Internet Appendix for "The Economics of Capital Allocation in Firms: Evidence from Internal Capital Markets"

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The internet appendix provides supplementary material for the paper "The Economics of Capital Allocation in Firms: Evidence from Internal Capital Markets" (Hoang, Gatzer, and Ruckes, 2017).

The internet appendix contains three sections:

Section I presents the survey questionnaire, which was mailed to 992 firms on April 26, 2010.

Section II presents the theoretical concepts and previous empirical evidence that guided our questionnaire design. In preparing the questionnaire, we extensively reviewed the economics, finance, and accounting literature on capital allocation. The tables in Section II provide brief summaries of the extracted predictions/arguments and link these to the corresponding survey questions.

Section III presents additional empirical analyses. To simplify exposition and for brevity, we present univariate results in the main paper and relegate all multivariate, mostly logistic, regressions (using the main variables of interest as independent variables) to this internet appendix. The section shows that the conclusions reported in the main paper are robust to alternative empirical specifications.

We present the theoretical concepts and previous empirical evidence (Section II) and the results from the empirical analyses (Section III) in the order of the questions as asked in the survey questionnaire.

A. Questionnaire

Note: The questionnaire contains questions that are not covered in the paper.

Survey on Internal Capital Markets and Diversification

THANK YOU for taking the time to complete the survey. We estimate that the survey will take about **15 minutes**. Please note that we will not share your responses with anyone. We will use only aggregate results and will do so exclusively for research purposes. Individual responses are strictly confidential. To ensure the high quality of this study, we would highly appreciate your filling out the entire questionnaire.

Please fax your responses to [redacted]

For further questions, please [redacted]

Section A: Motives for Diversification

1. How important are the following *motives* for operating more than one line of business *for your company* (1 = not important at all, 5 = highly important)? *Note: Some of these motives will be further investigated below.*

	Not important 1	2	3	4	Highly important 5
a) Creating operational synergies (e.g. purchasing, manufacturing, or revenue economies)	☐	☐	☐	☐	☐
b) Utilizing the ability to move skilled managers from one business to another	☐	☐	☐	☐	☐
c) Achieving beneficial conditions for raising capital	☐	☐	☐	☐	☐
d) Being able to add value by making superior investment decisions under a common roof	☐	☐	☐	☐	☐
e) Reducing the risk of financial distress	☐	☐	☐	☐	☐
f) Reducing investors' risk	☐	☐	☐	☐	☐
g) Building the ability to have internal funds when competitors do not have them	☐	☐	☐	☐	☐
h) Reducing volatility of earnings / cash flows	☐	☐	☐	☐	☐
i) Other: _____	☐	☐	☐	☐	☐

Section B: Financing Effects of Diversification

1. Does headquarters raise funds on behalf of the divisions? ☐ **Yes** ☐ **No**
(if "No", please continue with **Section C**)

2. Do divisions *also* raise funds by themselves? ☐ **Yes** ☐ **No, never** ☐ **No, only in exceptional situations**

3. How important are the following *effects of diversification* for *your company*? *Please answer compared to the situation where your divisions were stand-alone companies and had to raise funds by themselves.*

	Not important 1	2	3	4	Highly important 5
a) Lower cost of capital	☐	☐	☐	☐	☐
b) Ability to borrow more / Higher debt capacity	☐	☐	☐	☐	☐
c) Better conditions for raising equity	☐	☐	☐	☐	☐
d) Less need to hold (precautionary) cash	☐	☐	☐	☐	☐
e) Ability to avoid external financing	☐	☐	☐	☐	☐
f) Lower personal taxes for investors	☐	☐	☐	☐	☐
g) Other: _____	☐	☐	☐	☐	☐

4. If your divisions were spun off as stand-alone firms, they would have to raise money in outside markets rather than going to headquarters for financing. How strongly would you agree with the following statements that *compare your headquarters with an external investor* directly providing financing to the divisions?

	I strongly disagree 1	2	3	4	I strongly agree 5
a) Headquarters reacts more understandingly in the event that a project faces financial difficulties.	☐	☐	☐	☐	☐
b) Headquarters can directly intervene in the divisions' businesses, while outside investors cannot.	☐	☐	☐	☐	☐
c) Headquarters has better information about the divisions' businesses than an external provider of financing.	☐	☐	☐	☐	☐
d) Sensitive information such as detailed strategic and operating plans can be reported to headquarters without leaking to the public.	☐	☐	☐	☐	☐

5. **If another corporate manager made the following statements, how strongly would you agree or disagree with each of them when you think about the *divisional management in your company*?**

	I strongly disagree 1	2	3	4	*I strongly agree* 5
a) If divisional management were running their divisions as stand-alone companies, they would *act more entrepreneurial*.	☐	☐	☐	☐	☐
b) If divisional management were running their divisions as stand-alone companies, they would *work harder*.	☐	☐	☐	☐	☐
c) If divisional management were running their divisions as stand-alone companies, they would *feel more committed to raising the firm's attractiveness to capital markets*.	☐	☐	☐	☐	☐
d) Divisional managers have superior information / knowledge about their businesses compared to the information that headquarters has.	☐	☐	☐	☐	☐
e) Divisional managers try to influence the capital allocation decisions of headquarters.	☐	☐	☐	☐	☐
f) Divisional managers prefer running large divisions with more capital under their control over running small divisions with less capital under their control.	☐	☐	☐	☐	☐

Section C: Headquarters and Investment Decisions

1. **Does headquarters have the decision-making authority regarding major investments?** ☐ Yes ☐ No (if "No", please continue with **Section D**)

2. **Does your company use an *investment committee* for some of these decisions?** ☐ Yes ☐ No

3. **Is *approval from headquarters* required *beyond a certain size* of investment?** ☐ Yes ☐ No (if "No", please continue with **Question 4**)
   If yes, from which project size *(threshold amount)* on does the authority to make decisions reside with headquarters? _____ €

4. **In an average year, how many *investment proposals* are submitted to headquarters for approval?** _____

5. **On average, how many of these *obtain approval*?** _____

6. **On average, how many proposals receive *close scrutiny* by headquarters?** _____

7. **What is the *total amount* of *capital expenditures* of your company in an average year?**
   ☐ <1 million € ☐ 1 million €– 10 million € ☐ 10 million €– 50 million € ☐ 50 million €– 100 million € ☐ 100 million €– 500 million € ☐ 500 million €– 1 billion € ☐ >1 billion €

8. **What percentage of this total amount *does not* require explicit approval by the headquarters (e.g., because it is part of an initial divisional budget)?** _____ %

9. **Does divisional management provide financial information such as cash flow forecasts or NPV calculations as part of their investment proposals?** ☐ Yes ☐ No (if "no", please continue with **Question 11**)

10. **From your personal experience: *On average*, the forecasts provided in investment proposals are …**

. . . substantially higher than actual outcomes		*. . . in accordance with actual outcomes*		*. . . substantially lower than actual outcomes*
☐	☐	☐	☐	☐

11. **How important are the following *business practices* *in your company* to ensure that divisional managers provide *truthful forecasts* and *do not overstate* the attractiveness of investment projects?**
    If you use these practices for other reasons and not for truthful reporting, please check "Not important."

. . . for truthful reporting	*Not important* 1	2	3	4	*Highly important* 5
a) We link the performance-based pay of divisional managers to overall firm performance.	☐	☐	☐	☐	☐
b) We adopt criteria (e.g., payback rules) that discount distant long-horizon cash flows more heavily than does the NPV method.	☐	☐	☐	☐	☐
c) We rotate divisional managers across divisions.	☐	☐	☐	☐	☐
d) We set the required hurdle rate for project approval in excess of the "true" cost of capital.	☐	☐	☐	☐	☐
e) The proportion of performance-based pay relative to base salary is high if a divisional manager claims *better* expected investment prospects.	☐	☐	☐	☐	☐
f) We put a relatively high weight on industry information that is gathered externally compared to internal information.	☐	☐	☐	☐	☐
g) We require divisional managers to produce investment proposals with information that can be verified by headquarters.	☐	☐	☐	☐	☐
h) We grant each division a minimum level of capital budget / investment.	☐	☐	☐	☐	☐
i) We have institutionalized post-investment audits.	☐	☐	☐	☐	☐
j) Other: _____	☐	☐	☐	☐	☐

12. From your perspective, how ***effective*** are ***monetary incentives***, such as bonuses, in stimulating ***divisional managers'*** . . .

