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Divestitures and the financial conglomerate excess value

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ABSTRACT

We exploit a unique sample of the world largest financial conglomerates from 15 countries and we track their largest asset sales over the period 2005-2013, which encompasses the two last financial crises (US subprime lending 2008-2009 and European sovereign debt 2010-2011). We find that divestitures have an impact on financial conglomerate valuation and contribute to reduce the conglomerate discount, a result driven by sales of financial service assets. Commercial banking divestitures have a positive impact on excess value, whereas investment banking divestitures have a weak effect on market valuation. Selling assets unrelated to financial sector has a significant effect on conglomerate excess value only at times of financial crises. These results are robust to the inclusion of multiple control variables and alternative econometric model specifications. All together, these results cast doubts on the existence of large benefits in financial conglomerates from combining financial service activities as well as nonfinancial businesses, suggesting that certain divestiture programs will be value-enhancing. This study has implications both for financial conglomerates boards who might direct their strategies to downsize their firms, and for regulators to address issues related to financial stability.

Keywords: financial conglomerates; conglomerate discount; excess value; divestiture; financial crises.
JEL: G21; G22; G24; G32; G34; L2

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1. Introduction

If a financial conglomerate trades at discount relative to stand-alone financial institutions, should a divestiture planned to reduce size and organizational complexity increase the financial conglomerate stock market valuation? This paper analyses alternative divestiture programs and their economic contribution to reduce the conglomerate discount. This question is especially important for financial conglomerates considering their role and relevance in today's global financial systems.

Financial conglomerates are diversified, large and complex institutions that provide under a single corporate entity commercial banking, securities underwriting and trading, asset management, insurance and other nonbank financial activities. These behemoths control hundreds of operating subsidiaries and affiliates in foreign markets and manage investments in nonfinancial sectors. The trend in conglomeration of financial institutions has increased remarkably worldwide during the last decades, with an increasing proportion of assets held by conglomerates and a larger offer of financial services (Group of Ten (2001), Carmassi and Herring (2012)).[1]

The ongoing debate on the activities and efficiency of financial conglomerates that we observe among bankers, regulators, policy makers, and economists has also been highly critical of the huge size that these institutions have reached in recent times (Boot (2011), Saunders and Walter (2012), Admati and Hellwig (2014)). One consequence of their very large size is the issue of "too-big-to-fail" (TBTF) – the challenge posed by the failing of big financial institutions that would damage the rest of the financial system and the overall economy. Further, ever since the financial crisis struck in 2008, public interest in financial conglomerates has increased significantly as many of them faced severe financial distress and, consequently, have been receiving direct or indirect support from their governments.[2] Regulators have since agreed to restrict the activities of financial institutions, discouraging strategy for higher growth and larger size through more stringent requirements on capital, risk management and liquidity, and

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[1] Information technology advances, financial deregulation, globalization of financial and real markets, and increased shareholder pressure for financial performance are probably the most important forces that help to explain the emergence and growth of financial conglomerates, particularly in developed countries.

[2] For example, in 2008 in US nine large financial institutions - Citigroup, Wells Fargo, JPMorgan, Bank of America, Goldman Sachs, Morgan Stanley, State Street, Bank of New York Mellon, and Merrill Lynch - received an aggregate infusion of $125bn. In 2008 in UK Bank of England and the Government had to rescue Royal Bank of Scotland Group Plc, at that time the largest British lender. In 2011 the Belgian operations of Dexia Group were taken over by the Belgian government while its French operations were sold to two French banks.

advising them to divest assets or even to break them up.[3] The US Dodd-Frank Act also caps the size of large banks at 10 percent of total U.S. consolidated financial liabilities, which prevents the largest institutions from growing through mergers and acquisitions. The Financial Stability Board decided in 2011 to address the systemic risks and the associated moral hazard problem for institutions that are seen by markets as TBTF and announced which financial institutions were systemically vital to the global economy, defined as Global Systemically Important Financial Institutions (G-SIFIs).

There is a vast literature on the benefits and costs of conglomerates, with most of the research focusing on the market valuation consequences of corporate diversification. By comparing the performance and value of conglomerates and single-segment firms, empirical studies find that diversified firms trade, on average, at discount. Several articles propose that conglomerates are subject to greater agency problems and operate inefficiently compared to specialized firms. An important implication is that managers of conglomerate firms destroy value.[4] This line of research was extended by Laeven and Levine (2007) (henceforth LL2007), and Schmid and Walter (2009) (henceforth SW2009) to financial services industry, given the importance of financial conglomerates on the functioning, efficiency, and stability of globally integrated financial systems. These papers found that financial conglomerates market value is lower than matched portfolios of stand-alone specialized financial intermediaries. Both LL2007 and SW2009 corroborate the view that diversification in the financial service industry intensifies agency problems, impairs market value of banks that engage in multiple activities, and point out that economies of scope are either non-existent or not sufficiently large to compensate the diversification costs. In short, a diversification discount has emerged in the financial industry similarly to evidence found in nonfinancial conglomerates.

To restore shareholder value, managers should restructure the conglomerate organization by changing investment policy, divesting assets, and refocusing their business similarly to single segment firms. Consistent with this view, Comment and Jarrell (1995) and John and Ofek (1995) find that conglomerates that increase in focus after divesting assets observe an increase in their market value, confirming the main prediction of "corporate focus theory".

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[3] There have been various initiatives on structural bank regulation aim at changing how banks organise themselves. In the US the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (Dodd-Frank), in UK Vickers Commission, and in EU the High-Level Expert Group (Liikanen Commission). The common element of the regulatory reforms has been to restrict financial conglomerate scope by drawing a line between commercial and investment banking businesses.

[4] For important review of literature on internal capital markets and conglomerate diversification discount see Stein (2003), Maksimovic and Phillips (2007), and the references therein.

With this background, our paper investigates the economic contribution of alternative divestiture programs on the financial conglomerate relative market valuation (i.e., excess value). We identify the world largest financial conglomerates at year-end 2005 from 15 countries and track their asset sales[5] over the years 2005-2013, which include the 2008-2009 US subprime lending crisis and the 2010-2011 European sovereign debt crisis.

We assume that asset sales in banking increase shareholder value. Furthermore, we conjecture that both asset sales characteristics and the timing when divestitures occur could have a different impact on conglomerate valuation. A financial conglomerate may sell off lines of business related to the financial sector (e.g., loan packages, banking subsidiaries, asset management firms, and insurance companies) or business lines unrelated to it (e.g., property, real assets, commodity business). For example, in 2008 Citigroup sold its German retail banking business to Credit Mutuel, a French retail bank, for $6.6bn. In 2007 Intesa Sanpaolo sold 78 branches to Banca Carige for a total deal value of $1.3bn. In 2012 Bank of America Corp announced the sale of its international wealth management business based outside the US for $ 883.3 mil to Julius Baer Group, a Swiss private banking group.

The first two are examples of commercial banking asset sales while the third is a transaction of investment banking asset. Financial conglomerates have also been exiting nonfinancial businesses, which were part of their diversified portfolio. For example, in 2011 JPMorgan Chase & Co. announced to sell Vacuumschmelze GmbH & Co KG (VAC), a Hanau-based manufacturer of magnetic products, to OM Group, Inc. for a total deal value of $1bn. Assets in lending and investment banking as well as real assets have fundamental different nature: different degree of liquidity, risk-return profiles, operational characteristics, and regulatory requirements. Thus, depending on the type of asset sale, we conjecture different economic impact on the excess value.

Financial markets and banking crises affect many aspects of financial service industry, with changes in business models, firm size, and sources of financing. Thus, when an industry shock occurs, financial conglomerates may consider to launch a divestiture programs. We conjecture that divestitures executed during years of financial crisis might have a diverse impact on the conglomerate market value.

Our paper makes several contributions. First, we analyse the effects of asset sales on market valuation of conglomerates that mostly diversify across intra-industry lines of business. On the contrary, most of the literature on nonfinancial conglomerates typically study firms that

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[5] In this paper, divestiture and asset sale are used as synonyms.

diversified across inter-industry lines of business. In this paper, we advance conglomerate excess value analysis by considering divestitures as one of the key determinants. We find a statistically significant effect of large asset sales on the conglomerate excess value. This result is economically important, as the average divestiture in sample has a 1.3% impact on the conglomerate excess value, which translates on average into an increase of +21.5% of shareholders' value and a gain of $13.2bn, reinforcing the idea that divesting assets could be an efficient way to reduce the diversification discount. Second, we use the two financial crises as a special setting to provide novel evidence on the impact of corporate downsizing on the financial conglomerate excess value during periods of financial constraints. Third, we propose a novel market-based measure (i.e., divestiture market impact) to proxy the economic value associated to divestitures.

The paper proceeds as follows. The next section reviews the relevant literature and develops our testing hypotheses. Section 3 presents our research methodology and Section 4 data sources and sample characteristics. Section 5 presents our main empirical results. Robustness tests are presented in Section 6, and Section 7 concludes.

2. Related literature and hypotheses development

Our paper is related to two strands of literature. First, it is related to internal capital markets in financial conglomerates literature. Two important contributions on internal capital markets in the financial industry are Houston et al. (1997) and Campello (2002). These papers find that internal capital markets in financial conglomerates allocate scarce capital among their various subsidiaries, relax credit constraints faced by smaller bank affiliates, and lessen the impact of central bank policies on bank lending activities. These findings are consistent with the view that internal capital markets in banking have more benefits than costs, and these net advantages should be reflected in conglomerate market valuation. More recently, Cetorelli and Goldberg (2012) show how US global banks exploit the benefits of an internal capital market by reallocating liquidity among foreign subsidiaries, particularly in response to domestic shocks.

