The Dark-Side of Banks' Non-bank Business: Internal Dividends in Bank Holding Companies

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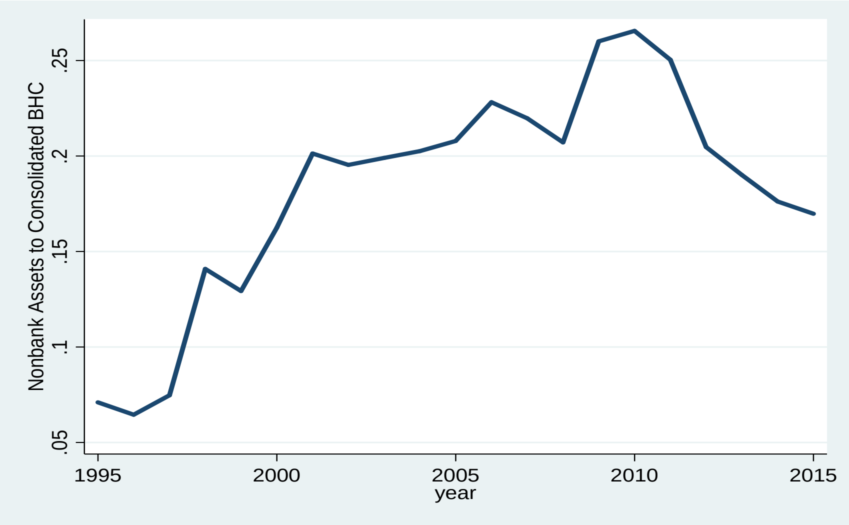
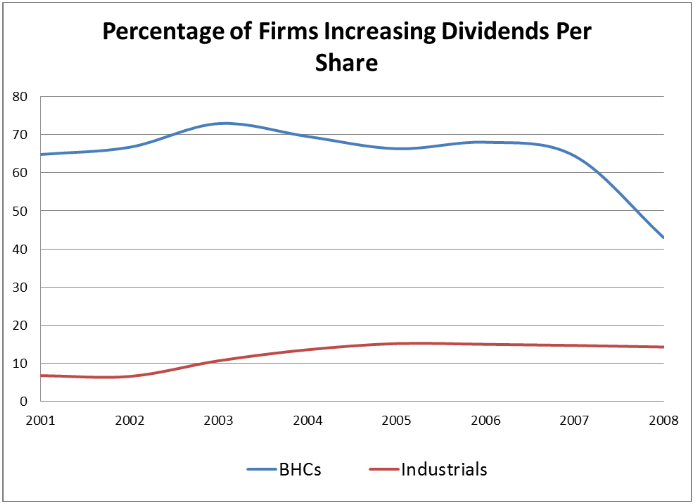
Rise of Non-bank Subsidiaries Following Gramm Leach Bliley



External Dividends at Bank Holding Companies

- BHCs pay higher and persistent dividends relative to industrial firms Floyd, Li, and Skinner (2015) and into crisis, Acharya, Gujral, Kulkarni, and Shin (2013)



Source: Floyd, Li, and Skinner (JFE 2015)

Research Questions

- How do BHCs achieve increasing external dividends?
    - Do banks and non-bank share or shift burdens in the management of internal dividends to maintain external dividends?
- Do bank subsidiaries access external funding markets (e.g. deposits) to fund their internal dividends
    - Corporate corollary to Farre-Mensa, Michaely, Schmalz (2017)
- Does non-bank segment expansion weaken or strengthen the bank segment?

Theory

- Conglomerates have greater allocative efficiency than standalone firms and can therefore raise more external funds (Stein 1997)

- In BHCs, the standalone bank has access to external funding markets unavailable to the parent or non-bank (deposits)
  - Bank subsidiaries generally have lower cost of funds than parent and non-bank
  - BHC can exploit the funding advantage of the bank subsidiary to support non-banks and external dividends

POLICY IMPLICATIONS

- Scope economies in banking
    - Benefits: Single-window access to financial services
    - Risks: Risk created by the non-bank segment
- Our paper highlights a different dimension of the risks created by the non-bank segment
    - Bank capital is diverted as a result of pressures from non-bank
    - The bank segment is used as a source of strength to the BHC
        - In contrast to BHC being a source of strength to the subsidiaries
- Hence, the dark-side result of the internal dividends in a financial conglomerate.

