group. Similarly, I examine the impact of the deposit rates mechanism by using the interaction term $EBPT_t * \Delta INTEREST_t * GSIB$. Therefore, if MD reduces income smoothing through LLPs for GSIBs relative to non-GSIBs, I expect that the level of income smoothing for the former is significantly higher relative to the latter sample.

Table 2-2 summarizes our sign predictions for the association of LLPs with the independent variables:

⁵⁶ Berger et al. (2008) argue that banks target a specific capital ratio that typically exceeds the regulatory capital requirements; they provide the example of Citigroup who disclosed in their SEC filings a target Tier 1 capital ratio of 7.5% which is substantially above the 6% required to be considered "well capitalized."

⁵⁷ <https://eba.europa.eu/risk-analysis-and-data/global-systemically-important-institutions/2014>

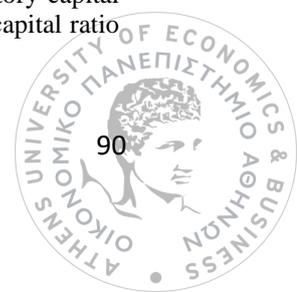


Table 2-2. Sign predictions

| Variable | Sign |
|--|-------------|
| LLP _t | <i>N.A</i> |
| NPL _t | + |
| ΔNPL _t | + |
| NCO _t | - |
| ALW _{t-1} | + |
| SIZE _{t-1} | +/- |
| ΔGDP _t | - |
| ΔUNEMP _t | + |
| ΔLOAN _t | + |
| LOAN _t | + |
| EBPT _t | + |
| EBPT _t *ΔDEPOSITS _t | - |
| EBPT _t *ΔINTEREST _t | - |
| EBPT _t *ΔDEPOSITS _t *CAP_CLASS | +/- |
| EBPT _t *ΔINTEREST _t *CAP_CLASS | +/- |
| EBPT _t *ΔDEPOSITS _t *GSIB | +/- |
| EBPT _t *ΔINTEREST _t *GSIB | +/- |

Variable definition

- LLP_t : Loan loss provisions at the end of year t scaled by lagged total loans
- NPL_t : Change in non-performing assets at the end of the current year t divided by lagged total loans
- ΔNPL_t : Change in non-performing assets at the end of the current year t divided by lagged total loans
- CO_t : Net Charge-offs of the current year t scaled by lagged total loans
- ALW_{t-1} : Loan loss allowance at the end of the previous year t-1 divided by total loans

| | |
|---|---|
| $SIZE_{t-1}$: | The natural log of total assets of the previous year $t-1$ |
| ΔGDP_t : | Change in GDP at the end of the current year t |
| $\Delta UNEMP_t$: | Change in unemployment rates at the end of the current year t |
| $\Delta LOAN_t$: | Change in total loans at the end of current year t divided by lagged total loans |
| $LOAN_t$: | Total loans at the end of the current year t divided by total assets |
| $EBPT_t$: | Earnings before taxes and provisions at the end of the current year t scaled by lagged total loans |
| $\Delta DEPOSITS_t$: | Dummy variable that takes the value if the change of a bank's deposits is negative at the end of the year and 0 otherwise |
| $\Delta INTEREST_t$: | Dummy variable that takes the value if the change of a bank's deposit rates is negative at the end of the year and 0 otherwise |
| $EBPT_t * \Delta DEPOSITS_t$: | Interaction term between earnings before taxes and provisions ($EBPT_t$) and change of deposits ($\Delta DEPOSITS_t$) |
| $EBPT_t * \Delta INTEREST_t$: | Interaction term between earnings before taxes and provisions ($EBPT_t$) and change of deposit rates ($\Delta INTEREST_t$) |
| $EBPT_t * \Delta DEPOSITS_t * CAP_CLASS$: | Interaction term between earnings before taxes and provisions at the end of the current year t and the dummy variable $\Delta DEPOSITS_t$ and the dummy variable CAP_CLASS |
| $EBPT_t * \Delta INTEREST_t * CAP_CLASS$: | Interaction term between earnings before taxes and provisions at the end of the current year t and the dummy variable $\Delta INTEREST_t$ and the dummy variable CAP_CLASS |
| $EBPT_t * \Delta DEPOSITS_t * GSIB$: | Interaction term between earnings before taxes and provisions at the end of the current year t and the |

dummy variable $\Delta\text{DEPOSITS}_t$ and the dummy variable GSIB

$\text{EBPT}_t * \Delta\text{INTEREST}_t * \text{GSIB}$:

Interaction term between earnings before taxes and provisions at the end of the current year t and the dummy variable $\Delta\text{INTEREST}_t$ and the dummy variable GSIB

2.4.3. Sensitivity analysis

This study investigates a sample of EU banks for the period 2006-2013. The financial crisis that phased in within the period of 2007-2009 may have influenced the functioning of MD. Hasan et al. (2013) argued that the increased risk that exists during recession may increase the sensitivity of deposits volume and interest cost to accounting measures. On the other hand, the involvement of governments and the provision of guarantees may weaken the incentives of market participants to monitor banks. Within this context, I test the robustness of my results by controlling with the dummy variable CRISIS. This variable takes the value 1 when the period belongs in the year 2007-2009 and 0 otherwise. Furthermore, a group of countries (Portugal, Ireland, Italy, Greece, Spain and Cyprus) face an extended crisis period until 2011. Although the analysis does not contain country variables, I examine the robustness of the results for a possible impact from this group of countries. Thus, I use the dummy variable PIIGSC which takes the value 1 when a bank is domiciled in one of the above countries and 0 otherwise.

My study does not investigate potential differences between insured and uninsured depositors. Considering these types of depositors is constrained by a lack of related information in the annual reports of EU banks. Berger and Turk Ariss (2015) argued that most of the research includes both insured and uninsured deposits because they are often difficult to separate. Therefore, I examined the existence of market discipline without controlling for insured vs. uninsured depositors; they provide such an analysis only for their US cluster. Furthermore, Park and Peristiani (1998) also find evidence for market discipline by insured depositors, notwithstanding their lower effect relative to that of uninsured depositors. In addition, studies have shown that MD is exerted not only by uninsured depositors but also by insured ones (Peria and Schmukler, 2001).

In addition, my analysis investigates whether country-level fixed effects have an impact on the income smoothing decisions of EU banks. The European Community is firmly committed to the principle that all claims on banks, central governments, and the official sector within European Community countries should be treated in the same way. Within this context, Gebhardt and Farkas (2011) found no country effects on EU banks' discretionary behavior, whereas Ramanna and Sletten (2014) found variation within EU countries. Thus, my analysis investigates whether country-level effects influence our results.

2.5. Results

This section presents the empirical findings of our analysis. Section 2.5.1 presents the univariate analysis results and section 2.5.2 describes the findings of the multivariate analysis.

2.5.1. Univariate analysis

The results of the univariate analysis are presented in Tables 2-3, 2-4 and 2-5. Table 2-3 presents the descriptive statistics for the pooled sample and the clusters relating to banks' capitalization and their systemic importance. The total number of observations for the pooled sample is 1064. The mean LLPs (LLP_t) is 0,008 while the average earnings before provisions and taxes (EBPT_t) is 0,016, implying that our banks are relatively profitable under the period of investigation. In addition, the average GDP growth (Δ GDP_t) is 0,007, implying that the total economy in the EU has a positive growth, despite the inclusion of the financial crisis period. The clusters of adequately and inadequately capitalized banks consist of 529 and 535 observations respectively. The mean LLPs for non-adequately capitalized banks are 0,011, which is greater than the mean of 0,006 for adequately capitalized banks. Moreover, the banks of both clusters appear profitable since the mean of earnings before provision and taxes is positive (0,018 and 0,015 respectively). Regarding the cluster of globally systemically important banks, a number of 271 observations belong in the panel of GSIBs. The rest observations (793) have been classified in the panel of all other banks. The mean of LLPs for GSIBs equals with 0,006 and is smaller than the average of LLPs for panel of non-GSIBs (0,009). Finally, both panels appear to be profitable since the average earnings before taxes and provisions is 0,013 and 0,017 respectively.

Table 2-3. Descriptive statistics

| Variables | Pooled Sample | | PANEL A - ADEQUATELY CAPITALIZED | | PANEL B - NON ADEQUATELY CAPITALIZED | | PANEL C- GSIBs | | PANEL D - Non -GSIBs | |
|-----------------|---------------|-------|--|-------|--|-------|----------------|-------|-------------------------|-------|
| | Mean | StDev | Mean | StDev | Mean | StDev | Mean | StDev | Mean | StDev |
| LLPt | 0.008 | 0.012 | 0.006 | 0.038 | 0.011 | 0.015 | 0.006 | 0.006 | 0.009 | 0.033 |
| COt | 0.000 | 0.001 | 0.000 | 0.001 | 0.000 | 0.001 | 0.000 | 0.001 | 0.000 | 0.001 |
| NPLt | 0.068 | 0.093 | 0.050 | 0.077 | 0.087 | 0.104 | 0.035 | 0.032 | 0.080 | 0.104 |
| Δ NPLt | 0.012 | 0.047 | 0.007 | 0.033 | 0.018 | 0.059 | 0.005 | 0.015 | 0.015 | 0.054 |
| ALWt-1 | 0.031 | 0.033 | 0.025 | 0.032 | 0.037 | 0.035 | 0.020 | 0.015 | 0.035 | 0.037 |
| LOANt | 0.687 | 0.164 | 0.647 | 0.181 | 0.728 | 0.135 | 0.574 | 0.147 | 0.727 | 0.152 |
| Δ LOANt | 0.071 | 0.195 | 0.071 | 0.218 | 0.072 | 0.171 | 0.063 | 0.212 | 0.075 | 0.190 |
| SIZEt-1 | 18.392 | 1.983 | 18.516 | 2.202 | 18.269 | 1.735 | 20.363 | 0.860 | 17.718 | 1.802 |
| Δ GDPt | 0.007 | 0.034 | 0.013 | 0.038 | 0.003 | 0.031 | 0.008 | 0.026 | 0.008 | 0.037 |
| Δ UNEMPt | 0.086 | 0.040 | 0.080 | 0.031 | 0.092 | 0.048 | 0.082 | 0.039 | 0.088 | 0.041 |
| EBPTt | 0.016 | 0.035 | 0.018 | 0.047 | 0.015 | 0.018 | 0.013 | 0.012 | 0.017 | 0.041 |
| OBS | 1064 | | 529 | | 535 | | 271 | | 793 | |

Table 2-4 presents supplementary statistics about our pooled sample, the clusters of adequately and non-adequately capitalized banks and the clusters of GSIBs and the rest of banks, as well. In particular, the table below presents the number of observations of each cluster and the means of LLPs (LLPt) and earnings before provisions and taxes (EBPTt). Our supplementary analysis shows that the number of bank years with a decrease of deposits amounts at 370 observations. These banks have a lower average profitability (0.009) than the cluster of banks that face an increase of their deposits. Furthermore, 481 observations face an increase of deposit rates. The banks that belong to the cluster of such financial institutions present a higher average profitability (0.020) relatively to banks that face a decrease of their deposit rates (0.014).

Table 2-4. Descriptive statistics per MD cluster

| Variables | Pooled Sample | | | PANEL A - ADEQUATELY CAPITALIZED | | | PANEL B - NON ADEQUATELY CAPITALIZED | | | PANEL C- GSIB | | | PANEL D - Non -GSIB | | |
|-------------------|----------------------|----------------------|-----------------------|---|----------------------|-----------------------|---|----------------------|-----------------------|----------------------|----------------------|-----------------------|----------------------------|----------------------|-----------------------|
| | Obs | Mean LLPt | Mean EBPTt | Obs | Mean LLPt | Mean EBPTt | Obs | Mean LLPt | Mean EBPTt | Obs | Mean LLPt | Mean EBPTt | Obs | Mean LLPt | Mean EBPTt |
| Deposits Increase | 694 | 0.007 | 0.020 | 336 | 0.006 | 0.008 | 358 | 0.008 | 0.009 | 178 | 0.005 | 0.015 | 516 | 0.007 | 0.022 |
| Deposits Decrease | 370 | 0.011 | 0.009 | 193 | 0.005 | 0.024 | 177 | 0.017 | 0.017 | 93 | 0.007 | 0.009 | 277 | 0.013 | 0.008 |
| Interest Increase | 481 | 0.008 | 0.020 | 228 | 0.006 | 0.025 | 253 | 0.009 | 0.015 | 117 | 0.004 | 0.014 | 364 | 0.009 | 0.021 |
| Interest Decrease | 583 | 0.009 | 0.014 | 301 | 0.006 | 0.013 | 282 | 0.013 | 0.014 | 154 | 0.007 | 0.012 | 429 | 0.010 | 0.014 |

Table 2-5 presents the results of the Spearman rank-order correlations for the pooled sample. Similarly to our predictions, LLPs (LLP_t) appear to be positively related with the non-performing loans of the current year (NPL_t), the change of non-performing loans (ΔNPL_t) of the current year and the total bank lending at the end of the current year ($LOAN_t$). The former results indicate that banks recognize higher provisions as loans and non-performing loan increase (Nichols et al., 2009; Gebhardt and Farkas, 2011). Furthermore, as I have predicted LLPs (LLP_t) are negatively correlated with net charge-offs (CO_t). The results of the univariate analysis provide evidence that LLPs (LLP_t) are negatively correlated with GDP growth (ΔGDP_t) and positively related with earnings before provisions and taxes ($EBPT_t$). According to Laeven and Majnoni (2003), the former relations imply that bank managers use a counter-cyclical provisioning pattern and smooth income. With regard to the interaction terms that capture the impact of MD on income smoothing LLPs are negatively associated with $EBPT_t * \Delta INTEREST_t$. This finding implies that when depositors demand higher rates, banks are less likely to smooth income through LLPs. In contrast, our results indicate that LLPs (LLP_t) are positively related with the interaction term $EBPT_t * \Delta DEPOSITS_t$, implying that when depositors withdraw their funds, banks appear to engage more in income smoothing through LLPs.

Table 2-5. Correlation Matrix (Spearman Correlations)

| | LLPt | NPLt | ΔNPLt | COt | ALWt-1 | LOANt | SIZEt-1 | AGDPt | ALOANt | AUNEMPt | EBPt | ΔDEPOSITSt | ΔINTERESTt | EBPt | EBPt * |
|-----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--------------|--------|
| LLPt | 1.000 | | | | | | | | | | | | | | |
| NPLt | 0.689 | 1.000 | | | | | | | | | | | | | |
| ΔNPLt | 0.488 | 0.500 | 1.000 | | | | | | | | | | | | |
| COt | -0.122 | 0.045 | 0.003 | 1.000 | | | | | | | | | | | |
| ALWt-1 | 0.720 | 0.840 | 0.350 | 0.028 | 1.000 | | | | | | | | | | |
| LOANt | 0.206 | 0.290 | 0.233 | 0.055 | 0.235 | 1.000 | | | | | | | | | |
| SIZEt-1 | -0.115 | -0.245 | -0.194 | -0.040 | -0.234 | -0.436 | 1.000 | | | | | | | | |
| ΔGDPt | -0.410 | -0.294 | -0.306 | -0.122 | -0.249 | -0.065 | 0.000 | 1.000 | | | | | | | |
| ΔLOANt | -0.151 | -0.142 | 0.075 | -0.067 | -0.244 | 0.099 | -0.048 | 0.386 | 1.000 | | | | | | |
| ΔUNEMPt | 0.254 | 0.294 | 0.174 | -0.061 | 0.371 | 0.097 | -0.060 | -0.233 | -0.216 | 1.000 | | | | | |
| EBPt | 0.248 | 0.127 | 0.113 | -0.167 | 0.165 | 0.018 | -0.062 | 0.224 | 0.418 | -0.004 | 1.000 | | | | |
| ΔDEPOSITSt | 0.154 | 0.104 | 0.007 | 0.016 | 0.149 | -0.010 | -0.024 | -0.251 | -0.531 | 0.065 | -0.281 | 1.000 | | | |
| ΔINTERESTt | -0.098 | -0.103 | 0.014 | -0.039 | -0.129 | 0.072 | -0.039 | 0.286 | 0.237 | -0.178 | 0.127 | -0.048 | 1.000 | | |
| EBPt*ΔDEPOSITSt | 0.077 | 0.029 | -0.027 | 0.005 | 0.056 | -0.030 | -0.027 | -0.109 | -0.288 | 0.001 | 0.109 | 0.687 | -0.069 | 1.000 | |
| EBPt*ΔINTERESTt | -0.075 | -0.114 | 0.004 | -0.099 | -0.125 | 0.053 | -0.063 | 0.366 | 0.374 | -0.200 | 0.463 | -0.179 | 0.786 | 0.083 | 1.000 |

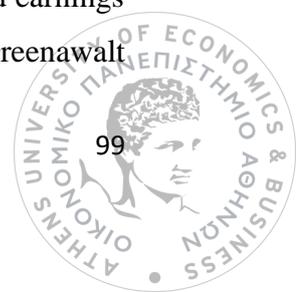
**Bold coefficients are statistically significant*

2.5.2 Multivariate analysis

The results of the multivariate analysis for the pooled sample are presented in Tables 2-6 and 2-7. I use two models to isolate the individual impact of each MD mechanisms upon banks' income-smoothing behavior. Model 1 captures the impact of deposit withdrawal on banks' accounting policy decisions, and Model 2 captures the impact of deposit rate deviation. In the panel estimation, I control for fixed and random effects. Fixed effects treat the individual effects as fixed parameters that require estimation, while random effects treat them as independent random drawings from a particular distribution. I determine the most appropriate approach using a Hausman test examining the extent of the correlation between the unobserved effects and the explanatory variables. If the results imply significant correlations, then a fixed effects approach is consistent, while an absence of correlations implies that a random effects approach is preferable.

The results of the Hausman test for each model are presented in Tables 2-6 and 2-7. Each table presents the results of the test in a separate line. The p-value for our first model is 0.000; I thus reject the null hypothesis that random effects are the preferred approach. Similarly, the p-value for the second model (see Table 2-7) is also 0.000, implying that the estimates that assume random effects are biased and inconsistent. Thus, I adopt a fixed effects approach for our analysis.

The empirical findings from the fixed effects approach for the first hypothesis are presented in Table 2-6. Consistent with my expectations and the results of the univariate analysis, LLPs (LLP_t) are positively and significantly associated with the change of non-performing loans (ΔNPL_t), implying that LLPs increase when banks increase lending and non-performing loans are higher (Gebhardt and Farkas, 2011; Hamadi et al., 2016). Furthermore, LLPs (LLP_t) are negatively but not significantly associated with net charge-offs according to the argument that banks reverse LLPs when loan losses become actual. LLPs are positively and significantly associated with the past year's loan loss allowance, which is consistent with the argument that current LLPs are influenced by earlier provisioning behavior (Beatty and Liao, 2014). Similarly to the univariate analysis results, our results show a negative and significant association between LLPs and GDP growth (ΔGDP_t), implying counter-cyclical provisioning behavior (Laeven and Majnoni, 2003). Furthermore, the positive and significant association between LLPs and earnings before provisions and taxes ($EBPT_t$) implies that banks use LLPs to smooth income (Greenawalt



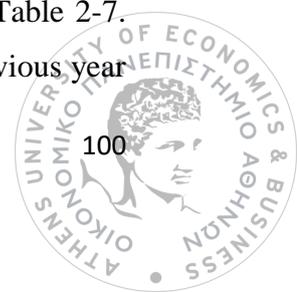
and Sinkey, 1989; Laeven and Majnoni, 2003; Leventis et al., 2011). Regarding bank risk, LLPs (LLPt) are negatively and significantly associated with Tier 1 ratio (CAPITAL1), implying that managers' intention to adjust income is offset by a negative change of the bank's primary capital. In particular, if managers increase LLPs when earnings are high, they will reduce income and subsequently the Tier I ratio. The decline in the Tier I ratio may cause a supervisory intervention, which is undesirable to bank managers (Berger, 1991). Finally, my results suggest a positive and significant association between LLPs and the interaction term $EBPT_t * \Delta DEPOSITS_t$. These results imply that banks facing a one (1) unit decrease in their deposits at the end of the year will adjust their income by 74.2% via LLPs relative to banks facing an increase in deposits. In other words, managers appear to engage more in income smoothing when depositors decide to withdraw their funds. This finding is in line with Billet et al. (1998), who suggest that, although the withdrawal of funds may not comprise a signal to supervisors, it will influence a bank's financial position. Bankers in financial distress may act opportunistically and use LLPs to increase income and regulatory capital to avoid both regulatory and monitoring costs.

Table 2-6. Impact of Deposits change on Income Smoothing

| | FIXED EFFECTS | | |
|------------------------------|---------------|-------------|----------|
| | Sign | Coefficient | t-stat |
| CONSTANT | + | 0.004 | (0.277) |
| NPL _t | - | -0.005*** | (-5.840) |
| ΔNPL_t | + | 0.046*** | (4.458) |
| CO _t | - | -0.307 | (-0.556) |
| ALW _{t-1} | + | 0.417*** | (17.328) |
| LOAN _t | - | -0.001** | (-0.214) |
| SIZE _{t-1} | - | 0.000 | (0.366) |
| ΔGDP_t | - | -0.099*** | (-7.710) |
| $\Delta LOAN_t$ | - | -0.002 | (-0.940) |
| $\Delta UNEMP_t$ | + | 0.041** | (2.330) |
| EBPT _t | + | 0.174*** | (6.938) |
| $\Delta DEPOSITS_t$ | - | -0.008*** | (-7.686) |
| CAPITAL1 _t | - | -0.058*** | (-5.325) |
| $EBPT_t * \Delta DEPOSITS_t$ | + | 0.706*** | (25.884) |
| COUNTRY DUMMIES | | - | |
| HAUSMAN (p-value) | | 0.000 | |
| R-squared | | 0.84 | |
| OBS | | 1064 | |

***, **, and * represent 1%, 5%, and 10% significance (two-tailed or one-tailed, as appropriate), respectively
t-stat in parenthesis next to the coefficient

The fixed effects estimation results regarding my second hypothesis are presented in Table 2-7. LLPs are positively and significantly associated with the loan loss allowance of the previous year



(ALW_{t-1}) and the annual change of non-performing loans ($\Delta LOAN_t$). In line with the results of model 1, there is a positive and significant association with earnings before provisions and taxes ($EBPT_t$), which implies an income smoothing pattern and a negative association with the Tier I ratio ($CAPITAL_1$). Similarly, banks that engage in accounting adjustments through LLPs may be punished by a reduced Tier I ratio when they increase discretionary LLPs and vice versa. With regard to the interaction term $EBPT_t * \Delta INTEREST_t$, the association with our dependent variable is negative and significant, implying that a demand for higher rates forces managers to decrease income smoothing through LLPs. In particular, a one (1) unit increase of deposit rates encourages managers of banks facing this increase to change their income by 77.6% via LLPs relative to banks facing reduced deposit rates. Thus, MD appears to influence bank managers' accounting policy decisions. The demand for higher rates signals to official supervisors that some investors have noticed a change in a bank's risk levels (Berger, 1991). Given that regulatory discipline may be immediate, banks may abandon discretionary accounting practices that will increase regulatory risk.

