



BANK FOR INTERNATIONAL SETTLEMENTS

# Bank capital, dividends and management compensation

Hyun Song Shin\*

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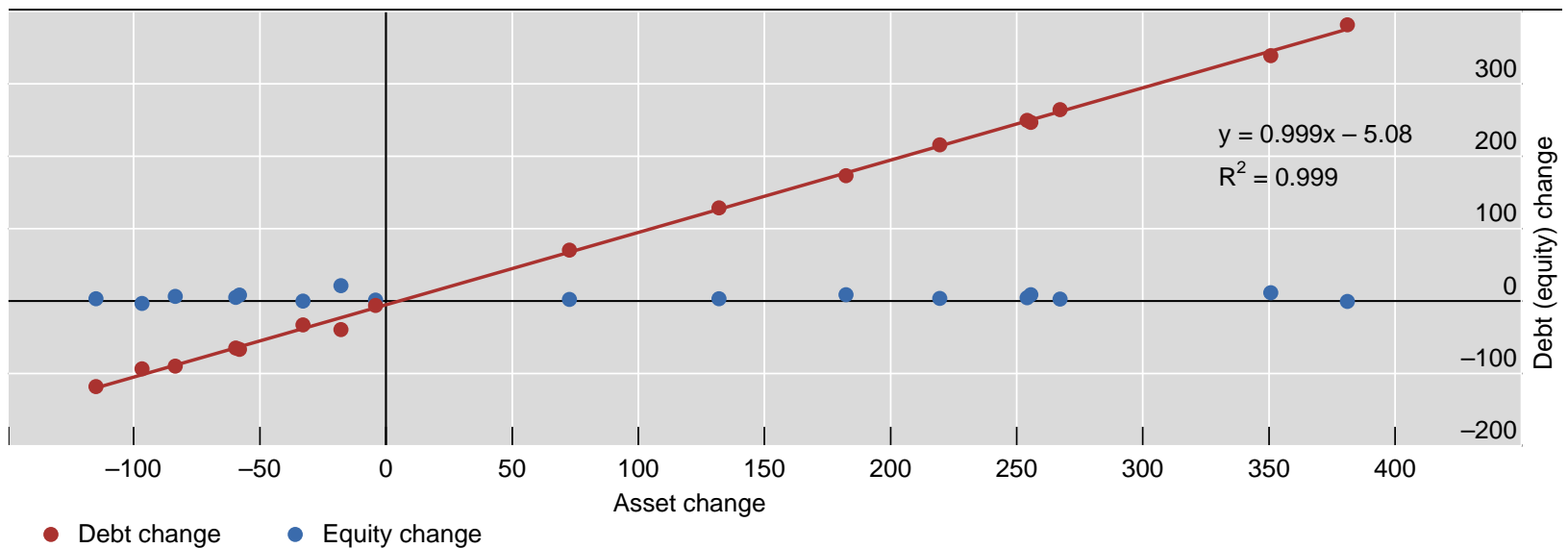
\* The views expressed here are mine, not necessarily those of the Bank for International Settlements.

# Equity as foundation for lending

Annual changes in assets, equity and debt for a large European bank

1999–2015, in billions of euros

Graph 3



Scatter plot showing how much of the change in assets is accounted for by changes in debt and equity, respectively. Annual changes in billions of euros are shown for large European bank (1999–2015).

Sources: S&P Capital IQ; BIS calculations.

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## Bank capital as foundation for lending

