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The effects of corporate governance on banks' loan and bond portfolios

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Abstract

Board diversity has attracted increased interest in recent years among governmental agencies, the European Commission or other stakeholders. The present thesis contributes to the debate concerning board diversity by examining the relationship between board composition and a bank's international loan and sovereign bond portfolio. The focus is on board members' nationality, data on which is partly hand-collected. A dataset derived from the European Union-wide stress test conducted by the European Banking Authority in 2014, 2016 and 2018 is utilized. This dataset provides information about the distribution of each bank's loan portfolio acrosss its nine primary national markets and their respective default rates. It also provides detailed information about the distribution and duration of each bank's sovereign bond portfolio. Finally, I examine whether and how corporate governance characteristics affect banks' loan portfolios, both in normal times as well as during a crisis.

I find that a higher proportion of foreign board members is positively associated with a higher share of a bank's loans abroad, especially in the board member's country of origin. However, results do not clearly show that including a board member from a specific country can ensure a better NPL ratio in that country. Also, foreign board members' ratio is not associated with the bank's average NPL ratio. Average age of board members and the ratio of female board members are positively associated with the bank's successful presence abroad. The host country's institutional setting, macroeconomic conditions and familiarity variables also influence the bank's local NPL ratio.

I also find that a higher ratio of foreign board members is associated with lower home bias in a bank's bond portfolio. The same applies for non-eurozone board members and regional bias. The inclusion of foreign board members is also associated with a higher foreign bias in their country of origin, especially as the ratio of bond holdings in this country increases, which implies a strategic focus. I deal with endogeneity using a lagged value approach. Foreign board members' ratio and bond portfolio risk are not found to be associated with each other. I also document the role of ownership in home bias, in particular regarding the held-to-maturity portfolio.

Finally, I find a negative association between CEO duality and loan growth across most loan categories and during normal times. The ratio of independent and non-executive board members is associated with growth only in specific loan categories. However, the effect of corporate governance values on loan growth is limited, compared with financial ratios. The ratio of independent directors has a different impact on loan growth of smaller and larger banks, and also affects write-off ratios.

Overall, the present thesis contributes to the literature in three major ways:

1. It develops a novel database to examine corporate governance arrangements for the most important banks in Europe. Given that most of them are not listed in any stock exchange, available information about them is limited and these are thus left out of most samples. However, these banks (e.g. German Landesbanken, Spanish cajas, Italian and Dutch cooperatives and French specialized banks) lie at the heart of the European banking system.

2. It extends our knowledge concerning the inclusion of foreign board members. Furthermore, it examines whether and in what way this affects banks' loan and bond portfolios.

3. It extends our understanding of the last crisis by examining how the most important loan categories' figures in Greece evolved.

Keywords: banks; corporate governance; board of directors; board diversity

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Εκτεταμένη περίληψη στα Ελληνικά

1. Εισαγωγή

Η παρούσα διδακτορική διατριβή εξετάζει την επίδραση συστατικών της εταιρικής διακυβέρνησης στα χαρτοφυλάκια δανείων και ομολόγων των τραπεζών. Τα δύο από τα τρία κεφάλαιά της επικεντρώνονται στην καταγωγή των μελών του Διοικητικού Συμβουλίου (Δ..Σ.), το οποίο εμπίπτει στο γενικότερο ζήτημα της διαφορετικότητας (diversity). Η διαφορετικότητα μπορεί να προκύπτει από παράγοντες όπως η καταγωγή, το φύλο, η ηλικία, το επίπεδο και το αντικείμενο μόρφωσης, η προϋπηρεσία και άλλες ατομικές ιδιότητες των μελών.

Η παρούσα διδακτορική διατριβή αποτελείται από τέσσερα κυρίως κεφάλαια. Στο πρώτο από αυτά, παρουσιάζεται συνοπτικά η βιβλιογραφία σχετικά με την εταιρική διακυβέρνηση, καθώς και άλλα θέματα που εξετάζονται στα επόμενα κεφάλαια. Στο δεύτερο κεφάλαιο, εξετάζεται η επίδραση των αλλοδαπών μελών στο χαρτοφυλάκιο δανείων και στο ποσοστό των επισφαλειών (εναλλακτικά μη εξυπηρετούμενων δανείων), τόσο στο δανειακό χαρτοφυλάκιο ολόκληρης της τράπεζας, όσο και στης χώρας καταγωγής τους. Στο τρίτο κεφάλαιο, εξετάζεται η συσχέτιση των αλλοδαπών μελών με τη διασπορά του χαρτοφυλακίου ομολόγων στη χώρα έδρας της τράπεζας, στην Ευρωζώνη και στη χώρα καταγωγής τους. Τέλος, στο τέταρτο κεφάλαιο, εξετάζεται κατά πόσο συστατικά της εταιρικής διακυβέρνησης επηρεάζουν διαχρονικά το μέγεθος των δανείων της τράπεζας, ανά κατηγορία δανείου. Γίνεται επίσης έλεγχος ειδικά για τα χρόνια της χρηματοπιστωτικής κρίσης.

2. Συνεισφορά της διδακτορικής διατριβής στη βιβλιογραφία

Η συνεισφορά της συγκεκριμένης διδακτορικής διατριβής στη βιβλιογραφία αφορά τρία σημαντικά θέματα:

1. Στα πλαίσια της διδακτορικής διατριβής δημιουργείται μία καινούρια βάση δεδομένων σχετικά με τα μέλη του Δ.Σ. των σημαντικότερων ευρωπαϊκών τραπεζών. Με βάση τα στοιχεία της βάσης αυτής δίνεται η δυνατότητα να εξεταστεί η συνεισφορά των αλλοδαπών μελών του Δ.Σ. αναφορικά με τη χώρα καταγωγής τους. Πιο συγκεκριμένα, η διατριβή εξετάζει κατά πόσο τα μέλη του Δ.Σ. μπορούν να βοηθήσουν την τράπεζα ώστε να επιτύχει ένα χαμηλότερο

επίπεδο επισφαλειών στη χώρα καταγωγής τους. Επίσης, εξετάζει κατά πόσο η παρουσία αλλοδαπών μελών στο Δ.Σ. επηρεάζει το ποσοστό χαρτοφυλακίου ομολόγων της τράπεζας στη χώρα καταγωγής τους. Μέχρι σήμερα, η βιβλιογραφία είχε περιοριστεί στο να εξετάζει τη σχέση της χώρας της τράπεζας με την αλλοδαπή χώρα. Στη διατριβή εξετάζεται αυτή η σχέση σε επίπεδο μέλους. Τα αποτελέσματα υποδεικνύουν ότι η ύπαρξη αλλοδαπών μελών στο Δ.Σ. όντως σχετίζεται με την κατανομή του χαρτοφυλακίου, τόσο εντός της χώρας-έδρας της τράπεζας, όσο και στη ώρα καταγωγής του μέλους.

2. Χρησιμοποιεί τα προαναφερθέντα στοιχεία, ώστε να εξετάσει δείγμα που περιλαμβάνει και μη εισηγμένες ευρωπαϊκές τράπεζες. Συνήθως, η πληροφόρηση σχετικά με στοιχεία εταιρικής διακυβέρνησης σε μη εισηγμένες ευρωπαϊκές τράπεζες είναι περιορισμένη, με αποτέλεσμα αυτές να μην συμπεριλαμβάνονται σε δείγματα. Ωστόσο, τράπεζες όπως οι γερμανικές Landesbanken, οι ισπανικές cajas, οι ιταλικές και ολλανδικές cooperatives και οι γαλλικές εξειδικευμένες τράπεζες αποτελούν την καρδιά του ευρωπαϊκού τραπεζικού συστήματος. Τέτοιες τράπεζες έχουν εξεταστεί χωριστά ανά χώρα στη βιβλιογραφία, όχι όμως συνολικά και (κυρίως) όχι βάσει ελεγμένων και συγκρίσιμων χρηματοοικονομικών στοιχείων.

3. Εξετάζει την πορεία όλων των κατηγοριών των τραπεζικών δανείων (στεγαστικά, καταναλωτικά, επιχειρηματικά, κ.ά.) σε χρονικό διάστημα που να περιλαμβάνει τη χρηματοπιστωτική κρίση, προκειμένου να διερευνήσει τη σχέση της εταιρικής διακυβέρνησης των τραπεζών με τα ανοίγματά τους σε διάφορες μορφές δανειοδοτήσεων. Η συνεισφορά της διατριβής εδώ είναι ότι εξετάζει όχι μία αλλά όλες τις κατηγορίες δανεισμού. Ο λόγος είναι ότι όλες οι κατηγορίες δανείων καταλήγουν στην «πραγματική» οικονομία μέσω των αγορών ή επενδύσεων που πραγματοποιούν ιδιώτες και επιχειρήσεις.

3. Ανασκόπηση Βιβλιογραφίας

Οι δύο βασικοί ρόλοι του Δ.Σ. είναι ο εποπτικός και ο συμβουλευτικός. Το Δ.Σ. οφείλει την ύπαρξή του στην ασύμμετρη πληροφόρηση, απότοκο της οποίας είναι η υπόθεση του εντολέα-αντιπροσώπου (principal–agent). Σύμφωνα με την υπόθεση αυτή, πιθανή σύγκρουση συμφερόντων οφείλεται είτε στις διαφορετικές επιθυμίες για

το ύψος των αναλαμβανόμενων κινδύνων είτε στη δυσκολία του εντολέα να επιβεβαιώσει ότι ο αντιπρόσωπος έχει ενεργήσει προς το συμφέρον του ή έχει κάνει την αντίθετη επιλογή (adverse selection, Eisenhardt, 1989). Οι Hermalin and Weisbach (2003) επισημαίνουν ότι στο πρόβλημα του εντολέα-αντιπροσώπου αφορά τόσο τη σχέση μεταξύ μετόχων και του μάνατζμεντ, όσο και μεταξύ μελών του Δ.Σ. και του μάνατζμεντ και μεταξύ μελών του Δ.Σ. και μετόχων. Το ζήτημα περιπλέκεται στην Ευρώπη, όπου τα μέλη του Δ.Σ. δεν ορίζονται μόνο από τους μετόχους, αλλά και από τους εργαζόμενους, την τοπική κοινωνία ή την πολιτική εξουσία. Ένα ακόμα βασικό ζήτημα είναι ότι η εταιρική διακυβέρνηση είναι εξ ορισμού ενδογενής: επηρεάζεται και επηρεάζει το εσωτερικό περιβάλλον της τράπεζας, αλλά εξαρτάται και από το εξωτερικό περιβάλλον (π.χ. νομοθεσία, κανονισμοί, αυστηρότητα εποπτείας κλπ.).

Κατά τη βιβλιογραφική επισκόπηση παρουσιάζονται όσο το δυνατόν περισσότερα συστατικά της εταιρικής διακυβέρνησης, ωστόσο το βάρος δίνεται σε αυτά που χρησιμοποιούνται στα επιμέρους κεφάλαια. Όσον αφορά τη συμμετοχή αλλοδαπών μελών στο Δ.Σ., η σχετική βιβλιογραφία έχει δείξει ότι οι αλλοδαποί μπορούν να παρέχουν μια διαφορετική προσέγγιση λόγω γενετικής διαφορετικότητας, (Delis et al., 2017), προϋπηρεσίας σε άλλες αγορές (Carpenter et al., 2001, European Commission, 2012) και καλύτερης γνώσης ων αγορών στην αλλοδαπή (Masulis et al., 2012). Ωστόσο, έχει βρεθεί ότι ένα αυξημένο ποσοστό αλλοδαπών σε ένα Δ.Σ. συνδέεται με μειωμένη απόδοση (Garcia-Meca et al., 2015), λιγότερη συμμετοχή στις συνεδριάσεις των Δ.Σ. (Masulis et al., 2012) και δυσκολότερη επικοινωνία λόγω διαφορετικής γλώσσας και κουλτούρας.

Επίσης, εξετάζεται η βιβλιογραφία σχετικά με την τάση φυσικών και νομικών προσώπων να επενδύουν ένα δυσανάλογα μεγάλο ποσοστό του χαρτοφυλακίου τους στη χώρα καταγωγής ή έδρας τους (home bias). Με μία τέτοια επιλογή αφήνουν ανεκμετάλλευτη τη δυνατότητα διαφοροποίησης του χαρτοφυλακίου τους. Η βιβλιογραφία έχει προτείνει μία σειρά από λόγους επιχειρώντας να εξηγήσει το φαινόμενο: (α) τα οφέλη της διαφοροποίησης δεν είναι τελικά τόσο αξιόλογα, (β) τα έξοδα συναλλαγών σε αγορές του εξωτερικού είναι αυξημένα, (γ) το επίπεδο πληροφόρησης για τις αγορές του εξωτερικού δεν εκλαμβάνεται ως επαρκές, (δ) ο συναλλαγματικός κίνδυνος, (ε) συμπεριφορικές ερμηνείες (π.χ. λόγω κουλτούρας, οικειότητας, αυξημένης αυτοπεποίθησης, πατριωτισμού), (στ) η αδυναμία κάλυψης

από εξειδικευμένους κινδύνους σε μη εμπορεύσιμα στοιχεία ενεργητικού και (ζ) θεσμικές διαφοροποιήσεις μεταξύ κρατών.

Τέλος, γίνεται περιληπτική αναφορά στην ανατροφοδότηση και μεγέθυνση της εκάστοτε μεταβολής της οικονομικής δραστηριότητας μέσω του τραπεζικού συστήματος. Αυτή πραγματοποιείται μέσω της διαδικασίας που ονομάζεται χρηματοοικονομικός επιταχυντής (financial accelerator). Ειδικά στη διάρκεια μίας κρίσης, τράπεζες που αντιμετωπίζουν οικονομικά προβλήματα δεν μπορούν να δώσουν δάνεια ακόμα και σε αξιόχρεους πελάτες τους, γεγονός που επηρεάζει ιδιαίτερα την πελατεία που εξαρτάται σχετικά περισσότερο από τον τραπεζικό δανεισμό.

4. Ο ρόλος των αλλοδαπών μελών για επιτυχείς δανειοδοτήσεις στο εξωτερικό

Στο δεύτερο κεφάλαιο συνδυάζονται δύο βάσεις δεδομένων. Η πρώτη προέρχεται από τις προσομοιώσεις ακραίων καταστάσεων (stress-tests) σε πανευρωπαϊκό επίπεδο που πραγματοποίησε η Ευρωπαϊκή Τραπεζική Αρχή (European Banking Authority-EBA) το 2014, το 2016 και το 2018 για τις συστημικά σημαντικές τράπεζες της Ευρώπης. Αυτή η βάση δεδομένων προσφέρει λεπτομερή πληροφόρηση για την κατανομή του χαρτοφυλακίου δανείων των τραπεζών στις εννιά βασικότερες χώρες στις οποίες αυτές έχουν παρουσία, με τα αντίστοιχα ποσοστά επισφαλειών. Η δεύτερη βάση δεδομένων αφορά στοιχεία για την εταιρική διακυβέρνηση των τραπεζών που συμμετείχαν στα προαναφερθέντα στρες-τεστ. Για τη συλλογή των στοιχείων χρησιμοποιήθηκαν παράλληλα διαφορετικές βάσεις δεδομένων, ενώ ελλιπή στοιχεία συμπληρώθηκαν με προσωπική έρευνα σε δημοσιευμένα πληροφοριακά έντυπα των τραπεζών και διαδικτυακών χώρων αυτών.

Στο κεφάλαιο αυτό εξετάζεται το κατά πόσο η συμμετοχή ενός αλλοδαπού μέλους στο Δ.Σ. της τράπεζας βοηθάει ώστε η παρουσία της τράπεζας στη χώρα καταγωγής του να είναι επιτυχημένη. Η επιτυχία κρίνεται με βάση τη σύγκριση:

(α) του ποσοστού επισφαλειών της τράπεζας με έδρα στη χώρα Χ σε κάθε αλλοδαπή χώρα ξεχωριστά στην οποία αυτή έχει δώσει δάνεια προς επιχειρήσεις και ιδιώτες, με το μέσο επίπεδο επισφαλειών της κάθε αλλοδαπής χώρας. Το αποτέλεσμα της σύγκρισης εξετάζεται αν επηρεάζεται από την παρουσία αλλοδαπού μέλους στο Δ.Σ. της τράπεζας, με καταγωγή από τη συγκεκριμένη χώρα.

(β) του μέσου ποσοστού επισφαλειών των τραπεζών με έδρα στη χώρα Χ και μέλη Δ..Σ. με καταγωγή από τη χώρα υποδοχής Ψ με το μέσο ποσοστό επισφαλειών των τραπεζών με έδρα στη χώρα Χ στη χώρα υποδοχής Ψ, χωρίς όμως μέλη Δ..Σ. με καταγωγή από τη χώρα υποδοχής Ψ. Αυτός ο δεύτερος τρόπος ελέγχου τα επιτυχίας επιλέγεται καθώς το αποτέλεσμα μπορεί να εξαρτάται από στοιχεία των χωρών ξεχωριστά (παρόλο που στις μεταβλητές μας συμπεριλαμβάνονται και μεταβλητές ελέγχου για την κουλτούρα και την οικειότητα (familiarity)).

Αναλυτικά, οι υποθέσεις που εξετάζουμε είναι οι ακόλουθες:

H1: Ένα μεγαλύτερο ποσοστό αλλοδαπών μελών Δ.Σ. συσχετίζεται θετικά με ένα μεγαλύτερο ποσοστό δανείων της τράπεζας στο εξωτερικό.

H2: Ένα μεγαλύτερο ποσοστό αλλοδαπών μελών Δ.Σ. συσχετίζεται αρνητικά με το συνολικό ποσοστό επισφαλειών της τράπεζας.

H3: Ένα μεγαλύτερο ποσοστό αλλοδαπών μελών Δ.Σ. με καταγωγή από συγκεκριμένη χώρα συσχετίζεται θετικά με αυξημένο ποσοστό του χαρτοφυλακίου δανείων της τράπεζας στη συγκεκριμένη χώρα.

H4: Ένα μεγαλύτερο ποσοστό αλλοδαπών μελών Δ.Σ. με καταγωγή από συγκεκριμένη χώρα συσχετίζεται αρνητικά με το ποσοστό επισφαλειών της τράπεζας στη συγκεκριμένη χώρα, σε σύγκριση με το μέσο επίπεδο επισφαλειών της συγκεκριμένης χώρας.

H5: Ένα μεγαλύτερο μέσο ποσοστό των αλλοδαπών μελών Δ.Σ., με καταγωγή από συγκεκριμένη αλλοδαπή χώρα, των τραπεζών του δείγματος συσχετίζεται αρνητικά με το μέσο ποσοστό επισφαλειών στη συγκεκριμένη αλλοδαπή χώρα, συγκρινόμενο με το μέσο ποσοστό επισφαλειών στη συγκεκριμένη αλλοδαπή χώρα των τραπεζών του δείγματος, χωρίς όμως μέλος Δ.Σ. από τη συγκεκριμένη χώρα.

Για τον έλεγχο των υποθέσεων δημιουργούνται 2 μοντέλα. Η διαφορά του δεύτερου μοντέλου είναι ότι εξετάζει μεταβλητές που δεν αφορούν την χώρα-έδρα της κάθε τράπεζας αποκλειστικά, αλλά σε συνδυασμό με την κάθε χώρα στην οποία η τράπεζα έχει δώσει δάνεια. Συνεπώς, οι μεταβλητές στο δεύτερο μοντέλο είναι περισσότερες. Στα οικονομετρικά μας υποδείγματα λαμβάνεται υπ' όψη η επίδραση του χρόνου (time effects), ενώ ελέγχεται και η ενδογένεια αυτών.

Οι βασικές ανεξάρτητες μεταβλητές είναι:

- Το ποσοστό όλων των αλλοδαπών μελών (ανεξαρτήτως χώρας καταγωγής) εντός του Δ.Σ. κάθε τράπεζας, για τις υποθέσεις H1 και H2. Αντικαθιστούμε το ποσοστό αλλοδαπών με την «απόσταση κουλτούρας» εντός του Δ.Σ., ως επιπλέον έλεγχο.

- Το ποσοστό αλλοδαπών μελών με συγκεκριμένη χώρα καταγωγής εντός του Δ.Σ. κάθε τράπεζας, για τις υποθέσεις H3 και H4.

- Το μέσο ποσοστό αλλοδαπών μελών με συγκεκριμένη χώρα καταγωγής μεταξύ των τραπεζών του δείγματος, για την υπόθεση H5.

Οι <u>εξαρτημένες μεταβλητές</u> είναι οι εξής:

- Η αναλογία των δανείων της κάθε τράπεζας στο εξωτερικό στην υπόθεση H1.

- Η αναλογία των επισφαλειών της κάθε τράπεζας στο σύνολο του δανειακού χαρτοφυλακίου της στην υπόθεση H2.

- Η αναλογία των δανείων της κάθε τράπεζας στο εξωτερικό σε κάθε χώρα ξεχωριστά στην υπόθεση H3.

- Το ποσοστό επιτυχίας της κάθε τράπεζας στο εξωτερικό σε κάθε χώρα ξεχωριστά στην υπόθεση H4. Ως ποσοστό επιτυχίας ορίζουμε την ποσοστιαία διαφορά του ποσοστού επισφαλειών της τράπεζας σε κάθε χώρα ξεχωριστά έναντι του μέσου επιπέδου επισφαλειών σε αυτή τη χώρα.

- Το ποσοστό επιτυχίας των τραπεζών με αλλοδαπά μέλη Δ.Σ. με καταγωγή από συγκεκριμένη αλλοδαπή χώρα έναντι του μέσου ποσοστού επισφαλειών στη συγκεκριμένη αλλοδαπή χώρα, χωρίς όμως μέλος Δ.Σ. από τη συγκεκριμένη χώρα.

Τέλος, συμπεριλαμβάνουμε και μία σειρά από <u>μεταβλητές ελέγχου</u> (control variables) που έχουν χρησιμοποιηθεί στη βιβλιογραφία. Αναλυτικότερα, οι μεταβλητές μας χωρίζονται στις κάτωθι βασικές κατηγορίες:

- Μεταβλητές που αφορούν τη χρηματοοικονομική θέση της τράπεζας.

- Μεταβλητές που αφορούν το μακροοικονομικό περιβάλλον.

- Μεταβλητές που αφορούν την εταιρική διακυβέρνηση της κάθε τράπεζας.

- Μεταβλητές που αφορούν τη μακροπροληπτική εποπτεία.

- Μεταβλητές που αφορούν την οικειότητα.

- Μεταβλητές που αφορούν τη θεσμική οργάνωση των χωρών.

Με βάση τα αποτελέσματα, βρέθηκε ότι, κατά μέσο όρο, οι τράπεζες με υψηλότερο ποσοστό μελών Δ.Σ. από μία συγκεκριμένη χώρα τείνουν να δανείζουν ένα σχετικά αυξημένο ποσοστό του χαρτοφυλακίου δανείων τους σε αυτή τη χώρα, χωρίς ωστόσο να μπορούν να επιτύχουν χαμηλότερα μέσα επίπεδα επισφαλειών εκεί. Επιπλέον, η παρουσία αλλοδαπών μελών στο Δ.Σ. τείνει να συνδυάζεται με αυξημένο ποσοστό δανείων στο εξωτερικό, αλλά δε συσχετίζεται με τα ποσοστά επισφαλειών στο συνολικό χαρτοφυλάκιο δανείων της τράπεζας. Ένα σχετικά μεγαλύτερο ποσοστό γυναικών και μία μεγαλύτερη μέση ηλικία των μελών του Δ.Σ. συσχετίζονται θετικά με την επιτυχή παρουσία της τράπεζας στο εξωτερικό. Τέλος, παράγοντες στις άλλες χώρες όπως θεσμοί, μακροοικονομικά στοιχεία και ζητήματα οικειότητας δείχνουν να επηρεάζουν το επίπεδο επισφαλειών της τράπεζας εκεί.

5. Η επίδραση των αλλοδαπών μελών του Δ.Σ. στη διασπορά του χαρτοφυλακίου ομολόγων των τραπεζών

Στο τρίτο κεφάλαιο χρησιμοποιούμε ξανά τη βάση δεδομένων σχετικά με την εταιρική διακυβέρνηση των τραπεζών που συμμετείχαν στα στρες-τεστ της EBA το 2014, το 2016 και το 2018. Αυτή τη συνδυάζουμε με λεπτομερή στοιχεία για την κατανομή σε 45 χώρες και τη διάρκεια (maturity) του χαρτοφυλακίου ομολόγων των τραπεζών που συμμετείχαν στα προαναφερθέντα στρες-τεστ.

Ο βασικότερος σκοπός του παρόντος κεφαλαίου είναι να εντοπισθεί αν η επιλογή των τραπεζών να επενδύσουν ένα δυσανάλογα μεγάλο ποσοστό του χαρτοφυλακίου ομολόγων τους σε ορισμένες χώρες (foreign bias) συμπίπτει με τη χώρα καταγωγής μελών του Δ.Σ.. Παράλληλα, εξετάζεται αν υπάρχει συσχέτιση του ποσοστού αλλοδαπών μελών με την κατανομή του χαρτοφυλακίου ομολόγων στη χώρα έδρας της τράπεζας και στην Ευρωζώνη, καθώς και με το επίπεδο κινδύνου του.

Αναλυτικά, οι υποθέσεις που εξετάζουμε είναι οι ακόλουθες:

H1: Ένα μεγαλύτερο ποσοστό αλλοδαπών μελών Δ.Σ. συσχετίζεται με ένα μικρότερο ποσοστό ομολόγων της χώρας έδρας της τράπεζας.

H2: Ένα μεγαλύτερο ποσοστό αλλοδαπών μελών Δ.Σ. συσχετίζεται θετικά με τη μέση διάρκεια (maturity) του χαρτοφυλακίου ομολόγων της τράπεζας.

H3: Ένα μεγαλύτερο ποσοστό αλλοδαπών μελών Δ.Σ. συσχετίζεται αρνητικά με τη μέση πιστοληπτική αξιολόγηση του χαρτοφυλακίου ομολόγων της τράπεζας.

H4: Ένα μεγαλύτερο ποσοστό μελών Δ.Σ. που δεν κατάγονται από χώρες της Ευρωζώνης συσχετίζεται με ένα μικρότερο ποσοστό ομολόγων της Ευρωζώνης στο χαρτοφυλάκιο της τράπεζας.

H5: Ένα μεγαλύτερο ποσοστό αλλοδαπών μελών Δ.Σ. με καταγωγή από συγκεκριμένη χώρα συσχετίζεται θετικά με αυξημένο ποσοστό του χαρτοφυλακίου ομολόγων της τράπεζας στη συγκεκριμένη χώρα.

Για τον έλεγχο των υποθέσεων δημιουργούνται 2 μοντέλα. Το πρώτο μοντέλο χρησιμοποιείται για τις υποθέσεις H1, H2, H3 και H4, ενώ το δεύτερο για την H5. Το δεύτερο μοντέλο είναι απαραίτητο διότι εξετάζει μεταβλητές που αφορούν την κάθε χώρα της οποίας η τράπεζα κατέχει ομόλογα.

Οι <u>βασικές ανεξάρτητες μεταβλητές</u> είναι:

- Το ποσοστό όλων των αλλοδαπών μελών, ανεξαρτήτως της χώρας καταγωγής τους, προς το σύνολο των μελών Δ.Σ. κάθε τράπεζας, για τις υποθέσεις H1, H2 και H3. Το ποσοστό αλλοδαπών αντικαθίσταται με την «απόσταση κουλτούρας» εντός του Δ.Σ., ως επιπλέον έλεγχο, σε αυτές τις υποθέσεις.

- Το ποσοστό αλλοδαπών μελών με καταγωγή από χώρα εκτός Ευρωζώνης προς το σύνολο των μελών Δ.Σ. κάθε τράπεζας, για την υπόθεση H4.

- Το ποσοστό αλλοδαπών μελών με συγκεκριμένη χώρα καταγωγής προς το σύνολο των μελών Δ.Σ. κάθε τράπεζας, για την υπόθεση H5.

<u>Εξαρτημένες μεταβλητές</u>:

Πριν τον υπολογισμό των εξαρτημένων μεταβλητών, υπολογίζεται η αναλογία των συνολικών ομολόγων της κάθε χώρας προς τα συνολικά ομόλογα σε παγκόσμιο επίπεδο. Εν συνεχεία, μπορούν να υπολογισθούν οι εξαρτημένες μεταβλητές ως εξής:

- Η αναλογία των ομολόγων της κάθε τράπεζας από τη χώρα έδρας της προς το σύνολο του χαρτοφυλακίου ομολόγων της μείον την αναλογία των συνολικών

ομολόγων της κάθε χώρας προς τα συνολικά ομόλογα σε παγκόσμιο επίπεδο, στην Η1.

- Η μέση διάρκεια των ομολόγων, στην Η2.

- Ο μέσος κίνδυνος αθέτησης πληρωμής των ομολόγων, στην Η3. Για την εκτίμηση του μέσου κινδύνου αθέτησης πληρωμών της κάθε χώρας χρησιμοποιούμε τη μακροπρόθεσμη πιστοληπτική της αξιολόγησή της από τον οίκο Fitch, σε συνδυασμό με πραγματικά ιστορικά στοιχεία αθέτησης πληρωμών κρατικών ομολόγων ανά κατηγορία αξιολόγησης.

- Η αναλογία των ομολόγων εκδόσεως χωρών-μελών Ευρωζώνης της κάθε τράπεζας προς το σύνολο του χαρτοφυλακίου ομολόγων της μείον την αναλογία των συνολικών ομολόγων της Ευρωζώνης προς τα συνολικά ομόλογα σε παγκόσμιο επίπεδο, στην Η4.

- Η αναλογία των ομολόγων της κάθε τράπεζας από την κάθε χώρα προς το σύνολο του χαρτοφυλακίου ομολόγων της μείον την αναλογία των συνολικών ομολόγων της κάθε χώρας προς τα συνολικά ομόλογα σε παγκόσμιο επίπεδο, στην Η5.

Κρίνεται επίσης απαραίτητο να συμπεριληφθούν μεταβλητές ελέγχου που έχουν χρησιμοποιηθεί στη βιβλιογραφία. Αυτές αφορούν τη χρηματοοικονομική θέση της τράπεζας, τις μακροοικονομικές συνθήκες, την εταιρική διακυβέρνηση της κάθε τράπεζας, τη μακροπροληπτική εποπτεία, την οικειότητα και τη θεσμική οργάνωση των χωρών.

Τα αποτελέσματα δείχνουν ότι αυξημένη παρουσία αλλοδαπών μελών Δ.Σ. σχετίζεται με χαμηλότερο ποσοστό του χαρτοφυλακίου της επενδεδυμένο σε ομόλογα εκδόσεως της χώρας-έδρας της τράπεζας. Το ίδιο ισχύει και για τη σχέση μη Ευρωπαίων μελών και την επένδυση σε ομόλογα χωρών της Ευρωζώνης. Επίσης, βρέθηκε ότι, κατά μέσο όρο, οι τράπεζες με υψηλότερο ποσοστό μελών Δ.Σ. από μία συγκεκριμένη χώρα τείνουν να επενδύουν αυξημένο ποσοστό του χαρτοφυλακίου τους σε ομόλογα αυτής της χώρας. Δεν εντοπίστηκε συσχέτιση μεταξύ του ποσοστού αλλοδαπών και το μέσο κίνδυνο ή τη μέση διάρκεια του χαρτοφυλακίου ομολόγων. Τέλος, βρέθηκε ότι η τάση επένδυσης σε ομόλογα εκδόσεως της χώρας-έδρας της τράπεζας έχει θετική συσχέτιση με το αν η τράπεζα είναι κρατικά ελεγχόμενη, ιδίως στην περίπτωση του χαρτοφυλακίου διακράτησης μέχρι τη λήξη.

6. Η επίδραση της εταιρικής διακυβέρνησης στην εξέλιξη του δανειακού χαρτοφυλακίου εμπορικών τραπεζών: Εξέταση της περιόδου της κρίσης

Η εταιρική διακυβέρνηση των τραπεζών θεωρήθηκε ως βασικός παράγοντας που οδήγησε στη χρηματοπιστωτική κρίση της περιόδου 2007-2009. Στο τέταρτο κεφάλαιο ελέγχεται το βάσιμο της παραπάνω άποψης, εξετάζοντας κατά πόσο συστατικά της εταιρικής διακυβέρνησης επηρεάζουν τις ετήσιες μεταβολές όλων των επιμέρους κατηγοριών δανείων των τραπεζών. Το δείγμα εδώ αποτελείται από το σύνολο των ελληνικών τραπεζών (εξαιρουμένων των συνεταιριστικών) και καλύπτει την περίοδο 2005-2011. Γίνεται επίσης έλεγχος ειδικά για τα χρόνια της χρηματοπιστωτικής κρίσης.

Οι υποθέσεις που εξετάζονται είναι οι εξής:

Η1. Η διάρθρωση της εταιρικής διακυβέρνησης επηρεάζει τη μεταβολή του δανεισμού.

Η2. Η διάρθρωση της εταιρικής διακυβέρνησης επηρεάζει τη μεταβολή του δανεισμού σε περίοδο κρίσης.

Για τον έλεγχο των υποθέσεων δημιουργείται ένα μοντέλο. Όλες οι ανεξάρτητες μεταβλητές του μοντέλου έχουν χρονική υστέρηση, προκειμένου να αντιμετωπιστεί η ενδογένεια.

Οι εξαρτημένες μεταβλητές είναι η ετήσια μεταβολή του συνολικού υπολοίπου δανείων, καθώς και των επιμέρους κατηγοριών δανείων, της κάθε τράπεζας. Οι κατηγορίες δανείων είναι τα τα επιχειρηματικά, τα καταναλωτικά (συμπεριλαμβανμένων των πιστωτικών καρτών) και τα στεγαστικά δάνεια.

Οι βασικές ανεξάρτητες μεταβλητές είναι αυτές που αφορούν συστατικά της εταιρικής διακυβέρνησης. Οι μεταβλητές ελέγχου αφορούν τη χρηματοοικονομική θέση της τράπεζας.

Βρέθηκε ότι η ταυτόχρονη παρουσία του επικεφαλής (CEO) της τράπεζας και ως προέδρου του Δ.Σ. σχετίζεται αρνητικά με το ρυθμό αύξησης των περισσότερων κατηγοριών δανείων, είτε στην πλήρη περίοδο 2005-2011, είτε για την περίοδο της κρίσης. Το ποσοστό των ανεξάρτητων και των μη εκτελεσιτκών μελών του Δ.Σ. επηρεάζει τα μεγέθη μόνο σε συγκεκριμένες κατηγορίες δανεισμού. Παράλληλα, το

ποσοστό των ανεξάρτητων μελών επηρεάζει διαφορετικά την εξέλιξη του δανειακού χαρτοφυλακίου, ανάλογα με το αν πρόκειται για μεγαλύτερες ή μικρότερες τράπεζες, ενώ έχει επίδραση και στο ποσοστό των διαγραφέντων δανείων. Γενικά, η επίδραση της εταιρικής διακυβέρνησης στην πορεία του δανεισμού είναι μάλλον περιορισμένη, συγκριτικά με τα οικονομικά στοιχεία των τραπεζών. Ειδικά το επίπεδο ρευστότητας της τράπεζας σχετίζεται αρνητικά με την αύξηση του δανεισμού κατά την περίοδο ης κρίσης.

Chapter 1: Introduction

1.1 Overview

Corporate governance is of great importance in all industries and may have adverse effects on a firm's health if not implemented appropriately (Fitch Ratings, 2007). Therefore, it is no surprise that this issue has been studied extensively.

A definition of corporate governance is best given in OECD (2004). According to this document, corporate governance is defined as "a set of relationships between a company's management, its board, its shareholders, and other stakeholders. Corporate governance also provides the structure through which the objectives of the company are set, and the means of attaining those objectives and monitoring performance are determined. Good corporate governance should provide proper incentives for the board and management to pursue objectives that are in the interests of the company and its shareholders and should facilitate effective monitoring. The presence of an effective corporate governance system, within an individual company or group and across an economy as a whole, helps to provide a degree of confidence that is necessary for the proper functioning of a market economy."

Until the early 2000s, research on corporate governance had focused almost entirely on non-financial firms, while financial firms were typically excluded from data samples. This changed after 2000 and especially in the aftermath of the sub-prime crisis. There are good reasons why the banking industry may be quite different from other industries: Banks are expected both to be value-maximizers and, at the same time, to fulfill their crucial role towards their stakeholders (Mehran and Mollineaux, 2012). Issues such as opacity of their assets and deposit insurance in accordance with increased levels of regulation (Levine, 2004) further differentiate banks from non-financial firms. Finally, their role as liquidity and means of payments providers to the economy makes (at least some of) them "systemically important".

The importance of corporate governance in banks had already drawn the attention of supervisory authorities (e.g. Office of the Comptroller of the Currency (OCC), 1988, and Basel Committee on Banking Supervision (BCBS), 2006) even before the sub-prime crisis. Following the sub-prime crisis, a number of new consultative documents were issued by several committees (e.g. the Walker Review in 2009 in the UK; BCBS

in 2010, etc.). Some of these documents received criticism concerning part of their proposals based on research in the non-financial sector due to the lack of conclusive evidence in the area of the banking sector (Adams and Mehran, 2012).

In my thesis, the focus is on board diversity, while controlling for other governance indicators. The theoretical underpinnings behind diversity stem mainly from two theories, namely resource dependency theory (Pfeffer and Salancik, 1978) and agency theory (Jensen and Meckling, 1976, and Fama, 1980). The former, along with stewardship theory (Donaldson and Davis, 1991), focus on the role of board members as intermediaries between the company and its environment. Agency theory focuses on the alignment of interests between the company's management and its shareholders and therefore focuses more on financial performance (e.g. Yermack, 1996) and on the role of board members as an oversight body of strategic decisions[1] (Stiles and Taylor, 2001). Contrary to this view, managerial hegemony theory views board members merely as persons with limited influence in strategic decision making (e.g. Mace, 1971; Vance, 1983).

In my thesis, all theories may apply, since this is essentially a comparative study across banks in the European Union and Greece. However, implicitly, the focus is on different theories depending on the subject examined. For example, the focus is on the board's advisory role and hence to resource dependence theory when I examine whether the relatively better knowledge of a national market by a foreign board member will lead to better results in the form of lower NPL ratios. By contrast, the focus is on agency theory when the bank's bond portfolio and the bank's procyclical behavior are examined.

The economic rationale behind diversity in terms of national origin is a combination of demographic reality with the need to innovate (European Commission, 2012): Since growing immigration rates along with ageing population changes the EU's demographics, companies will have to adjust their mix of workforce and management. This adjustment is expected to bring new ways of thinking (i.e. innovation), which will in turn ensure firms' viability and profitability (Ezat and El-Masry, 2008; Samaha et al., 2012). I believe that demographics along with economic

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[1] Economic literature usually examined the monitoring and the advisory roles of the boards separately. Adams and Ferreira (2007) developed a model that incorporated both of these functions.

integration and the gradual expansion of large European banks may increase the need to internationalize the board room. In my thesis, nationality plays an even greater role, since the focus (in two out of the three chapters) is on the bank's portfolio in its foreign board member's country.

One should keep in mind some important issues when studying corporate governance. To begin with, there is no definition of "good" corporate governance. Theoretically, good governance structure is considered the one that selects the most able managers and makes them accountable to investors (Tirole, 1999). The author acknowledges, though, that examining only shareholder value may be misleading. Jordan (2003) considers responsibility, authority, and accountability to be fundamental elements of good corporate governance.

However, one cannot evaluate a firm's corporate governance only by looking through a number of factors affecting its structure. Examining only a subset of factors affecting a firm's governance structure may be misleading (Mehran, 2003; Bebchuk and Weisbach, 2010), because each organization's corporate governance structure is the result of interaction of many factors – country-, sector- and firm-specific factors jointly shape it. In fact, almost all variables are associated with one another so that one can find similar firms to adopt different governance structures (Hermalin, 1994). Therefore, when examining a firm's corporate governance structure, most of the variables are endogenous. Moreover, one governance choice may be a substitute for another, meaning that the effect of one corporate governance variable could be the result of another variable's effect (de Haan and Vlahu, 2016). Also, results "can be interpreted as either equilibrium or out-of-equilibrium phenomena" (Hermalin and Weisbach, 2003). Finally, relationships may not always be linear (e.g. Jiraporn et al., 2009).

1.2 Research objectives

The present thesis aims to examine the role of foreigners in bank portfolio allocation. Yet, it is not confined to a general review of the role of foreigners: It examines whether foreign board members (a) influence portfolio allocation in favour of their

country of origin[2]; and (b) whether this portfolio allocation is successful. It also examines their role in the bank's procyclical behaviour.

While the focus of this thesis is on foreigners, other aspects of corporate governance and board diversity are not neglected: Age and gender data are gathered and analysed, along with other corporate governance characteristics such as board size, the ratio of supervisory directors, and ownership status. Focusing on the directors' nationality also allows me to examine cultural distances within the board.

Thus, the research questions I address in this thesis are the following:

1. Is there an association between foreign board members' ratio and the share of the bank's total loans abroad?
2. Is there an association between foreign board members' ratio and the bank's corporate and retail loans' default rate?
3. Is there an association between foreign board members' ratio from a particular country and the share of the bank's corporate and retail loans in this country?
4. Does foreign board members' ratio from a particular country lead to a relatively lower corporate and retail loans' default rate in this country?
5. Do foreign board members affect home bias or regional home bias in banks' sovereign bond portfolios?
6. Is there an association between foreign board members' ratio and the bank's sovereign portfolio risk (in terms of maturity and credit rating)?
7. Do foreign board members affect sovereign bond investments in their country of origin?
8. Does board composition affect a bank's procyclical behaviour? Are specific loan categories affected more than others?

1.3 Contribution of the study

The present thesis adds to the current research concerning corporate governance in the banking industry in four ways:

The first, and perhaps the most important contribution of this study is that I create a novel database on board members of European banks. More precisely, my sample

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[2] In other words, I examine home bias at the level of the individual board member and not the bank level.

consists of all banks included in the European Banking Authority's stress tests conducted in 2014, 2016 and 2018. Many of the banks in my sample are not listed and therefore data on these banks' board members are hard to find. Therefore, relevant data had to be hand-collected. This collection was not an easy task: Up to 2013, many of these banks' financial reports were in local language. Data on these banks' board members (especially concerning their nationality, age, education and professional experience) were even more difficult to find. This meant that I first had to turn to a variety of databases and then make a detailed research on the internet. The starting point was always each bank's recent and older financial statements and press releases; I proceeded with articles in the press and finally turned to various other sources, (again, in local language, making the use of dictionaries necessary). What made my effort even more difficult is that many of my sample banks are state-controlled and their board composition may include local politicians and other stakeholders. As a consequence, their curriculum vitaes (when these were located) contained information that did not always coincide with other sources.

Data on banks' corporate governance variables were ideally combined with detailed data on banks' loan and bond portfolios, derived from the EBA stress tests. Data also contained information about loan and bond distribution across a number of foreign countries. The main advantages of this dataset were that it was constructed on a common methodology and included data on banks' capital and leverage ratios. These characteristics ensured comparability. Moreover, in contrast to most studies that use several indices to proxy for capital adequacy, in this thesis I use the "real one".

Second, I use the aforementioned data to examine the relationship between board composition and the bank's international portfolio. While there are other published papers that deal with board members' nationality (e.g. Garcia-Meca et al., 2015), in Chapter 3 I examine whether the presence of foreign directors on bank boards promotes the bank's successful presence in the director's country of origin. This insight may justify the inclusion of foreign board members originating from countries in which the bank has allocated a considerable part of its portfolio.

Third, I use the aforementioned database to examine home bias and foreign home bias at the individual bank level. Again, I do not constrain home bias to the incorporation of the banks: I also examine home bias according to board members' nationality. The data also allows to examine each bank's bond portfolio risk. Risk is derived from the

credit rating of the issuing country of each bond, as well as from the average bond portfolio maturity.

Fourth, I attempt to establish patterns between loan portfolio composition and corporate governance characteristics for the periods before and during the credit crunch, respectively. Faleye and Krishnan (2017) examine the nexus between corporate governance and lending to corporates for 80 US banks over 1994-2008. The relevant chapter of this thesis differs from that of Faleye and Krishnan (2017) in three aspects. First, I examine the evolution of all main loan categories, because the credit crunch affects both corporations and households. Besides, business loans may be characterized as consumer loans or the opposite, in the case of small businesses. Second, while Faleye and Krishnan (2017) examine risk-taking in lending decisions according to board effectiveness in the aftermath of a financial shock (the Russian default), I examine aggregate loan stock and its individual categories. Finally, my sample consists solely of Greek banks: the Greek banking system was considered relatively stable; it was the financial difficulties of the Greek state that created stringency in the banking system.

1.4 Structure of the thesis

In Chapter 2, I provide a relatively brief literature review on corporate governance, with emphasis on the banking industry. I also refer to the most influential theoretical underpinnings behind diversity.

In Chapter 3, I examine the effect of foreign board members on international loan portfolio allocation. The chapter presents the sample, the models and the variables used. This is followed by a presentation of the descriptive statistics and the models estimated. The chapter concludes with a discussion of empirical results and their implications.

Chapter 4 examines the effect of foreign board members on international bond portfolio allocation. After a presentation of the sample, the models and the variables used, I proceed with descriptive statistics and the estimated models and then discuss the empirical results and their implications.

Chapter 5 examines the relationship between board composition and the bank's procyclical behaviour. Again, I present the sample, the models, the variables used,

descriptive statistics and the estimated models. A discussion of empirical results and their implications follows.

Chapter 6 summarizes the main conclusions from the previous chapters. I also discuss research limitations and offer ideas for future research.

Finally, some parts of the chapters may, to some extent, be repeated in other chapters, or some parts could have been presented in a different way. Which place each part should take is in the eye of the beholder.

Chapter 2: Literature review

2.1 Introduction

This chapter reviews the literature concerning corporate governance, with an emphasis on the banking industry. This literature review also includes high-quality papers on non-financial firms, notwithstanding that results in non-financial firms may not apply to banking institutions. The sections following introduction analyse fundamental issues that separate corporate governance arrangements in banks from other industries. In Section 2.2, I discuss the subject of diversity and review the relevant literature. I place emphasis on the presence of foreign board members and determinants of banks' international expansion. In Section 2.3, I discuss home bias and its links with corporate governance characteristics and, in Section 2.4, I briefly present the literature concerning loan portfolio choices in the banking industry and their link to banks' corporate governance characteristics.

What is the role of directors?

The board of directors has two major tasks:

a. It monitors the management on behalf of shareholders or stakeholders (monitoring role).

b. It uses its expertise to advise the management (advisory role).

Up to the first years of this century, the literature focused predominantly on the board's monitoring role, by examining CEO turnover and compensation, as well as board independence and size (see Hermalin and Weisbach, 2003, for references).

However, directors may have experience, capabilities and networks that are too useful for the firm to ignore. Therefore, the literature has recently begun to put more emphasis on the directors' advisory role. For example, Li (2013) examines banks' connections in political and regulatory bodies to find that they increase the possibility to receive TARP funds; Masulis et al. (2012) examine the role of foreign board members; and Agrawal and Knoeber (2001) examine the role of political connections.

It should be pointed out that the dual board system applied in many countries in Europe separates these roles. However, these roles are usually performed synchronously. See Masulis et al. (2012) for references concerning this matter.