	Very ineffective 1	2	3	4	Very effective 5
a) …motivation to work hard?	☐	☐	☐	☐	☐
b) …searching for long-term investment opportunities?	☐	☐	☐	☐	☐

Section D: Headquarters and Allocation of Capital

1. When capital markets are operating normally, is your company ***capital constrained***? ☐ Yes ☐ No
   In other words: Does your financing capacity ***limit*** your ability to pursue attractive ***investment projects***?

2. Does your company's top management impose ***a limit on total investments*** of the firm by a predetermined, fixed budget? ☐ Yes ☐ No

3. Is the capital allocation to a division restricted by the division's ***own*** generated cash flow? ☐ Yes ☐ No

4. Diversified firms may use the ability to move funds from divisions that are generating ***strong cash flow*** to divisions with ***less cash flow but strong investment opportunities***. How frequently do you use this ability in order to achieve the highest capital productivity?

   ☐ Never ☐ Rarely ☐ Sometimes ☐ Often ☐ Always

5. How important are the following ***financial criteria*** for your capital allocation decision?

	Not important 1	2	3	4	Highly important 5
a) Net present value (NPV)	☐	☐	☐	☐	☐
b) Internal rate of return (IRR)	☐	☐	☐	☐	☐
c) Hurdle rate	☐	☐	☐	☐	☐
d) Payback period	☐	☐	☐	☐	☐
e) Sensitivity analysis	☐	☐	☐	☐	☐
f) Real-option valuation methods	☐	☐	☐	☐	☐
g) Other: _____	☐	☐	☐	☐	☐

6. How important are the following ***factors*** that ***go beyond pure financial criteria*** for your capital allocation decision?

	Not important 1	2	3	4	Highly important 5
a) The assessment of divisional managers' abilities to deliver the expected results	☐	☐	☐	☐	☐
b) Previous industry experience or affiliation of decision-makers at headquarters	☐	☐	☐	☐	☐
c) Strategic information of top management	☐	☐	☐	☐	☐
d) Ability to execute projects (e.g., manpower, knowledge)	☐	☐	☐	☐	☐
e) Current market trends	☐	☐	☐	☐	☐
f) Other: _____	☐	☐	☐	☐	☐

7. How frequently do you allocate financial resources ***more evenly across divisions*** than pure financial criteria (e.g., NPV) suggest?

   ☐ Never ☐ Rarely ☐ Sometimes ☐ Often ☐ Always

   (if "Never" please continue with the **Closing Section**)

8. Please think about situations where you have decided to ***allocate capital more evenly*** than pure financial criteria suggested. How important were the following factors for your allocation?
   Please check "Not important", if a statement does not apply.

	Not important 1	2	3	4	Highly important 5
a) Too uneven capital allocation diminishes divisional managers' motivation.	☐	☐	☐	☐	☐
b) Capital allocation conveys information about the (future) role of the division as part of the firm.	☐	☐	☐	☐	☐
c) A more even capital allocation stimulates divisional managers' motivation to generate new investment ideas.	☐	☐	☐	☐	☐
d) A more even capital allocation helps to retain divisional managers.	☐	☐	☐	☐	☐
e) A more even capital allocation avoids opportunistic investment behavior within divisions.	☐	☐	☐	☐	☐
f) A more even capital allocation frequently strengthens divisions in mature industries.	☐	☐	☐	☐	☐
g) A more even capital allocation strengthens our monetary performance incentive scheme.	☐	☐	☐	☐	☐
h) Other: _____	☐	☐	☐	☐	☐

Closing Section – Valuation of Diversified Companies

1. On average, by what percentage do you feel your stock is ***misvalued*** because you run a ***diversified company*** (-20% means 20% undervalued; 0 means correctly valued; +10% means 10% overvalued)?
   Write NONE if your company has no publicly traded shares. _____%

Closing Section – Company-related Characteristics

1. Annual sales revenue at my company is in the range of:
   ☐ < 25 million € ☐ 25 million €– 100 million € ☐ 100 million €– 500 million € ☐ 500 million €– 1 billion € ☐ 1 billion €– 5 billion € ☐ 5 billion €– 10 billion € ☐ >10 billion €

2. How many lines of business (i.e., distinct operating divisions such as autos, food, and retail) is your company running? _____

3. What broad industries are you working in?
   (Check only if an industry accounts for at least 10% of total sales. Fill in multiple squares if needed.)
   ☐ Retail and Wholesale ☐ Transport ☐ Tech (Software / Biotech / etc.)
   ☐ Mining ☐ Energy ☐ Healthcare / Pharmaceutical
   ☐ Construction ☐ Communication / Media ☐ Consulting / Service
   ☐ Manufacturing ☐ Bank / Finance / Insurance ☐ Other: _____

4. What is the highest / lowest ***expected sales growth rate*** among your divisions?
   Division expecting the highest sales growth: _____% (e.g., 15% p.a.)
   Division expecting the lowest sales growth: _____% (e.g., 1% p.a.)

5. The following questions help us understand your ownership structure.
   a) **Ownership** ☐ Public ☐ Private
   b) **If all options were exercised, what percentage of your company's equity would be owned by the *top 3 managers* (e.g., 5%)?** _____%
   c) **Does a *single investor* own *more than 10%* of your company's equity?** ☐ Yes ☐ No

6. What is your ***credit issuer rating*** (e.g., AA-, B+)? Write NONE if debt is not rated. _____

7. What is your ***debt-to-asset ratio*** (e.g., 0.2, 0.3)? _____

Closing Section — CFO Demographics

1. Gender of CFO: ☐ Male ☐ Female

2. Age of CFO: _____

3. Tenure (time in current job) of CFO: _____

4. Educational background of CFO (Fill in multiple squares if needed):
   ☐ Undergraduate (or domestic equivalent)
   ☐ Non-MBA Master's (or domestic equivalent)
   ☐ MBA
   ☐ Dr. / PhD
   ☐ Other: _____

5. In which country is your firm based?
   ☐ Germany ☐ Netherlands ☐ Belgium ☐ Denmark
   ☐ France ☐ Austria ☐ Sweden ☐ Norway
   ☐ United Kingdom ☐ Switzerland ☐ Finland

6. Do you have further comments?

Check if you would like to receive an exclusive report of this study.
☐ Yes, I would like to receive a copy

a) *We need your email or postal address if you want a copy. Please note: we will store your contact details separately from the questionnaire responses. The confidentiality of your responses is very important to us.*

b) *Each questionnaire holds a unique tracking number. This number is only used to identify those companies that have not yet responded. It is recorded separately from the responses of the survey. If you do not want the number to be recognizable, please feel free to blacken it.* 1589

THANK YOU for completing this survey! Please fax your responses to [redacted]

B. Theoretical Foundations of the Questionnaire

Table B.1: Motives for Diversification – Theoretical Concepts and Questionnaire

How important are the following motives for operating more than one line of business for your company?