Table 2-7. Impact of Deposit interest change on Income Smoothing

| FIXED EFFECTS | | | |
|------------------------------|------|-------------|-----------|
| | Sign | Coefficient | t-stat |
| CONSTANT | - | -0.001 | (-0.099) |
| NPL _t | - | -0.043 | (-4.861) |
| ΔNPL_t | + | 0.035*** | (3.748) |
| CO _t | + | 0.060 | (0.119) |
| ALW_{t-1} | + | 0.364*** | (16.689) |
| LOAN _t | + | 0.002 | (0.391) |
| SIZE _{t-1} | - | 0.000 | (0.919) |
| ΔGDP_t | - | -0.097*** | (-7.985) |
| $\Delta LOAN_t$ | - | -0.006*** | (-2.913) |
| $\Delta UNEMP_t$ | + | -0.025 | (1.525) |
| EBPT _t | + | 0.922*** | (66.694) |
| CAPITAL _{1t} | - | -0.060*** | (-5.990) |
| $\Delta INTEREST_t$ | + | 0.012*** | (15.040) |
| $EBPT_t * \Delta INTEREST_t$ | - | -0.741*** | (-31.341) |
| COUNTRY DUMMIES | | - | - |
| HAUSMAN (p-value) | | 0.000 | |
| R-squared | | 0.87 | |
| OBS | | 1064 | |

***, **, and * represent 1%, 5%, and 10% significance (two-tailed or one-tailed, as appropriate), respectively
t-stat in parenthesis next to the coefficient



Table 2-8 presents the results of the multivariate analysis with regard to the third (H1a) and fourth (H2b) hypotheses. These hypotheses examine the association between banks' capital adequacy and their responses to MD. In line with initial predictions, the modified models show a positive association between LLPs (LLP_t) and total lending ($LOAN_t$), non-performing loans (ΔNPL_t) and loan loss allowances (ALW_{t-1}). Furthermore, both models imply an income smoothing pattern, since LLPs (LLP_t) are positively related with earnings before provisions and taxes ($EBPT_t$). The first modified model shows that there is a positive and significant association between LLPs and the triple interaction term $EBPT_t * \Delta DEPOSITS_t * CAP_CLASS$. This finding implies that when depositors decide to discipline banks by withdrawing deposits, adequately capitalized banks appear to smooth income more than non-adequately capitalized ones. On the other hand, the results of the second model provide evidence that there is a negative and significant association between LLPs and the triple interaction term $EBPT_t * \Delta INTEREST_t * CAP_CLASS$. Within this context, adequately capitalized banks appear to decrease income smoothing when deposit rates increases. These results are consistent with the arguments of Billet et al. (1998) who showed that risk-taking cost consists of regulatory and market discipline cost. In particular, higher capitalized banks may avoid regulatory intervention more easily. Therefore, they can respond to market reactions by adjusting income through accounting accruals. When market participants withdraw their funds, higher capitalized banks can reduce their asset riskiness by increasing LLPs and creating capital buffers for a future use. On the other hand, when deposit rates are higher, adequately capitalized banks appear to recognize lower LLPs in order to boost income and increase their capital base (Fonseca and Gonzalez, 2010).

Table 2-8. Impact of MD on Income Smoothing between adequately capitalized and non-adequately capitalized banks

| | Impact of TOTAL DEPOSITS CHANGE | | | Impact of INTEREST CHANGE | | |
|--------------------------------------|---------------------------------|-------------|----------|---------------------------|-------------|-----------|
| | Sign | Coefficient | t-stat | Sign | Coefficient | t-stat |
| CONSTANT | - | -0.017*** | (-3.834) | - | -0.031*** | (-5.208) |
| NPLt | - | -0.025*** | (-4.594) | + | 0.005 | (0.732) |
| Δ NPLt | + | 0.032*** | (3.907) | + | 0.014 | (1.322) |
| COt | - | -1.133*** | (-3.375) | - | -0.166 | (-0.362) |
| ALWt-1 | + | 0.325*** | (21.323) | + | 0.245*** | (11.914) |
| LOANt | + | 0.007*** | (3.362) | + | 0.011*** | (3.480) |
| SIZEt-1 | + | 0.000*** | (4.177) | + | 0.000*** | (2.869) |
| Δ GDPt | - | -0.099*** | (-9.287) | - | -0.130*** | (-8.779) |
| Δ LOANt | - | 0.000 | (0.085) | - | -0.014*** | (-5.240) |
| Δ UNEMPt | - | -0.008 | (-0.902) | - | -0.000 | (-0.006) |
| EBPTt | + | 0.082*** | (5.072) | + | 0.764*** | (49.733) |
| CAPITAL1t | - | -0.015** | (-2.548) | - | -0.027*** | (-3.315) |
| Δ DEPOSITSt | - | -0.003*** | (-4.935) | - | - | - |
| CAP_CLASSt | - | -0.002*** | (-2.921) | + | 0.005*** | (5.095) |
| EBPTt* Δ DEPOSITSt*CAP_CLASSt | + | 0.849*** | (41.828) | - | - | - |
| Δ INTERESTt | - | - | - | + | 0.006*** | (6.223) |
| EBPTt* Δ INTERESTt*CAP_CLASSt | - | - | - | - | -0.601*** | (-21.153) |
| R-squared | | 0.86 | | | 0.74 | |
| OBS | | 1064 | | | 1064 | |

***, **, and * represent 1%, 5%, and 10% significance (two-tailed or one-tailed, as appropriate), respectively
t-stat in parenthesis next to the coefficient

The fifth (H1b) and sixth (H2b) hypotheses examine the impact of MD mechanisms upon GSIBs' income-smoothing behavior. Peterson and Arun (2018) showed that GSIBs engage more in income smoothing practices through LLPs. On the other hand, a series of studies found that the too-big-to fail policy reduced MD (Kane, 2000; Penas and Unal, 2004). My results imply that EU banks use LLPs to smooth income, since the coefficient of earnings before provisions and taxes is positive and significant for both models. Furthermore, the loan loss allowance of the previous year (ALWt-1) and the annual growth of GDP (Δ GDPt) appear to influence banks' accounting policies (see Table 2-9). Regarding how MD mechanisms impact management's accounting discretion, our results show that LLPs are negatively and significantly associated with the interaction terms EBPTt* Δ DEPOSITSt*GSIB (see panel A) and EBPTt* Δ INTERESTt* GSIB (see panel B). The above findings indicate that MD's influence on income-smoothing behavior is greater for GSIBs than for non-GSIB banks. Both MD mechanisms appear to have a negative

impact on banks' accounting policy decisions. GSIBs may attract the attention of market participants who perceive their significant role and discipline them by exerting monitoring more efficiently.

Table 2-9. Impact of MD on Income Smoothing between GSI banks and rest of banks

| | Impact of TOTAL DEPOSITS CHANGE | | | Impact of INTEREST CHANGE | | |
|--|---------------------------------|-------------|----------|---------------------------|-------------|----------|
| | Sign | Coefficient | t-stat | Sign | Coefficient | t-stat |
| CONSTANT | - | -0.045*** | (-6.156) | - | -0.043*** | (-5.830) |
| NPL _t | + | 0.001 | (0.131) | + | 0.002 | (0.221) |
| ΔNPL _t | + | 0.015 | (1.168) | + | 0.016 | (1.211) |
| CO _t | + | 0.611 | (1.133) | + | 0.658 | (1.212) |
| ALW _{t-1} | + | 0.215*** | (8.810) | + | 0.226*** | (9.260) |
| LOAN _t | + | 0.021*** | (5.753) | + | 0.020*** | (5.321) |
| SIZE _{t-1} | + | 0.001*** | (3.711) | + | 0.001*** | (3.612) |
| ΔGDP _t | - | -0.141*** | (-8.241) | - | -0.146*** | (-8.272) |
| ΔLOAN _t | - | -0.018*** | (-5.726) | - | -0.021*** | (-6.693) |
| ΔUNEMP _t | + | 0.007 | (0.495) | + | 0.005 | (0.338) |
| EBPT _t | + | 0.625*** | (38.459) | + | 0.619*** | (38.029) |
| ΔDEPOSITS _t | + | 0.004*** | (3.414) | | - | |
| GSIB _t | + | 0.004** | (2.515) | + | 0.004** | (2.430) |
| CAPITAL _{1t} | - | -0.032*** | (-3.497) | - | -0.029*** | (-3.160) |
| EBPT _t *ΔDEPOSITS _t *GSIB _t | - | -0.563*** | (-3.774) | | - | |
| ΔINTEREST _t | | - | | + | 0.001 | (1.344) |
| EBPT _t *ΔINTEREST _t *GSIB _t | | - | | - | -0.274*** | (-2.700) |
| R-squared | | 0.63 | | | 0.63 | |
| OBS | | 1064 | | | 1064 | |

***, **, and * represent 1%, 5%, and 10% significance (two-tailed or one-tailed, as appropriate), respectively
t-stat in parenthesis next to the coefficient

2.5.3. Sensitivity analysis

My results are also robust when I control for financial crisis and for countries with an extended crisis period (see Table 2-11). In particular, none of the control variable for crisis and for countries that faced an extended period of crisis is significant. Within this context, empirical findings imply that banks that face a decline of deposits tend to use LLPs and smooth income more than banks that face an increase of deposits. In addition, MD appear to limit income smoothing incentives for banks that that face a decline of interest margin in relation with banks that face an increase of interest margin.

| | IMPACT OF ΔDEPOSITS (H1) | | IMPACT OF ΔINTEREST(H2) | | CAP_CLASS IMPACT OF ΔDEPOSITS (H1A) | | CAP_CLASS IMPACT OF ΔINTEREST (H2A) | | GSIB IMPACT OF ΔDEPOSITS (H1B) | | GSIB IMPACT OF ΔINTEREST (H2B) | | | | | | | |
|---------------------------|-----------------------------|-----------|----------------------------|--------|--|-----------|--|-----------|-----------------------------------|---------|-----------------------------------|------------|---------|-----------|----------|---|-----------|----------|
| | Coef. | t-stat | Coef. | t-stat | Coef. | t-stat | Coef. | t-stat | Coef. | t-stat | Coef. | t-stat | | | | | | |
| CONSTANT | - | -0.027*** | (-5.000) | - | -0.018*** | (-3.573) | - | -0.016*** | (-3.549) | - | -0.029*** | (-4.736) | - | -0.043*** | (-5.809) | - | -0.041*** | (-5.480) |
| NPLt | - | -0.017** | (-2.547) | - | -0.005 | (-0.921) | - | -0.026*** | (-4.659) | + | 0.004 | (0.612) | + | 0.000 | (0.074) | + | 0.001 | (0.141) |
| ΔNPLt | + | 0.029*** | (2.945) | + | 0.018 | (1.857) | + | 0.032*** | (3.958) | + | 0.015 | (1.394) | + | 0.016 | (1.208) | + | 0.016 | (1.258) |
| COt | - | -0.828** | (-1.982) | - | -0.463 | (-1.180) | - | -1.138*** | (-3.377) | - | -0.216 | (-0.470) | + | 0.528 | (0.975) | + | 0.576 | (1.056) |
| ALWt-1 | + | 0.305*** | (15.950) | + | 0.254*** | (14.334) | + | 0.323*** | (20.922) | + | 0.238*** | (11.489) | + | 0.209*** | (8.510) | + | 0.220*** | (8.923) |
| LOANt | + | 0.013*** | (4.526) | + | 0.008*** | (2.963) | + | 0.008*** | (3.548) | + | 0.011*** | (3.710) | + | 0.021*** | (5.646) | + | 0.020*** | (5.295) |
| SIZEt-1 | + | 0.001*** | (4.704) | + | 0.000 | (1.440) | + | 0.000*** | (3.868) | + | 0.000** | (2.527) | + | 0.001*** | (3.650) | + | 0.001*** | (3.511) |
| ΔGDPt | - | -0.118*** | (-8.111) | - | -0.104*** | (-7.096) | - | -0.102*** | (-8.661) | - | -0.145*** | (-8.675) | - | -0.153*** | (-8.068) | - | -0.162*** | (-8.148) |
| ΔLOANt | - | -0.001 | (-0.514) | - | -0.009*** | (-4.039) | + | 0.000 | (0.002) | - | -0.013*** | (-4.718) | - | -0.017*** | (-5.234) | - | -0.019*** | (-6.105) |
| ΔUNEMPt | + | 0.004 | (0.381) | - | -0.016 | (-1.394) | - | -0.003 | (-0.385) | + | 0.002 | (0.149) | - | -0.000 | (-0.105) | - | -0.000 | (-0.007) |
| EBPTt | + | 0.096*** | (4.251) | + | 0.854*** | (61.664) | + | 0.082*** | (5.018) | + | 0.765*** | (49.777) | + | 0.627*** | (38.442) | + | 0.621*** | (38.036) |
| ΔDEPOSITS | - | -0.007*** | (-7.037) | - | - | - | - | -0.004*** | (-5.001) | - | - | - | + | 0.004*** | (3.445) | - | - | - |
| ΔINTEREST | - | - | - | + | 0.012*** | (13.531) | - | - | - | + | 0.006*** | (6.541) | - | - | - | + | 0.002 | (1.781) |
| EBPTt * ΔDEPOSITS | + | 0.737*** | (27.719) | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| EBPTt * ΔINTEREST | - | - | - | - | -0.774*** | (-31.773) | - | - | - | - | - | - | - | - | - | - | - | - |
| CAP_CLASS | - | - | - | - | - | - | - | -0.002*** | (-3.204) | + | 0.005*** | (4.325) | - | - | - | - | - | - |
| EBPTt*ΔDEPOSITS*CAP_CLASS | - | - | - | - | - | - | + | 0.849*** | (41.770) | - | - | - | - | - | - | - | - | - |
| EBPTt*ΔINTEREST*CAP_CLASS | - | - | - | - | - | - | - | - | - | - | -0.601*** | (- 21.178) | - | - | - | - | - | - |
| GSIB | - | - | - | - | - | - | - | - | - | 0.004** | (2.454) | + | 0.004** | (2.391) | - | - | - | - |

| | IMPACT OF ΔDEPOSITS (H1) | | IMPACT OF ΔINTEREST(H2) | | CAP_CLASS IMPACT OF ΔDEPOSITS (H1A) | | CAP_CLASS IMPACT OF ΔINTEREST (H2A) | | GSIB IMPACT OF ΔDEPOSITS (H1B) | | GSIB IMPACT OF ΔINTEREST (H2B) | | | | | | | |
|----------------------|-----------------------------|----------|----------------------------|---|--|----------|--|-----------|-----------------------------------|-----------|-----------------------------------|----------|----------|----------|----------|---|----------|----------|
| EBPTt*ΔDEPOSITS*GSIB | - | - | - | - | - | - | - | - | - | -0.566*** | (-3.792) | - | - | | | | | |
| EBPTt*ΔINTEREST*GSIB | - | - | - | - | - | - | - | - | - | - | - | 0.028*** | (-2.808) | | | | | |
| CAPITAL1 | - | -0.016** | (-2.267) | - | -0.022*** | (-3.293) | - | -0.016*** | (-2.603) | - | -0.030*** | (-3.578) | - | 0.034*** | (-3.653) | - | 0.032*** | (-3.426) |
| CRISIS | - | -0.001 | (-1.126) | + | 0.000 | (0.239) | - | 0.000 | (-0.212) | - | -0.001 | (-1.496) | - | -0.002 | (-1.579) | - | -0.002* | (-1.783) |
| PIIGSC | - | -0.001 | (-1.110) | - | -0.000 | (-0.732) | - | -0.001 | (-1.368) | - | -0.001 | (-1.457) | - | 0.000 | (0.004) | - | 0.000 | (0.415) |
| R-squared | 0.78 | | 0.81 | | 0.86 | | 0.73 | | 0.63 | | 0.63 | | | | | | | |
| OBS | 1064 | | 1064 | | 1064 | | 1064 | | 1064 | | 1064 | | | | | | | |

***, **, and * represent 1%, 5%, and 10% significance (two-tailed or one-tailed, as appropriate), respectively
t-stat in parenthesis next to the coefficient

2.6. Conclusions

This chapter investigates the association between MD and EU banks' accounting policy decisions. The study focused in the role of MD as an income smoothing explanatory factor. In particular, I assume that depositors' discipline as implemented through deposits withdrawal and deposits rates increase may influence bank managers' accounting policy decisions.

Empirical findings imply that management's decision to engage in accruals adjustments is influenced by depositors' specific reactions. In particular, I found that EU banks appear to reduce income smoothing when depositors demand higher rates. On the other hand, banks increase income smoothing through LLPs when they face a decline in deposits. The above results remain robust when I examine if banks' regulatory capital differentiates banks' behavior. Multivariate analysis showed that adequately capitalized banks increase income smoothing when depositors remove their funds from bank accounts. On the other hand, adequately capitalized banks reduce income smoothing when deposit rates increase. Regarding the globally systemic importance of banks, MD mechanisms appear more efficient since GSIBs reduce income smoothing when market participants aim to discipline such banks.

By focusing on the interrelationship between MD and banks' accounting policy decisions this study contributes in the existing literature by examining an issue that has not extensively examined as yet. The current results may be useful for regulators and policy-makers who aim to protect market participants from banks' excessive risk taking and management's opportunistic incentives. The above-mentioned stakeholders could assess the current regulatory framework and provide further incentives to market participants in the banks' monitoring process. Furthermore, they have to reconsider minimum capital requirements and too-big-to-fail policies for globally systemically important banks and banks which operate with high regulatory ratios.

This study has certain limitations. I have not investigated the simultaneous impact of the MD mechanisms examined in this study. In particular, my study does not examine the simultaneous impact of other market participants such as supervisors and other debt holders. Furthermore, I do not control for risk shifting behavior of banks when deposit rates increase. Within this context, future research is needed in order to investigate the impact of such mechanisms under the risk shifting process of banks. Furthermore, future research could investigate the stricter regulatory

constraints of GSIBs and whether discipline from specific participants such as retail depositors or other banks has different impact on accounting policy decisions.

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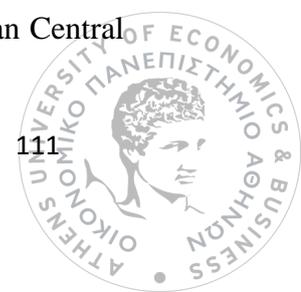
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CHAPTER III

The impact of Corporate Governance Mechanisms on EU banks' income smoothing behavior

Summary

Although the financial crisis of 2008 was connected with banks' excessive risk-taking behavior, the securitization of high risk assets and fair value accounting, regulators and policy-makers argued that the weaknesses of banks' governance systems contributed to the contagion of banking crisis.

The European Union reviewed the corporate governance framework of the financial industry in Europe and concluded that the non-binding nature of corporate enterprise principles and the lack of responsibilities allocation for the implementation of these principles were the main causes for the ineffectiveness of the mechanisms. Therefore, the European Committee made a series of recommendations for the elimination of material weaknesses in the governance systems of banks. In particular, the European Committee issued a Green Paper and proposed critical changes for the board of directors, the rights of shareholders, the disclosure of directors' remuneration, the responsibilities and duties of the external auditors and the role of supervisory authorities.

Previous literature argues that the effectiveness of corporate governance mechanisms influences firm managers' incentives to engage in discretionary accounting policies. In the case of banks, managers have strong incentives to smooth income through loan loss provisions due to the opacity of the banks' assets and the moral hazard that arise from the existence of a deposit insurance scheme.

Within this context, I examine whether specific corporate governance mechanisms, included in European Commission proposals for the improvement of corporate governance mechanisms, influence banks' accounting policy decisions. In particular, I examine whether the structure of the board of directors and the disclosure of the CEO remuneration are associated with the level of loss loan provisions. Furthermore, I examine whether banks' capital structure operates as an effective internal corporate governance practice.

Empirical findings provide evidence that there is a positive association between loan loss provisions and accounting income, implying the existence of an income-smoothing pattern of provisions. In addition, my results suggest that bank managers' decision to smooth income may differ with regard to the board structure, the level of leverage and the provision of disclosure for CEO remuneration.

The findings of this study contribute to the existing literature concerning banks' income smoothing behavior. These findings can be useful to regulators, since I provide some evidence regarding the effectiveness of the EU corporate governance framework.

3.1. Introduction

Corporate governance mechanisms contribute to the improvement of quality of the accounting information provided by corporations. Previous research has found that managers are more likely to use accounting accruals in order to smooth and / or manipulate income when corporate governance mechanisms are ineffective (Brown et al., 2011). This study investigates the impact that corporate governance mechanisms have upon European Union (hereinafter, EU) banks' income smoothing behavior. I focus on the initiatives taken by EU regulatory authorities, in the aftermath of 2008 financial crisis, for the improvement of corporate governance framework of EU banks. In particular, I examine whether the limitations in the existing corporate governance framework that were identified in the European Commission's Green Papers of 2010 and 2011, affect the accounting policy decisions of EU banks. These guidelines refer to the structure, the duties and the operations of the board of directors; the rights of shareholders; the disclosure of directors' and Chief Executive Officers' (CEO hereinafter) remuneration; the responsibilities and duties of the external auditors; and the role of supervisory authorities.

I study whether EU banks accounting policy decisions are associated with the characteristics of the banks' board of directors. In addition to the issues raised in European Commission's Green Papers regarding the duties and the operations of the board of directors, I explore the implications that boards' structure (one-tier vs. two-tier system) can have on banks' corporate governance environment. Furthermore, I investigate the impact that the disclosure of CEOs' remuneration can have upon banks' accounting policy choices. Moreover, I examine whether banks' capital structure operates as an internal corporate governance practice by affecting banks' target regulatory capital ratios.

I use a sample of sample 98 banks from 23 European Union countries (392 observations) for the period 2010-2013. In line with previous research, I examine loan loss provisions (hereinafter, LLPs) as a smoothing accounting tool. To test my hypotheses I conducted a univariate analysis and I run a multivariate regression model. Similarly to previous research, I use an OLS analysis to test our results.

Empirical findings suggest that LLPs remain a significant income-smoothing tool for EU banks. In addition, the results of this study indicate that board of directors' characteristics are associated with the level of banks' LLPs. Furthermore, the structure of the board of directors and the disclosure of the CEO's remuneration are associated with banks' accounting discretion. In

particular, my findings imply that income smoothing through LLPs is higher for banks with dual system boards and banks that do not provide information about CEO remuneration. In addition, it appears that banks with higher target capital ratios are more likely to use LLPs in order to adjust their income.

The findings of this study contribute to the existing literature concerning firms' income smoothing behavior, by providing insights concerning banks' corporate governance systems. I investigate whether the corporate governance characteristics of banks have an impact upon their accounting policy decisions. Banks face corporate governance issues similar to those of non-financial firms and have similar corporate governance mechanisms. Yet, their institutional and regulated operational environment has certain attributes that require special examination. Furthermore, these findings can be useful to regulators, since I provide some evidence regarding the impact of banks' governance mechanisms on managerial discretion, focusing in the period after the issuance of the Green Papers by the European Commission. In addition, I provide evidence that the structure of the board of directors (one-tier vs. two-tier system) is a corporate governance characteristic that may have influenced the quality of banks' reports. Furthermore, my results indicate that bank LLPs' accounting policies are affected by the banks' disclosure policy regarding CEO remuneration and the level of each bank's leverage.