Further progress in this literature comes from LL2007 and SW2009. Both articles analyse bank samples in pre-financial crises period, where favourable economic and external financial markets conditions limited the benefits of creating an internal capital market. They both find that financial conglomerate excess value is lower than matched portfolios of stand-alone

specialized financial intermediaries.[6] These results are consistent with the view that diversified financial conglomerates destroy value because of higher agency costs and scarce benefits arising from economies of scope.[7]

Second, our paper relates to the corporate finance literature that examines the economic consequences of restructuring programs undertaken by diversified firms, such as asset sales and spin-offs. Starting from Comment and Jarrell (1995) and John and Ofek (1995), that literature has documented the importance of divestitures to improve the performance of diversified firms. Divestitures, and particularly divestitures of unrelated activities, are undertaken to make the seller a more focused operation and hence to improve the performance of its remaining assets (corporate focus theory). Gertner et al. (2002) examine diversified firms' sensitivity of investments to Tobin's q before and after spin-off transactions. They find that segment sensitivity to industry Tobin's q increases after the segment spin-off and that Tobin's q changes are related to the stock market's reaction to the spin-off announcement decision. Dittmar and Shivdasani (2003) find that returns on divestiture announcements are significantly correlated with changes in diversification discount, and that larger decrease in diversification generates higher announcement returns. Overall, this line of research shows that large corporate restructuring might improve allocation of capital for remaining business segments and contribute to shareholder value creation.

Our paper extends existing literature on financial conglomerates by analysing the value effects of corporate restructuring on the excess value of diversified financial firms. However, it differs from previous studies because of two key aspects: 1) it focuses on diversification within a single-industry, as financial conglomerates are mostly intra-industry diversified; and 2) it analyses asset sale programs that do not lead to exiting an entire business segment and to a significant reduction of level of diversification. Examples of conglomerate asset sales are partial exits such as selling bank branches, packages of loans and securities, investment

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[6] There is not a definitive consensus over the existence of a diversification discount for financial conglomerates, as other papers in this field have been using different samples, valuation metrics, and obtaining conflicting results. Baele et al. (2007) analyse a sample of European listed banks and find a positive relation between value and diversification. Van Lelyveld and Knot (2009) focus on a sample of European bank-insurance conglomerates and find only weak evidence on the existence of a diversification discount. Elsas et al. (2010) use a panel of 380 listed banks from nine developed countries and find no evidence of a diversification discount. Gulamhussen et al. (forthcoming) use a panel of 384 listed banks from 56 countries and find that international diversification increases shareholder value.

[7] That pre-financial crisis years were associated with conglomerate discount is evident by the large proportion of empirical studies that find this result. However, when financial meltdown started conglomerate valuation reverted to positive value as Kuppuswamy and Villalonga (2016) have shown. They analyse a sample of nonfinancial conglomerates, and find that the value of corporate diversification increased during the peak of US financial crisis. They argue that corporate diversification can serve an important insurance function for investors during time of financial market crisis.

banking divisions, investment funds, insurance companies, and other nonbanking assets. Consistent with previous studies, we adopt two measures of excess value, income- and asset-based, to distinguish the market valuation between measurement based on flow and stock variables, and to reflect the differential impact of financial regulation.

We assemble a coarse partition between sales of financial assets and sales of nonfinancial assets. We define financial sector divestitures as those related to financial services activity (henceforth intra-industry), that belong to Standard Industry Classification (SIC) 6000-6799, excluding the subsector of Real Estate (SIC code 6500), and those unrelated to the conglomerate core business (henceforth inter-industry), that do not belong to SIC code 6000.

Building on corporate focus theory, we develop three predictions that fit with the characteristics of the financial service industry, by relating the market impact of divestiture programs to conglomerate excess value.[8] We conjecture that asset sale programs reduce conglomerate size and organizational complexity, contributing to increase operating efficiency, performance, and excess value. First hypothesis (H1) predicts that the general effect of asset sales, which includes both intra- and inter-industry divestitures, on conglomerate excess value will be positive. With the second hypothesis (H2), we test predictions of corporate focus theory in banking. In doing so, we hypothesize that shedding inter-industry assets will increase the operational efficiency of the remaining lines of business. Thus, consistent with findings of corporate focus theory, we predict that inter-industry divestitures have a larger impact on conglomerates excess value than intra-industry divestitures. With the third hypothesis (H3), we further investigate predictions of corporate focus theory by disentangling the intra-industry effects of commercial and investment banking asset sales. We define commercial banking assets as those that belong to SIC 6000, and investment banking assets as those belonging to SIC code 6100 through 6400. Assets in lending and investment banking have fundamental different nature: they have different degree of liquidity, different risk-return profiles, operational characteristics, and different regulatory requirements. The two types of asset sales might have strategic, operational and regulatory objectives and economic consequences that may produce opposite effects on the conglomerate market valuation. Consequently, their impact on excess value measures could be different.

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[8] For example, Gertner et al. (2002), Dittmar and Shivdasani (2003), and Hovakimian (2016) analyse the impact of asset sales on nonfinancial conglomerate excess value by measuring the change in number of business segments.

Asset sales in banking lead us to hypothesise that each asset sale might have a diverse impact on the two excess values metrics. More specifically, as the income-based measure is not directly affected by financial sector regulation, both commercial and investment banking divestitures will correlate positively with either conglomerate excess values. Thus, we postulate H3a hypothesis: commercial and investment banking asset sales have positive impact on income-based measure of excess value.

Differently, asset-based measure uses balance sheet data, which are heavily affected by capital and liquidity regulatory constraints. As financial institutions tend to increase the weight of securities with respect to loans, the mechanics of excess value computation will tilt towards investment banking matched portfolio, which generally have higher Tobin's q. As a result, the conglomerate excess value will be lower, with positive correlation to commercial banking divestitures and negative correlation to investment banking asset sales. Thus, we postulate H3b hypothesis: commercial banking asset sales have a positive impact on asset-based measure of excess value, while investment asset sales have a negative impact.

3. Research methodology

We divide our research in two parts. In the first part, we develop and construct valuation metrics. To begin with, we compute the relative market value of financial conglomerate (i.e., excess value) by following a standard methodology adopted in financial conglomerate discount literature. Next, we develop a market based metric to estimate the divestiture impact. In the second part, we examine the relation between conglomerate excess value and divestiture market impact, by estimating panel models that include alternative sets of control variables.

3.1 Valuation metrics

3.1.1 Financial Conglomerate Excess Value

Our main valuation metric is related to large literature that analyse bank business models. Business models valuation in banking is crucial as both manager and regulators induce banks to adjust their business models (see Mergaerts and Vander Vennet (2016)). In this paper, we measure the relative value of diversified financial firms with respect to industry matched firms. In doing so, we compute the conglomerate excess value following the "chop-shop" approach proposed by LeBaron and Speidell (1987), Lang and Stulz (1994), Berger and Ofek (1995).

This approach requires segmental data that typically is not available for financial institutions[9]. To address this issue, we follow LL2007 that circumvent data unavailability and split the financial conglomerate activities in two main business lines: commercial banking and investment banking. We first search specialized commercial and investment banks in Bankscope database to build two matched portfolios[10], and compute the Tobin's q median value of each portfolio. Next, we use these values to compute the imputed Tobin's q associated to each financial conglomerate by adopting both conglomerate's income and asset weights (income- and asset-based approach respectively). Lastly, we derive the conglomerate excess value as the difference between the financial conglomerate Tobin's q and the imputed Tobin's q.

In this study, the income-based valuation method is the baseline approach to estimate the conglomerate excess value as a better measure of relative valuation in banking. As a large fraction of conglomerate assets are loans, gains and losses from lending activity are treated asymmetrically on book value of assets. Gains are recognized in the income statement when assets are sold, while losses are typically recognized through charge-off to loan loss reserves, thus having a marginal impact on asset-based valuation measure (see Beatty et al. (1995)). Moreover, as our sample is tilted towards globally diversified financial institutions, the income-based methodology can better capture non-interest income resulting also from off-balance sheet and fees-based activities ((Lozano-Vivas and Pasiouras (2010), DeYoung and Torna (2013)).[11] Lastly, the income-based measure is less affected by financial regulation and tends to reflect more the bank diversification strategies. However, to make our results comparable with past studies, we present results using also the asset-based approach. Thus, each conglomerate business line is valued with both the income- and asset-based perspective. Accordingly, we derive the imputed value of each segment by multiplying the financial conglomerate business line's weight by the matched-portfolio Tobin's q.[12] Under each perspective, we obtain the

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[9] For US financial institutions, segmental data is available in Compustat database. For other countries, Bankscope database, our primary data source of financial institution balance sheets, does not report business segment accounting data. Therefore, we are not able to split accounting figures between business activities such as commercial banking, securities underwriting and trading, asset management, insurance and other financial services.

[10] Specialized commercial banks are selected as those with lending activities greater than 90% of the overall business. Accordingly, specialized investment banks are identified as those with lending activities less than 10% of the overall business. On average, matched portfolios in commercial banking contains 115 specialised banks, while they are 27 in investment banking.

[11] Unfortunately, data (un)availability does not allow us to distinguish between income generated by on-balance and off-balance sheet activities.

[12] Under the income perspective, weights are computed by using interest income and non-interest income. Under the asset perspective, weights are computed by using loans or other earning assets.

conglomerate imputed Tobin's *q*, which we subtract from the conglomerate observed Tobin's *q* to obtain the conglomerate excess value (income- and asset-based, *IEV* and *AEV*, respectively). It is useful to note that asset-based excess value measures use a different matching sample from income-based excess value measures. In fact, our methodology selects specialized investment banks among those that generate at least 90% of income from non-interest income activities. However, the selected institutions not necessarily be classified as specialized investment banks under the asset-based approach. This also applies when we select specialized commercial banks.

3.1.2 Divestiture market impact

Empirical literature of nonfinancial conglomerates has been analysing whether diversified firms that divest entire business segments, primarily through an asset sale program, experience a significant reduction in the diversification discount (e.g., Dittmar and Shivdasani (2003)). This approach specifically requires to identify the number of divested segments and the associated change in firm's diversification.