A Question 1	Theory / Concept	Author	Argument
(a) Creating operational synergies (e.g. purchasing, manufacturing, or revenue economies)	Resource-based view	Penrose (1959); Panzar, Willig (1981); Teece (1980, 1982)	"Economies of scope" and "economies of scale": Excess resources (tangible assets) cannot be sold easily in the marketplace and require expansion in scope or scale to exploit them; also: indivisibility of intangible assets, such as brand names.
(b) Utilizing the ability to move skilled managers from one business to another	Internal labor transfer	Doeringer and Piore (1985); Baker and Holmström (1995)	Internal labor market argument: Firms can allocate managers with firm-specific human capital across divisions.
(c) Achieving beneficial conditions for raising capital	More-money effect	Lewellen (1971); Hadlock et al. (2001); Stein (2003)	More-money effect (Stein, 2003), see also below.
(d) Being able to add value by making superior investment decisions under a common roof	Smarter-money effect	Williamson (1975); Stein (1997); Stein (2003)	Smarter-money effect (Stein, 2003). Headquarters adds value by incorporating residual control and monitoring incentives. Headquarters generates more information and can engage in winner-picking.
(e) Reducing the risk of financial distress	Financial distress cost	Corollary of Smith, Stulz (1985)	Given imperfectly correlated divisions' cash flows, diversification is a way to decrease the probability and therefore the (expected) cost of financial distress.
(f) Reducing investors' risk	Portfolio selection	Corollary of Smith, Stulz (1985); Stulz (1996)	Diversification can eliminate idiosyncratic risk. This may benefit investors if they cannot diversify more efficiently by themselves (e.g. large shareholders) or do not want to (e.g. family ownership).
(g) Building the ability to have internal funds when competitor's do not have them	Financial strength in product markets	Bernheim, Whinston (1990); Edwards (1955); Montgomery (1994); Inderst, Müller (2003)	Related to "market-power-view": Firms diversify because of the ability of predatory pricing in other divisions ("deep pockets").
(h) Reducing volatility of earnings / cash flows	Risk management	Corollary of Smith, Stulz (1985); Graham, Harvey, Rajgopal (2005)	Idea: diversification into businesses with imperfectly correlated cash flows. Some overlap to other arguments above. See also Graham, Harvey, Rajgopal (2005): "An overwhelming 96.9% of the survey respondents indicate that they prefer a smooth earnings path."

Table B.2: Financing Effects of Diversification - Theoretical Concepts and Questionnaire

B	Question 2	Theory / Concept	Author	Argument
(1)	Does headquarters raise funds on behalf of the divisions?	Provider of finance	Stein (2003)	Headquarters as the single centralized provider of finance.
(2)	Do divisions also raise funds by themselves?	Internal labor transfer	Kolasinski (2009); Cestone, Fumagalli (2005)	Some firms allow divisions to raise funds.

Table B.3: Financing Effects of Diversification – Theoretical Concepts and Questionnaire
How important are the following effects of diversification for your company? Please answer compared to the situation where your divisions were stand-alone companies and had to raise funds by themselves.

B	Question 3	Theory / Concept	Author	Argument
(a)	Lower cost of capital	Lower cost of capital	Hann, Ogneva, Ozbas (2013)	Integrating imperfectly correlated cash flows can lead to a reduction of systematic risk and hence lead to a lower cost of capital.
(b)	Ability to borrow more / Higher debt capacity	Coinsurance effect	Lewellen (1971); Kuppuswamy and Villalonga (2015); Stein (1997)	Lewellen (1971): The debt capacity of diversified firms is increased because of coinsurance across imperfectly correlated divisions. Also, Stein (1997): Unused borrowing capacity of one division may be used to raise additional financing.
(c)	Better conditions for raising equity	Information div. hypothesis (Superior issuing)	Hadlock, Ryngaert, Thomas (2001)	Risk pooling helps to alleviate Myers and Majluf (1984) adverse selection problems in the external equity market. Price effects in the case of issuing equity are less severe.
(d)	Less need to hold (precautionary) cash	Less cash holding	Duchin (2010)	Diversified firms can hold less cash because diversification reduces the ex-ante probability of financing shortages that might lead to underinvestment.
(e)	Ability to avoid external financing	Propensity of external funding	Henderson (1970, 1979); Liebeskind (2000); Rajan (1994)	Integrating imperfectly correlated divisional cash flows enhance the reliability of capital supply and make project funding independent of market conditions.
(f)	Lower personal taxes for investors	Tax advantage	Bhide (1990)	Owning multiple businesses allows a diversified company to transfer cash from units with excess funds to units facing cash deficits without the tax payment that might result if the transfer were to be made between two independent companies.

Table B.4: Financing Effects of Diversification – Theoretical Concepts and Questionnaire

If your divisions were spun off as stand-alone firms, they would have to raise money in outside markets rather than going to headquarters for financing. How strongly would you agree with the following statements that compare your headquarters with an external investor directly providing financing to the divisions?

B	Question 4	Theory / Concept	Author	Argument
(a)	Headquarters reacts more understandingly in the event that a project faces financial difficulties.	Soft budget constraints	Bolton, Scharfstein (1996); Dewatripont, Maskin (1995)	Bolton and Scharfstein investigate the benefits and costs of a small number of creditors. Transferred to an ICM setting, the CEO's inability to pre-commit not to renegotiate with divisional managers leads to a "soft budget constraint" for them.
(b)	Headquarters can directly intervene in the divisions' businesses, while outside investors cannot.	Control rights	Grossman, Hart (1986); Hart, Moore (1990); Hart (1995)	Headquarters can unilaterally decide what to do with the firm's assets, while the same is not true of a banker if the firm is not currently in default.
(c)	Headquarters has better information about the divisions' businesses than an external provider of financing.	More monitoring	Gertner, Scharfstein, Stein (1994); Stein (1997)	Even if internal and external providers of capital have the same ability to monitor, internal providers will choose to monitor more intensively (compared to a bank, for example) because of residual control rights.
(d)	Sensitive information such as detailed strategic and operating plans can be reported to headquarters without leaking to the public.	Keeping secrets	Liebeskind (2000, 1997); Cheung (1982)	Internal funding is valuable as crucial information has to be transferred to external investors in the case of external funding.

Table B.5: Financing Effects of Diversification - Theoretical Concepts and Questionnaire

If another corporate manager made the following statements, how strongly would you agree or disagree with each of them when you think about divisional management in your company?

B	Question 5	Theory / Concept	Author	Argument
(a)	If divisional management were running their divisions as stand-alone companies, they would act more entrepreneurial.	Entrepreneurial incentives	Many; in context of internal capital markets: Gertner, Scharfstein, Stein (1994); Aghion, Tirole (1997)	In context of internal capital markets: Divisional managers' entrepreneurial incentives are reduced as a consequence of headquarters intervening to often in the form of "winner-picking". These effects would not occur if division managers operated the firm as CEO.
(b)	If divisional management were running their divisions as stand-alone companies, they would work harder.	Effort incentives	Many; in context of internal capital markets: Brusco, Panunzi (2005)	In context of internal capital markets: "Winner-picking" (i.e. optimizing capital allocation ex post and after managerial effort has been exerted) reduces effort incentives ex-ante if managers are empire-builders. This effect would not occur if division managers operated the firm as CEO.
(c)	If divisional management were running their divisions as stand-alone companies, they would feel more committed to raising the firm's attractiveness to capital markets.	Free-rider problem	de Motta (2003)	In context of internal capital markets: Divisional managers may free-ride on the perception of the firm as a whole when accessing external capital markets. This effect would not occur if division managers operated the firm as CEO.
(d)	Divisional managers have superior information / knowledge about their businesses compared to the information that headquarters has.	Information asymmetry	Proxy for informational asymmetry	Their specific human capital and expertise in the corporation make divisional managers very knowledgeable, which acts as a proxy for informational asymmetry.
(e)	Divisional managers try to influence the capital allocation decisions of headquarters.	Influencing activities	Meyer, Milgrom, Roberts (1992)	Divisional managers use time and effort unproductively in their attempt to influence the CEO.
(f)	Divisional managers prefer running large divisions with more capital under their control over running small divisions with less capital under their control.	Empire-building	Jensen (1986, 1993); Holmström and Ricart I Costa (1986)	A basic assumption of ICM-theory concerns "empire building tendencies by divisions": managers may have an excessive taste for running large firms or large divisions.

