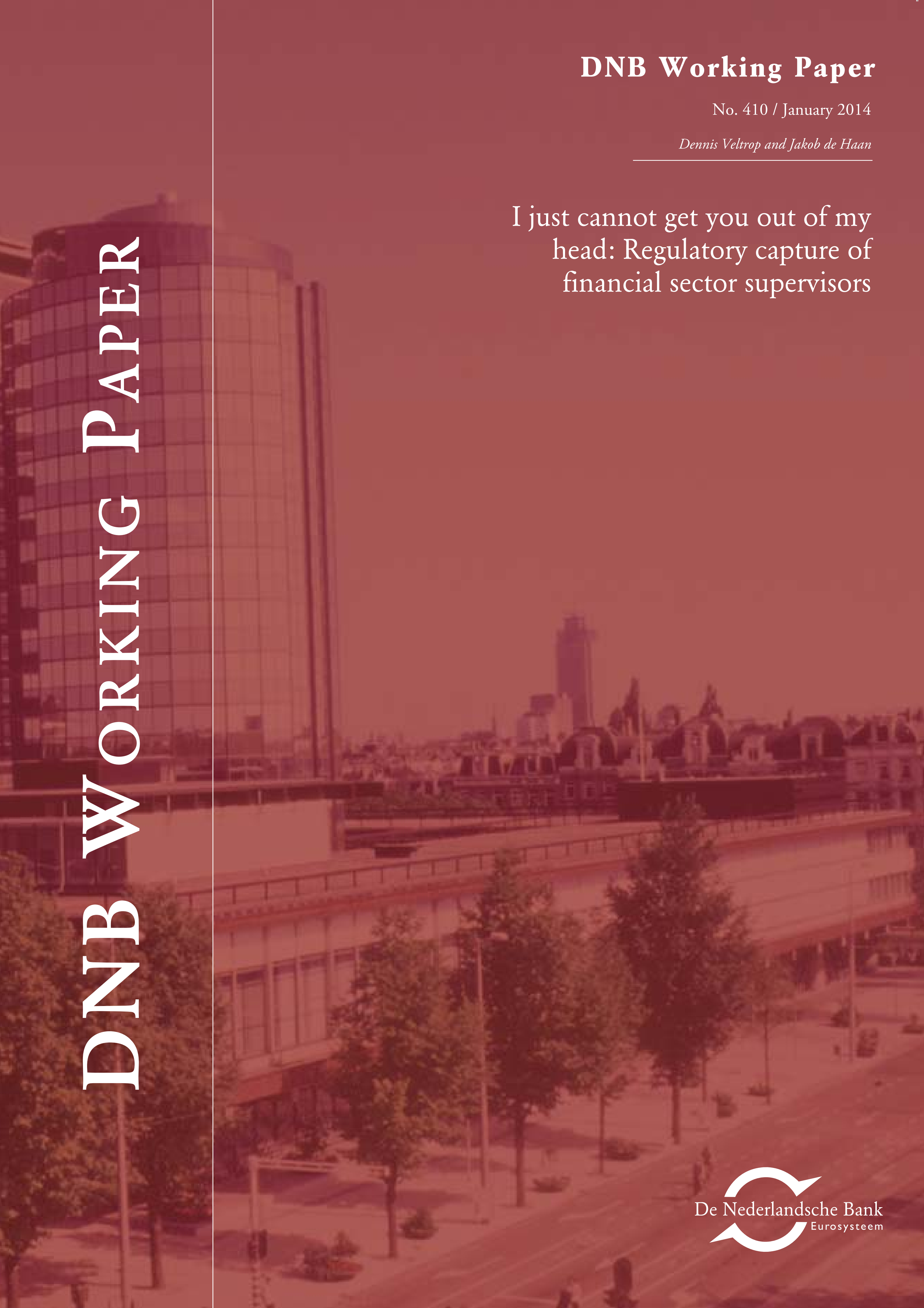

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* Views expressed are those of the authors and do not necessarily reflect official positions of De Nederlandsche Bank.

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I Just Cannot Get You Out of My Head: Regulatory Capture of Financial Sector Supervisors

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Abstract
Regulatory capture is generally considered to be a principal cause for shortcomings in financial sector regulation and supervision. Little is known, however, about the mechanisms driving public officials' capture by the financial industry. We argue that social identification with the financial sector is an important psychological mechanism driving regulatory capture of financial sector supervisors and that this is likely to reduce supervisory effectiveness. Using survey data gathered from supervisors working at two Dutch financial supervisory institutions, our results demonstrate that, first, supervisors with previous tenure in the financial sector are more likely to socially identify with the financial sector, second, that social identification with the financial sector negatively affects supervisors' task performance, and, third, that the negative effect from socially identifying with the financial sector can be curbed by a supervisor's professional identity. These results shed light on the, to date, unaddressed psychological mechanisms driving regulatory capture.