Two characteristics of the financial sector lead us to adopt a different research design to analyse the economic consequences of divestiture programs. First, in the financial industry it is rare to observe a divestiture of an entire business line, such as selling off the entire commercial or the investment banking activity. Rather, it is more common to observe an asset sale program intended to partially exit a business segment and to shrink the conglomerate business line. Second, as previously noted (see Section 3.1.1), segmental data for financial institutions is rarely available, particularly in cross-country samples.[13] To deal with the above issues, we develop a novel metric – the divestiture market impact (*DMI*) – a market-based and forward-looking indicator. This measure is a proxy of asset sale net present value, and able to capture the divestiture economic impact.

To compute the *DMI*, we first conduct a standard event study analysis. We use the divestiture public announcement date (*date 0*) as reported in Thomson One Banker database. We retrieve daily stock returns from Datastream Reuters database focusing in the 3-day announcement date window [-1,1].[14] We compute daily abnormal market adjusted returns as the difference between individual stock returns and Datastream local market index and we

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[13] Campa and Kedia (2002) show that self-reporting of segmental data can severally affect the conclusion of diversification discount.

[14] In robustness tests, we adopt wider event windows, such as [-5,5] and [-10,10], but all empirical results are qualitatively unchanged.

calculate the 3-day cumulative abnormal returns (*CAR3*). This procedure allows controlling for country effects around asset sale announcement time. The $DMI_{i,t}^{j}$ of financial conglomerate i related to asset sale j announced at year t is computed as follows:

$$DMI_{i,t}^{j} = CAR3_{i,t}^{j} \times \frac{MC(-30days)_{i,t}^{j}}{MC_{i,t-1}}$$ (Eq. 1)

where $MC(-30days)_{i,t}^{j}$ is the financial conglomerate i stock market capitalization approximately 30 trading days before the announcement window of divestiture j at year t, whereas $MC_{i,t-1}$ is the financial conglomerate market capitalization at the end of year before announcement date. The product of $CAR_{i,t}^{j}$ and $MC(-30days)_{i,t}^{j}$ represents the dollar value of asset sale announcement price impact. Scaling by financial conglomerate market value at the previous year-end, we are able to obtain an unbiased measure of divestiture market impact, which is not influenced by divestiture announcement leakages.

As conglomerates could complete multiple asset sales during a year, we compute the annual divestiture market impact ($ADMI_{i,t}$) by summing over the individual divestiture market impact. Thus, given a financial conglomerate i at year t, the annual divestiture market impact is defined as:

$$ADMI_{i,t} = \sum_{j=1}^{N} DMI_{i,t}^{j}$$ (Eq. 2)

Furthermore, as $ADMI_{i,t}$ combines all types of asset sales, we define $ADMI\_INTRA_{i,t}$ as the annual market impact of only intra-industry divestitures, $ADMI\_INTER_{i,t}$ as the annual market impact of only inter-industry divestitures, and $ADMI\_COMM_{i,t}$ and $ADMI\_INV_{i,t}$ as the annual market impact of, respectively, commercial and investment banking sale transactions.

3.2 Regression models

We run the following three baseline regression models to test H1, H2, and H3 hypotheses, respectively, which also control for conglomerate-fixed effect regressions, time-varying conglomerate and country-specific variables.

Model IA:

$$EV_{i,t} = \beta_1 + \beta_2 ADMI_{i,t} + firm\ fe + year\ fe + \varepsilon_{i,t}$$ (Eq.3)

Model IIA:

$$EV_{i,t} = \beta_1 + \beta_2 ADMI\_INTRA_{i,t} + \beta_3 ADMI\_INTER_{i,t} + firm\ fe + year\ fe + \varepsilon_{i,t}$$

(Eq.4)

Model IIIA:

$$EV_{i,t} = \beta_1 + \beta_2 ADMI\_COMM_{i,t} + \beta_3 ADMI\_INV_{i,t} + \beta_4 ADMI\_INTER_{i,t} + firm\ fe +$$
$$year\ fe + \varepsilon_{i,t} \hspace{4cm} \text{(Eq.5)}$$

where $EV_{i,t}$ is the conglomerate excess value either $IEV_{i,t}$ or $AEV_{i,t}$.

As conglomerate valuation might be affected by the economic cycle, we modify regression models Eq.3, 4, and 5 by adding a dummy (*CRISES*) that takes the value of 1 for the two consecutive crisis years (2008-2011) and zero otherwise. We also include a cross product variable constructed as the interaction of *CRISES* with *ADMI* or its components to test whether asset sales completed during financial crises have a differential effect on conglomerate valuation. Specifically, we estimate the following models:

Model IVA:

$$EV_{i,t} = \beta_1 + \beta_2 ADMI_{i,t} + \beta_3 CRISES + \beta_4 ADMI_{i,t}x\ CRISES + firm\ fe + year\ fe + \varepsilon_{i,t}$$
$$\text{(Eq.6)}$$

Model VA:

$$EV_{i,t} = \beta_1 + \beta_2 ADMI\_INTRA_{i,t} + \beta_3 ADMI\_INTER_{i,t} + \beta_4 CRISES +$$
$$\beta_5 ADMI\_INTRA_{i,t}x\ CRISES + \beta_6 ADMI\_INTER_{i,t}x\ CRISES + firm\ fe + year\ fe + \varepsilon_{i,t}$$
$$\text{(Eq. 7)}$$

Model VIA:

$$EV_{i,t} = \beta_1 + \beta_2 ADMI\_COMM_{i,t} + \beta_3 ADMI\_INV_{i,t} + \beta_4 ADMI\_INTER_{i,t} + \beta_4 CRISES +$$
$$\beta_5 ADMI\_COMM_{i,t}x\ CRISES + \beta_6 ADMI\_INV_{i,t}x\ CRISES +$$
$$\beta_7 ADMI\_INTER_{i,t}x\ CRISES + firm\ fe + year\ fe + \varepsilon_{i,t}$$
$$\text{(Eq. 8)}$$

All Model from IA through VIA are extended into models IB through VIB by adding a set of variables ($\sum Controls_{i,t-1}$) that controls for conglomerate level characteristics as well as country and macroeconomic factors. More specifically, controls include also an interaction term of *CRISES* with diversity (*IDIV* and *ADIV*), which is intended to control for the differential impact of diversification during financial crisis years.

4. Data sources and sample description

To conduct our study we construct a unique database using five primary data sources, namely Bankscope, Orbis, Thomson One, Datastream, and LexisNexis. Bankscope and Orbis (Bureau Van Dijk) are used to obtain balance sheet and other accounting items. Thomson One (Thomson Reuters) is used to sample divestiture transactions. Datastream (Thomson Reuters) provides stock market data, and LexisNexis (RELX Group) is used to collect press articles and

commentaries on asset sale program announcements. In some cases, data availability in Bankscope and Orbis limits our sample and variable construction, and we fill-in missing data by hand-collecting details of individual bank financial statements from corporate sources and websites. We report descriptive statistics of the main variables used in our models both for the whole period and the four sub-periods: pre-financial crisis (2005-2007), US subprime financial crisis (2008-2009), EU sovereign financial crisis (2010-2011), and post-financial crisis (2012-2013).

4.1 Financial conglomerate sample

The analysis in this study is based on the world largest 50 publicly traded financial institutions by total assets as of year-end 2005. The sample is constructed by selecting financial firms (SIC 6000-6799), and excluding real estate firms (SIC 6500), savings, mutual, cooperative banks, and government controlled credit institutions.

Analysing the largest financial conglomerates has important advantages over a random sample. First, we control for homogeneity in firm's investment opportunities and the functioning of internal capital markets, as smaller conglomerates might have a simpler organizational structure. As the corporate diversification literature highlighted, this is an important concern when studying the performance of diversified firms. Second, we select most of those financial institutions defined as G-SIFI, which are subject to a more direct regulators' scrutiny. However, large financial institutions not necessarily operate as financial conglomerates. Therefore, we follow LL2007 approach in identifying diversified financial conglomerates among the largest financial institutions. Our approach considers the business model diversification.[15] We select those financial institutions which simultaneously are income and asset diversified. The final sample includes 50 financial conglomerates from 15 countries and 419 firm-year observations.

Appendix A shows the list of selected financial conglomerates and Table 1 presents the sample summary statistics. The average conglomerate in sample is a financial intermediary with total assets greater than $1tn and the market capitalization of $61.3bn (measured in 2013 US dollars). Among the 50 financial conglomerates, 21 are defined as Globally Systemically Important Financial Institutions (G-SIFI) based on the methodology developed by Basel

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[15] There are other approaches to analyse large banks' diversification. For example Gulamhussen et al. (2014) consider the international reach, share, and concentration of large banks in foreign countries.

Committee on Banking Supervision (BCBS). [16] All conglomerates in sample could be categorized as TBTF financial institutions, according to recent banking literature on economies of scale (see Hughes and Mester (2013) and Davies and Tracey (2014)).

<INSERT HERE TABLE 1>

During the whole sample period, the average conglomerate size measured by total assets has been increasing (+17%), whereas conglomerate stock market capitalization has been decreasing (-15%). This different pattern is the outcome of the downward revision of financial firm valuations observed after the last financial crises. This interpretation is confirmed by observing the declining Tobin's q ratio over the sample period. [17]

As conglomerate degree of diversification, we follow LL2007 in computing income diversity (*IDIV*) in the income-based approach and asset diversity (*ADIV*) in the asset-based approach. Data display an increase of +12% in the income diversity metric and only +2% for the asset diversity across the sample period. This pattern indicates that financial conglomerates have been diversifying more on non-traditional income sources, which we presume is mainly given by the increasing role of off-balance sheet activities.

In terms of business model characteristics, the ratio of gross interest revenues over total operating income (*GIR*) shows the relative importance of loan spread business to non-lending activities which, consistently from the movement away from traditional lending activities, has been declining by -6% over the entire sample period. The ratio of loans to total earning assets (*LTEA*) shows that on average about half of conglomerate earning assets is invested in the lending business, and that ratio has been rather stable during the eight-year period, in line with the asset diversity. As a measure of financial institution leverage, we compute the ratio of equity over total assets. Table 1 shows this indicator has been relatively stable over the sample period.