Deviations from the efficient market hypothesis

Boards owe their existence to one characteristic, inherent to capital markets, namely asymmetric information. According to the efficient market hypothesis, all participants in capital markets have access to the same amount and quality of information and can process it rationally. However, not all market participants have actually access to the same information: In most cases, managers know more about the bank's assets than its shareholders do. The principal-agent problem (Simon, 1959; Jensen and Meckling, 1976; Fama, 1980) arises because of asymmetric information and refers to the management's ability to choose usage of capital that is detrimental to shareholders' interests. The adverse selection problem (Eisenhardt, 1989), based on asymmetric information, refers to the inability of capital investors to verify some of the bank assets' key characteristics and to ensure that management has acted in their interests. However, as Hermalin and Weisbach (2003) state, "although such principal-agent modeling provides many insights, it is not particularly useful for explaining board-specific phenomena".

There are a few reasons for this observation, the most important of which is that many factors shape banks' corporate governance structure[3]. These factors include regulation, shareholder structure, supervisor's characteristics, etc. Moreover, the principal-agent regime is a three-way interaction scheme: The obvious is the one described, i.e. between shareholders and management. However, there is also a principal-agent problem between management and directors (especially independent directors) and between directors and shareholders. The latter arises because it is not certain that directors will necessarily act always in the best interests of shareholders[4].

The preceding analysis focuses on directors appointed by shareholders. However, not all directors are appointed by shareholders. Especially in Europe, the board of directors consists of directors who represent various stakeholders. In two of the three

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[3] As mentioned in the Introduction, corporate governance structure is endogenous.
[4] An example is the free-rider problem: the director is not interested in the board's duties and "leaves his job to the other directors".

chapters, the sample examined contains (amongst others) the most important banks in the "core" of Europe, i.e. France, Germany, Italy and Spain. For example, supervisory boards in Germany include employee representatives. Whether the latter actually play a role in the bank's strategic plans is debatable – however, these board members may play a role in cases where employees' interests are jeopardized.

Banks may also include local politicians and local businessmen. In Europe, as well as in the USA (Adams, 2010), large bank customers or people representing them may be appointed as directors. Such directors may well influence the bank's strategic focus into financing the local economy and/or specific firms. Moreover, politicians may be more sensitive towards the interests of depositors. For example, the majority of deposits in Spain before the financial crisis were in cajas, for which profit maximization was not the main objective (Granero and Reboredo, 2005). Therefore, the inclusion of directors with priorities different from profit maximization should be taken into consideration when examining a bank's corporate governance structure.

Deviations from the efficient market hypothesis can also explain banks' investment and portfolio choices, provisioning practices and dividend payout decisions (signaling), which vary with the business or the credit cycle (see also Athanasoglou et al., 2014). Such choices may have harmful systemic repercussion. The free-rider problem describes a disregard for financial stability issues by choosing a very risky strategy during economic expansion. The moral hazard hypothesis states that such choices are feasible since the state is expected to intervene in the event of financial distress, especially in the case of too-big-to-fail institutions. The disaster myopia hypothesis (Guttentag and Herring, 1986) points to the tendency of market participants to focus on short-term risks and underestimate "fat tail" risks. The institutional memory hypothesis (Berger and Udell, 2004) is linked to the disaster myopia hypothesis. It describes a pattern of changing credit standards during the credit cycle: as years pass since the last crisis, many credit officers that experienced it change positions, the bank "forgets" the problems its borrowers faced, credit standards are softened and therefore less creditworthy firms have easier access to bank lending. The cognitive dissonance hypothesis refers to ignoring or misinterpreting current information in order to justify past choices. Finally, the banks' management and directors tend to herd (Jain and Gupta, 1987, for US banks; Uchida and Nakagawa, 2007, for Japanese banks; Scharfstein and Stein, 1990, for theoretical

arguments), meaning that they tend to follow investment and portfolio choices made by other banks. Herding can lead to market destabilization due to an increase in market volatility. It is the outcome of the bank's management's wish to have comparable financial returns to the competition, the anticipation of support in the event of a crisis and the justification of wrong portfolio choices, as well as of the similar risk control systems (e.g. Value at Risk) used in the banking sector.

Corporate governance in banking: some theory

Corporate governance arrangements in banking could be characterized as contradictory by their nature: Financial institutions are expected at the same time to be value-maximizers for their shareholders and serve the public interest in terms of safety (because of their role as deposit takers and liquidity providers to the broader economy) (Mehran and Mollineaux, 2012). If I were to assume frictionless capital markets and absence of market failures, shareholders' interests would be aligned with those of the public, and banks would increase profits and value with improved intermediation quality. However, due to moral hazard and imperfect information, shareholders of financial institutions may choose a risk-return level suboptimal for society. Moral hazard may be the outcome of deposit insurance schemes and/or bailouts[5], since excess returns benefit shareholders, but society bears the losses. Imperfect information stems from the banks' opacity (Levine, 2004):

- Loan quality is not easily verifiable. This characteristic makes it possible to hide bad loans for long periods.

- Banks are in a better position than non-financial industries to swiftly change their portfolio.

- As a result, it is more difficult for shareholders and debt holders to monitor banks' risks. Market forces such as takeovers are also made more difficult, due to this fact. Moreover, any mergers and acquisitions must be approved by regulatory authorities (Mehran and Mollineaux, 2012). It is not surprising, therefore, that in

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[5] Another interesting aspect is too-big-to-fail (TBTF) institutions. Ratings agencies calculate different "standalone" and "support" ratings for financial institutions, where the latter rating includes government guarantees (Pfleiderer 2011); other studies have documented a statistically significant difference in the funding costs of too-big-to-fail banks and all other institutions (Baker and McArthur 2009).

their examination of over 150 studies concerning both European and North American banking institutions, De Young et al. (2009) conclude that hostile takeovers are not an effective governance discipline in this sector.

- Opaqueness offers bank managers opportunities to exploit shareholders and debt holders, as well as supervisors.

- Regulations further restrict competition.

- Opaqueness renders the board more important in imposing effective governance schemes in banks.

Banks are also characterized by high leverage compared with non-financial firms. This leverage is primarily due to deposits, which belong to a dispersed variety of individuals and firms, many of which are not experts in finance. Finally, given the banks' role in the economy, their risk is in some cases (depending on the bank's size or other characteristics) systemic (see John et al., 2016; Devriese et al., 2004).

The issue is further complicated by managers' fiduciary duties[6]. Unless the firm faces financial difficulties, it may be illegal for board members to consider outside stakeholders when making investment decisions. However, in the special case of banks, board members' fiduciary duties should consider solvency risk or else face personal liability (Macey and O'Hara, 2003; Mullineux, 2006). The Basel Committee on Banking Supervision (2006) in its consultative document entitled ''Enhancing Corporate Governance of Banking Industry'', takes a more moderate approach and places the board as an essential part of bank regulatory reforms. In addition, the second pillar (supervisory review process) of Basel II identifies the board of directors' role as an integral part of risk management.

Unsurprisingly, several papers have found that corporate governance arrangements, bank risk and micro- and macroprudential supervision interact. Laeven and Levine (2009), using data on 270 privately owned banks in 48 countries, conclude that the actual effect of capital stringency and changes in regulation on bank risk-taking depends on the relative power of the shareholders. Buch and DeLong (2008) and Barth et al. (2004) find that changes in supervision and regulation, respectively, affect risk taking. Gaganis et al. (2020a) use the Macroprudential Policies Index (MPI)

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[6] Fiduciary duties are a mechanism invented to caption any unspecified terms of shareholders' contingent contracts.

developed by Cerutti et al. (2017). The authors use a sample of 356 banks from 50 countries for the 2002-2017 period. They find that macroprudential policies interact with banks' corporate governance and have an effect on bank stability. Stability is affected positively by corporate governance characteristics as the MPI increases.

Finally, I should point out that corporate governance characteristics at firm level may reflect country- or sector-specific characteristics rather than firm-specific characteristics. The substitute hypothesis (Williamson, 1983) claims that each corporate governance mechanism is dependent on the relative importance of alternative governance mechanisms. For example, Chou et al. (2011) find that firms in competitive industries usually do not have strong governance structures; the quality of governance is associated with performance only in less competitive market sectors. Chou et al. (2011) conclude that it is the fear of liquidation that disciplines managers. Doidge et al. (2007) examine how governance characteristics at the country level (e.g. economic development, legal system, etc.) shift firms to adopting improved corporate governance structures and becoming more transparent. The authors find that almost as much as three quarters of the variance in governance ratings can be attributed to country characteristics, as opposed to less than ¼ to (observed) firm characteristics. The latter value falls almost to zero in developing countries.

As a result, family firms from countries with a legal system that offers inadequate investor protection face higher interest rates on their debt than non-family firms. At the same time, family firms from countries with high investor protection achieve lower interest rates than non-family ones. Ellul et al. (2007) reach that result using data on bonds issued by 1,072 firms in 24 countries for the 1995-2000 period.

2.2 Diversity

The Cambridge Dictionary defines diversity as "the fact of many different types of things or people being included in something; a range of different things or people". The City University of New York refers to diversity as a "reality created by individuals and groups from a broad spectrum of demographic and philosophical differences."

Notwithstanding the fact that diversity is regarded by Bilimori and Huse (1997) as an end in itself, diverse opinions may lead to improved strategic planning (Schweiger et

al., 1986). It has also been documented that homogenous executive boards are more likely to groupthink (Janis, 1982). BCBS (2015) has examined the aspect of diversity too (with a focus on education and work experience) and states that "board members should have a range of knowledge and experience in relevant areas and have varied backgrounds to promote diversity of views". Finally, board diversity may signal a promising career path to minority group employees, as well as serve as a public relation tool (Ferreira, 2010).

However, diversity is not a panacea. Bjorklund (2010) makes a short review of the so-called diversity-participation paradox about corporate boards in the banking sector: The paradox consists in the desire of diverse groups to represent more stakeholders, but, at the same time, increasing diversity inhibits communication among the board members, or leads – in the worst case scenario – to a "communication breakdown" between executives and the board (Ferreira, 2010). It has been documented that homogenous groups end up in more confined decisions than diverse groups (Sunstein, 2009) and that directors in homogenous groups are more prone to set questions (Westphal and Bednar, 2005). This implies that in heterogeneous groups directors' expertise may be wasted: "diversity trumps expertise" (Page, 2007). However, in boards characterized by high diversity, it is the experts rather than the members with less expertise that receive help (Gerben et al., 2006). To alleviate this paradox, a leader needs to urge all members to take active part and to integrate diverse members (Bjorklund, 1974). Previous participation in other boards or personal contacts in the business can also help demographic minorities (in terms of gender or race) to fit in among other board members (Westphal and Milton, 2000). The pursuit of diversity may lead to the choice of unsuitable directors (e.g. due to limited relevant work experience) or to directors detrimental to the firm's best interests (Ferreira, 2010).

Board diversity is a subject that has attracted the attention of researchers as a promising explanation for variations in firms' financial status. However, board diversity is captured by many different aspects such as age, gender, nationality, educational and occupational background, etc. All these characteristics can lead to heterogeneity within the boardroom. In the next sections I briefly present a selection of influential papers on different aspects of diversity. I should note that some papers deal with more than one aspect of diversity. These papers are presented only in one section.

Board members' nationality

Over the past few years there has been an increasing number of guidelines towards increased female presence in boardrooms across countries. However, I have not come across any guideline that explicitly or implicitly urges banks to increase their board diversity in terms of nationality. Two notable exceptions are the review on ethnic diversity and labor market, led by Baroness McGregor-Smith (2017), and the Parker Review (2017) on gender and ethnic diversity, both published in the UK. The latter recommends that each FTSE-100 UK firm (including banks) should have at least one board member of colour until 2021. This reflects, on the one hand, demographic change in the UK and diversity of employee base and, on the other, the changing demographics worldwide and the subsequent changes in firms' customer base. The Parker Review (2020) also includes FTSE-250 firms.

The lack of guidelines concerning foreign board members in banks is quite surprising. The Basel Committee on Banking Supervision (BCBS, 2015, p.22) states that the parent company's board (within a group structure) "has the overall responsibility for the group and for ensuring the establishment and operation of a clear governance framework appropriate for the structure, business and risks of the group and its entities". Foreign banks would thus be reasonably expected to appoint individuals having knowledge of the national markets in which the bank has invested a relatively significant part of its portfolio. I should, however, point out that differences in the degree of nationality diversity within boards across European countries may merely be the result of different governance systems rather than company characteristics (Van Veen and Marsman, 2008). In the same vein, Emmons and Schmid (1999) find that corporate governance systems around the world are unique and deeply embedded into each country's tradition and are therefore difficult to change.

In the next paragraphs I present the literature concerning the inclusion of foreign board members. This literature is mostly about non-financial firms. Papers about foreign board members in banks are scarce. This could be explained by two reasons: first, the number of sizeable banks is limited compared with the number of firms. Second, foreign board members are limited in many countries. For example, Berger et

al. (2014) examine several aspects of all German banks' executive teams (age, gender and education), but do not refer to nationality.

Advantages of foreign board members

Including foreign board members comes with a wide array of advantages. To begin with, foreign directors can, in general, deliver diverse opinions and perspectives due to genetic diversity (Delis et al., 2017), work experience in other countries (Carpenter et al., 2001, European Commission, 2012) with different economic and legal frameworks and better knowledge of markets abroad (Masulis et al., 2012).

Delis et al. (2017) use a sample of 1,085 firms (mainly from the USA and the UK), for a time period spanning between 1999 and 2012. They examine how an increase in genetic diversity (with the inclusion of one or more foreign board members) affects risk-adjusted returns and Tobin's q. They find that increasing board heterogeneity by one standard deviation by including foreign board members leads to an increase of more than 20% in risk-adjusted returns.

Gulamhussen and Guerreiro (2009) use data on Portuguese banks. They find that the inclusion of foreign board members increases the percentage of revenues from non-traditional areas of business, which implies a change in strategy.

Gaganis et al. (2019) examine the risk of insurance firms and its potential nexus with measures of national culture. The authors use a sample of 801 insurance firms from 42 different countries both from the life and non-life insurance business segments for the 2007-2016 period. They use three Hofstede's cultural dimensions (individualism, uncertainty avoidance and power distance) to measure cultural differences across countries and the Z-score and inverse Z-score to estimate firm's risk. Their results indicate that individualism is positively related to a firm's risk, while uncertainty avoidance and power distance are negatively related to a firm's risk.

Including foreign board members could reduce information asymmetry (hence agency costs) and increase sources of funds and personnel (Fogel et al., 2013). For example, Carter et al. (2003) use data on Fortune 1000 firms to find that Tobin's q is positively affected by the presence of ethnic minority board members. Choi et al. (2007) find for Korean firms that foreign board members positively affect performance. Hamzah and

Zulkafli (2014) find for Malaysian firms that foreign board members negatively influence corporate expropriation.

Oxelheim and Randoy (2003) use a sample of 132 Norwegian and 121 Swedish firms (companies in the financial sector are excluded) for the period 1996-1998. They find that Tobin's q is positively affected by the presence of Anglo-American board members. The effect is more significant in relatively larger and older firms and in certain sectors. The authors attribute their finding to the signal given to the market that these members import a stricter corporate governance system with higher performance sensitivity. Another interesting finding is that the inclusion of board members from the UK or the USA is found to be more important than cross-listing in these countries.

Ararat et al. (2010) construct a board diversity index (the input variables are gender, age, education and nationality) for the ISE-100 index firms of the Istanbul Stock Exchange (ISE). They find that more diverse boards enhance performance, partly because of increased monitoring intensity. The authors define board monitoring intensity as a vector of the number of board meetings, committees, as well as reporting and disclosure quality.

Finally, I should mention another, more practical aspect concerning the inclusion of foreign directors: as a branch's distance from its headquarters increases, the more difficult it becomes (under specific circumstances) to align the branch manager's decisions to the bank's strategy (Brickley et al., 2003); a foreign director may be able to alleviate this principal–agent problem.

Disadvantages of foreign board members

The inclusion of foreign board members is not flawless, though. Garcia-Meca et al. (2015) use a sample of 159 banks in nine countries (Canada, France, Germany, Italy, the Netherlands, Spain, Sweden, the United Kingdom, and the United States) for the 2004–2010 period. They analyze two aspects of board diversity, namely nationality and gender, and their effects on performance. The authors find that national diversity inhibits bank performance (statistically significant at the 99% level). Results concerning diversity are smoothened in the presence of a weaker regulatory regime and an inferior investor protection level.

Frijns et al. (2016) examine cultural diversity within the boards of 243 British firms for the 2002-2014 period. These firms together account for about 95% of the London Stock Exchange's total capitalization. Foreign board members are present in 62.55% of firms and constitute, on average, 26% of total board members, with this percentage gradually increasing over time. They use Hofstede's measures of culture to calculate the within-group cultural diversity, by extending a method introduced by Kogut and Singh (1988). The authors find that in-board cultural diversity is negatively associated with firm performance (measured by ROA and Tobin's q). This result is mainly attributable to masculinity and individualism. For firms that are present in more than three sectors and firms with a larger part of their revenues from abroad, the negative association between cultural diversity and firm performance disappears.

Another disadvantage with foreign board members is that they attend fewer board meetings and exercise less pressure on the firm's CEO. They may need some time to adopt to different local accounting rules, legislation and management practices. This may explain why firms in the US with foreign board members show lower profitability (return on assets), particularly in the case when the significance of the firm's presence in the foreign[7] member's country diminishes (Masulis et al., 2012). However, foreign directors are associated with firms' better cross-border acquisitions in their respective countries. Also, foreign directors become more important as their region's relative significance (in terms of regional sales to total sales) increases. Masulis et al. (2012) use data on the boards from the S&P 1500 firms, for a period spanning between 1998 and 2006. Their total sample is 9,979 firm-year observations, of which 12.74% are foreign directors.

Foreigners may also influence profitability adversely, if they represent investors who are interested more in short-term stock-price increases rather than in a long-term commitment with the firm. Douma et al. (2006) reach this result by examining the performance of emerging market firms whose stock is owned by foreign institutional and corporate shareholders.

Other disadvantages of foreign board members include the different language (Adsera, 2015). Research in relational demography has also shown that when people

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[7] Masulis et al. (2012) define as foreign a board member whose home is not in the USA. Thus, an American who is based outside the US is treated as a foreigner. A non-US citizen who lives in the USA is treated as a local.

from different regions work together, results are usually negative (Riordan, 2000). Finally, a homogeneous board may be more active in times of high risk, according to the pluralistic ignorance theory (Westphal and Bednar, 2005). In their review of the relevant literature, Milliken and Martins (1996) conclude that results may be negative at first, but as board members get better acquainted, the positive results of diverse perspectives within a group emerge.

I now briefly present the literature concerning domestic banks' presence in foreign countries and the effect of foreign banks' presence.

Fund allocation of foreign banks

A body of literature examines fund allocation of foreign banks. For example, Berger et al. (2005a), use quarterly data of Argentine banks for the period 1993-1999 and find that foreign-owned banks display different fund allocation from banks acquired by foreign organizations. The authors also examine loan portfolio changes after privatization. They find that foreign-owned banks prefer to lend to the manufacturing sector and to inhabitants of the Buenos Aires province rather than mortgages.

De Haas et al. (2010) use data from the EBRD Banking Environment and Performance Survey for 220 banks in 20 transition countries. They examine bank loan portfolios and find that foreign banks may have greater focus both on foreign firms and on mortgage lending. The latter is more prominent for banks that see the legal and debt enforcement system as relatively more effective.

Taboada (2011) uses a different approach and examines total loans outstanding in the major seven industry sectors for the 10 largest banks in 63 countries for the years 1995, 2000 and 2005. The author finds that banks controlled by locals tend to allocate a greater part of their portfolio to more problematic industries. The entry of foreign banks signals increased loans to less problematic industries. The author attributes his results to the "looting view" (La Porta et al., 2003). Giannetti and Ongena (2009) also find better loan allocation by foreign banks in Eastern European countries.

Foreign banks have been blamed for "cherry picking" their borrowers in host countries (e.g. Degryse et al., 2012, and the references cited). Degryse et al. (2012) use bank data on foreign bank entry in Poland. They find that the mode of entry (acquisition or greenfield) and ownership status affect the bank's loan portfolio.

Foreign banks charge on average lower interest rates on their borrowers, but this reflects their clientele's higher creditworthiness. The authors conclude that foreign bank entry urges local banks to shift their loan portfolio towards more opaque borrowers.

Beck and Brown (2015) also conclude that foreign banks "cherry pick" their borrowers in Central and Eastern Europe. The authors examine retail borrowers; they use data for 16,590 households in 2010 from these countries. Their results show that foreign banks' clientele in these countries are on average richer than those of local banks and foreign banks' loans depend more on "hard" data and collateral.

Banks' portfolio allocation abroad

A strand of literature has tried to examine banks' portfolio allocation abroad (or out of state lines in the USA) by looking at distance, whether it be geographical, cultural or other (e.g. legal). A large part of this literature focuses on banks' behavior abroad and finds that longer geographical distance not only affects credit availability[8] (Mian, 2006 for Pakistan, Albertazzi and Bottero, 2014 for Italy), but also reduces the possibility for a mutual agreement after default (Mian, 2006). Geographical distance also plays a role during times of crisis. Bertay et al. (2015) and Albertazzi and Bottero (2014) find that foreign banks' lending is indeed reduced after an economic downturn. Foreign banks do not restrain credit in neighbouring countries with which they have established relationships (De Haas and Van Horen, 2011). Cultural distance exhibits analogous patterns (Mian 2006; Xue and Cheng, 2013). However, it may be not the absolute physical or cultural distance but rather the other competitors' distance that plays a determining role in portfolio allocation decisions (Claessens and Van Horen, 2008).

Another strand of this literature examines geographical expansion on the part of the bank. While geographic diversification is found to be associated with higher firm value and lower risk, the choice of regions geographically farther away reduces these

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[8] Credit availability is generally restrained to informationally opaque firms due to distance. However, this may circumvented by a more decentralized structure, which makes better use of "soft" information (Stein, 2002). It is worth noting that credit availability across state lines heavily depends on firm-specific characteristics e.g. age, sector, collateral provided (Brevoort et al., 2003).

effects (Deng and Elyasiani, 2008 for the USA)[9]. Moreover, the risk-return relationship is improved only for low-risk banks (Acharya et al., 2006, for Italy).

Lending abroad is also influenced by home and host country regulation. For example, Ongena et al. (2013) use business loans data from the Business Environment and Enterprise Performance Survey conducted in 2005 and 2008 in 16 East European countries. The data includes loans from 155 banks to 9,673 firms in 1,976 different places. The authors find that home country regulations concerning bank competition or banking activities affects bank lending standards abroad, while capital stringency and supervision do not. The authors attribute these results to the banks' tendency to increase risk abroad if strict rules within their country do not allow them to reach the desired level of risk-return. It may also be the outcome of banks shifting poorly monitored risk exposures to countries with more extensive safety nets (Kane, 2000; Carbo et al., 2009).

Board members' age

The effect of directors' age has also been examined in the literature. Ladipo et al. (2008) estimate that the average age of directors in their sample of the 25 largest European banks in terms of capitalization is 58.

Berger et al. (2014) find that younger executive teams in German banks increase risk taking, in line with prior findings concerning the attitude towards risk at different ages[10]. This effect is statistically and economically significant.

Nguyen et al. (2015) use a sample of US banks for the 1999-2011 period and find that executives' characteristics, including age, education and work experience, increase shareholder wealth.

Finally, Hagendorff and Keasey (2012) examine a sample of publicly listed bank mergers in the US. They find that mergers approved by boards characterized as more diverse in terms of occupational background, exhibit positive announcement returns. By contrast, mergers approved by more diverse groups in terms of age and tenure exhibit negative returns, while the share of female board members is not associated with returns.

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[9] Deng and Elyasiani (2008) provide an interesting review of the relevant literature.
[10] Berger et al. (2014) cite references concerning risk tolerance according to age.

Literature concerning age in firms is much more extended. For example, Kauko (2009) examines the effect of age on efficiency and finds that efficiency is enhanced with age in the case of younger managers but deteriorates with older ones.

Yim (2013) examines firm acquisitions according to CEO compensation. He documents that acquisitions usually lead to a significant and permanent increase in the CEO's compensation. He then finds that firms with a 20-year older CEO are almost 30% less likely to make an acquisition. This effect is more pronounced in firms where an increase in CEO compensation is expected or can be achieved after the acquisition. These findings imply that younger CEOs have strong financial motives to make acquisitions early in their careers and, at the same time, points out serious agency problems. I should also have in mind that older CEOs have been found to be more capable of complex decision-making due to their increased experience (Worthy et al., 2011).

Female board members

The issue of the presence of women on boards has gained increased interest in recent years, from governmental agencies, the European Commission or other stakeholders. Guidelines or even legislation in the form of specific quotas have been put in place in several countries (European Commission 2015). Women are considered as a potential asset for the board, since 60% of today's university graduates are women and their skills may boost economic performance (European Commission, 2015). It is therefore no surprise that research has also examined several issues concerning the gender diversity of corporate boards.

Still, the presence of women in European bank boards is relatively limited. According to Ladipo et al. (2008), only one in ten non-executive directors in the sample of the 25 largest European banks in terms of capitalization is a woman, while four banks have no female board members. The European Commission (2015) found that in 2015 21.2% of the board members in the 619 largest publicly listed companies in the EU-28 were women, which represents a progress from 11.9% in 2010.

I now briefly present the literature about the effect of women on firms' figures. Teriesen et al. (2009) and Croson and Gneezy (2009) review the literature about gender and its effect on financial outcomes. The former review over 400 papers and

find that the effect of female board representation on performance is inconclusive, while the latter suggest that women are more risk-averse in financial decisions, which can be explained by differences in the emotional reaction to risk, the level of self-confidence and the attitude towards risk between men and women, and a relative tendency to avoid competition.

However, this finding is generally not supported in the context of corporate governance arrangements. For example, Farrell and Hersch (2005) find that women usually serve in firms with a better performance record. However, they document a negative relationship between firm risk (measured as the standard deviation of the monthly share returns) and the inclusion of women on boards. Farrell and Hersch (2005) find that the inclusion of women in boards is the outcome of "internal or external calls for diversity".

Adams and Funk (2012) use a sample of Swedish directors and suggest that, unlike women in the general population, female directors are less risk-averse than men.

Adams and Ferreira (2009) use a (final) dataset on 1,939 firms from the S&P 1500 for the 1996-2003 period. The authors estimate the effect of female board members on profitability as negative. They attribute this result to the excessive monitoring performed by female directors. They also find that women attend board meetings more often than men and that their presence increases the attendance rate of male members too. Izraeli (2000) has found that women take their role more seriously. It should be pointed out that Adams and Ferreira (2009) find the presence of female board members to have positive effects on firms with weak shareholder rights, since increased monitoring can affect firm value positively. In other words, firm characteristics influence the result. In the same context, Anderson et al. (2011) construct a diversity index (based on six parameters of diversity, including gender and ethnicity) and find a positive effect of this index on Tobin's q on average, but this effect is positive only for more complex firms.

Ahern and Dittmar (2012) use data on Norway, where a mandatory 40% female quota concerning the inclusion of women was introduced in 2003. The authors find that when the quota was announced, stock prices fell, followed by a decline in Tobin's q. The authors attribute this result to the fact that the quota led to less experienced

boards. Contrary to Ahern and Dittmar (2012), Carter et al. (2003) find that Tobin's q is positively affected by the presence of female board members.

As regards banking, an increasing number of studies focus on gender differences or include gender as a control variable.

Berger et al. (2014) use all German banks and find that increasing female presence in bank boards leads to increased risk taking, with marginal economic significance though[11]. The authors attribute this result to the women's less experience in managerial positions. Berger et al. (2014) also find that female board members seem to choose to serve in banks with higher capital ratios and are more likely to be appointed to executive boards that are chaired by a female CEO, consistent with Berger et al. (2013).

Adams and Ragunathan (2015) investigate the "Lehman Sisters" hypothesis, which implicitly assumes that if Lehman Brothers had been governed by women, its collapse would not have happened. They use data on 321 US listed bank holding companies and commercial banks for the 2006-2009 period. Women account for 9.5% of their sample of board members, which can be seen as relatively low; however, because it has been documented (Adams and Kirchmaier, 2015) that it is less likely for women to sit on smaller firms' boards, they adjust their data for firm size and find that the difference from non-financial firms is only 0.94%. While acknowledging that women are more risk averse than men in general, the authors find weak evidence that increased female presence on the board is associated with more risk taking around the crisis. They justify that with their finding that women who choose a career in finance are less risk averse than the "average" women and not less risk averse than men. A higher female ratio is also found to increase performance and decrease loan default rates.

Garcia-Meca et al. (2015) use a sample of 159 banks in nine industrialized countries and find that gender diversity increases bank performance.

There are also two papers that examine the presence of women in non-managerial positions in banks. These papers study loan officers' practices and not board members' decisions (Agarwal and Wang, 2009; Beck et al., 2013). Agarwal and

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[11] Berger et al. (2014) cite references concerning gender and its effect on financial outcomes.

Wang (2009) use detailed data from a US commercial bank on small business loans for the pre-crisis period to find that, on average, incentive pay is detrimental to the bank's financial results. Beck et al. (2013) use data from a commercial bank in Albania. Both these papers find that default rates for loans originated by female loan officers tend to be lower than for those originated by their male loan counterparts. Beck et al. (2013) attribute their finding to the ability of female loan officers to build up relationships with their borrowers.

2.3 Other board characteristics

Board size

The literature on non-financial firms generally agrees that the number of directors on a firm's board is negatively related to the firm's financial performance (Hermalin and Weisbach, 2003; Yearmack, 1996). However, these results may change if I control for firm complexity (Agrawal and Knoeber, 1996; Coles et al., 2008; Lehn et al., 2009).

Concerning the banking sector, it has been documented that, controlling for size, bank boards are larger than non-financial firms' boards (Adams, 2012; Booth et al., 2002). The results on the relationship between board size and performance though are mixed: The majority of studies conclude that board size is positively associated with performance (John et al., 2016; de Haan and Vlahu, 2016), but negatively with risk (de Haan and Vlahu, 2016). Anginer et al. (2016) find an association between an "intermediate board size" and lower accounting-based capital ratios.

De Andres and Vallelado (2008) use a sample consisting of 69 large commercial banks from six countries (Canada, USA, UK, Spain, France and Italy) for the 1995-2005 period. They examine the association of board characteristics (size and percentage of non-executive directors) with measures of performance (a proxy for Tobin's q, ROA and the annual share return). The authors find an inverted U-shaped relation between board size and performance. More precisely, the relationship between board size and Tobin's q starts to diminish when the number of board members exceeds 19. The authors attribute this result to the complexity of large banks, which requires more board members to offer their experienced advice.

Adams and Mehran (2012) use a sample of 35 bank holding companies (BHCs) for the 1964-1999 period, i.e. before the Sarbanes-Oxley Act (2002). They choose to include relatively few BHCs, in order to have a larger time span. The authors conclude that board size is positively related to performance (as measured by a proxy for Tobin's q), while its relationship with risk is ambiguous. Their results are not driven by the merger and acquisition activity after gradual deregulation in the 1990s. Like De Andres and Vallelado (2008), they attribute their results to BHCs' complexity and banks' obligation to have a number of committees.

Pathan (2009), use a sample of 212 large US BHCs for the 1997-2004 period. He examines the association between variables indicating a strong board (small size, higher percentage of independent directors and less restrictive shareholder rights), a powerful CEO (CEO duality and internally hired) and three measures of bank risk. The author finds that small boards are associated with higher risk.

Finally, Wang and Hsu (2013) examine the association between board size and operational risk. They find that a board size larger than 14 is associated with a higher probability of operational risk events.

Despite these findings, the Walker Report (2009) argues that the optimal board size is less than 12 people, probably based on prior literature on non-financial firms.

CEO duality - power

When the CEO is also the chair of the board, he/she may be able, theoretically, to restrict information flow to other board members and consequently reduce their effectiveness in management oversight (Fama and Jensen, 1983; Jensen, 1993). The empirical evidence on non-financial firms has shown that measures to constrain the CEO power come with increased board independence (Hermalin and Weisbach, 1998; Goyal and Park, 2002; Boone et al., 2007).

The empirical evidence on financial firms is mixed. Pi and Timme (1993) find that CEO duality is associated with lower cost efficiency and ROA in banks. Fernades and Fich (2012) find for US banks that CEO duality did not statistically influence their performance during the financial crisis. On the contrary, Pathan (2009) and Simpson and Gleason (1999) found that CEO duality reduces risk taking and the probability of

financial distress after a five-year period respectively, indicating that CEO duality may lead to CEO's increased power and risk avoidance. Pathan and Skully (2010) document that larger and more diversified banks are characterized by CEO duality.

Independent directors

The role of independent directors has attracted the attention of both legislators and researchers. As regards non-financial firms, informal codes of corporate governance in many countries have long been promoting independent directors (e.g. the Cadbury Report of 1992 in the UK; the "Viénot II" Report of 1999 in France; NASDAQ guidelines of 2003 in the USA). However, the ratio of independent directors is not correlated with firm performance (Hermalin and Weisbach, 2003; Berger et al., 2014). This may reflect limited and lower quality information independent that directors receive (Bebchuk and Weisbach, 2010) or that not all independent directors are truly independent (Cohen et al., 2012). The proportion of outsiders is positively associated with the complexity of the firm (Boone et al., 2007; Coles et al., 2008; Lehn et al., 2008; and Linck et al., 2008).

Turning to financial firms, new regulations, in particular the passage of the Sarbanes-Oxley Act, have led to a significant increase of outside directors in the US (Pathan and Skully, 2010). Ladipo et al. (2008) document that independent directors account for 60% and non-executive-directors for 78% of the board's total composition in the 25 largest European banks in 2007. The authors claim that this is a sign of governance weakness, since board members rely on relatively fewer executives' views.

The ratio of independent directors is not correlated with bank performance (Adams and Mehran, 2012), or is even negatively correlated (Minton et al., 2014; Erkens et al., 2012). However, the relationship with risk is ambiguous: while Pathan (2009) and Faleye and Krishnan (2017) find that independent directors reduce risk, Adams (2012) notices that banks that received TARP funds had more independent boards. Minton et al. (2014) find that financially expert independent directors are associated with higher risk levels. Fernades and Fich (2012) conclude the opposite, which may be attributed to the criteria used to classify an independent board member as financially expert or to how risk is proxied.

Pathan and Skully (2010) use a sample of 212 large US BHCs for the 1997-2004 period to examine the determinants of their board structure in terms of size, composition and CEO duality. The authors find that in larger and more diversified banks, boards tend to be larger and more independent. Moreover, the CEO does not influence board independence.

Vallascas et al. (2017) examine whether the role of independent board members concerning bank risk has changed after the 2007-2009 financial crisis. They use international data on large banks for the 2004-2014 period. They document that board independence increased in the aftermath of the crisis, which led to a risk reduction. However, this effect can be attributed only to the banks that received government assistance during the crisis.

Finally, I should point out that directors may be classified as independent, but in fact they may not be. For example, directors representing large bank customers will probably be classified as independent; this implies an overstatement of board independence (Adams, 2010). Regarding firms, Cohen et al. (2012) collect data on firm's analysts, who were then appointed as directors. They find that (listed) firms do appoint analysts who cover their shares. These analysts have relatively poor performance and are optimistic in almost 82% for their buy/sell recommendations, compared to just 57% of other analysts' recommendations. Firms that choose these optimistic analysts as directors are on average less efficiently governed and increase CEO compensation following these appointments. Byers et al. (2008) examine the existence of wealth effects following a loan announcement according to the borrowing firm's corporate governance structure. They use a sample of over 800 loan announcements in the USA for the 1980-2003 period. They examine, among other corporate governance characteristics, the presence of independent directors, by classifying them as insiders, outsiders and "grey". They define directors as "grey" if they have some ties to the firm, e.g. if they are former employees. The authors find that it is more likely for loan announcements to yield positive wealth effects if the firm is characterized by weak corporate governance. This result implies that market participants consider the lending bank as a firm's "delegated monitor" (Diamond, 1984). However, this result holds only for firms in segments where the probability of a hostile takeover is relatively small.

Board members' education and occupational background

While the effects of several attributes of board members have been studied extensively, some characteristics such as education and experience remain underresearched in banking. There are more papers on this issue that focus on non-financial firms or mutual funds.

This seems odd, since many recommendations have been published on this issue by various organizations. For example, the European Commission (2010) acknowledges that due to a "lack of technical expertise and/or confidence" non-executive directors did not comprehend the bank's risk and the systemic consequences involved and did not set the right questions. At the same time, supervisors did not perform "fit and proper tests" adequately[12]. In this context, the Institute of International Finance (IIF, 2008) highlights the need for board members to be educated on individual and systemic risks faced by banks. Especially members of the risk committee should either have financial expertise or relevant business experience. However, finding and hiring a really independent board member with financial expertise may prove very hard. Therefore, overemphasizing independence in the banking industry may not be the best choice (Adams, 2012; Kirkpatrick, 2009). Mehran (2011), on the other hand, recalls that Northern Rock and Rear Stearns did have experienced independent directors and nevertheless collapsed.

Kauko (2009) uses detailed data about bank managers' education (and age) in Finnish cooperative and savings banks for the period 1999-2004 to examine the impact on cost efficiency. He finds that a university degree improves efficiency predominantly in larger banks. A university degree in economics or business is associated with improved efficiency compared with degrees in other disciplines. Age also has an impact on efficiency, albeit dependent upon education.

Berger et al. (2014) use the universe of German banks (3,525 banks) for the period 1994-2010 and examine several characteristics of all German banks' executive teams (age, gender and education). The inclusion of new board members with a PhD, an

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[12] Based on these conclusions, the European Commission (2010) made some relevant proposals.

MSc or an MBA degree leads to a risk decline[13]. The authors attribute this result to more advanced techniques employed. Executives with higher education also steer the bank towards relying more on deposits and finding new sources of revenues. The authors leave out work experience for two main reasons: first, because of high correlation between experience, age and gender; second, because there is no precise definition of experience.

Hau and Thum (2009) also examine German banks. They use the CVs of 592 supervisory board members in the 29 largest banks. They find that the experience of board members in management and finance-related matters is significantly lower across state-owned than across private banks. This lack of experience is translated into higher losses during the financial crisis.

Minton et al. (2014) use a sample of 206 large US banks (over USD 1 bn. in assets). They find that financial expertise is associated with better financial results before the 2007-2008 financial crisis, but with worse results during the crisis; in fact, the underperformance during the crisis exceeds the positive results before the crisis and therefore shareholders end up being worse off.

Cunat and Garicano (2010) use data on Spanish Cajas and their CEOs. They find that when the CEO has a master' degree or banking experience, the caja has fewer NPLs and is downgraded less by rating agencies.

Regarding mutual funds, I have selected two distinctive and influential papers. The first is by Chevalier and Ellison (1999), who use a sample of 492 managers of growth funds between 1988 and 1994. After controlling for selection bias and managers' personal characteristics, they find that managers who attended higher-ranked universities exhibit higher risk-adjusted returns. Managers holding MBA degrees exhibit higher returns than those without an MBA, but also bear higher portfolio risk. Gottesman and Morey (2006) find that fund managers from the top-30 MBA programs earn higher returns on their funds than those without an MBA or with an MBA with a lower ranking. Other academic degrees (such as PhD, Master's degree, undergraduate degree) are not associated with the fund's returns.

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[13] Berger et al. (2014) cite references concerning education and risk attitudes of households and firms.

Concerning non-financial firms Adams et al. (2018) use data on directors' skills for a sample of on-financial and non-utility firms, headquartered in the US, for the 2010-2013 period. Using factor analysis, they find that boards vary across the diversity of skills among its members. However, their results indicate that lower diversity levels are associated with increased performance (measured by Tobin's q) compared to more diverse groups. The authors attribute these results to the lack of common ground among board members with a larger variety of skills.

Ownership structure and directors' share ownership

Ownership structure plays a vital role in firms' governance. The most important distinction is based on whether a bank's ownership is concentrated or dispersed. Caprio et al. (2007) document that, outside North America and Ireland, the majority of large banks are not widely held. This may be the outcome of investor protection laws and relevant regulations in these countries.

However, it is not only the type of ownership that is important; shareholder type is equally important. For example, Berger et al. (2005a) examine foreign and state ownership in Argentina and document differences in their loan portfolios. Erkens et al. (2012) find that financial institutions with relatively higher institutional ownership are relatively more risky. However, evidence concerning the association between institutional ownership, risk and performance is inconclusive. Borisova et al. (2012) examine the impact of government ownership in 373 EU firms and banks for the 2003-2008 period. They find that government ownership is associated with inferior corporate governance quality in civil law countries, but with superior quality in common law countries. They also document that preferential voting rights are detrimental to corporate governance quality.

Bhagat and Bolton (2019) use data on US firm directors' shareholdings for a period including the major recent legislations (Sarbanes – Oxley, 2002; Dodd-Frank Act, 2010) and the financial crisis. They also examine the 100 largest US financial institutions for the period around the financial crisis. They conclude that directors' shareholdings are positively associated with future bank performance and negatively associated with risk.

Berger et al. (2016) use a sample of 85 failed and 256 non-failed US commercial banks to examine the nexus between corporate governance and bank failures during the recent financial crisis. They find that increased lower-level and non-CEO higher-level management's shareholdings are associated with increased probability of bank failure, especially in the absence of CEO duality. By contrast, CEO's stock ownership is not associated with the probability of bank failure.

Shareholder-friendly boards

Beltratti and Stulz (2012) use a dataset of 440 deposit-taking listed banks worldwide with an asset size of more than USD 10 bn. at the end of 2006. They measure bank performance based on stock returns between mid-2007 and end-2008. Regarding governance, the authors use data on bank ownership and an index concerning board composition. Beltratti and Stulz (2012) find that banks with boards which could be characterized as "shareholder-friendly" had significantly worse returns during the crisis period.

Anginer et al. (2016) reach similar conclusions. The authors use a sample of 909 banks from 22 countries for the 2003-2011 period. They find evidence that shareholder-friendly corporate governance arrangements are associated with lower bank capitalization (the authors apply five different metrics to capture bank capitalization). The authors define boards as shareholder-friendly if they have the following characteristics: CEO duality, a size of 9-12 members and there are no anti-takeover terms. They interpret their results as an indication of a risk shift towards the safety net. Benefits as part of the managers' compensation packages are also associated with lower bank capitalization (the authors disentangle between total compensation and incentives within managers' compensation packages). If executives own a relatively larger part of the bank's shares (either through share holdings or stock options), bank capitalization is higher, which the authors interpret as a sign of risk aversion.

Anginer et al. (2018) use an international sample of banks for the 2004-2008 period and a sample of US banks for the 1990-2014 period. They investigate whether a shareholder-friendly board is associated with higher stand-alone and systemic risk. They use three different metrics to estimate the stand-alone and another three to

estimate the systemic risk. They use an index to capture board's shareholder-"friendliness" consisting of 44 attributes related to board characteristics, compensation, auditing and anti-takeover provisions. They find that banks with a shareholder-friendly board do exhibit higher stand-alone and systemic risk, especially the relatively larger ones (implying "too big to fail" status) and those located in countries with more generous financial safety nets.

Compensation

Compensation is considered as a mechanism for aligning shareholders' and managers' interests (John et al., 2016). Literature focuses mainly on the impact of additional payments based on specific achievements (e.g. bonuses linked to results).

Following the financial crisis, new laws and regulations concerning remuneration in the banking sector have been adopted. The most important initiative was the CRD IV introduced in the European Union, which built on the Financial Stability Board (FSB) standards. CRD IV also introduced a cap on variable remuneration for the financial sector. Ferrarini (2015) presents CRD IV and explains what consequences its adoption may have.

Cheng et al. (2015) use a sample of US financial firms for the 1992-2008 period. The authors study the association between measures of risk and incremental executive compensation (i.e. the level of compensation above industry levels, controlling for firm size). They find that incremental executive compensation is associated with increased risk levels and productivity. Therefore, these firms' stock is preferred by institutional investors, which are more likely to affect executive compensation.

Fahlenbrach and Stulz (2011) use compensation data on a sample of 95 large (median asset value of USD 15.5 bn.) US banks in 2006 and examine their accounting and share performance through to December 2008, i.e. during the crisis period. They find that banks with a better alignment between the shareholders' and CEO's interests had worse performance during the crisis period (in line with Beltratti and Stulz, 2012). They also use data on the compensation of the top-four executives, excluding the CEO, and find no evidence that their compensation scheme affected the bank's performance during the crisis. The authors also document that CEOs did not sell their shares when the crisis began.

DeYoung et al. (2001) examine the agency problem in a random sample of 266 closely held US commercial banks. The significant difference in banks of this size is that market discipline is virtually absent; therefore aligning shareholders' interests with those of the management is more difficult. The authors find that outside management will yield positive results only if the amount of managerial shareholdings is in the right proportion: if the managers are granted more shares, entrenchment will be the result; if given less, the results will not be as good.

The role of committees

The role of committees has drawn the attention of both governmental bodies and academics. BCBS (2010) states: "The board should structure itself in a way, including in terms of size, frequency of meetings and the use of committees, so as to promote efficiency, sufficiently deep review of matters, and robust, critical challenge and discussion of issues". Further below in the same document (paragraphs 47-54) the BCBS (2010) discusses more specific matters such as committee members' independence, skills and experience. IIF (2008) and the Sarbanes Oxley Act also recognise the value of financial expertise for members of the risk and the audit committee, respectively.

In their paper, Sun et al. (2009) use a sample of 474 US listed companies with independent compensation committees, before these became obligatory. They proxy compensation committee quality with six variables. They document that firms' operating income increases with CEO variable pay, when compensation committee quality improves. The authors attribute their result to better alignment between the firm's and the CEO's interests achieved by a more competent compensation committee.

DeFond et al. (2005) examine how the market reacts to the appointment of a new member with accounting or with financial expertise on the audit committee. Their data constists of 702 new appointments of outside directors in US firms. They measure the market's reaction with a three-day cumulative abnormal return after the announcement and find that only including an outside director with accounting expertise in the audit committee is associated with positive abnormal returns. This finding holds only in well-governed firms.

Regarding banking, there are papers which have focused on the risk management function, hence on the risk committee. These papers investigate mainly the existence of a risk committee, how often it meets and its members' expertise (Stulz, 2016).

Ellul and Yeramilli (2013) examine the risk management function. They use data on 72 US Bank Holding Companies (BHCs) for the 1995-2010 period and construct an index reflecting the risk management's strength and independence (RMI). They find that BHCs with high RMI addressed risk-taking more effectively, in the sense that these BHCs had lower NPLs and tail risk. They also find that a high RMI and an experienced board can be regarded as substitutes. The reason is that BHCs with relatively more experienced independent board members had a lower RMI.

Aebi et al. (2012) end up with a sample of 86 US commercial banks, for which they collect data on their risk committees. They document that the existence of a risk committee leads to improved performance during the crisis if it holds regular meetings. They proxy performance with ROE and buy-and-hold returns.

There are also papers that examine other committees. For example, in their paper about Italian listed banks, Stefanelli and Cotugno (2010) show that the audit committee is associated with more loan loss provisions.

The role of employee representatives

The inclusion of employee representatives in the board of directors is common in many European countries. This is the case especially in Germany, where employee representation on the supervisory board is compulsory by law. Conchon (2011) reviews the relevant literature and reports that results concerning the effect of including employee representatives as board members on firm's performance are mixed.

For example, Faver and Fuerst (2006) use data on German firms. Their conclusions are in favor of employee representatives on boards, because these reduce agency costs within the firm and act as monitors. Gorton and Schmid (2004) also use data on German firms to control the effect of banks' shareholdings on firms' efficiency. They find that in the case of equal employee representation, firms' shares trade at a 31% discount relative to firms with 33% employee representation.

Ginglinger et al. (2011) use data on French listed firms for the 1998-2008 period. They find that employee representatives elected by employee-shareholders tend to lead to profit and share price increases, while employee representatives elected by right of employment are not associated with profits and the firm's valuation. Faleye et al. (2006) use data on US firms to examine the role of equity ownership by employees. They find that employee-controlled publicly traded firms have lower productivity and growth rates.