- Equity → foundation of the building
- Leverage → height of the building

## Sutyagin house



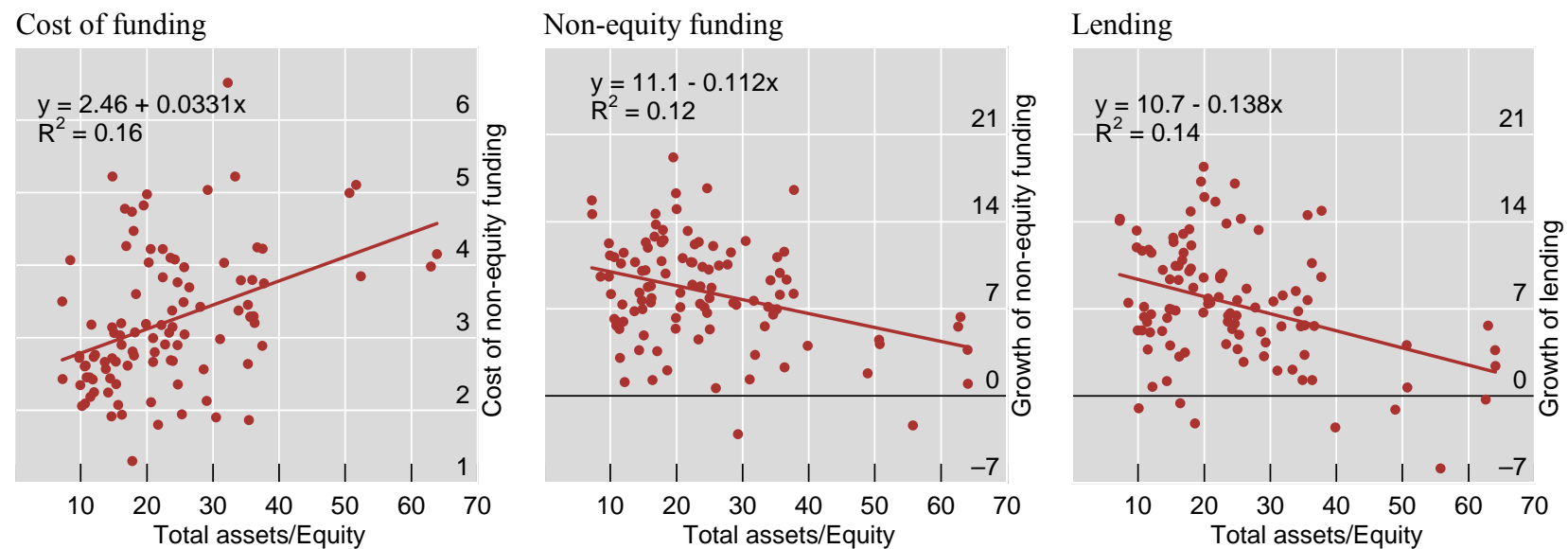
## Sutyagin house



# Sound banks lend more

Some stylised facts on bank leverage<sup>1</sup>

Figure 1



1 The panels represent scatter plots between the average level of leverage for a group of 105 international banks and selected bank-specific indicators: average cost of funding, average growth rate of non-equity financing; average annual growth rate of lending.

Sources: BankScope; authors' calculations.

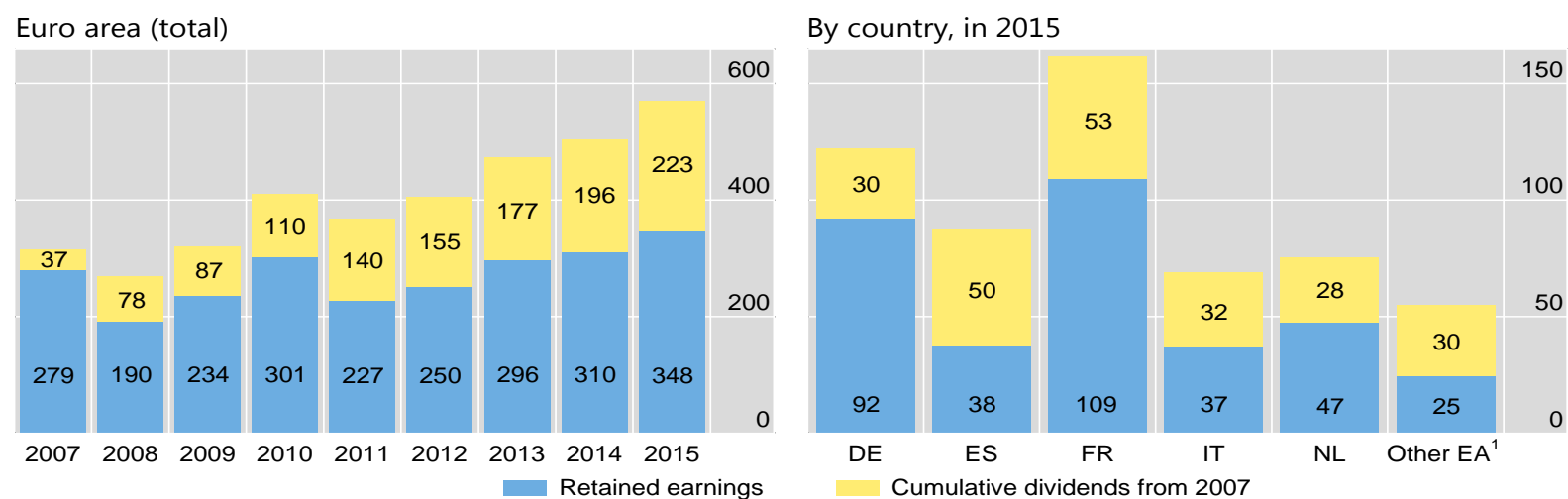
Gambacorta and Shin (2016, JFI forthcoming)