The remainder of this chapter is organized as follows. Section 3.2 presents the literature that is related with corporate governance research. In Section 3.3, I review the previous findings for the association of earnings management and corporate governance mechanisms and I outline the hypotheses being tested. Subsequently, in Section 3.4, I present the empirical model used. Section 3.5 reports the empirical results of the univariate and multivariate analyses. The final section (Section 3.6) concludes the chapter and discusses the practical implications of my results.

3.2. Literature Review

The sub-section 3.2.1 presents an overview of the literature that is related with corporate governance. In turn, sub-section 3.2.2 describes the corporate governance problems of the banking sector. Finally, the section 3.2.3 reviews the 'comply or explain' principle.

3.2.1. Corporate Governance

Corporate governance (hereinafter, CG) mechanisms aim to mitigate the conflicts of interest between managers and other firm stakeholders that arise due to the separation of ownership and management. Previous literature has not come up to an unanimous definition for corporate governance. In fact, literature provides a number of definitions the differences of which depend on one's view of the world (Gillan, 2006). Table 3-1 presents the most popular definitions of previous studies.

Table 3-1. Definitions of corporate governance

| Year | Authors | Definition |
|------|---------------------|---|
| 1992 | Cadbury Report | Corporate governance is the system by which companies are directed and controlled. |
| 1997 | Shleifer and Vishny | Corporate governance deals with the ways in which suppliers of finance to corporations assure themselves of getting a return on their investment. |
| 1998 | Zingales | Governance systems are a complex set of constraints that shape the ex post bargaining over the quasi-rents generated by the firm. |
| 1998 | Gillan and Starks | Corporate governance is the system of laws, rules, and factors that control operations at a company. |

Regardless the problem of the selection of an appropriate definition, previous studies argue that corporate governance mechanisms are classified into two categories: internal mechanisms and external mechanisms (Gillan, 2006; Brown et al., 2011). The firm's balance sheet model may explain the role and the interrelation between the types of CG mechanism (Fig.3-1). The left side of the diagram presents the basic mechanisms of internal governance which are the board of directors and management. Management is the owners' delegated agent and takes decisions which are related with the firm's investments and financing. The Board of Directors is the apex of internal control systems and is charged with advising and monitoring management. In addition, it has the responsibility to hire, fire, and compensate the senior management team (Jensen, 1993). The right side presents external governance mechanisms that arise from the firm's funding needs and include capital providers such as debt holders and shareholders. These

providers of capital use corporate governance to ensure that they will get a return on their investment (Shleifer and Vishny, 1997).⁵⁸

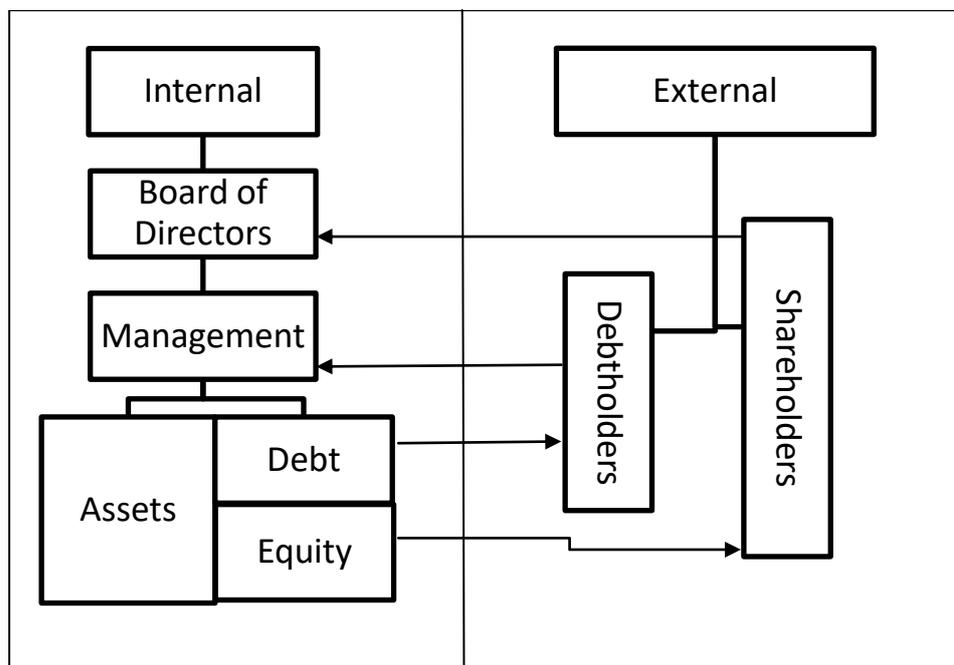


Fig. 3-1. Corporate governance and the balance sheet model of the firm (Gillan, 2006).

Of course, the factors that constitute a firm’s CG system are not limited to the board of directors, management and capital providers. A typical CG system should include suppliers, employees and customers as well. This extension of the basic balance sheet model explains the nexus of contracts view of the firm, as articulated by Jensen and Meckling (1976). Furthermore, a more integrated depiction of CG systems is presented in the next figure (Fig.3-2) which reflects a firm’s stakeholder perspective after the inclusion of other external factors such as political environment, law and regulation and capital markets (Jensen, 2005).

⁵⁸ Gillan (2006) suggests that that in the publicly traded firm, a separation exists between capital providers and those who manage the capital. This separation creates the demand for corporate governance structures.

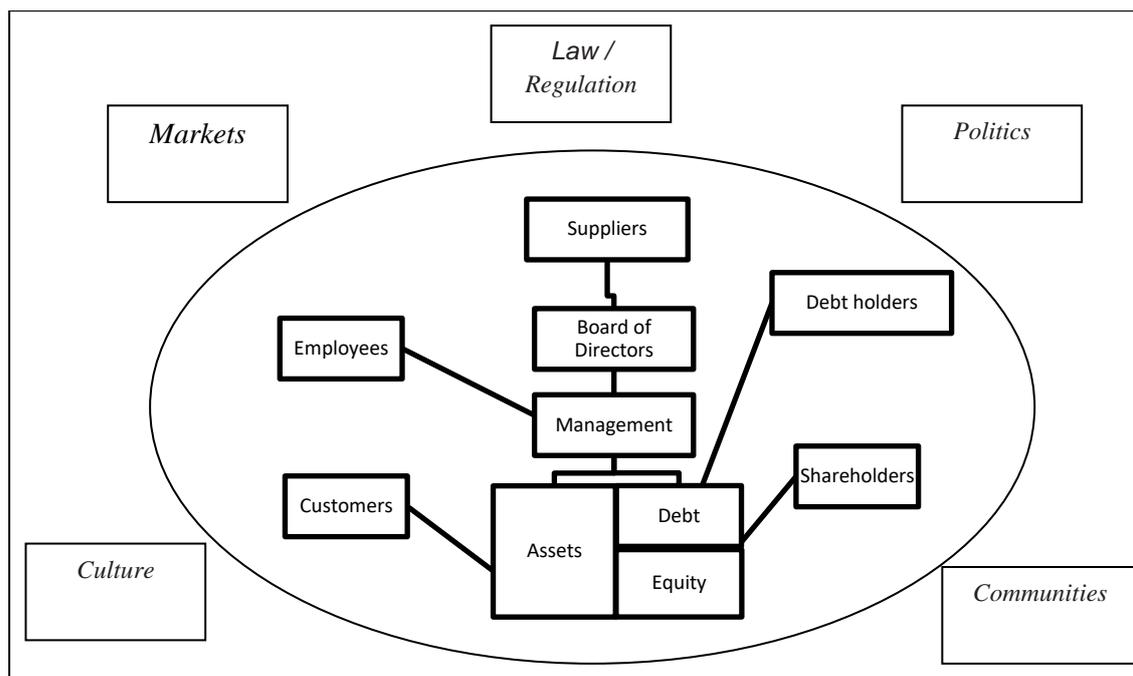


Fig. 3-2. Corporate governance: beyond the balance sheet model (Gillan, 2006).

Previous studies have extensively investigated the characteristics and the efficiency of internal CG mechanisms. Related research has focused on three types of internal mechanisms: board of directors, management's compensation and ownership structure.

The board of directors plays a critical role in the governance process as it has a fiduciary obligation to a firm's shareholders while it is charged with the responsibility to implement a firm's strategy and monitor its management. Within this context a series of studies examined the impact of the board's size and independence on its ability to function effectively (Rosenstein and Wyatt, 1990; Yermack, 1996). Furthermore, another stream of studies investigated board's activity (Vafeas, 1999) and the structure and activity of the board's subcommittees (Klein, 1998, 2002; Deli and Gillan, 2000).

Management's compensation comprises a useful tool in aligning the interests of managers and shareholders (Jensen, 1993). Within this context, related studies have provided useful findings regarding the incentives from ownership (Morck et al., 1988; McConnell and Servaes, 1990; Core et al., 2003), the efficiency of option-based compensation (Jensen and Murphy, 1990; Core and Guay, 1999; Acharya et al., 2000) and the impact of compensation on restating earnings and committing fraud (Johnson et al., 2003; Agrawal and Chadha, 2006).

Literature has also investigated the role of debt as a self-enforcing governance mechanism under the notion that managers are constrained to generate cash and meet interest and principle

obligations (Grossman and Hart, 1982; Jensen, 1986, 1993)⁵⁹. Furthermore, other studies examined different type of stock and their differences regarding voting and cash-flow rights (Zingales, 1995; Gompers et al., 2004) and the association between governance and the cost of debt (Cremers et al., 2004; Klock et al., 2005).

With regard to external governance mechanisms, literature has focused on regulation and enforcement, external monitors and the limitations from markets. In particular, legal protection is related with the effects of legal origin on shareholder protection and capital market development (LaPorta, 1998; Leuz et al., 2005; Karpoff et al., 2005)⁶⁰. Furthermore, external monitors such as analysts (Bhushan, 1989; Lang et al., 2004) and auditors (DeAngelo, 1981; Defond et al., 2002; Frankel et al., 2002) observe and control firms' performance and impede managers to act at the expense of firms' stakeholders. Similarly, the competition that arise from capital (Qiu, 2004; Chen et al., 2005, Gaspar et al., 2005) and labor markets (Warner et al., 1988; Yermack, 2004; Agrawal et al., 2006) may influence management's job security and reputation, deterring possible actions that may hamper the interest of a firm's stakeholders.

3.2.2. Bank issues

Similarly to non-financial firms, banks face the same governance problems that arise from the separation of ownership and control. However, banks play an important role for the governance of non-financial firms given that they usually comprise their main debt-holder. In particular, banks influence other firms operations by allocating funds efficiently, determining cost of capital and increasing productivity growth.

In contrast with non-financial firms, banks have three special attributes that differentiate their governance problems (Levine, 2004). Firstly, banks' operations are generally more opaque (Furfine, 2001). The quality of bank loans may remain unobservable for long periods. Furthermore, banks may alter their risk composition quickly and can hide problems by extending loans to clients that cannot service previous debt obligations. As a result, gathering the necessary

⁵⁹ In contrast, other studies argue that most firms can easily meet interest payments and firms typically rely on internal financing (Allen and Gale, 2000).

⁶⁰ La Porta et al. (1998) find support for their legal origin hypothesis: countries whose legal system is grounded in common law have a higher level of minority shareholder protection than civil law countries. However, a series of study argue that the legal origin hypothesis is biased towards the US systems and does not capture the most significant aspects of the law (Lele and Siems, 2007).

information may be costly and difficult, hampering the efficiency of corporate governance mechanisms.

Secondly, banks operate in a heavy regulated environment. Bank assets' opaqueness and their critical role for the financial system encourage governments to directly or indirectly intervene in the banking sector⁶¹. In many cases, this intervention is exemplified by direct governmental ownership which may have negative ramifications for the financial growth⁶².

Thirdly, the existence of a deposit insurance scheme reduces the incentives of depositors to monitor banks efficiently and encourages banks to operate with high leverage permitting the controlling owners or managers to increase the risk exposure of banks.

3.2.3. The financial crisis and the comply or explain principle

The financial crisis of 2008 raised concerns among investors, policy makers and regulators regarding the financial soundness of EU banks and the effectiveness of EU banks' governance systems. The European Commission proposed or adopted a series of measures aiming to improve the accounting transparency, the regulatory framework and the governance systems of the European Banks. The recommendations concerning the improvement of corporate governance framework aim to cure the weaknesses of the existing framework and to reinforce the 'comply or explain' principle.

On the basis of the conclusions of the Larosiere report (2009), the European Commission announced that it would examine corporate governance rules and practices within financial institutions and where appropriate it would make recommendations or propose regulatory measures to remedy any weakness of the corporate governance system in the banking sector. Within this context, the European Commission issued a Green Paper on banking sector's corporate governance in 2010 and noted that "*although corporate governance did not directly cause the crisis, the lack of effective control mechanisms contributed significantly to excessive risk – taking on the part of financial institutions*". To offset the negative ramifications of weak governance systems, the European Commission proposed: the increase of independence and

⁶¹ LaPorta et al. (2002) find that about 40 percent of the assets in the banking systems of emerging market economies were in state-owned banks.

⁶² Barth et al. (2004) argue that government ownership politicizes resource allocation, softens budget constraints, and hinders economic efficiency. Thus, government ownership facilitates the financing of politically attractive projects, not economically efficient ones.

skills among board members, the establishment of a standardized shareholder stewardship code, the increase of national supervisory resources and the regulation of the executives' remuneration.

The Green Paper for the improvement of the corporate governance systems of financial institutions across European Union comprised a coordinated attempt for the smooth functioning of the internal EU market and the regulatory harmonization of the existing corporate laws. The current framework is based on the Directive 2006/46/EC, which introduces the “comply or explain” principle in EU law. Under the provisions of the Directive, all companies whose securities are admitted to trading on a regulated market of the EU are required to give a statement on the application of a corporate governance code or to explain why it is not applied. This statement must be included in a specific and clearly identifiable section of the annual report or in a separate report published together with the annual accounts or by means of a reference in the annual report when such a document is publicly available on the company's website.

The principle of “comply or explain” is based on the argument that corporate governance cannot be effectively applied by harmonized rules and structures because companies differ in many aspects (Cadbury, 1992; MacNeil and Li, 2006; Seidl, et al., 2013). However, as a ‘soft law’ instrument, banks' decision to not comply with the corporate governance code has no legal implications for bank managers (Sergakis, 2013)⁶³. In most legal systems, corporate governance codes at the national level are not mandatory. Their enforcement is left to company administrative and management bodies, especially the board of directors or management. Therefore, companies should select the method that is most appropriate for them, which will ultimately lead to better governance. Prior literature investigated the extent of compliance with national codes (Akkermans et al., 2007; Werder et al., 2005) and how the ‘explain option’ is used in practice (Seidl et al., 2013). The findings of these studies implied that flexible approach of the “comply-or-explain” principle is questionable because companies frequently fail to provide informative explanations (Akkermans et al., 2007; Arcot et al., 2010; MacNeil and Li, 2006). However, it should be noted that the non-compliance with governance rules does not necessarily imply that a corporation is poorly governed. Arcot et al. (2010) provide evidence that companies which have explained non-compliance with a code in a reasonable manner have an excellent management.

⁶³ Soft law' is a system of adopting rules regulating social relations outside the traditional method of adoption of legal rules by democratically elected legislative state bodies, whose application is enforced by criminal proceedings and litigations in court (hard law). Soft law is the system of autonomous private regulation by private law parties.

The European Commission issued a second Green Paper in April 2011 where included specific guidelines about firms' remunerations policies. The Commission outlined that the crisis of 2008 brought into light a mismatch between performance and executive directors' remuneration. Therefore, poor remuneration policies and/or incentive structures may lead to unjustified transfers of value from companies and their shareholders to executives. Within this context, the European Commission recommended that firms (included banks) should disclose their remuneration policy and the individual remuneration of each member of the board including the CEO.

3.3. Hypotheses

Agency theory suggests that the separation of ownership and control may provide managers with the latitude to act opportunistically at the expense of interests of shareholders and other firms' stakeholders (Berle and Means, 1932; Jensen and Meckling, 1976). Within this context, if contracts that aim to align the interests of owners and management are not efficient, managers may use accounting discretion in order to adjust earnings and maximize their own utility (Watts and Zimmerman, 1986).

Corporate governance mechanisms, internal and external, aim to limit the problems that arise from inefficient contracting and opportunistic accounting discretion. A large number of studies have investigated the association between CG mechanism and firms' discretionary accounting decisions. With regard to the external governance mechanisms, literature has focused on legal enforcement and firms' takeover effects. Empirical findings on legal enforcement implied that stronger legal systems and investor protection limit earnings management (Ball et al., 2000; Ball et al., 2003; Leuz et al., 2003). Regarding takeovers, related studies showed that when such firms face a higher probability of being acquired or losing control, are more likely to manage earnings and show better performance as a takeover defense (Comment and Schwert, 1995; Billet and Xue, 2007).

Internal governance mechanisms are related with earnings management as well. A large body of this literature has investigated the association between firms' ownership structure and management's accounting discretion. The results of these studies have documented that ownership structure can influence firms' earnings quality (Anderson and Reeb, 2004; Ali et al., 2007). In particular, dispersed ownership and insider ownership appear to limit earnings

management (Dyck and Zingales, 2004; Sánchez-Ballesta and García-Meca, 2007). Another stream of studies has examined the association of board's characteristics with earnings management. These studies showed that earnings management is limited when boards are independent (Jensen and Fama, 1983; Dechow and Dichev, 2002), consist of a remarkable number of female members (Adams and Ferreira, 2009⁶⁴; Adams et al., 2010) and when audit (Abbott et al., 2005; Carcello et al., 2006) and compensations committees (Cheng., 2004) monitor managers effectively.

Although, the aforementioned mechanisms influence managers' accounting decisions, accounting quality may enhance corporate governance under certain circumstances. In particular, accounting conservatism is perceived as a complementary mechanism when governance is strong, while greater accounting conservatism is demanded by firms' stakeholders, when governance is weaker (Brown et al., 2011).⁶⁵ Within this context, conservatism may be a useful tool for directors who monitor managers. Stronger boards that are proficient at efficient contracting and understand the benefits of conservatism are likely to demand more conservative accounting. In contrast, boards that are dominated by insiders and have weak monitoring incentives are likely to provide managers with greater discretion in managing accounting accruals (Ahmed and Duellman, 2007).

Within this context, the ineffectiveness of corporate governance mechanisms may have negative ramifications on banks' accounting quality and transparency, as well.⁶⁷ Previous literature suggests that bank managers have the latitude to use accounting accruals and smooth income in order to maximize their own compensation and/or secure their jobs at the expense of shareholders and other firm stakeholders (Healy, 1985; Kanagaretnam et al., 2003). In addition, banks' managers may smooth or manipulate income to increase regulatory capital and avoid a possible regulatory intervention (Moyer, 1990).

Early studies have provided evidence that LLPs comprise one of the main accounting accruals used by banks' management for income smoothing purposes (Greenawalt and Sinkey, 1989;

⁶⁴ Adams and Ferreira (2009) claim that female directors are more likely to have board diligence and more effort to demand and monitor for managers' performance.

⁶⁵ Evidence from a variety of studies suggests that conservatism is greater when there is a larger when the proportion of outside directors on the board is greater (Beekes et al., 2004; Ahmed and Duellman, 2007).

⁶⁶ Brown et al. (2011) argue that firms with opaque earnings may compensate for opacity by employing costly but more effective governance practices.

⁶⁷ Bushman et al. (2004) find an inverse relation between earnings timeliness and CG quality, while LaFond and Roychowdhury (2008) report conservatism and managerial ownership are inversely related in that lower levels of managerial ownership result in greater agency problems and an increased demand for conservatism.

Beatty et al., 1995; Collins et al., 1995). The adoption of the Basel Regulatory framework enhanced bank managers' motivation for smoothing income through LLPs. In contrast with the old regulatory regime, the Basel regulatory framework eliminated loan loss provision from the calculation of Tier I regulatory capital. Therefore, bank managers have the opportunity for a simultaneous management of earnings and regulatory capital ratios (Kim and Kross, 1998; Ahmed et al., 1999).

Although income smoothing through LLPs may be favorable from a regulatory perspective, it may have negative implications for accounting quality and firm value (Bushman and Williams, 2012). EU adopted IFRS in order to restrict managers' accounting discretion. In addition, EU adopted the Basel II Regulatory framework in 2008, imposing stricter regulatory capital requirements and limit managers from engaging in excessive risk taking. Gebhardt and Farkas (2011) and Leventis et al. (2011) found that the adoption of IFRS significantly reduced banks' income smoothing behavior. On the other hand, Leventis et al. (2012) found that although IFRS mitigate the discretionary component of LLPs, the propensity to engage in signaling behavior is more pronounced for financially distressed banks in the post IFRS regime. Furthermore, a recent study of Hamadi et al. (2016) provided evidence that despite the adoption of IFRS and Basel II, EU banks continue to manipulate their LLPs.

Ideally the study of corporate governance mechanisms would involve the joint examination of all relevant mechanisms (Ahmed and Duelman, 2007; Cornett et al., 2009). In this study, I focus on two corporate governance mechanisms: the board of directors and the disclosure of the CEO's remuneration. Furthermore, I investigate the role of leverage as an internal monitoring mechanism.

3.3.1. Board of directors

The board of directors comprises a fundamental mechanism of the corporate governance system. Within the framework of a classic principal-agent relationship, the board of directors takes the role of the principal in the monitoring process of the agent-manager. Board monitors senior management decisions because it is efficient to separate decision initiation and implementation (Fama and Jensen, 1983). Furthermore, the board members have the responsibility to fire or hire managers, determine management compensation and approve crucial projects that demands high amounts of investment (Grinstein and Tolkowsky, 2004).

The monitoring function of the board of directors can have some implications regarding managers' accounting discretion. Accounting data is a crucial information input for board's decisions. As a consequence, board will require comparable and verifiable information in order to take decisions and monitor managers. Knowing that their accounting discretion is closely monitored, managers will refrain from managing accounting figures. Cornett et al. (2009) found that certain board's characteristics can be negatively associated with earnings management. In particular, they found that when a firm's board of directors include more members that are independent is less likely that earnings manipulation will occur. Moreover, an independent and strong board of directors is likely to demand the implementation of more conservative accounting policies. Ahmed and Duelman (2007) argue that accounting conservatism will deter managers from withholding information on expected losses. Furthermore, they found that there is a negative relation between the percentage of the board inside directors and accounting conservatism and a positive relation between accounting conservatism and the percentage of shares owned by outside directors.

Prior literature argues that board size plays an important role regarding the effectiveness of director's actions. Smaller boards can benefit from increased participation, social cohesion and smooth communication (Yermack, 1996). At the same time, smaller boards are more easily dominated and may offer less expertise to govern the company (Anand, 2008). Similarly, CEO-duality reduces the risk of domination by the CEO, whereas CEO-duality reduces the independence of the board (Tricker, 1994). When the CEO is also chairman of the board, he is likely to have more influence on director nomination and election than if these positions are separated. Furthermore, Jensen (1993) argues that separating the positions of chairman of the board and chief executive officer results in greater independence of the board from management.