Director busyness

Director busyness refers to a director's presence on multiple boards. Busyness comes with an array of advantages, namely increased experience and a widened network of connections. It may also imply a good reputation for the busy director. However, serving on many boards may mean that the director's available time will be limited and therefore he will not be able to conduct his duties appropriately (see Jiraporn et al., 2009 for references). The reputation hypothesis includes the advantages that come with multiple board seats, while the busyness hypothesis includes the disadvantages.

Jiraporn et al. (2009) use data on 1,471 firms for the 1999-2003 period. 52.2% of the directors do not have any other directorships, and another 22.7% hold only one more directorship. Their results support both theories: When a director serves on relatively fewer directorships, he/she participates in more committees; when a director serves on more directorships, he/she participates in relatively fewer committees. In other words, the association between directors with multiple directorships and their participation in board committees is U-shaped.

While there are numerous papers concerning directors' busyness for non-financial firms, there are significantly fewer for banks (however, there are papers that use data on directors' busyness as a control variable). Elyasian and Zhang (2015) use data on US BHCs over the 2001-2010 period. They find that director busyness has a negative association with risk and a positive with performance. Moreover, busy directors helped BHCs achieve relatively better performance during the crisis. Finally, busy directors are as punctilious as non-busy directors in their obligations, judging from their attendance rates.

2.4 Home bias

Home bias is an enduring feature of capital markets. It describes a pattern where investors forego the advantages of international diversification and choose to invest the majority of their funds in assets within their country. French and Poterba (1991) were the first to compare share ownership data across six developed countries[14] and to conclude that there is a significant risk diversification gain when investing abroad. Diversification opportunities are not utilized by investors, though. Since this seminal paper, the issue of home bias has gained a lot of attention.

One would imagine that after years of financial liberalization, in an era of relatively easy access to information through the internet, this phenomenon would be in decline. But this is not the case: In 2007, investors in the US held more than 80% of equity, i.e. a higher percentage than the percentage of US shares in the total market capitalization worldwide. At the same time, the average degree of home bias worldwide is 63%, with the euro area at 62.5%, the UK at 52% and the US at 66% (Coeurdacier and Rey, 2011). The introduction of the euro in accordance with financial linearization (whether unilateral or preferential) has decreased transaction costs by approximately 31% for bonds and 27% for equity (Coeurdacier and Martin, 2009).

Diversification gains are based on the correlation of assets' returns across different countries[15]. Since there are diversification gains, it is difficult to understand why investors choose not to diversify internationally. There is a wide array of explanations that have been proposed for the home bias phenomenon. In the following paragraphs I present more analytically the literature concerning home bias according to the asset classes examined. The bibliography examining home bias is vast; thus, I only present a fraction of it here. I should mention that most papers examine equity home bias. There are also papers that examine more than one asset classes. Another distinction is that while some papers use data on asset flows, some others use data on asset holdings.

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[14] USA, Japan, UK, France, Germany and Canada.

[15] Correlation coefficients are smaller than one since economies do not move together. However, correlations do change over time (Karolyi and Stulz, 2002). There is also evidence that expected excess bond returns are highly correlated across developed countries (Ilmanen, 1995).

Banks

Aviat and Coeurdacier (2007) use banking assets to examine bilateral asset holdings and goods trade. They find that a 10% increase in goods trade leads to 6-7% increase in mutual asset holdings, while the reverse causality also exists but is weaker. When they control for trade, the distance effect on asset holdings is reduced significantly.

Buch et al. (2010) use data on bilateral cross-border bank assets in the US, the UK, Germany, France and Italy for the period 1995-2003. They find that banks' portfolios are home-biased and that banks' foreign assets are gathered in certain places (e.g. European banks invest in Emerging Europe, and their US counterparts invest in Latin America). Banks have relatively fewer assets in countries with capital controls and higher levels of political risk, but relatively more assets in countries with a higher degree of trust (the latter being the most important).

Garcia-Herrero and Vazquez (2013) use bank-level data on 38 global banks incorporated in the G-7 and Spain for the 1995-2004 period. They too find that bank-portfolios are home-biased. Global banks achieved higher risk-adjusted returns, but returns were negatively affected by losses in certain regions.

Gulamhussen et al. (2014) use a sample of 384 listed banks from 56 countries and calculate their Z-score and Expected Default Frequency (EDF) as measures of risk. They associate these measures of risk to proxies of each bank's internationalization and find that internationally diversified banks are actually riskier than banks focused on their home market. They attribute their results to business models chosen by international banks' managerial decisions and their incentives.

Berger et al. (2017) also examine the riskiness of internationally active US banks. They too find that international expansion of banks is associated with increased risk, due to market-specific factors. The effect of these factors is more evident during crises. The authors attribute their results to corporate governance issues.

Mutual funds

The first paper, to my knowledge, to examine home bias at the institutional level is that of Hau and Rey (2008). The authors use a dataset of detailed mutual fund equity holdings worldwide over the period 1998-2002. These funds are incorporated in 16 countries (EU, US, UK, Canada and Switzerland). Although the authors report a

significant heterogeneity across countries and across funds within the same country, they find that the "average" fund has a degree of home bias smaller than aggregate data. This heterogeneity among funds within the same country may be the outcome of institutional constraints faced by their managers. In the case that these constraints are existent and irrevocable, they should be endogenous, stemming from agency problems between investors and fund managers (Hau and Rey, 2008).

Lippi (2016) examines Italian occupational pension funds, which invest in equities, government securities and corporate bonds. The author uses data for 30 occupational pension funds existing for the 2007-2011 period. For these funds, he finds that in the case of a single or co-acting Italian asset manager, Italian assets is preferred. However, there is no home bias when there are more than three asset managers, even if the majority or all of them are Italian.

Equity

Equity home bias is usually calculated as the difference between actual equity holdings by natives and the share of the country's equity in the total market capitalization worldwide. It is also calculated as the difference from a benchmark mean-variance portfolio. The literature concerning equity home bias is immense; therefore I present only a selection of papers that are closest to what I do in Chapter 4.

Darvas and Schoenmaker (2017) estimate equity home bias for the euro area countries, including unlisted companies, and show that home bias is much more pronounced than estimated before. The authors also examine home bias as if the euro area was one country and find similar ratios as in the US for equities and lower for debt instruments.

Dahlquist et al. (2003) examine how corporate governance affects home biased equity holdings. They use data from Worldscope to estimate the "world float portfolio", namely the world portfolio of shares that is really available to investors, excluding block shareholdings controlled by large shareholders[16]. They show that in countries where block shareholdings prevail, home bias is present, and that US investors have a

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[16] The authors classify as block shareholders those who hold more than 5% of the firm's equity for 51 countries in 1997. They find for these countries that, on average, 32% of the shares belong to block shareholders and are thus not available for trading.

smaller share of their portfolio invested in these countries. They also use a sample of Swedish firms to confirm their findings.

Geranio and Lazzari (2019) also examine equity home bias in the eurozone. They find that home bias is still prevalent in the eurozone, especially in small caps.

Bonds

Portes et al. (2001) study gross equity, government and corporate bond flows between the US and 40 other countries and find that asymmetric information leads to the negative relationship between asset flows and distance.

Burger and Warnock (2003) were the first, to my knowledge, to analyze investors' bond portfolios. More precisely, the authors analyze US investors' international bond portfolios in 50 countries, half of which can be characterized as emerging, for the 1997-2001 period. They conclude that US investors are biased towards their country's bonds. However, when they invest in foreign bonds, they prefer countries with more open capital accounts and bond returns less correlated with those of the US, as well as countries with lower credit risk. The authors also find that countries with limited inflation and better institutions have larger local currency bond markets. The potential problem is for countries that suffer from the "original sin" (Eichengreen and Hausmann, 1999), which refers to a currency that is not accepted to borrow abroad in the long term, or even domestically. Such a currency can lead to a downward spiral of self-fulfilling crises, when local firms borrow in foreign currency. While the "original sin" can be treated as exogenous, La Porta et al. (1997) show that the legal system and law enforcement play a role in market size, which implies the opposite. Burger and Warnock (2003) also present a table with US dollar-denominated bonds (non-US). These account for 10% of all bonds outstanding in 2001, but are only 6% in the euro area, 22% in emerging Asia and 53% in Latin America. This implies the need of emerging countries to reduce (if not eliminate) exchange rate risk in order to attract foreign capital.

Lane (2006) analyzes patterns of bond holdings between pairs of countries with special emphasis on eurozone countries. For this purpose, he uses the IMF's Coordinated Portfolio Investment Survey, which shows 67 countries' portfolio holdings in 220 destinations. He documents euro area bias, i.e. euro member countries

hold relatively large amounts of bonds from other euro area member countries, especially those with which they have trade and financial linkages.

Investing in sovereign bonds may be the best way to hedge exchange rate risk: Coeurdacier and Rey (2011) state that nominal bond returns differentials between countries are almost perfectly correlated with the real exchange rate. However, within the euro area, there is no exchange rate risk[17], and nominal bond returns differentials between countries issued in the same period mirror the default risk embedded.

Coeurdacier and Martin (2009) estimated that the elasticity of substitution within the euro area is three times higher than for bonds issued in different currencies. I should point out, however, that the European trend of falling home bias in sovereign bond holdings reversed during the crisis. Battistini et al. (2014) find that banks in the periphery countries increased their country's sovereign debt exposures when yields rose, indicating distorted incentives. They also document that banks across almost all euro area countries increased their country's sovereign debt exposures when systemic risk rose.

Reasons for home bias

In the following paragraphs I examine more closely the validity of the arguments concerning home bias. Karolyi and Stulz (2002) review the relevant existing literature[18] and conclude that while direct restrictions to international investment cannot explain home bias, implicit restrictions maybe can. Geographic distance, language and culture differences as well as time zone differences affect international asset holdings. It is possible that the most important determinant of equity home bias is ultimately block ownership.

(a) Hedging may be inadequate

Black (1974) and Stulz (1981) examine hedging from the viewpoint of international finance. They model barriers in the form of a tax on holding foreign countries' shares. The difference between the two papers is that in Black (1974) proportional tax is

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[17] That is, if I exclude the possibility of exiting the euro (Kahn, 2016).
[18] I should bear in mind that this literature refers predominantly to equity holdings.

calculated on net positions (i.e. long minus short positions), while Stulz (1981) models this tax for the absolute portfolio's value (i.e. long plus short positions). Stulz (1981) concludes that it may be "highly inefficient" for the native investor to hold foreign assets with beta values lower than his country's security market line, even if their expected return increased slightly.

Quinn and Voth (2008) combine data on capital account openness with stock return correlations over the twentieth century. Their results indicate that correlations between stock markets have increased from 0.4 in the 1990s to above 0.8 about twenty years later. This renders home bias a rational choice (Levy and Levy, 2014)

Bhamra et al. (2014) examine how global equity portfolios are determined in a framework where financial markets are imperfectly integrated. They use data from the G7 countries for the 1978-2008 period and find that when stock return correlations between countries are high, the investors will choose not to invest in those countries, even if only small frictions exist.

(b)Transaction costs

Most studies have concluded that asset trade costs should have to be very high to explain home bias (see Coeurdacier and Rey, 2011 for references). An exception is a paper by Sercu and Vanpee (2008), who use a 2001-2004 sample and control for a number of factors like inflation and exchange rate risk amongst others. They find that costs for investing in equities abroad are quite low. However, these costs can vary widely across different countries, especially in emerging economies.

(c) Asymmetric information

The existence of asymmetric information implies that foreign investors should earn lower returns than domestic ones. Whether foreign investors are really less well informed, is debatable. Empirical research is still inconclusive, and results vary across different countries (see Coeurdacier and Rey, 2011, and Dvořák, 2005 for references).

Grinblatt and Keloharju (2000) use a dataset for traded firms in Finland. They find that foreign investors in Finland exhibit more successful stock pickings than domestic investors.

Bae et al. (2005) use a sample of 32 countries to examine the ability of local analysts to make better earnings forecasts for firms in their country than foreign analysts. They document a local advantage, controlling for various analyst and firm characteristics. The advantage is more significant in countries where firms apply income smoothing methods, less information is publicly available about the firm, and where foreign investors and outsiders hold a smaller fraction of the firm's equity.

Dvořák (2005) uses transaction data from the Jakarta Stock Exchange and finds that domestic investors have higher profits than foreigners. Dvořák (2005) also examine the brokerage firms with which investors cooperate: Clients of local brokerage firms have lower long-term but higher short-term returns than clients of global brokerage firms; local clients of global brokerage firms exhibit higher profits than foreign clients of global brokerage firms.

Choi et al. (2017) utilize a dataset of security holdings of 10,771 institutional investors from 72 countries to examine concentrated (in countries and industries) investment strategies' returns. They find that such strategies can deliver superior performance, in line with the "information advantage theory" and contrary to asset price theory.

(d) Real exchange rate risk
Fidora et al. (2007) examine the role of exchange rate risk on bonds and equity home bias for 40 investor countries and 120 destination countries. For that purpose, they use an international capital asset pricing model (CAPM) with real exchange rate volatility that deviates from the PPP. They estimate that about 20% of the cross-country variation in equity and bond home bias can be explained by the volatility of the real exchange rate. More importantly, eliminating exchange rate volatility (i.e. with the introduction of the euro) reduces bond home bias by 60%, but equity home bias by only 20%.

(e) Behavioral considerations
Beugelsdijk and Frijns (2010) use data on mutual fund holdings stemming from 26 countries and investing in 48 countries. They relate this data to Hofstede's measures

of culture. They find that cultural distance is statistically insignificant in the full sample, but is significant for developed countries. Uncertainty avoidance is statistically significant in emerging markets.

Anderson et al. (2011) examine the international equity holdings of almost 25,000 year-end 2006 fund holdings from over 60 countries that have invested in shares from over 80 countries. They connect shareholdings with Hofstede's measures of culture and find that funds incorporated in countries with higher uncertainty avoidance exhibit greater home bias. Funds incorporated in countries with higher levels of masculinity and long-term orientation exhibit less home bias. Funds prefer to underinvest in culturally remote countries.

Siegel et al. (2011) use international investment flows between pairs of countries for the period 1995–2008. These investment flows include share and bond purchases, mergers and acquisitions and syndicated loans in about 50 countries with an adequate capital development. The authors find that egalitarianism distance strongly and negatively affects international investment flows. They also find that egalitarianism distance affects more mergers and acquisitions and syndicated loans, since these preclude more intense interactions between the two foreign parties, than bonds and equity do.

Karolyi (2016) reviews the research conducted on cultural values in finance and examines different databases. He then uses data on the annual holdings of over 5,000 institutional investors over the period 2001-2012 to conduct an analysis of the ability of cultural distance to explain foreign bias[19] in international portfolio holdings. He uses traditional gravity models and finds that culture does play a role in foreign bias. He also notes that both culture and institutions play a role when deciding financial investments, while some of the familiarity variables[20] are also statistically significant. Karolyi (2016) uses all six of the main Hofstede's cultural dimensions, as well as 14 out of the 25 cultural dimensions proposed by the World Values Survey and the GLOBE (Global Leadership & Organizational Behavior Effectiveness) project.

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[19] Foreign bias refers to the pattern where investors choose to invest a relatively larger part of their assets in certain foreign markets, excluding their home market investments.
[20] The familiarity variables used are geographic distance along with contiguous border, common language, common colonizer post 1945, colonial relationship and regional trade agreement

Huberman (2001) examines the shareholders of a Regional Bell Operating Company. They find that customers tend to hold Bell equity from their region and not from other regions. This shows the tendency of people to invest in familiar firms and to ignore portfolio theory.

Grinblatt and Keloharju (2001) also examine regional home bias by looking at language, culture and distance as aspects of familiarity. They use a dataset of share ownership and trade for the period between December 1994 and January 1997 for 97 traded firms in Finland. The interesting aspect is that while Finland has two official languages (Finnish and Swedish), 14 of these firms publish their reports only in one of these languages. The authors find that private investors prefer firms headquartered in close locations, firms that publish their reports in their native language and whose CEO is of similar cultural origin. More sophisticated investors and institutions with practical knowledge in finance are less affected in their equity choices by the three examined aspects of familiarity.

Familiarity affects asset allocation decisions of fund managers as well. Chan et al. (2005) use data from more than 20,000 mutual funds in 26 developed and developing countries and their equity investments across 48 countries for the period 1999-2000. They document the existence of home bias. Economic development, capital controls and tax variables only affect foreign investments. Pool et al. (2012) find that home bias is stronger for inexperienced and resource-constrained mutual fund managers. However, their home-biased equity pickings lead to riskier and poorer performing results.

Karlsson and Norden (2007) use pension funds in Sweden to study for equity home bias. They find that less sophisticated and overconfident investors are more prone to be home-biased. Barber and Odean (2001) use data from a brokerage firm on 35,000 households for the period between February 1991 and January 1997 and find that men trade on average 45% more than women but earn 1.4%, which is consistent with overconfidence models.

Morse and Shrive (2004) use a panel of world values surveys in 53 countries. They find that patriotism is positively related to home bias. Their results are economically significant, since a one standard deviation lower patriotism in a country level leads to a 3-5% increase in investment abroad.

(f) Inability to hedge idiosyncratic risks

Engel and Matsumoto (2006) develop a two-country DSGE model. They show that sticky prices may lead investors to favor home shares, because sticky prices lead to a negative correlation between labor income and firm profitability. In the case of flexible prices, this correlation is positive.

(g) The role of institutional settings

Karolyi and Stulz (2002) review existing finance literature concerning asset pricing. They note that, since the 1970s, barriers to international investments have been reduced considerably, even in emerging markets. However, tax considerations (which may differ across different investors) may inhibit international portfolio holdings. Moreover, the investors have witnessed cases where barriers have been restored. Finally, sovereign risk may be the most important barrier for an investor.

Gelos and Wei (2005) examine portfolio holdings of emerging market mutual funds to test whether government and country transparency play a role in asset allocation. They find not only that funds invest less in less transparent countries, but also funds tend to exit from these countries in the case of a crisis.

2.5 Loan portfolio and corporate governance

The financial crisis that began in the US in 2007 and rapidly spread to the rest of the world is generally attributed to the risky investments undertaken by the managers of financial institutions. This raises questions about the effectiveness of financial institutions' corporate governance structures. Indeed, failures and weaknesses in corporate governance are regarded as one of the major factors behind the financial crisis (Kirkpatrick, 2009). The De Larosière report (2009) also considers corporate governance as one of the most important failures of the recent crisis.

However, financial problems in the banking sector are ultimately transferred to the real economy through the financial accelerator. Introduced by Bernanke and Gertler (1989) and Kiyotaki and Moore (1997), it describes the phenomenon where even small shocks in the real economy are amplified through the banking system and

prolong the business cycle. During the recent financial crisis, troubled banks were not in a position to grant loans even to creditworthy borrowers, thereby exacerbating the crisis (Athanasoglou et al., 2014). This phenomenon is described as procyclicality, meaning "the reinforcing interaction within the financial sector and between the functioning of the banking sector and the real economy, leading to unsustainable economic growth during upturns and deeper recessions in downturns" (Athanasoglou et al., 2014).

During an economic downturn, both credit demand and credit supply fall. However, it has been documented, both for the US (Berger et al., 2008) and Europe (Hempell and Sorensen, 2010), that the decrease in new loan approvals can be attributed to banks' changing lending standards. This change has an effect on all loan aspects, namely interest rates (Jimenez and Saurina, 2006; Cappiello et al., 2010), collateral (Jimenez and Saurina, 2006) and loan maturity (Gordy and Howells, 2006).

Chava and Purnanandam (2011) have shown that banks' financial problems following an adverse capital shock affect bank dependent borrowers. The authors use the period around the Russian crisis in 1998 and its effect on US bank-dependent borrowers. Chava and Purnanandam (2011) use a sample of listed firms and do not examine banks' corporate governance.

Faleye and Krishnan (2017) examine the nexus between corporate governance and lending to large firms. They construct an index to measure the board effectiveness using the variables of board size, percentage of independent directors, CEO duality and board classification for 80 US banks over 1994-2008. They also use the borrowers' long-term credit ratings at the time when the loan was granted and define the borrowers that are not investment-grade as risky. They find that board effectiveness is associated with a lower probability of lending to risky borrowers. But this lower probability holds only in crisis periods; in normal periods, no association between board effectiveness and probability of lending to risky borrowers was established.

The case of Spain has attracted the attention of researchers due to its characteristics before the crisis. Martin-Oliver et al. (2017) examine the business models of Spanish cajas and examine why they exhibited more losses than commercial banks. They examine corporate governance characteristics such as political influence, education and experience in the banking sector. They conclude that ownership and governance

seem to affect the results more in crisis periods. Ibanez-Hernandez et al. (2018) also examine the nexus between corporate governance and procyclicality, using all Spanish banks. However, they concentrate on the nexus between politics and the banks. Cunat and Garicano (2010) use data on Spanish cajas and their board members' education. They conclude that board composition and the loan portfolio are not highly correlated at the peak of the financial crisis. The same applies both for NPLs and credit rating downgrades.

Sumner and Webb (2005) use a simultaneous equation framework to examine loan portfolio composition with regard to board characteristics in a sample of 316 Bank Holding Companies in 1997. They find that consumer loan growth (as a percentage of total assets) is associated with the share of outsiders on the board, but consumer, agricultural and real estate loan growth is not. The banks' future performance is, however, not associated with consumer and business loan growth. Additionally, there is some evidence that the effect of diversity may be altered in a crisis (Adams and Ferreira, 2009).

Stefanelli and Cotugno (2010) use data from all Italian-based banks listed on Borsa for the period 2006-2008. They examine the board monitoring role on the banks' loan portfolio. The authors find that independent directors seem to improve banks' recovery rates, but default rates increase.

Chapter 3: Granting loans successfully abroad: the role of foreign board members

3.1 Introduction

During the 1990s and the 2000s many banks started to expand internationally, following regulatory and technological developments and the expansion in the non-financial sector (Berger et al., 2005a). Current market shares of foreign banks average 20% in OECD countries and 50% elsewhere (Claessens and Van Horen, 2012). This trend has also affected board composition: among the 25 highest capitalized European banks in September 2007 with more than 50% of their assets abroad, the half have at least 30% of foreign directors on their boards (Ladipo et al., 2008).

In this chapter I add on the growing literature regarding diversity of board members. I examine the relationship between board composition and the bank's international portfolio, focusing on board members' nationality. A significant part of this data has been hand-collected, since several of the banks in my sample are not listed.

While there are other published papers that deal with board members' nationality (e.g. Garcia-Meca et al., 2015), here I examine whether the presence of foreign directors on bank boards promotes the bank's successful presence[21] in the director's country of origin. To this end, I use of a dataset derived from the EU-wide stress tests conducted in 2014, 2016 and 2018 by the European Banking Authority (EBA). This dataset provides information about the distribution of each bank's loan portfolio in its nine primary national markets. It also includes further breakdown about each bank's main loan categories and their respective default rates, as derived by a common methodology across all banks. My insight will enable me to investigate the effect of foreign board members originating from countries in which the bank has allocated a considerable part of its portfolio. Such investigation will involve:

- comparing default rates of loans granted by a bank incorporated in country x in its (foreign) director's country of origin (country y) with the average default rate in country y; and

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[21] I define "successful presence" later.

- comparing weighted average default rates between (i) loans granted by banks in country x that have a board member originating from country y; and (ii) loans granted by banks in country x that do not have one.

As mentioned above, several of the banks in my sample are not listed. This was not anticipated, since my sample consists of Europe's most significant banks, from the supervisor's point of view. As an immediate consequence of this, it was very hard to collect necessary data, on top of the difficulties arising from the fact that annual reports for some of the banks in my sample for 2013 were not available in English[22]. However, the most important implication is that research regarding the European banking system, when restricted only to listed banks or to databases, actually leaves out a significant part of it. The dataset I use successfully addresses this issue.

As described in Section 1.1, resource dependency theory (Pfeffer and Salancik, 1978), agency theory (Jensen and Meckling, 1976, and Fama, 1980) and stewardship theory (Donaldson and Davis, 1991) constitute the theoretical underpinnings of diversity. These theories focus on board members' advisory role. Agency theory, on the other hand, focuses on their role as monitors (Stiles and Taylor, 2001). In this chapter, I focus mainly on resource dependence theory, examining whether a foreign board member can help his/her bank achieve better results in the form of lower NPL ratios in his/her country of origin.

National diversity in boards is encouraged due to demographic change (European Commission, 2012; Parker Review, 2017). Relevant literature has documented a number of advantages from such inclusion. Foreign directors are associated with higher risk-adjusted returns (Delis et al., 2017) and performance (Carter et al., 2003; Choi et al., 2007; Oxelheim and Randoy, 2003), lead to a change in strategic focus (Gulamhussen and Guerreiro, 2009), reduce the principal-agent problem (Fogel et al., 2013; Brickley et al., 2003) and corporate expropriation (Hamzah and Zulkafli, 2014). Foreign directors may be able to offer a different point of view within the board due to their work experience in other countries (Carpenter et al., 2001; European Commission, 2012) with different economic and legal framework and better knowledge of markets abroad (Masulis et al., 2012). Foreign-based directors' contribution increases with their region's relative importance (Masulis et al., 2012).

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[22] This is evidence of the considerable fragmentation in the European banking system still prevailing in 2013.

However, foreign board membership could potentially harm performance (Garcia-Meca et al., 2015; Frijns et al., 2016; Douma et al., 2006). Foreign-based directors exhibit lower attendance records (Masulis et al., 2012), while characteristics like different language is an obstacle in foreign board membership in the first place (Adsera, 2015), which could inhibit a firm's potential competitive advantage.

Results concerning a bank's "successful" presence abroad should depend on its loan portfolio choices. Indeed, relevant literature has documented that foreign owned banks exhibit different fund allocation strategies than local banks (Berger et al. (2005a; De Haas et al., 2010; Taboada, 2011; Giannetti and Ongena, 2009). Moreover, they choose more creditworthy borrowers ("cherry picking", e.g. Degryse et al., 2012; Beck and Brown, 2015). Results may be also influenced by the host country's geographical distance (Deng and Elyasiani, 2008, for the USA; Acharya et al., 2006, for Italy) and home and host country regulation (Ongena et al., 2013; Kane, 2000; Carbo et al., 2009).

Foreign board members account for 15.80%, on average, among the banks in my sample[23]. My sample banks have invested about 32.02% of their total assets (non-weighted average) abroad. Taking into account that the banks in my sample are among the largest in Europe, I would expect these percentages to be significantly higher. This implies limited internationalization of the banking industry within the EU and can be the outcome of a number of factors. First, this may reflect that many European banks have not tried to expand internationally. Possible reasons for this include (as far as cross-border expansion within the EU is concerned) remaining barriers to entry in EU countries or a lack of banks' strategic focus on international expansion. Second, board composition is hard to change because local stakeholders expect to be represented and because banks overestimate continuity; therefore former executives are appointed as non-executive board members (Ladipo et al. 2008). Third, some EU member countries may have tried to strengthen their banking sector by building "national champions" after 1992 (Cybo-Ottone and Murgia, 2000). I expect that the Single Supervisory Mechanism will help to deliver a stronger European banking system in the years to come, which should be reflected in European banks' board composition.

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[23] Masulis et al. (2012) report a 13% of foreign directors for their sample of UK firms.

I find that a higher proportion of foreign board members is positively associated with the bank's share of total loans abroad. I also find a strong positive link between the board members' origin from a specific country and the bank's share of total loans in this country. However, my results did not show that including a board member from a specific country is linked to a lower NPL ratio in this country. Foreign board members were not found to be associated with the bank's average NPL ratio either. Average board members' age and the ratio of women are positively associated with the bank's successful presence abroad. Macroeconomic conditions, institutional settings and familiarity issues also have an effect on the bank's NPL ratio in host[24] countries.

This chapter is structured as follows. Section 3.2 presents the hypotheses tested. Section 3.3 provides a description of the database, Section 3.4 presents the model, Section 3.5 describes my variables, Section 3.6 the methodology used and Section 3.7 includes tables with descriptive statistics and correlation coefficients. Section 3.8 reports and discusses the empirical results. Section 3.9 deals with endogeneity issues. Finally, Section 3.10 concludes.

3.2 Tested hypotheses

According to the literature review in Section 2.2, the hypotheses I will test are the following[25]:

H1: The higher the foreign board members' ratio, the higher the share of the bank's total loans abroad.

H2: The higher the ratio of foreign board members, the lower the bank's corporate and retail loan default rate.

H3: The higher the ratio of foreign board members from a specific country, the higher the share of this country in the bank's corporate and retail loan portofolio.

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[24] Throughout the text, the bank's country of incorporation is called home country and each foreign country where a bank has allocated part of its loan portfolio is called host country.
[25] See "Methodology" for explanations regarding my approach.

H4: The higher the ratio of foreign board members from a specific country, the lower the bank's corporate and retail loans' default rate in this country compared with this country's average default rate.

H5: The higher the ratio of foreign board members from a specific country, the lower the bank's corporate and retail loan default rate in this country compared with default rates of the other banks in the same country.

I expect a positive relationship between the ratio of foreign board members and the bank's foreign loans as a percentage of total loans. The reason is that more internationalized banks are expected to have a more internationalized board too. Furthermore, I expect this positive relationship to hold in the foreign board member's country of origin.

The Office of the Comptroller of the Currency (1988) found that while the economy is an important factor for a bank's profitability, it is policies and procedures of the management and board that will determine whether a bank will succeed or fail. Inadequate lending policies will ultimately be reflected in default rates. This suggests an association between corporate governance and the bank's NPL level and, consequently, its viability. Therefore I expect the banks' NPL ratios to be associated with corporate governance variables. However, the relationship between the ratio of foreign board members and the bank's NPL ratio is less straightforward. On the one hand, foreign board members may be chosen on grounds of better acquaintance with foreign markets. On the other hand, they may be less effective monitors for reasons concerning physical distance, limited access to soft information and limited familiarity with local laws, regulations etc. (see Masulis et al., 2012, for references). Indeed, Masulis et al. (2012) find poorer performance for firms with out-of-state board members, especially in states of less importance to the firm. The authors claim that this may be the result of poorer disciplining ability or of poorer board meeting attendance. Other factors inhibiting foreign board members' contribution may include limited knowledge of the firm's home market and cultural (including linguistic) distances. Of course, Masulis et al. (2012) deal with firms in general, whereas a

bank's portfolio choice may be the outcome of other factors, such as the need to serve multinational companies with a significant presence abroad: these companies may, for example, face financial difficulties in their home country, and these difficulties are then transferred abroad, affecting the bank's portfolio. Therefore, I expect a negative association between foreign board membership and the bank's NPL ratio.

Finally, whether the inclusion of foreign board members from a specific country could influence the bank's NPL ratio in this country is also ambiguous. On the one hand, it has been documented (e.g. Degryse et al., 2012) that foreign banks "cherry pick" borrowers in foreign countries and foreign board members could reduce principal-agent problems in their countries of origin (Brickley et al., 2013). Moreover, professionals from specific countries may be more efficient (Oxelheim and Randoy, 2003), and relatively larger banks with an international focus may be in a better position to select more skilful board members (Fogel et al., 2013). These may lead to lower NPL ratios relative to industry averages. On the other hand, foreign board members have been found to be associated with inferior performance (Garcia-Meca et al., 2015; Frijns et al., 2016; Douma et al., 2006) and lower attendance records (Masulis et al., 2012). Moreover, NPL ratios within my sample have been calculated by the ECB, following a specific (and potentially stricter) methodology. Therefore, they may be higher than the average NPL ratios reported in each country.

3.3 Database

My source of data concerning bank-level loan portfolio data is the EU-wide stress test conducted by the European Banking Authority in 2014 (EBA, 2014c) for 130 banks. This was based on the Asset Quality Reviews undertaken by national competent authorities in the respective EU countries. I also use data from the subsequent stress tests conducted in 2016 and in 2018, but this time for 52 and 48 banks respectively. The main advantage of this dataset is that it is based on a common methodology, which ensures that "main EU banks are all assessed against common assumptions, definitions and approaches" (EBA, 2014b) and therefore results are comparable. For example, due to different interpretations of non-performing loans, EBA (2014b) had

to harmonise definitions[26] (see Kalfaoglou, 2015, pp. 51-52). Moreover, external auditors were assigned to examine banks' portfolios. The 2014 stress test exercise covered approximately 82% of the total banking sector in the EU. Data refers to December 31 of the previous year.

Data on board composition was sourced from BoardEx or from banks' financial statements as of December 31, 2013, 2015 and 2017, respectively. Given that banks' financial statements or websites do not always provide detailed information concerning their board members, I used several databases (BoardEx, Orbis Bank Focus, CapitalQ, Bloomberg). For missing data I conducted detailed research on the internet (e.g. papers in the press, which referred to the nationality and/or the age of the person in question).

From the 130 banks used in the 2014 EU-wide stress test, I exclude 10 banks because they do not have a loan portfolio, as well as 9 banks due to lack of available data, and end up with a total sample of 111 banks from 19 different countries[27]. The respective figures are 49 banks from 12 different countries for the 2016 stress test and 44 banks from 12 different countries for the 2018 stress test. The smaller sample sizes for 2016 and 2018 reflect the reduced number of stress-tested banks by EBA in those years. My final sample consists of 130 (different) banks in total.

The total number of foreign board members at these banks is 490, or 15.80% of all board members in my total sample.

It should be noted that I did not distinguish between one-tier and two-tier board structure (EBA, 2014c), since there are differences across countries concerning the presence of executives or even the CEO on the board (see BCBS, 2015 for a relevant argument).

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[26] The Asset Quality Reviews (AQR) uses an "EBA simplified approach". Since 21 October 2013, EBA has introduced the term "non-performing-exposure" (NPE). This is defined as any material exposure that is 90 days past-due, even if it is not recognized as defaulted or impaired, any exposure that is impaired (according to IAS 39) and any exposure that is in default according to the Capital Requirements Regulation. While for retail exposures NPE is defined at the facility level, for non-retail exposures NPE is defined at the debtor level (i.e. if one material exposure is classified as NPE, all exposures to this debtor are treated as NPEs). See EBA (2014a) "Asset Quality Review – Phase 2 Manual", for more details.

[27] Six banks are based in Austria, four in Belgium, three in Cyprus, three in Estonia, two in Finland, eleven in France, twenty-two in Germany, four in Greece, five in Ireland, fourteen in Italy, three in Latvia, two in Lithuania, one in Luxembourg, two in Malta, six in the Netherlands, three in Portugal, three in Slovakia, three in Slovenia and fourteen in Spain.

3.4 The model

In order to investigate the relationship of foreign board membership with the bank's portfolio allocation and default rates, I constructed the following models:

Model 1

$$y_{it} = \alpha_0 + \alpha_1 F_{it} + \alpha_2 X_{it} + \alpha_3 Z_{it} + \alpha_4 C_{it} + \alpha_5 T_{it} + u_{it} \qquad (1)$$

where: $i = 1, 2, ..,\quad t = 2013, 2015, 2017$

- y is either the share of total loans abroad (for H1 & H3) or the NPL ratio (H2) for bank i in year t;
- F is the number of foreign board members as a percentage of the total number of board members;
- X is a vector of control variables capturing the bank's corporate governance;
- Z is a vector of control variables concerning bank's financial position and economic variables;
- C is a vector of miscellaneous control variables;
- T is a vector of year dummies to control for time effects; and
- u_{it} are random errors.

Model 2

$$\Pi_{it} = \alpha_0 + \alpha_1 F_{it} + \alpha_2 X_{it} + \alpha_3 Z_{it} + \alpha_4 C_{it} + \alpha_5 V_{it} + \alpha_6 T_{it} + u_{it} \qquad (2)$$

where: $i = 1, 2, ..,\quad t = 2013, 2015, 2017$

- Π is a variable that shows whether bank i has successfully allocated its loan portfolio in its board member's country of origin in year t (H4 & H5);
- V is a vector of control variables concerning the host country's supervision and institutional settings, as well as familiarity metrics; and
- the remaining variables are the same as in Model 1.

All my estimations are executed with random effects, following results of the Hausman test.

3.5 Variables

<u>Independent variables</u>

My main independent variable is the ratio of foreign board members (Foreigners). Depending on the hypothesis being tested, the "Foreigners" variable shows:

- in H1 and H2, the ratio of all foreigners serving on the bank's board
- in H3 and H4, the ratio of foreigners from a specific country.
- in H5, the average foreigners' ratio from a specific host country serving on bank boards in banks' home country.

Numerous studies have documented a link between culture and performance (e.g. Karolyi, 2016, Frijns et al., 2016). Therefore, in H1 and H2, I substitute Foreigners with within-board cultural diversity (Hofstede_Frijns), using data on Hofstede's six dimensions (Hofstede et al., 2010, and Hofstede Insights). Based on Frijns et al. (2016), I use the following formula to calculate within-board cultural diversity:

$$CD_{ij} = \sqrt{\sum_{k=1}^{6} (I_{ki} - I_{kj})^2 / V_k} \qquad \forall i \neq j$$

where CD_{ij} is the cultural distance between each pair of directors, I_{ki} is the index for the kth cultural dimension for director i, I_{kj} is the index for the kth cultural dimension for director i, V_k is the sample variance of the kth dimension.

<u>Dependent variables</u>

I use different dependent variables for each hypothesis I test.

For H1 I use the share of the bank's total loans abroad (Loans_abroad). In H2 I examine the bank's corporate and retail loans' default rate (NPL_cr_bank). For H3 I use the share of the bank's corporate and retail loans in each country (cr_country).

In H4, my dependent variable shows the percentage difference between the bank's default rate in each host country and the average host country's default rate

(success_percentage)[28]. A positive percentage indicates success (i.e. a lower NPL ratio for the bank). I apply the following formula to calculate the percentage difference:

$$success\_percentage_{ij} = (NPL_j - NPL_{ij}) / NPL_j$$

where $success\_percentage_{ij}$ is the percentage difference between

(a) the default rate of bank i in each host country j (NPL_{ij}) and

(b) the average default rate of host country j (NPL_j).

In H5, my dependent variable is again the success_percentage. The metric of success is different in this case: I compare the bank's corporate and retail loan default rate in the host country with the default rate of other banks (from the same home country) in the host country. I apply the following formula to calculate the percentage difference:

$$success\_percentage_{hj} = (NPL_{hj1} - NPL_{hj2}) / NPL_{hj2}$$

where $success\_percentage_{ij}$ is the percentage difference between

(a) the weighted average default rate of all banks from home country h in each host country j that have a board member originating from host country j (NPL_{hj1}) and

(b) the weighted average default rate of all banks from home country h in each host country j that do not have a board member originating from host country j (NPL_{hj2}).

The data to calculate the aforementioned variables are derived from the EBA stress tests.

Control variables

Following past studies in banking (e.g. Gaganis et al. 2020a; Aebi et al., 2012; Fahlenbrach and Stulz, 2012; Laeven and Levine, 2009), I control for bank-specific

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[28] Instead of the success_percentage, I could use binomial distribution (1 for "success and 0 otherwise). However, this would restrict me to use logit, instead of panel data.

financial variables. More precisely, I use the natural logarithm of total assets (Log_Assets) as an indicator of size, the Net Loans to Deposits plus short term funding as a metric of liquidity (Liquidity), and the cost to income ratio as an indicator of (Efficiency_ratio). I control for capital adequacy (CAR) and leverage (Leverage) using the Common Equity Tier 1 and the leverage ratios respectively, as calculated in the EBA stress tests. Following numerous papers (e.g. Doumpos et al., 2015; Beltratti and Stulz, 2012), I control for country-level macroeconomic conditions, using the lagged annual GDP growth (GDP_t_1) and inflation (Inflation) rate.

A number of studies examining corporate governance in banking either control for specific corporate governance variables (e.g. Garcia-Meca et al., 2015; Adams and Mehran, 2012; Aebi et al., 2012) or include a bank-level indicator of corporate governance (e.g. Gaganis et al., 2020a). Accordingly, I control for board size (Board_size_log), CEO duality (duality), the ratio of supervisory (SDS) and female (women) directors and the board members' average age (AGE), as gender and age are also aspects of diversity. To collect data concerning board composition, I used several databases (BoardEx, Orbis Bank Focus, CapitalQ, Bloomberg). Missing data were hand-collected from the internet.

The actual effect of capital stringency and changes in regulation on bank risk-taking has been found to depend on the relative power of the shareholders (Laeven and Levine, 2009). Bertay et al. (2015) find differences in lending practices between private and state-controlled banks over the business cycle, and Berger et al. (2016) document a strong association between types of owners and failures during the recent financial crisis. Ownership is also used as a control variable in many studies in banking (e.g. Fahlenbrach and Stulz, 2012). Therefore, I also examined whether the bank is controlled by the state or by private investors (ownership), irrespective of their nationality. Data on ownership status were hand-collected from the internet.

Market concentration may lead to improved profits and higher capital buffers, and hence lower risk levels, or result in "too big to fail" banks and consequently higher risk levels (Ijtsma et al., 2017). Therefore I control for concentration (concentration), using relevant data from Bankscope and Orbis Bank Focus and following studies on banking (e.g. Beltratti and Stulz, 2012; Gaganis et al., 2020a).

I also control for the country-specific governance environment (World_Bank_Governance), following studies that examine institutions from more than one country (e.g. Gaganis et al., 2020a). I use an index proposed by Fitch Ratings, which is a simple average of the percentile rank for each of the six World Bank Governance indicators[29].

Chortareas et al. (2013) use a sample of commercial banks operating in EU-27 countries and document a positive association between financial freedom and efficiency, especially in countries with higher political freedom. Therefore, I control for financial freedom using the overall score of its 11 indicators[30]. Data were adopted from the Heritage Foundation's website.

I do not control for differences in microprudential regulations across home countries, all of which are subject to the ECB's supervision under the Council Regulation (EU) No. 1024/2013 and the SSM Framework Regulation ECB/2014/17[31]. However, I do control for differences in macroprudential supervision, which remain within the scope of responsibility of national central banks[32]. For this purpose, I use the macroprudential policy index (MPI) developed by Cerutti et al. (2017), which measures the usage of macroprudential instruments in a country (a higher value indicates increased stringency). Macroprudential policies have been found to interact with banks' corporate governance and have an effect on bank stability (Gaganis et al., 2020a).

In determining success in the foreign board member's country of origin I can add relevant control variables. Following Karolyi (2016) and Chan et al. (2005) I apply three familiarity variables: geographic (Geographic_proximity) and linguistic (Linguistic_proximity) proximity and cultural distance (Hofstede_Kogut_Singh). I estimate cultural distance between the bank's country of incorporation and each host country following Kogut and Singh (1988). I compute cultural distance using

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[29] These indicators are: Rule of Law, Control of Corruption, Government Effectiveness, Voice and Accountability, Regulatory Quality, and Absence of Violence.

[30] These indicators include: property rights, government integrity, tax burden, government spending, fiscal health, business freedom, labor freedom, monetary freedom, trade freedom, investment freedom.

[31] Regulation ECB/2014/17 established the cooperation framework between the ECB and the national competent and designated authorities. Banks from EU member states with "close cooperation agreements" are subject to the ECB's supervision tasks.

[32] The ECB may express an opinion under some circumstances.

Hofstede's six cultural dimensions (obtained from Hofstede Insights) by applying the following formula:

$$CD_j = \sum_{i=1}^{6} \{(I_{ij} - I_{ik})^2 / V_i\} / 6,$$

where CD_j is the cultural distance of the jth home country from the kth host country, I_{ij} is the index for the ith cultural dimension in the jth country, I_{ik} is the index for the ith cultural dimension in the kth host country, V_i is the ith dimension's sample variance. It should be noted that I compute this difference irrespective of whether and how many foreign board members originate from this country, following Kogut and Singh (1988). My rationale is that this is merely a control as to whether cultural differences can explain the bank's presence abroad.

I also control for the currency (Same_currency), because about 20% of the cross-country variation in equity and bond home bias can be explained by the volatility of the real exchange rate (Fidora et al., 2007). I examine whether loans have been granted to either the United States or the United Kingdom (Financial_Center), since professionals from these countries may be more efficient (Oxelheim and Randoy, 2003) or may simply be more acquainted with advanced capital markets. Finally, I use data from Djankov et al. (2008) to control for debt enforcement (Debt_enforcement) in host countries, as this is crucial for banks to reduce their NPL ratios.

For variables concerning macroprudential supervision, concentration, governance environment and financial freedom, I use data on the bank's home country for H1 and H2. Instead, I use data on host countries for these variables in hypotheses 3-5

3.6 Methodology

When examining the first two hypotheses, each bank is a separate input, for every year I have available data. I recall that stress tests included 130 banks in 2014, 52 banks in 2016 and 48 banks in 2018. Therefore, I have data for one to three years, depending on the bank's inclusion in the stress tests.

When examining the other hypotheses, I extend a method used by Lippi (2016) who examines the effects of Italian asset managers on fund allocation. I first determine the nationality of all board members and combine them with my detailed data on the geographical breakdown of the bank's lending portfolio. This means that each bank appears in the sample for each foreign country it has granted loans to. In this manner, I end up with a sample of 1,267 observations.

In order to assess the success of a bank expanding its loan portfolio abroad, I first compare each bank's default rate achieved in each host country with the average NPL ratio of this country . The latter is obtained from the World Bank and is based on the Global Financial Stability Report published by the International Monetary Fund. Loans are classified as NPLs when principal and interest payments are 90 days or more past due or when future payments are not expected to e received in full. This data is submitted by national authorities to the IMF. However, I should point out that this data is not directly comparable, partly because EBA has used the NPE definition in its AQR exercise but more importantly because of differences across jurisdictions concerning provisioning rules, supervisory stringency and the tendency of banks to evergreen loans in order to present increased profitability[33]. Therefore, I then compare weighted average default rates between loans granted by banks in country x that have a board member originating from country y and loans granted by banks in country x that do not have one.

My approach can be illustrated by the following example. Assume that German bank x has a French board member and has granted loans to five countries, including France. "Foreigners" takes the French board members' ratio to total board size as input value for France, and zero for the other countries. The bank's presence in each host country is characterized as "successful" (H4), if its average NPL ratio in the host country is lower than the average NPL ratio of this host country, as obtained from the World Bank. To examine H5, I calculate (a) the weighted average default rates of all German banks with a French board member in France and (b) the weighted average default rates of all German banks without a French board member in France, and

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[33] See also IMF (2013). Moreover, banks may use off-balance sheet items to avoid presenting NPLs. This was examined during the AQR exercise, but may not be fully incorporated into data submitted to the IMF.

compare the two averages. German banks' presence in France is characterized as "successful", if (a) is lower than (b).

3.7 Descriptive statistics and correlation coefficients

Table 1 presents descriptive statistics of all the variables used hereafter. Table 2 presents the correlation coefficients.