# Retained earnings and accumulated dividends for 90 euro area banks

Total retained earnings and accumulated dividends of a group of 90 euro area banks

In billions of euros

Graph 1



DE = Germany; ES = Spain; FR = France; IT = Italy; NL = Netherlands; Other EA = Other euro area.

<sup>1</sup> Austria, Belgium, Finland, Greece, Ireland and Portugal.

Sources: S&P Capital IQ; BIS calculations.

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## Two questions to ponder

- Who is the principal in the principal-agent relationship?
- Who are the interested parties?



## Stickiness of CEO compensation and dividends

$$\left(\frac{\text{dividends}}{\text{equity}}\right)_t = \alpha \left(\frac{\text{dividends}}{\text{equity}}\right)_{t-1} + \text{controls} + \varepsilon_t$$

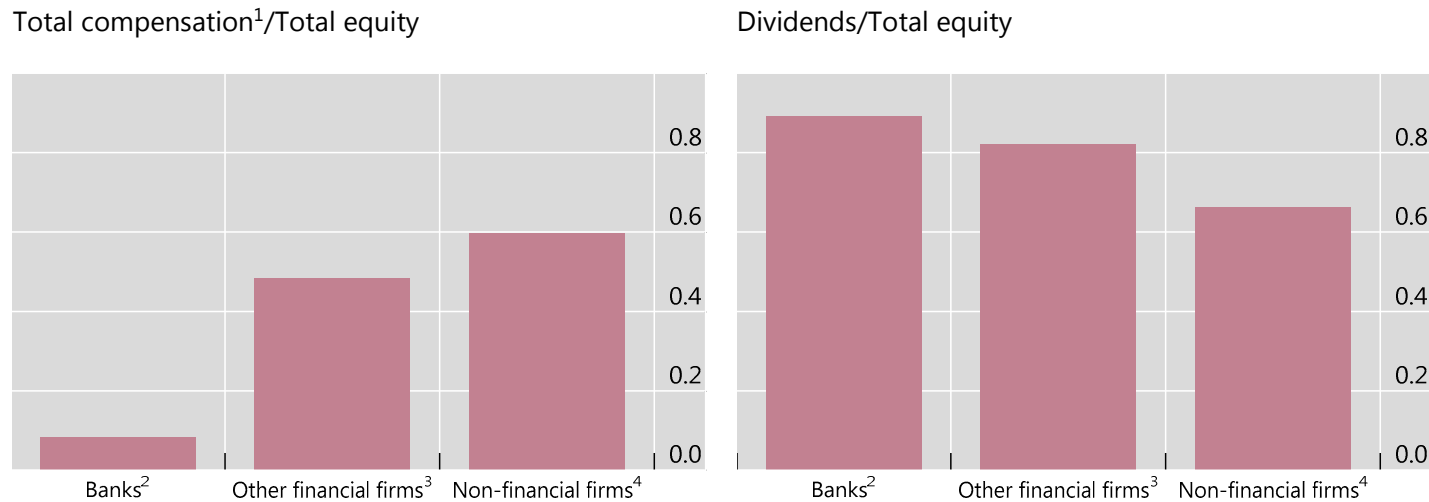
↑

"stickiness" coefficient

↓

$$\left(\frac{\text{compensation}}{\text{equity}}\right)_t = \beta \left(\frac{\text{compensation}}{\text{equity}}\right)_{t-1} + \text{controls} + \varepsilon_t$$