This study investigates the impact of different board structures on bank managers' accounting discretion. According to the Council Regulation 2157/2001, banks are free to provide for a supervisory and management organ (unitary board/ one-tier system) or an administrative organ (dual board/ two-tier system). These two board structures have major differences with respect to their composition and the roles of directors. Firstly, executive and non-executive directors operate in one board in the unitary board structure, while they operate in physically separated board layers in the dual board structure. Secondly, CEO duality is admitted for the unitary system, while the CEO cannot chair the supervisory board in the dual board system. Thirdly, control and supervision of management are integrated and exercised by one group of directors

for the one-tier boards. Under the dual board structure, the supervisory board exercises the control role, while the formally separated management board exercises the strategy role. The two-tier model is supposed to allow for more stakeholder inclusivity than the one-tier model (Solomon, 2013).

The above-mentioned differences may allow different levels of accounting discretion between banks that apply a one-tier system and those that adopt a two-tier system. For instance, unitary board banks with CEO duality may permit higher levels of income smoothing, because the CEO may influence the decisions of the board. In the case of two-tier boards of directors, the existence of a supervisory board in the governance structure may restrict management's opportunistic behavior. On the other hand, the separation of duties between the board members that prevails in the two-tier system, may allow the emergence of a 'free-rider problem' that may result to ineffective governance, encouraging managers' accounting discretion (Hermalin and Weisbach, 2003). In order to investigate whether the adoption of a two-tier system improves the effectiveness of corporate governance applied in a bank I test the following hypothesis:

H1: There is no difference in association between loan loss provisions and earnings before tax and provisions between One-Tier System and Two-Tier System Banks.

3.3.2. CEO remuneration

Compensation schemes are supposed to be an important factor in aligning managers' and owners' interests, aiming to the maximization of firm's value (Lambert, 1984). Previous research has provided mixed evidence regarding the effectiveness of compensation schemes as a value increasing mechanism (Healy, 1985; Holthausen et al. 1995; Guidry et al., 1999). In the case of accounting-numbers based compensation schemes, firm's management may manipulate accounting figures in order to maximize their compensation at the expense of shareholders' interest (Healy, 1985). Core et al. (1999) investigated the relation between boards' characteristics, ownership structure and managers compensation. They found that managers' compensation was higher when governance structures were less effective. Cornett et al. (2009) found that CEOs' compensation is related with the effectiveness of governance mechanisms. Furthermore, they found that bank CEOs' compensation was positively associated with the level of earnings management. Previous research has provided evidence that the firms that employ

option-based compensation schemes are more likely to restate earnings, commit fraud or to be subject to class actions lawsuits (Johnson et al., 2003; Peng and Roell, 2003; Agrawal and Chadha, 2006).

In April 2011, the European Commission issued a second Green Paper that recommended the disclosure of entities' remuneration policy for their directors and managers. In addition, the commission recommended that entities ought to disclose remuneration of individual directors (executive and non-executive) and managers, including the remuneration of CEO. The Committee emphasized that some Member States do not adequately address issues relating to the remuneration policy for directors and upper management. In particular, many banks do not disclose the remuneration amounts for their directors and managers, despite the fact that they prepare a Corporate Governance Statement. The absence of managers' remuneration disclosure may imply that banks' management attempt to conceal from other stakeholders a possible connection between bank's accounting result and managers' remuneration. I focus on the disclosure of CEOs' remuneration, since CEOs are responsible for banks accounting policy decisions (Adams and Mehran, 2003). Therefore, I test the following hypothesis:

H2: The association between loan loss provisions and earnings before tax and provisions for banks that disclose CEO remuneration is not significantly different from the association between loan loss provisions and earnings before tax and provisions for banks that do not disclose CEO remuneration.

3.3.3. Capital structure

Various arguments have been developed regarding the association between firms' capital structure and the effectiveness of corporate governance mechanisms. According to one approach, leverage can act as a self-disciplining internal governance practice that mitigates agency costs by imposing fixed obligations on the use of corporate cash flow (Jensen and Meckling, 1976). A reduction in the proportion of equity capital fosters the alignment of the interests of managers and shareholders by increasing managerial ownership. Yet, debt repayment reduces cash available to management for non-optimal spending (Jensen, 1986). An alternative approach suggests that effective corporate governance mechanisms protect lenders' interests and leads to higher firms' credit ratings and a lower cost of debt. Thus, the more leveraged firms are likely to apply corporate governance mechanisms (Brown et al, 2011).

The concentration of debt holders has been identified as a factor affecting the association between firms' capital structure and the effectiveness of corporate governance mechanisms. Concentrated debt holders can exert efficient governance and monitor managers due to their large investment. Moreover, concentrated debt holders may obtain various control rights in the case of default or the violation of covenants. On the other hand, concentrated debt holders may face barriers in exerting governance due to legal and bankruptcy systems (Levine, 2004). Diffuse debt holders, holders have increased costs when seeking information and face free-rider problems, since each investor relies on others to undertake the costly process of monitoring managers (Shleifer and Vishny, 1986). Prior literature has provided mixed evidence regarding the capital structure as governance mechanism (Grossman and Hart, 1982; Jensen, 1986 and 1993; Allen and Gale, 2000).

In the case of banks, debt is mainly held by depositors, which are classified as diffused debt holders. Due to the existence of deposit insurance schemes, depositors have fewer incentives in exerting monitoring of banks. Furthermore, the fact that banks are closely monitored by regulatory and supervisory authorities means that depositors' interests are supposed to be adequately safeguarded against managers' opportunistic behavior (Dewatripont and Tirole, 1993a).

Because depositors are not in a position to monitor bank managers, they need to be represented by the regulator. Capital standards may be an important instrument to implement the optimal governance of banks because they can be used to define the threshold for the transfer of control from shareholders to the regulator. Within, this context, minimum regulatory capital requirements limit bank managers' risk incentives and protect depositors and other stakeholders (Santos, 2001). On the other hand, if a deposit insurance system exists, banks are encouraged to operate with low capital-asset ratios. In this case, as capital-asset ratios fall, controlling owners or managers are encouraged to increase the risk undertaken by a bank at the expense of debt holders (Levine, 2004). Therefore, managers of banks with low capital ratios will have incentives to use LLPs and smooth income in order to avoid a possible regulatory intervention. In contrast, banks with high capital ratios may have greater opportunities to smooth income because they do not attract the attention of regulators and other delegated monitors. The Basel accord capital regulations set a minimum regulatory capital of 4%. Thus, managers have strong incentives to maintain adequate capital and avoid any possible regulatory intervention. In

practice, the vast majority of banks set target regulatory capital ratios which are greater from the minimum requirement (Berger et al., 2008). If a bank has a target regulatory ratio far from 4%, managers' have grater discretion to smooth income through LLPs, when earnings are high and use these buffers when earnings are low. On the other, banks with lower capital ratios and higher leverage may smooth income to avoid a possible regulatory intervention or increase capital to reach their target. In order to investigate whether bank leverage comprises an efficient governance mechanism I formulate the following hypothesis:

H3: There is no difference in association between loan loss provisions and earnings before tax and provisions between higher - capitalized and lower - capitalized banks.

3.4. Empirical model

In order to test my hypotheses I use a multivariate model. The development of the model is based on the analysis of models presented in Beatty and Liao (2014). Those models examined the association between discretionary LLPs and income smoothing. I modified those models in order to examine the interaction between certain corporate governance mechanisms and EU banks income smoothing behavior. Following Ahmed and Duellman (2007), I examine the impact of each corporate governance tool individually. My empirical model is depicted by the following equation:

$$LLP_t = \beta_0 + \beta_1 NCO_t + \beta_2 LOAN_t + \beta_3 NPL_t + \beta_4 \Delta LOAN_t + \beta_5 \Delta NPL_t + \beta_6 ALW_{t-1} + \beta_7 SIZE_{t-1} + \beta_8 \Delta GDP_t + \beta_9 \Delta UNEMP_t + \beta_{10} EBPT_t + \beta_{11} BODSIZE_t + \beta_{12} DUALITY_t + \beta_{13} INDEPENDENT_t + \beta_{14} BOARDSTRUC_t + \beta_{15} (BOARDSTRUC_t * EBPT_t) + \varepsilon_t$$

Where :

| | |
|---------------------|--|
| LLP _t : | Loan loss provisions at the end of year t scaled by lagged total loans |
| NCO _t : | Net Charge –offs of the current year t scaled by lagged total loans |
| ΔNPL _t : | Change in non-performing assets at the end of the current year t divided by lagged total loans |
| NPL _t : | Non-performing assets at the end of the current year divided by lagged total loans |

| | |
|---|--|
| SIZE _{t-1} : | The natural log of total assets of the previous year t-1 |
| ΔLOAN _t : | Change in total loans at the end of current year t divided by lagged |
| ΔGDP _t : | Change in GDP at the end of the current year t |
| ΔUNEMP _t : | Change in unemployment rates at the end of the current year t |
| ALW _{t-1} : | Loan loss allowance at the end of the previous year t-1 divided by total loans |
| EBTP _t : | Earnings before taxes and provisions at the end of the current year t scaled by lagged total loans |
| LOAN _t : | Total loans at the end of the current year t divided by total assets |
| BODSIZE _t : | The natural log of board members at the end of the current year t |
| INDEPENDENT _t : | Percentage of outside directors in the board at the end of the current year t |
| DUALITY _t : | Dummy that takes the value 1 if the CEO is the chairman of the BoD in the year t and 0 otherwise |
| BOARDSTRUC _t : | Dummy that takes the value 1 when a bank has a two-tier board system and 0 otherwise |
| BOARDSTRUC _t * EBPT _t : | Interaction term between board structure and earnings before provisions and taxes |

The dependent variable is loan loss provisions in year t (LLP_t) and reflects managers' expectations of future loan losses. According to the incurred loss model of IAS 39, banks should only recognize loan loss provisions when there is objective evidence about counterparty's credit quality deterioration. However, the absence of specific guidelines, regarding the definition of objective evidence, encourages managers to use their discretion when they recognize LLPs.

The variable EBPT_t depicts earnings before taxes and loan loss provisions at the end of the year. The income smoothing hypothesis suggests that managers deliberately increase LLPs when earnings are high and create a buffer of earnings. When earnings are low, managers can either deliberately understate LLPs or reverse the previous recognized provisions to offset unexpected losses (Greenawalt and Sinkey, 1998; Laeven and Majnoni, 2003). Within this context, I expect that LLPs will be positively associated with earnings before provisions and taxes (EBPT_t). In addition to their discretionary component, LLPs contain a non-discretionary portion because banks should recognize a provision due to the credit risk of their loan portfolio (Beatty and Liao, 1995; Collins et al. 1995; Moyer, 1990). To capture this portion I use the change of non-performing loans (ΔNPL_t) and non-performing loans (NPL_t) at the end of the current year. When

banks assess either individual loans or a group of smaller and homogeneous loans, they compute loan losses and probability default based on experience and statistical analysis of previous credit losses. Furthermore, a large number of past-due loans are associated with the current year's write-offs and subsequently with the previous year's loan loss provisions. Thus, non-performing loans of the current year (NPL_t) and change of non-performing loans of the current year (ΔNPL_t) are expected to be positively correlated with loan loss provisions. Furthermore, I use net charge-offs (NCO_t) of the current year because according to IAS 39 guidelines, banks should recognized LLPs when there is strong probability for the occurrence of a future loss. Within this context, banks will recover actual loan losses from charge-offs by reversing LLPs of previous years (Gebhardt and Farkas, 2011). Therefore, net charge-offs (NCO_t) of the current year are expected to be negatively correlated with loan loss provisions. Past LLPs accounting policies may have an impact on current year's LLPs. The rationale for controlling for past allowance is based on the argument that if banks recognize sufficiently high provisions in the past, the current LLPs may be lower (Beatty and Liao, 2014). Within this context, I expect a positive sign as far as the relation between loan loss allowance of the previous year (ALW_{t-1}) and LLP_t is concerned. I control for bank size ($SIZE_{t-1}$) because banks of different size may be subject to a different level of regulatory scrutiny or monitoring. Although the 'political costs' hypothesis implies a positive sign between accounting accruals and size (Watts and Zimmerman, 1986), I have no clear prediction for the sign of size. Moyer (1990) did not find evidence to support the political costs hypothesis, while Bishop (1996) suggests that regulators are reluctant to intervene in operations of large banks.

I also control for macroeconomic trends in the overall economy by including GDP growth (ΔGDP_t) and unemployment rates ($\Delta UNEMP_t$). Laeven and Majnoni (2003) argued that income smoothing through loan loss provisions is suggested by regulators to offset the pro-cyclical effect of bank capital. Within this context, they argue that when loan loss provisions are negatively associated with GDP growth, bank managers demonstrate imprudent loan loss provisioning behavior. During economic booms, GDP growth is positive and unemployment decreases. Subsequently, I expect a positive sign for GDP, as banks are expected to increase loans. In contrast, I expect a negative sign for unemployment because it is used as a proxy for individuals' credit quality. Moreover, the period of 2010 - 2013 lies in the aftermath of the financial crisis of 2008. As a result, a group of countries (Greece, Italy, Ireland, Spain and Cyprus) still face the negative ramifications of the crisis throughout their banking sector. Therefore, I control for loan growth ($\Delta LOAN_t$) and total lending ($LOAN_t$) because loan loss provisions may be higher when

a bank extends credit to more clients with lower credit and reversely (Laeven and Majnoni, 2003; Beatty and Liao, 2011). I use the board size ($BODSIZE_t$), the percentage of outside directors in the board ($INDEPENDENT_t$) and CEO duality ($DUALITY_t$) as control variables in order to address the issues raised by the Green Papers of 2010 and 2011 and are related with the characteristics of the board of directors. In order to test Hypothesis 1, I include in the model a dummy variable ($BOARDSTRUC_t$), which takes the value 1 when a bank has a two-tier board system and 0 otherwise. I also include the interaction term $BOARDSTRUC_t * EBPT_t$. If the board structure has no impact on bank managers' accounting discretion, I expect that the association between LLPs with the interaction term will not be statistically significant.

Hypothesis 2 investigates whether there is any difference in income smoothing between banks that provide and banks that do not provide disclosures for CEO's remuneration. To test this hypothesis, I include in the model a dummy variable ($COMDISC_t$) that takes the value 1 if a bank provides disclosure for CEO annual remuneration and 0 otherwise. To test if this differentiation has an impact on income smoothing I incorporate the interaction term $COMDISC_t * EBPT_t$. Therefore, I expect that if banks deliberately conceal CEO's remuneration I will have greater incentives to smooth income through LLPs. Subsequently, I expect a negative association between LLPs and the interaction term.

In order to test Hypothesis 3, I classify the banks of our sample in two clusters of higher capitalized and lower capitalized banks. The rationale of this classification is based on the fact that if banks maintain a higher level of regulatory capital, they have a lower level of leverage. Within this context, both regulators and shareholders may exert better governance because bank managers will have less discretion in their accounting choices and their risk taking decisions (Levine, 2004). In contrast, banks with lower regulatory capital are more leveraged and subsequently, the problems of diffuse debt holders may affect their governance. I compute each bank's annual target ratio as the difference between reported capital ratio ($LEVERAGE_t$) and minimum capital requirement and I compute the average difference for the period of 2010 - 2013.

Then, each bank is classified as higher capitalized if its average difference exceeds the median of the pooled sample. Otherwise, it is classified as lower capitalized. I use a dummy variable ($CAPITAL_t$) which takes the value 1 when a bank belongs to the higher-capitalized cluster and 0 otherwise. I also use the interaction term $CAPITAL_t * EBPT_t$ to test whether capital requirements have an impact on managers' incentives to smooth income through LLPs. I expect a positive and

significant association between LLPs and the interaction term, which implies that well capitalized banks have greater opportunities to smooth income.

The following table (Table 3-2) summarizes my predictions about the signs for each variable of the multivariate model.

Table 3-2. Summary of sign predictions

| VARIABLE | Sign |
|--|-------------|
| LLP _t | N.A |
| NCO _t | - |
| ΔNPL _t | + |
| NPL _t | + |
| SIZE _{t-1} | +/- |
| ΔLOAN _t | + |
| ΔGDP _t | + |
| ΔUNEMP _t | - |
| ALW _{t-1} | + |
| EBTP _t | + |
| LOAN _t | + |
| BODSIZE _t | +/ |
| INDEPENDENT _t | +/ |
| DUALITY _t | +/ |
| BOARDSTRUC _t | +/ |
| BOARDSTRUC _t *EBPT _t | +/ |
| COMDISC _t | +/ |
| COMDISC _t *EBPT _t | - |
| CAPITAL _t | +/- |
| CAPITAL _t *EBPT _t | + |

LLP_t: Loan loss provisions at the end of year t scaled by lagged total

NCO_t: Net Charge –offs of the current year t scaled by lagged total loans

ΔNPL_t: Change in non-performing assets at the end of the current year t divided by lagged total loans

NPL_t: Non-performing assets at the end of the current year divided by lagged total loans

SIZE_{t-1}: The natural log of total assets of the previous year t-1

ΔLOAN_t: Change in total loans at the end of current year t divided by

| | |
|---------------------------|--|
| ΔGDP_t : | Change in GDP at the end of the current year t |
| $\Delta UNEMP_t$: | Change in unemployment rates at the end of the current year t |
| ALW_{t-1} : | Loan loss allowance at the end of the previous year t-1 divided by total loans |
| $EBPT_t$: | Earnings before taxes and provisions at the end of the current year t scaled by lagged total loans |
| $LOAN_t$: | Total loans at the end of the current year t divided by total assets |
| $BODSIZE_t$: | The natural log of board members at the end of the current year t |
| $INDEPENDENT_t$: | Percentage of outside directors in the board at the end of the current year t |
| $DUALITY_t$: | Dummy that takes the value 1 if the CEO is the chairman of the BoD in the year t and 0 otherwise |
| $BOARDSTRUC_t$: | Dummy that takes the value 1 when a bank has a two-tier board system and 0 otherwise |
| $BOARDSTRUC_t * EBPT_t$: | Interaction term between board structure and earnings before provisions and taxes |
| $COMDISC_t$: | Dummy variable that takes the value 1 if a bank provides disclosure for CEO remuneration and 0 otherwise |
| $COMDISC_t * EBPT_t$: | Interaction term between $COMDISC_t$ and earnings before provisions and taxes ($EBPT_t$) |
| $CAPITAL_t$: | Dummy variable that takes the value 1 if a bank is classified as higher-capitalized and 0 otherwise |
| $CAPITAL_t * EBPT_t$: | Interaction term between $CAPITAL_t$ and earnings before provisions and taxes ($EBPT_t$) |

3.5. Results

The results of the univariate analysis are presented in Table 3-3. The mean for LLPs is 0,009, while the means for loan growth ($\Delta LOAN_t$) and GDP growth (ΔGDP_t) amount at 0,002 and 0,006 respectively. The positive sign of both loan growth ($\Delta LOAN_t$) and GDP (ΔGDP_t) implies that EU banking sector may have left behind the effect 2008 crisis. With respect to corporate governance variables, it appears that on average sample banks' boards of directors consist of 17 members, while the average percentage of independent directors is 56%. Despite the high percentage of independent directors in the pooled sample, the results between banks with one-

tier and two tier-system boards are different. Table 3-2 shows that, from our total number of 392 observations, 187 observations have a one-tier system board and 205 observations select the two-tier system. One-tier system banks have an average of 14 board members, while two-tier system banks have on average 19,1 members. Furthermore, the average number of independent members for two-tier banks is 63,9% and is greater form the 48,6 % of one-tier banks. These differences may derive from the nature of these structures, since two-tier banks consist of a supervisory and a management board. The above results imply that the structure of the board of directors may influence the issues that addressed by the Green Papers and are related with the board characteristics.

With regard to the CEO duality variable, I have to outline that this condition is not applicable for two-tier system banks. Subsequently, our results show that from the 187 observations with one-tier system boards, only 18 observations are characterized by CEO duality. With regard to the provision of disclosure for CEO remuneration, a number of 247 observations provide related disclosure. On the other hand, a considerable number of 147 observations do not provide information neither for the bank's remuneration policy nor for the amounts of CEO remuneration. Subsequently, these results may imply that policy makers should better address the issues and the regulation that is related with remuneration policies.

Table 3-3. Descriptive Statistics

| | <u>Pooled Sample</u> | | <u>Uninary</u> | | <u>Dual</u> | | <u>CEO</u> | | <u>NON CEO</u> | | <u>WELL</u> | | <u>BAD</u> | |
|-------------------------------|----------------------|--------|----------------|--------|-------------|--------|------------|--------|----------------|--------|-------------|--------|------------|--------|
| | Mean | St Dev | Mean | St Dev | Mean | St Dev | Mean | St Dev | Mean | St Dev | Mean | St Dev | Mean | St Dev |
| LLPt | 0.009 | 0.045 | 0.012 | 0.014 | 0.006 | 0.061 | 0.0131 | 0.019 | 0.003 | 0.070 | 0.014 | 0.019 | 0.004 | 0.061 |
| NCOt | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.163 |
| LOANt | 0.673 | 0.149 | 0.649 | 0.158 | 0.695 | 0.138 | 0.646 | 0.160 | 0.721 | 0.115 | 0.702 | 0.129 | 0.644 | 0.163 |
| NPLt | 0.080 | 0.083 | 0.083 | 0.085 | 0.077 | 0.081 | 0.081 | 0.086 | 0.078 | 0.079 | 0.102 | 0.098 | 0.057 | 0.057 |
| ΔLOANt | 0.002 | 0.109 | -0.000 | 0.106 | 0.004 | 0.112 | 0.003 | 0.118 | 0.000 | 0.092 | 0.003 | 0.111 | 0.000 | 0.108 |
| ΔNPLt | 0.010 | 0.040 | 0.019 | 0.043 | 0.003 | 0.035 | 0.010 | 0.041 | 0.011 | 0.039 | 0.019 | 0.048 | 0.002 | 0.027 |
| ALWt-1 | 0.040 | 0.038 | 0.040 | 0.035 | 0.040 | 0.041 | 0.042 | 0.042 | 0.037 | 0.031 | 0.046 | 0.041 | 0.033 | 0.035 |
| SIZEt-1 | 18.668 | 1.900 | 19.090 | 1.733 | 18.279 | 1.964 | 19.003 | 1.910 | 18.094 | 1.743 | 18.517 | 1.757 | 18.825 | 2.030 |
| EBPt | 0.011 | 0.046 | 0.009 | 0.020 | 0.012 | 0.061 | 0.012 | 0.015 | 0.008 | 0.073 | 0.009 | 0.021 | 0.012 | 0.062 |
| LEVERAGEt | | | | | | | | | | | | | 0.117 | 0.062 |
| Country level variable | | | | | | | | | | | | | | |
| AGDPt | 0.006 | 0.023 | -0.001 | 0.026 | 0.014 | 0.017 | 0.005 | 0.002 | 0.007 | 0.028 | -0.001 | 0.026 | 0.014 | 0.016 |
| ΔUNEMPt | 0.101 | 0.053 | 0.125 | 0.061 | 0.079 | 0.030 | 0.103 | 0.051 | 0.096 | 0.055 | 0.118 | 0.063 | 0.082 | 0.029 |
| Governance Variables | | | | | | | | | | | | | | |
| BODSIZEt | 2.767 | 0.366 | 2.646 | 0.296 | 2.876 | 0.388 | 2.737 | 0.378 | 2.817 | 0.338 | 2.802 | 0.350 | 2.730 | 0.379 |
| INDEPENDENTt | 0.567 | 0.248 | 0.486 | 0.271 | 0.639 | 0.201 | 0.573 | 0.230 | 0.556 | 0.164 | 0.525 | 0.236 | 0.609 | 0.254 |
| Members of the board | 17.000 | 6.580 | 14.000 | 4.290 | 19.120 | 7.530 | 16.630 | 6.840 | 17.710 | 6.078 | 17.511 | 6.114 | 16.540 | 7.020 |
| Obs with CEO Duality | 18 | - | 18 | - | 0 | - | 14 | - | 4 | - | 17 | - | 1 | - |
| OBS | 392 | | 187 | | 205 | | 247 | | 145 | | 200 | | 192 | |

Table 3-4 shows the Spearman correlations of our main variables. Loan loss provisions of the current year (LLP_t) are positively associated with earnings before taxes and provisions ($EBPT_t$) and this relation implies that bank managers smooth income through loan loss provisions. With regard to the control variables for non discretionary LLPs I find a positive association between LLPs and outstanding loans ($LOAN_t$), non-performing loans (NPL_t) at the end of the year and change of non-performing loans (ΔNPL_t) at the end of the current year. These findings are in line with my predictions and the results of previous research (Kim and Kross, 1998; Hamadi et al., 2016). I also find a positive relation with the loan loss allowance of the previous year (ALW_{t-1}) and this finding implies that when banks recognize sufficiently high provision in the past, the current LLPs may be lower (Beatty and Liao, 2014). I find a negative relation between LLPs and size ($SIZE_{t-1}$). This finding suggests that large banks are under political scrutiny and consequently are more conservative in LLPs recognition. With regard to macroeconomic factors, it appears that there is a negative association between the level of LLPs and both loan growth ($\Delta LOAN_t$) and GDP growth (ΔGDP_t). This finding implies that EU banks left behind the effect of the financial crisis and adopt a counter-cyclical loan loss provisioning behavior (Laeven and Majnoni, 2003; Bushman and Williams, 2012). Furthermore, with regard to the variables relating to board of directors' characteristics I find a negative association between LLPs and board size ($BODSIZE_t$) and outside directors' percentage ($INDEPENDENT_t$) and a positive association with CEO Duality. This relations support the hypothesis that efficient governance can have an impact on accounting conservatism (Brown et al., 2011).