Table 1, Descriptive statistics

Variable name	Average	Median	Standard deviation	min.	max.
Dependent variables					
Loans_abroad	27,93%	21,06%	25,33%	0,00%	100,00%
cr_country	72,07%	78,94%	25,33%	0,00%	100,00%
NPL_cr_bank	7,26%	4,25%	8,07%	0,08%	45,30%
success_percentage	0,64	1,00	0,48	0,00	1,00
Independent variables					
Foreigners	17,72%	8,70%	21,27%	0,00%	100,00%
Hofstede_Frijns	0.25	0.12	0.31	0.00	1.49
Control variables					
Bank-specific financial variables					
Log_assets	4.82	4.85	0.68	2.75	6.21
Liquidity	1.76	0.86	8.28	0.23	89.09
Efficiency_ratio	0.65	0.64	0.37	-1.69	4.22
ROA	0,11%	0,28%	1,76%	-13,52%	4,43%
CAR	14,03%	13,20%	5,51%	3,88%	42,80%
Leverage	5,83%	5,23%	2,69%	1,92%	21,41%
Macroeconomic variables					
GDP_t_1	0,50%	0,49%	2,39%	-7,30%	8,80%
Inflation	1,08%	1,22%	0,79%	-0,92%	2,78%
Financial_freedom	69.53	71.70	5.75	55.70	80.40
Country_NPL	7,58%	3,57%	8,67%	0,00%	44,88%
Corporate governance variables					
Duality	0.09	0.00	0.29	0.00	1.00
Board_size_log	1.19	1.18	0.17	0.78	1.80
SDS	74,02%	77,78%	18,11%	0,00%	100,00%
Women	20,68%	20,00%	12,60%	0,00%	50,00%

AGE	56.92	56.82	4.32	42.45	68.27
Ownership	0.29	0.00	0.45	0.00	1.00
Variables regarding supervision					
MPI	2.88	3.00	1.24	0.00	6.00
Familiarity variables					
Geographic_proximity	0.47	0.00	0.50	0.00	1.00
Linguistic_proximity	0.35	0.00	0.48	0.00	1.00
Hofstede_Kogut_Singh	1.38	1.27	0.96	0.17	5.31
Institutional variables					
Same_currency	0.35	0.00	0.48	0.00	1.00
Financial_center	0.29	0.00	0.46	0.00	1.00
Debt_enforcement	75.03	85.80	20.01	1.20	94.90
Concentration	0.69	0.67	0.12	0.37	0.96
World_Bank_Governance	0.84	0.87	0.10	0.62	0.98

Note: Variables are defined in Appendix I.

Table 2 – Correlation coefficients

	Log_Assets	ROA	CAR	Efficiency_ratio	Liquidity	Leverage	NPL_cr_bank	Foreigners	Board_size_log	Duality	SDS	AGE
Log_Assets	1.000											
ROA	0.142	1.000										
CAR	-0.061	0.128	1.000									
Efficiency_ratio	-0.016	-0.387	-0.176	1.000								
Liquidity	-0.058	0.046	0.272	-0.210	1.000							
Leverage	-0.437	-0.008	0.454	-0.059	-0.032	1.000						
NPL_cr_bank	-0.287	-0.468	-0.312	0.140	-0.100	0.158	1.000					
Foreigners	-0.111	-0.073	0.067	0.110	-0.085	0.182	0.015	1.000				
Board_size_log	0.322	0.080	-0.175	0.106	-0.103	-0.282	-0.104	-0.333	1.000			
Duality	-0.107	-0.015	-0.069	-0.017	0.133	-0.025	-0.020	-0.096	-0.145	1.000		
SDS	0.368	-0.018	0.021	-0.101	-0.006	-0.115	0.036	-0.047	0.238	-0.182	1.000	
AGE	0.481	0.139	-0.284	-0.005	-0.022	-0.434	0.003	-0.291	0.150	0.104	0.268	1.000
Women	0.427	0.035	0.250	0.010	0.189	0.010	-0.140	0.164	-0.018	-0.041	0.344	-0.038
Ownership	-0.023	-0.087	0.261	0.046	0.042	0.006	0.001	-0.171	-0.038	-0.087	0.079	-0.083
GDP_t_1	0.123	0.221	0.405	-0.097	0.038	0.155	-0.426	0.243	-0.011	-0.200	0.118	-0.243
Inflation	-0.113	-0.054	0.070	0.028	-0.019	-0.007	-0.257	-0.020	0.007	-0.029	-0.120	-0.137
CB_policy_rate	-0.460	-0.158	-0.306	0.082	-0.093	0.112	0.219	0.004	-0.164	0.187	-0.294	-0.168
financial_freedom	0.063	0.052	0.353	-0.040	0.053	0.024	-0.391	0.219	-0.069	-0.217	-0.094	-0.280
Country_NPL	-0.274	-0.259	-0.320	0.127	-0.035	0.118	0.761	0.069	-0.139	0.008	-0.062	0.075
World_Bank_Governance	0.178	0.027	0.343	-0.047	0.103	-0.136	-0.520	0.107	-0.024	-0.158	0.070	-0.261
MPI	0.483	0.215	0.127	-0.134	0.127	-0.241	-0.259	-0.246	0.146	0.003	0.264	0.337
Concentration	-0.153	0.093	0.236	-0.128	0.268	0.027	-0.157	0.173	-0.198	-0.224	-0.017	-0.296

Note: Variables are defined in Appendix I.

Table 2 – Correlation coefficients (cont.)

	Women	Ownership	GDP_t_1	Inflation	CB_policy _rate	financial_f reedom	Country_N PL	World_Ba nk_Govern ance	MPI	Concentrat ion
Women	1.000									
Ownership	0.049	1.000								
GDP_t_1	0.310	0.105	1.000							
Inflation	-0.061	-0.009	0.025	1.000						
CB_policy_rate	-0.473	0.006	-0.508	0.219	1.000					
Financial_freedom	0.032	0.234	0.591	0.308	-0.184	1.000				
Country_NPL	-0.228	-0.050	-0.548	-0.402	0.271	-0.490	1.000			
World_Bank_Governance	0.114	0.282	0.495	0.295	-0.195	0.818	-0.621	1.000		
MPI	0.404	-0.032	0.251	0.004	-0.690	-0.017	-0.339	0.087	1.000	
Concentration	-0.017	0.124	0.139	0.115	-0.073	0.391	-0.049	0.468	-0.014	1.000

Note: Variables are defined in Appendix I.

3.8 Empirical results

I begin by examining the relationship between the foreign board members' ratio and the share of the bank's total loans abroad (H1). Results are presented in Table 3.

The coefficient for Foreigners is positive and statistically significant at the 1% level in all specifications of the model. This implies that an increased foreign board membership ratio is associated with a higher share of the bank's total loans abroad, confirming H1. This result was anticipated, given that more internationalized banks, with a larger presence abroad, are expected to have a more internationalized board too. This is further confirmed by Log_Assets, which is statistically significant at the 1% or 5% level across all specifications. I attribute this result to increased diversification offered by an expansion abroad.

Both CAR and NPL_cr_bank are negatively related with Loans_abroad. This result is rational, since banks with higher NPL ratios and lower CAR have difficulties in their home countries, and find it therefore more difficult to expand abroad.

Apart from Foreigners, AGE is the only corporate governance variable that is statistically significant, only in one specification. This result implies a negative association between AGE and the bank's expansion abroad. I would expect boards with younger board members to be more internationally active, as younger executive teams tend to increase risk taking (Berger et al., 2014). Moreover, younger board members were raised in an era of increased internationalization relative to older generations and should therefore be more receptive to the idea of international expansion.

Women is not found to be associated with Loans_abroad. A negative influence of Women on the expansion abroad was anticipated, as female board members have been found to exercise more intense monitoring (Adams and Ferreira, 2007). Therefore I expected female directors to have a more negative stance towards the bank expanding abroad, since this would be more difficult to monitor.

Another interesting finding is that a higher governance indicator in the bank's country of domicile is positively associated with its expansion abroad. This variable is statistically significant at the 1% level in all specifications of the model. This indicates that banks from countries with higher institutional quality invest more

abroad. I explain this finding as follows: Countries with better institutions are on average richer (Kaufmann et al., 2002) and usually have more advanced banking markets. Banks headquartered in these countries may therefore have more available funds, part of which they invest abroad.

Substituting Foreigners with Hofstede_Frijns does not change my results significantly. The most striking difference is that NPL_cr_bank is not statistically significant any more. It is replaced by leverage.

Finally, I should point out that with Hofstede_Frijns R-sq overall is further improved to 40.6%, which is a good score in corporate governance-related research.

Table 3 - Association between the ratio of foreign board members and bank's share of total loans abroad

Dependent variable: Loans_abroad

VARIABLES	(1) Baseline	(2) Macro	(3) Corporate governance	(4) Supervision	(5) Institutional	(6) Overall	(7) Overall with Hofstede_Frijns
Foreigners	0.191***	0.178***	0.199***	0.195***	0.155***	0.177***	
	(0.0563)	(0.0566)	(0.0622)	(0.0573)	(0.0531)	(0.0601)	
Hofstede_Frijns							0.0688**
							(0.0281)
Log_Assets	0.0904**	0.0961***	0.115**	0.0926***	0.0818**	0.107**	0.117**
	(0.0361)	(0.0358)	(0.0453)	(0.0357)	(0.0344)	(0.0437)	(0.0453)
Efficiency_ratio	0.0880*	0.0852*	0.109	0.0878*	0.0950**	0.101	0.0892
	(0.0452)	(0.0461)	(0.0727)	(0.0456)	(0.0443)	(0.0715)	(0.0830)
Leverage	0.179	0.224	0.378	0.260	0.799	1.236	1.666**
	(0.757)	(0.746)	(0.794)	(0.780)	(0.801)	(0.872)	(0.780)
Liquidity	-0.00283	0.00141	0.00972	-0.00282	-0.000779	0.0111	0.0102
	(0.0334)	(0.0341)	(0.0361)	(0.0333)	(0.0326)	(0.0360)	(0.0358)
NPL_cr_bank	-0.515**	-0.463**	-0.614***	-0.518**	-0.309	-0.444**	-0.312
	(0.204)	(0.196)	(0.170)	(0.206)	(0.242)	(0.213)	(0.215)
ROA	0.475	0.153	0.567	0.325	0.731	0.820	0.561
	(0.663)	(0.730)	(0.634)	(0.762)	(0.699)	(0.821)	(0.741)
CAR	-0.766*	-0.793*	-0.942**	-0.775*	-1.154**	-1.357***	-1.469***
	(0.441)	(0.448)	(0.427)	(0.446)	(0.460)	(0.448)	(0.399)
GDP_t_1		0.632				-0.235	-0.191
		(0.420)				(0.538)	(0.574)
Inflation		-0.263				-1.147	-1.192

	(1.119)					(1.118)	(1.109)
AGE		-0.00637**				-0.00302	-0.00321
		(0.00324)				(0.00327)	(0.00334)
Board_size_log		0.0808				0.118	0.126
		(0.0841)				(0.0789)	(0.0859)
Duality		0.0289				0.0342	0.0365
		(0.0286)				(0.0313)	(0.0335)
SDS		0.0794				0.0568	0.0728
		(0.0763)				(0.0715)	(0.0723)
Women		-0.139				-0.125	-0.160
		(0.114)				(0.108)	(0.122)
Ownership		0.00213				-0.0340	-0.0349
		(0.0496)				(0.0491)	(0.0500)
MPI			0.00555			0.000926	-0.00122
			(0.0104)			(0.0135)	(0.0140)
World_Bank_Governance				0.709***	0.732**	0.945***
				(0.269)	(0.306)	(0.306)
Concentration				0.156	0.264*	0.225
				(0.158)	(0.149)	(0.152)
Constant	-0.164	-0.188	-0.0711	-0.191	-0.824***	-1.027***	-1.232***
	(0.198)	(0.195)	(0.282)	(0.198)	(0.252)	(0.353)	(0.333)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	200	200	194	200	200	194	186
Number of banks	123	123	117	123	123	117	113
R-sq overall	0.294	0.296	0.344	0.297	0.322	0.372	0.406
R_sq within	0.169	0.192	0.208	0.170	0.208	0.258	0.222
R_sq between	0.246	0.249	0.328	0.248	0.302	0.368	0.423

Notes: ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively. Standard errors are reported in parentheses. All the variables are defined in Appendix I.

In Table 4 I investigate the relationship between Foreigners and NPL_cr_bank (H2)[34]. I can add a new explanatory variable, namely Country_NPL, which was excluded in H1 due to high correlation with NPL_cr_bank. Including Country_NPL improves R-sq overall by about 15% across all specifications of the model[35].

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[34] In H2, NPL_cr_bank is the dependent variable, while in H1 it is an explanatory variable.
[35] Results without the inclusion of the variable Country_NPL are available upon request. When I exclude Country_NPL, Foreigners remains statistically insignificant across all specifications. However, some explanatory variables become statistically significant.

From results in Table 4, I see that Foreigners is not associated with NPL_cr_bank. I should mention that increased NPL ratios in banks with more foreigners were anticipated, in line with the findings of Masulis et al. (2012).

Results show that the only corporate governance variable to be statistically significant is women. My results are in line with Adams and Funk (2012) and Berger et al. (2014), who link increased female board presence with more risk-taking.

The most important factors are Country_NPL (in the bank's home country) and ROA. These factors are statistically significant in all specifications at the 1% level, the former with a positive and the latter with a negative sign (which is the expected sign). This is an indication that banks based in countries with increased NPL ratios will also exhibit high NPL ratios, irrespective of their board members' nationality; it can be explained by the average ratio of loans granted in the banks' home countries (c&r_country), which is 72%. Liquidity is also negatively associated with NPL_cr_bank, which implies that banks with higher NPL ratios are expected to exhibit lower liquidity ratios. Apart from these, CAR, Leverage and Efficiency_ratio are statistically significant in some specifications, always with the expected negative sign. R-sq overall is satisfactory at 75.2%.

Substituting Foreigners with Hofstede_Frijns does not change my results significantly and slightly improves R-sq overall to 77.3%.

Table 4 - Association between the ratio of foreign board members and bank's NPL ratio

Dependent variable: NPL_cr_bank

VARIABLES	(1) Baseline	(2) Macro	(3) Corporate governance	(4) Supervision	(5) Institutional	(6) Overall	(7) Overall with Hofstede_Frijns
Foreigners	0.00300	-0.0187	0.0148	0.00372	0.00488	-0.00600	
	(0.0280)	(0.0180)	(0.0327)	(0.0270)	(0.0231)	(0.0177)	
Hofstede_Frijns							0.000903
							(0.00818)
Log_Assets	-0.0109	-0.000393	-0.00791	-0.0107	-0.00155	0.00777	0.00205
	(0.0100)	(0.0101)	(0.00969)	(0.0102)	(0.00961)	(0.00773)	(0.00697)
Efficiency_ratio	-0.0246	-0.0237	-0.0384	-0.0246	-0.0210	-0.0591**	-0.0548*
	(0.0254)	(0.0284)	(0.0308)	(0.0253)	(0.0227)	(0.0254)	(0.0296)
Leverage	0.308	0.140	0.482*	0.324	0.0393	0.214	0.0205

	(0.282)	(0.250)	(0.285)	(0.285)	(0.248)	(0.252)	(0.200)
Liquidity	-0.0177*	-0.0154*	-0.0105*	-0.0176*	-0.0182**	-0.0122***	-0.0119**
	(0.0100)	(0.00822)	(0.00614)	(0.0101)	(0.00914)	(0.00432)	(0.00481)
ROA	-1.950***	-1.381***	-1.823***	-1.967***	-2.058***	-1.298***	-1.072***
	(0.606)	(0.434)	(0.560)	(0.604)	(0.609)	(0.364)	(0.365)
CAR	-0.291*	-0.0195	-0.499***	-0.295*	-0.0636	-0.222*	-0.153
	(0.158)	(0.167)	(0.137)	(0.157)	(0.177)	(0.123)	(0.0943)
GDP_t_1		0.267				0.255	0.297
		(0.247)				(0.198)	(0.206)
Inflation		0.332				0.304	0.608
		(0.392)				(0.437)	(0.434)
Country_NPL		0.742***				0.730***	0.885***
		(0.148)				(0.145)	(0.134)
AGE			0.000394			-0.00171	-0.00182
			(0.00180)			(0.00115)	(0.00117)
Board_size_log			0.000396			0.0101	0.0103
			(0.0292)			(0.0205)	(0.0225)
Duality			-0.000258			-0.00204	-0.00526
			(0.00933)			(0.00792)	(0.00678)
SDS			0.0299			0.0190	0.00550
			(0.0374)			(0.0262)	(0.0221)
Women			0.0535			0.0608*	0.0707**
			(0.0517)			(0.0358)	(0.0346)
Ownership			0.00544			0.00318	-0.000955
			(0.0182)			(0.00879)	(0.00805)
MPI				0.00110		0.00579	0.00679*
				(0.00537)		(0.00388)	(0.00388)
World_Bank_Governance					-0.443***	-0.0397	-0.000752
					(0.0730)	(0.0704)	(0.0633)
Concentration					0.0985*	-0.00409	-0.0261
					(0.0505)	(0.0329)	(0.0311)
Constant	0.188***	0.0454	0.133	0.184***	0.425***	0.127	0.135
	(0.0635)	(0.0637)	(0.113)	(0.0690)	(0.0871)	(0.0868)	(0.0970)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	200	200	194	200	200	194	186
Number of banks	123	123	117	123	123	117	113
R-sq overall	0.365	0.683	0.402	0.365	0.520	0.752	0.773
R_sq within	0.0920	0.428	0.0880	0.0913	0.151	0.486	0.533

R_sq between	0.401	0.686	0.462	0.400	0.543	0.781	0.807

Notes: ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively. Standard errors are reported in parentheses. All the variables are defined in Appendix I.

In Table 3 I examined the relationship between Foreigners and Loans_abroad. What Table 3 does not show is whether there is an association between foreign board member's origin from a specific country (Foreigners) and the share of this country in the bank's corporate and retail loan portofolio (cr_country). This relationship is examined with H3 in Table 5.

Foreigners has a positive sign but is not statistically significant in any specification of the model. However, when I limit my sample to relatively more significant loan portfolios (i.e. cr_country higher than 1%), Foreigners becomes statistically significant at the 5% level and remains statistically significant at higher levels of cr_country. Narrowing the sample by increasing minimum cr_country also improves R-sq overall by almost 3% for every 1% increase in cr_country. This implies a positive association between foreign board members from a specific country and cr_country, as this specific country becomes relatively more important for the bank. This result is qualitatively similar to that of Masulis et al. (2012), who find improved firm performance in foreign board members' home countries as these countries' markets become more important for the firm.

The only statistically significant corporate governance variable in my model is Board_size_log. This variable enters all model specifications it is included in with a negative sign. Relevant literature in the banking industry has documented that board size is positively associated with performance (John et al., 2016; de Haan and Vlahu, 2016), but negatively with risk (de Haan and Vlahu, 2016), though not unanimously. Assuming that lending abroad may be more risky for a bank, my results may be interpreted as a sign of risk avoidance by larger boards. Granting loans abroad could be seen − ex ante − as a more risky activity because of differences in laws and regulations and of relatively increased difficulty to monitor borrowers abroad.

Other statistically significant explanatory variables are World_Bank_Governance and Financial_Center. The former enters with a negative sign, which implies that banks avoid giving loans in countries with an inferior governance regime. The latter shows

that banks prefer to grant loans to the US or the UK, which are the most important financial markets worldwide.

The interaction coefficient of geographic proximity is positive and statistically significant at the 1% level, in the full specification of the model and cr_country higher than 1%. This result was anticipated, since relevant studies in the banking sector have shown that the choice of geographically distant territories mitigate value enhancements and risk reduction effects (e.g. Deng and Elyasiani, 2008) or managerial costs (e.g. Berger et al., 2005b) associated with geographic expansions. This result implies that European banks choose to expand to countries that are geographically close. This would be a sign of regional home bias (e.g. Balli et al., 2010), but the fact that Same_currency is statistically insignificant in both specifications does not support this notion. Linguistic_proximity is also positive and statistically significant. Common language is a factor that increases migration rates (Adsera and Pylitikova, 2015), while migrating to a country with a common language reduces the needed human capital investment and improves integration and returns to human capital (Adsera, 2015). I thus expected that banks would choose to expand to countries with a common language and/or choose to employ a foreign board member who already speaks the language of the other board members. My last familiarity variable (Hofstede_Kogut_Singh) is not statistically significant in any model specification. These results indicate that lending to neighbouring countries can only partly be attributed to familiarity issues; rather managerial decisions dealing with the disadvantages of supervising geographically distant loans and the governance environment in these countries are of relatively more importance.

Regarding financial variables, ROA is the only variable to be statistically significant in most specifications. This variable is positively associated with cr_country.

I note that I do not substitute Foreigners with Hofstede_Frijns in H3 and H4 because these two variables measure two completely different characteristics: Hofstede_Frijns captures cultural difference within the board; Foreigners in H3 and H4 measure the ratio of foreign board members from one specific country.

Table 5 - Association between the ratio of foreign board members from a specific country and bank's share of corporate and retail loans in this country

Dependent variable: cr_country

VARIABLES	(1) Baseline	(2) Macro	(3) Corporate governance	(4) Supervision	(5) Institutional	(6) Familiarity	(7) Overall	(8) Overall & cr_country> 1%
Foreigners	0.0460	0.0460	0.0449	0.0464	0.0458	0.0120	0.00434	0.0647**
	(0.0420)	(0.0420)	(0.0423)	(0.0421)	(0.0432)	(0.0229)	(0.0232)	(0.0287)
Log_Assets	-6.51e-05	0.000123	0.000364	0.000281	-0.000207	0.00248	0.00281	-0.00584*
	(0.00240)	(0.00243)	(0.00252)	(0.00241)	(0.00244)	(0.00199)	(0.00198)	(0.00355)
Efficiency_ratio	0.0135**	0.0137**	0.0139	0.0147***	0.0134**	0.0102	0.0119	0.0162
	(0.00552)	(0.00557)	(0.00859)	(0.00568)	(0.00542)	(0.00654)	(0.00886)	(0.0127)
Leverage	-0.0652	-0.0697	-0.0879	-0.0616	-0.0631	-0.0180	-0.0353	-0.0448
	(0.0590)	(0.0593)	(0.0639)	(0.0592)	(0.0601)	(0.0515)	(0.0524)	(0.0802)
Liquidity	0.00193	0.00210	0.00264	0.00194	0.00199	0.00182	0.00211	-0.000811
	(0.00269)	(0.00275)	(0.00251)	(0.00270)	(0.00263)	(0.00267)	(0.00247)	(0.00357)
ROA	0.226*	0.226*	0.171	0.246**	0.230*	0.205*	0.165	0.443***
	(0.119)	(0.120)	(0.117)	(0.122)	(0.118)	(0.117)	(0.112)	(0.170)
CAR	-0.0359	-0.0335	-0.0409*	-0.0338	-0.0266	-0.0396*	-0.0348	-0.0451
	(0.0223)	(0.0226)	(0.0240)	(0.0227)	(0.0228)	(0.0221)	(0.0233)	(0.0327)
NPL_cr_bank	-0.0115	-0.00902	-0.0183	-0.0109	-0.0235	-0.00194	-0.0130	0.00356
	(0.0239)	(0.0248)	(0.0250)	(0.0241)	(0.0277)	(0.0261)	(0.0313)	(0.0499)
GDP_t_1		-0.0212					-0.0252	-0.0489
		(0.0180)					(0.0307)	(0.0415)
Inflation		-0.0133					-0.0474	-0.0500
		(0.0402)					(0.0370)	(0.0440)
AGE			0.000313				4.24e-05	0.000328
			(0.000345)				(0.000372)	(0.000531)
Board_size_log			-0.0145***				-0.0138***	-0.0267***
			(0.00512)				(0.00514)	(0.00781)
Duality			0.00167				0.00197	0.000800
			(0.00242)				(0.00236)	(0.00382)
SDS			-0.00920				-0.00710	-0.0174
			(0.00780)				(0.00803)	(0.0120)
Women			0.00433				0.00412	0.0108
			(0.00824)				(0.00811)	(0.0111)
Ownership			-0.00593				-0.00626	-0.00362
			(0.00419)				(0.00429)	(0.00705)
MPI				-0.000655			7.42e-05	7.76e-05
				(0.000709)			(0.000748)	(0.00107)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
World_Bank_Governance						-0.0323*	-0.0323***	-0.0326*
						(0.0168)	(0.0115)	(0.0181)
Concentration						-0.00926	-0.00503	-0.0197**
						(0.00740)	(0.00601)	(0.00896)
Financial_Center						0.0184***	0.0247***	0.0246***
						(0.00536)	(0.00565)	(0.00843)
Same_currency						-0.00221	-0.00431	-0.000786
						(0.00262)	(0.00300)	(0.00419)
Hofstede_Kogut_Singh						-0.000722	-0.00183	0.00169
						(0.00166)	(0.00172)	(0.00275)
Geographic_proximity						0.00361	0.00911***	0.0115***
						(0.00227)	(0.00270)	(0.00410)
Linguistic_proximity						0.00525*	0.00542	0.0110**
						(0.00314)	(0.00351)	(0.00500)
Constant	0.0278*	0.0270*	0.0345	0.0267*	0.0576**	0.0137	0.0602**	0.126***
	(0.0149)	(0.0149)	(0.0218)	(0.0151)	(0.0274)	(0.0134)	(0.0253)	(0.0401)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,256	1,234	1,238	1,233	1,238	1,211	1,188	741
Number of banks	767	749	749	750	755	729	706	427
R-sq overall	0.0583	0.0558	0.0640	0.0622	0.0878	0.0287	0.100	0.147
R_sq within	0.000865	0.00174	0.00370	0.000845	0.00319	0.00629	0.0187	0.0278
R_sq between	0.0557	0.0535	0.0696	0.0596	0.0874	0.0331	0.103	0.152

Notes: ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively. Standard errors are reported in parentheses. All the variables are defined in Appendix I.

So far, I have examined the nexus between a board member's origin and the bank's loan portfolio. However, I have not examined the most important research question, namely whether including a board member from a specific country improves the bank's success in this country. I judge "success" by comparing the bank's NPL ratio in this country with the average NPL ratio in the same country, derived from the

World Bank and the IMF, as described in Section 3.5. I considered the following issues:

- Default appears on a loan with a time lag (Berger et al., 2014). However, in my case, I examine how corporate governance characteristics influence loan portfolio composition and not risk per se. I use NPLs rather as a metric of the bank's success when expanding abroad, in which case the time lag is common for all the banks in the specific country, not withstanding bank-specific provisioning policies. Besides, the "evergreening" issue has been alleviated in my case due to the Asset Quality Reviews undertaken by competent authorities for each bank.

- I acknowledge that success is -typically- judged by the profit and loss account. Since it has been shown that banks actively choose their loan portfolio (De Haas and Naaborg, 2006), a bank may choose to invest in a category of loans that entails hgher risk (i.e. a loan category with higher NPL's), but also higher interest rates. In this case, my metric of success may be unjust with banks that have, for example, chosen to expand their lending to small businesses and consumers, instead of their large corporate loan portfolio[36]. On the other hand, bank profitability may stem not only from traditional banking business, but also from other sources, which impairs the researcher's ability to make objective comparisons among banks. Since my data does not provide any information about profitability in each country where the bank has presence, the use of NPL ratios is "the next best thing".

In Table 6 I examine whether including a board member from a specific country improves the bank's success in this country (H4).

The inclusion of one or more board members from a specific country does not necessarily lead to a superior performance (in terms of lower NPL ratios) in this country. Foreigners is not statistically significant in any of the model specifications. It is only statistically significant at the 10% level when I limit my sample according to each market's relative importance (i.e. when I set cr_country at 1%). This result does

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[36] Large corporate loan portfolios usually exhibit lower default rates, but also lower interest rates.

no longer hold when I increase cr_country to 2% or 3%. Therefore, I should see this result merely as indicative rather than conclusive.

The most important determinant of success_percentage across all model specifications is NPL_cr_bank. This variable is negatively associated with success_percentage at the 1% or 5% level. Although the negative sign is logical (meaning that a bank's "successful" presence abroad is hindered by a higher average NPL ratio), the statistical significance was not necessarily expected: it is not obvious ex ante why a bank that has a high NPL ratio in its own country should exhibit relatively higher NPL ratios in its loan portfolio abroad. Besides, I have shown in Table 4 that the bank's main determinant of its average NPL ratio is Country_NPL. It would thus be reasonable to expect NPL_cr_bank not to be of such importance. My finding may be the outcome of the following:

- The bank's management is inadequate and cannot reach or does not know how to pick creditworthy clientele, both in its home country and abroad. Yet, my findings in Table 6 indicate rather the opposite: corporate governance variables included are not associated or are positively associated with success_percentage.

- The bank gives loans abroad to a clientele that is connected to the customer base in the bank's home country. This implies that the bank may seem to grant loans abroad, but actually these loans interact with loans generated in its home country. Loan-level data is needed to examine this possibility.

AGE is the only corporate governance variable that is statistically significant across all specifications. Its positive sign indicates that banks with a higher AGE exhibit improved success_percentage.

World_Bank_Governance is strongly statistically significant and negatively associated with success_percentage. This result implies that banks exhibit better results in well-governed states. Concentration is strongly statistically significant and positively associated with success_percentage. This result may be interpreted as a sign that banks can more easily "cherry pick" in more concentrated banking markets. These results hold as this market becomes more important for the bank.

MPI is also positive and statistically significant. More stringent macroeconomic supervision in host countries is associated with increased success_percentage. I explain this result as follows: macroprudential indices are more usually applied in

emerging economies (Cerutti et al.,2017), where my sample banks exhibit higher values of success_percentage with a higher MPI index (4.1 on average in emerging economies versus 2.92 in advanced economies).

Financial_Center is positive and statistically significant in both the model specifications it is included, implying a successful presence in the US or the UK. The familiarity variable Hofstede_Kogut_Singh enters as statistically significant also in both model specifications it is included. However, these results do not hold as cr_country becomes more important.

Finally, I can observe that the explanatory power of my model could be considered as relatively low at 10.9%. However, I should point out that R-sq overall values of about 5% are not uncommon in studies examining cultural distances or familiarity issues (e.g. Karolyi, 2016; Chan et al., 2005), which are similar to what I do.

Table 6 - Association between the ratio of foreign board members from a specific country and the bank's default rate in this country, compared to the corresponding domestic default rate

Dependent variable: success_percentage

VARIABLES	(1) Baseline	(2) Macro	(3) Corporate governance	(4) Supervision	(5) Institutional	(6) Familiarity	(7) Overall	(8) Overall & cr_country >1%
Foreigners	2.523	2.523	2.994	2.844	0.840	3.368	2.469	3.848*
	(1.967)	(1.944)	(2.138)	(1.978)	(1.685)	(2.202)	(2.122)	(2.274)
Log_Assets	-0.290	-0.298	-0.499	-0.346	-0.306	-0.0260	-0.347	0.159
	(0.413)	(0.417)	(0.478)	(0.410)	(0.392)	(0.445)	(0.489)	(0.775)
Efficiency_ratio	-0.593	-0.607	-0.715	-0.595	-1.066	-2.010	-0.906	-0.637
	(1.070)	(1.073)	(0.963)	(1.066)	(1.065)	(1.304)	(0.936)	(1.142)
Leverage	22.60*	22.52*	24.77*	19.95*	16.79	25.60**	20.59	22.92
	(12.16)	(12.15)	(12.99)	(11.79)	(11.20)	(12.78)	(12.90)	(16.48)
Liquidity	-0.203	-0.202	-0.230	-0.252	-0.574	-0.351	-0.432	0.356
	(0.406)	(0.410)	(0.517)	(0.406)	(0.461)	(0.458)	(0.554)	(0.701)
ROA	20.31	19.20	2.235	19.34	18.56	14.59	-11.11	-9.004
	(22.60)	(22.99)	(23.41)	(21.99)	(21.96)	(23.32)	(23.08)	(32.37)
CAR	-1.878	-1.790	-2.417	-1.172	0.222	-2.589	-0.536	-0.755
	(4.333)	(4.374)	(4.555)	(4.339)	(4.294)	(4.452)	(4.565)	(6.433)
NPL_cr_bank	-12.72***	-13.18***	-15.74***	-12.12***	-15.10***	-14.12***	-18.62***	-17.03***
	(3.672)	(3.803)	(4.431)	(3.580)	(3.857)	(3.998)	(5.124)	(6.055)

GDP_t_1		1.673					-4.755	8.735
		(8.978)					(10.35)	(14.40)
Inflation		3.169					-21.29**	-17.32**
		(3.403)					(8.720)	(8.643)
AGE			0.149**				0.134**	0.141**
			(0.0627)				(0.0545)	(0.0596)
Board_size_log			-0.581				0.0392	1.102
			(1.253)				(1.075)	(1.581)
Duality			-0.0487				0.121	0.573
			(0.432)				(0.430)	(0.546)
SDS			-1.873				-1.947	-4.082**
			(1.311)				(1.221)	(2.025)
Women			-0.553				-0.921	-2.018
			(1.953)				(1.909)	(2.559)
Ownership			-0.491				-0.255	-0.333
			(0.557)				(0.554)	(0.877)
MPI				0.454***			0.219*	0.120
				(0.141)			(0.123)	(0.151)
World_Bank_Governance					-9.579***		-9.002***	-9.495**
					(2.503)		(2.696)	(3.859)
concentration					8.864***		8.155***	8.564**
					(2.992)		(2.813)	(4.175)
Financial_Center					1.821*		2.195**	2.014
					(0.938)		(0.973)	(1.373)
Same_currency					-0.570		-0.289	-0.0609
					(0.349)		(0.346)	(0.415)
Hofstede_Kogut_Singh						0.648**	0.342*	0.111
						(0.253)	(0.188)	(0.192)
Geographic_proximity						-0.587	-0.374	-1.175**
						(0.663)	(0.675)	(0.461)
Linguistic_proximity						1.033	0.562	-0.0475
						(0.831)	(0.722)	(0.718)
Constant	0.743	0.740	-4.034	-0.0154	4.148*	-0.631	-2.678	-5.765
	(2.520)	(2.541)	(3.906)	(2.562)	(2.465)	(2.741)	(4.105)	(5.300)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,098	1,095	1,084	1,098	1,096	1,079	1,066	738

Number of banks	651	648	637	651	649	632	619	424
R-sq overall	0.0283	0.0287	0.0312	0.0452	0.108	0.0437	0.109	0.100
R_sq within	0.0139	0.0140	0.0216	0.0132	0.00563	0.0129	0.0143	0.0192
R_sq between	0.0353	0.0360	0.0358	0.0491	0.116	0.0543	0.111	0.114

Notes: ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively. Standard errors are reported in parentheses. All the variables are defined in Appendix I.

For reasons explained in Section 3.6, the use of the average NPL ratio of all banks in a country may not be an objective metric. Therefore, in Table 7, I examine H5 by comparing weighted average default rates between loans granted by banks in country x that have a board member originating from country y and loans granted by banks in country x that do not have one. Thus, in H5 I do not deal with individulal banks; hence bank-specific control variables (financial and corporate governance) are excluded from the analysis. The variable Foreigners is the (simple) average of foreign board members' ratio in the banks that include foreign board members from this specific country.

Foreigners is statistically significant at the 10% level in one specification. This is a weak indication that including a foreign board member from a specific country may lead to a lower default rate in this country compared with the default rate in this country achieved by banks with the same nationality as the bank with the foreign board member. Foreigners is the only variable that is statistically significant in any specification of the model.

Table 7 - Association between the ratio of foreign board members from a specific country and bank's default rate in this country, compared to the average default rate of other banks from the same country
Dependent variable: success_percentage

VARIABLES	(1) Baseline	(2) Supervision	(3) Institutional	(4) Familiarity	(5) Overall
Foreigners	8.917	7.839	7.152	8.629*	8.490
	(5.816)	(4.999)	(4.523)	(4.953)	(6.145)
GDP_t_1	6.268				-0.900
	(25.84)				(36.08)
Inflation	-32.87				-52.35
	(41.16)				(76.72)
Country_NPL	15.96				-10.35

	(1)	(2)	(3)	(4)	(5)
	(11.74)				(23.78)
MPI		0.0721			-0.218
		(0.582)			(0.530)
World_Bank_Governance			1.668		-7.491
			(2.143)		(11.59)
concentration			-3.418		-2.732
			(3.612)		(4.770)
Financial_Center			-2.911		-2.684
			(2.699)		(2.261)
Same_currency			0.448		-0.200
			(0.490)		(0.978)
Hofstede_Kogut_Singh				-0.277	-0.554
				(0.326)	(0.731)
Geographic_proximity				1.517	0.811
				(1.301)	(1.143)
Linguistic_proximity				-0.297	-0.439
				(0.517)	(0.502)
Constant	-2.397	-2.331	-0.593	-2.439	9.071
	(1.566)	(2.759)	(1.725)	(1.766)	(11.49)
Year dummies	Yes	Yes	Yes	Yes	Yes
Observations	80	80	80	79	79
Number of banks	48	48	48	47	47
R-sq overall	0.0240	0.0138	0.0508	0.0338	0.0631
R_sq within	0.0325	0.0151	0.0341	0.0298	0.0458
R_sq between	0.0309	0.0249	0.0655	0.0425	0.0809

Notes: ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively. Standard errors are reported in parentheses. All the variables are defined in Appendix I.

3.9 Endogeneity

I address the issue of potential endogeneity in my models using lagged values for all corporate governance variables, following other studies (e.g. Jiraporn et al., 2012; Pathan and Skully, 2010). I should mention that by using lagged values I "lose" all the small and medium-sized banks included only in the 2014 stress test.

Results in Table 8 do not change my main conclusion concerning the (positive) association between Foreigners and Loans_abroad. Foreigners is statistically

significant at the 1% level across all specifications of the model. The model's explanatory power is also improved.

However, using lagged values changes the statistical significance of other control variables. World_Bank_Governance is not statistically significant any more. However, duality, women and ownership enter both specifications in which these are included as statistically significant, with a negative sign. Concerning duality and women, the results imply increased risk aversion, in line with literature (Pathan, 2009 for duality; Adams and Ferreira, 2007 for women). Concerning ownership, the result implies that Loans_abroad is negatively associated with state ownership. I interpret this result as an outcome of Central European state-owned banks focusing on financing the local economy and not on excelling in economic efficiency. Board_size_log enters with a positive sign, implying a positive attitude towards risk, in contrast with literature (Pathan, 2009). However, an increased board size may be related to increased complexity (e.g. Coles et al. 2008; Lehn et al., 2009). Ownership is the only corporate governance value that remain statistically significant if I substitute Foreigners with Hofstede_Frijns. Another difference is that Hofstede_Frijns is not statistically significant any more.

Table 8 - Association between the ratio of foreign board members and bank's share of total loans abroad

Dependent variable: Loans_abroad

VARIABLES	(1) Baseline	(2) Macro	(3) Corporate governance	(4) Supervision	(5) Institutional	(6) Overall	(7) Overall with Hofstede_Frijns
Foreigners	0.329***	0.330***	0.418***	0.339***	0.305***	0.408***	
	(0.0778)	(0.0903)	(0.0909)	(0.0766)	(0.0782)	(0.126)	
Hofstede_Frijns							0.0422
							(0.0345)
Log_Assets	0.106	0.103	0.0482	0.101	0.120	0.0752	0.0979
	(0.102)	(0.104)	(0.105)	(0.104)	(0.0982)	(0.108)	(0.113)
Efficiency_ratio	-0.122	-0.140	-0.138*	-0.129	-0.109	-0.109	-0.114
	(0.0908)	(0.0897)	(0.0798)	(0.0882)	(0.0922)	(0.0993)	(0.119)
Leverage	0.657	0.707	0.334	0.837	0.912	0.714	0.982
	(0.916)	(1.039)	(0.706)	(1.122)	(1.025)	(0.981)	(1.068)

Liquidity	-0.0483	-0.0520	-0.0911**	-0.0520	-0.0570	-0.113**	-0.119**
	(0.0471)	(0.0477)	(0.0455)	(0.0464)	(0.0516)	(0.0488)	(0.0495)
NPL_cr_bank	-0.719***	-0.798***	-0.762***	-0.816***	-0.616*	-0.586	-0.552
	(0.262)	(0.278)	(0.223)	(0.261)	(0.369)	(0.372)	(0.392)
ROA	-4.086	-4.994	-8.124**	-4.938	-3.875	-7.462	-3.706
	(4.153)	(4.704)	(3.940)	(3.912)	(3.992)	(5.623)	(7.489)
CAR	-0.792**	-0.897**	-0.254	-0.855**	-0.835**	-0.310	-0.471
	(0.345)	(0.395)	(0.341)	(0.376)	(0.363)	(0.386)	(0.491)
AGE			0.00504			0.00517	0.00455
			(0.00393)			(0.00317)	(0.00365)
Board_size_log			0.134**			0.147**	0.0474
			(0.0592)			(0.0727)	(0.0773)
duality			-0.0540***			-0.0490**	-0.0332
			(0.0177)			(0.0200)	(0.0227)
SDS			-0.125			-0.106	0.0102
			(0.104)			(0.0961)	(0.109)
women			-0.129**			-0.178*	-0.112
			(0.0646)			(0.0971)	(0.0944)
Ownership			-0.117*			-0.124*	-0.160**
			(0.0620)			(0.0714)	(0.0799)
GDP_t_1		0.300				-0.744	0.700
		(0.878)				(1.435)	(1.343)
Inflation		-1.182				0.163	-0.550
		(2.209)				(3.017)	(3.650)
MPI				0.0163		0.0171	0.0154
				(0.0262)		(0.0257)	(0.0314)
World_Bank_Governance					0.190	0.292	0.916
					(0.463)	(0.556)	(0.616)
concentration					0.0663	0.203	-0.0188
					(0.250)	(0.271)	(0.338)
Constant	-0.0326	0.0158	-0.0172	-0.0484	-0.332	-0.651	-1.059
	(0.645)	(0.652)	(0.719)	(0.663)	(0.707)	(0.758)	(0.794)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	74	74	74	74	74	74	70
Number of banks	46	46	46	46	46	46	44
R-sq overall	0.476	0.473	0.486	0.489	0.479	0.504	0.457
R_sq within	0.191	0.201	0.582	0.198	0.179	0.591	0.556
R_sq between	0.443	0.444	0.462	0.457	0.452	0.496	0.438

Notes: ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively. Standard errors are reported in

The results in Table 9 also do not change my main conclusion concerning the lack of statistical link between Foreigners and NPL_cr_bank. Foreigners is statistically significant only in one specifications of the model. Hofstede_Frijns also remains not statistically significant. Country_NPL remains statistically significant at the 1% level across all model specifications. The model's explanatory power is improved.

Table 9 - Association between the ratio of foreign board members and bank's NPL ratio

Dependent variable: NPL_cr_bank

VARIABLES	(1) Baseline	(2) Macro	(3) Corporate governance	(4) Supervision	(5) Institutional	(6) Overall	(7) Overall with Hofstede_Frijns
Foreigners	0.0524	0.0137	0.0504	0.0562	0.0956***	0.0118	
	(0.0370)	(0.0190)	(0.0469)	(0.0347)	(0.0355)	(0.0244)	
Hofstede_Frijns							0.00680
							(0.0102)
Log_Assets	-0.0792***	-0.0344*	-0.0859**	-0.0767***	-0.0856***	-0.0419*	-0.0172
	(0.0299)	(0.0180)	(0.0352)	(0.0285)	(0.0243)	(0.0218)	(0.0163)
Efficiency_ratio	-0.0151	-0.0485	-0.00570	-0.0172	0.00310	-0.0266	-0.0351
	(0.0512)	(0.0431)	(0.0554)	(0.0483)	(0.0535)	(0.0488)	(0.0526)
Leverage	-0.176	-0.114	-0.284	-0.0286	-0.447	-0.302	-0.268
	(0.500)	(0.290)	(0.491)	(0.382)	(0.427)	(0.306)	(0.262)
Liquidity	0.00789	-0.00973	0.000849	0.00460	0.00424	-0.00234	-0.00322
	(0.0152)	(0.00796)	(0.0172)	(0.0135)	(0.0103)	(0.00815)	(0.00760)
ROA	-1.433	-0.587	-1.204	-2.038	0.250	0.00970	-0.460
	(2.025)	(1.832)	(2.254)	(1.882)	(2.213)	(1.948)	(2.404)
CAR	-0.496***	-0.255**	-0.412**	-0.499***	-0.192	-0.122	-0.121
	(0.178)	(0.114)	(0.202)	(0.172)	(0.144)	(0.114)	(0.123)
AGE			-0.000974			-0.00220	-0.00247
			(0.00157)			(0.00164)	(0.00160)
Board_size_log			0.00310			-0.0202	-0.00989
			(0.0283)			(0.0252)	(0.0323)
duality			-0.00665			-0.00653	-0.00712
			(0.00972)			(0.00734)	(0.00791)

SDS			0.00159			0.0313	0.0354
			(0.0439)			(0.0378)	(0.0355)
women			-0.00430			0.0203	-0.00894
			(0.0386)			(0.0359)	(0.0308)
Ownership			-0.0297			-0.00795	-0.00373
			(0.0239)			(0.00978)	(0.00776)
GDP_t_1		0.427				0.526*	0.145
		(0.331)				(0.308)	(0.374)
Inflation		-0.0574				0.584	1.212
		(0.742)				(0.694)	(0.933)
Country_NPL		1.066***				0.889***	1.254***
		(0.250)				(0.234)	(0.387)
MPI				0.0143**		0.00878	0.0108*
				(0.00728)		(0.00631)	(0.00652)
World_Bank_Governance					-0.639***	-0.140	-0.0724
					(0.164)	(0.128)	(0.113)
concentration					0.0845	-0.0784	-0.0692
					(0.0637)	(0.0567)	(0.0491)
Constant	0.584***	0.273**	0.677**	0.519***	1.056***	0.558**	0.350*
	(0.199)	(0.126)	(0.269)	(0.187)	(0.236)	(0.245)	(0.191)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	74	74	74	74	74	74	70
Number of banks	46	46	46	46	46	46	44
R-sq overall	0.192	0.724	0.211	0.236	0.603	0.745	0.783
R_sq within	0.546	0.734	0.583	0.594	0.498	0.775	0.725
R_sq between	0.212	0.730	0.227	0.256	0.659	0.772	0.831

Notes: ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively. Standard errors are reported in parentheses. All the variables are defined in Appendix I.

The use of lagged values for H3 changes my results significantly (Table 10). I attribute this change to the 2016 and 2018 samples, which include relatively larger banks compared to those used in the 2014 AQR test, but also to the inclusion of banks from Denmark, Norway, Sweden and the UK. These banks were chosen specifically because of their international focus and their systemic importance for the European Union's banking system[37].

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[37] Norway is not an EU member state.

Foreigners are positive and statistically significant at the 1% level across all specifications of the model. Limiting my sample by setting minimum cr_country at 1% does not alter this result, and improves R-sq overall to 27.2%. The results do not change if I set minimum cr_country at 2% or 3%, and R-sq overall reaches almost 30%.

The statistical significance of corporate governance variables also change. Board_size_log is no longer statistically significant. Duality, women and Ownership are negatively associated with cr_country in all specifications they are included; however, this association does not hold as each country's relative importance in the bank's total loan portfolio grows. Familiarity variables are no longer statistically significant. On the contrary, Financial_Center remains positive and statistically significant. Same_currency is negatively associated with cr_country; this association holds even if I set minimum cr_country at 1%, 2% or 3%.