Table B.6: Headquarters and Investment Decisions – Theoretical Concepts and Questionnaire

C	Questions	Theory / Concept	Author	Argument
(1)	Does headquarters have the decision-making authority regarding major investments?	Decision-making authority	Grossman, Hart (1986); Hart, Moore (1990); Hart (1995)	Control rights of headquarters.
(2)	Does your company use an investment committee for some of these decisions?	Investment committee	-	-
(3)	Is approval from headquarters required beyond a certain size of investment? If "Yes", from which project size (threshold amount) on does the authority to make decisions reside with headquarters?	Threshold amount	Harris, Raviv (1996); Malenko (2016); Gitman, Forrester (1977); Ross (1986); Marino and Matsusaka (2005)	-
(4)	In an average year, how many investment proposals are submitted to headquarters for approval?	Number of proposals	-	-
(5)	On average, how many of these obtain approval?	Approval rate	-	-
(6)	On average, how many proposals receive close scrutiny by headquarters?	Proposals under detailed investigation	-	-
(7)	What is the total amount of capital expenditures of your company in an average year?	Total CAPEX	-	-
(8)	What percentage of this total amount does not require explicit approval by the headquarters (e.g., because it is part of an initial divisional budget)?	% of CAPEX w/o approval	-	Proxy for degree or extent of delegation/ decentralization

Table B.7: Headquarters and Investment Decisions – Theoretical Concepts and Questionnaire

C	Questions	Theory / Concept	Author	Argument
(9)	Does divisional management provide financial information such as cash flow forecasts or NPV calculations as part of their investment proposals?	Financial forecasts	Bower (1970)	Bottom-up budgeting process
(10)	From your personal experience: On average, the forecasts provided in investment proposals are … ...substantially higher / …in accordance / …substantially lower than actual outcomes	Quality of forecasts	See below – section on business practices to ensure truthful reporting.	Divisional managers have incentives to misrepresent their private information.

Table B.8: Headquarters and Investment Decisions – Theoretical Concepts and Questionnaire
From your perpective, how effective are monetary incentives, such as bonuses, in stimulating divisional managers'…

C	Question 12	Theory / Concept	Author	Argument
(a)	...motivation to work hard?	Effort incentives	Many	Imperfect monitoring requires financial incentives.
(b)	...searching for long-term investment opportunities?	Innovation incentives	Many	Imperfect monitoring requires financial incentives.

Table B.9: Headquarters and Investment Decisions – Theoretical Concepts and Questionnaire
How important are the following business practices in your company to ensure that divisional managers provide truthful forecasts and do not overstate the attractiveness of investment projects? If you use these practices for other reasons and not for truthful reporting, please check "Not Important".

C	Question 11	Theory / Concept	Author	Argument
(a)	We link the performance-based pay of divisional managers to overall firm performance.	Compensation contracts	Loeb and Magat (1978); Cohen and Loeb (1984)	Capital allocation is more efficient and less biased when divisional managers' compensation is linked to the performance of the entire company.
(b)	We adopt criteria (e.g., pay-back rules) that discount distant long-horizon cash flows more heavily than does the NPV method.	Budgeting Techniques	Bernardo, Cai, Luo (2001)	Managers may have incentives to overstate project cash flows further in the future. Firms thus may impose greater penalties on long-term cash flows.
(c)	We rotate divisional managers across divisions.	Management rotation	Ozbas (2005)	Management rotation programs are used to reduce rent-seeking behavior. The incentives to misreport are smaller for a manager with bad assets if there is some chance that he might be assigned to more profitable assets. Only truthful reporting would bring about a new assignment.
(d)	We set the required hurdle rate for project approval in excess of the "true" cost of capital.	Hurdle Rate	Antle and Eppen (1985); Harris et. al. (1982); Poterba and Summers (1995); Antle and Fellingham (1997)	In general: The tradeoff is foregone NPV versus informational rent (slack, effort and private benefit). Antle and Eppen: To mitigate the effects of the manager's having private information, firms promise to pay off the manager when he reports returns above a hurdle rate. The optimal hurdle rate balances inefficiencies from slack (private benefit) and rationing (foregone NPV) in an ex ante sense.
(e)	The proportion of performance-based pay relative to base salary is high if a divisional manager claims better expected investment prospects.	Compensation contracts	Bernardo, Cai, Luo (2001, 2004)	Headquarters can reduce a manager's incentives to overstate project quality by allocating more capital and giving more incentive-based pay (relative to fixed wages) when the manager reports higher project quality.

Table B.9: Continued

C	Question 11	Theory / Concept	Author	Argument
(f)	We put a relatively high weight on industry information that is gathered externally compared to internal information.	External information	Wulf (2009)	Headquarters relies more on noisy external information than on internal information, which is distortable.
(g)	We require divisional managers to produce investment proposals with information that can be verified by headquarters.	Hard information	Stein (2002); Harris and Raviv (1996 and 1998)	Information must be credibly transmittable. Headquarters must be able to verify information to avoid distortion.
(h)	We grant each division a minimum level of capital budget / investment.	Minimum Budget	Ozbas (2005)	Making a portion of the capital budget non-contingent can reduce the intensity of internal competition and reduce gains from exaggeration by bad managers.
(i)	We have institutionalized post-investment audits.	Auditing	Antle, Eppen (1985); Magee (1980)	Auditing represents the possibility of reviewing investment outcomes and might be less costly than capital rationing as a way to address information asymmetry and moral hazard.

Table B.10: Headquarters and Allocation of Capital – Theoretical Concepts and Questionnaire

D	Questions	Theory / Concept	Author	Argument
(1)	When capital markets are operating normally, is your company capital constrained? In other words: Does your financing capacity limit your ability to pursue attractive investment projects.	Capital constraints (external)	-	Measures external capital constraints
(2)	Does your company's top management impose a limit on total investments of the firm by a predetermined, fixed budget?	Capital constraints (internal)	Gitman, Forrester (1977); Ross (1986)	The CFOs in our pre-testing group stressed the importance of a "limit placed on investing by top management" (see also Gitman and Forrester, 1977). Ross (1986) shows in a sample of twelve firms that six of them used capital rationing in which projects compete for a fixed budget.
(3)	Is the capital allocation to a division restricted by the division's own generated cash flow?	Capital constraints (internal)	Gitman, Forrester (1977); Ross (1986)	Some CFOs in pre-testing group mentioned rationing at the division level as measure to counteract agency problems. Related to capital rationing at the firm level, see above.
(4)	Diversified firms may use the ability to move funds from divisions that are generating strong cash flow to divisions with less cash flow but strong investment opportunities. How frequently do you use this ability in order to achieve the highest capital productivity?	Winner-Picking	Stein (1997)	Headquarters has the ability and the incentives to reallocate resources between divisions and to add value by picking superior investment projects.

Table B.11: Headquarters and Allocation of Capital – Theoretical Concepts and Questionnaire
How important are the following financial criteria for your capital allocation decisions?

D Question 5	Theory / Concept	Author	Argument
(a) Net present value (NPV)	Budgeting criteria	-	Questions help to introduce the subsequent question(s). Measures the relative importance of different budgeting criteria and allows for comparisons with earlier studies (see Graham, Harvey, 2001 and others cited in the main paper).
(b) Internal rate of return (IRR)	Budgeting criteria	-	
(c) Hurdle rate	Budgeting criteria	-	
(d) Payback period	Budgeting criteria	-	
(e) Sensitivity analysis	Budgeting criteria	-	
(f) Real-option valuation methods	Budgeting criteria	-	

Table B.12: Headquarters and Allocation of Capital – Theoretical Concepts and Questionnaire

How important are the following factors that go beyond pure financial criteria for your capital allocation decision?