Table 3-4. Spearman Rank Correlations

| Correlation | LLPt | NCOt | LOANt | NPLt | ALOANt | ANPLt | ALWt-1 | SIZEt-1 | AGDPt | AUNEMPt | EBPTt | BODSIZEt | DUALITYt | INDEPENDENTt | BOARDSTRt | COMPDISCt | CAPITALt |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|--------------|---------------|-----------|----------|
| LLPt | 1.000 | | | | | | | | | | | | | | | | |
| NCOt | -0.257 | 1.000 | | | | | | | | | | | | | | | |
| LOANt | 0.304 | -0.169 | 1.000 | | | | | | | | | | | | | | |
| NPLt | 0.788 | -0.171 | 0.389 | 1.000 | | | | | | | | | | | | | |
| ALOANt | -0.069 | 0.052 | 0.094 | -0.063 | 1.000 | | | | | | | | | | | | |
| ANPLt | 0.530 | -0.141 | 0.295 | 0.503 | 0.127 | 1.000 | | | | | | | | | | | |
| ALWt-1 | 0.819 | -0.141 | 0.356 | 0.875 | -0.153 | 0.409 | 1.000 | | | | | | | | | | |
| SIZEt-1 | -0.255 | 0.064 | -0.546 | -0.342 | 0.040 | -0.250 | -0.360 | 1.000 | | | | | | | | | |
| AGDPt | -0.423 | 0.143 | -0.169 | -0.349 | 0.262 | -0.304 | -0.346 | 0.093 | 1.000 | | | | | | | | |
| AUNEMPt | 0.482 | -0.242 | 0.269 | 0.424 | 0.033 | 0.394 | 0.483 | -0.210 | -0.375 | 1.000 | | | | | | | |
| EBPTt | 0.263 | -0.098 | 0.015 | 0.132 | 0.399 | 0.098 | 0.163 | 0.028 | 0.157 | 0.177 | 1.000 | | | | | | |
| BODSIZEt | -0.270 | 0.108 | -0.198 | -0.286 | -0.016 | -0.141 | -0.264 | 0.343 | 0.098 | -0.299 | -0.159 | 1.000 | | | | | |
| DUALITYt | 0.198 | -0.074 | 0.047 | 0.118 | -0.057 | 0.117 | 0.126 | -0.020 | -0.167 | 0.253 | -0.042 | -0.173 | 1.000 | | | | |
| INDEPENDENTt | -0.153 | 0.062 | -0.223 | -0.176 | -0.144 | -0.192 | -0.227 | 0.102 | 0.210 | -0.560 | -0.088 | 0.045 | -0.031 | 1.000 | | | |
| BOARDSTRUCt | -0.131 | 0.065 | 0.146 | -0.027 | 0.053 | -0.200 | -0.019 | -0.201 | 0.328 | -0.452 | 0.080 | 0.292 | -0.230 | 0.300 | 1.000 | | |
| COMPDISCt | 0.112 | -0.040 | -0.220 | 0.002 | -0.033 | 0.059 | 0.018 | 0.271 | -0.145 | 0.133 | -0.044 | -0.1062 | 0.066 | 0.047 | -0.377 | 1.000 | |
| CAPITALt | -0.229 | -0.144 | -0.138 | -0.234 | -0.066 | -0.291 | -0.173 | 0.101 | 0.103 | -0.197 | 0.177 | -0.072 | -0.144 | 0.110 | 0.173 | -0.045 | 1.000 |

***Bold coefficients are statistically significant**

To test the impact of specific corporate governance characteristics on banks' income smoothing behavior, I use a linear regression model (OLS). All the assumptions that justify the use of a linear model (OLS) have been checked and met for our data set. Furthermore, my results are robust against heteroskedasticity. Within this context, the results for my multivariate analysis are presented in Table 3-5, 3-6 and 3-7. Table 3-5 presents the results for Hypothesis 1 relating to the impact that board of directors' structure has on banks' income smoothing behavior. Although there is a positive association between LLPs and earnings before provisions and taxes (EBPT_t), it is not significant. However, the association between LLPs and the interaction term BOARDSTRUC_t*EBPT_t is positive and significant. LLPs appear to be higher for banks with a two-tier system board. This finding is in line with the argument that larger boards suffer from 'free-rider' problems in the sense that each board member relies on the other members to monitor management (Jensen, 1993; Hermalin and Weisbach, 2003). In contrast to the results of the univariate analysis, the association between LLPs and both board size (BOARDSIZE_t) and percentage of outside directors (INDEPENDENT_t) is positive and significant, while LLPs are positively associated with CEO duality (DUALITY_t) but the observed relationship is not significant. The above results imply inefficient monitoring from board members that may be explained by the arguments for the efficiency of large boards (Yermack, 1996) and the effect of outside directors on governance (Andres and Vallelado, 2008). In particular, Yermack (1996) provided evidence that smaller boards should be considered more effective in decision making in contrast to larger boards. Within this context, the problems of larger boards may provide greater discretion to bank managers for managing accounting accruals. With regard to the positive sign of the boards' independence, Andres and Vallelado (2008) argued that although independent board of directors have fewer conflicts of interest when monitoring managers, an excessive proportion of non-executive directors could damage the advisory role of boards since it might prevent bank executives joining the board. Inside directors add to the board information that outside directors would find difficult to gather. Besides, executive directors facilitate the transfer of information between board directors and management.

Table 3-5. Impact of Board Structure on Income Smoothing

| Variable | Sign | Coefficient | t-stat |
|---|------|-------------|----------|
| Constant | | 0.003 | (0.301) |
| NCO _t | - | -0.668 | (-1.184) |
| LOAN _t | - | -0.000 | (-0.116) |
| NPL _t | + | 0.019 | (0.930) |
| ΔLOAN _t | - | -0.026*** | (-3.004) |
| ΔNPL _t | + | 0.030 | (0.707) |
| ALW _{t-1} | + | 0.246*** | (3.898) |
| SIZE _{t-1} | - | -0.001*** | (-2.747) |
| ΔGDP _t | - | -0.145*** | (-3.644) |
| ΔUNEMP _t | - | -0.040** | (-2.208) |
| EBPT _t | + | 0.039 | (0.551) |
| BODSIZE _t | + | 0.008*** | (4.143) |
| DUALITY _t | + | 0.005 | (1.556) |
| INDEPENDENT _t | + | 0.012*** | (3.586) |
| BOARDSTRUC _t | - | -0.020*** | (-8.853) |
| BOARDSTRUC _t * EBPT _t | + | 0.916*** | (10.139) |
| Observations | | 392 | |
| R-SQUARED | | 0.91 | |

***, **, and * represent 1%, 5%, and 10% significance (two-tailed or one-tailed, as appropriate), respectively
t-stat in parenthesis next to the coefficient

Table 3-6 provides the analysis for Hypothesis 2. I find a positive association between LLPs and earnings before provisions and taxes (EBPT_t). Furthermore, I find a negative and significant relation between LLPs and the interaction term COMDISC_t*EBPT_t. This term captures the effect of CEO remuneration disclosure on income smoothing. The negative sign of the association provides evidence that there is a difference between banks that provide disclosures for CEO remuneration and banks that do not provide this information. It appears that income smoothing through LLPs is lower for banks that provide this type of information. This finding is in line with the findings of Lo (2003) who argues that the remuneration disclosure improves corporate governance through the provision of high quality information. Within this context, the disclosure of CEO remuneration aims to convince stakeholders that CEO's compensation package is well-designed and aligns the interests of managers with those of shareholders (Bebchuk et al., 2002; Muslu, 2007). In contrast, managers of banks that do not provide disclosures may avoid the provision of such disclosure in order to conceal their opportunistic incentives that arise from their non-optimal compensation packages (Muslu, 2007). This finding reinforces the concerns of the European Committee for firms' remuneration policies as explained in the Green Paper of 2011. The associations of LLPs with control variables for the non-discretionary portion of LLPs are in line with the results of correlation analysis. These results indicate a positive and significant

association of LLPs with CEO duality and board size. A plausible explanation for the observed relationships is that CEO duality in large boards with free rider problems and lower incentives for efficient monitoring encourages income smoothing.

Table 3-6. Impact of CEO remuneration disclosure on Income Smoothing

| Variable | Sign | Coefficient | t-stat |
|---|------|-------------|----------|
| Constant | + | 0.014 | (1.162) |
| NCO _t | - | -0.493 | (-0.839) |
| LOAN _t | - | -0.006 | (-1.075) |
| NPL _t | - | -0.017 | (-0.628) |
| ΔLOAN _t | - | -0.026*** | (-2.788) |
| ΔNPL _t | + | 0.077 | (1.572) |
| ALW _{t-1} | + | 0.279*** | (4.168) |
| SIZE _{t-1} | - | -0.001*** | (-2.995) |
| ΔGDP _t | - | -0.249*** | (-1.565) |
| ΔUNEMP _t | - | -0.0297 | (-1.565) |
| EBPT _t | + | 0.928*** | (10.707) |
| BODSIZE _t | + | 0.003** | (2.332) |
| DUALITY _t | + | 0.007** | (2.122) |
| INDEPENDENT _t | + | 0.002 | (0.582) |
| COMPDISC _t | + | 0.016*** | (5.622) |
| COMPDISC _t * EBPT _t | - | -0.808*** | (-5.886) |
| Observations | | 392 | |
| R-SQUARED | | 0.88 | |

***, **, and * represent 1%, 5%, and 10% significance (two-tailed or one-tailed, as appropriate), respectively
t-stat in parenthesis next to the coefficient

The results for Hypothesis 3 are presented in Table 3-7. The association between LLPs and earnings before provisions and taxes (EBPT_t) is positive but not significant. The association between the interaction term CAPITAL_t*EBPT_t and LLPs is positive and significant. This finding implies that banks that are considered higher-capitalized are more likely to engage in income smoothing strategies. This result complements the findings of previous research according to which higher leverage may limit the scope for earnings management/or income smoothing due to the increased monitoring of lenders (Jelinek, 2007; Wasimulah et al., 2010; Jensen, 1986). The observed relationship can be attributed to the fact that higher capitalized banks are less likely to attract the attention of regulators. Therefore, from a corporate governance point of view, the lower leverage of the higher-capitalized banks of the sample may permit the higher accounting discretion of banks' management. Similarly to the results of the first hypothesis the variables that control for non-discretionary LLPs are in line with results of the

correlation analysis. With regard to the control variables for board characteristics I did not find any significant association.

Table 3-7. Impact of Leverage on Income Smoothing

| Variable | Sign | Coefficient | t-stat |
|--|------|-------------|----------|
| Constant | + | 0.019 | (1.317) |
| NCO _t | - | -1.109 | (-1.670) |
| LOAN _t | - | -0.003 | (-0.538) |
| NPL _t | + | 0.000 | (0.034) |
| ΔLOAN _t | - | -0.028*** | (-3.152) |
| ΔNPL _t | + | 0.076*** | (2.625) |
| ALW _{t-1} | + | 0.258*** | (3.887) |
| SIZE _{t-1} | - | -0.000 | (-0.830) |
| ΔGDP _t | - | -0.145*** | (-3.804) |
| ΔUNEMP _t | - | -0.046** | (-2.360) |
| EBPT _t | + | 0.062 | (0.844) |
| BODSIZE _t | - | -0.001 | (-1.226) |
| DUALITY _t | + | 0.007 | (1.310) |
| INDEPENDENT _t | + | 0.005 | (1.286) |
| CAPITAL _t | - | -0.016*** | (-7.800) |
| CAPITAL _t * EBPT _t | + | 0.899*** | (10.090) |
| Observations | | 392 | |
| R-SQUARED | | 0.91 | |

***, **, and * represent 1%, 5%, and 10% significance (two-tailed or one-tailed, as appropriate), respectively
t-stat in parenthesis next to the coefficient

3.6. Conclusion

The findings of this study may confirm the concerns of the European Committee regarding the weaknesses of bank governance mechanisms and imply that regulators and accounting standard setters should work towards the improvement of the both regulatory and accounting regime in order to eliminate stakeholders' concerns about the strength and transparency of financial institutions.

I found that EU banks continue to engage in smoothing policies; while a considerable proportion of EU (39%) banks do not provide adequate disclosure with regard to CEO remuneration. I provide evidence that banks' board structure (one-tier vs. two-tier), an issue is not addressed by the Green Papers of 2010 and 2011, can have some impact on managers' accounting discretion and on the effectiveness of corporate governance mechanisms. In particular, the two-tier system banks are likely to engage more in income smoothing through LLPs in comparison with the one-

tier system banks. In addition, although the average number of independent directors for the pooled sample is 56%, there is a considerable difference between banks with different board structure. In addition, I find that banks that do not provide information about their CEO remuneration may engage more in income smoothing practices. Furthermore, leverage and capital requirements may play an important monitoring mechanism, since banks with higher regulatory capital are more likely to smooth income with accounting accruals.

In particular, the Green Paper recommends improvements only for certain board characteristics, without taking into account possible weaknesses of the board structure. Furthermore, capital requirements may be beneficial under a regulatory perspective, but they may limit efficient governance from debt holders by increasing ‘free-rider’ problems. Moreover, further research is needed in order to investigate the multiple incentives for opportunistic behavior that arise from contracts that determine managers’ compensation packages. Finally, the ‘comply or explain’ principle may not be adequately legislated to deter management’s opportunistic behavior in such complex organizations like banks.

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CHAPTER IV. Banks' risk and the impact of audit quality on income smoothing

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CHAPTER IV

Banks' risk and the impact of audit quality on income smoothing

Summary

The negative ramifications of the financial crisis of 2008 led governments and regulators both in Europe and in the United States to reevaluate the adequacy of banks' supervisory systems in the face of the challenges set by the globalized economy.

Auditors comprised one of the governance tools that attracted the attention of the European authorities. Several stakeholders had already indicated that although numerous banks were given clean audit reports during the crisis period, they recognized huge losses from on and off-balance sheet figures, implying that the current legislative framework was inadequate for protecting bank stakeholders (Commission Communication of 4 March 2009). Therefore, in October 2010, the European Commission issued a Green Paper aiming to open a debate on the role of the auditor, the governance and the independence of audit firms, the supervision of auditors, the configuration of the audit market, the creation of a single market for the provision of audit services, the simplification of rules for Small and Medium Sized Enterprises (SMEs) and Practitioners (SMPs) and the international co-operation for the supervision of global audit networks.

Previous literature has examined the impact of various audit quality characteristics on firms' accounting policy choices. In the case of banks, only a few studies have examined the impact that auditor independence and audit quality have upon the financial statements prepared by financial institutions (Gaver and Paterson, 2007; Kanagaretnam et al., 2010).

This study investigates the impact that specific audit quality dimensions have upon European Union Banks' income smoothing behavior and whether firms' characteristics influence these dimensions. In particular, I examine whether auditors' independence influences bank managers' decision to smooth income and whether this attribute depends on bank risk and systemic importance. Similarly with other studies, I use auditors' industry specialization and auditors' tenure as proxies for independence.

Empirical findings provide evidence that the auditors' industry expertise limits managerial discretion of high risk banks to a greater extent relative to low risk banks. In contrast, these

results imply that banks which retain the same auditor for a consecutive fiscal year are more likely to engage in income smoothing through loan loss provisions. Furthermore, I examine whether audit quality dimensions have different outcomes on income smoothing decisions between globally systemically important banks (hereinafter, GSIBs) and the rest of banks. My results provide significant evidence that the impact of industry specialization and auditor tenure on EU banks accounting policy decisions differs between GSIBs and non-GSIBs.

The findings of this study contribute to the existing literature concerning firms' income smoothing behavior with special reference to banks. Furthermore, my analysis contributes in the existing body of research by focusing on the impact of audit quality on managements' accounting discretion and the influence of banks' special attributes on the audit process.

4.1. Introduction

In the face of the financial crisis of 2008, European Union (hereinafter, EU) adopted a series of corrective measures aiming to ensure financial stability. Those measures aimed to cure deficiencies of the existed banks' regulatory framework and corporate governance mechanisms. Given that audit comprises a critical factor that contributes to investor protection and reduces firms' cost of capital, regulators focused on the improvement of audit function. In October 2010, the European Commission issued a Green Paper that addressed critical issues which could impair the quality of audits. In line with the European Commission, several banking regulators such as the Basel Committee on Banking Supervision (hereinafter, BCBS) and the Financial Stability Board (hereinafter, FSB) suggested that auditors should provide assurance services regarding banks' risk data and reducing, in that way, risks of misstatement and costs of failure.

To provide high quality assurance services, bank auditors should maintain high standards of independence and competence. Banks' audit function may differ from the audit of non-financial firms due to the special attributes of the banking sector. Banks' complex operations combined with the limited incentives of both supervisors and depositors to exert efficient monitoring, may encourage managers to engage in excessive risk-taking activities (Levine, 2004). Furthermore, managers who invest in risky assets may use aggressive accounting policies to conceal their opportunistic incentives and avoid a potential regulatory intervention (Leventis et al., 2011). In addition, governments' 'too-big-to-fail' policies may also deter effective monitoring by market participants and auditors (Barth et al., 2004).

According to the results of a survey conducted in 2013 by the International Forum of Independent Audit Regulators, bank audits by the world's six largest accounting firms have been found to be "persistently riddled with flaws" (Tepalagul and Lin, 2015). The American Institute of Certified Public Accountants (hereinafter, AICPA) found that banks' loan loss allowance ranks number one among the various deficiencies found by inspectors (AICPA, 2006). The complexity of the financial system and the opaqueness of banks' assets suggest that a new approach to banks' audit may be required. Auditors should not restrict their role in providing assurance services but they should expand audit's scope by verifying the financial information within the framework of a risk-based approach that focuses on the IFRS principle "Substance over form".

Although regulators and standard setters have outlined that banks' audits often had deficiencies related to loan loss provisions, only a few studies have examined the impact that auditor independence and audit quality have upon the financial statements prepared by financial institutions (Gaver and Paterson, 2007; Kanagaretnam et al., 2010).

This study investigates whether auditing characteristics, such as auditor industry specialization and auditor tenure, have an impact upon the accounting quality of EU banks', by focusing in income smoothing behavior. Auditors who are industry experts may perform better in error detection and financial fraud mitigation (Johnson et al., 1991; Carcello and Nagy, 2004). Similarly, long auditor tenure may improve audit quality by increasing their understanding about their clients' business and develop their expertise during the audit (Tepalagul and Lin, 2015). However, banks' inherent risk and their systemic importance may influence auditors' judgments, resulting in an adverse outcome (Allen et al., 2006). My study examines whether the impact of auditor specialization and tenure on smoothing behavior differs depending on each bank's idiosyncratic risk. In addition, this study aims to provide further insights in the research on the financial reporting of Globally Systemically Important Banks (GSIBs) and other banks. Peterson and Arun (2018) found that the way that GSIBs use loan loss provision to smooth income differs compared to non-GSIBs. Within this context, my research examines the impact of the aforementioned audit characteristics upon GSIBs' income smoothing and aims to investigate whether systemic importance influences auditors' judgment.

In line with previous research, I examine loan loss provisions (hereinafter, LLPs) as a smoothing accounting tool. To test my hypotheses, I conduct a univariate analysis and I run a multivariate regression model. Similarly, to previous research on income smoothing I use an OLS analysis to test our results.

The results of this study suggest that bank's inherent risk may alter the impact of certain audit quality dimensions on managers' income smoothing behavior. In contrast, banks' systemic importance does not appear to differentiate auditors' impact on income smoothing. In particular, this study provides evidence that auditor industry expertise limits high risk banks' income smoothing through LLPs to a greater extent relative to low risk banks. In addition, auditors' retention limits also managerial opportunism; however, this impact is greater for low risk banks relative to high risk banks. Regarding clients' importance, my analysis provides significant

evidence in order to support that either auditor expertise or auditor tenure appear to have different outcomes between GSIBs and the rest of banks.

The findings of this study contribute to the existing literature concerning firms' income smoothing behavior with special reference to banks. The banking sector comprises a heavy regulated industry and banks have special characteristics that require special examination. In addition, my study contributes to the existing audit research by focusing on the impact of certain banks' attributes upon specific audit quality dimensions. My findings complement the findings of previous research that investigates the interaction of regulators and auditors upon loan loss provision timeliness and the income smoothing behavior of GSIBs vs. non-GSIBs (Nicoletti, 2018; Peterson and Arun, 2018). Furthermore, these findings can be useful to practitioners and regulators who aim to enhance auditor independence and protect banks' stakeholders from managerial opportunism and fraud. This dimension can be of particular importance in the face of the debate that has been initiated regarding the new role of auditing in the smooth functioning of financial system.

The remainder of this chapter is organized as follows. Section 4.2 presents a literature review regarding audit quality and bank managers accounting discretion. In Section 4.3, I outline the hypotheses being tested. In Section 4.4, I present the research methods used (Section 4). Section 4.5 reports the empirical results of the univariate and multivariate analyses. The final section (Section 4.6) concludes the chapter and discusses the practical implications of my results

4.2. Literature Review

This section overviews the literature over audit quality. Section 4.2.1 discusses the issues that are related with the audit quality and the factors that influence it. Section 4.2.2 presents the relation between audit quality and managers accounting discretion.