# “Stickiness” coefficient of top executive compensation and dividends, 2004-2015

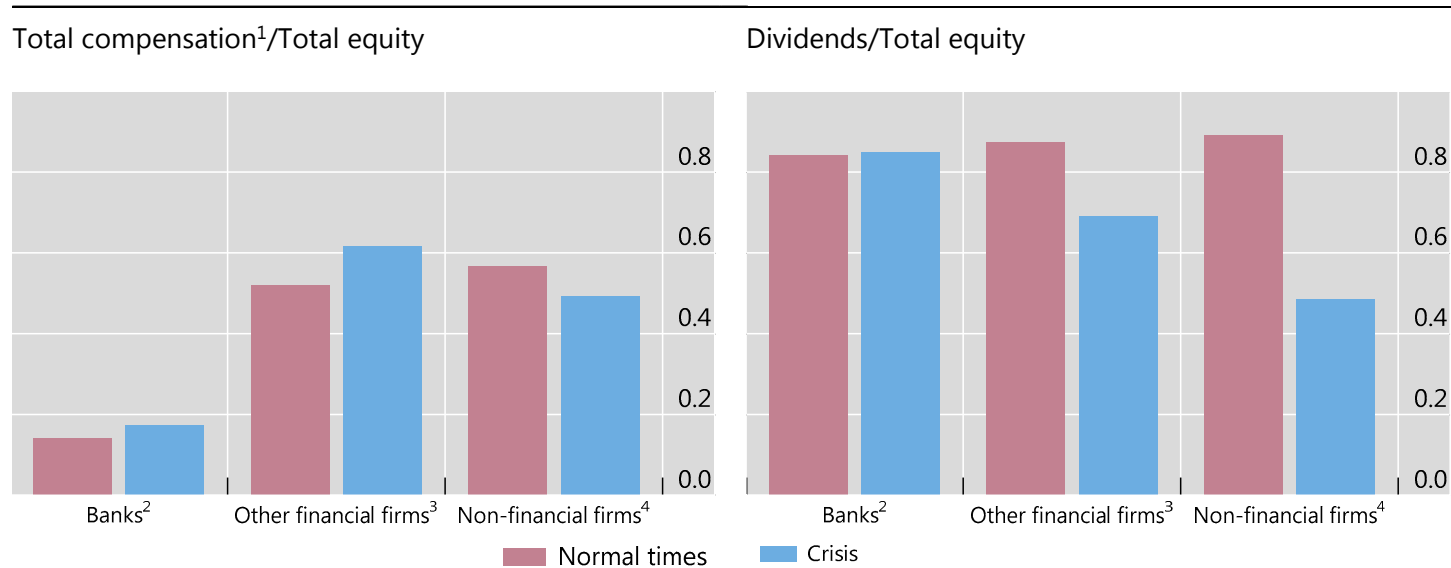


Notes: The bars show the estimated size of the autoregressive parameter for total compensation of the firm top executive and dividends as a share of firms' total equity. <sup>1</sup>Total compensation of the firm top executive. <sup>2</sup>Banks are all depository and non-depository credit institutions, security and commodity brokers, dealers, exchanges, and services. <sup>3</sup>Other financial firms are insurance carriers, insurance agents, brokers and service, real estate, holdings and other investment offices. <sup>4</sup>Non-financial firms are firms in all sectors excluding banks and other financial firms.

Source: BIS calculations based on data from S&P Capital IQ.

Deiningering, Gambacorta and Shin (in progress)