The evolution of excess values across the four sub-periods shows distinct and interesting patterns. Prior to the financial crisis, we find a diversification discount significant at 1% level as shown by the negative income-based excess value (mean (median) -4.61% (-5.32%)) and asset-based excess value (mean (median) -4.25% (-5.09%)), consistent with previous studies

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[16] It is useful to point out that our sample distinctive characteristics are important when interpreting empirical findings and compare them to previous studies that use samples of much smaller financial conglomerates or from US only. The examples are LL2007 that examine financial conglomerates of at least $100 million in total assets, and SW2009 that focus on a sample of US only financial conglomerates, with an average total asset of $17.7bn.
[17] Appendix B contains detailed descriptions of all variables and data sources we use in this article.

(LL2007 and SW2009). During the first financial crisis (US subprime lending), both measures of financial conglomerate excess value become positive and significant: mean (median) of +1.62% (+2.37%) and 1.29% (+1.84%), respectively. At the time of EU sovereign debt crisis, the average conglomerate premium decreases, although they remain positive and statistically significant (mean +0.83% and +1.08%, respectively). This finding parallels those in Kuppuswamy and Villalonga (2016) for nonfinancial conglomerates and confirms that conglomerate diversification is more valuable during period of financial shocks and enhances the internal capital markets' advantages (Stein 1997). Lastly, as in 2012-2013 the world economy and capital markets rebound, financial conglomerates trade more closely to fair values.

4.2 Divestiture sample

To answer our research question, we identify only voluntary divestitures, excluding those transactions forced by regulatory requirements. We retrieve transaction data from Thomson One Reuters dataset for the period 2005-2013 and select all divestitures completed by financial conglomerates in sample, with a deal value equals or greater than $500 million (measured in 2013 US Dollars), and involving the transfer of control (≥ 50%). The choice of $500 million as a threshold for asset sale size is intended to select largest divestitures that may have a meaningful impact on conglomerate structure and market valuation.[18] We exclude divestitures with missing or unclear information, such as value of the deal, seller's identity, and type of divestiture. Next, we review individual deal synopsis, its characteristics as well as all news available in Lexis/Nexis dataset to double-check correctness, to classify each divestiture as either related or unrelated to the financial sector, and to distinguish whether they belong to commercial banking or to other financial service activities.

Table 2 presents summary statistics of divestiture final sample. The final sample contains 213 asset sales, of which 122 disposing financial industry assets, and the remaining 91 are sales of assets unrelated to financial sector. Total sample deal value is about $379.5bn, of which $236bn of intra-industry transactions and $144bn of inter-industry transactions. The average divestiture in sample represents 0.3% of total assets and 4.92% of conglomerate stock market capitalization.

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[18]As a comparison, the paper by Dittmar and Shivdasani (2003) shows that average size of business segment divestiture in nonfinancial firms is $123.5 million.

<INSERT HERE TABLE 2>

Out of the 122 financial industry asset sales, 58 are sales of commercial banking activity and 64 are sales of other financial sector assets (e.g., asset management, investment banking, trading, and insurance), the latter having the largest share both in number and value across the whole period. However, during the four sub-periods presented in Table 2 we observe three different patterns in financial conglomerates divestitures. First, the average (median) deal value of divestitures in sample reaches the peak during the US 2008-2009 crisis and it slightly decreases in subsequent years. Second, before the two financial crises and up their end in 2011, we note a prevalence in sales of financial service assets. When the financial crises ended in 2012, asset sales in nonfinancial sectors started to play an equal role in conglomerate divestiture programs. Third, when we split commercial banking from other financial service asset sales, investment divestitures have been both in number and value prevalent in the pre-crisis and the US financial crisis periods. Subsequently, starting with EU sovereign debt crisis, large conglomerates started to sell more commercial banking assets. However, total size of commercial banking divestitures throughout crises largely overcome those in non-crisis period, unlike other types of asset sales which are prevalent in non-crisis periods.

<INSERT HERE TABLE 3>

Table 3 panel A reports results on the event study of divestiture announcement effects. Panel B presents summary statistics of annual divestiture market impacts.

For the whole sample period, consistent with asset sales literature, we find a significant mean of 0.51% CAR.[19] Financial conglomerates that sell financial industry assets experience larger announcement price impact during the whole period (1.14%), with investment banking asset sales having the stronger and significant announcement effect (1.35%). When we analyse the sub-periods, we uncover that the announcement effect of intra-industry asset sales are prevalent in the pre- and post-financial crisis sub-periods (1.06% and 2.11%, respectively). Moreover, in the pre-financial crisis the sales of commercial banking assets show a significant announcement effect.

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[19] These results exclude that our sample of asset sales include most "fire sales", as that would have triggered an average negative market reaction. We are grateful to our discussant to point out this issue.

5. Empirical results

This section presents results of pooled time-series cross-sectional regressions of conglomerate excess value on divestiture market impact. Section 5.1 presents model estimates with controls for firm- and year-fixed effects. Section 5.2 presents model estimates where we also control for financial crisis effects. The two models adopt the income- and asset-based approach in panel A and B, respectively.

Regression controls include the following variables. First, as in Berger and Ofek (1995) for nonfinancial conglomerates and LL2007 for financial conglomerates, we add the conglomerate degree of diversification. Past studies find that this variable enters with a significant negative coefficient when regressed against conglomerate excess values; a result interpreted as direct association between diversification and conglomerate excess value.

Second, we include a leverage variable to proxy for risk-taking behaviour of financial conglomerate's managers. Leverage is defined as the ratio of equity over total assets (*ETA*). Highly leveraged financial conglomerates will have a lower *ETA*, with strong incentives to engage in excessive risk-taking, thus increasing the likelihood to fall into financial distress and depressing their excess value. However, if leverage of big banks is supported by explicit or implicit guarantees, the increase in risk-taking which follows would have either no effect or even a positive one. Moreover, leverage could also be subsidised by tax benefits of debt. Third, as literature argues, size can have multi-faceted effects on bank's market valuation (see Demirgüç-Kunt and Huizinga (2013)). Size can reflect technological or managerial economies of scale (Hughes and Mester 2013), as well as TBTF effects. Following the literature approach, we construct the conglomerate size variable as the logarithm of total assets (*SIZE*). Fourth, the influence of firm's growth opportunities is proxied by past three-year growth in assets (*GRWA*) and income (*GRWI*). As well known, growth opportunities are also a proxy for investment risk. Fifth, we control for equity issues and corporate governance decisions. Corporate finance theory (Myers and Majluf 1984) predicts that firms raising equity bear an informational dilution cost when there is asymmetric information between firms and investors. We therefore insert an equity issue variable to control for negative effects arising when a bank undertakes a seasoned equity offer *(SEO)*. The dividend cut variable *(DIVCUT)* is inserted as a proxy for the relation between agency costs and market valuation (Jensen 1986). As a dividend cut normally conveys negative information to investors regarding the firm's financial condition, it is expected that such decision may have a negative impact on conglomerate excess value (Brav et al. (2005)). We also include a CEO change dummy variable (*NEWCEO*) as literature shows CEO change

occurs more frequently around corporate restructuring activities (Weisbach 1995), and might have an impact on market valuation. Lastly, to control for business cycle fluctuations and general macroeconomic conditions, we add the GDP per capita growth (*GDP*) as well as country annual change in the rate of inflation (*INF*) to proxy for possible incentives to shift from lending to non-lending business (Boyd et al. 2001).

Models IA, IIA, and IIIA show baseline regression results when using the divestiture market impact and its components as the main explanatory variables, along with firm- and year-fixed effects. Models IB, IIB, and IIIB extend the baseline regressions by including control variables. Models IVA, VA, and VIA include the financial crises dummy (*CRISES*) as well as the cross product of CRISES and the divestiture market impact and its components. Models IVB, VB, and VIB extend regressions by including the set of control variables.

5.1 Baseline results

In Table 4 panel A we present results when using as dependent variable the income-based measure of conglomerates excess value. Model IA uses a broad definition of conglomerate divestitures. Under this specification, results indicate that divestitures have a positive and significant effect on conglomerate relative market valuation. These results hold in Model IB when we extend the regression model by adding controlling variables. The estimates of asset growth and dividend cut variables indicate that both have a negative impact on the excess value and suggest that higher level of risk and financial distress lower conglomerate market valuation. These findings confirm H1 hypothesis: corporate downsizing programs have positive and significant effect on the conglomerate excess value. A result that parallels the available empirical evidence for nonfinancial conglomerates.

In the next step, we examine whether different types of divestitures have a distinct effect on excess value. We divide the *ADMI* variable between the annual market impact of sales of financial service assets (*ADMI_INTRA*) and sales of nonfinancial assets (*ADMI_INTER*). Model IIA specification shows that only the variable *ADMI_INTRA*, i.e. divestitures related to the financial sector, has a positive and significant effect on conglomerate value, whereas sales of nonfinancial assets (*ADMI_INTER*) have no impact on excess value. Model IIB shows that this conclusion holds when inserting control variables. In this model, control variable estimates have a similar magnitude and level of significance as in Model IB. Results from models II contradict the prediction of H2 (corporate focus theory) that unrelated divestitures have a positive impact on conglomerate valuation. These findings suggest that conglomerates might

suffer from negative synergies among their main business segments, and divesting core assets, rather than unrelated assets, leads to an increase in conglomerate excess value.