4.2.1 Audit quality

An audit is a professional service delivered by experts in response to economic and regulatory demand (Knechel et al. 2012). Audit is rather critical for the financial stability because it provides assurance on the veracity of the financial health of all companies. Therefore, previous

studies have extensively investigated the impact of audit characteristics on firms' transparency and performance. In particular, literature has focused on the concept of audit quality as the main attribute that influences firms' operations.

Audit quality has been defined as an outcome conditional on the presence of certain attributes of auditors. The most commonly used definition was given by DeAngelo (1981) who suggested that audit quality is *"the market assessed joint probability that a given auditor will both discover a breach in a client's accounting system, and report the breach. (p.186)"*. DeAngelo's definition consists of two components. The first component is the likelihood that an auditor discovers existing misstatements, which implies that the audit process occupies the appropriate resources effectively. The second component requires that the auditor is competent in order to act appropriately after the discovery of the misstatement and complete the audit.

In addition to DeAngelo's definition, related literature has given alternative dimensions to the concept of audit quality. The following table (Table 4-1) presents the main attributes that define the framework of audit quality.

Table 4-1. Summary of audit quality dimensions

| Authors | Year | Definition/ Attributes |
|----------------------------------|------|--|
| Government Accountability Office | 2013 | Audit quality is performed in accordance with Generally Accepted Auditing Standards to provide reasonable assurance that the audited financial statements and related disclosures are presented in accordance with Generally Accepted Accounting Principles (GAAP) and are not materially misstated whether due to errors or fraud |
| Tie | 1999 | Material deviations from the standards are presumed to reflect poor audit quality. |
| Krishnan and Schauer | 2001 | |
| Chan and Wong | 2002 | High-quality auditor will detect errors in reported earnings and enhance the reliability of the financial statements |
| Gul et al. | 2002 | |
| Chang et al. | 2009 | |
| Carcello et al. | 2002 | Audit quality depends on the amount of |

| Authors | Year | Definition/ Attributes |
|---------------------|------|----------------------------------|
| | | audit work |
| Peecher and Piercey | 2008 | Adverse outcome of audit quality |

Regardless the consensus for an exact definition of audit quality, empirical findings imply that audit quality is influenced by auditors' independence. Tepalagul and Lin (2015) reviewed studies related with independence and concluded that there are four factors that affect independence and consequently audit quality: client importance, non-audit services, auditor tenure and client affiliation with audit firms. The following figure (Fig. 4-1) depicts the interrelation of the above factors with auditors' independence and audit quality which subsequently influence actual financial reporting quality:

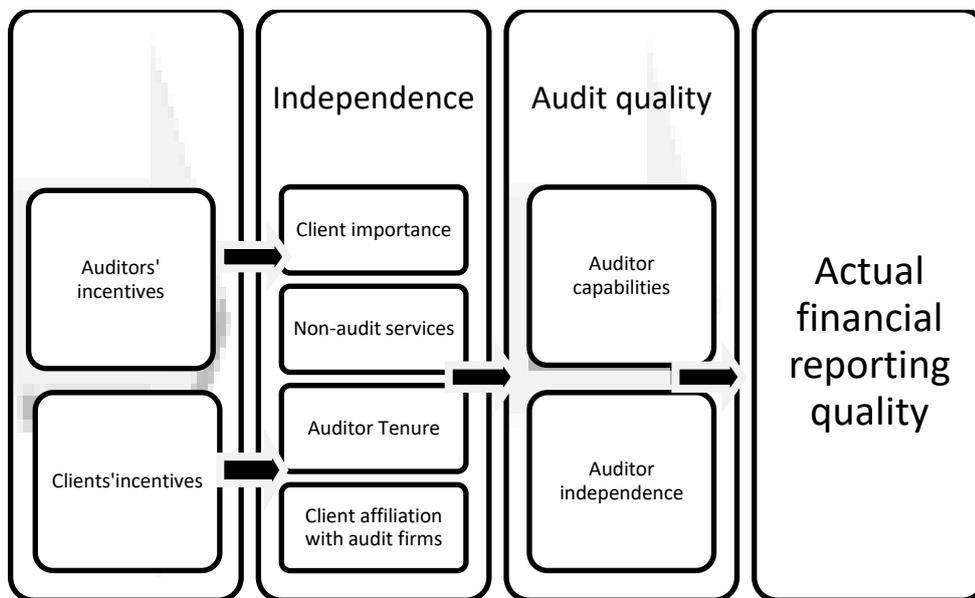


Fig.4-1. Characteristics of auditor independence and audit quality (from Tepalagul and Lin, 2015)

Auditors and clients may have different incentives regarding of their perception for auditors' independence. For instance, auditors may be concerned about the fees received from clients (Houston 1999; Gramling 1999) and economic loss from the termination of the engagement with a customer (Lord, 1992; Trompeter 1994). However, legal enforcement and potential litigation costs may alternate auditor's perception about independence. Furthermore, clients may be less concerned about non-audit services than their auditors (Beaulieu and Reinstein, 2010). Thus,

these different perceptions may cause auditors and client behavior and the threats to independence to differ among firms (Tepalagul and Lin, 2015).

With regard to the threats to independence, clients' importance appears to influence audit quality. Larger clients that comprise remarkable revenue for an audit firm may try to influence auditor's work. Within this context, auditors may compromise independence in order to offset a potential economic loss. Previous studies suggest that low-balling may improve independence by decreasing the economic dependence between audit firms and clients (DeAngelo, 1981b; Lee and Gu, 1998). On the other hand, Dopuch and King (1996) report experimental evidence that a high degree of low-balling decreases audit quality in non-competitive market settings. In addition, Wright and Wright (1997) find that auditors are more likely to waive audit adjustments for larger clients. Despite the amount of fees, literature argues that litigation risk may limit the probability that auditors act for the interest of their clients at the expense of independence. In fact, the loss of a reputation after an audit failure may have negative ramifications for the relations of an audit firm with their clients (Nelson, 2009).

The provision of non-audit services may create a complementary economic bond between clients and auditors that may impair independence and threaten audit quality⁶⁸. Clients of external auditors have incentives to also purchase non-audit services from them in order to benefit from cost reductions and increased service quality (Public Oversight Board, 1979). Similarly, auditors are strongly encouraged to be engaged in the provision of non-audit services as they are more profitable. Several studies examined the impact of the provisions of non-audit services on the amount of audit fees and auditors' independence with mixed results. Palmrose (1986) and Simunic (1984) found a positive association between audit fees and the provision of non-audit services while Davis et al. (1993) found non association. Furthermore, Chan et al. (2012) concluded that when audit fees and non-audit fees are jointly determined, firms obtain economic benefits. Although, the relation of non-audit fees with independence is unclear, a stream of studies argue that non-audit services may provide a "knowledge spillover" effect whereby providing non-audit services allows the auditor to develop better expertise about a client and the utilization of that expertise improves the quality of the audit (Knechel and Sharma 2011; Krishnan and Yu 2011).

⁶⁸ The Sarbanes-Oxley Act of 2002 prohibits an auditor from providing most non-audit services (NAS) to an audit client. The law is motivated by the belief that the resulting economic bond between auditor and client would impair auditor independence, hence compromising audit quality.

Another factor that may threaten independence is the length of the auditor-client relationship. Similarly with non-audit services, there are two competing arguments regarding the impact of auditor tenure on audit quality. The first argument states that as the auditor-client relationship lengthens, his/her objectivity is potentially impaired. In contrast, the other view suggests that as auditor tenure lengthens, auditors increase their understanding of their clients' business and develop their expertise during the audit, resulting in higher audit quality. Empirical findings appear to support both arguments. Carey and Simnett (2006) confirm that, in Australia, long partner tenure is associated with lower likelihood of going concern opinions. On the other hand, Deis and Giroux (1992) report that quality-control findings decrease as auditor tenure lengthens. Regarding the impact of auditor tenure on financial reporting quality, Myers et al. (2003) and Johnson et al. (2002) found that tenure is associated with lower levels of discretionary accruals. In contrast, Davis et al. (2009) found that auditor tenure is associated with higher earnings management in both short and long tenure situations⁶⁹.

Finally, regarding clients' affiliation with audit firms, Imhoff (1978) argues that there are three factors that may impair independence. First, the auditor may view the client as a potential employer. Second, the auditor's closeness with management may create a distance between the auditor and shareholders which are the real employers of the auditor. Third, the auditor may have difficulty in mainly maintaining independence in front of their former colleagues. Lennox (2005) examined the relation between clients and auditors and found that auditors are more likely to issue clean audit opinions to companies with affiliated executives than to those without. In addition, Lennox and Park (2007) confirm that the probability of appointing a particular auditing firm is higher if its alumni are client officers. Finally, regarding financial reporting quality, Menon and Williams (2004) find that companies employing former partners as officers or directors have larger abnormal accruals than control firms. In contrast, Geiger et al. (2005) findings implied that firms with officers directly from their audit firms do not appear to manage earnings to a greater extent.

4.2.2. Banks' discretionary accounting accruals

Previous research suggests that the presence of efficient legal systems and strong investor protection framework are associated with lower risk taking in the banking industry (John et al,

⁶⁹ This occurs only before the implementation of Sarbanes-Oxley Act (2002).



2008; Laeven and Levine, 2009; Acharya et al., 2011). In addition, limiting bankers' risk-taking incentives leads to better earnings quality and less earnings management (Fonseca and Gonzalez, 2008; Kanagaretnam et al., 2014). Within this context, Fang et al. (2014) argue that stricter legal enforcement and solid accounting standards reduce managerial engagement in discretionary activities and require high accounting compliance that deters earnings management.

Previous studies have provided evidence that bank managers have strong incentives to engage in income smoothing and/or earnings management through accounting accruals, mainly LLPs. Bank management's incentives may be opportunistic aiming to expropriate wealth at the expense of stakeholders purposes (Kanagaretnam et al., 2004; Fonseca and Gonzalez, 2008; Leventis et al., 2011; Ozili, 2017ab). In addition, official supervision and the imposed minimum capital requirements may prompt banks to smooth income to avoid any potential regulatory intervention (Ahmed et al., 1999; Anandarajan et al., 2007; Leventis et al., 2011). On the other hand, managers may use income smoothing to signal their private information to outside stakeholders (Beaver and Engel, 1996; Liu and Ryan, 1995; Kanagaretnam et al., 2005).

When information asymmetry is high, earnings management may not only hurt stakeholders' interests but it may also distort the stability of the financial system as well (Bhattacharya et al., 2003; Ahmed et al., 2013). In addition, banks' complex operations and the moral hazard problem, which derives from the existence of deposit insurance, may encourage managers to engage in excessive risk-taking activities (Levine, 2004). Therefore, governments impose heavy regulation in the banking industry to protect small and uninformed stakeholders of risky banks.

A series of studies investigated the impact of the new accounting (IFRS) and regulatory (Basel I&II) standards on banks' management discretionary activities. The findings of Gebhardt and Farkas (2011) and Leventis et al. (2011) implied that the adoption of the IFRS significantly limited income smoothing through LLPs. Hamadi et al. (2016) investigated the impact of the Basel Accord II on income smoothing through LLPs. Their findings implied that EU banks continue to smooth income through LLPs despite the adoption of the IFRS and the new regulatory regime.

Although EU initiatives aimed to the limitations of managerial discretion on bank's accounting quality, the financial crisis of 2008 indicated that regulators and policy makers had more to do in order to improve transparency in the banking sector. Within this context, the European

Commission decided to examine alternative monitoring mechanisms which enhance transparency and financial stability. Therefore, in October 2010, the European Commission issued a Green Paper regarding audit policy and auditors' role after the financial crisis. The Green Paper suggested that auditors should not limit their role in providing "reasonable assurance" about the informational content of a firm's financial statements. In fact, they should expand their perceptive to audit by adopting a "substance over form" approach, which includes ensuring that there is no arbitrage of the differences in regulatory frameworks between jurisdictions.

4.3. Hypotheses

Previous studies argue that a presumption of the audit risk model, which drives audit planning and evidence, is that the riskiness of each client is idiosyncratic (Knechel et al., 2013). Within this context, the riskiness of a client is dependent on the complexity of transactions and accounting systems in place and can be influenced by management's incentives to prepare reliable financial statements. Consequently, resources needed to obtain "reasonable assurance" vary across engagements. Empirical findings provide evidence that the degree of client complexity and risk significantly influence audit procedures in terms of the planned extent or hours of testing (Caramanis and Lennox, 2011; Cardelon et al., 2012), the nature of planned testing (Hackenbrack and Knechel, 1997) and the personnel assigned to the audit (Johnstone and Bedard, 2001). Furthermore, the negative influence of a client's risk on audit quality is offset by auditors' professional skepticism. A series of studies has provided evidence that higher levels of professional skepticism may encourage auditors to perform additional procedures when high risk irregularities arise (Shaub and Lawrence, 1996) and are more likely to detect fraud (Bernardi, 1994).

The audit process consists of a sequence of stages such as client's risk assessment, internal control evaluation, testing and review. Therefore, the quality of each stage is expected to influence the overall quality of the audit. Risk assessment appears to be the most important stage because it determines the nature and the extent of the planned procedures (Allen et al., 2006). Besides, the modification of the planned procedures may become difficult if an auditor's initial risk perception is false (Glover et al., 2003; Hammersley et al., 2011). Previous studies argued that performing a strategic risk assessment of the client's business model, as a first step for

assessing risk, has been linked to unintended consequences on subsequent auditor risk assessments (O'Donnell and Schultz, 2003). Furthermore, auditors' selected approach to assess a client's risk may lead to adverse outcomes (Jiambalvo and Waller, 1984; Zimbelman, 1997; Wilks and Zimbelman, 2004).

Banking sector's information uncertainty may increase due to the greater complexity of banking operations and difficulty of assessing risk on the large portfolio of loans (Autore et al., 2009). Within this context, if high risk banks use accounting accruals to mask excessive risk taking and management's opportunistic incentives, the stage of risk assessment may be severely impaired and consequently the overall audit quality may decline. Bank managers' decisions, relating with capital and earnings management, are particularly affected by considerations regarding solvency risk (Leventis et al., 2011). In particular, bank capital is used to absorb unexpected losses arising from credit risk, interest rate risk and liquidity risk. Therefore, capital comprises a critical figure that generates confidence to stakeholders regarding a bank's financial strength. This fact suggests an inverse relationship between the level of bank capital and risk exposure (Boyd et. al., 1993; Shrieves and Dahl, 2003; Yasuda et. al., 2004) which implies that riskier banks are more likely to engage in earnings and capital management (Leventis et al., 2011).

AICPA found that banks' loan loss allowance ranks number one among the various deficiencies found in banks' financial statements (AICPA, 2006). This implies that auditing banks' income smoothing practices through LLPs comprises a challenging task because auditors that fail to discover a potential breach, while assessing the adequacy of loan losses, may suffer from a loss of their reputation (Kanagaretnam et al., 2010b). Given, that the vast majority of EU banks is audited by Big-5 auditors, industry expertise may comprise the most important audit characteristic with regard to the audit quality of the banking industry. Although a Big 5 auditor may serve clients in multiple industries, the auditors may not have a competitive advantage in all industries. Dominating an industry seems very costly due to limited human capital with industry expertise and constrained economic resources (Kanagaretnam et al., 2009).

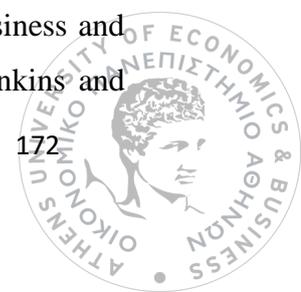
Previous research has provided evidence regarding the benefits of auditor industry specialization on audit effectiveness. Auditors with industry specialization have been found to outperform non-specialists in error detection (Bedard and Biggs, 1991; Owhoso et al., 2002), in performing analytical procedures (Wright and Wright, 1997; Green, 2008), in assessing components of audit

risks (Taylor, 2000; Hammersley, 2006; Maroney and Simnett, 2009) and in disclosing internal control deficiencies (Rose-Green et al. 2011; Stephens 2011).

Regarding the banking sector, Kanagaretnam et al. (2010b) found that industry specialization mitigates banks' benchmark-beating incentives through discretionary accruals. This quality dimension plays a more important role in mitigating earnings management than the classification of auditors in Big-5 and non Big-5 one. These findings are in line with a series of previous results for non-financial firms which documented that industry specialization lowers discretionary accruals and mitigating financial fraud (Carcello and Nagy, 2004; Krishnan, 2003; 2005; Reichelt and Wang, 2010). However, in the case of banks, risk plays an important role for managers' accounting discretion. Leventis et al. (2011) found that riskier banks are more likely to engage more in earnings management strategies, even after the implementation of IFRS. Within this context, although industry specialization has a negative association with earnings management through LLPs, inherent bank risk may differentiate the influence of this quality dimension on banks' income smoothing behavior. Therefore, I formulate the following hypothesis:

H1: The impact of industry specialization on the association between loan loss provisions and earnings before provisions and taxes for high risk banks is not significantly different than the impact of industry specialization on the association between loan loss provisions and earnings before provisions and taxes for low risk banks.

Auditor tenure comprises another important dimension of audit quality and as result has an impact on financial reporting quality (Lin and Hwang, 2010). In the Green Paper of 2010, the European Commission states that "*Situations where a company has appointed the same audit firm for decades seem incompatible with desirable standards of independence*". However, literature's interpretation about the impact of auditors' tenure on audit quality seems controversial. A series of studies suggest that as the auditor-client relationship lengthens, auditors become more likely to act in favor of management, a fact that reduces audit quality (Deis and Giroux, 1992; Carey and Simnett, 2006; Bamber and Iyer, 2007). The opposing view suggests that short tenure means an auditor has less knowledge of a client, which results to greater opportunities for fraud and earnings management. Due to the long relationships that have developed with their clients, auditors increase their understanding of their clients' business and develop their expertise during the audit (Johnson, et al. 2002; Gul et al., 2009). Jenkins and



Velury (2008) suggest that accounting conservatism increases between short and medium tenure but does not change between medium and long tenure. A series of studies have reported a positive relation between auditor tenure and earnings quality (Myers et al., 2003; Chen et al., 2008), while Carey and Simnett (2006) find no association between the two variables in the case of Australian firms. In addition, Davis et al. (2009) found that auditor tenure is associated with higher earnings management in both short and long tenure situations, but this is only observable prior to the passage of the Sarbanes-Oxley Act. In another study, Manry et al. (2008) found that tenure is not associated with financial reporting quality for large clients while a negative association exists for small clients, which supports the notion that auditors tolerate less earnings management in larger clients. Finally, Gul et al. (2009) found that in short-tenure situations where earnings quality is reduced, the presence of an industry specialist moderates the negative effect.

Auditor's tenure may influence banks' financial reporting quality and income smoothing behavior as well. However, a bank's idiosyncratic risk may alter the negative or positive effect on accounting discretion. For instance, high risk banks, which are encouraged to use discretionary accounting policies and conceal their excessive risk, may seek for a short term audit- client relationship. Thus, they will deter auditors to understand their business and detect material misstatements (Knapp, 1991). In contrast, low risk banks will have fewer incentives for a quick audit rotation. Long-term tenure will contribute to the development of clients' understanding, offering mutual benefits to banks and auditors (Johnson et al., 2002, Omer et al., 2006). On the other hand, high risk banks may be a potential threat for an audit firm's reputation. Within this context, auditors of riskier banks may abandon their client and sacrifice future economic benefits for the retention of their reputation (Beeler and Hunton, 2002; Chang and Hwang, 2003). As a result banks who aim to have a long-term relationship with their auditors may have fewer incentives to smooth income through LLPs, relative to banks who seek a quick audit rotation. Therefore, I formulate the following hypothesis:

H2: The impact of auditor's tenure on the association between loan loss provisions and earnings before provisions and taxes for high risk banks is not significantly different than the impact of auditor's tenure on the association between loan loss provisions and earnings before provisions and taxes for low risk banks.

The independence of an auditor may be conditioned upon the size of its client. An auditor is more likely to yield to pressures from larger clients, and as a consequence to compromise his independence (Hribar et al., 2010). Within this context, auditors are less likely to issue modified, qualified or going concern opinions for their large clients (Krishnan and Krishnan, 1996; Blay and Geiger, 2013). Wright and Wright (1997) found that auditors are more likely to likely to waive audit adjustments for larger clients. Regarding the Big 5 auditors, the findings of Reynolds and Francis (2001) implied that Big 5 firms are more conservative toward larger clients. On the other hand, Sharma et al. (2011) found that although there is a positive association between clients' importance and earnings management, an effective audit committee may mitigate such conflicts.

Nelson et al. (2002) show that income smoothing behavior among large firms may persist if auditors overlook the earnings management practices of larger clients because of the large fee they receive from larger clients. The problem of large clients may be even greater in the banking industry where the "too big to fail policy" and the notion of globally systemically important banks exist. The "too big to fail" theory asserts that certain corporations, particularly banks, are so large and so interconnected with other financial institutions that a possible failure would be disastrous to the greater economic system. Therefore, these financial institutions must be supported by government when they face a potential failure. This seems to be particularly the case for global systemically important banks (GSIBs), which are complex organizations with hundreds of subsidiaries that operate globally under different regulations and legal requirements.

Although the studies of Gaver and Paterson (2007) and Kanageretnam et al. (2010b) showed that that auditors tolerate less earnings management in larger clients of the financial sector, the financial and political strength of GSIBs may influence auditors' judgments. Yet, Petersen and Arun (2018) argued that GSIBs are large firms and consequently tend to smooth income or manage earnings to a greater extent compared to smaller firms. In particular, they found that GSIBs engaged more in income smoothing through LLPs relative to non GSIBs when they have substantial non-performing loans and they aim to meet/exceed minimum regulatory capital ratios. Therefore, governments' favorable policies may prompt GSIBs to conceal managers' opportunistic behavior by adjusting accounting accruals such LLPs. On the other hand, non GSIBs may be more constrained with regard to their accounting policy decisions, because their monitors may tolerate fewer deviations from regulatory standards. Within this context, auditor

industry expertise and audit tenure may not have the same effectiveness between these two groups of banks. Therefore, I formulate the following hypotheses:

H3: The impact of auditor expertise on the association between loan loss provisions and earnings before provisions and taxes for G-SIBs is not significantly different than the impact of auditor expertise on the association between loan loss provisions and earnings before provisions and taxes for non G-SIBs.

H4: The impact of auditor tenure on the association between loan loss provisions and earnings before provisions and taxes for G-SIBs is not significantly different than the impact of auditor tenure on the association between loan loss provisions and earnings before provisions and taxes for non G-SIBs.