# Stickiness of top executive compensation and dividends: normal times vs crisis period

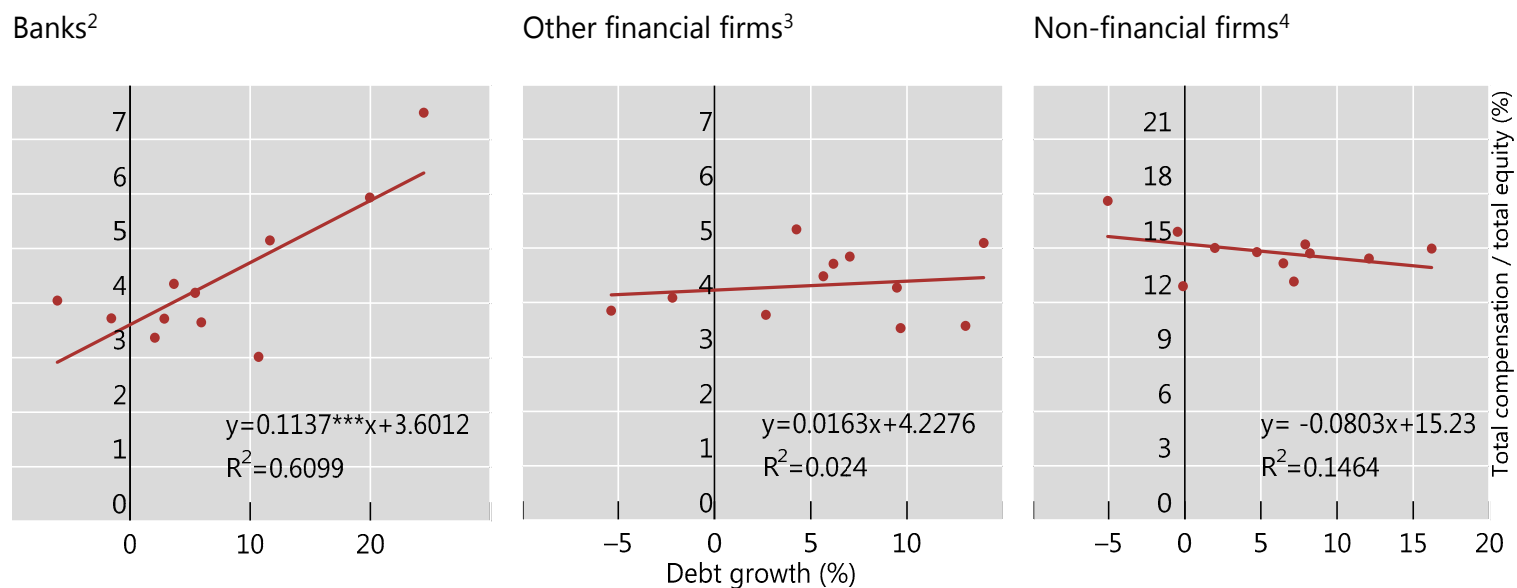


Notes: The bars show the estimated size of the autoregressive parameter for total compensation of the firm top executive and dividends as a share of firms' total equity. <sup>1</sup> Total compensation of the firm top executive. <sup>2</sup> Banks are all depository and non-depository credit institutions, security and commodity brokers, dealers, exchanges, and services. <sup>3</sup> Other financial firms are insurance carriers, insurance agents, brokers and service, real estate, holdings and other investment offices. <sup>4</sup> Non-financial firms are firms in all sectors excluding banks and other financial firms.

Source: BIS calculations based on data from S&P Capital IQ.

Deiningering, Gambacorta and Shin (in progress)