In models III, we test hypothesis H3a that analyses the different impacts of core assets sales on conglomerate income-based excess value. To implement this test, we divide financial sector divestitures into commercial and investment banking. Results from model IIIA show that the annual market impact of both commercial (*ADMI_COMM*) and investment (*ADMI_INV*) banking divestitures have a positive and significant impact on the excess value. However, in model IIIB that adds controls, only commercial banking divestitures maintain a standard level of significance. The investment banking variable *(ADMI_INV)*, although maintains the positive sign, is not statistically significant. In this model, growth in assets and dividend cut control variables are those with the predicted sign and significant at standard level. These results are consistent with prediction H3a, with commercial banking asset sales showing a stronger impact while investment banking asset sales a weaker effect on conglomerate valuation.

Table 4 panel B presents regression estimates when dependent variable is the asset-based excess value. Model IA confirms that divestiture market impact has a significant and positive effect on conglomerate excess value. In model IIA, we observe that only divestitures of financial service assets have a significant effect, whereas divestitures of nonfinancial assets have no significant effect. In model IIIA, we test H3b hypothesis and split financial service asset sales in commercial and investment banking. Models IB, IIB, and IIIB incorporate control variables. We uncover only in model IIIB a significant effect of both commercial and investment banking asset sales. Our findings confirm H3b prediction that commercial and investment banking asset sales generate opposite effects on excess value: commercial asset sales have positive effects while investment asset sales have negative effects. Selling risky assets with a regulatory value greater than market valuation is discouraged because doing so raises capital requirements even though reducing risk. An alternative explanation could be that investment banking is a valuable business segment that contributes to benefit the internal capital market, and selling it could hurt conglomerate relative valuation. Moreover, we cannot rule out that divestiture decisions are influenced by a compelling regulatory framework, directing conglomerates to exit lines of business and meet stringent asset-based capital, liquidity, and risk management requirements. Summarizing, panel B regressions results show a different impact of investment banking asset sales when compared to panel A results; they confirm the role played by investment banking assets in the asset-based regulatory requirements.

5.2 Financial crises, divestitures, and conglomerate excess value

Table 5 presents regression results that control for financial crisis effects. As conglomerates valuation rebounds to a diversification premium throughout financial crises (see Table 1), we need to rule out the possibility that change in market valuation is driven by cyclicality in conglomerate excess value. Thus to control for this effect, we add a *CRISES* dummy to control for the effects of the two consecutive financial crises (2008-2011). Next, as financial crises might influence the market reaction to divestitures programs, we add also an interaction term defined as *ADMIxCRISES* (or its components). Similarly, we include an interaction term between diversity and crises (*IDIVxCRISES* and *ADIVxCRISES*) as a financial crisis might have an indirect impact on conglomerate valuation.

In panel A, model IVA uses a broad definition of divestitures (*ADMI*), the *CRISES* dummy and their interaction term (*ADMIxCRISES).* Under this specification, results indicate that divestitures have a positive and significant effect on conglomerate relative market valuation. However, the variable *ADMIxCRISES* estimate is negative and not statistically significant, indicating that divestitures executed throughout crises years have similar impact as divestitures executed during non-crisis years. These results are strengthened in Model IVB when adding control variables. The lagged *IDIV* variable controls for income diversification, and as in LL2007 it enters with negative and highly significant coefficient, indicating that diversification has a negative impact on excess value. However, the negative effect is reduced during financial crises years, as indicated by the positive and significant interaction variable (*IDIVxCRISES*). This result confirms that conglomerate diversification is more valuable during period of financial shocks as predicted by theories on internal capital markets (Stein 1997). The remaining controls, on one hand, do not alter the significant effect of divestitures on excess value, and, on the other hand, show the significance of variables such as leverage, size, growth in assets, and CEO change. The negative and highly significant effect of *ETA* variable is consistent the view that high level of leverage can benefit conglomerate valuation because of tax benefits and government subsidies for very large financial institutions. The *SIZE* variable enters with positive and significant coefficient, backing the existence of both scale economies benefits and TBTF effects. The coefficient of asset growth variable *(GRWA)* indicates that growth opportunities among large financial institutions might have a negative impact on the excess value, because of their underlying risk. CEO change (*NEWCEO)* enters with a positive and significant coefficient (at 10% level), suggesting that a new CEO is positively associated with excess value changes, consistent with past studies such as Berger and Ofek (1999) who

found similar results around corporate restructuring programs. In summary, these findings confirm H1 hypothesis: corporate downsizing programs have positive and significant effect on conglomerate excess value, beyond the impact of controls such as financial crises, degree of diversification as well as key firm and country characteristics.

In Model VA we split the *ADMI* variable into *ADMI_INTRA* and *ADMI_INTER* variables, to analyse the differential impact of related versus unrelated asset sales on excess value. Under this specification, results indicate that only divestitures related to the financial sector have a positive and significant effect on conglomerate value changes. However, when in Model *VB* we control for financial crises, we find interaction term *ADMI_INTER x CRISES* coefficient positive, highly significant and its magnitude (0.509) is larger than the estimate for market impact of intra-industry transactions. Model VB results show that control variable coefficients have a similar magnitude and significance as in Model VA. Thus, level of diversification both in crisis and non-crisis periods, leverage, size, growth in assets, and CEO change all maintain the same sign and level of significance, confirming to be important determinants of financial conglomerate excess value. Overall, these results contradict the prediction of H2 on corporate focus theory that unrelated divestitures have a positive impact on conglomerate valuation. However, in times of high market volatility, we obtain different results: divestitures of assets unrelated to the financial service sector might generate positive effects on valuation, a result in line with the corporate focus theory. These findings suggest that during distressed periods internal capital markets are likely to increase efficiency in capital allocation, lead to higher gains and enhance the "more money" advantage of conglomeration (Stein 1997).

Models VI tests hypothesis H3, which aims at verifying the different impacts of financial service asset sales on conglomerate excess value. Results from model VIA indicate that both commercial and investment banking divestitures have a positive and significant impact on the excess value. Regression estimates from model VIB confirm model VIA results, and predictions of H3a hypothesis. Moreover, this specification also confirms model VB results. Control variable estimates in model VIB show similar coefficient and level of significance as in models IVB and VB. Level of diversification has the expected negative and highly significant coefficient, indicating lack of economies of scope; however, during crisis years the relation between diversification and excess value switches to a positive and significant impact. Regression estimates for variables related to leverage, size, growth in assets, and CEO change have a similar magnitude and level of significance as in previous models. Summing up, our data reject the view that financial conglomerates have large benefits from combining financial

service activities as well as nonfinancial businesses, corroborating the hypothesis that divestiture programs will have positive impact on conglomerate excess value.

In Table 5 panel B, we present the asset-based estimates of regression models. These findings, similarly to income-based regression models (panel A), show that commercial banking asset sales have positive and significant effect on excess value. Investment banking asset sales retain a negative effect, although it is not significant at standard level. Our findings confirm H3b prediction that commercial banking asset sales generate positive effects on excess value.

In summary, we find different response coefficients on financial firm's asset sale market impact under the two alternative excess value measures. Using the income-based framework, both commercial and investment banking divestitures trigger positive and significant effects on conglomerate excess value. Selling nonfinancial assets has no significant effects on market valuation, which is in contrast to corporate focus theory prediction. However, the same type of asset sale has an opposite effects on conglomerate market valuation during period of financial market turbulence. These findings lead to conclude that corporate focus theory in banking seems to hold throughout times of financial crises, when internal capital market in financial conglomerates could work better by divesting unrelated assets. On the other hand, when using the asset-based framework, commercial banking asset sales retain a positive and significant coefficient, whereas investment banking has no effect on conglomerate excess value.

6. Robustness checks

In this section, we conduct robustness analyses to investigate whether main results are sensitive to alternative variables and regression models.[20]

6.1 Self-selection bias in divestiture decisions

The divestiture decisions may not be random, but are deliberated decisions by financial conglomerates or their managers to self-select into their preference choices. To control for self-selection in divestitures, we implement the Heckman (1979)'s two-step procedure. At the first stage, we estimate a probit model where the depending variable is a dummy equals to one when the conglomerate make one or more asset sales in year t, 0 otherwise. As explanatory variables in the probit model, we include lagged variables (t-1) to control for conglomerate

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[20] We do not tabulate robustness check results, but they are available upon request.

diversification, profitability, size, leverage, and CEO change. At the second stage, we run regression models I, II, and III and add as an additional variable the inverse Mills-ratio $\lambda_D(\cdot)$.

The results show that when we include the inverse Mills ratio to correct for self-selection bias the coefficients of the divestiture market impact retain their sign and level of significance. The selection parameter, lambda, is not significant suggesting that self-selection and private information are not driving our baseline results.

6.2 Alternative Excess Value measures

A different approach to compute the imputed Tobin's q is to select the five (ten) largest specialized banks in commercial and investment banking. When we examine these alternative EV measures, we obtain results that are qualitatively similar to baseline findings, and they do not change our conclusions that divestiture market impact has a positive and significant effect on excess value, beyond that of fundamental control variables.

6.3 Asset sales and financially distressed conglomerates

Financial conglomerates experiencing financial distress might divest assets for reasons that our regression models could be unable to control for. Following past studies, we identify the dividend cut decision as the key proxy that indicates whether a financial conglomerate might be experiencing distress. To control for the effects of financial distress on divestiture, we take two steps. First, we identify financial conglomerates in good health as those that maintain a smooth dividend policy. When we run regressions, results are qualitatively similar and we maintain the conclusion that the market impact of asset sales has a positive and significant effect on excess value. In the second step, we identify financial conglomerates in financial distress as those that cut dividends. We then construct a variable by interacting divestiture market impact and the divided cut to control for the simultaneous effect of divestiture and dividend cut announcements. Results we obtain are still in line with our earlier findings and confirm the positive relation between asset sales and conglomerate excess value.

6.4 Controlling for M&A transaction effect on excess value

Past studies on conglomerate excess value and diversification find that mergers might bias regression results. LL2007 and SW2009 run specific tests to control for potential of merger bias. In order to assess whether merger transactions are distorting the regression relation between conglomerate excess value and divestiture market impact, we create a dummy that

equals 1 in the year when all announced mergers are equal 10% or more than firm's market capitalization. In our sample period, 23 conglomerates announced 39 mergers with an average deal value of 32.66% of conglomerate's market capitalization. When we include the merger dummy variable, estimated coefficient are positive and significant at standard level, and the divestiture market impact coefficients remain qualitatively unchanged.