Table 10 - Association between the ratio of foreign board members from a specific country and bank's share of corporate and retail loans in this country

Dependent variable: cr_country

VARIABLES	(1) Baseline	(2) Macro	(3) Corporate governance	(4) Supervision	(5) Institutional	(6) Familiarity	(7) Overall	(8) Overall & cr_country> 1%
Foreigners	0.170***	0.169***	0.172***	0.170***	0.157***	0.167***	0.159***	0.207***
	(0.0504)	(0.0505)	(0.0516)	(0.0506)	(0.0471)	(0.0494)	(0.0482)	(0.0601)
Log_Assets	-0.000503	-0.000657	-0.00696	-0.000537	0.000143	0.000387	-0.00546	-0.0150
	(0.00797)	(0.00811)	(0.00796)	(0.00803)	(0.00791)	(0.00824)	(0.00813)	(0.0105)
Efficiency_ratio	0.00668	0.00569	0.00783	0.00749	0.00848	0.00666	0.00785	0.0233
	(0.0124)	(0.0126)	(0.0128)	(0.0126)	(0.0123)	(0.0126)	(0.0127)	(0.0172)
Leverage	-0.0822	-0.0884	-0.157	-0.0749	-0.0803	-0.103	-0.161	-0.163
	(0.120)	(0.120)	(0.123)	(0.119)	(0.114)	(0.120)	(0.120)	(0.149)
Liquidity	0.00392	0.00461	-0.00263	0.00337	0.00190	0.00463	-0.00427	-0.00978
	(0.00659)	(0.00690)	(0.00701)	(0.00658)	(0.00661)	(0.00671)	(0.00713)	(0.00864)
ROA	0.701	0.652	0.556	0.720	0.730	0.737	0.603	1.388*
	(0.655)	(0.661)	(0.662)	(0.665)	(0.662)	(0.670)	(0.684)	(0.810)
CAR	-0.0721*	-0.0686	-0.0417	-0.0742*	-0.0715	-0.0666	-0.0355	-0.0523
	(0.0433)	(0.0440)	(0.0475)	(0.0442)	(0.0439)	(0.0445)	(0.0474)	(0.0625)
NPL_cr_bank	-0.0350	-0.0256	-0.0315	-0.0375	-0.0214	-0.0290	-0.00702	0.0278

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	(0.0568)	(0.0600)	(0.0567)	(0.0566)	(0.0566)	(0.0565)	(0.0587)	(0.0781)
GDP_t_1		0.0171					0.0157	0.0372
		(0.0473)					(0.0469)	(0.0728)
Inflation		-0.0254					-0.0273	-0.0280
		(0.0286)					(0.0347)	(0.0442)
AGE			0.000602				0.000409	0.000527
			(0.000603)				(0.000669)	(0.000996)
Board_size_log			-0.00135				-0.00346	-0.0184*
			(0.00647)				(0.00669)	(0.0105)
duality			-0.00418*				-0.00460*	-0.00550
			(0.00247)				(0.00252)	(0.00387)
SDS			0.000162				0.00108	0.000771
			(0.0105)				(0.0112)	(0.0189)
women			-0.0217**				-0.0187*	-0.0104
			(0.0101)				(0.0106)	(0.0117)
Ownership			-0.0123*				-0.0133**	-0.0106
			(0.00633)				(0.00618)	(0.0108)
MPI				-0.000989			-0.000547	-0.000245
				(0.00101)			(0.000997)	(0.00134)
World_Bank_Governance					0.00951		0.000688	0.0120
					(0.0139)		(0.0166)	(0.0247)
concentration					0.0128**		0.0101	-0.00149
					(0.00650)		(0.00780)	(0.0140)
Financial_Center					0.0274***		0.0285***	0.0208*
					(0.00928)		(0.00872)	(0.0120)
Same_currency					-0.00580		-0.00828*	-0.0113*
					(0.00395)		(0.00455)	(0.00619)
Hofstede_Kogut_Singh						0.00186	0.000804	0.00315
						(0.00246)	(0.00302)	(0.00383)
Geographic_proximity						0.00369	0.00713	0.0116
						(0.00291)	(0.00440)	(0.00970)
Linguistic_proximity						0.00397	0.00226	0.00212
						(0.00351)	(0.00371)	(0.00475)
Constant	0.0412	0.0419	0.0576	0.0449	0.0193	0.0309	0.0503	0.112
	(0.0523)	(0.0534)	(0.0576)	(0.0532)	(0.0548)	(0.0556)	(0.0691)	(0.0926)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	

Observations	554	546	554	545	544	544	542	353
Number of banks	361	355	361	355	354	354	352	230
R-sq overall	0.196	0.195	0.191	0.203	0.194	0.191	0.222	0.272
R_sq within	0.00895	0.0117	0.0344	0.0109	0.0138	0.0103	0.0418	0.0616
R_sq between	0.210	0.207	0.195	0.216	0.194	0.211	0.223	0.267

Notes: ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively. Standard errors are reported in parentheses. All the variables are defined in Appendix I.

In Table 11 I present the use of lagged values for H4. My main conclusions do not change significantly. Foreigners remain statistically insignificant across all specifications of the model.

AGE remains positive and statistically significant across all model specifications. With the use of lagged values, women become statistically significant, also with a positive sign. When limiting my sample, ownership becomes statistically significant, with a negative sign, implying that state ownership is associated with worse results abroad. However, this result should be examined with having in mind that many banks in my sample were nationalized after the crisis, but their mentality may have remained that of a private bank.

I should note that this sub-sample is comprised of relatively bigger banks that were included in all stress tests. Therefore, these results concerning corporate governance could indicate the ability of relatively larger banks to attract more efficient board members, that can positively influence results. However, I are skeptical of this interpretation, since bank size (Log_Assets), when statistically significant, enters with a negative sign.

World_Bank_Governance remains strongly statistically significant and negatively associated with success_percentage. Concentration and MPI also retain their statistical significance and their positive sign.

Another difference is NPL_cr_bank, which becomes statistically insignificant. However, it retains its negative sign across all specifications. Instead, host country's GDP_t_1 becomes statistically significant across all specifications, with a negative sign.

The explanatory power of my model is improved, with an R-sq overall value of 16.7%.

Table 11 - Association between the ratio of foreign board members from a specific country and the bank's default rate in this country, compared to the corresponding domestic default rate

Dependent variable: success_percentage

VARIABLES	(1) Baseline	(2) Macro	(3) Corporate governance	(4) Supervision	(5) Institutional	(6) Familiarity	(7) Overall	(8) Overall & cr_country >1%
Foreigners	-3.229	-3.512	-3.671	-2.433	-4.846	1.073	-0.364	1.234
	(2.908)	(2.856)	(2.952)	(2.674)	(3.115)	(3.639)	(3.252)	(3.656)
Log_Assets	0.455	0.422	-1.635**	0.408	0.265	0.388	-1.640**	-1.971***
	(0.483)	(0.494)	(0.696)	(0.485)	(0.460)	(0.472)	(0.668)	(0.735)
Efficiency_ratio	-0.397	-0.209	0.238	-0.551	-0.574	-0.745	-0.134	0.628
	(1.697)	(1.694)	(1.763)	(1.677)	(1.740)	(1.679)	(1.728)	(2.384)
Leverage	22.57**	20.95*	19.73*	15.85	15.79	21.95*	10.58	6.251
	(11.22)	(11.56)	(11.37)	(11.49)	(12.10)	(11.50)	(12.36)	(11.82)
Liquidity	0.788	0.640	0.252	0.704	0.384	0.638	-0.164	0.132
	(0.758)	(0.736)	(0.706)	(0.727)	(0.699)	(0.769)	(0.655)	(0.672)
ROA	-96.85	-78.37	-139.1	-99.19	-147.8	-133.7	-156.5	-103.9
	(99.52)	(98.36)	(97.41)	(97.99)	(103.2)	(103.4)	(103.7)	(104.4)
CAR	-1.832	-1.762	1.238	-0.266	-0.203	-1.988	3.148	2.332
	(3.977)	(4.027)	(4.827)	(3.991)	(4.299)	(4.065)	(5.055)	(5.675)
NPL_cr_bank	-5.815	-6.407	-7.339	-4.030	-3.954	-5.970	-6.556	-4.820
	(5.626)	(5.390)	(5.897)	(5.490)	(5.544)	(5.818)	(5.540)	(6.697)
GDP_t_1		-40.13**					-49.98***	-29.05*
		(17.52)					(18.33)	(16.59)
Inflation		0.106					-25.58***	-24.63**
		(4.832)					(9.656)	(10.75)
AGE			0.189**				0.199**	0.244**
			(0.0866)				(0.0870)	(0.120)
Board_size_log			0.0723				1.067	2.143
			(1.439)				(1.316)	(1.930)
Duality			-0.816				-0.226	-0.237
			(0.566)				(0.467)	(0.568)
SDS			-1.110				-0.495	-1.056
			(1.363)				(1.418)	(2.120)
Women			4.816**				4.509**	5.352**
			(2.299)				(2.224)	(2.709)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Ownership			-0.984				-0.774	-1.196*
			(0.643)				(0.562)	(0.635)
MPI				0.525***			0.389**	0.411**
				(0.174)			(0.175)	(0.199)
World_Bank_Governance					-5.195***		-3.593**	-3.114**
					(1.535)		(1.407)	(1.465)
concentration					5.641***		3.921**	4.019**
					(2.105)		(1.705)	(2.029)
Financial_Center					0.636		0.208	0.572
					(0.768)		(0.739)	(0.801)
Same_currency					-0.888**		-0.907**	-0.360
					(0.372)		(0.452)	(0.423)
Hofstede_Kogut_Singh						0.246	0.0800	-0.0365
						(0.159)	(0.177)	(0.196)
Geographic_proximity						-0.674*	-0.482	-1.022***
						(0.387)	(0.398)	(0.385)
Linguistic_proximity						-0.786	-0.908	-0.886
						(0.716)	(0.671)	(0.769)
Constant	-4.421	-3.272	-3.331	-5.578	-1.372	-3.529	-3.522	-6.647
	(3.856)	(3.984)	(5.545)	(3.830)	(3.801)	(3.725)	(5.278)	(8.188)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	504	504	504	504	504	504	504	353
Number of banks	324	324	324	324	324	324	324	230
R-sq overall	0.0219	0.0387	0.0500	0.0548	0.0938	0.0500	0.167	0.179
R_sq within	0.0249	0.0549	0.0210	0.0513	0.0117	0.0273	0.0539	0.0717
R_sq between	0.0136	0.0254	0.0437	0.0511	0.106	0.0469	0.179	0.191

Notes: ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively. Standard errors are reported in parentheses. All the variables are defined in Appendix I.

3.10 Conclusion

Banks' gradual internationalization poses new challenges for their successful presence abroad. In this context, I examine foreign board membership of bank boards and its

effect on non-performing loans. I focus on whether foreign directors can help the bank to achieve lower levels of default rates in their country of origin.

I use data from the EU-wide stress tests conducted in 2014, 2016 and 2018 by the European Banking Authority, concerning the distribution of each bank's loan portfolio and th respective default rates in its nine primary national markets. In addition, I use data on each bank's board members, a significant part of which is hand-collected. I find that a higher ratio of foreign board members is associated with a higher share of the bank's loans abroad. I also find a positive association between the board members' origin from a specific country and the share of this country in the bank's loan portfolio. Despite that, I did not find conclusive evidence that including a board member from a specific country could lead to fewer non-performing loans in this country, nor did I establish an association between foreign board members' ratio and the bank's NPL ratio. However, other corporate governance variables prove to be important determinants of the bank's successful presence abroad, namely average board members' age and the ratio of women. The host country's macroeconomic conditions and institutional setting, as well as familiarity issues also have an effect on the bank's local success.

This chapter is the first attempt to link a board member's origin from a specific country and the bank's presence in this country. Future research can further examine board members' prior working experience in countries where the bank has allocated part of its loan portfolio or even the bank's profitability in each country, if such data become available.

Chapter 4: Home bias in European banks' bond portfolios

4.1 Introduction

Home bias is an enduring feature of capital markets. It describes a pattern where investors forego the advantages of international diversification and choose to invest the majority of their funds in assets within their country. French and Poterba (1991) were the first to compare share ownership data across six developed countries[38] and to conclude that there is a significant risk diversification gain when investing abroad. Since that seminal paper, the issue of home bias has gained a lot of attention.

One would imagine that, after years of financial liberalization and in an era of relatively easy access to information through the internet, this phenomenon would be in decline. But this is not the case: In 2007, US investors' holdings of US equity amounted to more than 80% of their total stock portfolio, i.e. a higher percentage than the ratio of US stock in global market capitalization. At the same time, the average degree of home equity bias worldwide is 63%, with the euro area at 62.5%, the UK at 52% and the US at 66% (Coeurdacier and Rey, 2011). The introduction of the euro, accompanied by financial liberalization (whether unilateral or preferential) has decreased transaction costs by approximately 31% for bonds and 27% for equity (Coeurdacier and Martin, 2009).

Diversification gains are based on the correlation of assets' returns across different countries[39]. In the presence of diversification gains, it is puzzling why investors choose not to diversify internationally. There is a wide array of explanations for the home bias phenomenon:

(a) hedging may not be adequate (Black, 1974; Stulz, 1981; Quinn and Voth, 2008; Bhamra et. al., 2014; Levy and Levy, 2014);

(b) transaction costs (Sercu and Vanpee, 2008);

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[38] United States, Japan, United Kingdom, France, Germany and Canada.
[39] Correlation coefficients are smaller than one, since economies do not move together. However, correlations do change over time (Karolyi and Stulz, 2002). There is also evidence that expected excess bond returns are highly correlated across developed countries (Ilmanen, 1995).

(c) information asymmetries (e.g. Choi et al., 2017; Bae et al., 2005 – see also Coeurdacier and Rey, 2011, for more references);

(d) real exchange rate risk[40] (Fidora et al., 2007);

(e) behavioral considerations (e.g. cultural distance as in Beugelsdijk and Frijns, 2010; Anderson et al., 2011; Siegel et al., 2011; Karolyi, 2016, familiarity[41] as in Huberman, 2001; Grinblatt and Keloharju, 2001; Chan et al., 2005; Pool et al., 2012, overconfidence as in Karlsson and Norden, 2007, patriotism as in Morse and Shrive, 2004);

(f) inability to hedge idiosyncratic risks in the case of non-tradables (e.g. Engel and Matsumoto, 2006); and

(g) institutional settings (e.g. Karolyi and Stulz, 2002; Gelos and Wei, 2005).

The proposed explanations try to interpret home bias mainly on the private investor's level. At the level of institutional investors though, things should be different: transaction costs should be negligible, if not zero. Moreover, a bank's or a mutual fund's personnel would be expected to have adequate familiarity with both the markets they invest in as well as with portfolio theory.

The impact of home bias on a global scale is that it reduces risk-sharing and thus increases countries' cost of capital (Lau et al., 2010). The impact of home bias in banking (concerning all bank assets) is ambiguous at first. The diversification hypothesis is in line with arguments in favor of diversification in general in the sense of less than perfectly correlated outcomes. The market risk hypothesis claims that market-specific factors (such as market structure, culture and institutional settings) increase risk. The home field advantage hypothesis argues that monitoring and operational diseconomies increase costs, which provides additional support to the market risk hypothesis[42].

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[40] Karolyi and Stulz (2002) point out that not just currency, but also its convertibility used to be an important concern.

[41] Geographic proximity along with common language and bilateral trade are components of familiarity (Chan et al., 2005).

[42] See Berger et al. (2017) for references concerning these hypotheses.

This chapter deals with home bias, regional (eurozone) and foreign bias[43] at the individual bank level. In so doing, it extends two strands of the home bias literature. The first examines bilateral asset holdings between countries, whether on private or on institutional level (e.g. Chan et al., 2005; Beugelsdijk and Frijns, 2010). The second examines whether the manager's country of origin affects the institution's home bias (Lippi, 2016). For this purpose, I utilize a unique data set derived from the EU-wide stress tests conducted in 2014, 2016 and 2018. This dataset provides information about the distribution of each bank's sovereign bond[44] portfolio and its maturity. But I do not constrain myself to the banks' incorporation: I examine home bias according to board members' nationality.

A significant part of the data concerning board members' nationality (among other corporate governance characteristics) has been hand-collected. The reason is that many of the banks in my sample are not listed in any stock exchange and information on their board members is scarce. My data also allows me an insight into choices each bank makes concerning the risk in its bond portfolio. Risk stems from the issuing country of each bond (credit risk, as captured by its credit rating[45]), as well as from the average bond portfolio maturity.

There are a number of reasons to expect home bias in my sample to be considerably lower than home bias estimates in other papers. First of all, home bias is more apparent among less sophisticated individuals (Karlsson and Norden, 2007) and less so in institutional investors (Darvas and Schoenmaker, 2017). Second, Hau and Rey (2008) use a dataset of detailed mutual fund equity holdings worldwide over the period 1998-2002 and find that the "average" fund has a degree of home bias smaller than aggregate data. Third, the introduction of the euro has decreased home bias in European countries[46], creating at the same time a regional "euro bias" (Lane, 2006;

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[43] Eurozone/foreign bias refers to a pattern where investors choose to invest a relatively larger part of their assets in certain eurozone or foreign markets respectively.
[44] Bonds refer to debt instruments of longer maturity (usually more than one year). My data also includes shorter maturities. I use the term "bond" throughout this chapter for all maturities, for reasons of simplicity.
[45] Credit rating is an ex ante estimation of the bond issuer's default risk. The bond holder may also suffer losses from changes in the bond's market value and/or the relevant exchange rate. The latter is market risk and can be observed ex post.
[46] Schoenmaker and Bosch (2008) found that the decline in home bias is more prominent in the European countries that have adopted the euro (eurozone), but is also evident in the rest of the European countries. However, investing in securities from the eurozone does not offer the

Schoenmaker and Bosch, 2008; Balli et al., 2010); however, the patterns of "euro bias" may be more complicated, since it is surprisingly low for eurozone countries with high credit ratings and unsurprisingly low for eurozone countries in crisis (Floreani and Habib, 2018). Fourth, some of the largest international banks do not only invest in bonds but also are primary dealers[47].

There are many advantages in using bonds instead of equity or banks' total assets when investigating patterns in home bias. Equity markets are more fragmented than bond markets, because block ownership of shares (Dahlquist et al., 2003) as well as institutional settings preventing equity shareholdings by foreigners do not apply to sovereign bonds. Moreover, investing in equity requires either the use of resources in order to study the market and the quoted firms (at least those of interest) or the use of a brokerage firm for this purpose, which increases the costs of investing abroad. Asymmetric information in sovereigns could be considered as negligible, at least for an institutional investor. Expanding the loan portfolio abroad is a strategic decision that requires a lot more resources than bond purchases, while divesting and exiting can again be far more costly.

Banks tend to invest a part of their assets in government bonds. Some of the reasons for this choice have to do with the liquid bond market and the ability to pledge government bonds at the central bank and receive liquidity. Hedging can easily be achieved either by investing in other asset classes or with the use of derivatives. Another reason may be to hedge foreign exchange and interest rate risks (as in the model of Coeurdacier and Gourinchas, 2016) or to help in financing the state (Kahn, 2016). Finally, Gaballo and Zetlin-Jones (2016) propose that, by increasing sovereign debt home bias, banks shield themselves from bailouts. In any case, when a bank invests in an international bond portfolio, it may not necessarily want to hedge its positions[48]. Its main objective is to invest its liquidity and earn interest and capital gains. The bank's board of directors chooses the amount of assets and the level of risk

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same diversification effects like investing in securities from countries outside the eurozone (Demyanik et al., 2008; Balli et al., 2010).

[47] Primary dealers buy bond issues directly from a government and resell them to other investors. They act as market makers, meaning that, being a seller and a buyer at the same time, they act as liquidity providers to various bond maturities.

[48] For example, international diversification of banks is associated with increased risk (Gulamhussen et al., 2014; Berger et al., 2017).

(in terms of the issuer's rating and maturity), and the dealing room's personnel has to comply with the limits set by the board.

On the other hand, banks controlled by the state may be inclined to invest in their country's sovereign debt. Moreover, home bias by native institutions can exhibit advantages because it guarantees a constant demand for local assets (Lippi, 2016). These advantages have to do with increased liquidity, less price volatility and easier access to markets by domestic issuers in order to raise capital.

I find that the inclusion of foreign board members is associated with lower home bias in both the aggregate and the held-to-maturity bond portfolio. Non-eurozone board members are associated with a bank's lower regional bias. The inclusion of foreign board members is also associated with a higher foreign bias in their country of origin, especially as the ratio of bond holdings in this country increases. This implies a strategic focus on specific markets. Results hold when I deal with endogeneity using a lagged value approach. I approach bond portfolio risk by estimating average maturity and average credit rating for each bank's sovereign bond portfolio. However, I did not establish any association between foreign board members' ratio and either measures of bond portfolio risk. Finally, my results show that state-controlled banks exhibit more home bias, in particular regarding the held-to-maturity bond portfolio.

My data reminds us that home bias is apparent even among institutional investors, in line with Hau and Rey (2008) and Darvas and Schoenmaker (2017). I believe that my sample actually underestimates the degree of home bias in banks, since it includes some of the largest banks in Europe, with an international focus.

This chapter is structured as follows. Section 4.2 sets out the hypotheses tested. Sections 4.3 to 4.6 describe the database, the models, the variables used and the methodology. Section 4.7 presents descriptive statistics and correlation coefficients. Empirical results are discussed in Section 4.8, while Section 4.9 deals with endogeneity issues. Finally, Section 4.10 concludes.

4.2 Hypotheses tested

The hypotheses I will test are the following:

H1: The higher the ratio of foreign board members, the lower the degree of home bias.

H2: The higher the ratio of foreign board members, the longer the maturity of the bank's sovereign bond portfolio.

H3: The higher the ratio of foreign board members, the lower the credit rating of the bank's sovereign bond portfolio.

H4: The higher the ratio of foreign board members, the lower the degree of regional bias.

H5: The higher the ratio of foreign board members from a specific country, the higher the share of this country in the bank's bond portfolio.

According to the analysis in Section 2.4, I expect foreign board members' ratio to be negatively related with home bias. The effect on regional bias is also expected to be negative, but not so strong as in the case of home bias. Prior research does not indicate whether increased presence of foreign directors is associated with higher portfolio risk. Finally, I expect foreign board members' ratio from a specific country to be positively associated with foreign bias towards this country, following similar results by Buch et al. (2010) for bank assets.

4.3 Database

I draw data concerning the banks' bond portfolio[49] from the EU-wide stress tests conducted by the European Banking Authority in 2014 (EBA, 2014a), 2016 and 2018. The first stress test in 2014 included 130 banks and covered approximately 82% of the total banking sector's assets in the eurozone. Data refers to 31 December of the previous year. It contains detailed information about each bank's bond portfolio holdings in 45 countries, broken down by maturity. More precisely, it contains exposures to "general governments", i.e. central, state, regional and local

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[49] In the rest of the chapter I use the term "home" country for the bank's country of incorporation and "host" country for the foreign bond's issuing country.

governments[50]. Data on bond holdings include both on-and off-balance sheet positions, irrespective of accounting classification and denomination.

The main advantages of this dataset are detailed information across many countries (including negative positions) and the fact that it is based on common methodology (EBA, 2014b). From all the banks used in the stress tests, I exclude those with lack of data and end up with a sample of 91 banks from 15 different countries for 2014. The relevant numbers are 47 banks from 12 countries for 2016 and 43 banks from 12 countries for 2018. The final sample consists of 125 different banks in total.

Data about banks' board members were quite difficult to collect, because at least half of my sample banks are not listed and available data on their board members may not be publicly available. Moreover, financial statements and information on their board composition was in local language (when I collected the data), which demanded considerably more time and the use of dictionaries. As a consequence, I started my data collection from a variety of sources (BoardEx, Orbis Bank Focus, CapitalQ, Bloomberg). For missing data on board structure and individual board members' characteristics, I used the internet: I started from each bank's recent and older financial statements and press releases, then proceeded with articles in the press and finally turned to various other sources (again, in local language).

Among my sample banks, foreign board members are 387, or 13.95% of total board members.

Sovereign credit ratings were derived from Fitch Ratings, while monthly returns on sovereigns and foreign currency were downloaded from Thomson Reuters Datastream.

The remaining data sources are described in Section 4.5.

4.4 The models

I constructed the following models to analyze determinants of home, regional and foreign bias:

Model 1

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[50] For detailed information concerning "general governments", see paragraph 41 (b) of Annex V of ITS on Supervisory Reporting.

$$\text{Hbias}_{ijt} = \alpha_0 + \alpha_1\,F_{it} + \alpha_2\,X_{ijt} + \alpha_3\,Z_{it} + \alpha_4\,M_{it} + \alpha_5\,T_{it} + u_{it} \qquad (1)$$

$i = 1, 2, ..,\quad t = 2013, 2015, 2017$

In equation (1):

- Hbias $_{ijt}$ is the level of home bias of bank i from country j in year t (where j is the bank's country of incorporation);

- F is the ratio of foreign board members total board size;

- X is a vector of control variables concerning corporate governance;

- Z is a vector of control variables concerning the bank's financial status or economic variables;

- M is a vector of miscellaneous control variables;

- T is a vector of year dummies to control for time effects; and

- u_{it} are random errors.

I then substitute Hbias $_{ijt}$ with MAT_{ijt} , PR_{ijt} and Rbias $_{ijt}$ to examine H2, H3 and H4, respectively.

Model 2

$$\text{Fbias}_{ijt} = \alpha_0 + \alpha_1\,F_{it} + \alpha_2\,X_{ijt} + \alpha_3\,Z_{it} + \alpha_4\,M_{it} + \alpha_5\,T_{it} + u_{it} \qquad (2)$$

$i = 1, 2, ..,\quad t = 2013, 2015, 2017$

In equation (2):

- Fbias $_{ij}$, is the level of foreign bias of bank i towards host country j in year t (where host country is every country whose sovereign bonds are held by bank i);

- The remaining variables are the same as in Model 1.

4.5 Variables

Dependent variables

I estimate the home bias (domestic_bias) of banks' bond portfolio in line with literature on international capital markets. More specifically, I compare each

country's bond portfolio with a global benchmark portfolio[51] consistent with the international CAPM. A great part of the literature uses log values to estimate the degree of home bias (e.g. Dahlquist et al., 2003; Chan et al., 2005; Beugelsdijk and Frijns, 2010). I follow a slightly different home bias estimation method used by Anderson et al. (2011), because my data also includes negative bond positions. I use bond holdings for each bank i in country j. Therefore, each bank's portfolio allocation to each country can be calculated as follows:

$$W_{ij} = MV_{ij} / \sum_{j=1}^{45} MV_{ij},$$

where:

W_{ij} is the bonds from country j as a proportion of the bank's i aggregate bond portfolio, MV_{ij} is the total amount invested by bank i in bonds from country j, while $\sum_{j=1}^{45} MV_{ij}$ is the bank's total bond portfolio.

I then calculate accordingly the portfolio weights, based on the CAPM:

$$W^*_j = MV_j / \sum M^*V_j,$$

where W^*_j is the share of country j in global sovereign debt, MV^*_j is the total sovereign debt of country j, while $\sum M^*V_j$ is the total global sovereign debt.

I then define:

- home bias (domestic_bias) Hbias $_{ij}$ = W_{ij} - W^*_j , where j is the bank's country of incorporation;

- regional bias (euro_bias) Rbias $_{ij}$ = W_{ij} - W^*_j , where j is the host eurozone country (i.e. every eurozone country whose sovereign bonds are held by bank i);

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[51] The CAPM (Capital Asset Pricing Model) refers to market prices. I use nominal values instead, for two reasons. The first has to do with data availability on a global scale, since I use data on total government debt outstanding (nominal values) at each point in time (my data on banks' sovereign bond holdings are also expressed in nominal values, but could be converted to market values using closing prices for the relevant dates and maturities). The second reason is that market and nominal prices in developed countries' sovereign bonds do not differ considerably, in general.

- foreign bias (foreign_bias) Fbias $_{ij}$ = W_{ij} - W^*_j , where j is the host country (i.e. every country whose sovereign bonds are held by bank i).

I use domestic_bias, euro_bias and foreign_bias for hypotheses 1, 4 and 5, respectively.

In hypothesis 2, my dependent variable is average maturity (maturity). To estimate for each bank i average maturity in days d, I use data provided by the stress tests. Bond maturities are reported in time brackets. For each time bracket, I use the average number of days d, as shown in the following table:

Maturity bracket	Label	Average days
1	[0 - 3M]	45
2	[3M - 1Y]	205
3	[1Y - 2Y]	547.5
4	[2Y - 3Y]	912.5
5	[3Y - 5Y]	1460
6	[5Y - 10Y]	2,737.5
7	[10Y – more	7,300

To formalize my calculations:

$$MAT_{ijd} = \sum_{j=1}^{45} (MV_{ijd} \; Mat_{ijd}),$$

where MAT_{ijd} is the total maturity in days d of all sovereign bonds from country j held by bank i, MV_{ijd} is the total amount invested by bank i in bonds from country j with a maturity of days d and Mat_{ijd} is maturity in days d for each bond issued by country j and held by bank i. I then divide MAT_{ijd} with $\sum_{j=1}^{45} MV_{ij}$ (the total bank's bond portfolio) to estimate the average maturity of the whole portfolio. I use the log value of the average maturity as the dependent variable.

In hypothesis 3, my dependent variable is the bank's average sovereign bond portfolio credit rating (average_risk_bank). To proxy for sovereign credit risk, I use long-term foreign currency credit ratings from Fitch Ratings. The literature uses either credit defaults swaps - CDS (e.g. Acharya et al., 2014) or a transformation of credit ratings from alphanumeric to numeric scale (e.g. Malliaropulos and Migiakis, 2018). However, the former may be biased due to market sentiment, while the interpretation of the latter is difficult within my dataset. Therefore, I use actual default rates of the basic credit categories (AAA, AA…C) after a ten-year period from Fitch Ratings and S&P, and calculate the historical average default rate for each category. I then apply these rates to each bank's sovereign bond holdings and calculate its weighted average portfolio risk. I prefer this approach because board members choose the average portfolio's risk based on long term data and not on short-term market movements[52] (which may affect CDS prices). In the following table I present the relevant data from Fitch Ratings and S&P and the average actual default rates (own calculations):

	Fitch Ratings	S&P	Average Fitch and S&P
Credit rating	Year Ten	Year Ten	Year Ten
AAA	0.00%	0.00%	0.00%
AA	0.00%	0.00%	0.00%
A	3.23%	5.20%	4.21%
BBB	4.85%	4.76%	4.81%
BB	7.32%	11.63%	9.47%
B	7.14%	24.81%	15.98%
CCC to C	36.36%	67.60%	51.98%

To formalize my calculations:

$$PR_{ij} = \sum_{j=1}^{45} (W_{ij}\, CR_j),$$

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[52] It is certain that significant new information will trigger portfolio changes. However, information that requires immediate change in bond portfolio strategy is not common.

where PR_{ij} is the bank's average sovereign bond portfolio credit rating of all sovereign bonds from country j held by bank i, W_{ij} is the ratio of bonds held by bank i in bonds from country j and CR_j is the average default rate for each bond issued by country j.

Independent variables

My main dependent variable is the ratio of foreign board members (Foreigners). It is calculated as the total number of foreigners divided by board size. This definition of Foreigners is used in H1, H2 and H3.

In H4 I examine euro-bias. Therefore, my dependent variable is the ratio of non-eurozone board members (non_EU_foreigners). It is calculated as the total number of non-eurozone board members as a percentage of total board size.

In H5 I examine foreign bias. Therefore, my dependent variable is the number of foreign board members from each specific country as a percentage of total board size (Foreigners).

Variations in home bias levels across banks' bond portfolios could be linked to within-board cultural differences. Therefore, I estimate the level of within-board cultural diversity for every bank in my sample (Hofstede_Frijns). I substitute Foreigners with Hofstede_Frijns in H1, H2 and H3[53]. I calculate Hofstede_Frijns using data on Hofstede's six dimensions (Hofstede Insights; Hofstede et al., 2010) and a formula proposed by Frijns et al. (2016):

$$CD_{ij} = \sqrt{\sum_{k=1}^{6} (I_{ki} - I_{kj})^2 / V_k} \qquad \forall i \neq j$$

where CD_{ij} is the cultural distance between each pair of directors, I_{ki} is the index for the kth cultural dimension for director i, I_{kj} is the index for the kth cultural dimension for director i, V_k is the kth dimension's sample variance.

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[53] In H4 and H5, respectively, I do not substitute non_EU_foreigners and Foreigners with Hofstede_Frijns respectively, because in these hypotheses I estimate these variables using a part of the board's foreign board members.

<u>Control variables</u>

I control for bank-specific financials following numerous past studies in banking (e.g. Berger et al., 2016; Berger and Bouwman, 2009; Berger and Bouwman, 2013). I use the Common Equity Tier 1 Ratio to control for capital adequacy (CAR); I also control for leverage (Leverage). Data on CAR and Leverage are drawn from the AQR test. I use the natural logarithm of total assets (Log_Assets) as an indicator of size and the cost to income ratio as an indicator of efficiency (Efficiency_ratio). I examine liquidity (Liquidity) with the ratio of net loans to deposits plus short-term funding. Data to estimate those ratios are sourced from Bankscope and Orbis Bank Focus; I refer to banks' financial statements for missing data.

I include variables concerning macroeconomic indicators, following literature in banking (e.g. Berger et al., 2017; Doumpos et al., 2015). I use annual GDP growth (GDP_t_1), the debt-to-GDP ratio (Debt_to_GDP) and inflation rate (Inflation), as well as the average Central Bank policy rate (CB_policy_rate). I also control for absolute GDP (log_GDP) and absolute debt (log_debt) in host countries, as a proxy for the foreign country's importance for the world economy. Relevant data were downloaded from the IMF, the World Bank, Eurostat and the OECD, while data on exchange rates were downloaded from the ECB.

I examine several corporate governance characteristics of my sample banks, following several relevant studies (e.g. Berger et al., 2014; Pathan, 2009). I collect data about board members' age and calculate the within board average age (AGE). I examine whether the CEO is also the board chair (duality). I calculate the ratio of supervisory (SDS) and female (women) directors. I do not distinguish between one and two-tier board systems (EBA, 2014a), following a relevant argument by BCBS (2015). I collected relevant data from a variety of sources (BoardEx, Orbis Bank Focus, CapitalQ, Bloomberg) and complemented the database with internet research (see Section 4.1 for more details).

I hand-collected data from the internet to control for the bank's ownership status (ownership), i.e. whether the bank is controlled by the state or by private investors (whether native or foreign), for two reasons: First, because of the interaction between the state and banks (Kahn, 2016; Gaballo and Zetlin-Jones, 2016). Second, because

ownership status has been found to determine bank risk taking (Berger et al., 2016; Ellul and Yeramilli, 2013; Laeven and Levine, 2009; Pathan, 2009; Sullivan and Sprong, 2007; Li et al., 2006).

Bond portfolio choices may be attributed to past performance. Following Burger and Warnock (2003), I control for all countries' bond performance. I use monthly bid close prices of the ten-year bond (five-year bond for Latvia) and the relevant exchange rates for non-eurozone countries. This data was downloaded from Thomson Reuters Datastream and cover the period 2010:1 to 2018:1. I calculate average return (average_return) and median return (median_return) over a three-year period.

I use data on concentration (concentration) from Bankscope and Orbis Bank Focus, following past literature in banking (e.g. Gaganis et al., 2020b; Berger et al., 2017; Berger et al., 2016; Berger and Bouwman, 2013; Beltratti and Stulz, 2012). The effect of concentration on bank-risk is ambiguous: It can lead to lower risk levels following increased profitability and capital or to higher risk levels if exploited to reach a "too big to fail" status (Ijtsma et al., 2017).

I also control for governance on a country level (World_Bank_Governance) using data on the six World Bank Governance indicators[54], following Gaganis et al. (2020a), Bermpei et al. (2018), Ashraf, 2017, Li et al. (2006). Subsequently, I calculate a simple average of the percentile rank for each of these indicators (proposed by Fitch Ratings).

I also control for financial freedom (financial_freedom), following Chortareas et al. (2013). I use the overall score for the 11 relevant indicators. The relevant data was adapted from the Heritage website (www.heritage.org).

I use the NPL ratio from the World Bank and the IMF (Country_NPL), because a loop between sovereign and bank credit risk has been documented (Acharya et al., 2014).

I control for differences in macroprudential supervision (MPI), using the relevant index from Cerutti et al. (2017). This index examines how many macroprudential instruments are used in each country, with a higher value indicating more stringency. Gaganis et al. (2020a) document that macroprudential policies interact with banks' corporate governance and affect bank risk. I do not control for differences in

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[54] These indicators are: Rule of Law, Control of Corruption, Government Effectiveness, Voice and Accountability, Regulatory Quality, and Absence of Violence.

microprudential regulations in the banks' countries of incorporation, since all my sample banks are supervised directly or indirectly[55] by the ECB.

In H5 I examine foreign bias, which allows me to add relevant control variables. Following the literature on culture (e.g. Karolyi, 2016; Chan et al., 2005) I apply three familiarity variables between the home and host countries, namely:

- Geographic proximity (Geographic_proximity), i.e. countries that have common land boarders. I collected relevant data from the internet.

- Linguistic proximity (Linguistic_proximity), i.e. countries that have common official language. I collected relevant data from the internet.

- Cultural distance (Hofstede_Kogut_Singh). I estimate cultural distance between home and host country following Kogut and Singh (1988) and based on Hofstede's six cultural dimensions (Hofstede Insights; Hofstede et al., 2010). I apply the following formula:

$$CD_j = \sum_{i=1}^{6} \{(I_{ij} - I_{ik})^2 / V_i\} / 6,$$

where

- CD_j is the cultural distance of the *jth* home country from the *kth* host country;

- I_{ij} is the index for the *ith* cultural dimension in the *jth* country;

- I_{ik} is the index for the *ith* cultural dimension in the *kth* host country; and

- V_i is the ith dimension's sample variance.

Following Kogut and Singh (1988), I apply this formula irrespective of the board's national diversity.

I control whether one country is a eurozone member (euro_country) to examine for regional bias. Since exchange rate volatility can explain almost 20% of equity and

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[55] The ECB may supervise banks from non-euro area EU Member States as well, if these operate within the eurozone.

home bias (Fidora et al., 2007), I control whether home and host countries have the same currency (Same_currency). Bearing in mind that the United States and the United Kingdom are the world's most important financial markets and since professionals from these countries may be more efficient (Oxelheim and Randoy, 2003), I examine whether bonds are from either of these countries (Financial_Center).

Collecting debt in the case of a (host) country's financial distress is fundamental. Therefore, I use data from Djankov et al. (2008) to control for debt enforcement in host countries (Debt_enforcement).

4.6 Methodology

In H1, H2, H3 and H4 each bank is a separate input, for every year I have available data (panel data). In H5, I extend a method used by Lippi (2016) who examines the effects of Italian asset managers on fund allocation. I combine all foreign board directors' nationality with each bank's bond portfolio. The variable Foreigners takes the value of the ratio of foreigners from each host country within the board, and zero otherwise. In this manner, each unique combination between bank and host country is a separate line. In that way I end up with a sample of 3,030 observations. In order to apply the panel data method, I attribute an identification number for each unique combination between bank and host country.

4.7 Descriptive statistics and correlation coefficients

Table 1 presents descriptive statistics of the variables used in this chapter. Table 2 presents the correlation coefficients.

Table 1: Descriptive statistics

VARIABLES	Obs	Mean	Std. dev.	Min	Max
Foreigners	181	0.143	0.189	0	1
non_EU_foreigners	158	0.070	0.117	0	0.571
Board_size_log	181	1.204	0.166	0.778	1.799
GDP_t_1	181	0.004	0.024	-0.073	0.088
Debt_to_GDP	181	1.031	0.300	0.305	1.803

Inflation	181	0.011	0.008	-0.009	0.026
CB_policy_rate	181	0.003	0.003	-0.005	0.011
financial_freedom	181	69.390	5.875	55.700	80.400
euro_country	181	0.873	0.334	0	1
domestic_bias	181	0.607	0.345	-1.544	1.028
euro_bias	181	0.721	0.319	-0.047	3.011
HtM_country_bank	90	0.444	0.395	0	1
Maturity	181	3.287	0.237	2.441	3.800
average_risk_bank	181	0.024	0.029	0.000	0.152
Average_return	178	-0.001	0.004	-0.015	0.030
Median_return	178	0.003	0.003	-0.004	0.011
Country_NPL	181	0.071	0.076	0.002	0.386
duality	181	0.094	0.293	0	1
SDS	181	0.761	0.170	0	1
AGE	175	57.630	3.743	43.130	68.270
Hofstede_Frijns	174	0.195	0.263	0.000	1.487
World_Bank_Governance	181	0.839	0.097	0.618	0.974
Ownership	181	0.320	0.468	0	1
MPI	181	3.044	1.159	0	6
concentration	181	0.680	0.116	0.368	0.956
Liquidity	181	0.960	0.670	0.234	6.119
Log_Assets	181	5.259	0.574	3.521	6.346
ROA	181	0.001	0.016	-0.135	0.044
Efficiency_ratio	181	0.647	0.362	-1.685	4.223
women	181	0.213	0.127	0.000	0.500
CAR	181	0.141	0.069	0.039	0.725
Leverage	180	0.055	0.021	0.018	0.214
Hofstede_Kogut_Singh	3030	1.645	1.011	0.190	7.556
Geographic_proximity	3030	0.201	0.401	0	1
Linguistic_proximity	3030	0.107	0.309	0	1
Financial_Center	3030	0.084	0.278	0	1
Same_currency	3030	0.450	0.498	0	1

All the variables are defined in Appendix II.

Table 2: Correlation coefficients

	GDP_t_1	Debt_to_GDP	Inflation	CB_policy_rate	maturity	average_risk_bank	expected_default	average_return	median_return	Country_NPL	Board_size_log	duality	SDS	AGE
GDP_t_1	1.000													
Debt_to_GDP	-0.507	1.000												
Inflation	-0.021	-0.330	1.000											
CB_policy_rate	-0.605	0.207	0.226	1.000										
maturity	0.039	0.108	0.027	0.033	1.000									
average_risk_bank	-0.643	0.607	-0.379	0.292	-0.089	1.000								
expected_default	-0.592	0.590	-0.406	0.253	-0.110	0.940	1.000							
average_return	0.122	-0.121	0.113	0.391	-0.162	-0.241	-0.175	1.000						
median_return	0.031	0.482	-0.763	-0.145	0.041	0.344	0.362	-0.066	1.000					
Country_NPL	-0.588	0.646	-0.390	0.291	-0.102	0.862	0.891	-0.051	0.401	1.000				
Board_size_log	0.045	0.097	0.015	-0.104	0.107	-0.130	-0.158	-0.014	-0.067	-0.127	1.000			
duality	-0.198	0.112	-0.021	0.213	-0.082	0.076	0.031	0.206	-0.017	0.021	-0.163	1.000		
SDS	0.212	0.070	-0.134	-0.234	-0.009	-0.067	-0.066	-0.165	0.094	0.010	0.114	-0.224	1.000	
AGE	-0.139	0.336	-0.098	-0.043	0.024	0.102	0.159	-0.042	0.217	0.107	-0.018	0.067	0.059	1.000
women	0.348	-0.085	-0.045	-0.468	-0.001	-0.289	-0.283	-0.220	0.034	-0.260	-0.055	-0.030	0.350	-0.087
Hofstede_Frijns	0.189	-0.085	-0.015	-0.202	-0.067	-0.059	-0.084	-0.164	0.067	-0.104	-0.232	-0.094	0.183	0.059
Ownership	0.146	-0.252	0.024	0.057	0.224	-0.145	-0.108	0.013	-0.110	-0.071	-0.133	-0.099	0.002	-0.209
World_Bank_Governance	0.590	-0.809	0.314	-0.196	0.041	-0.669	-0.727	-0.026	-0.338	-0.691	-0.034	-0.173	0.038	-0.400
financial_freedom	0.616	-0.773	0.299	-0.218	0.070	-0.568	-0.566	0.068	-0.328	-0.561	-0.044	-0.204	-0.075	-0.265
MPI	0.392	-0.208	0.079	-0.684	-0.024	-0.263	-0.217	-0.354	-0.057	-0.360	0.020	-0.045	0.128	0.157
concentration	0.119	-0.421	0.034	-0.141	-0.094	-0.074	-0.058	-0.294	-0.183	-0.063	-0.139	-0.216	0.083	-0.247
CAR	0.275	-0.361	0.120	-0.256	0.134	-0.327	-0.309	-0.142	-0.153	-0.307	-0.177	-0.058	0.071	-0.112
Leverage	-0.009	0.079	-0.140	0.011	-0.138	0.209	0.229	-0.045	0.092	0.199	-0.195	0.001	0.065	-0.209
Liquidity	0.014	-0.134	0.052	-0.044	0.078	-0.087	-0.095	-0.040	-0.026	-0.043	-0.138	0.071	-0.026	-0.020
Log_Assets	0.340	0.019	-0.070	-0.422	0.102	-0.347	-0.332	-0.244	0.110	-0.357	0.249	-0.175	0.263	0.286
ROA	0.221	0.041	-0.122	-0.203	0.111	-0.129	-0.155	-0.110	0.050	-0.220	0.088	-0.034	0.022	0.294
Efficiency_ratio	-0.076	0.028	0.053	0.079	-0.088	0.005	0.044	0.005	-0.053	0.048	0.155	0.004	-0.064	0.007

Table 2 – Correlation coefficients (cont.)

	women	Hofstede_Frijns	Ownership	World_Bank_Governance	financial_freedom	MPI	concentration	CAR	Leverage	Liquidity	Log_Assets	ROA	Efficiency_ratio
women	1.000												
Hofstede_Frijns	0.275	1.000											
Ownership	0.021	-0.148	1.000										
World_Bank_Governance	0.124	0.192	0.289	1.000									
financial_freedom	0.031	0.215	0.253	0.851	1.000								
MPI	0.435	0.074	-0.098	0.084	0.059	1.000							
concentration	0.015	0.076	0.191	0.497	0.371	0.138	1.000						
CAR	0.227	-0.056	0.324	0.388	0.324	0.195	0.258	1.000					
Leverage	-0.031	-0.053	0.059	-0.121	-0.092	-0.035	-0.122	0.207	1.000				
Liquidity	0.202	-0.117	0.093	0.133	0.081	0.114	0.303	0.562	-0.127	1.000			
Log_Assets	0.467	0.340	-0.137	0.141	0.132	0.377	-0.050	0.001	-0.265	-0.075	1.000		
ROA	0.116	-0.091	-0.007	0.084	0.108	0.257	0.107	0.058	-0.041	0.048	0.284	1.000	
Efficiency_ratio	0.024	0.146	0.064	-0.075	-0.076	-0.114	-0.176	-0.179	-0.029	-0.201	-0.055	-0.477	1.000

All the variables are defined in Appendix II.

4.8 Empirical results

In Table 3 I present results concerning home bias at the bank level. Foreigners is negative and statistically significant across all specifications. This suggests that a higher foreign board members' ratio is associated with lower home bias, in line with my expectations. I view my results as qualitatively similar to findings concerning home bias across institutional investors: Prior research has established home-bias across pension funds in the presence of more local fund managers (Lippi, 2016) and across banks' loan portfolios (Garcia-Herrero and Vazquez, 2013, Buch et al., 2010). I find that also the opposite applies: in the presence of more foreign board members, bond portfolios' home bias across banks diminishes. This result holds if I substitute Foreigners with Hofstede_Frijns, also in line with literature on the nexus between culture and investment choices (Beugelsdijk and Frijns, 2010; Anderson et al., 2011).

Apart from Foreigners, other statistically significant corporate governance explanatory variables are AGE and SDS. SDS enters negative and statistically significant across all model specifications, implying that a higher ratio of supervisory directors is associated with lower home bias in banks' bond portfolios. I interpret this result as a sign of their advisory role towards a more internationally diversified bond portfolio.

The results in Table 3 also show that Log_Assets is negatively associated with domestic_bias, i.e. larger banks tend to have a more internationally diversified bond portfolio. I interpret this result as a choice of larger banks to diversify through their portfolio's expansion internationally. Another interesting result is that home bias is more prominent in more indebted countries, judging from the positive association between Debt_to_GDP and domestic_bias. This result is qualitatively similar to findings by Battistini et al. (2014). GDP_t_1 is, nevertheless, negatively associated with domestic_bias, implying that banks may avoid domestic sovereign debt in the case of weak growth.