# Total CEO compensation and debt growth<sup>1</sup>

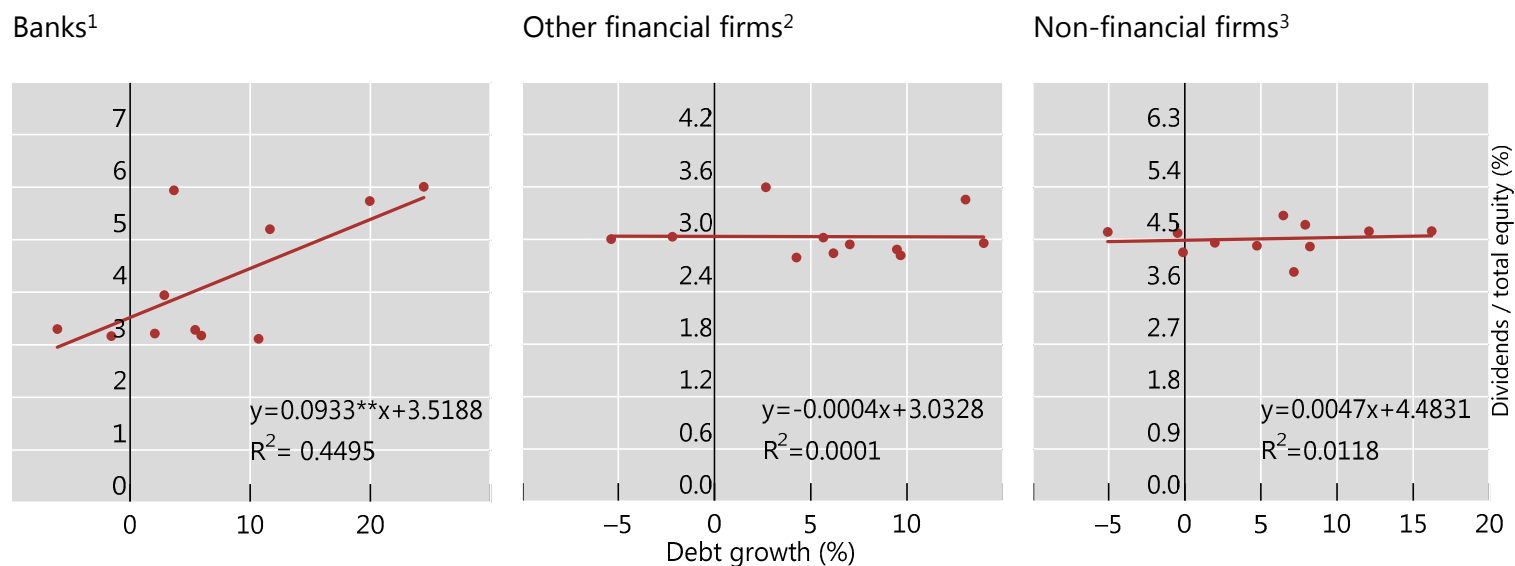


Notes: \*\*\*, \*\* and \* denote significance at the 1, 5 and 10 percent levels, respectively. <sup>1</sup> Total compensation of the firm top executive. <sup>2</sup> Banks are all depository and non-depository credit institutions, security and commodity brokers, dealers, exchanges, and services. <sup>3</sup> Other financial firms are insurance carriers, insurance agents, brokers and service, real estate, holdings and other investment offices. <sup>4</sup> Non-financial firms are firms in all sectors excluding banks and other financial firms.

Source: BIS calculations based on data from S&P Capital IQ.

Deiningger, Gambacorta and Shin (in progress)

# Dividends and debt growth



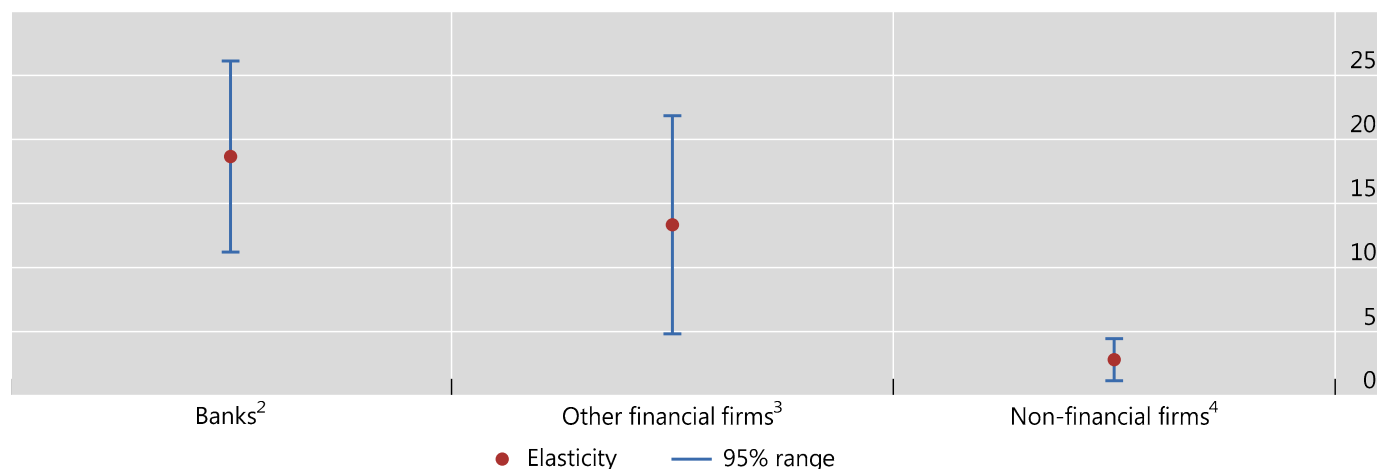
Notes: \*\*\*, \*\* and \* denote significance at the 1, 5 and 10 percent levels, respectively. <sup>1</sup> Banks are all depository and non-depository credit institutions, security and commodity brokers, dealers, exchanges, and services. <sup>2</sup> Other financial firms are insurance carriers, insurance agents, brokers and service, real estate, holdings and other investment offices. <sup>3</sup> Non-financial firms are firms in all sectors excluding banks and other financial firms.