D Question 6	Theory / Concept	Author	Argument
(a) The assessment of divisional managers' abilities to deliver the expected results	Managerial abilities	Hoang, Ruckes (2015)	Argument related to Ross' (1986) field analysis of 12 firms, which indicates that a divisional manager's investment projects are more often approved when he has delivered larger returns in the past. Also, this item is in the spirit of "Informed Headquarters" (Hoang, Ruckes, 2015), see below Q6c.
(b) Previous industry experience or affiliation of decision-makers at headquarters	Empire-building / Bridge-Building	Xuan (2009); Shleifer, Vishny (1989)	Bridge-building argument (Xuan, 2009): Specialist CEOs use the capital budget as a bridge-building tool to elicit cooperation from powerful divisional managers in previously unaffiliated divisions. Empire-building argument (Shleifer, Vishny, 1989): CEOs prefer to invest in industries where they have more personal experience, as this makes them indispensable.
(c) Strategic information of top management	Strategic information	Hoang, Ruckes (2015); Almazan, Chen, and Titman (2017)	Headquarters has informational advantages regarding strategic intentions, possible spillovers, and political developments, among others. These advantages result from top managers' activities beyond the realm of the firm, e.g. board memberships, activities in professional associations, or the use of personal contact networks.
(d) Ability to execute projects (e.g., manpower, knowledge)	Non-Financial Capability to implement	Bromiley (1986)	Bromiley (1986, p.129) emphasizes that "manpower and the ability to implement projects could constrain investment when funds and good projects are available".
(e) Current market trends	Herding Behavior	Scharfstein, Stein (1990); Banerjee (1992); Bikhchandani, Hirshleifer, Welch (1992)	Some CFOs in our pre-testing group stressed the importance of following long-term trends and the industry. Related to herding arguments.

Table B.13: Headquarters and Allocation of Capital – Theoretical Concepts and Questionnaire
Socialism

D	Question 7	Theory / Concept	Author	Argument
(1)	How frequently do you allocate financial resources more evenly across divisions than pure financial criteria (e.g. NPV) suggest?	Socialistic Cross-Subsidization	See below – section on corporate socialism.	Headquarters cross-subsidizes relatively "weak" divisions at the expense of "strong" divisions.

Table B.14: Headquarters and Allocation of Capital – Theoretical Concepts and Questionnaire
Please think about situations where you have decided to allocate capital more evenly than pure financial criteria suggested. How important were the following factors for your allocation?

D Question 8	Theory / Concept	Author	Argument
(a) Too uneven capital allocation diminishes divisional managers' motivation.	Socialism	Brusco, Panunzi (2005)	Motivation for providing high effort cannot be retained in a strong form of winner-picking.
(b) Capital allocation conveys information about the (future) role of the division as part of the firm.	Socialism	Hoang, Ruckes (2015); Almazan, Chen, and Titman (2017)	Headquarters has informational advantages regarding strategic intentions, possible spillovers, and political developments, among others. These advantages result from top managers' activities beyond the realm of the firm, e.g. board memberships, activities in professional associations, or the use of personal contact networks. Capital allocation can convey this private information to internal and external stakeholders.
(c) A more even capital allocation stimulates divisional managers' motivation to generate new investment ideas.	Socialism	Inderst, Laux (2005)	The incentives for generating new investment opportunities are reduced in a strong form of winner-picking.
(d) A more even capital allocation helps to retain divisional managers.	Socialism	Scharfstein, Stein (2000)	One of several implications of Scharfstein and Stein (2000). Weaker divisions' managers are given more compensation because they have stronger incentives to rent-seek (=increase outside options in the job market). Because the CEO is himself an agent of outside investors, he prefers to pay this added compensation in the form of capital because this may be less personally costly.
(e) A more even capital allocation avoids opportunistic investment behavior within divisions.	Socialism	Rajan, Servaes, Zingales (2000)	Divisional managers invest in defensive projects that protect them from the redistribution of surplus to other divisions.
(f) A more even capital allocation frequently strengthens divisions in mature industries.	Socialism	Goel, Nanda, Naranyan, 2004; also: Hellwig, Laux, and Müller (2002)	Goel, Nanda, and Naranyan (2004): Career concerns model à la Holmström (1982). Divisions whose cash flows are more informative about managerial talent (mature businesses) are subsidized at the expense of less informative ones (young and emerging businesses). Hellwig (2000, 2001): "Old", established divisions happen to wield the most influence in the organization.

(g) A more even capital allocation strengthens our monetary performance incentive scheme.	Socialism	Bernardo, Luo, Wang (2006)	Socialism is can be part of an incentive mechanism to elicit private information from divisional managers about investment proposals in the budgeting process.

C. Multivariate Regressions and Alternative Tests

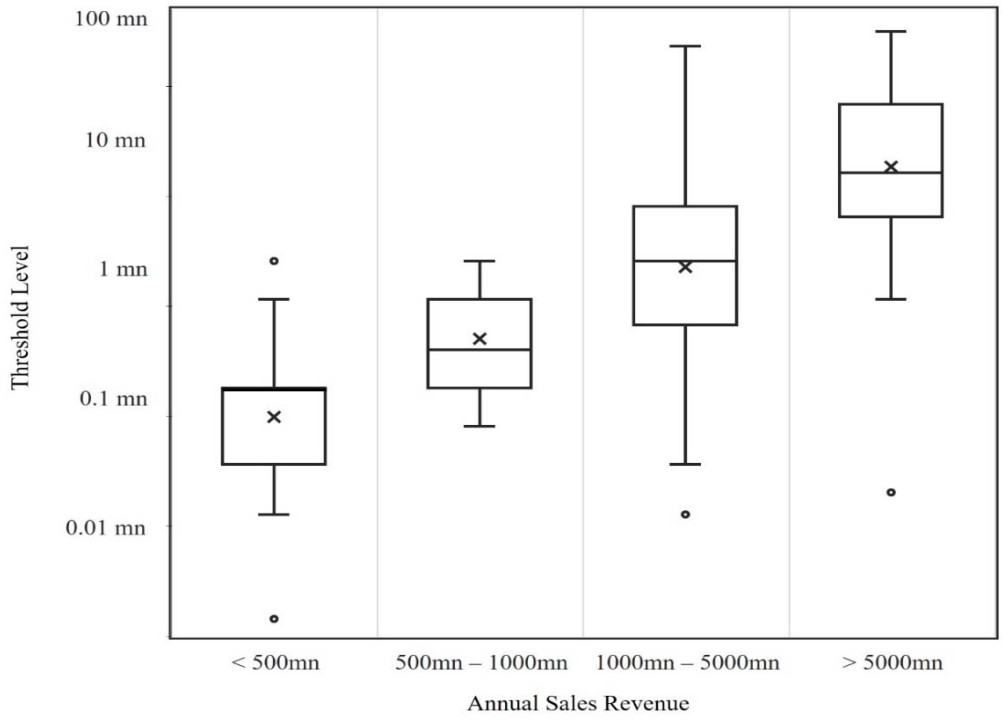

Fig. C.1: Investment Thresholds and Annual Sales Revenue. Figure C.1 displays boxplots of investment threshold levels for different annual sales revenue categories (in Euro). The solid line (the cross symbol) within each box represents the median (mean), whereas the box gives the interquartile range (i.e., the middle half of the distribution between the first and third quartile). Threshold levels on the vertical axis are measured on a logarithmic scale.

Table C.1, Questionnaire Section B, Question 3 (see Table 12 in main paper)

How important are the following effects of diversification for your company? Please answer compared to the situation where your divisions were stand-alone companies and had to raise funds by themselves.