What We Do

- Examine 101 BHCs with available regulatory filings for both bank and non-bank subsidiaries during 2002-2007 and extend this sample to 811 BHCs using alternative filings
- Examine the sensitivity of bank and non-bank segment level internal dividends to changes in own income, other segment income, and external dividends
- Analyze how the bank segment finances its internal dividends during income declines
- Use a differences-in-differences approach to analyze changes in bank segment internal dividends surrounding major non-bank acquisitions, 1993-2007

Preview of Results

- Banks (but not non-banks) bear the pressures of external dividend smoothing
    - External dividend behaviors transmit down to bank (not non-bank)
        - Implies asymmetric external dividends passed to bank
    - Banks do not cut dividends when income falls (non-banks do)
    - Bank and non-banks both pay out income increases
- Bank segment internal dividends in excess of income are primarily used to fund non-bank expansion and share repurchases
- During income declines, banks fund internal dividends by relying on risk-insensitive borrowing (brokered deposits, repos)
- Banks payout ratios increase 7 percentage points following non-bank acquisition

Literature

- Internal Capital Markets
  - **Bright Side** (Gratner et al 1994, Stein 1997); **Dark Side**: Scharfstein and Stein (2000), Rajan et al (2000)
  - This paper: Dark side via exploitation of safety net.
- Internal Capital Markets at BHCs
  - **Multibank** (e.g. Houston et al 1997); **Branches** (e.g. Ben-David et al 2015); **Borders**: (e.g. Cetorelli and Goldberg 2012)
  - This paper: Banks non-banks. Supply of funds vs. investment
- Mergers and Acquisitions
  - **Acquired**: Erel, Jang, Weisbach (2015)
  - This paper: Acquirer (bank); (proposes a new channel for relaxing financial constraints)
- Economies of scope and diversification:
  - Decreased performance: Cetorelli et al 2017; Demsetz and Strahan, 1997; Stiroh 2004; Stiroh and Rumble 2006; Laeven and Levine, 2007; Baele et al 2007; DeYoung and Torna, 2013; Maksimovic and Phillips 2002

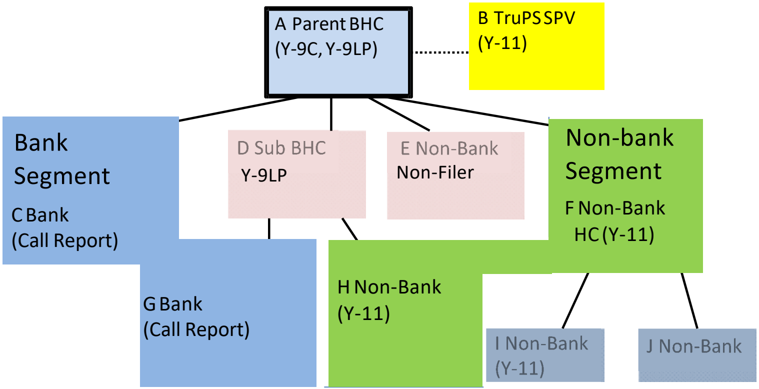
What Does Guidance Say?