Table 3 - Association between foreign board members' ratio and bank's domestic home bias

Dependent variable: domestic_bias

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)

Foreigners	-0.515***	-0.464***	-0.531***	-0.367**	-0.503***	-0.367**	
	(0.141)	(0.132)	(0.141)	(0.143)	(0.135)	(0.154)	
Hofstede_Frijns							-0.210**
							(0.104)
CAR	0.0461	0.747**	0.0495	0.118	0.150	0.939*	0.845*
	(0.483)	(0.364)	(0.483)	(0.508)	(0.463)	(0.492)	(0.491)
Leverage	0.0360	-1.023	-0.0131	0.269	-0.397	-1.235	-1.034
	(1.123)	(1.147)	(1.149)	(1.253)	(1.086)	(1.227)	(1.256)
Liquidity	-0.0268	-0.0598	-0.0229	-0.0478	-0.0303	-0.101*	-0.0921
	(0.0677)	(0.0588)	(0.0682)	(0.0602)	(0.0695)	(0.0611)	(0.0608)
Log_Assets	-0.151**	-0.192***	-0.152**	-0.232***	-0.169***	-0.254***	-0.241***
	(0.0674)	(0.0515)	(0.0681)	(0.0588)	(0.0605)	(0.0570)	(0.0586)
ROA	-2.186	-1.730	-1.959	-2.693	-2.071	-0.356	-0.837
	(1.876)	(1.609)	(1.845)	(1.741)	(2.435)	(1.579)	(1.597)
Efficiency_ratio	-0.0903	-0.0955	-0.0887	-0.276	-0.117	-0.255	-0.292
	(0.0679)	(0.0638)	(0.0686)	(0.180)	(0.0874)	(0.178)	(0.181)
GDP_t_1		-3.040*				-4.958***	-5.011***
		(1.570)				(1.774)	(1.827)
Debt_to_GDP		0.292***				0.237**	0.238**
		(0.101)				(0.119)	(0.121)
Inflation		4.545				0.299	0.825
		(4.693)				(4.709)	(4.741)
MPI				-0.0275		-0.0157	-0.00200
				(0.0283)		(0.0276)	(0.0270)
Board_size_log				0.221		0.143	0.148
				(0.154)		(0.164)	(0.176)
Duality				-0.0202		-0.0477	-0.0548
				(0.0747)		(0.0662)	(0.0634)
SDS				-0.180*		-0.167*	-0.155
				(0.106)		(0.101)	(0.110)
AGE				0.0153*		0.00188	0.00220
				(0.00821)		(0.0123)	(0.0125)
Women				-0.141		-0.126	-0.191
				(0.337)		(0.353)	(0.354)
Ownership				0.0876		0.0909	0.0992
				(0.0583)		(0.0631)	(0.0633)
Concentration					-0.270	0.171	0.0919
					(0.264)	(0.318)	(0.330)
average_return					-7.314	21.62***	19.68***
					(8.875)	(7.595)	(7.636)

Constant	1.566***	1.365***	1.635***	1.070**	1.886***	1.647**	1.578*
	(0.383)	(0.341)	(0.399)	(0.496)	(0.385)	(0.771)	(0.832)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	180	180	180	174	177	171	165
Number of banks	103	103	103	97	100	94	92
R-sq overall	0.275	0.341	0.279	0.366	0.289	0.437	0.424
R_sq within	0.0403	0.0847	0.0490	0.0242	0.0146	0.113	0.103
R_sq between	0.229	0.383	0.229	0.373	0.275	0.493	0.490

Notes: ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively. Standard errors are reported in parentheses. All the variables are defined in Appendix II.

In Table 4 I examine the home bias pattern, with respect to the held-to-maturity portfolio (HtM_country_bank). I note that stress tests include detailed data on this portfolio only for 2015 and 2017. The results for Foreigners and Hofstede_Frijns are qualitatively similar, further validating the results of Table 3 concerning the effect of foreign board members on bond portfolio allocation; the only exception is that Foreigners at specification (5) is marginally not statistically significant. Again, the rest of my corporate governance-related explanatory variables are not statistically significant, with the exception of AGE in one specification. It seems that only specific aspects of corporate governance are really influential when it comes to bond portfolio choices. The most interesting finding concerning corporate governance control variables is that (state) ownership is positively associated with home bias. This result implies that state-owned banks may be inclined to support their home state, by investing in its bonds (Kahn, 2016) and hold their investments to their maturity.

All country-specific control variables (GDP_t_1, Debt_to_GDP and Inflation) are statistically significant across (almost) all specifications. However, in Table 4, GDP_t_1 has a positive sign, while in Table 3 it has a negative sign. This implies that banks are expected to hold their country's sovereign debt until maturity, irrespective of fundamentals.

Table 4 - Association between foreign board members' ratio and bank's domestic home bias in its held-to-maturity portfolio

Dependent variable: HtM_country_bank

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Foreigners	-0.480**	-0.591***	-0.498**	-0.461**	-0.393	-0.552***	
	(0.215)	(0.189)	(0.208)	(0.223)	(0.242)	(0.189)	
Hofstede_Frijns							-0.247**
							(0.116)
CAR	0.584	1.366*	0.462	0.528	1.401	0.905	1.015
	(0.915)	(0.746)	(0.913)	(0.897)	(1.025)	(0.749)	(0.807)
Leverage	-0.140	-3.672**	-0.313	-1.014	-2.608	-2.815	-2.299
	(2.591)	(1.860)	(2.648)	(2.078)	(2.812)	(2.010)	(2.245)
Liquidity	-0.0431	-0.0110	-0.0456	-0.0211	-0.00815	0.0186	0.0188
	(0.0856)	(0.0754)	(0.0914)	(0.0649)	(0.104)	(0.0719)	(0.0658)
Log_Assets	-0.0276	-0.00251	-0.0305	-0.0957	-0.0544	0.0296	0.0514
	(0.134)	(0.104)	(0.134)	(0.160)	(0.137)	(0.129)	(0.123)
ROA	11.96	2.843	12.42	14.11	20.02	4.089	7.859
	(12.35)	(11.24)	(12.18)	(12.36)	(15.57)	(14.24)	(16.00)
Efficiency_ratio	1.030***	0.766**	0.938**	1.289***	0.905***	0.960***	0.981***
	(0.331)	(0.304)	(0.376)	(0.305)	(0.345)	(0.288)	(0.292)
GDP_t_1		11.15***				7.044***	5.100**
		(2.210)				(2.231)	(2.099)
Debt_to_GDP		0.531***				0.671***	0.853***
		(0.135)				(0.241)	(0.231)
Inflation		-7.851				-9.755*	-10.33*
		(6.107)				(5.535)	(5.709)
MPI			-0.0291			-0.0267	-0.0267
			(0.0492)			(0.0453)	(0.0457)
Board_size_log				-0.255		-0.372	-0.313
				(0.315)		(0.269)	(0.277)
duality				0.0896		0.104	0.0681
				(0.302)		(0.349)	(0.342)
SDS				0.234		0.308	0.246
				(0.386)		(0.350)	(0.343)
AGE				0.0369**		0.00262	0.00726
				(0.0171)		(0.0164)	(0.0158)
Women				-0.122		-0.490	-0.638
				(0.443)		(0.440)	(0.432)
Ownership				0.175**		0.164**	0.190***
				(0.0821)		(0.0639)	(0.0612)
Concentration					-0.730*	0.525	0.898
					(0.405)	(0.648)	(0.641)
average_return					12.23	9.638	14.24

	(1)	(2)	(3)	(4)	(15.89)	(12.05)	(12.43)
Constant	-0.197	-0.786	0.00651	-1.998**	0.483	-1.286	-2.146*
	(0.840)	(0.702)	(0.883)	(0.966)	(0.948)	(1.089)	(1.279)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	90	90	90	90	90	90	87
Number of banks	49	49	49	49	49	49	48
R-sq overall	0.317	0.477	0.321	0.431	0.350	0.538	0.553
R_sq within	0.262	0.276	0.258	0.269	0.295	0.285	0.289
R_sq between	0.404	0.627	0.407	0.561	0.416	0.708	0.715

Notes: ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively. Standard errors are reported in parentheses. All the variables are defined in Appendix II.

Tables 5 and 6 examine the association between the banks' bond portfolio risk and its board composition. Bond portfolio risk is captured by maturity in Table 5 and average_risk_bank in Table 6. Risk could also be captured by the deviation in average_return; however, I avoid this approach because this variable is not known ex ante, i.e. when board members decide on bond portfolio allocation strategies. This is especially the case in bonds denominated in foreign currency. Therefore, I include average_return only as a control variable[56].

The results in both Tables 5 and 6 do not show any association between the banks' bond portfolio risk and foreign board members' ratio. I interpret this result as follows: Tables 3 and 4 have shown that a higher foreign board members' ratio is associated with lower home bias; Investing in foreign countries' bonds should increase portfolio risk in banks from countries with high sovereign credit ratings and vice versa. However, on average, foreign board members do not seem to induce my sample banks to increase or decrease their portfolio risk. Maturity is positively associated with ownership; I attribute this result to the findings in Table 4 concerning the association between HtM_country_bank and ownership: state-controlled banks select longer maturities for their HtM portfolio, which affects their total portfolio's average maturity. The only other statistically significant corporate governance variable are AGE and SDS; AGE is positive and statistically strongly associated with average_risk_bank, implying that an older, on average, board is associated with a higher average bond portfolio risk. Younger executive teams have been documented

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[56] This variable estimates the average return of the sovereign debt of the bank's home country.

to increase risk taking (Berger et al., 2014); therefore I would expect a negative association between AGE and average_risk_bank. SDS are, on the other hand, negatively associated with average_risk_bank.

Average_risk_bank and maturity are negatively associated with average_return, across almost all specifications. I interpret this result as follows: Banks exhibit home bias in their sovereign debt portfolio. To outweigh its low return, they invest in bonds with longer maturity and of higher risk, thus shifting their bond portfolio towards higher risk-return levels.

Average_risk_bank is negatively associated with Inflation and positively with Debt_to_GDP, and statistically significant across all specifications. The latter further strengthens my results in Table 3, namely that home bias is more prominent in more indebted countries. Smaller banks are found to opt for riskier bond portfolios.

Table 5 - Association between foreign board members' ratio and bank's bond portfolio maturity

Dependent variable: maturity

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Foreigners	-0.141	-0.151	-0.155*	-0.162	-0.101	-0.102	
	(0.0910)	(0.0926)	(0.0915)	(0.113)	(0.0910)	(0.112)	
Hofstede_Frijns							0.0303
							(0.0601)
CAR	0.520	0.749	0.532	0.518	0.593	0.608	0.551
	(0.457)	(0.465)	(0.457)	(0.444)	(0.502)	(0.451)	(0.445)
Leverage	-1.710	-1.905*	-1.777	-1.695	-2.304*	-2.470**	-2.345**
	(1.139)	(1.127)	(1.185)	(1.085)	(1.315)	(1.063)	(1.087)
Liquidity	-0.00201	-0.0123	0.000570	-0.0138	0.000432	-0.00471	0.00287
	(0.0535)	(0.0526)	(0.0537)	(0.0540)	(0.0542)	(0.0483)	(0.0470)
Log_Assets	0.0293	0.0191	0.0265	-0.0225	0.0178	-0.0283	-0.0468
	(0.0424)	(0.0398)	(0.0431)	(0.0364)	(0.0420)	(0.0394)	(0.0420)
ROA	2.094**	1.854**	2.361**	2.352**	1.779**	2.060	2.131
	(0.974)	(0.936)	(1.057)	(1.074)	(0.816)	(1.377)	(1.387)
Efficiency_ratio	0.0905	0.0864	0.0932	0.219*	0.0485	0.0793	0.0197
	(0.0628)	(0.0600)	(0.0621)	(0.130)	(0.0668)	(0.148)	(0.145)
GDP_t_1		0.640				1.445	1.289
		(0.933)				(1.143)	(1.125)
Debt_to_GDP		0.173**				0.0721	0.0816
		(0.0715)				(0.0866)	(0.0857)

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Inflation		2.426				3.367	3.593
		(2.652)				(2.756)	(2.790)
MPI			-0.0253			-0.00681	-0.00309
			(0.0176)			(0.0188)	(0.0186)
Board_size_log				-0.0568		-0.0473	0.0305
				(0.148)		(0.149)	(0.151)
Duality				-0.0349		-0.0376	-0.0457
				(0.0651)		(0.0738)	(0.0723)
SDS				0.0112		0.0185	-0.00675
				(0.157)		(0.155)	(0.151)
AGE				0.000889		-0.00297	-0.00338
				(0.00620)		(0.00762)	(0.00774)
Women				-0.0429		-0.123	-0.137
				(0.214)		(0.240)	(0.235)
Ownership				0.105*		0.141***	0.151***
				(0.0549)		(0.0515)	(0.0509)
Concentration					-0.345	-0.761***	-0.812***
					(0.229)	(0.256)	(0.247)
average_return					-11.26***	-15.50***	-15.45***
					(3.642)	(5.643)	(5.600)
Constant	3.099***	2.938***	3.170***	3.297***	3.446***	4.089***	4.161***
	(0.254)	(0.265)	(0.267)	(0.420)	(0.346)	(0.624)	(0.659)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	180	180	180	174	177	171	165
Number of banks	103	103	103	97	100	94	92
R-sq overall	0.0823	0.130	0.0947	0.135	0.129	0.255	0.255
R_sq within	0.0399	0.0357	0.0438	0.0526	0.0466	0.0668	0.0652
R_sq between	0.0993	0.134	0.106	0.170	0.146	0.277	0.267

Notes: ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively. Standard errors are reported in parentheses. All the variables are defined in Appendix II.

Table 6 - Association between foreign board members' ratio and bank's average bond portfolio risk

Dependent variable: average_risk_bank

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Foreigners	0.00336	0.00120	0.00349	0.00715	0.00129	0.00157	
	(0.00504)	(0.00670)	(0.00539)	(0.00606)	(0.00622)	(0.00586)	
Hofstede_Frijns							0.00840
							(0.00564)

CAR	-0.0536*	-0.0878**	-0.0509*	-0.0414	-0.0745**	-0.0814***	-0.0791***
	(0.0288)	(0.0351)	(0.0290)	(0.0326)	(0.0307)	(0.0279)	(0.0276)
Leverage	0.147**	0.203	0.131*	0.142**	0.124	0.192**	0.182**
	(0.0687)	(0.130)	(0.0699)	(0.0639)	(0.0861)	(0.0926)	(0.0862)
Liquidity	-0.00213	0.00273	-0.00232	-0.00338	-0.000386	0.00270	0.00267
	(0.00281)	(0.00236)	(0.00284)	(0.00323)	(0.00300)	(0.00266)	(0.00272)
Log_Assets	-0.00720***	-0.0113***	-0.00800***	-0.00807**	-0.00775***	-0.00925***	-0.0102***
	(0.00270)	(0.00269)	(0.00275)	(0.00333)	(0.00251)	(0.00209)	(0.00220)
ROA	-0.190	-0.0419	-0.136	-0.181	-0.0742	0.0452	0.0738
	(0.142)	(0.175)	(0.151)	(0.147)	(0.128)	(0.184)	(0.204)
Efficiency_ratio	-0.00862*	-0.00567	-0.00831*	-0.0112**	-0.00578	-0.00431	-0.00587
	(0.00487)	(0.00570)	(0.00490)	(0.00553)	(0.00470)	(0.00654)	(0.00683)
GDP_t_1		-0.156*				-0.126	-0.135
		(0.0809)				(0.0883)	(0.0862)
Debt_to_GDP		0.0310***				0.0327***	0.0356***
		(0.00620)				(0.00558)	(0.00544)
Inflation		-0.623***				-0.585***	-0.562***
		(0.177)				(0.154)	(0.151)
MPI			-0.00112			0.00116	0.00167
			(0.00105)			(0.00116)	(0.00119)
Board_size_log				0.00193		0.00134	0.00496
				(0.00556)		(0.00672)	(0.00740)
duality				-0.000977		-0.000114	-0.000467
				(0.00154)		(0.00304)	(0.00320)
SDS				-0.0110		-0.0139**	-0.0171**
				(0.00806)		(0.00694)	(0.00772)
AGE				0.00110*		0.00133***	0.00135***
				(0.000597)		(0.000486)	(0.000474)
women				0.00685		0.000210	-0.00222
				(0.00965)		(0.00904)	(0.00900)
Ownership				-0.00274		0.00405	0.00489
				(0.00846)		(0.00477)	(0.00462)
concentration					0.00219	0.0225	0.0216
					(0.0160)	(0.0151)	(0.0150)
average_return					-0.460	-0.503*	-0.594**
					(0.307)	(0.282)	(0.282)
Constant	0.0729***	0.0625***	0.0800***	0.0211	0.0739***	-0.0400	-0.0420
	(0.0163)	(0.0208)	(0.0176)	(0.0406)	(0.0177)	(0.0331)	(0.0347)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Observations	180	180	180	174	177	171	165
Number of banks	103	103	103	97	100	94	92
R-sq overall	0.249	0.642	0.245	0.293	0.315	0.718	0.733
R_sq within	0.245	0.165	0.256	0.351	0.170	0.196	0.212
R_sq between	0.198	0.658	0.204	0.225	0.288	0.771	0.786

Notes: ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively. Standard errors are reported in parentheses. All the variables are defined in Appendix II.

In Table 7 I examine whether the foreign board members' ratio is associated with regional bias, i.e. a bias towards eurozone bonds. Therefore, only banks headquartered in eurozone countries are included in this particular sub-sample. In this case, I do not use all Foreigners; instead I use non_EU_foreigners, i.e. all foreign board members with origin from a non eurozone country[57]. The results show that non-eurozone board members are associated with lower regional bias, in the full and one more specification of the model. Again, ownership is positively associated with euro_bias, further validating similar results concerning bank ownership presented in previous tables. Interestingly, AGE is also positively associated with euro_bias, in line with expectations[58] (since, theoretically, bonds denominated in the same currency should be less risky ex ante, due to the absence of exchange rate risk).

Table 7 - Association between foreign board members' ratio and bank's regional (eurozone) bias (only eurozone banks)

Dependent variable: euro_bias

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
non_EU_foreigners	-0.161	-0.179	-0.168*	-0.123	-0.149	-0.240**
	(0.103)	(0.115)	(0.100)	(0.105)	(0.117)	(0.122)
CAR	0.189	0.347	0.192	0.186	0.155	0.417**
	(0.227)	(0.256)	(0.227)	(0.173)	(0.264)	(0.193)
Leverage	-0.263	-0.531	-0.288	-0.344	-0.459	-0.823
	(0.632)	(0.651)	(0.659)	(0.512)	(0.623)	(0.566)
Liquidity	0.00166	-0.00828	0.00225	-0.0343	0.00246	-0.0473*
	(0.0312)	(0.0285)	(0.0310)	(0.0239)	(0.0317)	(0.0270)
Log_Assets	-0.0420	-0.0463	-0.0420	-0.119***	-0.0517	-0.127***

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[57] I also do not use Hofstede_Frinjs as a substitute value for non_EU_foreigners, since Hofstede_Frijns is calculated based on cultural differences across all board members; in this specification foreigners are only non-eurozone members.
[58] In Table 6 I found a positive association between AGE and average_risk_bank.

	(1)	(2)	(3)	(4)	(5)	(6)
	(0.0510)	(0.0443)	(0.0521)	(0.0265)	(0.0410)	(0.0285)
ROA	-1.699*	-1.533*	-1.563	-2.022**	-1.858	-1.081
	(1.032)	(0.882)	(1.048)	(0.940)	(1.375)	(0.756)
Efficiency_ratio	-0.0728**	-0.0680**	-0.0694**	-0.148**	-0.0856**	-0.100
	(0.0311)	(0.0295)	(0.0293)	(0.0721)	(0.0411)	(0.0653)
GDP_t_1		-0.821				-0.351
		(0.688)				(0.688)
Debt_to_GDP		0.0423				-0.00225
		(0.0728)				(0.0610)
Inflation		-1.284				-3.903*
		(2.583)				(2.026)
MPI			-0.00765			-0.0199
			(0.0160)			(0.0196)
Board_size_log				0.152**		0.104
				(0.0772)		(0.0834)
duality				0.00730		-0.0131
				(0.0300)		(0.0325)
SDS				-0.0944*		-0.108**
				(0.0554)		(0.0517)
AGE				0.00969***		0.00859**
				(0.00355)		(0.00426)
women				0.163		0.187
				(0.129)		(0.151)
Ownership				0.0998***		0.0913***
				(0.0312)		(0.0311)
concentration					-0.0270	-0.133
					(0.161)	(0.215)
average_return					-3.926	5.162*
					(5.692)	(2.758)
Constant	1.059***	1.043***	1.075***	0.813***	1.151***	1.159***
	(0.295)	(0.342)	(0.314)	(0.252)	(0.280)	(0.397)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	157	157	157	151	154	148
Number of banks	91	91	91	85	88	82
R-sq overall	0.124	0.157	0.134	0.342	0.145	0.399
R_sq within	0.128	0.120	0.119	0.140	0.0901	0.175
R_sq between	0.0667	0.116	0.0726	0.299	0.115	0.377

Notes: ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively. Standard errors are reported in parentheses. All the variables are defined in Appendix II.

In Table 8 I apply Model II to examine the association between foreign board members' ratio from a specific country and bank's foreign bias towards this country[59]. In other words, I examine whether the presence of a foreign board member may influence the bank's decision to invest in bonds from the foreign board member's country of origin.

To examine the aforementioned association, I apply Model II in its seven specifications. Moreover, I examine results if I concentrate on relatively significant bond holdings. I consider a bank's bond holding as significant, if it exceeds 3% of its total bond portfolio[60].

Foreigners is positive and statistically significant across al specifications of the model. This implies that foreign board members from a specific country are positively associated with increased holdings of bonds issued by this country. Familiarity variables (Geographic_proximity and Same_currency) are also statistically significant and positively associated, implying that banks tend to invest in neighbouring countries' bonds. Judging from the negative sign of Debt_to_GDP, banks prefer bonds from less indebted countries and countries with lower NPL ratios. The latter implies that banks are wary of the possibility of problems in the banking sector spilling over to sovereigns (Acharya et al., 2014). Not surprisingly, there is a negative association between Debt_enforcement and foreign_bias. This implies that banks avoid countries where it is more difficult for them to collect their debts. An interesting result is that euro_country is negative and statistically significant across all specifications. This implies that banks headquartered within the eurozone exhibit less foreign bias. A larger board size (Board_size_log) is associated with lower foreign_bias. Finally, there is a positive association between concentration and foreign_bias, and a negative with Financial_Center. The latter implies a relatively lower foreign bias towards the US and the UK. I attribute this result to these countries' large economic size (this size may lead to underinvestment relatively to

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[59] I recall that in Model II, all variables refer to the host country, i.e. the country from which the bank owns bonds. Exception are bank-specific financials (e.g. CAR, Leverage etc.) and bank's corporate governance variables (e.g. AGE, duality, etc.). Foreigners refers to the ratio of foreign board members from the specific bond-issuing (host) country.

[60] My results concerning Foreigners hold for bonds_bank_country larger than 1% and 2%. If bonds_bank_country exceeds 4%, Foreigners are not statistically significant any more and the model's explanatory power falls.

their outstanding debt). The positive association of foreign_bias with the host country's economic size (log_GDP), statistically significant at the model's full specification, partially verifies my intuition.

The 3% limit has significant implications. Foreigners remain positive and statistically significant, and the model's explanatory power increases considerably. However, many variables (e.g familiarity and governance variables) that were statistically significant in the full sample model are not statistically significant any more. On the contrary, "hard data" variables (e.g. Debt_to_GDP, Inflation, Country_NPL and Debt_enforcement) remain statistically significant and with the same sign as in the full sample model. This implies that, when investing a relatively significant part of the portfolio abroad, the bank takes this decision after thorough consideration of the risks involved.

Table 8 - Association between foreign board members' ratio from a specific country and bank's foreign bias towards this country
Dependent variable: foreign_bias

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8) if bonds_bank_country > 0.03
Foreigners	0.130**	0.138**	0.129**	0.117**	0.185***	0.106**	0.142***	0.150*
	(0.0550)	(0.0538)	(0.0549)	(0.0541)	(0.0596)	(0.0528)	(0.0534)	(0.0881)
CAR	0.00519	-0.0560	0.00522	0.000337	0.00308	-0.00154	-0.0683	-0.162
	(0.0296)	(0.0341)	(0.0296)	(0.0424)	(0.0309)	(0.0301)	(0.0444)	(0.164)
Leverage	-0.0590	0.0767	-0.0590	0.00728	-0.0577	-0.0249	0.184*	0.170
	(0.0919)	(0.104)	(0.0920)	(0.103)	(0.0935)	(0.0928)	(0.108)	(0.276)
Liquidity	0.0124	0.0137	0.0124	0.0156	0.0141	0.0131	0.0171	0.0621*
	(0.00984)	(0.0109)	(0.00984)	(0.0111)	(0.0102)	(0.00983)	(0.0119)	(0.0327)
Log_Assets	-0.00332	-0.00361	-0.00324	0.00180	-0.00215	-0.00146	0.00383	-0.0117
	(0.00289)	(0.00341)	(0.00290)	(0.00460)	(0.00325)	(0.00302)	(0.00556)	(0.0242)
ROA	0.184*	0.0283	0.186*	0.210**	0.198**	0.185*	0.0708	-0.350
	(0.102)	(0.103)	(0.103)	(0.0960)	(0.0995)	(0.103)	(0.0804)	(0.359)
Efficiency_ratio	0.00574	0.000223	0.00576	0.0137	0.00455	0.00634	0.00652	-0.0257
	(0.00459)	(0.00475)	(0.00459)	(0.00834)	(0.00460)	(0.00473)	(0.00884)	(0.0347)
GDP_t_1		-0.451***					-0.281***	-0.200
		(0.0551)					(0.0540)	(0.372)
log_GDP		0.000906					0.0127**	0.0195
		(0.00322)					(0.00605)	(0.0334)

	(1)	(2)	(3)	(4)	(5)
Debt_to_GDP	-0.0210***			-0.0200***	-0.0669***
	(0.00355)			(0.00353)	(0.0232)
Inflation	0.394***			0.484***	3.680***
	(0.125)			(0.135)	(1.208)
CB_policy_rate	-0.138*			0.305***	-0.736
	(0.0716)			(0.0921)	(1.020)
financial_freedom	-0.000550***			0.000111	0.00176
	(0.000211)			(0.000306)	(0.00161)
euro_country	-0.0146*			-0.0193**	-0.0737**
	(0.00832)			(0.00766)	(0.0323)
expected_default_host	-0.0353***			-0.0110	0.653**
	(0.0134)			(0.0114)	(0.270)
average_return	1.059***			0.773**	1.640
	(0.299)			(0.313)	(2.576)
Country_NPL	-0.0988***			-0.113***	-0.269**
	(0.0238)			(0.0245)	(0.106)
MPI		-0.000847		-0.00481***	-0.0173**
		(0.000732)		(0.00134)	(0.00855)
AGE			-0.00146**	-0.00108	0.000177
			(0.000704)	(0.000819)	(0.00316)
Board_size_log			-0.0169***	-0.0174**	0.0457
			(0.00594)	(0.00876)	(0.0498)
duality			0.00769	0.00911	-0.00930
			(0.00756)	(0.00733)	(0.0236)
SDS			0.0172*	0.0158	0.0686
			(0.0103)	(0.0103)	(0.0528)
women			0.0176	0.0201	0.109
			(0.0181)	(0.0200)	(0.0937)
Ownership			-0.00518	-0.00327	0.00329
			(0.00377)	(0.00360)	(0.0204)
Debt_enforcement			-0.000227***	-0.000225*	-0.000848**
			(6.52e-05)	(0.000129)	(0.000371)
concentration			0.0384***	0.0343***	0.0277
			(0.00744)	(0.00761)	(0.0735)
Financial_Center			-0.0174**	-0.0293***	-0.0528
			(0.00874)	(0.0112)	(0.0447)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Same_currency						0.00801***	0.0142***	0.0326
						(0.00295)	(0.00335)	(0.0398)
Hofstede_Kogut_Singh						5.15e-05	-0.00314*	0.00557
						(0.00159)	(0.00171)	(0.0117)
Geographic_proximity						0.0198***	0.00818*	-0.0146
						(0.00441)	(0.00474)	(0.0141)
Linguistic_proximity						-0.00349	-0.00289	-0.00829
						(0.00532)	(0.00576)	(0.0180)
Constant	0.0137	0.0849**	0.0153	0.0646***	-0.00459	-0.00173	-0.0796	-0.222
	(0.0211)	(0.0383)	(0.0208)	(0.0251)	(0.0245)	(0.0217)	(0.0888)	(0.467)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,970	2,756	2,970	2,948	2,811	2,931	2,704	458
Number of banks	1,610	1,492	1,610	1,588	1,513	1,579	1,447	302
R-sq overall	0.0123	0.0560	0.0125	0.0242	0.0461	0.0245	0.105	0.181
R_sq within	0.00233	0.00804	0.00227	0.000299	0.00269	0.00230	0.00669	0.0270
R_sq between	0.0161	0.0662	0.0168	0.0344	0.0500	0.0305	0.134	0.236

Notes: ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively. Standard errors are reported in parentheses. All the variables are defined in Appendix II.

4.9 Endogeneity

I address the issue of potential endogeneity in my results using a lagged variable approach, in line with relevant literature (e.g. Jiraporn et al., 2012; Pathan and Skully, 2010). To this end, I use lagged values for all corporate governance variables (including Hofstede_Frijns)[61]. I should mention that I do not use lagged values for other variables. The reason for this is the way banks' bond portfolios are constructed: the board of directors will probably have a meeting with the bank's executives to decide on some general principles concerning the bank's bond holdings. It is highly unlikely that such decisions remain rigid, should market conditions or bank fundamentals change. Sovereign bond markets are (usually) very liquid and each bank can change its position instantly, either through purchases or sales or with the use of

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[61] In my sample, the lagged value approach includes relatively larger banks that were included in the subsequent stress tests of 2016 and 2018.

derivatives. Besides, banks can use sovereign bonds as collateral for central bank funding.

In Table 9 I examine the association between Foreigners and domestic_bias The results are basically the same as in Table 3. Foreigners remains negative and strongly statistically significant across all specifications, showing that a higher ratio of foreigners on the board is linked to lower home bias, in line with my expectations. However, Hofstede_Frijns is not statistically significant, when I substitute for Foreigners. The rest of my explanatory variables concerning corporate governance are not statistically significant.

Log_Assets and debt_to_GDP are strongly associated with domestic_bias, and with the same sign as in Table 3. GDP_t_1 does not remain statistically significant.

Table 9 - Association between foreign board members' ratio and bank's domestic home bias

Dependent variable: domestic_bias

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Foreigners	-0.423**	-0.416**	-0.411**	-0.411**	-0.470***	-0.459**	
	(0.165)	(0.170)	(0.168)	(0.189)	(0.174)	(0.210)	
Hofstede_Frijns							-0.0284
							(0.0706)
CAR	0.894	1.421**	0.978*	0.753	0.824	1.066	0.793
	(0.565)	(0.614)	(0.560)	(0.653)	(0.597)	(0.663)	(0.730)
Leverage	-3.063**	-3.321***	-2.752**	-2.843*	-2.441	-2.308*	-1.383
	(1.542)	(1.235)	(1.366)	(1.718)	(1.714)	(1.402)	(1.703)
Liquidity	-0.126	-0.103	-0.131	-0.126	-0.125	-0.135	-0.103
	(0.0948)	(0.0916)	(0.0860)	(0.102)	(0.102)	(0.0890)	(0.0864)
Log_Assets	-0.494***	-0.493***	-0.489***	-0.507***	-0.485***	-0.455***	-0.458***
	(0.0843)	(0.0848)	(0.0812)	(0.102)	(0.0860)	(0.0897)	(0.103)
ROA	-7.303	-11.76	-8.449	-8.542	-8.618	-14.51	-22.76*
	(10.94)	(10.29)	(10.75)	(11.13)	(10.96)	(10.03)	(12.40)
Efficiency_ratio	0.0719	0.0425	0.126	0.0554	0.135	0.101	0.0569
	(0.219)	(0.211)	(0.226)	(0.227)	(0.241)	(0.208)	(0.197)
GDP_t_1		3.327**				3.936	2.895
		(1.563)				(2.557)	(2.586)
debt_to_GDP		0.275***				0.467***	0.612***
		(0.0799)				(0.120)	(0.142)
Inflation		-3.646				-4.143	-4.698

			(3.536)			(4.650)	(5.385)
MPI			0.0415			0.0226	0.0447
			(0.0298)			(0.0532)	(0.0593)
Board_size_log				-0.0418		-0.0417	0.126
				(0.160)		(0.168)	(0.162)
duality				0.0309		0.0415	0.0324
				(0.0482)		(0.0284)	(0.0237)
SDS				-0.0900		-0.126	-0.0679
				(0.218)		(0.221)	(0.227)
AGE				0.00375		-0.00316	-0.0122
				(0.00787)		(0.00924)	(0.00910)
women				0.0533		0.0774	-0.139
				(0.233)		(0.239)	(0.245)
Ownership				0.0212		0.0450	0.0918
				(0.0609)		(0.0740)	(0.0973)
concentration					0.174	0.727	0.903
					(0.307)	(0.575)	(0.597)
average_return					6.947	-2.289	-5.409
					(5.266)	(11.45)	(10.69)
Constant	3.508***	3.125***	3.279***	3.490***	3.302***	2.441***	2.393**
	(0.582)	(0.593)	(0.526)	(0.765)	(0.703)	(0.791)	(0.972)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	75	75	75	75	75	75	71
Number of banks	46	46	46	46	46	46	44
R-sq overall	0.628	0.656	0.639	0.652	0.635	0.715	0.621
R_sq within	0.00740	0.109	0.0211	0.00226	0.0257	0.190	0.540
R_sq between	0.624	0.658	0.634	0.650	0.627	0.711	0.589

Notes: ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively. Standard errors are reported in parentheses. All the variables are defined in Appendix II.

In Table 10 I present results concerning the association between Foreigners and home bias, for the HtM bond portfolio only. Like results in Table 4, Foreigners is negative and statistically significant across all specifications. The same applies for Hofstede_Frijns.

The rest of my corporate governance-related explanatory variables are not statistically significant, with the notable exception of Ownership. Ownership is positively associated with HtM_country_bank across all specifications of my model, verifying

my results concerning the link between banks' state ownership and their home country's bond holdings until their maturity.

Debt_to_GDP, GDP_t_1 and Inflation retain their sign and their statistical significance across almost most specifications.

Table 10 - Association between foreign board members' ratio and bank's domestic home bias in its held-to-maturity portfolio

Dependent variable: HtM_country_bank

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Foreigners	-0.517*	-0.643***	-0.535**	-0.501*	-0.485*	-0.566*	
	(0.284)	(0.241)	(0.271)	(0.296)	(0.262)	(0.298)	
Hofstede_Frijns							-0.263**
							(0.134)
CAR	1.000	2.393***	0.833	0.594	2.129*	1.375	1.510
	(1.073)	(0.896)	(1.094)	(1.093)	(1.096)	(1.085)	(1.117)
Leverage	-1.414	-5.684***	-1.449	-0.735	-4.820	-3.946	-3.674
	(2.825)	(2.121)	(2.908)	(2.516)	(3.032)	(2.440)	(2.686)
Liquidity	0.00618	0.0292	0.0116	0.0380	0.0764	0.0752	0.0659
	(0.133)	(0.117)	(0.145)	(0.113)	(0.156)	(0.128)	(0.121)
Log_Assets	-0.0480	-0.00317	-0.0430	-0.0552	-0.0605	0.0731	0.0913
	(0.141)	(0.117)	(0.140)	(0.202)	(0.147)	(0.185)	(0.162)
ROA	28.68	22.24	28.67	25.12	43.41**	19.57	22.68
	(19.50)	(16.26)	(18.89)	(18.68)	(19.96)	(19.22)	(19.97)
Efficiency_ratio	1.163***	1.072***	1.075**	1.326***	1.153***	1.018***	0.998***
	(0.428)	(0.371)	(0.468)	(0.408)	(0.405)	(0.367)	(0.371)
GDP_t_1		11.69***				7.285*	4.561
		(2.215)				(3.896)	(3.065)
Debt_to_GDP		0.633***				0.793***	0.975***
		(0.146)				(0.273)	(0.309)
Inflation		-11.16				-12.57**	-13.90**
		(7.167)				(6.344)	(6.563)
MPI			-0.0384			-0.0275	-0.0255
			(0.0564)			(0.0633)	(0.0644)
Board_size_log				-0.290		-0.341	-0.241
				(0.341)		(0.287)	(0.307)
duality				0.141		0.166	0.156
				(0.139)		(0.141)	(0.137)
SDS				0.0789		0.0155	-0.00306

				(0.404)	(0.344)	(0.319)
AGE				0.0261	-0.00822	-0.00431
				(0.0165)	(0.0213)	(0.0215)
Women				-0.287	-0.422	-0.484
				(0.532)	(0.477)	(0.500)
Ownership				0.167*	0.159*	0.185**
				(0.0923)	(0.0833)	(0.0798)
Concentration				-0.907**	0.498	0.849
				(0.445)	(0.678)	(0.735)
average_return				22.94	20.22	24.99
				(14.85)	(18.95)	(18.81)
Constant	-0.243	-1.241	-0.0549	-1.528	0.370	-1.008	-1.857
	(0.988)	(0.867)	(0.995)	(1.098)	(1.097)	(1.216)	(1.325)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	75	75	75	75	75	75	71
Number of banks	46	46	46	46	46	46	44
R-sq overall	0.225	0.433	0.230	0.333	0.290	0.494	0.520
R_sq within	0.260	0.309	0.254	0.231	0.330	0.346	0.342
R_sq between	0.245	0.514	0.257	0.448	0.296	0.611	0.634

Notes: ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively. Standard errors are reported in parentheses. All the variables are defined in Appendix II.

Tables 11 and 12 examine the association between Foreigners and bond portfolio risk. Like in Tables 5 and 6 respectively, bond portfolio risk is captured by maturity in Table 11 and average_risk_bank in Table 12.

Foreigners and Hofstede_Frijns are not statistically significant in almost any specification of the models (except from specification 3 in Table 11). This shows that board members' nationality and risk are not associated.

Ownership is positively associated with maturity and negatively with average_risk_bank. Regarding maturity, results are qualitatively the same with those in Table 5 and can be explained by the tendency of state-controlled banks to invest in their home country's bonds and hold them to maturity; as a result, average maturity of their whole bond portfolio rises. The negative and strongly statistically significant association between ownership and average_risk_bank would imply that state-controlled banks are more risk averse, at least when it comes to their bond portfolio.

However, a closer look at my data may indicate a different explanation: My sample's state owned banks for the years 2016 and 2018 are predominantly headquartered in countries with high credit ratings; the sample for 2014 also includes banks from countries with inferior credit ratings. Therefore, I believe that both results are right, but have to be examined with this characteristic in mind. Regarding the rest of corporate governance variables, SDS is negatively associated with maturity.

Results in Tables 11 and 12 do not confirm the association found between average_return on the one hand, and average_risk_bank and maturity on the other.

Table 11 - Association between foreign board members' ratio and bank's bond portfolio maturity

Dependent variable: maturity

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Foreigners	-0.203	-0.227	-0.238*	-0.0258	-0.124	0.0148	
	(0.131)	(0.151)	(0.139)	(0.172)	(0.150)	(0.185)	
Hofstede_Frijns							0.101
							(0.0877)
CAR	-0.487	0.0574	-0.742	-0.853	0.377	-0.397	-0.462
	(0.929)	(0.772)	(0.922)	(0.878)	(0.663)	(0.616)	(0.603)
Leverage	0.602	-0.582	0.451	1.240	-1.822	-0.461	-0.333
	(2.410)	(1.991)	(2.368)	(2.037)	(1.650)	(1.381)	(1.439)
Liquidity	-0.0306	-0.0129	-0.0262	-0.0414	0.0184	0.0184	0.0209
	(0.0601)	(0.0574)	(0.0654)	(0.0526)	(0.0600)	(0.0484)	(0.0485)
Log_Assets	-0.113*	-0.120**	-0.109*	-0.0788	-0.143**	-0.0370	-0.0657
	(0.0599)	(0.0599)	(0.0610)	(0.0863)	(0.0568)	(0.0739)	(0.0844)
ROA	-25.58*	-26.91**	-25.53*	-27.72**	-17.06	-25.75***	-28.19***
	(14.20)	(13.56)	(13.18)	(12.78)	(11.88)	(9.441)	(9.518)
Efficiency_ratio	-0.323	-0.384	-0.477*	-0.572**	-0.423*	-0.752***	-0.789***
	(0.263)	(0.250)	(0.252)	(0.224)	(0.231)	(0.207)	(0.223)
GDP_t_1		3.372***				2.275	2.018
		(1.186)				(2.060)	(2.048)
debt_to_GDP		0.293***				0.192*	0.156
		(0.0849)				(0.115)	(0.142)
Inflation		3.132				2.639	2.391
		(3.352)				(3.906)	(4.071)
MPI			-0.0625**			-0.0229	-0.0234
			(0.0257)			(0.0303)	(0.0324)
Board_size_log				0.190		0.145	0.175

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
				(0.181)		(0.146)	(0.142)
duality				0.107		0.0792	0.0875
				(0.0975)		(0.0868)	(0.0854)
SDS				-0.452*		-0.417**	-0.449**
				(0.267)		(0.208)	(0.203)
AGE				0.00840		-0.00137	-0.00122
				(0.00770)		(0.00995)	(0.00978)
women				-0.109		-0.160	-0.175
				(0.262)		(0.218)	(0.213)
Ownership				0.117**		0.154**	0.163**
				(0.0594)		(0.0668)	(0.0701)
concentration					-0.900***	-0.614**	-0.683**
					(0.231)	(0.269)	(0.275)
average_return					-1.035	-12.52	-12.87
					(6.095)	(9.193)	(9.986)
Constant	4.357***	4.040***	4.701***	3.932***	5.114***	4.594***	4.838***
	(0.510)	(0.484)	(0.544)	(0.768)	(0.502)	(0.664)	(0.698)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	75	75	75	75	75	75	71
Number of banks	46	46	46	46	46	46	44
R-sq overall	0.240	0.342	0.289	0.357	0.373	0.531	0.547
R_sq within	0.00208	0.00912	0.00592	0.0872	0.0141	0.114	0.156
R_sq between	0.260	0.398	0.336	0.455	0.449	0.672	0.683

Notes: ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively. Standard errors are reported in parentheses. All the variables are defined in Appendix II.

Table 12 - Association between foreign board members' ratio and bank's average bond portfolio risk

Dependent variable: average_risk_bank

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Foreigners	-0.00200	0.000769	-0.000758	-0.000113	-0.000131	0.00144	
	(0.0101)	(0.0113)	(0.00951)	(0.0109)	(0.0103)	(0.00937)	
Hofstede_Frijns							-0.000826
							(0.00405)
CAR	-0.0608	-0.0301	-0.0679*	-0.0699	-0.0547	-0.0332	-0.0341
	(0.0384)	(0.0354)	(0.0372)	(0.0468)	(0.0370)	(0.0331)	(0.0344)
Leverage	0.118	0.0889	0.173*	0.166	0.108	0.156	0.152
	(0.0941)	(0.0820)	(0.0970)	(0.126)	(0.101)	(0.112)	(0.114)
Liquidity	-0.00256	-0.000774	-0.00297	-0.00375	0.000560	5.35e-05	-0.000334

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	(0.00374)	(0.00326)	(0.00339)	(0.00402)	(0.00404)	(0.00360)	(0.00410)
Log_Assets	-0.00821	-0.0113*	-0.00810	-0.0177**	-0.0103	-0.0134**	-0.0143**
	(0.00708)	(0.00617)	(0.00651)	(0.00713)	(0.00679)	(0.00576)	(0.00627)
ROA	-0.0399	-0.147	-0.187	-0.338	-0.225	-0.733	-0.868*
	(0.583)	(0.566)	(0.563)	(0.637)	(0.587)	(0.466)	(0.509)
Efficiency_ratio	0.00893	0.00583	0.0107	0.00399	0.00466	0.00310	0.00544
	(0.0117)	(0.0119)	(0.0115)	(0.0133)	(0.0122)	(0.0106)	(0.0114)
GDP_t_1		0.0769				0.368***	0.345**
		(0.0597)				(0.141)	(0.155)
debt_to_GDP		0.0246***				0.0208***	0.0168*
		(0.00718)				(0.00788)	(0.00975)
Inflation		-0.208				0.0155	0.0347
		(0.157)				(0.206)	(0.222)
MPI			0.00374***			0.00725***	0.00680**
			(0.00131)			(0.00251)	(0.00279)
Board_size_log				-0.00212		-0.00574	-0.00878
				(0.00721)		(0.00589)	(0.00720)
duality				0.00408		0.00414	0.00453*
				(0.00268)		(0.00255)	(0.00261)
SDS				-0.00606		-0.00206	0.000661
				(0.0102)		(0.0110)	(0.0111)
AGE				0.00101**		0.000415	0.000365
				(0.000418)		(0.000452)	(0.000485)
women				0.00535		0.00355	0.00389
				(0.00992)		(0.0143)	(0.0152)
Ownership				-0.0117***		-0.00711**	-0.00799**
				(0.00443)		(0.00353)	(0.00366)
concentration					-0.0342**	-0.0329	-0.0335
					(0.0147)	(0.0221)	(0.0236)
average_return					0.228	-1.189*	-1.065
					(0.220)	(0.643)	(0.657)
Constant	0.0609	0.0492	0.0448	0.0682	0.0958**	0.0403	0.0566
	(0.0454)	(0.0357)	(0.0411)	(0.0511)	(0.0452)	(0.0378)	(0.0415)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	75	75	75	75	75	75	71
Number of banks	46	46	46	46	46	46	44
R-sq overall	0.229	0.522	0.390	0.490	0.294	0.763	0.740
R_sq within	0.152	0.0500	0.146	0.174	0.170	0.0871	0.132
R_sq between	0.252	0.567	0.401	0.484	0.307	0.789	0.768

In Table 13 I examine the association between non_EU_foreigners and euro_bias. I use only eurozone-based banks and board members originating from countries outside the eurozone.[62].

My results show that non-eurozone board members remain associated with lower regional bias, in the full and one more specification of the model. Ownership also remains positively associated with euro_bias, validating my results in Table 7. AGE is not statistically significant in Table 13, contrary to results in Table 7.

Table 13 - Association between foreign board members' ratio and bank's regional (eurozone) bias (only eurozone banks)

Dependent variable: euro_bias

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
non_EU_foreigners	0.0825	-0.543*	0.0841	0.0298	0.0336	-0.555*
	(0.257)	(0.298)	(0.257)	(0.306)	(0.253)	(0.309)
CAR	0.425	0.905***	0.454	-0.229	0.353	0.0280
	(0.354)	(0.349)	(0.349)	(0.470)	(0.399)	(0.375)
Leverage	-0.476	-1.716*	-0.449	0.784	-0.170	0.326
	(1.092)	(0.986)	(1.092)	(1.438)	(1.323)	(1.067)
Liquidity	0.0383	0.0380	0.0332	0.0576	0.0334	-0.0786
	(0.0565)	(0.0483)	(0.0553)	(0.0743)	(0.0568)	(0.0493)
Log_Assets	-0.235***	-0.219***	-0.237***	-0.199**	-0.232***	-0.219***
	(0.0693)	(0.0647)	(0.0734)	(0.0917)	(0.0706)	(0.0798)
ROA	-11.33	-9.715	-11.42	-14.27	-11.47	-15.52**
	(11.68)	(10.25)	(11.79)	(12.57)	(12.03)	(7.833)
Efficiency_ratio	0.00219	0.113	0.00962	-0.0792	0.0296	-0.125
	(0.182)	(0.156)	(0.193)	(0.204)	(0.190)	(0.147)
GDP_t_1		4.813**				4.274
		(2.030)				(3.748)
debt_to_GDP		0.186**				0.476***
		(0.0791)				(0.0865)
Inflation		-12.35***				-17.62***
		(4.541)				(3.910)

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[62] Again, I do not use Hofstede_Frinjs as a substitute value for non_EU_foreigners.