4.4. Empirical model

In order to test my hypotheses, I run a multivariate model. This model consists of a series of variables that capture income smoothing through LLPs and are analyzed by Beatty and Liao (2014). Furthermore, the model used includes specific independent variable variables depict banks' risk and audit quality. In order to investigate separately the impact of auditors' industry expertise and audit tenure I use the following equations:

$$LLP_t = \beta_0 + \beta_1 NPL_t + \beta_2 \Delta NPL_t + \beta_3 CO_t + \beta_4 ALW_{t-1} + \beta_5 SIZE_{t-1} + \beta_6 \Delta GDP_t + \beta_7 \Delta UNEMP_t + \beta_8 \Delta LOAN_t + \beta_9 LOAN_t + \beta_{10} EBPT_t + \beta_{11} RISK + \beta_{12} AUDEXP + \beta_{13} (EBPT_t * RISK * AUDEXP) + \Sigma Country\ fixed\ effects + \Sigma Period\ fixed\ effects + \varepsilon_t \quad (MODEL1)$$

$$LLP_t = \beta_0 + \beta_1 NPL_t + \beta_2 \Delta NPL_t + \beta_3 CO_t + \beta_4 ALW_{t-1} + \beta_5 SIZE_{t-1} + \beta_6 \Delta GDP_t + \beta_7 \Delta UNEMP_t + \beta_8 \Delta LOAN_t + \beta_9 LOAN_t + \beta_{10} EBPT_t + \beta_{11} RISK + \beta_{12} AUDRENURE + \beta_{13} (EBPT_t * RISK * AUDTENURE) + \Sigma Country\ fixed\ effects + \Sigma Period\ fixed\ effects + \varepsilon_t \quad (MODEL2)$$

Where:

LLP_t: Loan loss provisions at the end of year t scaled by lagged total loans

NPL_t: Change in non-performing assets at the end of the current year t divided by lagged total loans

| | |
|-------------------------------|--|
| ΔNPL_t : | Change in non-performing assets at the end of the current year t divided by lagged total loans |
| CO_t : | Net Charge –offs of the current year t scaled by lagged total loans |
| ALW_{t-1} : | Loan loss allowance at the end of the previous year t-1 divided by total loans |
| $SIZE_{t-1}$: | The natural log of total assets of the previous year t-1 |
| ΔGDP_t : | Change in GDP at the end of the current year t |
| $\Delta UNEMP_t$: | Change in unemployment rates at the end of the current year t |
| $\Delta LOAN_t$: | Change in total loans at the end of current year t divided by lagged total loans |
| $LOAN_t$: | Total loans at the end of the current year t divided by total assets |
| $EBPT_t$: | Earnings before taxes and provisions at the end of the current year t scaled by lagged total loans |
| $RISK$: | Dummy variable that takes the value 1 if a banks is classified as high risk and 0 otherwise |
| $AUDEXP$: | Dummy variable that takes the value 1 if auditor is classified as expert and 0 otherwise |
| $AUDTENURE$: | A dummy variable that takes the value 1 if the audit firm is switched at time t, and 0 otherwise |
| $EBPT_t * RISK * AUDEXP$: | Interaction term between earnings before taxes and provisions ($EBPT_t$) $RISK$ and auditors' expertise ($AUDEXP$) |
| $EBPT_t * RISK * AUDTENURE$: | Interaction term between earnings before taxes and provisions ($EBPT_t$) $RISK$ and auditors tenure ($AUDTENURE$) |

My multivariate model is developed in two parts. The first part aims to capture factors that influence LLPs' non- discretionary components (Hamadi et al., 2016). In particular, banks will recognize an amount of LLPs that will reflect the credit risk of their assets, regardless management's incentives for opportunistic income smoothing or signaling private information.

The second part of the model consists of variables that aim to capture the relation of LLPs with income smoothing and its interaction with risk and audit quality.

The independent variable is the reported LLPs (LLP_t) at the end of the each period. The accounting treatment of LLPs is based on IAS 39, which requires the recognition of an expense amount that reflects managements' expectations about future loan losses that will occur due to current overdue loans. These provisions will be reversed during next year, when actual loan losses will occur. According to the relative guidelines, the recognition of a provision expense should be based on the objective evidence of the loss and any forward-looking provisions are prohibited. However, the lack of specific guidelines about the circumstances that comprise objective evidence about future loan losses encourages managers to use LLPs as a smoothing device.

Banks recognize loan loss provisions in order to reflect management's expectations about the losses that will occur due to the credit risk that exists throughout their loan portfolio. Banks could compute potential loan losses assessing either each and every large loan or groups of smaller and homogeneous loans. Within this context, the amount of non-performing loans (NPL_t) and the amount of non-performing loans (NPL_t) could comprise a reliable indication about the credit risk of each bank of our sample (Gebhardt and Farkas, 2011; Hamadi et al., 2016). As a result, both non-performing loans of the current year (NPL_t) and their change during the current year (ΔNPL_t) are expected to be positively associated with loan loss provisions. Furthermore, according to the accounting rules, current year's LLPs are expected to be reversed within next year, when actual loan losses will occur. Thus, I follow Nichols et al. (2009), including current year' charge-offs (CO_t) in the regression model, which are predicted to have a negative association with current year's LLPs.

Past LLPs accounting policies may have an impact on current year's LLPs. The rationale for controlling for past allowance is that if banks recognize sufficiently high provision in the past, the current year's LLPs may be lower. However, if past allowance reflects the overall credit quality of the bank's clients, then lagged allowance and provision may be positively correlated (Beatty and Liao, 2014). Within this context, I control for the impact of loan loss allowance of the previous year (ALW_{t-1}) on current years' LLPs and I expect a positive correlation between LLPs and loan loss allowance of the previous year (ALW_{t-1}).

Prior literature suggests that larger firms tend to smooth income or manage earnings to a greater extent compared to smaller firms. In particular, managers of larger firms will prefer to use accounting procedures that decrease high earnings for fear of political and/or regulatory scrutiny of bank earnings (Zimmerman, 1983). Therefore, I use size ($SIZE_{t-1}$) to control for different levels of accounting discretion regarding each banks' regulatory scrutiny or monitoring mechanisms.

Many studies suggest that the amount of LLPs is influenced by macroeconomic factors. I follow Laeven and Majnoni (2003) and Bikker and Metzmakers (2005) and I control for a country's macroeconomic condition by including the annual growth of GDP (ΔGDP_t), the annual growth of a bank' loans ($\Delta LOAN_t$), the annual unemployment rates ($\Delta UNEMP_t$) and total banks' lending amounts ($LOAN_t$). Beatty and Liao (2011) argue that LLPs may be higher when a bank extends credit to more clients with lower credit and vice versa. Within this context, I predict a positive association between our dependent variable and loan growth ($\Delta LOAN_t$) and total lending ($LOAN_t$). Furthermore, the growth of GDP (ΔGDP_t) and the unemployment rate ($\Delta UNEMP_t$) reflect the overall economic condition of a country. During economic booms GDP growth is expected to be positive and unemployment rates low. Thus, banks' client credit quality is expected to be higher during booms and subsequently banks are expected to recognize lower LLPs during such period. In contrast, banks will recognize higher LLPs in recession periods due to expected deterioration of their clients' creditworthiness. Therefore, I expect a negative association between LLPs with GDP growth (ΔGDP_t) and a positive relation with unemployment rates ($\Delta UNEMP_t$).

The income smoothing hypothesis suggests that managers deliberately increase LLPs when earnings are high in order to create an inventory of income for a 'rainy day' (Greenawalt and Sinkey, 1998). When earnings are low, managers can either deliberately understate LLPs or reverse the previous year's recognized provisions to offset unexpected losses (Laeven and Majnoni, 2003). Within this context, I use as proxy for managers' income smoothing behavior by including earnings before provisions and taxes ($EBPT_t$). If managers aim to smooth income, LLPs will be positively associated with earnings before provisions and taxes ($EBPT_t$).

The underlying assumption of hypotheses H1 and H2 is that banks' risk may differentiate the impact of audit quality dimension on banks' income smoothing behavior. I use the dummy variable ($RISK$) in order to classify banks as high risk and low risk. Our variable takes the value

1 if a bank is classified as high risk and 0 otherwise. I follow Leventis et al. (2011) and I use the Z-SCORE in order to measure banks' risk. The Z-SCORE measures the distance from insolvency (Laeven and Levine, 2009) and it is computed as follows:

$$z = (\text{ROA} + \text{CAR}) / \sigma(\text{ROA})$$

where:

ROA: Net income of the current year t / Total assets of the current year t

CAR: Total capital ratio of the current year t

$\sigma(\text{ROA})$: Standard deviation of ROA for the period 2006 -2013

I compute the Z- SCORE for each bank of our sample for the period between 2006-2013. If a bank's Z- SCORE is below the median of the sample, the bank is classified as low risk and high risk otherwise.

In order to capture auditors' industry expertise I construct the dummy variable AUDEXP. Prior studies suggest that industry specialization/expertise is typically measured by an auditor's industry market share in each country (Balsam et al., 2003; Krishnan, 2003). Adopting Kanagaretnam et al. (2010b) approach, I calculate an auditor's market share as the fraction of a bank's total assets to the total assets of all banks in the specific market. The audit firm with the highest fraction for the year's 2006 – 2013 will be classified as an industry expert. This dummy variable will take the value 1 if the auditor is an industry expert and 0 otherwise.

Furthermore, I include the dummy variable AUDTENURE in order to capture the length of auditor-client relationship. The variable takes the value 1 when a bank retains the same auditor for a consecutive year and 0 when the bank switches the auditor. This approach seems to apply better with my risk approach, because the decision for an auditor switch is endogenous and as a result it is hard to distinct whether the decision is related with the bank or the audit firm.

To investigate whether the extent of audit quality impact differs between high risk and low risk banks I use the interaction terms $\text{EBPT}_t * \text{RISK} * \text{AUDEXP}$ and $\text{EBPT}_t * \text{RISK} * \text{AUDTENURE}$. The first interaction term examines whether industry expertise, as an audit quality dimension, differs between high and low risk banks (H1). Similarly, the second interaction term investigates the influence of audit tenure on income smoothing with regard to banks' risk level. If audit quality dimensions reduce income smoothing through LLPs for high risk banks relative to low

risk ones, I expect that the level of income smoothing for the former cluster is significantly lower relative to the level of income smoothing for the second cluster.

The third and fourth hypotheses examine the impact of industry expertise and auditor tenure on income smoothing behavior of GSIBs and non-GSIBs. Therefore, I classify the banks into the above categories based on 2014 EBA's list which classifies 35 EU banks into the category of GSIBs. To investigate my hypotheses, I include the dummy variable GSIB that takes the value 1 if a bank is classified as a GSIB and 0 otherwise. Within this context, if audit quality dimensions reduce income smoothing through LLPs for GSIBs banks relative to non-GSIB ones, I expect that the level of income smoothing for the former cluster is significantly lower to the level of income smoothing of the second cluster.

In addition, I control for country - fixed effects similar with previous cross country studies (Fonseca and Gonzalez. 2008; Gebhardt and Farkas, 2011). The control for time-invariant unobserved heterogeneity at country level is needed in order to offset potential endogeneity problems from omitted variable bias (Hamadi et al., 2016). Furthermore, I control for period effects by including time variables for each period of my analysis. This control aims to capture any bias resulting from important facts such as the crisis period of 2007-2009.

The following table (Table 2) summarizes my sign predictions for the association of LLPs with the independent variables.

Table 4-2. Predictions for independent variables

| Variable | Sign |
|---------------------|-------------|
| LLP _t | <i>N.A</i> |
| NPL _t | + |
| ΔNPL _t | + |
| NCO _t | - |
| ALW _{t-1} | + |
| SIZE _{t-1} | +/- |
| ΔGDP _t | - |
| ΔUNEMP _t | + |
| ΔLOAN _t | + |

| Variable | Sign |
|-----------------------------------|-------------|
| LOAN _t | + |
| EBPT _t | + |
| AUDEXP | - |
| RISK | +/- |
| EBPT _t *RISK*AUDEXP | +/- |
| AUDTENURE | + |
| EBPT _t *RISK*AUDTENURE | +/- |
| GSIB | +/- |
| EBPT _t *GSIB*AUDEXP | +/- |
| EBPT _t *GSIB*AUDTENURE | +/- |

Variable definition

| | |
|-----------------------|--|
| LLP _t : | Loan loss provisions at the end of year t scaled by lagged total loans |
| NPL _t : | Change in non-performing assets at the end of the current year t divided by lagged total loans |
| ΔNPL _t : | Change in non-performing assets at the end of the current year t divided by lagged total loans |
| CO _t : | Net Charge –offs of the current year t scaled by lagged total loans |
| ALW _{t-1} : | Loan loss allowance at the end of the previous year t-1 divided by total loans |
| SIZE _{t-1} : | The natural log of total assets of the previous year t-1 |
| ΔGDP _t : | Change in GDP at the end of the current year t |
| ΔUNEMP _t : | Change in unemployment rates at the end of the current year t |
| ΔLOAN _t : | Change in total loans at the end of current year t divided by lagged total loans |
| LOAN _t : | Total loans at the end of the current year t divided by total assets |
| EBPT _t : | Earnings before taxes and provisions at the end of the current year t scaled by lagged total loans |

| | |
|--------------------------------------|--|
| RISK: | Dummy variable that takes the value 1 if a banks is classified as high risk and 0 otherwise |
| AUDEXP: | Dummy variable that takes the value 1 if auditor is classified as expert and 0 otherwise |
| AUDTENURE: | A dummy variable that takes the value 1 if the audit firm is switched at time t, and 0 otherwise |
| EBPT _t *RISK*AUDEXP: | Interaction term between earnings before taxes and provisions (EBPT _t) RISK and auditors' expertise (AUDEXP) |
| EBPT _t *RISK*AUDTENURE: | Interaction term between earnings before taxes and provisions (EBPT _t) RISK and auditors tenure (AUDTENURE) |
| GSIB: | Dummy variable that takes the value 1 if a bank is classified as a GSIB and 0 otherwise. |
| EBPT _t * GSIB * AUDEXP: | Interaction term between earnings before taxes and provisions (EBPT _t) GSIB and auditors' expertise (AUDEXP) |
| EBPT _t * GSIB *AUDTENURE: | Interaction term between earnings before taxes and provisions (EBPT _t) GSIB and auditors tenure (AUDTENURE) |

4.5. Results

The results of the descriptive statistics are presented in Tables 4-3, 4-4 and 4-5. In particular, the univariate analysis includes the mean and the standard deviation for the dependent and the independent variables for the pooled sample and the clusters of my analysis as well. The pooled sample consists of 1.064 observations for the period of 2006-2013. My analysis implies that KPMG comprises the industry expert as it retains an average of 28% of the total assets of my sample during the period of 2006-2013. This percentage is depicted by 344 observations and comprises a 32,3 % of the total observations. The banks that selected KPMG as an auditor appear to perform marginally better, since the average earnings before provisions and taxes (EBPT_t) is 0,017 and is greater than the respective one of the non-experts group (0,016).

Furthermore, KPMG's clients appear more conservative with an average of 0,009 LLPs (LLPt), which is greater than the average of 0,008 for the non-expert cluster. The greater conservatism is also supported by the higher average of loans that have been classified as non-performing (NPA_t), which amounts at 0,071 and exceeds the non-expert average of 0,067. Regarding the auditor tenure, sample banks appear to retain the same auditor for a long period. My results show that only 63 times a bank's management decided to change its auditor. An auditor's consecutive engagement may result in higher and more timely error detection, increasing a bank's reliability. Banks with high auditor tenure appear to perform better relative to the banks with an auditor change. The average of earnings before provisions and taxes (EBPT_t) is 0,017 for the first group and 0,011 for the second one. In addition, banks that changed their auditor have a greater average of LLPs (LLPt) relative to banks which retain their auditor. This result implies that new auditors apply more conservative accounting when they substitute their predecessors.

Table 4-3. Descriptive Statistics

| | Pooled Sample | | Industry Expert | | Non Expert | | Auditor Change | | Non-Change | | GSIBs | | Non -GSIBs | |
|--------------|---------------|--------------|-----------------|--------------|-------------|--------------|----------------|--------------|-------------|--------------|-------------|--------------|-------------|--------------|
| | <u>Mean</u> | <u>StDev</u> | <u>Mean</u> | <u>StDev</u> | <u>Mean</u> | <u>StDev</u> | <u>Mean</u> | <u>StDev</u> | <u>Mean</u> | <u>StDev</u> | <u>Mean</u> | <u>StDev</u> | <u>Mean</u> | <u>StDev</u> |
| LLPt | 0,008 | 0,029 | 0,009 | 0,013 | 0,008 | 0,034 | 0,012 | 0,018 | 0,008 | 0,030 | 0,006 | 0,006 | 0,009 | 0,033 |
| NPLt | 0,069 | 0,093 | 0,071 | 0,101 | 0,067 | 0,090 | 0,099 | 0,115 | 0,067 | 0,092 | 0,035 | 0,032 | 0,080 | 0,104 |
| ΔNPLt | 0,012 | 0,048 | 0,017 | 0,065 | 0,010 | 0,036 | 0,006 | 0,043 | 0,013 | 0,048 | 0,005 | 0,015 | 0,015 | 0,054 |
| NCOt | 0,000 | 0,001 | 0,000 | 0,001 | 0,000 | 0,001 | 0,000 | 0,001 | 0,000 | 0,001 | 0,000 | 0,001 | 0,000 | 0,001 |
| ALWt-1 | 0,031 | 0,034 | 0,032 | 0,033 | 0,031 | 0,034 | 0,046 | 0,052 | 0,030 | 0,032 | 0,020 | 0,015 | 0,035 | 0,037 |
| LOANt | 0,688 | 0,165 | 0,687 | 0,157 | 0,688 | 0,168 | 0,713 | 0,160 | 0,686 | 0,165 | 0,574 | 0,147 | 0,727 | 0,152 |
| SIZEt-1 | 18,392 | 1,984 | 18,342 | 1,963 | 18,416 | 1,995 | 18,098 | 2,149 | 18,411 | 1,973 | 20,363 | 0,860 | 17,718 | 1,802 |
| ΔGDPt | 0,008 | 0,035 | 0,008 | 0,032 | 0,008 | 0,036 | 0,000 | 0,028 | 0,008 | 0,035 | 0,008 | 0,026 | 0,008 | 0,037 |
| ΔUNEMPt | 0,086 | 0,041 | 0,080 | 0,036 | 0,089 | 0,043 | 0,086 | 0,028 | 0,086 | 0,041 | 0,082 | 0,039 | 0,088 | 0,041 |
| ΔLOANt | 0,072 | 0,196 | 0,076 | 0,213 | 0,070 | 0,187 | 0,069 | 0,308 | 0,072 | 0,187 | 0,063 | 0,212 | 0,075 | 0,190 |
| EBPTt | 0,016 | 0,036 | 0,017 | 0,020 | 0,016 | 0,041 | 0,011 | 0,016 | 0,017 | 0,036 | 0,013 | 0,012 | 0,017 | 0,041 |
| Observations | 1.064 | | 344 | | 720 | | 63 | | 1.001 | | 271 | | 793 | |

Table 4-4 presents the mean and the standard deviation of LLPs and earnings before provisions and taxes (EBPTt) respectively for the clusters with regard to a bank's idiosyncratic risk. The analysis of the pooled sample implies that although the mean of LLPs for High risk and Low risk banks is marginally equal, high risk banks appear more profitable with a mean of earnings before provisions and taxes (EBPTt) that amounts at 0,018 and is greater than the respective mean of low risk banks (0,015). These findings imply that riskier banks invest in more profitable projects relative to risk-averse banks. Furthermore, riskier banks appear to engage in industry experts auditors more than lower risk banks. This view is supported by the fact that almost 35% of high risk banks engage with KPMG. In contrast, this percentage is lower for risk-averse banks (29%). With regard to auditor tenure, high risk banks appear to change an auditor 38 times which is slightly higher than the 25 times of low-risk banks.

Table 4-4. Descriptive Statistics (High Risk vs Low Risk)

| Variable | | <u>High Risk</u> | | | | <u>Low Risk</u> | | | | <u>Pooled Sample</u> | |
|----------|-------|------------------|------------|----------------|------------|-----------------|------------|----------------|------------|----------------------|----------|
| | | Industry Expert | Non Expert | Auditor Change | Non-Change | Industry Expert | Non Expert | Auditor Change | Non-Change | High Risk | Low Risk |
| LLPs | Mean | 0,008 | 0,008 | 0,015 | 0,008 | 0,011 | 0,008 | 0,008 | 0,008 | 0,008 | 0,008 |
| | StDev | 0,013 | 0,049 | 0,022 | 0,041 | 0,012 | 0,010 | 0,006 | 0,011 | 0,040 | 0,011 |
| EBPt | Mean | 0,018 | 0,018 | 0,014 | 0,018 | 0,016 | 0,014 | 0,006 | 0,015 | 0,018 | 0,015 |
| | StDev | 0,020 | 0,057 | 0,016 | 0,033 | 0,018 | 0,049 | 0,014 | 0,018 | 0,033 | 0,018 |
| | Obs | 187 | 341 | 38 | 490 | 157 | 379 | 25 | 511 | 528 | 536 |

Table 4-5 provides analysis for the clusters of GSIBs and non-GSI banks. The analysis of the pooled samples shows that GSIBs recognize lower LLPs than the rest of banks because the mean of LLPs is 0,006 and 0,009 respectively. Despite the difference in provisioning behavior, GSIBs appear less profitable with a mean of earnings before provisions and taxes (EBPt) that amounts at 0,013 and the respective mean for the rest of banks is 0,017. Regarding industry expertise, GSIBs appear to engage with industry experts less than the rest of banks, since the number of 187 observations represents the 30% of the 271 observation for GSIBs. On the other hand, this percentage amounts at 33% for the rest of banks (263 observations from the total of 793). Furthermore, GSIBs changed their auditor 16 times while the rest of banks did for 47 times during the investigated period.

Table 4- 5. Descriptive Statistics (GSIBs vs Non-GSIBs)

| Variable | | <u>GSIB</u> | | | | <u>Non-GSIBs</u> | | | | <u>Pooled Sample</u> | |
|----------|-------|--------------------|---------------|-------------------|----------------|--------------------|---------------|-------------------|----------------|----------------------|-----------------------|
| | | Industry Expert | Non Expert | Auditor Change | Non- Change | Industry Expert | Non Expert | Auditor Change | Non- Change | <u>GSIB</u> | <u>Non- GSIBs</u> |
| LLPs | Mean | 0,005 | 0,006 | 0,006 | 0,006 | 0,011 | 0,009 | 0,015 | 0,009 | 0,006 | 0,009 |
| | StDev | 0,005 | 0,006 | 0,005 | 0,006 | 0,014 | 0,040 | 0,020 | 0,034 | 0,006 | 0,033 |
| EBPt | Mean | 0,015 | 0,012 | 0,003 | 0,014 | 0,018 | 0,017 | 0,013 | 0,018 | 0,013 | 0,017 |
| | StDev | 0,017 | 0,012 | 0,011 | 0,012 | 0,039 | 0,047 | 0,017 | 0,042 | 0,012 | 0,041 |
| | Obs | 81 | 190 | 16 | 255 | 263 | 530 | 47 | 746 | 271 | 793 |

The results of ordinary correlation analysis are presented in Table 4-6. In line with my predictions, LLPs (LLPt) are positively related with non-performing loans (NPLt) and their annual change (ΔNPL_t), as well. This evidence implies that banks recognize greater LLPs when the amount of non-performing loans increases (Hamadi et al., 2016). Similarly, LLPs are positively related with the total amount of loans (LOANt), a fact that is in line with previous arguments which imply that banks recognize higher provisions when they have a large portfolio of loans due to higher credit risk. Furthermore, LLPs (LLPt) are negatively related with net charge-offs (COt) and this evidence supports the argument that banks reverse their LLPs, when actual loan losses occur (Nichols et al., 2009). In addition, the independent variable is positively associated with loan loss allowance of the previous year, which supports my predictions that past LLPs policy influences current year's provisions (Beatty and Liao, 2014). With regard to macroeconomic factors, independent variable (LLPt) is negatively associated with GDP annual growth (ΔGDP_t) and banks' loan growth ($\Delta LOAN_t$). These results imply that banks recognize lower LLPs during economic booms. These findings are in line with my predictions and the arguments of previous literature (Laeven and Majnoni, 2003). Regarding, management's accounting discretion, the correlation analysis shows that LLPs are positively associated with earnings before provisions and taxes (EBPTt) and this evidence confirms the income smoothing hypothesis, which assumes that when income is high, managers recognize higher provisions to use them for a 'rainy day' (Greenawalt and Sinkey, 1989).