- Between subsidiaries
  - 23A and 23B of Federal Reserve Act requires subsidiaries are kept arms length but…
  - Bank to bank - Cross guarantee provision
  - Bank to non-bank - "bank can transfer a substantial portion of its capital through dividends to the parent company, which may pass these funds on to the troubled non-bank subsidiary." (BHCSM, 2016 Section 4030.0)
- Between banks and parents
  - Federal Reserve expects BHCs to act as a source of strength to their subsidiary depository institutions
- External dividends
  - Guidance suggests that dividends should not exceed parent income generated from subsidiaries and parent income from its own account.
- BHC and banks can be subject to capital requirements and enforcement actions restricting dividends

Data sources

- Financial Regulatory Filings
    - Domestic **Consolidated** Holding Company (Y-9C)
    - Domestic **Parent** (Top and Intermediate) Holding Company (Y-9LP)
        - Indirect observation of subsidiaries.
    - **Bank** Subsidiary (Call Report)
    - **Non-bank** Subsidiary (Y-11, use only "operational" subs)
        - "Material" and not subject to other mandatory regulatory filing
- **Structure** Data (Y-6, Y-7, Y-10)

Segment Definition and Baseline Sample



- Yearly data (2002-2007), 2247 unique IDs
- BHCs >$500M consolidated Assets, 887 IDs
- Y-11 filer, 497 IDs
- Dividends into parent (Y-9LP) within 20% of dividends out of reporting subsidiaries (Call Report, Y-11), 396 IDs
- Y-11 filer a non-SPV
- ⇒ 101 distinct entities, 299 BHC-year observations

Empirical Framework

Regression Equation

Changes in Segment Internal Dividends on Changes to Segment Income and Affiliate Cash Flows

$$\Delta D_{ijt} = \beta_1 \Delta Inc_{ijt} + \beta_2 \Delta Inc_{j-i,t} + \beta_3 \Delta Div_{jt} + \gamma Controls_{ijt} + Year_t + \varepsilon_{ijt}$$

- Segment i, for holding company j, for time t
- Δ is a first difference operator
- Scaled by consolidated (average) HC assets
- Controls (lagged)
  - Capital of segment
  - Size
  - Investment opportunity

Regression Equation, Asymmetries

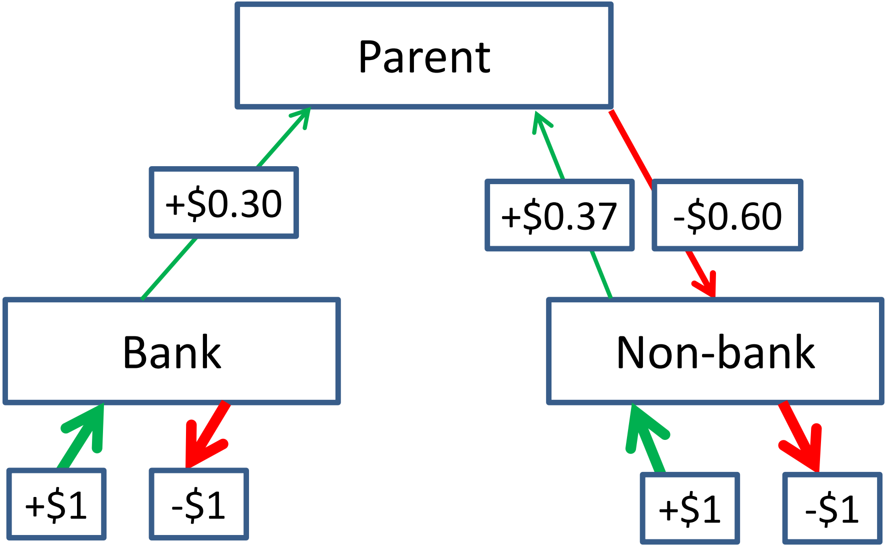
- Correlation between cash flows and internal dividends could be misleading
- Do segments export/import cash flows symmetrically across increasing/decreasing cash flows?

$$\Delta D_{ijt} = \beta_1^{+}\Delta^{+}Inc_{ijt} + \beta_1^{-}\Delta^{-}Inc_{ijt} + .. + \varepsilon_{ijt}$$

- Where $\Delta^{+}X = \max\{0, \Delta X\}$, $\Delta^{-}X = \min\{0, \Delta X\}$
- Allow for asymmetric responses to own income, rest of HC income, external dividends
- Controls same as before