Dependent Variable	Lower Cost of Capital	Higher Debt Capacity	Better Raising Equity	Less Precautionary Cash	Less Precautionary Cash	Avoid External Financing	Lower Taxes for Investors
Sample Model	Logit	Logit	Logit	Logit	Logit	Logit	Logit
Size	0.348	-0.382	-0.196	-0.418	-0.380	0.524	-0.265
	(0.72)	(-0.80)	(-0.44)	(-0.93)	(-0.43)	(0.98)	(-0.26)
	7,18%	-8,29%	-4,67%	-9,91%	-7.90%	9,00%	-1,18%
Lines of Businesses	0.069	0.760*	0.551	0.023	-0.308	0.830*	0.947
	(0.15)	(1.69)	(1.29)	(0.05)	(-0.43)	(1.68)	(0.95)
	1,40%	16,75%	13,26%	0,55%	-6.22%	14,96%	4,28%
Unrelated Diversification	-0.319	0.135	-0.265	0.350	1.622**	0.466	-1.426
	(-0.71)	(0.31)	(-0.64)	(0.84)	(2.01)	(0.97)	(-1.20)
	-6,54%	2,96%	-6,31%	8,29%	32,67%	8,31%	-5,42%
Capital Constraints	-0.435	-0.693	-0.558	-0.306	-0.080	-1.043	-0.495
	(-0.89)	(-1.34)	(-1.14)	(-0.63)	(-0.09)	(-1.60)	(-0.39)
	-9,55%	-15,28%	-13,16%	-7,09%	-1.61%	-16,76%	-1,95%
Leverage	0.589	0.908**	0.494	0.083	0.781	-0.460	-0.126
	(0.47)	(2.02)	(1.17)	(0.20)	(1.04)	(-0.92)	(-0.13)
	11,76%	20,11%	11,91%	1,95%	16,05%	-7,97%	-0,54%
Agency Index	-0.318	0.253	0.015	0.122	0,083	-0.025	-0.949
	(-0.70)	(0.57)	(0.04)	(0.29)	(0.11)	(-0.05)	(-0.80)
	-6,80%	5,40%	0,36%	2,89%	1.68%	-0,44%	-2,79%
Credit Rating	–	–	–	–	1.439*	–	–
	–	–	–	–	(1.81)	–	–
	–	–	–	–	29,14%	–	–
Observations	106	106	106	106	47	106	106
Pseudo R2	0,030	0,066	0,028	0,013	0,131	0,111	0,083

The table reports results from logistic regressions of survey responses on firm characteristics. The dependent variables in the regressions are survey responses recoded into dichotomous variables (0/1): Likert scores of 4 or 5 are recoded as 1, and scores of 1, 2, or 3 are recoded as 0. The independent variables in the regressions are the variables introduced in Section 2 (see Table D for their definitions and data sources). We report coefficients, t-statistics (in parentheses), and economic significance. Economic significance is the average change in probability for the change from zero to one for an independent variable. ***, **, and * denote statistical significance at the 1 %, 5 % and 10 % level, respectively.

Table C.2, Questionnaire Section B, Question 5 (see Table 1 in main paper)

If another corporate manager made the following statements, how strongly would you agree or disagree with each of them when you think about divisional management in your company?

Dependent Variable	More Entrepreneurial	Work harder	Capital Market Orientation	Superior Information	Influencing Activities	Influencing Activities	Empire Building
Sample Model	Logit	Logit	Logit	Logit	Logit	Logit	Logit
Size	0.521	0.005	0.723	0.379	0.160	0.106	0.157
	(1.07)	(0.01)	(1.53)	(0.78)	(0.35)	(0.22)	(0.34)
	10,83%	0,05%	15,74%	7,52%	3,59%	2,19%	3,63%
Lines of Businesses	-0.868*	-0.153	-0.486	-0.049	-0.738*	-1.004**	0.645
	(-1.89)	(-0.23)	(-1.10)	(-0.10)	(-1.67)	(-2.11)	(1.50)
	-18,57%	-1,50%	-10,66%	-0,96%	-16,62%	-20,40%	15,11%
Unrelated Diversification	0.606	-0.011	-0.739*	0.797*	1.042**	1.109**	0.048
	(1.37)	(-0.02)	(-1.72)	(1.68)	(2.36)	(2.39)	(0.11)
	13,02%	-0,11%	-16,55%	15,40%	23,62%	23,08%	1,11%
Capital Constraints	1.528***	-0.461	0.846*	-0.487	0.797	0.650	0.525
	(2.99)	(-0.61)	(1.65)	(-0.97)	(1.61)	(1.29)	(1.08)
	34,51%	-4,25%	17,68%	-9,91%	17,65%	13,46%	12,08%
Leverage	-0.118	0.767	0.028	0.472	-0.022	–0.221	0.654
	(-0.27)	(1.19)	(0.06)	(1.01)	(-0.05)	(-0.49)	(1.54)
	-2,52%	7,78%	0,60%	9,10%	-0,49%	-4,57%	15,30%
Empire Building	–	–	–	–	–	1.327***	–
	–	–	–	–	–	(2.92)	–
	–	–	–	–	–	23,93%	–
Observations	106	106	106	106	106	106	106
Pseudo R2	0,088	0,023	0,062	0,047	0,063	0,063	0,049

The table reports results from logistic regressions of survey responses on firm characteristics. The dependent variables in the regressions are survey responses recoded into dichotomous variables (0/1): Likert scores of 4 or 5 are recoded as 1, and scores of 1, 2, or 3 are recoded as 0. The independent variables are the variables introduced in Section 2 (see Table D for their definitions and data sources). We report coefficients, t-statistics (in parentheses), and economic significance. Economic significance is the average change in probability for the change from zero to one for an independent variable. ***, **, and * denote statistical significance at the 1 %, 5 % and 10 % level, respectively.

Table C.3, Questionnaire Section C, Questions 8, 10 (see Tables 4 and 6 in main paper)

(C8) What percentage of this total amount does not require explicit approval by the headquarters (e.g., because it is part of an initial divisional budget)?

(C10) From your personal experience: On average, the forecasts provided in investment proposals are ...substantially higher / …in accordance / …substantially lower than actual outcomes

Dependent Variable	Division Budget (%)	% higher than actual outcomes
Sample Model	OLS	Logit
Size	0.123**	-0.629
	-2,12	(-1.35)
	–	-15,07%
Lines of Businesses	-0,021	-0.181
	(-0.38)	(-0.41)
	–	-4,30%
Unrelated Diversification	-0,036	-0.080
	(-0.66)	(-0.19)
	–	-1,91%
Capital Constraints	0,017	0.314
	0,28	(0.64)
	–	7,47%
Leverage	-0.108**	-0.700
	(-1.99)	(-1.60)
	–	-16,60%
Agency Index	-0.104*	0.098
	(-1.93)	(0.22)
	–	2,31%
Observations	97	100
R2 / Pseudo R2	0,174	0,039

The table reports results from OLS/logistic regressions of survey responses on firm characteristics. In the OLS regression, the dependent variable is the reported percentage of capital expenditures in an average year that does not require headquarters' approval. In the logit regression, the dependent variables are survey responses recoded into dichotomous variables (0/1): Likert scores of 4 or 5 are recoded as 1, and scores of 1, 2, or 3 are recoded as 0. The independent variables in the regressions are the variables introduced in Section 2 (see Table D for their definitions and data sources). We report coefficients, t-statistics (in parentheses), and economic significance (for logit regressions only). Economic significance is the average change in probability for the change from zero to one for an independent variable. ***, **, and * denote statistical significance at the 1 %, 5 % and 10 % level, respectively.

Table C.4, Questionnaire Section C, Question 11 (see Table 7 in main paper)

How important are the following business practices in your company to ensure that divisional managers provide truthful forecasts and do not overstate the attractiveness of investment projects? If you use these practices for other reasons and not for truthful reporting, please check "Not Important".