MPI			0.00855			-0.0372
			(0.0305)			(0.0437)
Board_size_log				0.0417		0.166*
				(0.133)		(0.100)
duality				0.0988***		0.132***
				(0.0301)		(0.0317)
SDS				-0.0230		-0.0525
				(0.206)		(0.206)
AGE				0.000363		-0.00221
				(0.00712)		(0.0102)
women				0.103		0.0992
				(0.221)		(0.193)
Ownership				0.124**		0.0826**
				(0.0557)		(0.0398)
concentration					0.161	1.482***
					(0.296)	(0.362)
average_return					3.100	0.116
					(3.350)	(13.23)
Constant	2.034***	1.657***	2.010***	1.783**	1.899***	0.712
	(0.432)	(0.442)	(0.424)	(0.702)	(0.520)	(0.473)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	64	64	64	64	64	64
Number of banks	35	35	35	35	35	35
R-sq overall	0.349	0.569	0.346	0.461	0.361	0.784
R_sq within	0.0346	0.0384	0.0410	0.0955	0.0323	0.110
R_sq between	0.369	0.617	0.364	0.474	0.382	0.864

Notes: ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively. Standard errors are reported in parentheses. All the variables are defined in Appendix II.

Table 14 presents results concerning the association between the foreign board member's country of origin and foreign_bias. In order to construct this sample, I use all the unique bank-host country combinations that are repeated in subsequent years. In this way, I end up with a sample of 1,545 observations. Foreigners is positive and statistically significant across most specifications. More importantly, it is also positive

and statistically significant when I apply a 3% minimum on bonds_bank_country[63]. Debt_to_GDP is negative and statistically significant across all specifications, as is euro_country. In general, results presented in Table 8 hold. A difference is that a familiarity variable (Hofstede_Kogut_Singh) is negatively associated with foreign_bias across all specifications, as well as when the 3% limit on bonds_bank_country is applied.

I remind the reader that my sample consists of relatively larger banks that were included in all stress tests. Log_Assets is positive and statistically significant across all specifications of the full-sample model. This indicates, that even relatively larger banks exhibit higher foreign_bias. Their increased internationalization is not associated with an effort to reap the advantages of international diversification, but to focus on specific foreign markets. My findings are in line with Buch et al. (2010), who document a concentration of banks' foreign assets in specific markets. This may also explain why concentration, geographic_proximity, Debt_to_GDP and GDP_t_1 are statistically significant in the model specifications they are included, but not when bonds_bank_country exceeds 3%.

Table 14 - Association between foreign board members' ratio from a specific country and bank's foreign bias in this country
Dependent variable: foreign_bias

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8) if bonds_bank_country > 0.03
Foreigners	0.171*	0.190**	0.170*	0.163*	0.175*	0.141	0.144	0.272*
	(0.0991)	(0.0901)	(0.0989)	(0.0961)	(0.0967)	(0.101)	(0.0883)	(0.159)
CAR	-0.0414	-0.0876*	-0.0409	-0.0543	-0.0252	-0.0321	-0.0856*	-0.298
	(0.0390)	(0.0460)	(0.0389)	(0.0405)	(0.0410)	(0.0385)	(0.0454)	(0.211)
Leverage	0.127	0.222*	0.126	0.148	0.0927	0.117	0.228*	0.262
	(0.113)	(0.125)	(0.113)	(0.116)	(0.119)	(0.113)	(0.124)	(0.403)
Liquidity	0.0151	0.0169	0.0150	0.0161	0.0179	0.0168	0.0186	0.132*
	(0.0155)	(0.0179)	(0.0155)	(0.0168)	(0.0168)	(0.0156)	(0.0189)	(0.0774)

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[63] Foreigners are marginally not statistically significant when bonds_bank_country is higher than 2%. If I set bonds_bank_country higher than 1% or higher than 4%, Foreigners are not statistically significant any more.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Log_Assets	0.00928**	0.00704*	0.00934**	0.00983	0.0120***	0.0130***	0.0111*	0.0418
	(0.00383)	(0.00370)	(0.00384)	(0.00672)	(0.00436)	(0.00389)	(0.00675)	(0.0372)
ROA	0.521	0.373	0.522	0.499	0.563	0.778	0.597	-0.0640
	(0.543)	(0.564)	(0.543)	(0.566)	(0.564)	(0.526)	(0.564)	(3.153)
Efficiency_ratio	-0.000211	4.21e-05	-0.000358	0.00129	0.00311	0.00198	0.00444	0.0415
	(0.0132)	(0.0136)	(0.0132)	(0.0135)	(0.0136)	(0.0130)	(0.0136)	(0.0900)
GDP_t_1		-0.218***					-0.116**	-0.573
		(0.0402)					(0.0452)	(0.560)
log_GDP		0.00104					0.00327	-0.0480
		(0.00219)					(0.00364)	(0.0317)
Debt_to_GDP		-0.0118***					-0.0101***	-0.0334
		(0.00450)					(0.00382)	(0.0321)
Inflation		0.281**					0.334***	4.018***
		(0.112)					(0.114)	(1.282)
CB_policy_rate		-0.229**					0.191*	0.566
		(0.0936)					(0.115)	(1.171)
financial_freedom		-0.000161					0.000385	0.00401*
		(0.000256)					(0.000263)	(0.00223)
euro_country		-0.0135**					-0.0222***	-0.0811**
		(0.00589)					(0.00641)	(0.0379)
expected_default_host		0.00483					0.0114	0.653*
		(0.00849)					(0.00809)	(0.358)
average_return		0.969***					0.649***	-0.752
		(0.213)					(0.211)	(1.628)
Country_NPL		-0.0776*					-0.0721*	-0.147
		(0.0415)					(0.0398)	(0.179)
MPI			-0.00122*				-0.00116	-0.0130*
			(0.000668)				(0.000738)	(0.00738)
AGE				-0.000870			-0.000917	-0.00193
				(0.000640)			(0.000642)	(0.00279)
Board_size_log				-0.00954			-0.00844	-0.0339
				(0.00804)			(0.00886)	(0.0572)
duality				0.00179			0.00308	-0.00696
				(0.00347)			(0.00361)	(0.0143)
SDS				0.0132			0.0127	0.111
				(0.0142)			(0.0141)	(0.0849)
women				0.00385			0.00149	0.00823
				(0.0133)			(0.0150)	(0.0694)
Ownership				-0.00220			-0.00298	0.0417

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
					(0.00481)		(0.00515)	(0.0375)
Debt_enforcement					-0.000121*		-0.000146	-0.00121**
					(6.27e-05)		(9.65e-05)	(0.000527)
concentration					0.0265***		0.0165**	-0.0600
					(0.00679)		(0.00679)	(0.0848)
Financial_Center					0.00742		0.00488	0.0130
					(0.0145)		(0.0155)	(0.0407)
Same_currency					0.0115***		0.0172***	0.0633*
					(0.00262)		(0.00389)	(0.0360)
Hofstede_Kogut_Singh					-0.00319**		-0.00497***	-0.0142*
					(0.00138)		(0.00159)	(0.00849)
Geographic_proximity					0.0182***		0.0128**	-0.0172
					(0.00492)		(0.00509)	(0.0150)
Linguistic_proximity					-0.00545		-0.00528	-0.0459*
					(0.00613)		(0.00778)	(0.0275)
Constant	-0.0597*	-0.0153	-0.0558*	-0.0120	-0.0946**	-0.0826**	-0.0518	0.333
	(0.0336)	(0.0515)	(0.0326)	(0.0449)	(0.0412)	(0.0340)	(0.0583)	(0.416)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,527	1,423	1,527	1,527	1,440	1,517	1,411	231
Number of banks	983	916	983	983	919	975	906	171
R-sq overall	0.0364	0.0867	0.0383	0.0446	0.0677	0.0622	0.126	0.324
R_sq within	1.91e-07	0.0159	1.54e-05	0.000217	9.94e-06	9.10e-05	0.0175	0.116
R_sq between	0.0466	0.0877	0.0504	0.0542	0.0674	0.0630	0.119	0.372

Notes: ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively. Standard errors are reported in parentheses. All the variables are defined in Appendix II.

4.10 Conclusion

In this chapter I use a sample of European banks' bond portfolios to examine home bias patterns. I focus on home, regional (eurozone) and foreign bias. Furthermore, I gather data on bank board members' nationality, a considerable part of which is hand-collected. Using detailed data on board members' nationality, I examine whether this is associated with foreign bond portfolio allocation. I also examine the association of board members' characteristics and risk. Risk is proxied via the issuing countries' credit rating and the average bond portfolio maturity.

I find that the inclusion of foreign board members is associated with lower home bias in both the aggregate as well as the held-to-maturity bond portfolio. The results are in line with my expectations, based on prior literature (Lippi, 2016; Garcia-Herrero and Vazquez, 2013; Buch et al., 2010). State-ownership is positively associated with home bias, which is especially apparent in the held-to-maturity portfolio. Non-eurozone board members are associated with lower regional bias. The inclusion of foreign board members is also associated with a higher foreign bias in their country of origin, especially as the ratio of bond holdings in this country increases. Results hold when I deal with endogeneity using a lagged value approach. I did not establish any association between foreign board members' ratio and bond portfolio risk.

These results have significant implications. It has already been shown that home bias and regional bias is observed across institutional investors (e.g. Hau and Rey, 2008; Buch et al., 2010). I show that while home bias on the bank level is mitigated in the presence of foreign board members, foreign bias towards specific countries can be linked directly to foreign board members descending from these countries. This implies that home bias may be a deep-rooted characteristic of individuals as well as professionals. By examining for increased bond holdings, I show that foreign bias is not a random effect, but rather a conscious decision made by banks after considering several "hard data" concerning issuing countries. In other words, the banks' goal is not international diversification, but a strategic focus on the part of the bank on specific markets, in line with findings by Buch et al. (2010).

Chapter 5: Loan portfolio size and corporate governance in banks: Evidence from the financial crisis period

5.1 Introduction

The financial crisis that began in the U.S. in 2007 and rapidly spread to the rest of the world is generally attributed to risky investments undertaken by financial institutions' management. Failures and weaknesses in corporate governance are regarded as one of the major factors that contributed to the financial crisis (Kirkpatrick, 2009; De Larosière et al., 2009). This raises questions about the effectiveness of financial institutions' corporate governance structures.

Corporate governance is of great importance in all industries and may have adverse effects on a firm's health if not implemented appropriately (Fitch Ratings, 2007). Therefore, it is no surprise that corporate governance in banks had already drawn the attention of supervisory authorities (e.g. Office of the Comptroller of the Currency, 1988; BCBS, 2006) even before the sub-prime crisis. Following the sub-prime crisis, a number of new consultative documents were issued by several committees (e.g. the Walker Review in 2009 in the UK, BCBS in 2010, etc.).

Corporate governance structures in banks can lead to risky portfolio choices, which may affect their capital base, especially during an adverse economic shock. Even less important shocks to the economy are amplified in the banking system through the financial accelerator (Bernanke and Gertler, 1989; Kiyotaki and Moore, 1997). During an economic downturn, banks may not be able to finance positive net-present-value projects (Athanasoglou et al., 2014), amplifying the financial shock. Loan disbursements are expected to fall due to tightening credit standards, that include higher interest rates (Cappiello et al., 2010), more collateral (Jimenez and Saurina, 2006) and shorter loan maturities (Gordy and Howells, 2006).

Financial crises tend to have adverse effects on banks' profitability, liquidity and capital. These limit banks' ability to expand their loan portfolio, which should affect, predominantly, bank-dependent borrowers. Chava and Purnanandam (2011) use a sample of listed firms around the Russian crisis in 1998 and show that banks' financial problems following an adverse capital shock affect bank-dependent

borrowers. The literature has also established a finance-growth nexus (Jayaratne and Strahan, 1996) and the importance of small business lending (Berger et al., 2005b; Berger et al., 1998) for small business productivity (Krishnan et al., 2015) and creation of new businesses (Kerr and Nanda, 2009). Finally, Kashyap et al. (1993) have found that a decline in loan supply is associated with a GDP decline.

The theoretical underpinnings of my topic can be traced in the principal-agent problem (Simon, 1959; Jensen and Meckling, 1976; Fama, 1980) and the adverse selection problem (Eisenhardt, 1989), which are the outcome of asymmetric information. The principal-agent regime[64] is a three-way interaction scheme (Hermalin and Weisbach, 2003): between shareholders and management, between management and directors and between directors and shareholders. Asymmetric information steams from the opaqueness of banks' assets (Levine, 2004), which makes it difficult for all sides to verify the assets' value and, hence, ensure that directors and management have acted in the shareholders' interests. For directors and management it may be more rational to herd (Jain and Gupta, 1987; Scharfstein and Stein, 1990; Uchida and Nakagawa, 2007). During a crisis, it may be easier for both directors and management to justify credit rationing decisions, although this may have detrimental effects from a social standpoint. In this chapter, I examine whether the corporate governance variables I include differentiate the bank's reactions regarding its loan portfolio.

It is not ex ante obvious why and in what way corporate governance values should affect loan availability in normal times and during a crisis. Banks actively manage their loan portfolio (De Haas and Naaborg, 2006). The board of directors sets out the main strategic focus, while executives and middle management carry out the plans. Effective information flows to the board should guarantee adequate oversight of management decisions regarding strategy implementation. Things are more complicated when it comes to explaining why corporate governance values should affect loan availability, especially during a crisis: On the one hand, "shareholder-friendly" boards are usually associated with higher risk (Anginer et al., 2016; Anginer et al., 2018) and reduce loan growth (Beltratti and Stulz, 2012), especially to riskier,

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[64] The principal-agent problem is present in the case of a clear division between management and control (see Lumby and Jones, 1999, p. 14, for a relevant argument). This is certainly the case in most, if not all, of the banks in my sample.

and thus more bank-dependent, borrowers (Faleye and Krishnan, 2017) during a crisis. On the other hand, board members' fiduciary duties (Macey and O'Hara, 2003; Mullineux, 2006) may urge them to ration credit to more risky borrowers in the event of a crisis. Thus, it has been documented that board structure affects loan growth during a crisis.

Ivashina and Scharfstein (2010) examine loans to large firms during the crisis period. They document a peak of new loans in the second quarter of 2007, which is explained by the use of existing credit lines by corporates. This incident, along with the disturbance in the interbank market following the collapse of Lehman Brothers, put pressure on banks' liquidity. Banks with a stronger deposit base cut back less on their lending. Brei et al. (2013), Jimenez et al. (2012) and Berger and Bouwman (2013) highlight the role of capital ratios on banks' lending activities during crises. Li (2013) examines banks' connections with political and regulatory bodies to find that they increase the possibility to receive TARP funds. These funds were partly used to grant new loans, even by banks with below-median capital ratios. However, all these papers do not examine corporate governance characteristics, with the exception of Berger and Bouwman (2013). This chapter examines the role of capital in US banks' performance and survival, but only control variables regarding ownership data are included.

This chapter examines the association between loan portfolio growth and corporate governance characteristics in a sample consisting of all Greek banks for the period between 2005 and 2011. Banks' loan portfolio composition has been studied for many countries (e.g. Louzis et al., 2012, for Greek banks; Martin-Oliver et al., 2017, for Spanish banks) and for different time periods, including crises (e.g. Beltratti and Stulz, 2012; Li, 2013; Faleye and Krishnan, 2017). The main contribution of this chapter that it is the first to my knowledge to address directly growth rates of the main loan categories, as a result of the crisis, and examine their association with corporate governance characteristics. To this end, the chapter uses a time span of three years before and after the collapse of Lehman Brothers (2008), which signaled the peak of the crisis worldwide as well as the outburst of the crisis in Greece.

I strongly believe that it is important to examine different loan categories and not just total loans or one loan category, for a number of reasons. To begin with, any kind of

loan will be directed to the broader economy through corporations that sell their products to borrowers (i.e. the consumers); depending on each bank's strategic focus, I may see differentiated effects of specific corporate governance characteristics on individual loan categories. The financial structure of a bank may also have an effect on its loan portfolio choices: a bank with limited resources cannot really compete in the market for large corporate and syndicated loans. Therefore, my analysis could unveil interesting results concerning the effect of specific financial data according to corporate governance variables on individual loan categories.

Faleye and Krishnan (2017) examine the nexus between corporate governance and lending to corporates using a sample of 80 U.S. banks over 1994-2008. They construct an index to measure board effectiveness using the following variables: board size, percentage of independent directors, CEO duality and board classification. The authors also use borrowers' long-term credit ratings at the time when the loan was granted and define borrowers that are not investment grade as risky. They find that board effectiveness is associated with a lower probability of lending to risky borrowers. But this lower probability holds only in crisis periods; in normal periods, no association between board effectiveness and probability of lending to risky borrowers was established.

This chapter also examines the link between corporate governance and lending. I abstract from indexes that proxy "shareholder-friendly" boards and examine corporate governance variables on their own. Apart from including different corporate governance variables, this chapter differs from that of Faleye and Krishnan (2017) in three aspects. First, I examine the evolution of all main loan categories, since the credit crunch does not only affect corporations but also households. This choice is especially important because the majority of companies are small and business loans may be masked as consumer loans and vice versa. Moreover, an abrupt fall in new loan disbursements is expected to affect both corporations and households. Second, Faleye and Krishnan (2017) examine risk-taking in lending decisions according to board effectiveness as a consequence of a financial shock (the Russian default), while I examine aggregate loan stock and its individual categories. Finally, my sample investigates the behavior of Greek banks: the sub-prime crisis started in the banking system; the Greek case is different since it was the financial difficulties of the Greek state that created stringency in the banking system.

Sumner and Webb (2005) also examine loan portfolio composition with regards to board characteristics in a sample of 316 bank holding companies in 1997. They find that consumer loan growth (as a percent of total assets) is related to the share of outsiders on the board, but consumer, agricultural and real estate loan growth is not. However, they examine one year only and not a crisis period.

Beltratti and Stulz (2012) examine a dataset of 440 deposit-taking listed banks worldwide with an asset size of more than USD 10 bn. at the end of 2006. Regarding governance, the authors use data on bank ownership and an index concerning board composition. They find that banks with boards which could be characterized as "shareholder-friendly" exhibited lower loan growth during the crisis. However, the authors do not examine each loan category separately.

The Spanish banking system has attracted the attention of researchers. For example, Martin-Oliver et al. (2017) utilize a sample of cajas to find that corporate governance characteristics have a more pronounced effect on results during a crisis. Cunat and Garicano (2010) also use cajas and document that loan portfolio, NPLs and rating downgrades are not associated with board members' education at the peak of the financial crisis. Ibanez-Hernandez et al. (2018) use the universe of Spanish banks to examine their procyclical behavior, but concentrate on political interference.

Finally, Stefanelli and Cotugno (2010) examine listed Italian banks for a pre-crisis period (2006-2008), and document that while independent directors improve recovery rates of bad loans, default rates increase.

I also collect data on yearly write-offs. The decision to write off loans is a decision made within the bank, but may also be influenced by supervisory authorities. This decision is affected by asymmetric information, which implies that banks are expected to choose the level of write-offs that will deliver the minimum negative message (Rajan, 1994). Leventis et al. (2013) document that listed commercial banks in the US characterized as effectively governed make more loan loss provisions.

I find that duality is negatively associated with loan growth in most loan categories and during normal times, indicating risk aversion on the part of the CEO. During the crisis period, the ratio of independent and non-executive board members is associated with loan growth of specific loan categories but not total loans. All in all, the effect of

corporate governance variables on loan growth during the full period or during a crisis is rather limited. Financial figures including asset size, ROA, leverage and capital adequacy ratios have a statistically significant impact on loan growth during normal times, irrespective of loan category. During a crisis, the most important factor affecting loan growth is liquidity, in line with Berger and Bouwman (2009), Ivashina and Scharfstein (2010), and Cornett et al. (2011) about the association between liquidity and the banks' willingness to offer credit. My findings are qualitatively similar to those by Delis et al. (2017) and Wintoki et al. (2012), who find limited influence of board characteristics on financial performance. Finally, board size and the ratio of independent directors are associated with write-offs, while the latter affects loan growth negatively among smaller banks but positively among larger ones. I deal with endogeneity issues, inherent in studies regarding corporate governance, with all independent variables lagged by one year.

This chapter is structured as follows. Section 5.2 describes the hypothesis tested, Section 5.3 the database and Section 5.4 the model used. Section 5.5 presents my variables and Section 5.6 includes descriptive statistics and the correlation matrix. Section 5.7 presents and discusses the empirical results. Section 5.8 concludes.

5.2 Hypothesis

Following the preceding analysis, I can formulate my two hypotheses:

H1: Corporate governance variables affect loan growth during normal times.

H2: Corporate governance variables affect loan growth during a crisis.

Papers on the corporate governance variables I use generally yield mixed results; therefore I cannot estimate the effect of specific corporate governance variables on loan growth. CEO duality is a notable exception, in the sense that it leads to increased risk aversion and, hence, lowers loan growth. However, I do expect some of my corporate governance values to be associated with loan growth during a crisis. The reason is that during a crisis, the board of directors is – ex ante – expected to influence the bank's strategy towards increasing or decreasing its loan portfolio size. I also expect this influence to be (statistically) different across loan categories, based on each bank's strategic focus.

5.3 Data

My data consists of a strongly balanced panel data set of 16 private and state-controlled commercial banks, which accounted for over 90% of the Greek banking sector's total assets during the sampling period. I use unconsolidated year-end data for the period 2005 – 2011, which yield a total number of 102 observations. Cypriot banks' subsidiaries in Greece (whose headquarters are outside Greece) are excluded, because these banks do not publish non-consolidated data solely for their Greek subsidiaries. Cooperative banks are also excluded – these however account for less than 1% of the banking sector's assets, and their number decreased rapidly after 2009.

Data on banks' loans and financials was either downloaded from Orbis Bank Focus or hand-collected. Data on banks' corporate governance variables was derived from their financial statements, internet sites or other public disclosures.

I present these variables in more detail in Section 5.5 (see also Appendix III).

5.4 The model

In order to examine whether and how banks' corporate governance characteristics are associated with loan portfolio growth, I constructed the following model:

$$\Delta y_{it} = \alpha_0 + \alpha_1 \, X_{it\text{-}1} + \alpha_2 \, Z_{it\text{-}1} + \alpha_3 \, T + u_{it} \qquad (1)$$

where

- Δy_{it} is the annual percentage change in total loans (stock) of bank i at time t;
- $X_{it\text{-}1}$ is a set of control variables concerning corporate governance of bank i at time t;
- $Z_{it\text{-}1}$ is a set of control variables concerning the bank's i financial position at time t;

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- T is a set of year dummies that control for time effects; and

- u_{it} are random errors.

Following Gaganis et al. (2020a), all independent variables in the above equation (i.e. X_{it} and Z_{it}) are lagged by one year because of endogeneity concerns.

Growth rates of total loans may not reveal significant details concerning the loan market and their consequences. For example, a fall in business loans could have more far-reaching implications for small and new businesses, and thus affect the long-term growth potential of the whole economy. Therefore, apart from total loans, I also examine growth rates of the main loan categories, i.e. the annual percentage change in business loans (stock), the annual percentage change in total consumer loans (stock) and the annual percentage change in mortgages (stock). Business loans represent the most important loan category, averaging to over 60% of my sample banks' total loan stock. Business loans are followed by mortgages, which account for 26% of total loans, on average. Consumer loans, which also include credit cards, account for 13%. I should note that it was a common practice for banks to give consumer loans on top of mortgages, in order for the mortgage to reach the financed house price. Another common practice was to finance small businesses through mortgages or consumer loans. Therefore, the categorization is not absolute, but should be viewed as an adequate proxy.

Finally, I also examine whether the ratio of write-offs to total impaired loans is affected by corporate governance variables. I should point out that write-offs, unlike loan loss provisions, do not affect total income.

5.5 Variables

Dependent variable

Following Beltratti and Stulz (2012), my main dependent variable is each bank's annual total loan growth (TOLOCH). More precisely, I calculate for each bank in my sample the yearly percentage change of its total loan portfolio, using end-of-year data

(stock). Each bank's annual loan growth should be affected by the bank's board, since it is the board that ultimately decides the bank's strategy.

Apart from the main dependent variable, I follow Ivashina and Scharfstein (2010) and Faleye and Krishnan (2017) and also use annual growth rates for individual loan categories. The aforementioned authors examined business loans; I examine yearly percentage change in mortgages (MORTGCH), business (BULOCH) and total consumer loans (TOTCONLOCH). The concept is that, in times of limited credit growth, the bank's board may choose to focus on specific loan categories and limit exposure to others.

Finally, I examine the ratio of write-offs to total impaired loans (WROFFIMP).

Corporate governance-related variables

Following numerous studies (e.g. Gaganis et al., 2020a; Beltatti and Stulz, 2012; Faleye and Krishnan, 2017), I use a series of corporate governance variables to capture aspects of banks' board characteristics.

More precisely, I include variables on board size (BOARDSIZE), the ratio of foreign (FOREIGN), non-executive (NONEXEC) and independent (INDEP) board members. Finally, I examine whether the CEO is also the chairman of the board (DUALITY). Relevant data was hand-collected from the banks' financial statements, internet sites or other public sources.

An intermediate board size, a higher ratio of independent board members and a separate board chairman and CEO are regarded as aspects of "good" governance. Notwithstanding that these board characteristics may not be necessarily good for banks (Adams and Mehran, 2012), they were mentioned in the Cadbury Report in the UK (1992) and are examined by shareholders. These variables are included in the indexes of "friendly" or "good" board structures used by Beltatti and Stulz (2012) and Faleye and Krishnan (2017), respectively. However, I abstract from using an index, since its results may prove more difficult to interpret (Beltatti and Stulz, 2012).

Most studies in banking document a positive association between board size and performance, but a negative one with risk (de Haan and Vlahu, 2016). De Andres and

Vallelado (2008) report an inverted U-shaped relation between board size and performance.

Independent directors have been documented to be associated with lower risk in some papers (Pathan, 2009; Faleye and Krishnan, 2017), but with higher risk in others (Adams, 2012). Board members' attitude towards risk may be related to their financial expertise (Fernades and Fich, 2012; Minton et al., 2014).

The empirical evidence on CEO duality's association with performance yields mixed results (Pi and Timme, 1993; Fernades and Fich, 2012). Pathan (2009) and Simpson and Gleason (1999) find an association between CEO duality and risk avoidance.

I also include corporate governance variables regarding board diversity, namely the ratio of female (WOMEN) and foreign (FOREIGN) board members. Berger et al. (2014), Agarwal and Wang (2009) and Beck et al. (2013) control for the ratio of female board members. Agarwal and Wang (2009) and Beck et al. (2013) have found that female loan officers grant loans that are less likely to default, compared with loans granted by their male counterparts. Regarding foreign board members, it has been documented that foreign board members can offer a new perspective (Delis et al., 2017) and a shift in strategy (Gulamhussen and Guerreiro, 2009), but may have a negative influence on profitability (Garcia-Meca et al., 2015).

Control Variables

Following numerous past papers in banking, I control for bank-specific financial figures (e.g. Gaganis et al., 2020a; Doumpos et al., 2015; Laeven and Levine, 2009).

Capital has been found to strongly affect banks' ability to grant loans during normal times and especially during a crisis (Jimenez et al., 2012; Brei et al., 2013; Berger and Bouwman, 2013). Therefore, I control for capital adequacy (CAR); relevant data is derived from each bank's financial statements.

A number of papers have outlined the importance of the bank's liquidity in sustaining credit availability during a crisis (Berger and Bouwman, 2009; Ivashina and Scharfstein, 2010; Cornett et al., 2011; Jimenez et al., 2012). Thus, I use the ratio of Net Loans/Deposits + ST Funding as a metric of liquidity (LIQUIDITY). I also use

the natural logarithm of total assets (ASSETS) as an indicator of size (e.g. Faleye and Krishnan, 2017) and the ratio of total income to total assets to calculate return on assets (ROA) as a metric of profitability (e.g. de Andres and Vallelado, 2008; Masulis et al., 2012). I also include a metric of leverage (LEVERAGE), following Beltratti and Stulz (2011). I estimate leverage as the ratio of Total Liabilities to Total Equity.

Relevant data was downloaded from Orbis Bank Focus, while any missing data was hand-collected from the banks' internet sites or other public sources.

5.6 Descriptive statistics and correlation coefficients

In Table 1 I present the summary statistics of my variables set. On average, almost half of my banks are characterized by CEO duality, and independent directors account for 21.6% of total board size. Female and foreign board members account for 6.4% and 11.4%, respectively. All these figures are lower than those reported for the 25 highest capitalized European banks in September 2007 (Ladipo et al., 2008).

Table 1: Descriptive statistics

VARIABLES	Obs	Mean	Std. dev.	Min	Max
TOTCONLOCH	85	0.154	0.326	-0.487	1.740
MORTGCH	88	0.618	4.011	-0.206	37.52
BULOCH	85	0.512	2.935	-0.217	27.02
TOLOCH	88	0.287	1.335	-0.145	12.50
WROFFIMP	104	0.132	0.133	0	0.576
ASSETS	90	6.937	0.660	5.462	7.999
CAR	88	0.125	0.0491	0.0410	0.478
ROA	90	0.00236	0.0175	-0.0931	0.0790
LEVERAGE	90	15.76	6.474	7.026	29.72
LIQUIDITY	90	0.809	0.156	0.303	1.401
BOARDSIZE	90	1.061	0.129	0.699	1.301
FOREIGN	90	0.114	0.192	0	0.750
WOMEN	90	0.0640	0.0676	0	0.200
DUALITY	90	0.522	0.502	0	1

NONEXEC	90	0.678	0.202	0	0.923
INDEP	90	0.216	0.174	0	0.750

All the variables are defined in Appendix III.

In Table 2 I present the correlation matrix.

Table 2: Correlation coefficients

	TOLOCH	TOTCONLOCH	MORTGCH	BULOCH	ASSETS	CAR	ROA	LEVERAGE	LIQUIDITY	BOARDSIZE	FOREIGN	WOMEN	DUALITY	NONEXEC	INDEP
TOLOCH	1														
TOTCONLOCH	0.5969	1													
MORTGCH	0.9946	0.5603	1												
BULOCH	0.9911	0.5451	0.9908	1											
ASSETS	-0.267	-0.319	-0.263	-0.256	1										
CAR	0.7758	0.3625	0.7717	0.7715	-0.11	1									
ROA	0.5061	0.4275	0.4771	0.484	0.0157	0.5254	1								
LEVERAGE	-0.181	-0.226	-0.16	-0.15	0.4681	-0.445	-0.357	1							
LIQUIDITY	0.3812	0.1836	0.4017	0.3921	-0.219	0.1779	0.0456	0.034	1						
BOARDSIZE	-0.199	-0.269	-0.191	-0.206	0.6415	-0.053	0.021	0.1855	-0.193	1					
FOREIGN	-0.087	-0.101	-0.078	-0.071	-0.103	-0.261	-0.372	0.3229	0.3028	-0.132	1				
WOMEN	0.134	0.000	0.1252	0.1386	0.2362	0.028	0.0447	0.0928	-0.077	0.252	-0.278	1			
DUALITY	-0.08	-0.059	-0.096	-0.085	0.1793	0.0555	0.263	-0.08	-0.012	-0.128	-0.192	-0.257	1		
NONEXEC	-0.16	-0.103	-0.144	-0.197	0.0521	0.0514	-0.044	-0.152	-0.278	0.4644	-0.407	-0.013	-0.064	1	
INDEP	0.0072	-0.275	0.0256	0.021	0.1988	0.291	-0.057	-0.11	0.0114	0.1419	-0.264	-0.04	0.0687	0.3024	1

All the variables are defined in Appendix III.

5.7 Results

In this section I discuss the empirical results of the models referred to in the previous section.

5.7.1. Whole period

Table 3 presents the results for my main dependent variable, namely the annual percentage change in the stock of total loans (TOLOCH). Regarding corporate governance variables, DUALITY is negatively associated with total loan growth. This result is in line with Pathan (2009) and Simpson and Gleason (1999) who document that CEO duality reduces risk-taking, indicating that CEO duality may lead to CEO's increased power and risk avoidance.

As can be seen in Table 3, financial variables have more influence on the course of TOLOCH. ASSETS is negative and statistically significant at the 1% level, implying that larger banks exhibit lower loan growth rates. This result could be anticipated since relatively newer and smaller banks quickly increased their market share in the years before the crisis. CAR and ROA are positive and statistically significant across all specifications. This result indicates that better capitalized and more profitable banks are more prone to expand their loan portfolio. This result is in line with the literature examining the relationship between bank capital and loan supply (e.g. Bernanke and Lown, 1991; Albetrazzi and Marchetti, 2010; Puri et al., 2011). Not surprisingly, LEVERAGE is also positive and statistically significant across all specifications. The reason is that banks finance their loan portfolio either through deposits or through interbank loans, both of which increase leverage.

I should note that the explanatory power in most specifications is relatively adequate, compared with numerous studies that examine corporate governance variables (e.g. Gaganis et al., 2020a, Faleye and Krishnan, 2017).

Table 3 - Association between change in total loans and corporate governance variables

Dependent variable: TOLOCH

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)
ASSETS	-5.447***	-5.124***	-5.193***	-5.065***	-5.394***	-5.232***	-5.201***

(1.408)	(1.687)	(1.696)	(1.671)	(1.524)	(1.699)	(1.715)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
CAR	15.51***	14.78***	14.97***	15.17***	15.50***	14.94***	14.96***
	(3.245)	(3.700)	(3.730)	(3.675)	(3.413)	(3.724)	(3.745)
ROA	17.70**	18.32**	18.06**	18.34***	17.41**	17.87**	18.01**
	(6.025)	(6.526)	(6.612)	(5.646)	(6.184)	(6.495)	(6.523)
LEVERAGE	0.0599***	0.0669***	0.0676***	0.0679***	0.0597***	0.0668***	0.0672***
	(0.0135)	(0.0130)	(0.0134)	(0.0142)	(0.0116)	(0.0133)	(0.0133)
LIQUIDITY	0.432	0.666	0.719	0.744	0.456	0.749	0.731
	(1.000)	(0.969)	(0.951)	(0.895)	(0.939)	(0.973)	(0.944)
BOARDSIZE	-0.104	-0.778					
	(1.389)	(1.407)					
FOREIGN	-1.372		-0.257				
	(1.741)		(1.340)				
WOMEN	0.214			1.864			
	(3.221)			(2.966)			
DUALITY	-0.662*				-0.520*		
	(0.351)				(0.286)		
NONEXEC	-0.0635					0.253	
	(0.691)					(0.645)	
INDEP	0.00371						-0.109
	(0.324)						(0.448)
Constant	34.90***	32.61**	32.21**	31.21**	34.16***	32.28**	32.26**
	(10.51)	(12.26)	(12.03)	(11.86)	(10.86)	(12.03)	(12.16)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	87	87	87	87	87	87	87
Number of banks	16	16	16	16	16	16	16
R-sq overall	0.201	0.198	0.201	0.217	0.195	0.197	0.199
R_sq within	0.901	0.888	0.887	0.889	0.897	0.887	0.887
R_sq between	0.178	0.146	0.151	0.170	0.162	0.146	0.148

Notes: ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively. Standard errors are reported in parentheses. All the variables are defined in Appendix III.

In Tables 4 to 6 I present the results for the three individual loan categories, namely total consumer loans, business loans and mortgages.

Table 4 presents the results for the annual percentage change in the stock of total consumer loans (TOTCONLOCH). Compared with the other loan categories examined, more corporate governance variables are here statistically significant.

DUALITY is again negatively associated with TOTCONLOCH. Also, INDEP is negative and strongly statistically significant. These results indicate increased risk aversion in banks with relatively more independent directors and CEO duality, given that consumer loans is the loan category with the highest default rate among the three categories I examine. These results are in line with the literature on both CEO duality (Pathan, 2009; Simpson and Gleason, 1999) and independent directors (Pathan, 2009; Faleye and Krishnan, 2017), which document a negative association between CEO duality and the ratio of independent directors and risk-taking. FOREIGN is statistically significant and positively associated with TOTCONLOCH, only in specification (3). It is also interesting that the bank's financial characteristics do not have an effect on TOTCONLOCH. I attribute this result to the relatively smaller size of consumer loans relative to other loan categories, and thus to banks' smaller reliance on their financial strength in order to disburse them.

Table 4 – Association between change in total consumer loans and corporate governance variables

Dependent variable: TOTCONLOCH

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)
ASSETS	-0.734	-0.592	-0.535	-0.588	-0.690	-0.603	-0.641
	(0.489)	(0.553)	(0.579)	(0.568)	(0.457)	(0.538)	(0.554)
CAR	1.790	1.689	1.606	1.641	1.845*	1.601	1.434
	(1.130)	(1.082)	(1.100)	(1.048)	(0.958)	(1.056)	(0.986)
ROA	3.052	3.196	3.283	3.273	3.101	3.265	3.328*
	(2.074)	(2.028)	(2.175)	(1.951)	(2.170)	(1.966)	(1.865)
LEVERAGE	-0.000111	0.00266	0.00170	0.00284	-0.000313	0.00275	0.00287
	(0.00509)	(0.00479)	(0.00539)	(0.00485)	(0.00452)	(0.00477)	(0.00458)
LIQUIDITY	0.00358	0.133	0.102	0.0749	-0.0548	0.0938	0.191
	(0.343)	(0.351)	(0.330)	(0.331)	(0.271)	(0.362)	(0.284)
BOARDSIZE	0.207	0.366					
	(0.636)	(0.404)					
FOREIGN	-0.161		0.584**				
	(0.425)		(0.247)				
WOMEN	-0.408			-0.0102			
	(1.207)			(1.097)			
DUALITY	-0.253*				-0.246**		
	(0.135)				(0.0879)		
NONEXEC	-0.272						0.0992

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	(0.443)					(0.314)	
INDEP	-0.393***						-0.493***
	(0.0995)						(0.127)
Constant	5.348	3.633	3.634	4.041	5.016	4.068	4.437
	(3.625)	(4.191)	(4.080)	(4.024)	(3.157)	(3.872)	(3.891)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	84	84	84	84	84	84	84
Number of banks	16	16	16	16	16	16	16
R-sq overall	0.272	0.310	0.286	0.303	0.275	0.295	0.292
R_sq within	0.681	0.625	0.631	0.623	0.659	0.624	0.653
R_sq between	0.224	0.163	0.126	0.186	0.215	0.178	0.200

Notes: ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively. Standard errors are reported in parentheses. All the variables are defined in Appendix III.

Table 5 deals with the annual percentage change in the stock of total business loans (BULOCH). The only corporate governance variable statistically significant in both specifications is FOREIGN, with a negative sign. This result indicates that foreign board members may prefer a smaller exposure to Greek companies and is at odds with Berger et al. (2005a) who document a preference of foreign-owned banks in Argentina for financing the manufacturing sector rather than mortgages. I attribute this result to the relatively smaller size of Greek companies compared with companies abroad. DUALITY is also negatively associated with BULOCH, further validating the results of TOTCONLOCH and TOLOCH. Contrary to the results in Table 4, where FOREIGN is positively associated with total consumer loans (TOTCONLOCH), FOREIGN is negatively associated with BULOCH in Table 5. FOREIGN is statistically significant only in specification (3) in both tables; however, I interpret this result as an indication that foreign board members shift the loan portfolio away from business loans towards consumer loans, which may indicate a shift in strategy as in Gulamhussen and Guerreiro (2009). Regarding financial variables, results are qualitatively similar to those for TOLOCH. ASSETS is negative and strongly statistically significant across all model specifications, while CAR, ROA and LEVERAGE are positive. The similarity in results can be explained by the fact that business loans account, on (non-weighted) average, for 61% of the banks' total assets.

Table 5 - Association between change in business loans and corporate governance variables

Dependent variable: BULOCH

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)
ASSETS	-12.03***	-10.90**	-11.33**	-10.64**	-11.40**	-10.87**	-10.95**
	(3.640)	(4.486)	(4.381)	(4.380)	(3.996)	(4.397)	(4.454)
CAR	35.25***	32.91***	33.95***	34.29***	34.56***	33.97***	33.79***
	(6.657)	(8.176)	(8.198)	(8.327)	(7.813)	(8.206)	(8.526)
ROA	36.68***	38.32***	36.95**	37.92***	36.27**	37.07**	36.98**
	(11.92)	(12.83)	(14.08)	(11.73)	(13.40)	(14.02)	(13.91)
LEVERAGE	0.161***	0.171***	0.176***	0.170***	0.155***	0.168***	0.168***
	(0.0265)	(0.0279)	(0.0285)	(0.0313)	(0.0255)	(0.0288)	(0.0301)
LIQUIDITY	0.290	1.124	1.893	2.136	1.530	1.953	2.030
	(1.928)	(2.444)	(2.383)	(2.210)	(2.324)	(2.531)	(2.498)
BOARDSIZE	-3.558	-6.077**					
	(3.729)	(2.222)					
FOREIGN	-5.983**		-4.021**				
	(2.731)		(1.545)				
WOMEN	0.949			5.602			
	(6.287)			(5.645)			
DUALITY	-1.646*				-1.043		
	(0.866)				(0.739)		
NONEXEC	-0.201					-0.669	
	(2.136)					(1.835)	
INDEP	0.237						0.214
	(0.588)						(0.951)
Constant	80.54**	73.34**	69.41**	64.05*	70.80**	66.43*	66.47*
	(27.55)	(33.94)	(31.51)	(31.47)	(28.62)	(31.98)	(31.99)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	84	84	84	84	84	84	84
Number of banks	16	16	16	16	16	16	16
R-sq overall	0.194	0.192	0.207	0.230	0.199	0.211	0.207
R_sq within	0.906	0.889	0.888	0.887	0.891	0.883	0.883
R_sq between	0.183	0.143	0.163	0.181	0.162	0.157	0.152

Notes: ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively. Standard errors are reported in parentheses. All the variables are defined in Appendix III.

Table 4 presents the results for the annual percentage change in the stock of total mortgages MORTGCH. DUALITY is again statistically significant, with a negative sign. I expected FOREIGN to be positive and statistically significant, in line with De Haas et al. (2010), who document a greater focus of foreign banks in mortgage lending. The statistical significance of financial variables is qualitatively similar as for TOLOCH and BULOCH.

Table 6 - Association between change in mortgages and corporate governance variables

Dependent variable: MORTGCH

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)
ASSETS	-15.82***	-14.82***	-14.93***	-14.54***	-15.49***	-15.20***	-14.91***
	(3.971)	(4.737)	(4.748)	(4.624)	(4.344)	(4.772)	(4.795)
CAR	47.49***	45.46***	45.71***	46.31***	47.18***	45.43***	45.81***
	(8.389)	(10.16)	(10.17)	(10.01)	(9.271)	(10.05)	(10.23)
ROA	51.12**	53.03**	52.75**	53.60***	50.91**	51.75**	52.54**
	(18.02)	(19.84)	(20.00)	(17.06)	(18.62)	(19.41)	(19.54)
LEVERAGE	0.190***	0.208***	0.209***	0.210***	0.188***	0.206***	0.208***
	(0.0432)	(0.0401)	(0.0409)	(0.0434)	(0.0360)	(0.0412)	(0.0407)
LIQUIDITY	2.767	3.243	3.340	3.417	2.605	3.565	3.297
	(3.096)	(3.125)	(3.047)	(2.802)	(2.969)	(3.109)	(3.090)
BOARDSIZE	1.145	-1.156					
	(4.088)	(4.568)					
FOREIGN	-4.891		-0.813				
	(5.549)		(4.725)				
WOMEN	1.381			5.675			
	(9.184)			(8.473)			
DUALITY	-1.806*				-1.443		
	(0.933)				(0.851)		
NONEXEC	0.680					1.585	
	(2.217)					(1.824)	
INDEP	0.335						0.0432
	(0.992)						(1.290)
Constant	97.30***	91.39**	90.88**	87.84**	96.28***	91.49**	90.69**
	(29.65)	(34.34)	(33.63)	(32.68)	(30.95)	(33.54)	(33.93)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	87	87	87	87	87	87	87

Number of banks	16	16	16	16	16	16	16
R-sq overall	0.217	0.213	0.216	0.233	0.209	0.208	0.215
R_sq within	0.898	0.886	0.886	0.889	0.894	0.887	0.886
R_sq between	0.198	0.161	0.165	0.186	0.177	0.156	0.163

Notes: ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively. Standard errors are reported in parentheses. All the variables are defined in Appendix III.

5.7.2. Crisis period

In this section, I divide my sample into two parts, using the year Lehman Brothers collapsed (2008) as the cut-off point. The first part includes all banks for the 2005-2008 period, while the second for the 2009-2011 period. I am primarily interested in the years 2009-2011, which constitute the crisis period.

Tables 7 and 8 show the results for the above-mentioned periods regarding the annual percentage change in the stock of total loans (TOLOCH). I can see that, while some of the corporate governance variables are statistically significant in isolation, no variable remains statistically significant in the full specification of the model (column (1)). In any case, my results do not show a clear association between banks' corporate governance characteristics and loan contraction during the crisis. This implies that the composition of the board of directors is not responsible for the procyclical behavior banks are accused of.

This finding may be explained by the severity of the crisis in Greece, which left little room for initiatives on the part of the board regarding loan strategies. A second explanation could be the change in bank lending standards. For example, the European Central Bank (2009) mentions that the change in bank credit standards for loans after mid-2007 can mainly be observed in interest rate margins. This means that banks did not ration credit to existing customers during the period I examine, but did change the cost of loans and demanded more collateral.

Table 8 examines the crisis period in isolation. WOMEN is positively associated with TOLOCH, while the ratios of independent and on-executive board member are negatively associated. This implies that some corporate governance variables influence TOLOCH, but their influence is limited. I explain the positive sign of WOMEN by the fact that women tend to build up relationships with their borrowers (Beck et al., 2013) and do not want to ruin this relationship exactly when their need it

most. The negative association of independent board members and TOLOCH further verifies my results about their risk aversion. Finally, I expected that FOREIGN would be negatively associated with TOLOCH, since Bertay et al. (2015) and Albertazzi and Bottero (2014) have found that foreign banks reduce their lending during a crisis, unless they have established relationships (De Haas and Van Horen, 2011). On the contrary, I can see a statistically significant negative association between FOREIGN and TOLOCH only in the pre-crisis period and only in specification (3).

An interesting finding is that the statistical significance and the sign of financial variables in the 2005-2008 period are qualitatively the same as in the 2005-2011 period (presented in Table 3). However, during the crisis period (2009-2011), only ROA remains statistically significant, at the 10% level. Instead, it is LIQUIDITY that becomes strongly statistically significant in this period, and it is negatively associated with loan growth during this period. This result is in line with findings by Berger and Bouwman (2009) and Cornett et al. (2011) regarding banks with limited liquidity and their unwillingness to grant credit. Banks with a limited deposit base need to have access to adequately liquid money and capital markets; market liquidity, however, can suddenly dry up (Brunnermeier and Pedersen, 2009), which was the case in 2008. Liquidity problems for Greek banks were exacerbated in the following years due to the Greek sovereign debt crisis, further affecting their lending capacity. Results regarding LIQUIDITY signify developments in money and capital markets for Greek banks following worsening national economic conditions.