Source: BIS calculations based on data from S&P Capital IQ.

Deiningering, Gambacorta and Shin (in progress)

# The elasticity of total compensation to total equity

Elasticity of total compensation<sup>1</sup> to total equity



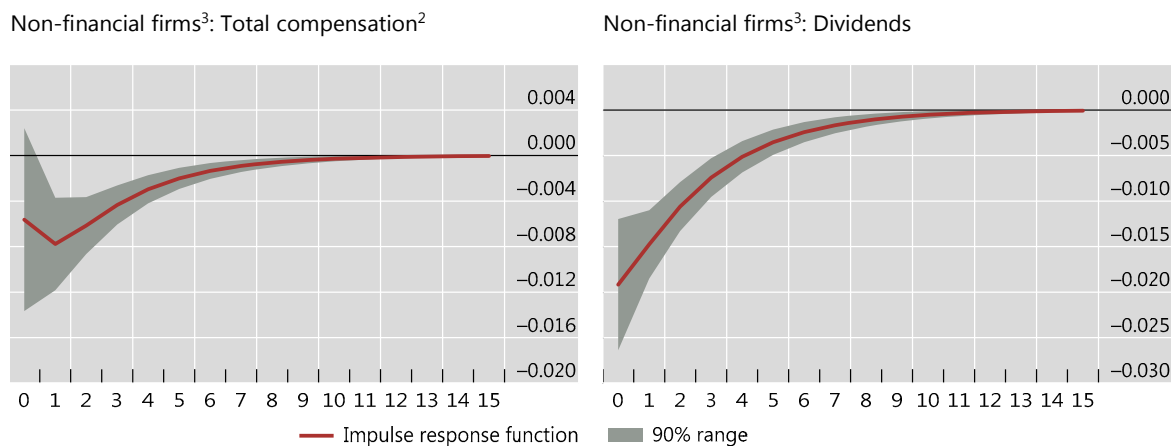
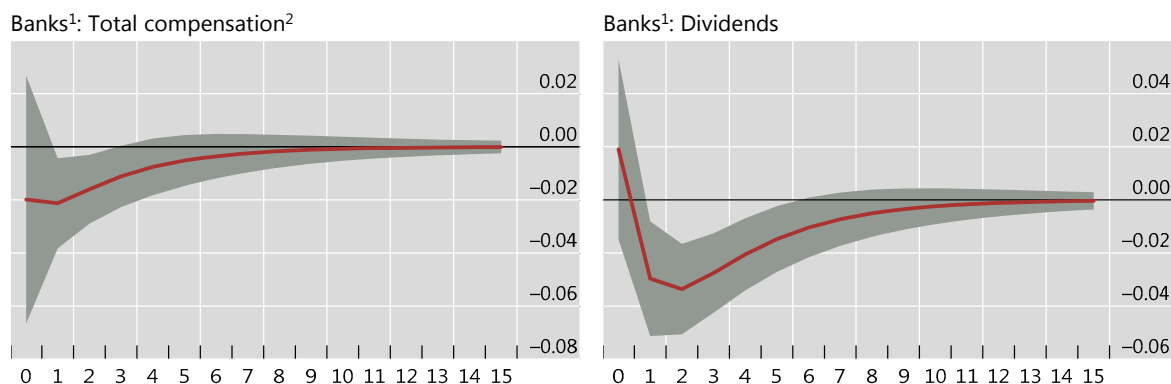
Notes: The graph shows the elasticity of total compensation to total equity for average values of firms' total equity. The parameter estimates are based on a non-linear model specification controlling for firm-specific characteristics.

<sup>1</sup> Total compensation of the firm top executive. <sup>2</sup> Banks are all depository and non-depository credit institutions, security and commodity brokers, dealers, exchanges, and services. <sup>3</sup> Other financial firms are insurance carriers, insurance agents, brokers and service, real estate, holdings and other investment offices. <sup>4</sup> Non-financial firms are firms in all sectors excluding banks and other financial firms.