7. Conclusions

Corporate finance theory suggests that conglomerates, through their organizational structure, have benefits from internal capital allocation. Yet, conglomerates are frequently valued lower than specialized firms, raising doubts of diversification benefits. We use a sample of large asset sales as a testing ground to empirically examine how financial conglomerate valuation could be enhanced by partially exiting a banking business segment. We construct a unique sample of financial conglomerates at year-end 2005 from 15 countries and track their voluntary largest asset sales over the years 2005-2013, which include the 2008-2009 US subprime lending crisis and the 2010-2011 European sovereign debt crisis.

This paper contributes to internal capital market in the financial service industry by showing novel evidence on the economic value of divestment policies. We also contribute to the corporate finance literature by examining the economic consequences of restructuring programs in diversified financial firms. Third, we indirectly relate to literature of economies of scope, reinforcing the empirical evidence found by LL2007.

We find robust evidence in support of the divestiture market impact having a significant effect on conglomerate excess value, in a firm- and year-fixed effects panel setting. On the one hand, commercial banking divestitures have positive and strong effects on conglomerate excess value compared to other types of asset sales, whereas investment banking divestitures trigger a negative impact. These results cast doubts on the relevancy of focus theory for financial firms. Managers observe market undervaluation, recognize the inefficiency of internal capital markets and decide to modify the existing conglomerate diversification policies by selling financial service assets. The opposite market impacts are explained by the underlying nature of the two fundamentally different banking businesses, in terms of different degree of liquidity, risk-return profiles, operational characteristics, and regulatory requirements. For instance, selling commercial banking assets allows conglomerates to meet capital and liquidity requirements and simultaneously reduce the high operating costs of lending activities. Selling risky assets with a regulatory value greater than market valuation is discouraged because doing so raises

capital requirements despite reducing risk, with no significant impact on the operational costs related to non-traditional activities. On the other hand, divesting inter-industry assets has no impact on market valuation, indicating that capital markets see no value increase by selling non-financial assets.

When examining financial conglomerates restructuring during period of financial turbulence, a different picture emerges. We find consistent evidence with focus theory predictions, as selling nonfinancial assets turns to have a positive and high impact on conglomerate excess value. These results highlight that when financial market volatility increases, capital markets welcome inter-industry divestitures that streamline conglomerate structure, and support meeting capital and liquidity requirements.

Our paper adds a new perspective on the policy debate on the restructuring of global large banks. This paper conclusions support the view that the policy of size reduction benefits shareholder and indirectly the economic welfare. Our findings clearly indicate that downsizing policies should be better directed toward restructuring the traditional lending and commercial business lines, in light of higher restrictions on capital and liquidity, new technology developments, and increasing competitive pressure from inside and outside the financial industry. Regulators should consider these results along the implications of technology advance and risky behavior.

Appendix A: Financial conglomerate sample

Financial Conglomerate	Country	Total Assets as of year-end 2005 (in US$ bn 2013)
BARCLAYS PLC	UK	1,847
UBS AG	Switzerland	1,819
MITSUBISHI UFJ FINANCIAL GROUP INC	Japan	1,763
HSBC HOLDINGS PLC	UK	1,743
CITIGROUP INC	USA	1,734
BNP PARIBAS	France	1,722
ING GROEP NV	Netherlands	1,586
ROYAL BANK OF SCOTLAND GROUP PLC (THE)	UK	1,552
BANK OF AMERICA CORPORATION	USA	1,499
MIZUHO FINANCIAL GROUP	Japan	1,424
JPMORGAN CHASE & CO	USA	1,391
DEUTSCHE BANK AG	Germany	1,358
RBS HOLDINGS NV	Netherlands	1,206
CREDIT SUISSE GROUP AG	Switzerland	1,183
SOCIETE GENERALE	France	1,161
BANCO SANTANDER SA	Spain	1,108
HBOS PLC	UK	1,081
UNICREDIT SPA	Italy	1,078
SUMITOMO MITSUI FINANCIAL GROUP, INC	Japan	1,023
INTESA SANPAOLO	Italy	732
DEXIA	Belgium	696
LLOYDS BANKING GROUP PLC	UK	619
COMMERZBANK AG	Germany	609
WACHOVIA CORPORATION	USA	604
NATIXIS	France	599
WELLS FARGO & COMPANY	USA	559
BANCO BILBAO VIZCAYA ARGENTARIA SA	Spain	537
ROYAL BANK OF CANADA RBC	Canada	462
DANSKE BANK A/S	Denmark	446
KBC GROEP NV/ KBC GROUPE SA	Belgium	446
NORDEA BANK AB (PUBL)	Sweden	446
RESONA HOLDINGS, INC	Japan	384
NATIONAL AUSTRALIA BANK LIMITED	Australia	375
SANPAOLO IMI	Italy	360

Financial Conglomerate	Country	Total Assets as of year-end 2005 (in US$ bn 2013)
TORONTO DOMINION BANK	Canada	359
NOMURA HOLDINGS INC	Japan	346
BANK OF NOVA SCOTIA (THE) - SCOTIABANK	Canada	309
BANK OF MONTREAL	Canada	293
COMMONWEALTH BANK OF AUSTRALIA	Australia	277
CANADIAN IMPERIAL BANK OF COMMERCE CIBC	Canada	276
SKANDINAVISKA ENSKILDA BANKEN AB	Sweden	276
CREDIT INDUSTRIEL ET COMMERCIAL - CIC	France	268
STANDARD CHARTERED PLC	UK	250
AUSTRALIA AND NEW ZEALAND BANKING GROUP	Australia	247
US BANCORP	USA	243
FORTIS BANK (NEDERLAND) N.V.	Netherlands	234
SVENSKA HANDELSBANKEN	Sweden	231
BANK OF IRELAND	Ireland	228
WESTPAC BANKING CORPORATION	Australia	225
BANCA MONTE DEI PASCHI DI SIENA SPA	Italy	210

Appendix B: Empirical model variables

Variable	Description	Sources
Total assets (TA)	Sum of loans, other earning assets and non-earning assets	Bankscope & Orbis
Market Capitalization (MC)	Total equity market value	Datastream
Tobin's q (q)	Tobin's q is calculated as the sum of the market value of common equity plus the book value of preferred shares plus the book value of total debt divided by the book value of total assets.	Bankscope, Orbis and Datastream
Loans/Total earning assets (LTEA)	Loans divided the net loans plus other earning assets	Bankscope, Orbis and company financial reports
Gross Interest Revenue/Total Operating Income (GIR)	Revenues from intermediation activity divided the sum of interest revenues on loans and other operating income	Bankscope, Orbis and company financial reports
Leverage (ETA)	Equity to total assets	Bankscope, Orbis and financial reports
Asset diversity (ADIV)	It is a measure of diversification across different types of assets and is computed as 1 minus the (absolute value of) ratio of the difference between net loans and other operating assets to total earning assets (cfr LL2007)	Bankscope, Orbis and company financial reports
Income diversity (IDIV)	It is a measure of diversification across different sources of income and is computed as 1 minus the (absolute value of) ratio of the difference between Gross interest income and other operating income to total gross operating income (cfr Laeven and Levine, 2007)	Bankscope, Orbis and company financial reports
Excess Value asset-based (AEV)	Excess value asset-based equals the difference between a FC's actual Tobin's Q and the activity-adjusted Tobin's Q, both estimated at end-of-year. Activity-adjusted Tobin's Q is the weighted average of means of specialized bank Tobin's Q in commercial and investment banking. Weights are based on the relative importance of loans to total earning assets and are computed as pure commercial banking and investment banking in FC's activities (cfr Laeven and Levine , 2007)	Bankscope, Orbis, Datastream and company financial reports
Excess Value income-based (IEV)	Excess value income-based equals the difference between a FC's actual Tobin's Q and the activity-adjusted Tobin's Q, both estimated at end-of-year. Activity-adjusted Tobin's Q is the weighted average of means of specialized bank Tobin's Q in commercial and investment banking. Weights are based on the relative importance of gross interest income total operating income and are computed as pure commercial banking and investment banking in FC's activities (cfr Laeven and Levine , 2007)	Bankscope, Orbis, Datastream and financial reports
Asset Size (SIZE)	Logarithm of total assets	Bankscope and Orbis
Growth in assets (GRWA)	Three-year growth rate in total assets	Bankscope
Growth in income (GRWI)	Three-year growth rate in operating income	Bankscope
GDP per capita growth (GDP)	Annual real growth in GDP per capita	World Development Indicators

Variable	Description	Sources
Inflation (INF)	Annual change in the CPI index.	World Development Indicators
CEO Change (NEWCEO)	Dummy that takes value of 1 if the FC experiences a CEO change during the year, zero otherwise	LexisNexis and company financial reports
Dividend Cut (DIVCUT)	Dummy that takes the value equals to 1 when FC announced dividend cut, zero otherwise	Datastream
Seasoned equity offer (SEO)	Equity issue size divided by market value	Datastream and company financial reports

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TABLES

Table 1: Financial conglomerate sample characteristics.

This table presents descriptive statistics of the financial conglomerate (FC) sample used in the analysis. FCs are defined as listed, diversified, no-government controlled with the largest total assets as of December 31 2005. The sample is constructed by selecting financial firms (SIC codes 6000-6799, excluding the subsector of Real Estate (SIC 6500)) and excluding saving, mutual, cooperative, and real estate & mortgage bank type. Appendix A shows the final list of FCs. The table details sample data for the whole period (2005-2013) and for four sub-periods: Pre-Financial Crisis (2005-2007), US Financial Crisis (2008-2009), EU Sovereign Crisis (2010-2011) and Post-Financial Crisis (2012-2013). For variable definitions and data sources see Appendix B.