Dependent Variable	Performance-based Pay	Discount Cash Flows	Management Rotation	Excess Hurdle Rates	Information–sensitive Contracts	Industry Information	Verifiable Proposals	Minimum Level of Budget	Post–Audits
Sample Model	Logit	Logit	Logit	Logit	Logit	Logit	Logit	Logit	Logit
Size	0.245	-0.773	-0.285	1.066**	-0.982*	-0.391	-0.576	0.255	0.196
	(0.47)	(-1.42)	(-0.44)	(2.22)	(-1.67)	(-0.74)	(-1.09)	(0.50)	(0.40)
	4,62%	-13,12%	-3,33%	24,39%	-14,19%	-7,03%	-11,36%	5,06%	4,09%
Lines of Businesses	-0.901*	0.599	0.852	-0.051	0.829	0.652	0.463	-0.204	1.486***
	(-1.80)	(1.13)	(1.35)	(-0.11)	(1.40)	(1.28)	(0.96)	(-0.43)	(3.10)
	-17,09%	9,94%	10,12%	-1,09%	11,45%	11,68%	9,30%	-4,07%	32,90%
Unrelated Diversification	0.570	-0.069	-0.941	-0.277	0.136	-0.276	-0.239	-0.226	-0.063
	(1.14)	(-0.13)	(-1.44)	(-0.61)	(0.24)	(-0.55)	(-0.52)	(-0.48)	(-0.14)
	10,44%	-1,12%	-10,26%	-5,96%	1,85%	-4,81%	-4,86%	-4,47%	-1,30%
Capital Constraints	-0.212	-1.072	-0.029	-0.761	-1.058	-0.622	-0.750	-1.271**	-1.028*
	(-0.39)	(-1.65)	(-0.04)	(-1.53)	(-1.55)	(-1.06)	(-1.39)	(-2.12)	(-1.84)
	-4,00%	-15,53%	-0,34%	-17,26%	-12,83%	-10,29%	-15,77%	-23,25%	-20,55%
Leverage	0.143	-0.172	0.135	0.374	-0.104	0.057	0.026	-0.103	0.641
	(0.30)	(-0.33)	(0.22)	(0.82)	(-0.18)	(0.12)	(0.06)	(-0.22)	(1.39)
	2,66%	-2,79%	1,56%	7,91%	-1,40%	1,01%	0,53%	-2,06%	13,32%
Agency Index	1.145**	-0.078	0.414	-0.675	0.976*	0.362	0.813*	0.701	0.560
	(2.17)	(-0.15)	(0.67)	(-1.51)	(1.69)	(0.72)	(1.68)	(1.49)	(1.19)
	16,66%	-1,25%	5,44%	-14,53%	16,75%	6,94%	13,80%	15,09%	11,70%
Observations	101	101	101	101	101	101	101	101	101
Pseudo R2	0,083	0,050	0,049	0,101	0,076	0,025	0,040	0,069	0,122

The table reports results from logistic regressions of survey responses on firm characteristics. The dependent variables in the regressions are survey responses recoded into dichotomous variables (0/1): Likert scores of 4 or 5 are recoded as 1, and scores of 1, 2, or 3 are recoded as 0. The independent variables in the regressions are the variables introduced in Section 2 (see Table D for their definitions and data sources). We report coefficients, t-statistics (in parentheses), and economic significance. Economic significance is the average change in probability for the change from zero to one for an independent variable. ***, **, and * denote statistical significance at the 1 %, 5 % and 10 % level, respectively.

Table C.5, Questionnaire Section D, Question 1,2,3 (see Table 11 in main paper)

(1) When capital markets are operating normally, is your company capital constrained? In other words: Does your financing capacity limit your ability to pursue attractive investment projects.

(2) Does your company's top management impose a limit on total investments of the firm by a predetermined, fixed budget?

(3) Is the capital allocation to a division restricted by the division's own generated cash flow?

Dependent Variable	Capital Constraints	Limit of Investment	Restricted by Cash Flow
Sample Model	Logit	Logit	Logit
Size	-1.658***	0.950**	-0.002
	(-3.23)	(1.97)	(0.00)
	-30,92%	20,69%	-0,04%
Lines of Businesses	0.700	-0.319	0.823*
	(1.36)	(-0.72)	(1.65)
	11,76%	-7,07%	14,79%
Unrelated Diversification	-0.471	-0.218	0.240
	(-0.95)	(-0.51)	(0.50)
	-7,87%	-4,86%	4,21%
Capital Constraints	–	1.362**	0.674
	–	(2.56)	(1.25)
	–	29,29%	12,66%
Leverage	0.520	0.593	-0.082
	(1.08)	(1.35)	(-0.17)
	9,09%	13,24%	-1,43%
Agency Index	1.137**	-0.474	1.137**
	(2.32)	(-1.06)	(2.31)
	21,32%	-10,60%	22,97%
Observations	106	106	106
Pseudo R2	0,166	0,077	0,102

The table reports results from logistic regressions of survey responses on firm characteristics. The dependent variables in the regressions are equal to 1 (yes) or zero (no). The independent variables in the regressions are the variables introduced in Section 2 (see Table D for their definitions and data sources). We report coefficients, t-statistics (in parentheses), and economic significance. Economic significance is the average change in probability for the change from zero to one for an independent variable. ***, **, and * denote statistical significance at the 1 %, 5 % and 10 % level, respectively.

Table C.6, Questionnaire Section D, Question 5 (see Table 8 in main paper)

How important are the following financial criteria for your capital allocation decisions?

Dependent Variable	Net Present Value	Internal Rate of Return	Hurdle Rate	Payback Period	Payback Period	Payback Period	Sensitivity Analysis	Real–Option Valuation
Sample Model	Logit	Logit	Logit	Logit	Logit	Logit	Logit	Logit
Size	0,471	-0,319	0,623	-0,791	-0.857*	-1.609	0,429	0,426
	0,98	(-0.62)	(1.29)	(-1.61)	(-1.78)	(-1.35)	-0,91	(0.46)
	9,80%	-6,10%	12,98%	-16,31%	-18.30%	-34.70%	9,34%	2,45%
Lines of Businesses	0,266	0,014	0,635	-0.262	0,011	0.627	0,482	0,539
	0,58	(0.03)	1,40	(-0.58)	(0.03)	(0.73)	(1.06)	(0.63)
	5,38%	0,27%	13,39%	-5,48%	0.20%	15.30%	10,21%	3,30%
Unrelated Diversification	-0,176	-0.843*	-0.275	1.329***	–	2.356**	-0.627	-0.119
	(-0.39)	(-1.84)	(-0.61)	(2.85)	–	(2.50)	(-1.43)	(-0.14)
	-3,59%	-16,92%	-5,64%	28,14%	–	51.90%	-13,55%	-0,72%
Capital Constraints	0,04	-0.532	-1.034*	-0.338	-0.324	-2.923**	-0.116	-0.239
	-0,08	(-0.99)	(-1.82)	(-0.66)	(-0.64)	(-2.34)	(-0.23)	(-0.24)
	0,81%	-10,65%	-20,62%	-7,12%	-7.20%	-59.30%	-2,50%	-1,39%
Leverage	-0,415	0.145	0.065	-0.379	-0.481	-0.571	-0.385	-0.031
	(-0.91)	(0.31)	(0.14)	(-0.84)	(-1.09)	(-0.66)	(-0.87)	(-0.04)
	-8,54%	2,80%	1,35%	-7,96%	-10.60%	-14.10%	-8,29%	-0,19%
Agency Index	0,566	0.384	-0.223	0.205	0.239	0.711	0.351	0.803
	1,2	(0.80)	(-0.49)	(0.45)	(0.54)	(0.74)	(0.77)	(0.95)
	10,18%	6,82%	-4,49%	4,17%	5.10%	17.50%	7,04%	6,81%
Information Asymmetry	–	–	–	–	0.934**	–	–	–
	–	–	–	–	(2.03)	–	–	–
	–	–	–	–	17.50%	–	–	–
Credit Rating	–	–	–	–	–	-1.574*	–	–
	–	–	–	–	–	(-1.82)	–	–
	–	–	–	–	–	37.40%	–	–
Observations	106	106	106	106	106	47	106	106
Pseudo R2	0,031	0,040	0,081	0,089	0,056	0,389	0,041	0,033

The table reports results from logistic regressions of survey responses on firm characteristics. The dependent variables in the regressions are survey responses recoded into dichotomous variables (0/1): Likert scores of 4 or 5 are recoded as 1, and scores of 1, 2, or 3 are recoded as 0. The independent variables in the regressions are the variables introduced in Section 2 (see Table D for their definitions and data sources). We report coefficients, t-statistics (in parentheses), and economic significance. Economic significance is the average change in probability for the change from zero to one for an independent variable. ***, **, and * denote statistical significance at the 1 %, 5 % and 10 % level, respectively.