Source: BIS calculations based on data from S&P Capital IQ.

Deiningering, Gambacorta and Shin (in progress)

# Reaction of total compensation and dividends to a 1% drop in real GDP growth



Notes: The graphs show impulse responses (y-axis) from a 1 percent drop in real GDP growth after time t (x-axis) on top executives' total compensation and firms' dividends in banks and non-financial companies. The grey shaded areas illustrate 90 percent confidence bounds based on 1,500 Monte-Carlo simulations. <sup>1</sup> Banks are all depository and non-depository credit institutions, security and commodity brokers, dealers, exchanges, and services. <sup>2</sup> Total compensation of the firm top executive. <sup>3</sup> Non-financial firms are firms in all sectors excluding banks and other financial firms.

Source: BIS calculations based on data from S&P Capital IQ.

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## Two concluding questions

- Who is the principal in the principal-agent relationship?
- What motivates the stakeholders?



## Sample of the 90 euro area banks for Graph 1

Abanca Corporación Bancaria S.A., ABN AMRO Group N.V., Allied Irish Banks p.l.c., Alpha Bank A.E., Banca IMI S.p.A., Banca Monte dei Paschi di Siena S.p.A., Banca Nazionale del Lavoro SpA, Banca popolare dell'Emilia Romagna Società cooperativa, Banco Bilbao Vizcaya Argentaria S.A., Banco Comercial Português S.A., Banco de Sabadell S.A., Banco Popolare Società Cooperativa Scarl, Banco Popular Espanol S.A., Banco Santander S.A., Bankia S.A., Bankinter S.A., Banque Fédérative du Crédit Mutuel S.A., Bausparkasse Schwäbisch Hall AG, Bayerische Landesbank, Belfius Banque SA/NV, BNP Paribas Fortis SA/NV, BNP Paribas Personal Finance SA, BNP Paribas SA, BNP Paribas Securities Services S.C.A., BRED Banque Populaire S.A., Caisse des dépôts et consignations, Caisse Française de Financement Local SA, CaixaBank S.A., Cassa di Risparmio di Parma e Piacenza S.p.A., Catalunya Banc S.A., Commerzbank AG, Confédération Nationale du Crédit Mutuel, Coöperatieve Rabobank U.A., Crédit Agricole Corporate and Investment Bank S.A., Credit Agricole S.A., Crédit du Nord Société Anonyme, Crédit Foncier de France, Crédit Industriel et Commercial, Crédit Mutuel Arkéa, Dekabank Deutsche Girozentrale, Deutsche Bank AG, Deutsche Boerse AG, Deutsche Kreditbank AG, Deutsche Pfandbriefbank AG, Deutsche Postbank AG, Dexia Crédit Local Société Anonyme, Dexia SA, DZ Bank AG, Erste Group Bank AG, Eurobank Ergasias S.A., HSBC France S.A., HSH Nordbank AG, Hypo Real Estate Holding AG, Hypothekbank Frankfurt Aktiengesellschaft, Ibercaja Banco S.A., Iccrea Holding S.p.A., ING Bank N.V., ING Belgium SA/NV, ING-DiBa AG, Instituto de Crédito Oficial, Intesa Sanpaolo S.p.A., KfW, Kutxabank S.A., Landesbank Baden-Württemberg, Landesbank Berlin AG, Landesbank Hessen-Thüringen Girozentrale, Landeskreditbank Baden-Württemberg - Förderbank, Landwirtschaftliche Rentenbank, LCL, Mediobanca Banca di Credito Finanziario S.p.A., N.V. Bank Nederlandse Gemeenten, National Bank of Greece S.A., Natixis, Nederlandse Waterschapsbank N.V., Norddeutsche Landesbank Girozentrale, NRW.BANK, Piraeus Bank S.A., Pohjola Bank plc, Raiffeisen Bank International AG, Raiffeisen Zentralbank Österreich Aktiengesellschaft, Santander Consumer Finance S.A., SNS Bank N.V., Societe Generale Group, The Governor and Company of the Bank of Ireland, UniCredit Bank AG, UniCredit Bank Austria AG, UniCredit S.p.A., Unione di Banche Italiane S.p.A., WGZ BANK AG Westdeutsche Genossenschafts-Zentralbank, Wüstenrot & Württembergische AG.