Results

Financial Conglomerate
Income Regression Coefficients



Financial Conglomerate Dividend Regression Coefficients

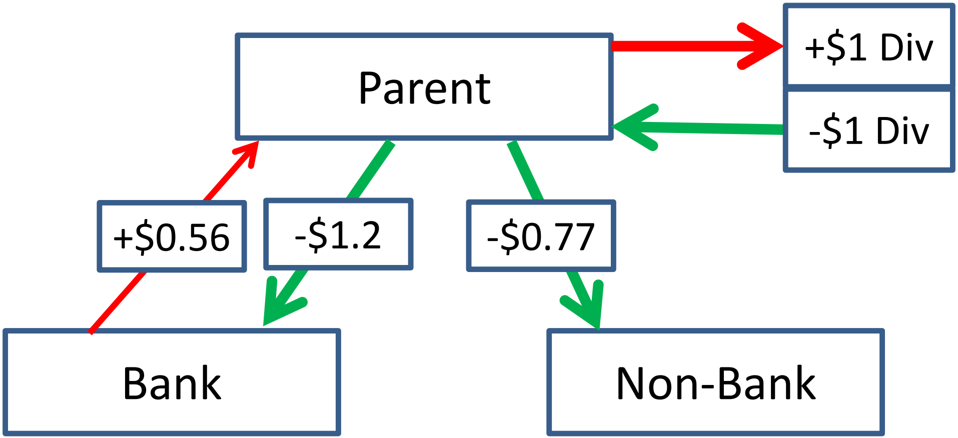
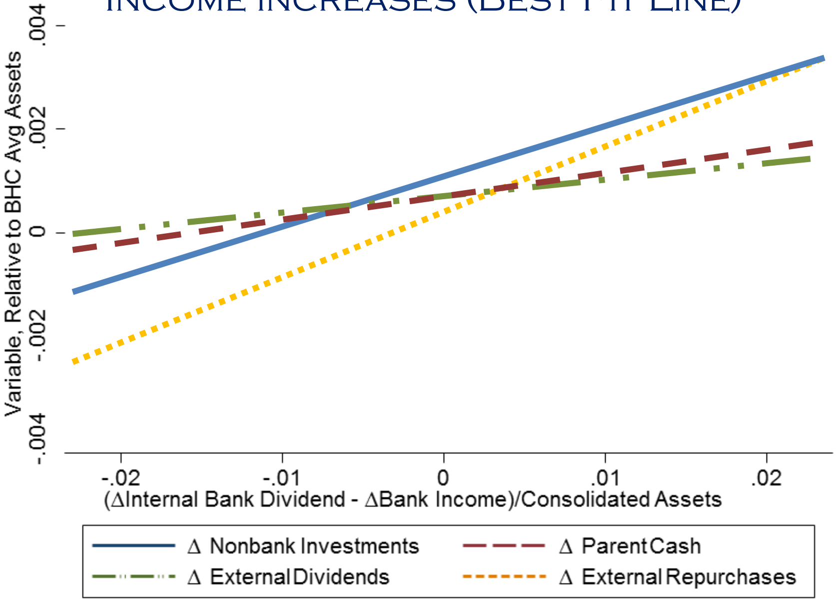
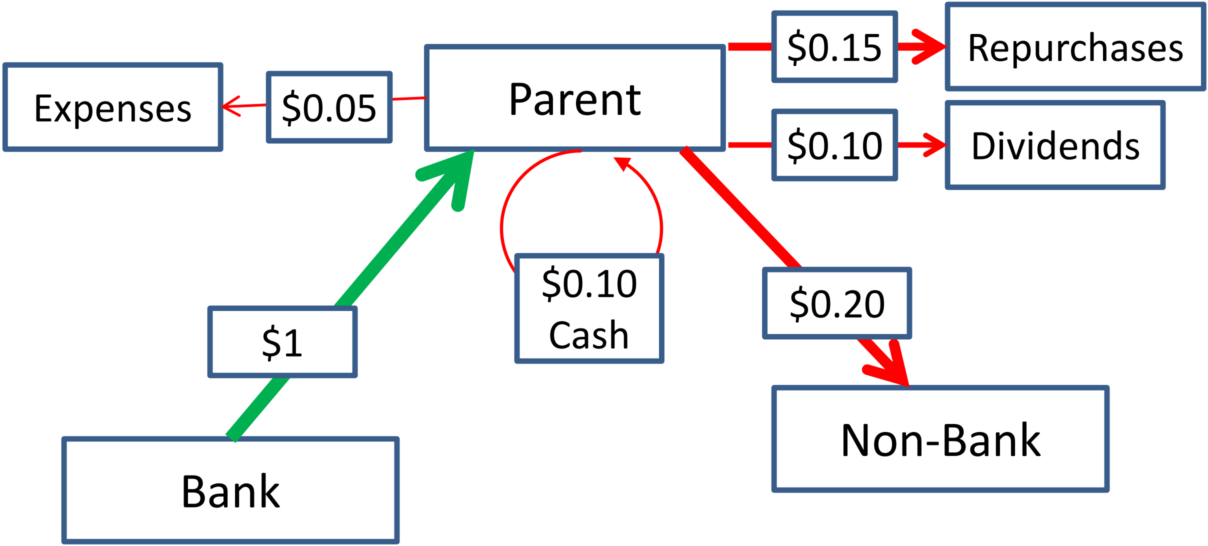