Table 4-6. Correlation matrix

| | LLPt | NPLt | ΔNPLt | COt | ALWt-1 | LOANt | SIZEt-1 | ΔGDPt | ΔLOANt | ΔUNEMPt | EBPTt | RISK | AUDEXP | AUDTENURE | GSIB |
|-----------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--------|---------------|--------|-----------|-------|
| LLPt | 1.000 | | | | | | | | | | | | | | |
| NPLt | 0.270 | 1.000 | | | | | | | | | | | | | |
| ΔNPLt | 0.121 | 0.435 | 1.000 | | | | | | | | | | | | |
| COt | -0.030 | -0.028 | -0.041 | 1.000 | | | | | | | | | | | |
| ALWt-1 | 0.324 | 0.680 | 0.144 | -0.011 | 1.000 | | | | | | | | | | |
| LOAN | 0.089 | 0.245 | 0.138 | 0.053 | 0.227 | 1.000 | | | | | | | | | |
| SIZEt-1 | -0.044 | -0.175 | -0.056 | -0.045 | -0.221 | -0.360 | 1.000 | | | | | | | | |
| ΔGDPt | -0.158 | -0.181 | -0.121 | -0.106 | -0.213 | -0.065 | 0.001 | 1.000 | | | | | | | |
| ΔLOANt | -0.031 | -0.056 | 0.155 | -0.040 | -0.210 | 0.052 | -0.049 | 0.280 | 1.000 | | | | | | |
| ΔUNEMPt | 0.175 | 0.272 | 0.166 | 0.081 | 0.384 | 0.117 | -0.069 | -0.271 | -0.143 | 1.000 | | | | | |
| EBPTt | 0.663 | 0.031 | 0.054 | -0.102 | -0.019 | -0.076 | -0.075 | 0.169 | 0.266 | -0.006 | 1.000 | | | | |
| RISK | -0.001 | 0.106 | 0.027 | 0.044 | 0.124 | 0.132 | -0.157 | 0.073 | 0.008 | -0.111 | 0.045 | 1.000 | | | |
| AUDEXP | 0.023 | 0.021 | 0.062 | 0.000 | 0.007 | -0.005 | -0.017 | -0.008 | 0.013 | -0.102 | 0.019 | 0.065 | 1.000 | | |
| AUDTENURE | -0.035 | -0.080 | 0.035 | -0.011 | -0.105 | -0.037 | 0.037 | 0.057 | 0.003 | -0.00 | 0.038 | 0.053 | -0.005 | 1.000 | |
| GSIB | -0.053 | -0.210 | -0.086 | -0.0249 | -0.204 | -0.404 | 0.581 | 0.004 | -0.026 | -0.064 | -0.053 | -0.135 | -0.030 | 0.000 | 1.000 |

***Bold coefficients are statistically significant**

The results of the multivariate analysis for the first hypothesis (H1) are presented in Table 4-7. My first hypothesis (H1) investigates whether the impact of auditor industry expertise on banks' income smoothing incentives depends on the level of each individual bank's risk. Similarly, to previous studies, empirical findings imply a positive association of LLPs (LLP_t) with the current year's change of non-performing loans (ΔNPL_t) (Gebhardt and Farkas, 2011; Hamadi et al., 2016) and a positive association with current year's net charge-offs (COt) (Nichols et al., 2009). However, these relations are not significant. My findings show that there is a positive and significant association between LLPs (LLP_t) and the loan loss allowance at the beginning of the year (ALW_{t-1}). This finding is in line with the results of the correlation analysis and the arguments of Beatty and Liao (2014) who suggested that previous year's accounting decisions may influence current LLPs' recognition. Furthermore, my results support the arguments that general macroeconomic conditions influence banks' managers' accounting decisions. In particular, LLPs (LLP_t) are negatively associated with GDP growth (ΔGDP_t) and loan growth ($\Delta LOAN_t$). This finding is in line with Beatty and Liao (2011) who suggested that LLPs tend to be higher during economic recessions, when financial development is low and borrowers' credit risk is high. The positive and significant association between LLPs (LLP_t) and size ($SIZE_{t-1}$) may be explained by the political cost hypothesis which predicts that larger firms aim to decrease income and avoid a potential political intervention in their business (Watts and Zimmerman, 1986). Regarding the income smoothing hypothesis, my results suggest that there is a positive and significant association between LLPs (LLP_t) and earnings before provisions and taxes (EBPTt), which implies that managers smooth income through LLPs. The triple interaction term $EBPT_t * RISK * AUDEXP$ reflects the impact of auditor's industry expertise on income smoothing. Leventis et al. (2011) argued that high risk banks engage more in income smoothing practices through discretionary LLPs. The results of the multivariate analysis show that there is a negative and significant association between the interaction term and LLPs. This finding implies that when a bank's audit is performed by an industry expert, high risk banks appear to smooth income less than low-risk ones. This evidence complements the results of Leventis et al. (2011) who found that income smoothing pattern differs between high and low risk banks. As a result, the impact of industry expertise on accounting discretion appears to differ as well for high and low risk banks. Furthermore, my results support previous arguments which suggest that industry expertise may mitigate managers' accounting discretion (Carcello and Nagy, 2004; Reichelt and Wang, 2010) and banks' benchmark-beating incentives through discretionary accruals (Kanagaretnam et al., 2010a).

Table 4-7. Impact of risk on the association between auditor industry specialization and income smoothing

| | Sign | Coefficient | t-stat |
|--------------------------------------|------|-------------|----------|
| CONSTANT | - | -0.033** | (-2.141) |
| NPL _t | - | -0.010 | (-0.683) |
| ΔNPL _t | + | 0.013 | (0.799) |
| CO _t | + | 0.383 | (0.510) |
| ALW _{t-1} | + | 0.314*** | (7.087) |
| LOAN _t | + | 0.016*** | (2.748) |
| SIZE _{t-1} | + | 0.000* | (1.832) |
| ΔGDP _t | - | -0.244*** | (-4.488) |
| ΔLOAN _t | - | -0.014** | (-2.003) |
| ΔUNEMP _t | + | 0.050* | (1.708) |
| EBPT _t | + | 0.703*** | (3.229) |
| RISK | + | 0.001 | (1.477) |
| AUDEXPERT | + | 0.002** | (2.007) |
| EBPT _t * RISK * AUDEXPERT | - | -0.282** | (-1.965) |
| Country Fixed effects | Yes | | |
| Year Dummies | Yes | | |
| R-Squared | 0.70 | | |
| Observations | 1064 | | |

***, **, and * represent 1%, 5%, and 10% significance (two-tailed or one-tailed, as appropriate), respectively
t-stat in parenthesis under the coefficient

My second hypothesis (H2) investigates whether the impact of auditor tenure on banks' income smoothing incentives depends on the level of each individual bank's risk. The results of the regression analysis are presented in Table 4-8. LLPs are positively associated with annual change non-performing loans (ΔNPL_t). However, this association is not significant. In addition, LLPs (LLP_t) are positively but no-significantly related with net charge-offs (CO_t) and positively associated the loan loss allowance at the beginning of the year (ALW_{t-1}). Furthermore, in line with the correlation analysis' results, LLPs are significantly influenced by macroeconomic factors, since there is a negative association with annual growth of GDP (ΔGDP_t) and loans (ΔLOAN_t). In line with my predictions, LLPs are positively and significantly associated with earnings before provisions and taxes (EBPT_t), a finding that suggest that banks engage in income smoothing through LLPs. The triple interaction term EBPT_t*RISK*AUDTENURE reflects the impact of auditor's tenure on income smoothing. My regression results show that LLPs are significantly associated with the interaction term and this relation is positive. This finding implies that when banks retain their auditor, high-risk banks appear to smooth income more than low-risk ones. This finding is in line with Myers et al. (2003) and Chen et al. (2008) who found that auditor tenure is positively associated with earnings management. In addition, high risk banks appear to be less conservative when they recognize LLPs, when their auditor remains the same for a consecutive year.

Table 4-8. Impact of risk on the association between auditor tenure and income smoothing

| | Sign | Coefficient | t-stat |
|--------------------------------------|------|-------------|----------|
| CONSTANT | - | -0.004 | (-0.494) |
| NPL _t | - | -0.007 | (-0.496) |
| ΔNPL _t | + | 0.016 | (1.084) |
| CO _t | + | 0.644 | (0.837) |
| ALW _{t-1} | + | 0.306*** | (6.807) |
| LOAN _t | + | 0.012*** | (2.816) |
| SIZE _{t-1} | + | 0.000 | (0.765) |
| ΔGDP _t | - | -0.211*** | (-4.485) |
| ΔLOAN _t | - | -0.012** | (-2.037) |
| ΔUNEMP _t | + | 0.040* | (1.663) |
| EBPT _t | + | 0.263*** | (3.569) |
| RISK | - | -0.006*** | (-2.819) |
| AUDTENURE | - | -0.006** | (-2.301) |
| EBPT _t * RISK * AUDTENURE | + | 0.484*** | (2.869) |
| Country Fixed effects | Yes | | |
| Year Dummies | Yes | | |
| R-Squared | 0.73 | | |
| Observations | 1064 | | |

***, **, and * represent 1%, 5%, and 10% significance (two-tailed or one-tailed, as appropriate), respectively t-stat in parenthesis under the coefficient

My third and fourth hypotheses (H3 & H4) examine whether the impact of industry expertise and auditor tenure on income smoothing behavior is different between GSIBs and non GSIBs. The results of multivariate analysis for both panels are presented in Table 4-9. The interaction term $EBPT_t * GSIB * AUDEXPERT$ aims to examine whether the impact of industry expertise differs between GSIBs and non GSIBs. Similarly, the $EBPT_t * RISK * AUDTENURE$ investigates potential differences for the association of auditor tenure with banks' income smoothing behavior. Panel A presents the results for the third hypothesis (H3). In line with my predictions, LLPs have a positive and significant association with loan loss allowance of the previous year (ALW_{t-1}), the amount of total lending ($LOAN_t$) and earnings before provisions and taxes ($EBPT_t$). On the other hand, the dependent variable has a negative and significant association with GDP growth (ΔGDP_t) and loan growth ($\Delta LOAN_t$). The negative association of LLPs with the term $EBPT_t * GSIB * AUDEXPERT$ implies that industry specialization decreases accounting discretion and this impact is higher for GSIBs.

Panel B presents the multivariate results for the impact of auditor tenure. Similarly, with Panel A, the term $EBPT_t * GSIB * AUDTENURE$ is negatively related with LLPs and this association is significant. Similarly with Panel A, my findings imply that auditor tenure mitigates income smoothing and this impact is higher for GSIBs. This evidence is in line with the results of

Gaver and Paterson (2007) and Kanageretnam et al. (2010a) that showed that auditors tolerate less earnings management in larger clients of the financial sector. This evidence complements the results of Peterson and Arun (2018) who found that GSIBs exhibit greater income smoothing than the rest of banks under certain circumstances. Furthermore, these results imply that the presence of an auditor expert will increase accounting conservatism regarding LLPs recognition in order to decrease high earnings for fear of political and/or regulatory scrutiny of bank earnings (Nelson et al., 2002).

Table 4-9. Impact of auditor industry specialization and auditor tenure on Income Smoothing between GSI banks and rest of banks

| | Industry Specialization | | | Auditor Tenure | | |
|--------------------------------------|-------------------------|-------------|----------|----------------|-----------|----------|
| | Sign | Coefficient | t-stat | Sign | efficient | t-stat |
| CONSTANT | - | -0.032 | (-2.005) | - | -0.029 | (-1.931) |
| NPL _t | - | -0.007 | (-0.505) | - | -0.006 | (-0.462) |
| ΔNPL _t | + | 0.011 | (0.672) | + | 0.013 | (0.813) |
| CO _t | + | 0.528 | (0.680) | + | 0.405 | (0.548) |
| ALW _{t-1} | + | 0.296*** | (6.570) | + | 0.295*** | (6.488) |
| LOAN _t | + | 0.015* | (2.728) | + | 0.014*** | (2.699) |
| SIZE _{t-1} | + | 0.000* | (1.676) | + | 0.001** | (1.727) |
| ΔGDP _t | - | -0.250*** | (-4.503) | - | -0.258*** | (-4.510) |
| ΔLOAN _t | - | -0.015** | (-2.049) | - | -0.014** | (-2.021) |
| ΔUNEMP _t | + | 0.053* | (1.755) | + | 0.048* | (1.668) |
| EBPT _t | + | 0.696*** | (3.198) | + | 0.701*** | (3.222) |
| GSIB | + | 0.002* | (1.680) | + | 0.003* | (1.790) |
| AUDEXPERT | + | 0.000 | (0.839) | | | |
| EBPT _t * GSIB * AUDEXPERT | - | 0.399* | (-2.648) | | | |
| AUDTENURE | | | | - | -0.002 | (-1.225) |
| EBPT _t * GSIB * AUDTENURE | | | | - | -0.363** | (-2.081) |
| Country Fixed effects | Yes | | | Yes | | |
| Year Dummies | Yes | | | Yes | | |
| R-Squared | 0.73 | | | 0.70 | | |
| Observations | 1064 | | | 1064 | | |

***, **, and * represent 1%, 5%, and 10% significance (two-tailed or one-tailed, as appropriate), respectively t-stat in parenthesis under the coefficient

4.6. Conclusion

This study investigates the impact of specific audit quality dimensions upon the EU banks' accounting policy decisions. In particular, my analysis examines whether auditor industry specialization and auditor tenure limit management's accounting discretion and whether these associations are influenced by the clients' importance and their idiosyncratic risk.

Regarding the clients' idiosyncratic risk I followed Leventis et al. (2011) and I classified banks as high risk and low risk ones. Empirical findings provided evidence that auditors' industry expertise limits management's discretion of high risk banks to a greater extent relative to low risk banks. In contrast, my results imply that banks that retain the same auditor for a consecutive fiscal year are more likely to engage in income smoothing through LLPs. Furthermore, my study examines whether audit quality dimensions have different outcomes on income smoothing decisions between GSIBs and non-GSIBs. I found significant evidence that the impact of industry specialization and auditor tenure on EU banks accounting policy decisions differs between GSIBs and non-GSIBs and specifically GSIBs appear to smooth income less than the rest of banks when the auditor is an industry expert and when they retain the same auditor for consecutive fiscal periods.

By focusing on whether the interrelationship between certain dimensions of audit quality and banks' specific attributes influence banks' accounting policy decisions, this study contributes to the existing literature by examining further aspect of the association between audit and financial reporting quality. These results may be useful for regulators and policy makers who aim to protect banks' stakeholders from banks' excessive risk taking and management's opportunistic incentives. Regulators who aim to enhance the EU audit policy should consider banks' risk attributes and their impact on audit quality. Furthermore, these findings may be useful for auditors, who want to maintain high levels of independence, because they imply that banks' risk may differentiate the outcomes of certain attributes of independence.

This study has certain limitations. I have not investigated the simultaneous impact of the audit quality dimensions examined in this study. Furthermore, I classified an industry expert for the whole period of 2006-2013 and i did not control for a possible succession of the industry expert. In addition, I did not control for potential interrelations with the regulatory framework of Basel II and the characteristics of official regulators. Within this context, future research should investigate the impact of the Basel framework on audit quality dimensions and the stricter regulatory constraints of GSIB. Furthermore, future studies should also investigate the competition in the audit market and compare results with mandatory auditor rotation.

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General Conclusion

Almost a decade ago, the modern world faced one of the most profound and disruptive financial crises. The negative implications of the crisis caused a prolonged recession in the global financial markets and a series of bank failures in the US and in EU.

The aftermath of this crisis found regulators and policy makers to analyze the causes and its effect in order to take initiatives and deter a possible repeat in the future. Accounting rules had a central role in the subsequent debate since regulators argued that fair value accounting and loan loss provision were the main responsible for a series of bank failures. Regarding loan loss provisions (hereinafter, LLPs), regulators contended that the “incurred loan loss” model was rather pro-cyclical and forced banks to offset loan losses with regulatory capital and cut lending. Therefore, banks’ financial condition had a negative impact upon the non-financial industries and households.

Within this context, accounting standard setters and regulators worked in order to substitute the incurred loan loss model with a new forward-looking provisioning model. In line with accounting, regulators and governments focused on the weaknesses of banks’ corporate governance systems and auditors’ role. In particular, the European Commission took important initiatives to improve the governance systems of the financial sector and enhance the role of auditors in order to limit managerial discretion and improve accounting quality. Furthermore, the EU had already adopted the Basel Accord II, trying to improve banks’ regulatory framework and limiting excessive risk-taking.

Previous research has shown that the adoption of the IFRS limit management’s incentives to use discretionary LLPs and manage income (Gephardt and Farkas, 2011; Leventis et al., 2011). This research aims to investigate whether EU bank managers used LLPs to smooth income in a period after the adoption of the IFRS and the Basel Accord II. Furthermore, I examine whether banks’ monitoring mechanisms have an impact upon managers’ incentives to smooth income through LLPs. In particular, I investigate whether market discipline (hereinafter, MD), as exerted by depositors, limits banks’ accounting discretion. In addition, I examine whether specific corporate governance mechanisms are associated with managers’ incentive to deliberately adjust income. Finally, my research aims to shed light upon the impact of audit quality on managerial discretion and if audit quality is influenced by banks’ risk. In addition, I investigate whether banks’

provisioning pattern differs between globally systemically important banks (hereinafter, G-SIBs) and rest of banks.

With regard to the impact of MD on managers' accounting decisions, my findings imply that management's decision to engage in accruals adjustments is influenced by depositors' specific reactions. In particular, I found that EU banks appear to reduce income smoothing when depositors demand higher rates. However, banks increase income smoothing through LLPs when they face a decline in deposits. The above results remain robust when I examine whether banks' regulatory capital differentiates banks' behavior. Multivariate analysis showed that adequately capitalized banks increase income smoothing when depositors remove their funds from bank accounts. On the other hand, adequately capitalized banks reduce income smoothing when deposit rates increase. Regarding the globally systemic importance of banks, MD mechanisms appear more efficient since GSIBs reduce income smoothing when market participants aim to discipline such banks.

Furthermore, the results of this study provide evidence that corporate governance has also an impact on banks' provisioning pattern. I provide evidence that banks' board structure (one-tier vs. two-tier), an issue that is not addressed by the Green Papers of 2010 and 2011, can have some impact on managers' accounting discretion and on the effectiveness of corporate governance mechanisms. In particular, the two-tier system banks are likely to engage more in income smoothing through LLPs in comparison with the one-tier system banks. Similarly, leverage and capital requirements may play an important monitoring mechanism, since banks with higher regulatory capital are more likely to smooth income with accounting accruals. Furthermore, I find that banks that do not provide information about their CEO remuneration may engage more in income smoothing practices.

Finally, audit quality plays an important role regarding managers' incentives to smooth income. Within this context, I examine whether bank's idiosyncratic risk may influence the association between accounting and audit quality. Empirical findings provided evidence that auditors' industry expertise limits management's discretion of high risk banks to a greater extent relative to low risk banks. In contrast, my results imply that banks that retain the same auditor for a consecutive fiscal year are more likely to engage in income smoothing through LLPs. Furthermore, I examine whether audit quality dimensions have different outcomes on income smoothing decisions between GSIBs and non-GSIBs. I found significant evidence that the

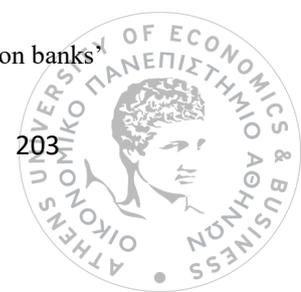
impact of industry specialization and auditor tenure on EU banks accounting policy decisions differs between GSIBs and non-GSIBs.

My findings provide substantial evidence banks' regulatory environment and monitors play an important role regarding managements' incentives to use LLPs and adjust income. Despite the conservatism of the 'incurred loan loss' model, MD may lead managers to adjust income through accounting accruals. Furthermore, big boards and unregulated disclosures for remuneration policies influence managers' behavior as well. Similarly, bank's complexity and asset opaqueness may influence audit quality, diminishing its impact on financial reporting quality.

These results may be useful for auditors, accounting standard setters and regulators who aim to improve banks' transparency and enhance market discipline and the role of accounting as provider of timely and accurate information. Regulators should consider the accounting is interrelated with banks' regulatory environment and that poor bank performance comprises the outcome of a series of factors and not the outcome of poor accounting rules. Furthermore, they should consider the impact of MD on managerial decisions. Policy-makers, should deeply review banks' corporate governance tools. In particular, the 'free-rider' problems of big boards and dispersed depositors may encourage managers to engage in income smoothing patterns. On the other hand, minimum capital requirements appear to play an important role in limiting managers' individual incentives. Finally, auditors could adopt new methods to assess banks' risk and implement processes that will limit material misstatements and fraud.

This research has certain limitations. Firstly, my research does not examine the association of LLPs with depositor's reactions simultaneously. In addition, I do not control for differences between insured and uninsured depositors due to lack of related data. With regard to the impact of corporate governance, an ideal study would involve the joint examination of all relevant mechanisms (Ahmed and Duelman, 2007; Cornett et al., 2009). However, my study focuses on two corporate governance mechanisms: the board of directors and the disclosure of the CEO's remuneration. In addition I investigate the role of leverage as an internal monitoring mechanism. Finally, auditors interact with numerous banks' stakeholders such as official regulators, tax authorities and other monitors⁷⁰. My findings do not capture these interrelations.

⁷⁰ Nicoletti (2018) examined the impact of the association between official supervisors and auditors' upon banks' accounting discretion.



Future research should address the aforementioned issues by examining the association of bank monitors with managers' accounting policy decisions. In particular, researchers could examine potential differences between insured and uninsured-depositors. Similarly, related studies could examine the association of depositors' reaction with those of subordinated debtors.

Regarding the impact of corporate governance, future studies could examine deeper the board characteristics that differentiate the income smoothing pattern between one-tier and two-tier board banks. Furthermore, researchers could examine whether managerial discretion depends on the total amount and the type of directors' remuneration.

Regarding audit quality, research could further investigate the impact of risk on audit characteristics by using new measures for risk. In addition, the interrelation of audit quality characteristics with factors which are related with official supervisors could provide useful conclusion about the suitability of audits in the banking sectors.

Finally, future research should examine the impact of the new regulation of bank managers' accounting behavior which includes the introduction of the Basel Accord III, the supervision of EU banks by SSM and the enhanced legislation for audit and corporate governance. In addition, research should focus on the 'de facto' convergence of regulation in all member states.

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