Table C.7, Questionnaire Section D, Question 6 (see Table 9 in main paper)

How important are the following factors that go beyond pure financial criteria for your capital allocation decision?

Dependent Variable	Div. Managers' Abilities	Previous Experience	Strategic Information	Execute Projects	Current Market Trends
Sample Model	Logit	Logit	Logit	Logit	Logit
Size	-0.928	-0.735	0.876	-0.922	0.377
	(-1.46)	(-1.51)	(1.50)	(-1.51)	(0.83)
	-12,35%	-15,74%	12,79%	-13,74%	8,86%
Lines of Businesses	-0.819	0.348	0.019	0.212	-0.387
	(-1.44)	(0.77)	(0.03)	(0.40)	(-0.91)
	-11,60%	7,40%	0,26%	3,32%	-9,19%
Unrelated Diversification	1.078*	-0.523	-0.552	-0.410	-0.781*
	(1.84)	(-1.18)	(-1.01)	(-0.81)	(-1.88)
	14,59%	-11,16%	-7,82%	-6,58%	-18,95%
Capital Constraints	-1.571**	-1.162**	-0.537	-1.435**	-0.049
	(-2.46)	(-2.15)	(-0.89)	(-2.40)	(-0.10)
	-24,80%	-23,46%	-7,94%	-25,96%	-1,15%
Leverage	0.164	-0.294	-0.324	-0.191	0.292
	(0.30)	(-0.66)	(-0.59)	(-0.37)	(0.69)
	2,29%	-6,28%	-4,57%	-3,04%	6,87%
Agency Index	1.323**	1.410***	1.242**	0.277	-0.182
	(2.05)	(3.02)	(1.98)	(0.52)	(-0.43)
	13,37%	29,61%	12,09%	4,06%	-4,29%
Observations	106	106	106	106	106
Pseudo R2	0,144	0,093	0,091	0,066	0,042

The table reports results from logistic regressions of survey responses on firm characteristics. The dependent variables in the regressions are survey responses recoded into dichotomous variables (0/1): Likert scores of 4 or 5 are recoded as 1, and scores of 1, 2, or 3 are recoded as 0. The independent variables in the regressions are the variables introduced in Section 2 (see Table D for their definitions and data sources). We report coefficients, t-statistics (in parentheses), and economic significance. Economic significance is the average change in probability for the change from zero to one for an independent variable. ***, **, and * denote statistical significance at the 1 %, 5 % and 10 % level, respectively.

Table C.8, Questionnaire Section D, Questions 4, 7 (see Table 10 in main paper)

(4) Diversified firms may use the ability to move funds from divisions that are generating strong cash flow to divisions with less cash flow but strong investment opportunities. How frequently do you use this ability in order to achieve he highest capital productivity?

(7) How frequently do you allocate financial resources more evenly across divisions than pure financial criteria (e.g. NPV) suggest?

Dependent Variable	Winner Picking	Socialism
Sample Model	Logit	Logit
Size	1.328**	-0.133
	(2.07)	(-0.29)
	15,66%	-3,08%
Lines of Businesses	0.136	0.720*
	(0.21)	(1.66)
	1,46%	16,95%
Unrelated Diversification	0.482	-0.296
	(0.77)	(-0.70)
	5,12%	-6,87%
Capital Constraints	1.295*	-0.460
	(1.70)	(-0.92)
	12,41%	-10,53%
Leverage	0.407	0.795*
	(0.65)	(1.86)
	4,36%	18,92%
Agency Index	-1.168*	0.116
	(-1.89)	(0.27)
	-17,16%	2,70%
Observations	106	106
Pseudo R2	0,115	0,048

The table reports results from logistic regressions of survey responses on firm characteristics. The dependent variables in the regressions are survey responses recoded into dichotomous variables (0/1): Likert scores of 3, 4 or 5 are recoded as 1, and scores of 1 or 2 are recoded as 0. The independent variables in the regressions are the variables introduced in Section 2 (see Table D for their definitions and data sources). We report coefficients, t-statistics (in parentheses), and economic significance. Economic significance is the average change in probability for the change from zero to one for an independent variable. ***, **, and * denote statistical significance at the 1 %, 5 % and 10 % level, respectively.

Table C.9, Questionnaire Section D, Question 8 (see Table 12 in main paper)

Please think about situations where you have decided to allocate capital more evenly than pure financial criteria suggested. How important were the following factors for your allocation?

Dependent Variable	Manager Motivation	Future Role of Division	New Investment Ideas	Retain Managers	Opportunism	Mature Industries	Incentive Scheme
Sample Model	Logit	Logit	Logit	Logit	Logit	Logit	Logit
Size	-0.494	0.038	1.244	0.094	0.163	-0.834	0.218
	(-0.48)	(0.05)	(1.08)	(0.09)	(0.19)	(-1.00)	(0.16)
	-4,62%	0.77%	12,43%	1,04%	2,17%	-11,47%	1,32%
Lines of Businesses	1.154	0.937	0.256	0.247	1.563*	1.774*	–
	(1.03)	(1.31)	(0.25)	(0.25)	(1.65)	(1.76)	–
	10,83%	19,44%	2,80%	2,78%	21,50%	23,75%	–
Unrelated Diversification	-0.177	-0.333	1.184	-0.776	0.528	0.408	0.990
	(-0.17)	(-0.48)	(1.22)	(-0.77)	(0.64)	(0.49)	(0.75)
	-1.61%	-6.69%	13,37%	-8.25%	7.23%	5.41%	6,26%
Capital Constraints	0.294	1.362	-0.614	1.078	-0.737	-1.438	1.131
	(0.27)	(1.58)	(-0.54)	(0.99)	(-0.68)	(-1.32)	(0.66)
	2.77%	29,90%	-6,26%	13,44%	-9,20%	-16,47%	8,45%
Leverage	0.294	-0.761	0.904	-0.540	0.373	0.121	-0.814
	(0.27)	(-1.00)	(0.88)	(-0.52)	(0.43)	(0.14)	(-0.54)
	2,69%	-14,98%	10,15%	-5,85%	5,04%	1,58%	-4,66%
Agency Index	1.152	0.289	1.276	1.102	0.001	1.315	-0.842
	(1.03)	(0.37)	(1.20)	(1.03)	(0.00)	(1.31)	(-0.53)
	14,86%	6,00%	18,62%	16,23%	0.02%	21,85%	-3,74%
Observations	49	49	49	49	49	49	49
Pseudo R2	0,094	0,104	0,092	0,121	0,102	0,116	0,072

The table reports results from logistic regressions of survey responses on firm characteristics for the subsample of firms that indicate that they frequently engage in socialism (Section D, Q4; 3=sometimes, 4= rarely, 5=always) following the definition in Section 4.2.1. The dependent variables in the regressions are survey responses recoded into dichotomous variables (0/1): Likert scores of 4 or 5 are recoded as 1, and scores of 1, 2, or 3 are recoded as 0. The independent variables in the regressions are the variables introduced in Section 2 (see Table D for their definitions and data sources). We report coefficients, t-statistics (in parentheses), and economic significance. Economic significance is the average change in probability for the change from zero to one for an independent variable. ***, **, and * denote statistical significance at the 1 %, 5 % and 10 % level, respectively

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