Figure 1: Uses of Dividend Increases in Excess of Income increases (Best Fit Line)



Major Uses of Excess Dividends



Alternative Samples and Definitions

Three major approaches to calculate segment level income and dividends

Filing	Filer	Non-bank Income Measure	Non-bank Dividend Measure	Advantage	Drawbacks	Sample (full)
Y-11	Major non-banks	Direct Reporting	Direct Reporting	Direct measure. Foreign and domestic distinguishable	Smaller sample of BHCs. Some non-banks not captured.	101 (299)
Y-9LP	Parent and intermediate BHCs	Sum of non-bank dividends and undistributed earnings across holding companies.	Sum non-bank dividends across holding companies	Larger sample in terms of BHCs. Captures all non-bank subs.	Indirect measure. Foreign/ domestic not distinguishable No non-bank balance sheet measures.	811 (1893)

Funding Internal Dividends

Table 5: Funding Internal Bank Dividends

	Panel A: Bank Segment Income Decreased				Panel B: Bank Segment Income Increased			
	Probit: Increased Brokered Deposit Dummy		OLS: ΔRepo		Probit: Increased Brokered Deposit Dummy		OLS: ΔRepo	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
ΔBank Div	0.495**	0.610**	0.594*	0.658**	-0.052	-0.063	0.122	0.227
	(2.05)	(2.54)	(1.92)	(2.06)	(-0.24)	(-0.28)	(0.25)	(0.47)
ΔBank Loans		5.965***		0.073		3.152**		0.066**
		(2.99)		(1.64)		(2.36)		(2.36)
Controls	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES	YES
Pseudo/Adj R^2	0.09	0.15	0.01	0.04	0.09	0.12	-0.02	0.01
N	124	124	124	124	175	175	175	175

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Difference-in-Differences Analysis

Bank Internal Dividends and Non-Banks

Conclusions

- Banks (but not non-banks) bear the pressures of external dividend smoothing
    - Dividends in excess of income fund non-bank expansion and external share repurchases
    - During income decline, banks rely on risk-insensitive borrowing
    - Banks increase payouts following non-bank acquisitions
- Allocation of capital via internal capital markets works through internal dividend policies imposed upon subsidiaries
- Policy Implications
    - Banks bear funding burden in BHCs ("dark side")
    - Optimal scope of banking sector should weigh this finding alongside the possible benefits of increased scope