	Mean (Median)				
	Whole period	Pre-Financial Crisis	US Financial Crisis	EU Financial Crisis	Post-Financial Crisis
	2005-2013	2005-2007	2008-2009	2010-2011	2012-2013
TA ($bn)	1078.80	949.91	1155.33	1174.46	1118.31
	(796.07)	(631.01)	(815.53)	(808.90)	(831.31)
MC ($bn)	61.35	75.55	45.81	51.31	63.77
	(50.49)	(59.85)	(34.16)	(43.41)	(53.22)
q	1.02	1.05	1.01	1.00	1.01
	(1.01)	(1.04)	(1.00)	(0.99)	(0.99)
ADIV (%)	70.61	70.67	68.87	70.78	72.12
	(73.19)	(76.17)	(70.91)	(72.39)	(74.54)
IDIV (%)	53.42	53.16	44.14	56.69	59.62
	(54.11)	(54.39)	(44.04)	(57.62)	(59.90)
LTEA (%)	52.85	53.01	53.16	52.51	52.62
	(54.43)	(54.76)	(54.51)	(54.50)	(54.00)
GIR (%)	73.11	73.35	78.95	70.69	69.17
	(72.81)	(72.81)	(79.45)	(71.04)	(69.80)
ETA (%)	94.71	94.96	95.05	94.49	94.15
	(95.00)	(95.26)	(95.45)	(94.74)	(94.25)
AEV (%)	-0.63	-4.25	2.37	1.08	0.59
	(-0.35)	(-5.09)	(1.62)	(0.16)	(-0.21)
IEV (%)	-1.09	-4.61	1.84	0.83	0.09
	(-0.76)	(-5.32)	(1.29)	(0.18)	(-0.75)
Nobs	419	148	91	90	90

Table 2: Divestiture sample characteristics

The table reports the number of divestiture transactions, the mean (median), and total period deal value (in $ mil 2013) by announcement year. Divestiture sample is shown for the whole period (2005-2013) and four sub-periods: Pre-Financial Crisis (2005-2007), US Financial Crisis (2008-2009), EU sovereign Financial Crisis (2010-2011) and Post-Financial Crisis (2012-2013). Intra-industry transactions are sales of assets related to the financial industry (SIC 6000-6799, excluding the subsector of Real Estate (SIC 6500)). Inter-industry transactions are sales of assets unrelated to the financial industry. Intra-industry transactions are split in commercial and non-commercial banking asset sales. Commercial banking transactions are sales of asset related to deposit-taking activities (SIC 6000). Non-commercial banking transactions are sales of assets related to investment banking, insurance, securities, and trading (from SIC 61 through 64). All divestitures includes both intra- and inter-industry transactions.

	Whole period 2005-2013	Pre-Financial Crisis 2005-2007	US Financial Crisis 2008-2009	EU Financial Crisis 2010-2011	Post-Financial Crisis 2012-2013
All divestitures					
mean	1,782	1,953	2,146	1,361	1,698
median	1,054	1,103	1,374	943	999
total deal value	379,536	132,838	94,413	77,567	74,718
nobs	213	68	44	57	44
Intra-industry divestitures					
mean	1,938	2,526	2,235	1,529	1,352
median	1,145	1,351	1,512	952	1,081
total deal value	236,382	83,348	69,289	45,876	37,870
nobs	122	33	31	30	28
Commercial banking divestitures					
mean	1,592	1,053	1,830	1,748	1,568
median	1,111	867	1,341	987	1,408
total deal value	92,358	11,588	25,617	33,207	21,945
nobs	58	11	14	19	14
Investment banking divestitures					
mean	2,250	3,262	2,569	1,152	1,137
median	1,286	1,519	1,561	761	1,039
total deal value	144,024	71,760	43,671	12,669	15,924
nobs	64	22	17	11	14
Inter-industry divestitures					
mean	1,573	1,414	1,933	1,174	2,303
median	921	921	1,190	904	887
total deal value	143,155	49,490	25,125	31,692	36,848
nobs	91	35	13	27	16

Table 3: Divestiture announcement CARs and market impact

This table presents in panel A cumulative abnormal stock returns (CARs) over a 3-day interval (-1,0,+1) with 0 the day of announcement day for a sample of 213 divestitures announced and completed from January 2005 to December 2013, identified from Thomson ONE Banker Database. panel B presents annual divestiture market impact computed as the product between CAR3 and stock market capitalization 30 trading days before announcement date, scaled by the market capitalization at the end of the year before announcement date. Abnormal stock returns are computed as market adjusted returns. Intra-industry divestitures involve assets of financial industry (SIC 6000-6799, excluding the subsector of Real Estate (SIC 6500)), while commercial banking activity (SIC code 6000) are those related to other financial service activities. (SIC code 6100-6799). Inter-industry divestitures involve assets related to nonfinancial sectors. The significance of the CAR at the 10%, 5%, and 1% significance level are denoted respectively with *, **, ***.

	Whole period 2005-2013	Pre-Financial Crisis 2005-2007	US Financial Crisis 2008-2009	EU Financial Crisis 2010-2011	Post-Financial Crisis 2012-2013
Panel A: CAR Descriptive Statistics (%)					
ADMI					
mean	0.51*	0.64**	0.21	-0.02	1.29
median	0.25	0.30	0.35	0.00	0.39
min	-14.32	-4.72	-14.32	-9.19	-9.76
max	24.82	15.96	21.07	7.23	24.82
nobs	213	68	44	57	44
ADMI_INTRA					
mean	1.14**	1.06*	1.01	0.46	2.11**
median	0.44	0.52	0.74	0.22	0.39
min	-14.32	-4.72	-14.32	-9.19	-2.77
max	24.82	15.96	21.07	6.90	24.82
nobs	122	33	31	30	28
ADMI_COMM					
mean	0.91	0.71*	2.11	0.18	0.85
median	0.43	0.43	0.99	0.22	0.17
min	-9.19	-0.98	-6.20	-9.19	-2.77
max	21.07	2.49	21.07	6.90	5.03
nobs	58	11	14	19	14
ADMI_INV					
mean	1.35**	1.23	0.11	0.95	3.37
median	0.47	0.57	0.38	0.00	0.44
min	-14.32	-4.72	-14.32	-3.89	-2.12
max	24.82	15.96	6.08	5.56	24.82
nobs	64	22	17	11	14
ADMI_INTER					
mean	-0.34	0.25	-1.71	-0.56	-0.15
median	-0.11	0.06	-1.81	-0.64	0.36
min	-13.65	-2.13	-13.65	-6.63	-9.76
max	9.17	4.07	9.17	7.23	7.21
nobs	91	35	13	27	16

	Whole period 2005-2013	Pre-Financial Crisis 2005-2007	US Financial Crisis 2008-2009	EU Financial Crisis 2010-2011	Post-Financial Crisis 2012-2013
Panel B: Annual Market Impact Descriptive Statistics (%)					
ADMI					
mean	4.75	2.49	11.72	0.26	5.61
median	0.56	0.84	0.30	0.17	0.09
min	-12.51	-2.72	-12.51	-8.28	-11.41
max	198.17	61.44	198.17	9.76	110.59
nobs	129	41	29	30	29
ADMI_INTRA					
mean	7.43	3.57	16.55	1.26	8.45
median	0.84	0.82	2.49	0.58	0.41
min	-12.51	-1.48	-12.51	-5.44	-2.67
max	198.17	61.44	198.17	10.59	110.59
nobs	85	26	21	18	20
ADMI_COMM					
mean	9.88	1.18	26.16	1.27	8.99
median	0.72	0.77	1.80	0.58	0.34
min	-6.69	-0.83	-6.69	-3.62	-1.18
max	198.17	5.33	198.17	10.59	110.59
nobs	50	11	13	12	14
ADMI_INV					
mean	2.81	4.99	0.57	0.82	3.92
median	0.68	0.97	0.68	0.84	0.39
min	-5.83	-1.48	-5.83	-5.44	-3.08
max	61.44	61.44	5.24	5.87	25.98
nobs	49	16	13	9	11
ADMI_INTER					
mean	-0.30	0.43	-0.59	-0.82	-0.52
median	-0.05	0.33	-1.87	-0.70	0.85
min	-11.41	-2.72	-7.30	-7.57	-11.41
max	7.68	3.76	7.68	1.97	4.63
nobs	65	22	13	18	12

Table 4: Conglomerate excess value and divestiture market impact – firm- and year-fixed effects

*This table presents estimates from firm- and year-fixed effects regressions of conglomerate excess value income- and asset-based on divestiture market impact and control variables. Models IA, IIA, and IIIA show baseline results when using the divestiture market impact as the main explanatory variable. Models IB, IIB, and IIIB extend the baseline regressions by including control variables. In Model I, the annual divestiture market impact variable is constructed as the annual market impact of all asset sale transactions. In Model II, the annual divestiture market impact variable is split between intra- and inter-industry transactions. In Model III, the annual divestiture market impact variable is split between commercial and investment banking asset sale transactions. Variable definitions and data sources are detailed in Appendix B. Year dummies are not reported. Robust standard errors are shown in parentheses and adjusted for clustering at the FC level. *Significant at 10%; **significant at 5%; ***significant at 1%.*