Table 7 - Association between change in total loans and corporate governance variables: 2005-2008 period

Dependent variable: TOLOCH

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)
ASSETS	-3.875***	-1.919**	-3.191***	-2.889**	-3.180**	-2.860**	-2.940**
	(1.024)	(0.785)	(0.759)	(1.032)	(1.259)	(1.197)	(1.043)
CAR	10.31***	12.87***	13.12***	14.62***	14.08***	14.42***	15.06***
	(2.051)	(2.906)	(2.830)	(3.953)	(4.214)	(3.885)	(3.596)
ROA	64.61***	71.44***	75.69***	60.86**	57.32***	60.93**	55.12**
	(14.95)	(13.89)	(13.00)	(21.28)	(18.37)	(21.53)	(20.08)
LEVERAGE	0.104***	0.104***	0.115***	0.0893***	0.0810***	0.0859***	0.0910***
	(0.0148)	(0.0100)	(0.0166)	(0.0197)	(0.0176)	(0.0190)	(0.0194)
LIQUIDITY	0.688	0.553	1.034	1.799	2.061	1.890	2.259*

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	(1.052)	(0.803)	(0.867)	(1.275)	(1.244)	(1.289)	(1.245)
BOARDSIZE	-8.335	-8.593***					
	(6.761)	(2.911)					
FOREIGN	-2.715		-3.532***				
	(2.022)		(0.820)				
WOMEN	-1.344			-1.321			
	(3.231)			(2.895)			
DUALITY	-0.830				-0.165		
	(0.547)				(0.493)		
NONEXEC	1.416					-0.192	
	(3.090)					(1.838)	
INDEP	0.143						-1.171
	(1.810)						(1.658)
Constant	31.59***	18.31**	17.74***	15.12*	17.18*	15.00*	15.24*
	(7.836)	(6.715)	(5.551)	(7.620)	(9.421)	(8.122)	(7.647)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	45	45	45	45	45	45	45
Number of banks	16	16	16	16	16	16	16
R-sq overall	0.424	0.589	0.653	0.661	0.619	0.673	0.633
R_sq within	0.982	0.978	0.975	0.970	0.970	0.970	0.971
R_sq between	0.301	0.392	0.514	0.475	0.460	0.508	0.456

Notes: ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively. Standard errors are reported in parentheses. All the variables are defined in Appendix III.

Table 8 - Association between change in total loans and corporate governance variables: 2009-2011 period

Dependent variable: TOLOCH

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)
ASSETS	-0.813	-0.699	-0.771	-0.784*	-0.667	-0.735	-0.629
	(0.568)	(0.520)	(0.486)	(0.445)	(0.453)	(0.476)	(0.454)
CAR	1.332	1.408	1.580	1.752*	1.431	1.276	1.374
	(1.345)	(1.010)	(1.133)	(0.933)	(1.001)	(0.945)	(1.012)
ROA	2.138*	1.727*	1.754*	2.098**	1.689*	1.698*	1.665
	(1.125)	(0.983)	(0.955)	(0.941)	(0.945)	(0.908)	(0.951)
LEVERAGE	0.0111	0.00763	0.00834	0.0104*	0.00765	0.00839	0.00760
	(0.00662)	(0.00592)	(0.00655)	(0.00496)	(0.00594)	(0.00548)	(0.00591)
LIQUIDITY	-1.415***	-1.349***	-1.399***	-1.346***	-1.342***	-1.446***	-1.310***
	(0.467)	(0.419)	(0.463)	(0.414)	(0.437)	(0.464)	(0.442)
BOARDSIZE	-0.149	-0.101					

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	(0.685)	(0.525)					
FOREIGN	0.113		-0.273				
	(0.506)		(0.268)				
WOMEN	0.774			0.746**			
	(0.585)			(0.342)			
DUALITY	0.0293				0.000546		
	(0.0633)				(0.0518)		
NONEXEC	-0.204					-0.228*	
	(0.212)					(0.108)	
INDEP	-0.0357						-0.0684**
	(0.0643)						(0.0316)
Constant	6.826	5.921	6.360*	6.267*	5.577*	6.291*	5.303
	(4.414)	(3.881)	(3.436)	(3.165)	(3.169)	(3.389)	(3.185)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	42	42	42	42	42	42	42
Number of banks	16	16	16	16	16	16	16
R-sq overall	0.162	0.150	0.152	0.170	0.161	0.157	0.171
R_sq within	0.663	0.585	0.591	0.627	0.584	0.620	0.591
R_sq between	0.245	0.226	0.237	0.259	0.240	0.237	0.253

Notes: ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively. Standard errors are reported in parentheses. All the variables are defined in Appendix III.

In Tables 9 and 10 I examine the annual percentage change in the stock of total consumer loans (TOTCONLOCH), business loans (BULOCH) and mortgages (MORTGCH) for the 2005-2008 and 2009-2011 periods. Regarding the 2005-2008 period, no corporate governance variable is statistically significant. The statistical significance and the sign of financial variables are qualitatively similar as in Table 7. In other words, the financial figures are statistically significant in the case of BULOCH and MORTGCH, but not in the case of TOTCONLOCH.

The effect of corporate governance variables during the crisis (Table 10) differs, depending on each loan category. INDEP is negatively associated with TOTCONLOCH, but positively associated with MORTGCH, implying a portfolio shift towards loan categories with lower default rates. This result could also indicate an increase in demanded collateral: during the crisis, banks demanded from their customers to convert their consumer loans (for which collateral may not be a

prerequisite) to mortgages. Increasing collateral can be attributed to independent directors' risk aversion (Pathan, 2009; Faleye and Krishnan, 2017); it is also a sign that banks with more independent directors adjust more quickly to a changing economic environment and try to minimize their risk exposure (i.e. loss given default). This may not be socially desirable from a bank-dependent borrower's standpoint, but lack of swift adjustment can be detrimental to the bank's financial health. NONEXEC is negatively associated with BULOCH, at the 10% level. Executives may be reluctant to ration credit to their customer base; non-executive board members can be more impartial in judging a firm's financial status in a deteriorating economic environment.

LIQUIDITY has a negative sign across all loan categories, but is statistically significant at the 10% level in MORTGCH, at the 5% level in BULOCH and not statistically significant in TOTCONLOCH. Statistical significance is in tandem with the size of each loan category: business loans tend to be larger, on average, followed by mortgages. Finally, consumer loans are usually of small value and do not represent a significant outflow of liquidity.

Table 9 - Association between change in total consumer loans, business loans and mortgages and corporate governance variables: 2005-2008 period

Dependent variables: TOTCONLOCH, BULOCH, MORTGCH

VARIABLES	TOTCONLOCH	BULOCH	MORTGCH
ASSETS	-0.484	-9.002***	-9.989**
	(1.043)	(2.348)	(3.422)
CAR	-1.515	20.78***	35.15***
	(3.016)	(4.090)	(5.822)
ROA	28.75*	109.7**	157.3***
	(14.73)	(43.10)	(49.18)
LEVERAGE	-0.00404	0.236***	0.302***
	(0.0176)	(0.0419)	(0.0580)
LIQUIDITY	0.121	3.430	1.892
	(0.914)	(4.015)	(3.498)
BOARDSIZE	2.805	-24.09	-39.05
	(4.128)	(15.58)	(23.91)
FOREIGN	-1.621	-6.171	-2.637
	(1.999)	(4.613)	(7.204)

WOMEN	0.596	-0.350	-3.970
	(5.140)	(6.295)	(9.828)
DUALITY	-0.279	-2.191	-1.985
	(0.285)	(1.551)	(1.657)
NONEXEC	-1.275	7.244	8.227
	(1.903)	(7.157)	(11.52)
INDEP	0.216	2.705	2.850
	(0.882)	(4.065)	(5.527)
Constant	1.772	74.34***	94.20***
	(5.813)	(21.91)	(27.51)
Year dummies	Yes	Yes	Yes
Observations	45	45	45
Number of banks	16	16	16
R-sq overall	0.273	0.368	0.395
R_sq within	0.648	0.978	0.980
R_sq between	0.303	0.251	0.246

Notes: ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively. Standard errors are reported in parentheses. All the variables are defined in Appendix III.

Table 10 - Association between change in total consumer loans, business loans and mortgages and corporate governance variables: 2009-2011 period

Dependent variables: TOTCONLOCH, BULOCH, MORTGCH

VARIABLES	TOTCONLOCH	BULOCH	MORTGCH
ASSETS	-0.963	-4.003*	-0.630
	(1.229)	(2.138)	(0.428)
CAR	3.333	-0.671	0.626
	(2.425)	(2.222)	(0.557)
ROA	2.076	5.962**	-0.107
	(1.514)	(2.500)	(0.646)
LEVERAGE	0.0132	0.0341*	0.00278
	(0.00777)	(0.0176)	(0.00308)
LIQUIDITY	-0.0392	-2.777**	-0.451*
	(0.585)	(1.188)	(0.241)
BOARDSIZE	0.730	-0.436	-0.316
	(0.990)	(0.997)	(0.536)
FOREIGN	-1.644	0.622	0.112
	(1.527)	(1.292)	(0.482)

WOMEN	0.632	0.929	-0.196
	(0.755)	(1.031)	(0.468)
DUALITY	-0.00869	0.0699	-0.0308
	(0.163)	(0.120)	(0.0555)
NONEXEC	0.682	-1.666*	-0.218
	(0.452)	(0.899)	(0.254)
INDEP	-0.868***	0.0839	0.247***
	(0.0898)	(0.135)	(0.0717)
Constant	5.310	31.51*	5.162
	(8.171)	(16.50)	(3.192)
Year dummies	Yes	Yes	Yes
Observations	39	39	42
Number of banks	15	15	16
R-sq overall	0.0669	0.0329	0.00544
R_sq within	0.641	0.699	0.583
R_sq between	0.0267	0.0479	0.00768

Notes: ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively. Standard errors are reported in parentheses. All the variables are defined in Appendix III.

5.7.3. Robustness Tests

In this section I examine whether the bank's asset size may alter the results obtained from Tables 3 and 4. There are reasons to believe that asset size may be an influential factor when the banks decide on their portfolio composition and growth. The first reason is the fact that larger banks have better access to capital markets (Group of Ten, 2001), while smaller banks have to resort to larger banks for liquidity funding, if their customer deposits are not enough. Berger and Bouwman (2013) have established that higher capital ratios help medium-and-large-sized banks during a crisis, but small banks at all times. Moreover, larger banks may fall into the "too-big-to-fail" category, which may allow them to adjust their risk profile differently than smaller banks[65]. Finally, larger banks may be able to recruit more experienced or highly educated personnel. Banks with more financially experienced board members limit their risk exposure (Fernandes and Fich, 2012; Cunat and Garicano, 2010), while banks with boards consisting of more highly educated members are more risk averse (Cunat and

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[65] Brewer and Jagtiani (2007) have shown that banks may pay a significant premium to target banks' shareholders in order to achieve the alleged too-big-to-fail threshold.

Garicano, 2010) and exhibit higher efficiency levels, especially in the case of of larger banks (Kauko, 2009).

To run this robustness test, I use my 2005-2011 sample and divide it into two main categories (namely large and small banks), according to their asset size. The threshold is the sample mean asset size. Results are presented in Tables 11 and 12.

Regarding corporate governance variables, only INDEP is negatively associated with the annual percentage change in the stock of total consumer loans (TOTCONLOCH) in small banks, at the 10% level. INDEP is also the only corporate governance variable statistically significant in large banks; it is negatively associated with the annual percentage change in the stock of total loans (TOLOCH).

Regarding financial variables, ASSETS is negative and strongly statistically significant across all model specifications, except for TOTCONLOCH, in both small and large banks. CAR, ROA and LEVERAGE are positive across all model specifications, except for TOTCONLOCH, in small banks. These variables do not always exhibit statistical significance for BULOCH and MORTGCH in large banks. This could be explained by different growth strategies applied by large banks, possibly affected by their ownership status.

Table 11 - Association between change in total loans, total consumer loans, business loans and mortgages and corporate governance variables: 2005-2011 period, small banks

Dependent variables: TOLOCH, TOTCONLOCH, BULOCH, MORTGCH

VARIABLES	TOLOCH	TOTCONLOCH	BULOCH	MORTGCH
ASSETS	-9.027**	0.302	-21.03**	-27.54**
	(2.752)	(1.245)	(6.827)	(9.212)
CAR	11.85**	5.220*	21.07*	28.17*
	(3.895)	(2.737)	(10.54)	(13.59)
ROA	17.76**	0.445	38.30*	49.99*
	(7.316)	(2.007)	(18.26)	(23.52)
LEVERAGE	0.0715**	0.000261	0.139*	0.223**
	(0.0276)	(0.0187)	(0.0702)	(0.0907)
LIQUIDITY	-0.0722	0.453	0.0150	3.372
	(2.379)	(0.375)	(5.730)	(6.520)
BOARDSIZE	-1.190	2.716	-8.763	-4.956

	(1.929)	(1.723)	(9.554)	(7.262)
FOREIGN	4.384	0.519	16.66	15.70
	(2.411)	(1.964)	(10.01)	(8.519)
WOMEN	6.479	4.491	9.033	11.84
	(5.111)	(2.492)	(14.54)	(16.04)
DUALITY	0.366	-0.601	0.729	2.187
	(0.933)	(0.427)	(1.891)	(3.380)
NONEXEC	0.104	-1.093	3.398	2.054
	(1.087)	(0.685)	(4.245)	(3.993)
INDEP	-0.458	-0.512*	-0.457	-0.993
	(0.459)	(0.228)	(0.842)	(1.526)
Constant	54.55**	-4.228	130.4**	163.7**
	(19.17)	(8.021)	(51.17)	(63.51)
Year dummies	Yes	Yes	Yes	Yes
Observations	43	40	40	43
Number of banks	8	8	8	8
R-sq overall	0.553	0.387	0.494	0.562
R_sq within	0.963	0.821	0.966	0.961
R_sq between	0.251	0.415	0.0959	0.143

Notes: ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively. Standard errors are reported in parentheses. All the variables are defined in Appendix III.

Table 12 - Association between change in total loans, total consumer loans, business loans and mortgages and corporate governance variables: 2005-2011 period, large banks

Dependent variables: TOLOCH, TOTCONLOCH, BULOCH, MORTGCH

VARIABLES	TOLOCH	TOTCONLOCH	BULOCH	MORTGCH
ASSETS	-2.876***	-0.362	-3.541***	-7.564***
	(0.445)	(0.454)	(0.879)	(2.156)
CAR	2.422**	-1.351	-2.747	9.445*
	(0.962)	(1.395)	(3.537)	(4.559)
ROA	12.54***	2.692	-38.92	23.31
	(2.898)	(5.330)	(39.03)	(15.55)
LEVERAGE	0.0131**	-0.0125**	0.0231*	0.0295
	(0.00422)	(0.00518)	(0.0110)	(0.0235)
LIQUIDITY	-0.649	-0.250	-0.135	-1.918
	(0.401)	(0.466)	(0.854)	(1.090)
BOARDSIZE	-0.848	-0.642	5.416	-2.679
	(0.772)	(1.144)	(4.791)	(2.495)

FOREIGN	-0.499	0.265	-3.013	-1.723
	(0.337)	(0.423)	(1.823)	(1.748)
WOMEN	-0.646	-1.329	-0.534	-1.363
	(0.886)	(1.002)	(1.163)	(2.349)
DUALITY	-0.119	-0.0841	-0.170	-0.353*
	(0.0748)	(0.152)	(0.146)	(0.178)
NONEXEC	0.362	0.676	-2.155	-1.343
	(0.485)	(0.773)	(1.903)	(1.328)
INDEP	-1.101**	-0.919	2.537	-1.345
	(0.435)	(0.679)	(2.846)	(0.968)
Constant	22.41***	4.103	21.78**	60.32***
	(3.398)	(4.099)	(9.024)	(15.88)
Year dummies	Yes	Yes	Yes	Yes
Observations	44	44	44	44
Number of banks	8	8	8	8
R-sq overall	0.280	0.555	0.332	0.254
R_sq within	0.895	0.718	0.731	0.858
R_sq between	0.515	0.661	0.375	0.487

Notes: ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively. Standard errors are reported in parentheses. All the variables are defined in Appendix III.

In Table 13 I examine the association between write-offs and corporate governance variables. Results show that corporate governance variables do affect write-off strategies: BOARDSIZE is negatively associated, while INDEP is positively associated with write-offs. This may explained as a more decisive involvement of independent directors in the presence of increasing non-performing loans.

Table 13 - Association between write-offs and corporate governance variables

Dependent variable: WROFFIMP

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)
ASSETS	-0.237	-0.274	-0.293	-0.312	-0.278	-0.269	-0.280
	(0.193)	(0.227)	(0.232)	(0.236)	(0.205)	(0.211)	(0.230)
CAR	-0.0769	-0.0609	0.0108	-0.0152	-0.0299	0.0414	0.0607
	(0.499)	(0.489)	(0.473)	(0.471)	(0.480)	(0.470)	(0.476)
ROA	-0.503	-0.500	-0.603	-0.652	-0.557	-0.522	-0.616
	(0.838)	(0.880)	(0.888)	(0.837)	(0.904)	(0.851)	(0.903)

LEVERAGE	0.000685	0.000836	0.000913	0.000824	0.00150	0.00117	0.000888
	(0.00317)	(0.00291)	(0.00302)	(0.00295)	(0.00321)	(0.00286)	(0.00280)
LIQUIDITY	-0.302*	-0.234	-0.220	-0.227	-0.201	-0.250	-0.255*
	(0.153)	(0.163)	(0.140)	(0.143)	(0.131)	(0.162)	(0.126)
BOARDSIZE	-0.431*	-0.246					
	(0.223)	(0.248)					
FOREIGN	0.349		-0.00268				
	(0.233)		(0.189)				
WOMEN	-0.321			-0.265			
	(0.321)			(0.311)			
DUALITY	0.0298				0.0407		
	(0.0708)				(0.0504)		
NONEXEC	-0.0853					-0.160	
	(0.131)					(0.160)	
INDEP	0.142***						0.147**
	(0.0421)						(0.0556)
Constant	2.458	2.476	2.328	2.473	2.179	2.281	2.231
	(1.487)	(1.731)	(1.673)	(1.707)	(1.447)	(1.569)	(1.654)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	88	88	88	88	88	88	88
Number of banks	16	16	16	16	16	16	16
R-sq overall	0.0449	0.0528	0.0469	0.0431	0.0408	0.0456	0.0363
R_sq within	0.351	0.296	0.284	0.291	0.293	0.298	0.308
R_sq between	0.236	0.252	0.238	0.213	0.236	0.255	0.231

Notes: ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively. Standard errors are reported in parentheses. All the variables are defined in Appendix III.

5.8 Conclusion

Corporate governance in banks has been accused as a major contributor to the global financial crisis (Kirkpatrick, 2009; De Larosière et al., 2009). Because of the banks' important role in economic growth through loans, supervisory authorities issued consultative documents concerning corporate governance structures in banks. Despite the importance of this matter, the literature has not examined the effect of corporate governance on the major different loan categories. This chapter fills this gap by examining the association between banks' board characteristics and their loan

portfolio growth. I use a sample of, effectively, all 16 Greek commercial banks for the period 2005-2011.

I find a negative association between duality and loan growth in most loan categories and during normal times. The ratio of independent and non-executive board members is associated with loan growth of specific loan categories, but not with total loans in the crisis years.

The effect of corporate governance variables on loan growth is limited compared with financial ratios such as ROA, leverage, liquidity and capital adequacy ratios, either during normal times or during a crisis. These results imply that the effect of corporate governance variables on the evolution of banks' loan portfolios may be exaggerated. Corporate governance arrangements may play a vital role in banks' decisions which affect money and capital markets in general, and their effects are transmitted via capital and money markets to the loan portfolios. However, it is these effects that are associated with loan portfolio growth and not banks' corporate governance characteristics.

These results have important implications. To begin with, my results have not indicated that the corporate governance variables examined led to a significant contraction of any loan category. My conclusion is in line with those of Fahlenbrach and Stulz (2011) and Beltratti and Stulz (2012), who do not find evidence of an association between poor governance in banks and worse performance or increased loan contraction. The most important finding is that there should be a shift towards strengthening the banks' liquidity in order to withstand liquidity shocks. Indeed, the Joint FSF-CGFS Working Group (2009) has submitted a number of proposals concerning liquidity, while Basel III introduced two liquidity requirements, namely the Liquidity Coverage Ratio (LCR) and the Net Stable Funding Ratio (NSFR), as a response to the crisis.

Chapter 6: Conclusions

6.1 Introduction

This chapter summarizes the current thesis' overall findings and analyses their implications for banks. However, my work is not without limitations. Therefore, I discuss some limitations concerning the current study and I propose potential fields for future research.

6.2 Discussion of research findings

In this thesis I examine the association between corporate governance and bank portfolio allocation, with an emphasis on foreign board members. My research is motivated by the international expansion of banks since the 1990s, their increasing market shares abroad and the unification of the European supervisory process. It adds to the growing literature regarding diversity within the boardroom, and especially national diversity.

National diversity is associated with both positive and negative outcomes in the literature. Positive results include increased performance (Carter et al., 2003; Choi et al., 2007; Oxelheim and Randoy, 2003), higher risk-adjusted returns (Delis et al., 2017) and work experience abroad (Carpenter et al., 2001; European Commission, 2012; Masulis et al., 2012). However, foreign board members could also lead to inferior performance (Garcia-Meca et al., 2015; Frijns et al., 2016; Douma et al., 2006) and exhibit lower attendance records (Masulis et al., 2012).

In Chapters 3 and 4 I examine the relationship between board composition and the bank's international portfolio. I utilize a dataset from the EU-wide stress tests conducted in 2014, 2016 and 2018 by the European Banking Authority (EBA), which includes detailed information on European banks' asset holdings in its most important foreign countries. I combine this dataset with data on corporate governance variables, part of which is hand-collected.

In Chapter 3, the emphasis is on the bank's successful presence in the director's country of origin. To determine this, I compare (a) default rates of loans granted by a bank incorporated in country x in its (foreign) director's country of origin (country y)

with the average default rate in country y; and (b) weighted average default rates between (i) loans granted by banks in country x that have a board member originating from country y; and (ii) loans granted by banks in country x that do not have one. My results indicate that a higher proportion of foreign board members is associated with a higher share of the bank's total loans abroad. This positive association continues to hold between the board members' origin from a specific country and the bank's share of total loans in this country, which is qualitatively similar to results by Masulis et al. (2012). The ratio of foreign board members is, however, not associated with the bank's average NPL ratio or with the NPL ratio in the foreign board member's country of origin. Bank's successful presence abroad is influenced by the average board members' age and the ratio of women (as, for example, in Berger et al., 2014 and Farrell and Hersch, 2005, respectively), as well as by macroeconomic conditions, institutional settings and familiarity issues. I use a lagged value approach to reduce endogeneity concerns, but conclusions do not change.

In Chapter 4 I examine home bias, regional (eurozone) and foreign bias for a sample of systemically important European banks. My dataset includes detailed holdings for each bank's sovereign bond portfolio and its maturity. Using this data I can also estimate each bank's bond portfolio risk. This chapter extends two strands of the home bias literature, which examine bilateral asset holdings between countries (e.g. Chan et al., 2005; Beugelsdijk and Frijns, 2010) and whether the manager's country of origin affects the institution's home bias (Lippi, 2016).

My results indicate a reduction in home bias in the presence of foreign board members and a reduction of regional bias in the presence of non-eurozone board members, in line with Lippi (2016). Foreign bias increases in the foreign board member's country of origin, which implies a strategic focus on specific markets. Home bias is more apparent in state-owned banks, especially in the held-to-maturity portfolio, in line with our expectations following Kahn (2016). To reduce endogeneity concerns, I use a lagged value approach, but conclusions do not change. I do not find any association between foreign board members' ratio and bond portfolio risk. My results indicate that home bias is apparent even among institutional investors (Hau and Rey, 2008; Darvas and Schoenmaker, 2017). Home bias may be even higher in banks, concerning that our sample consists of the largest banks in Europe.

Corporate governance has been blamed as one of the main contributors to the 2007-2009 financial crisis (Kirkpatrick, 2009, Larosière report, 2009). In Chapter 5, I evaluate the validity of these accusations by examining the association between loan portfolio growth and corporate governance characteristics in a sample consisting of all Greek banks for the period between 2005 and 2011. I do not examine only total loans, but also the major loan categories (mortgages, business and consumer loans), since all kind of loans end up in the economy and because bank specific choices may differentiate strategic focus. The chapter uses a time span of three years before and after the collapse of Lehman Brothers (2008), which is the crisis' starting point in Greece.

Chapter 5 establishes the association of specific corporate governance variables with loan growth. Duality is negatively associated with loan growth in most loan categories and during normal times, while independent and non-executive board members are associated with loan growth of specific loan categories (but not total loans) during the crisis period. Board size and the ratio of independent directors are associated with write-offs, while the latter negatively affects loan growth among smaller banks but positively among larger ones. However, it is banks' financial figures (e.g. asset size, ROA, leverage and capital adequacy ratios) that matter most for loan growth, during normal times, irrespective of loan category. This changes during the crisis period, though: Liquidity is the variable that is statistically significant in most lo categories. My results are in line with previous literature concerning the importance of liquidity (Berger and Bouwman, 2009); Ivashina and Scharfstein, 2010; Cornett et al., 2011). They are also in line with previous literature concerning the limited importance of corporate governance variables on financial performance (Delis et al., 2017; Wintoki et al., 2012). I deal with endogeneity concerns, with all independent variables lagged by one year.

6.3 Contribution of the thesis

Results presented in the current thesis provide new insights about the role of foreign directors in bank boards. By creating a novel database on European banks' board members (partially hand-collected), I am able to examine the association between foreign board members and the banks' loan and bond portfolios. I combine corporate

governance data with with detailed data on banks' loan and bond portfolios abroad, derived from European Banking Authority's stress tests.

The aforementioned databases give me the opportunity to search for an association between foreign board members' ratio on the one hand and allocation and risk in loan and bond portfolios on the other. The important contribution of this thesis is that it combines the presence of foreign directors on bank boards and bank's successful presence in the director's country of origin. It also examines if foreign bias is more apparent in the foreign director's country of origin. In other words, I try to establish whether there is an advantage for a bank, when a member from a specific county (in which the bank has allocated part of its loan or bond portfolio) is included in the board. Results do not indicate that including a board member from a specific country can guarantee an improved NPL ratio in this country. However, including foreign board members is associated with a higher foreign bias concerning bonds in their country of origin, especially as the ratio of bond holdings in this country increases. I interpret this result as a bank's strategic focus.

The thesis also examines patterns between loan portfolio composition and corporate governance characteristics for Greek banks. I use a time span from 2005 to 2011, which also includes the crisis period. I examine the evolution of all main loan categories, since the credit crunch affects both corporations and households. Besides, every loan type will be directed to the market through spending.

Finally, this thesis contributes to the growing literature on board diversity, especially in the banking industry. It examines not only board members' country of origin, but also the effect of board members' age and gender in portfolio allocation abroad. These variables are statistically significant in several cases, emphasizing the role of board members' characteristics in affecting bank strategy and results.

6.4 Study limitations and future research

My study is not without limitations. Regarding the findings in Chapter 3, board members' relevant – managerial – experience in some countries may be able to alleviate cultural differences and lead to a superior bank performance in this specific

country. However, such data is difficult to accurately find for many of the banks' board members in my sample. Besides, experience is difficult to define, and it may be highly correlated with other corporate governance variables I include (Berger et al., 2014). Another limitation is my definition of success, namely the use of each country's NPL ratio as a metric of success. Implicitly I assume that banks in my sample have the same portfolio weights in every loan category as the host country's average bank. The solution to this would be to use profitability ratios for each country the bank is present. Notwithstanding the limitations of profitability, such data are not available. Another solution would be to use detailed default rates for every major loan category (i.e. business loans, consumer loans and mortgages) and compare them with industry averages across all host countries in my sample. However, relevant data across countries are not comparable, because of differences in each country's loan category definition. Finally, I should keep in mind that NPL ratios in my sample banks should be more accurate (or strict) following their review from the ECB, compared to average NPL ratios reported in each country as well as those collected from the IMF and the World Bank. Limitations concerning board members' relevant – managerial – experience also apply to Chapter 4.

Finally, results in Chapter 5 may be affected by the relatively small sample and by the choice of country, namely Greece. Greece has suffered a severe sovereign debt crisis, which led to an abrupt decline in deposits and increase in NPLs. Those factors may have limited banks' choices regarding focus on specific loan categories, despite their designed strategic plans.

Future research can further examine board members' prior working experience in countries where the bank has allocated part of its loan or bond portfolio. It can also examine data on board members' education. Finally, a larger sample on banks from different countries may give more insights regarding differences in loan portfolios choices.

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Appendix I (Chapter 3): Variables' description and data sources

Variable Name	Variable	Description	Data Source
Dependent Variables			
Loans_abroad	Banks' share of total loans abroad	Shows the ratio of the bank's total loans that have been granted to corporations or consumers abroad.	AQR (Asset Quality Review) tests and own calculations
cr_country	Banks' share of total loans in each hot country	Shows the ratio of the bank's total loans that have been granted to each host country I have data for	AQR tests and own calculations
NPL_cr_bank	Bank's NPL ratio (corporate & retail loans)	Shows each bank's weighted average NPL ratio for its whole corporate & retail loan portfolio	AQR tests and own calculations
success_percentage (in H4)	Success Rate	Shows the percentage difference between the bank's NPL ratio in every host country and the average host country's default rate. A positive percentage indicates success (i.e. a lower NPL ratio for the bank). I apply the following formula to calculate the percentage difference: $\text{success\_percentage}_{ij} = (NPL_j - NPL_{ij}) / NPL_j$ where success_percentage$_{ij}$ is the percentage difference between (a) the bank's i default rate in every host country j (NPL$_{ij}$) and (b) the average host country's j default rate (NPL$_i$).	AQR tests and own calculations
success_percentage (in H5)	Success Rate	I compare banks' corporate and retail loans' default rate in host country to other banks' default rate (from the same country) in host country. I apply the following formula to calculate the percentage difference: $\text{success\_percentage}_{hj} = (NPL_{hj1} - NPL_{hj2}) / NPL_{hj2}$ where success_percentage$_{ij}$ is the percentage difference between	AQR tests and own calculations

		(a) the weighted average default rate of all banks from home country h in every host country j which include a board member descending from host country j (NPL_{hj1}) and (b) the weighted average default rate of all banks from home country h in every host country j which do not include a board member descending from host country j (NPL_{hj2}).	
Independent Variables			
Foreigners (in H1 & H2)	Ratio of all foreigners serving on the board	Shows the ratio of foreigners. It is calculated as foreign board members / total board members (in %).	Orbis Bank Focus, BoardEx, CapitalIQ or hand collected
Foreigners (in H3 & H4)	Ratio of foreigners from a specific country	Shows the ratio of foreigners from a specific country. It is calculated as foreign board members from country j / total board members (in %).	Orbis Bank Focus, BoardEx, CapitalIQ or hand collected
Foreigners (in H5)	Foreigners' average ratio	Shows the average foreigners' ratio from a specific host country serving on bank boards in banks' home country. To calculate this ratio, I use all home country banks foreigner's ratio from each specific country and calculate the simple average.	Orbis Bank Focus, BoardEx, CapitalIQ or hand collected
Hofstede_Frijns	Within board cultural distance, based on Hofstede's 6 dimensions	Shows cultural distance for each bank's board of directors, based on Hofstede's 6 dimensions. Cultural distance is calculated according to Frijns et al. (2016): $$CD_{ij} = \sqrt{\sum_{k=1}^{6}(I_{ki} - I_{kj})^2 / V_k} \qquad \forall i \neq j$$ where CD_{ij} is the cultural distance between each pair of directors, I_{ki} is the index for the kth cultural dimension for director i, I_{kj} is the index for the kth cultural dimension for director i, V_k is the kth dimension's sample variance.	Hofstede Insights and own calculations
Control Variables			
Bank Financials			
Log_Assets	Total Assets	Shows the bank's Total Assets, log-transformed	Orbis Bank Focus or hand collected
Liquidity	Liquidity ratio	Shows the bank's Liquidity Ratio and is calculated as: Net Loans / (Deposits + short-term Funding)	Orbis Bank Focus or hand collected and own calculations

Efficiency_ratio	Efficiency Ratio	Shows the bank's Efficiency Ratio and is calculated as: Cost / Income (in %)	Orbis Bank Focus or hand collected and own calculations
ROA	Return On Assets	Shows the bank's Return on Assets and is calculated as: Net Profit or Loss / Total Assets (in %)	Orbis Bank Focus or hand collected and own calculations
CAR	AQR adjusted Common Equity Tier 1 Ratio	Shows the bank's Capital Ratio, as calculated by the competent authorities within the AQR tests.	AQR tests
Leverage	Leverage ratio	Shows the bank's Leverage Ratio, as calculated by the competent authorities within the AQR tests.	AQR tests
Macroeconomic Variables			
GDP_t_1	Lagged GDP ratio	Shows the annual change in GDP (Gross Domestic Product) in the previous year.	World Bank
Inflation	Inflation	Shows the inflation rate in each country for year t.	World Bank
financial_freedom	Financial freedom	I use the overall score of 11 indicators concerning financial freedom in a country (property rights, government integrity, tax burden, government spending, fiscal health, business freedom, labor freedom, monetary freedom, trade freedom, investment freedom) for year t.	www.heritage.org
Country_NPL	NPL ratio in each country	Shows each country's NPL ratio	World Bank
Variables regarding Corporate governance			
duality	CEO duality	Shows whether the CEO is also the President of the board. This variable takes the number of 1 if this is the case, or else 0.	Orbis Bank Focus, BoardEx, CapitalIQ or hand collected
Board_size_log	Board size	Shows how many board members are included in the board, log-transformed	Orbis Bank Focus, BoardEx, CapitalIQ or hand collected
SDS	% of supervisory directors	Shows the ratio of supervisory directors to board size, i.e. supervisory directors / total board members (in %). I do not discriminate between executive and supervisory board in the countries that this discrimination exists.	Orbis Bank Focus or hand collected and own calculations
women	% of female board members	Shows the ratio of female board members, i.e. women / total board members (in %).	Orbis Bank Focus or hand collected and

			own calculations
AGE	Average Board members' age	Shows the average age of all board members	Orbis Bank Focus or hand collected and own calculations
Ownership	Public or private	Shows whether the bank is controlled by the government. This variable takes the number of 1 if this is the case, or else 0. I deal banks controlled by supranational organizations as private.	Hand collected
Variables regarding Supervision			
MPI	MPI (macroprudential)	Examines which macroprudential rules are applicable in each country.	2018 update of Cerutti, Claessens, Laeven (2017) macroprudential policy dataset
Familiarity Variables			
Geographic_proximity	Geographic proximity	Shows whether the board member's country of origin is adjacent to the bank's home base country. This variable takes the number of 1 if this is the case, or else 0.	Own calculations
linguistic_proximity	Linguistic proximity	Shows whether in the board member's country of origin the same language is spoken as in the bank's home base country. This variable takes the number of 1 if this is the case, or 0 else.	Own calculations
Hofstede_Kogut_Singh	Cultural distance between countries based on Hofstede's 6 dimensions	I calculate cultural distance between the country where each bank is headquartered and the foreign board member's country of origin, based on Hofstede's 6 dimensions. Cultural distance is calculated according to Kogut and Singh (1988): $$CD_j = \sum_{i=1}^{6} \{(I_{ij} - I_{ik})^2 / V_i\} / 6,$$ Where CD_j is the cultural distance of the jth country from the kth board member's country of origin, I_{ij} is the index for the ith cultural dimension in the jth country, I_{ik} is the index for the ith cultural dimension in the kth board member's country of origin, V_i is the ith dimension's sample variance. I note that I compute this difference irrespective of the number of how many foreign board members come from this country.	Hofstede Insights and own calculations

Institutional Variables			
same_currency	Same currency	Shows whether the board member's country of origin uses the same currency as the bank's home base country. This variable takes the number of 1 if this is the case, or 0 else.	Own calculations
financial_center	Financial Center	Shows whether the board member's country of origin is either the UK or the USA. This variable takes the number of 1 if this is the case, or 0 else.	Own calculations
Debt_enforcement	Debt enforcement	This is a measure of the efficiency of debt enforcement in each country.	Djankov et. al, 2008
Concentration	Concentration	Assets of three largest commercial banks as a share of total commercial banking assets. Total assets include total earning assets, cash and due from banks, foreclosed real estate, fixed assets, goodwill, other intangibles, current tax assets, deferred tax assets, discontinued operations and other assets.	Bankscope and Orbis Bank Focus, Bureau van Dijk (BvD)
World_Bank_Governance	Governance Level in countries	This index depicts the level of governance in each country. It is based on 6 World Bank Governance Indicators (Voice & Accountability, Political Stability, Government Effectiveness, Regulatory quality, Rule of law, and Control of corruption). Following Fitch Ratings, I calculate a simple average of the percentile rank for each of the abovementioned 6 indicators. The most recent data is used, which may be lagging the data year.	World Bank and own calculations

Appendix II (Chapter 4) : Variables' description and data sources

Variable Name	Variable	Description	Data Source
Dependent Variables			
domestic_bias	Bank's bond portfolio's home bias	Each bank's portfolio ratio allocated to each country can be calculated as follows: $W_{ij} = MV_{ij} / \sum_{j=1}^{45} MV_{ij}$, where: W_{ij} is the ratio of bonds held by bank *i* in bonds from in country *j*, MV_{ij} is the total amount invested by bank *i* in bonds from in country *j*, while $\sum_{j=1}^{45} MV_{ij}$ is the total bank's bond portfolio. I then calculate accordingly the portfolio weights based on the CAPM: $W^*_j = MV_j / \sum M^*V_j$, where W^*_j is the ratio of country's *j* sovereign debt to the total world sovereign debt, MV^*_j is country's *j* total sovereign debt, while $\sum M^*V_j$ is the total world sovereign debt. I then define: home bias (domestic_bias) Hbias $_{ij}$ = W_{ij} - W^*_j , where j is the bank's country of incorporation	AQR (Asset Quality Review) tests and own calculations IMF for total debt outstanding in local currency, ECB for exchange rates
euro_bias	Bank's bond portfolio's regional bias	Rbias $_{ij}$ = W_{ij} - W^*_j , where j is the host eurozone country (i.e. every eurozone country from which the bank *i* holds sovereign bonds).	AQR tests and own calculations IMF for total debt outstanding in local currency, ECB for exchange rates
foreign_bias	Bank's bond portfolio's foreign bias	Fbias $_{ij}$ = W_{ij} - W^*_j , where j is the host country (i.e. every country from which the bank *i* holds sovereign bonds).	AQR tests and own calculations

			IMF for total debt outstanding in local currency, ECB for exchange rates
Maturity	Bank's bond portfolio's average maturity	I estimate each bank's i average maturity in days d: $$MAT_{ijd} = \sum_{j=1}^{45} (MV_{ijd}\ Mat_{ijd}),$$ where MAT_{ijd} is the total maturity in days d of all sovereign bonds from country j held by bank i, MV_{ijd} is the total amount invested by bank i in bonds from country j with a duration of days d and Mat_{ijd} is maturity in days d for each bond held by bank i in country j. I then divide MAT_{ijd} with $\sum_{j=1}^{45} MV_{ij}$ (the total bank's bond portfolio) to estimate the average maturity of the whole portfolio. I use the log value of the average maturity as the dependent variable.	AQR tests and own calculations
average_risk_bank	Bank's average sovereign bond portfolio credit rating	$$PR_{ij} = \sum_{j=1}^{45} (W_{ij}\ CR_j),$$ where PR_{ij} is the bank's average sovereign bond portfolio credit rating of all sovereign bonds from country j held by bank i, W_{ij} is the ratio of bonds held by bank i in bonds from in country j and CR_j is the average default rate for each bond issued by country j.	AQR tests, long term foreign currency credit ratings from Fitch Ratings, historical default rates from from Fitch Ratings and S&P, and own calculations
Independent Variables			
Main Independent Variable			
Foreigners	Ratio of foreign board members	H1, H2 & H3: Shows the ratio of foreign board members on the board. It is calculated as the total number of foreigners divided by board size. H5: Shows the ratio of foreigners from a specific country. It is calculated as the number of foreign board members from each specific country, divided by total board size	Orbis Bank Focus, BoardEx, CapitalIQ or hand collected
Other Independent Variables			
non_EU_foreigners	Ratio of non-eurozone board members	Shows the ratio of non-eurozone board members. It is calculated as the total number of non-eurozone board members divided by total board size.	Orbis Bank Focus, BoardEx, CapitalIQ or hand collected

Hofstede_Frijns	Within board cultural distance (based on Hofstede's 6 dimensions)	Within board cultural distance is calculated according to Frijns et al. (2016): $$CD_{ij} = \sqrt{\sum_{k=1}^{6}(I_{ki} - I_{kj})^2 / V_k} \qquad \forall i \neq j$$ where CD_{ij} is the cultural distance between each pair of directors, I_{ki} is the index for the kth cultural dimension for director i, I_{kj} is the index for the kth cultural dimension for director i, V_k is the kth dimension's sample variance.	Hofstede Insights and own calculations
Control Variables			
Bank Financials			
Log_Assets	Total Assets	Bank's total assets, log-transformed	Orbis Bank Focus or hand collected
Liquidity	Bank's Liquidity Ratio	Liquidity = net loans / (deposits + short-term funding)	Orbis Bank Focus or hand collected and own calculations
Efficiency_ratio	Bank's Efficiency Ratio	Efficiency Ratio = Cost / income (in %)	Orbis Bank Focus or hand collected and own calculations
ROA	Return on Asets	ROA = net profit or loss / total assets (in %)	Orbis Bank Focus or hand collected and own calculations
CAR	Bank's Capital Adequacy Ratio	Adopted from the AQR tests.	AQR tests
Leverage	Bank's Leverage ratio	Adopted from the AQR tests.	AQR tests
Macroeconomic Variables			
GDP_t_1	Gross Domestic Product ratio lagged by one year	Annual change in GDP during the previous year.	World Bank
Inflation	Inflation	Annual inflation rate.	World Bank
Debt_to_GDP	debt to GDP ratio	total debt outstanding / GDP (in %)	OECD, Eurostat, IMF
log_GDP	GDP in absolute numbers	GDP in absolute numbers, in USD, log transformed.	World Bank
Log_debt	Debt in absolute numbers	Debt in absolute numbers, in local currency, log transformed.	IMF for total debt outstanding in local currency, ECB for exchange rates

financial_freedom	Financial freedom	Overall score of 11 indicators concerning financial freedom in a country (property rights, government integrity, tax burden, government spending, fiscal health, business freedom, labor freedom, monetary freedom, trade freedom, investment freedom).	www.heritage.org
CB_policy_rate	Central Bank policy rate	Shows the average Central's Bank's policy rate in each country for year t	World Bank
average_return	Average return	Average monthly bid close prices in EURO of the ten-year bond (five-year bond fro Latvia) over a three-year period.	Thomson Reuters Datastream and own calculations
median_return	Median return	Median monthly bid close prices in EURO of the ten-year bond (five-year bond fro Latvia) over a three-year period.	Thomson Reuters Datastream and own calculations
Country_NPL	Non Performing Loans ratio	Non Performing Loans ratio in host country	IMF & World Bank
Variables regarding Corporate governance			
duality	CEO duality	This variable takes the value of 1 if the CEO is also president of the board, or else 0.	Orbis Bank Focus, BoardEx, CapitalIQ or hand collected
Board_size_log	Board size	Absolute number of board members, log-transformed	Orbis Bank Focus, BoardEx, CapitalIQ or hand collected
SDS	Ratio of supervisory directors	= supervisory directors / total board members (in %).	Orbis Bank Focus, BoardEx, CapitalIQ or hand collected and own calculations
women	Ratio of female board members	= women / total board members (in %).	Orbis Bank Focus, BoardEx, CapitalIQ or hand collected and own calculations
AGE	Average Board members' age	= sum of all board members' age / board size	Orbis Bank Focus, BoardEx, CapitalIQ or hand collected
Ownership	Public or private	This variable takes the value of 1 if the	Hand collected

		bank is state-controlled, or else 0. Banks controlled by foreign institutions are regarded private.	
Variables regarding Supervision			
MPI	Macroprudential Policies Index	Examines how many macroprudential policies are in effect in each country.	2018 update of Cerutti, Claessens, Laeven (2017) macroprudential policy dataset
Familiarity Variables			
Geographic_proximity	Geographic proximity	This variable takes the value of 1 if the host country is adjacent to the bank's country of incorporation, or else 0.	Own calculations
linguistic_proximity	Linguistic proximity	This variable takes the value of 1 if language spoken in home and host countries is the same, or else 0.	Own calculations
Hofstede_Kogut_Singh	Cultural distance between countries based on Hofstede's 6 dimensions	Cultural distance is calculated according to Kogut and Singh (1988): $$CD_j = \sum_{i=1}^{6} \{(I_{ij} - I_{ik})^2 / V_i\} / 6,$$ Where CD_j is the cultural distance of the jth country from the kth board member's country of origin, I_{ij} is the index for the ith cultural dimension in the jth country, I_{ik} is the index for the ith cultural dimension in the kth board member's country of origin, V_i is the ith dimension's sample variance. I compute this difference irrespective of the number of how many foreign board members come from this country.	Hofstede Insights and own calculations
Miscellaneous Control Variables			
same_currency	Same currency	This variable takes the value of 1 if currency used in home and host countries is the same, or else 0.	Own calculations
financial_center	Financial Center	Shows whether the board member's country of origin is either the UK or the USA. This variable takes the number of 1 if the host country is either the US or the UK, or else 0.	Own calculations
(euro_country)	eurozone country	Shows whether one country is a eurozone member. This variable takes the number of 1 if the bank's home country is a eurozone member, or else 0.	Hand collected
Debt_enforcement	Debt enforcement	Measures a country's debt enforcement efficiency.	Djankov et. al (2008)
Concentration	Concentration	The ratio of the 3 largest commercial banks to total commercial banking	Bankscope and Orbis Bank

		assets.	Focus, Bureau van Dijk (BvD)
World_Bank_Governance	Governance Level in countries	Measures a country's level of governance. I calculate a simple average of the percentile rank for each of the six World Bank Governance Indicators indicators, following Fitch Ratings. These indicators are: Voice & Accountability, Political Stability, Government Effectiveness, Regulatory quality, Rule of law, and Control of corruption.	World Bank and own calculations

Appendix III (Chapter 5) : Variables' description and data sources

Variable	Description	Source
Dependent Variables		
TOLOCH	Annual percentage change in total loans (stock)	Orbis Bank Focus or hand-collected & own calculations
MORTGCH	Annual percentage change in mortgages (stock)	
BULOCH	Annual percentage change in business loans (stock)	
TOTCONLOCH	Annual percentage change in total consumer loans (stock)	
WROFFIMP	ratio of write-offs to total impaired loans	
Independent variables concerning corporate governance		
BOARDSIZE	Number of board-members, log-transformed.	hand-collected
FOREIGN	Ratio of female board members.	hand-collected
WOMEN	Ratio of female board members.	hand-collected
DUALITY	This variable takes the value of 1 if the CEO is also president of the board, or else 0.	hand-collected
NONEXEC	Ratio of non-executive board members.	hand-collected
INDEP	Ratio of independent board members (as reported by the bank).	hand-collected
Control variables concerning the bank's i financial position		
ASSETS	Bank's total assets, log-transformed	Orbis Bank Focus or hand-collected
CAR	Bank's Capital Adequacy Ratio	hand-collected from financial statements
ROA	Return on Assets = total income / total assets (in %)	Orbis Bank Focus or hand-collected & own calculations
LEVERAGE	Bank's Leverage ratio = ratio of total liabilities to total equity	Orbis Bank Focus or hand-collected & own calculations
LIQUIDITY	Bank's Liquidity ratio = net loans / (deposits + short-term funding)	Orbis Bank Focus or hand-collected & own calculations