Panel A: Income-based approach	IA	IB	IIA	IIB	IIIA	IIIB
ADMI	0.013***	0.013***				
	(0.003)	(0.003)				
ADMI_INTRA			0.012***	0.012***		
			(0.003)	(0.003)		
ADMI_INTER			0.053	0.126	0.053	0.126
			(0.082)	(0.093)	(0.082)	(0.093)
ADMI_COMM					0.012***	0.012***
					(0.003)	(0.003)
ADMI_INV					0.014**	0.014
					(0.007)	(0.011)
Firm Controls						
IDIV $_{t-1}$		-0.003		-0.003		-0.003
		(0.011)		(0.011)		(0.011)
ETA $_{t-1}$		-0.273		-0.269		-0.270
		(0.186)		(0.184)		(0.185)
SIZE $_{t-1}$		-0.000		-0.000		-0.000
		(0.007)		(0.007)		(0.007)
GRWA		-0.032**		-0.033**		-0.033**
		(0.015)		(0.015)		(0.015)
GRWI		0.012		0.013*		0.013*
		(0.008)		(0.007)		(0.007)
SEO $_{t-1}$		-0.093		-0.094		-0.094
		(0.204)		(0.202)		(0.202)
DIVCUT		-0.011***		-0.012***		-0.012***
		(0.004)		(0.004)		(0.004)
NEWCEO $_{t-1}$		0.000		0.001		0.001
		(0.003)		(0.003)		(0.003)
Country controls						
GDP		-0.000		-0.000		-0.000
		(0.000)		(0.000)		(0.000)
INF		0.002		0.002		0.002
		(0.002)		(0.002)		(0.002)
Constant	-0.047***	0.034	-0.047***	0.036	-0.047***	0.036
	(0.004)	(0.093)	(0.004)	(0.092)	(0.004)	(0.092)
Observations	412	355	412	355	412	355
R-squared	0.725	0.764	0.726	0.765	0.726	0.765
Number of bank	50	50	50	50	50	50
Firm FE	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES

Panel B: Asset-based approach	IA	IB	IIA	IIB	IIIA	IIIB
ADMI	0.005*	0.004				
	(0.003)	(0.003)				
ADMI_INTRA			0.005**	0.004		
			(0.003)	(0.003)		
ADMI_INTER			-0.031	0.018	-0.031	0.017
			(0.078)	(0.087)	(0.078)	(0.087)
ADMI_COMM					0.008***	0.006***
					(0.002)	(0.002)
ADMI_INV					-0.021**	-0.029***
					(0.009)	(0.010)
Firm controls						
ADIV $_{t-1}$		-0.001		-0.001		-0.000
		(0.016)		(0.016)		(0.016)
ETA $_{t-1}$		-0.311*		-0.312*		-0.302
		(0.184)		(0.184)		(0.184)
SIZE $_{t-1}$		-0.009		-0.009		-0.009
		(0.007)		(0.007)		(0.007)
GRWA		-0.049**		-0.049**		-0.049**
		(0.020)		(0.020)		(0.020)
GRWI		0.017**		0.017**		0.017**
		(0.006)		(0.006)		(0.006)
SEO $_{t-1}$		-0.031		-0.031		-0.030
		(0.190)		(0.190)		(0.192)
DIVCUT		-0.008**		-0.008**		-0.008**
		(0.004)		(0.004)		(0.004)
NEWCEO $_{t-1}$		0.001		0.001		0.001
		(0.003)		(0.003)		(0.003)
Country controls						
GDP		-0.000		-0.000		-0.000
		(0.000)		(0.000)		(0.000)
INF		0.002		0.002		0.002
		(0.002)		(0.002)		(0.002)
Constant	-0.050***	0.175*	-0.050***	0.175*	-0.050***	0.176*
	(0.004)	(0.096)	(0.004)	(0.096)	(0.004)	(0.096)
Observations	420	367	420	367	420	367
R-squared	0.669	0.687	0.669	0.687	0.670	0.688
Number of bank	50	50	50	50	50	50
Firm FE	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES

Table 5: Conglomerate excess value and divestiture market impact – firms and financial crisis year effects

This table presents estimates from firm-fixed effects regressions of conglomerate excess value income- and asset-based on divestiture market impact and control variables. Models IVA, VA, and VIA show baseline results when using the divestiture market impact as the main explanatory variable. Models IVB, VB, and VIB extend the baseline regressions by including control variables. In Model IV, the annual divestiture market impact variable is constructed as the annual market impact of all asset sale transactions. In Model V, the annual divestiture market impact variable is split between intra- and inter-industry transactions. In Model VI, the annual divestiture market impact variable is split between commercial and investment banking asset sale transactions.

Financial crisis years (CRISES) is a dummy equals to 1 for years from 2008 through 2011. Variable definitions and data sources are detailed in Appendix B. Robust standard errors are shown in parentheses and adjusted for clustering at the FC level. *Significant at 10%; **significant at 5%; ***significant at 1%.

Panel A: Income-based approach	IVA	IVB	VA	VB	VIA	VIB
ADMI	0.022***	0.019**				
	(0.008)	(0.008)				
CRISES	0.040***	0.004	0.040***	0.004	0.040***	0.004
	(0.003)	(0.006)	(0.003)	(0.007)	(0.003)	(0.007)
ADMI x CRISES	-0.002	-0.004				
	(0.007)	(0.011)				
ADMI_INTRA			0.024***	0.022***		
			(0.007)	(0.008)		
ADMI_INTER			-0.115	-0.167	-0.115	-0.161
			(0.247)	(0.154)	(0.251)	(0.152)
ADMI_INTRA x CRISES			-0.005	-0.008		
			(0.006)	(0.012)		
ADMI_INTER x CRISES			0.303	0.509**	0.305	0.502**
			(0.294)	(0.220)	(0.291)	(0.217)
ADMI_COMM					0.019***	0.012***
					(0.003)	(0.005)
ADMI_INV					0.036*	0.048***
					(0.019)	(0.011)
ADMI_COMM x CRISES					-0.000	0.001
					(0.003)	(0.006)
ADMI_INV x CRISES					-0.034	-0.224
					(0.130)	(0.154)
Firm controls						
IDIV $_{t-1}$		-0.054***		-0.057***		-0.057***
		(0.016)		(0.017)		(0.017)
IDIV$_{t-1}$ x CRISES		0.041***		0.041***		0.041***
		(0.013)		(0.013)		(0.013)
ETA $_{t-1}$		-0.389*		-0.398*		-0.405*
		(0.223)		(0.219)		(0.220)
SIZE $_{t-1}$		0.044***		0.043***		0.043***
		(0.009)		(0.009)		(0.009)
GRWA		-0.064***		-0.067***		-0.066***
		(0.015)		(0.015)		(0.015)
GRWI		-0.004		0.000		-0.001
		(0.011)		(0.011)		(0.011)
SEO $_{t-1}$		0.159		0.171		0.189*
		(0.126)		(0.117)		(0.104)
DIVCUT		-0.006		-0.005		-0.004
		(0.004)		(0.004)		(0.004)
NEWCEO $_{t-1}$		0.007*		0.007*		0.007*
		(0.004)		(0.003)		(0.003)
Country controls						
GDP		0.000		0.000		0.000
		(0.000)		(0.000)		(0.000)
INF		0.001		0.001		0.001

	(1)	(2)	(3)	(4)	(5)	(6)
		(0.001)		(0.001)		(0.001)
Constant	-0.028***	-0.602***	-0.028***	-0.589***	-0.028***	-0.596***
	(0.001)	(0.125)	(0.001)	(0.125)	(0.001)	(0.125)
Observations	412	355	412	355	412	355
R-squared	0.344	0.563	0.346	0.570	0.347	0.572
Number of bank	50	50	50	50	50	50
Firm FE	YES	YES	YES	YES	YES	YES

Panel B:Asset-based approach	IVA	IVB	VA	VB	VIA	VIB
ADMI	0.008	-0.000				
	(0.018)	(0.012)				
CRISES	0.040***	0.013	0.041***	0.013	0.040***	0.014
	(0.003)	(0.011)	(0.003)	(0.011)	(0.003)	(0.011)
ADMI x CRISES	0.008	0.014				
	(0.017)	(0.009)				
ADMI_INTRA			0.012	0.003		
			(0.016)	(0.011)		
ADMI_INTER			-0.279	-0.179	-0.279	-0.174
			(0.234)	(0.147)	(0.239)	(0.151)
ADMI_INTRA x CRISES			0.003	0.010		
			(0.015)	(0.009)		
ADMI_INTER x CRISES			0.390	0.357	0.391	0.347
			(0.271)	(0.217)	(0.279)	(0.221)
ADMI_COMM					0.025***	0.011***
					(0.004)	(0.004)
ADMI_INV					-0.018	-0.018
					(0.035)	(0.022)
ADMI_COMM x CRISES					-0.009*	0.002
					(0.005)	(0.008)
AD_INV x CRISES					0.062	-0.034
					(0.126)	(0.143)
Firm controls						
ADIV $_{t-1}$		-0.034		-0.036		-0.035
		(0.026)		(0.026)		(0.026)
ADIV$_{t-1}$ x CRISES		0.022		0.022		0.021
		(0.014)		(0.014)		(0.014)
ETA $_{t-1}$		-0.379*		-0.413*		-0.412*
		(0.224)		(0.223)		(0.223)
SIZE $_{t-1}$		0.029***		0.028***		0.028***
		(0.008)		(0.008)		(0.008)
GRWA		-0.085***		-0.085***		-0.085***
		(0.019)		(0.018)		(0.018)
GRWI		-0.007		-0.006		-0.006
		(0.008)		(0.008)		(0.008)
SEO $_{t-1}$		0.074		0.084		0.092
		(0.142)		(0.135)		(0.132)
DIVCUT		-0.004		-0.002		-0.002
		(0.005)		(0.004)		(0.005)
NEWCEO $_{t-1}$		0.003		0.002		0.002
		(0.003)		(0.003)		(0.003)
Country controls						
GDP		0.000		0.000		0.000
		(0.000)		(0.000)		(0.000)
INF		-0.000		-0.000		-0.000
		(0.001)		(0.001)		(0.001)
Constant	-0.024***	-0.367***	-0.024***	-0.362***	-0.024***	-0.361***
	(0.001)	(0.114)	(0.001)	(0.114)	(0.001)	(0.114)
Observations	420	367	420	367	420	367
R-squared	0.364	0.525	0.369	0.529	0.370	0.530
Number of bank	50	50	50	50	50	50
Firm FE	YES	YES	YES	YES	YES	YES