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"I think that mindsets can be shaped by people you associate with, and you come to think that what's good for Wall Street is good for America." (Joseph E. Stiglitz)[1]

INTRODUCTION

The financial crisis of the late 2000s demonstrated several shortcomings in existing financial sector regulation and supervision (De Larosière, 2009; cf. FSA, 2009). However, several observers go further, blaming financial regulators and supervisors – the 'Guardians of Finance' – for the financial crisis of the late 2000s. For instance, Barth, Caprio, & Levine (2012, p. 5) argue that "the Guardians of Finance adopted policies that induced financiers to take excessive risk ... and the Guardians too often chose not to reform their destabilizing policies, even though they had the power and time to do so."

One of the reasons put forward why the 'Guardians of Finance' allegedly failed is regulatory capture (Baker, 2010; Barth et al., 2012; Buiter, 2009; Kwak, 2013; McPhilemy, 2013). As Nobel laureate Stigler (1971) pointed out in a seminal article, regulatory and supervisory agencies tend to respond to the wishes of the best-organized interest groups, in particular the industry they regulate and supervise.[2] Agencies that suffer from such capture come to identify industry interests (or even the interests of individual firms) with the public interest. Captured regulators and supervisors will thus be lenient towards the sector they are supposed to independently monitor. Regulators may, for instance, pursue strategies to minimize industry costs rather than strike an appropriate balance between those costs and overall public benefits, while supervisors may apply rules inconsistently and exempt individual firms from regulatory requirements.

[1] http://www.nytimes.com/2009/04/27/business/27geithner.html?pagewanted=2&dbk.
[2] The terms 'regulation' and 'supervision' are often used interchangeably in financial literature, but have different meanings. Regulation consists of setting the framework within which financial actors must operate, while supervision consists of monitoring the behavior of the financial actors to ensure agreement with the regulatory framework (Sijbrand & Rijsbergen, 2013). In accordance with the literature and for matters of parsimony we use the term regulatory capture to refer to the capture of financial sector regulators and supervisors.

Despite the popularity of the concept, little is known about the mechanisms that drive public officials' capture by the financial industry they are supposed to independently monitor. This is not surprising, as measuring regulatory capture of supervisors and regulators is particularly difficult (Dal Bó, 2006). There is some evidence suggesting that in the run-up to the financial crisis lobbying by the financial sector – and especially large financial institutions – had an impact on *financial sector regulation*. For instance, Basle II has been influenced by the financial sector lobby so that it became much weaker than its predecessor and was beneficial for large financial institutions (Claessens, Underhill, & Zhang, 2008). Yet, the extent to which regulatory capture influences the effectiveness of *financial sector supervision* is hardly known.

In the current study, we seek to address this limitation by studying regulatory capture of financial sector supervisors through a social psychological lens. Drawing from social identity theory, we argue that an important, yet understudied, determinant of regulatory capture can be found at the public official's individual level of analysis, namely – in the context of our study – in a supervisor's self-concept. Indeed, in the study of human cognition and behavior, identity is a key foundational concept; it "helps capture the essence of who people are and ... why they do what they do" (Ashforth, Harrison, & Corley, 2008, p. 334). Particularly relevant is that an individual's self-concept may be extended to include social groups (Haslam et al., 2006; Tajfel, 1978) and that the more individuals socially identify with these social groups the more their cognitions and behavior will be affected by it (Albert, Ashforth, & Dutton, 2000; Ellemers, De Gilder, & Haslam, 2004). This is a nontrivial matter for financial regulators and supervisors, since a great part of these public officials actually come from the financial sector themselves (Barth et al., 2012; McPhilemy, 2013) and the financial sector is characterized by strong social norms (Mizruchi & Stearns, 1994; Nicholson, Kiel, & Kiel-Chisholm, 2011). Thus, while regulatory capture has traditionally been studied from a principal-agency perspective – focusing on the financial sector's ability to directly influence politicians and public officials through, for instance, campaign contributions, lobbying and employment opportunities – we maintain that capture is more likely to operate in more subtle ways through public officials internalizing the financial sector's objectives, norms and values through social identification processes.

In this paper we make three important contributions to the literature on governance and regulatory capture. First, while a large body of relevant research on regulatory capture has focused nearly exclusively on principal-agency theory arguments, this line of research has failed to materialize in unequivocal empirical findings (for reviews see Dal Bó, 2006; Pagliari, 2012). We maintain that to reliably study capture of public officials it is necessary to study the mechanisms through which public officials' views and behaviors are shaped by the financial sector. However, to date such internal psychological mechanisms have been left largely unexplored. Notwithstanding financial regulators' and supervisors' influence on the governance of financial institutions, to the best of our knowledge, this study is the first to systemically demonstrate how a supervisor's social identification with the financial sector is likely to drive regulatory capture. As such, by integrating insights from social psychological research with research on regulatory capture we believe our study provides a valuable contribution to the extant literature on regulatory capture and to governance research in general.

Second, in reaction to the increasing complexity of the financial sector, regulatory and supervisory institutions increasingly attract employees with in-depth sector expertise that is necessary to monitor the industry effectively (Benink & Schmidt, 2004). Our findings shed light on why and under what conditions attracting supervisors from the financial sector may actually impede supervisory effectiveness and provides evidence on the impact of the so-called 'revolving door' between the financial sector and agencies monitoring the industry. Particularly, research on social identification shows that tenure is an important predictor of social identification (cf. Mael & Ashforth, 1992; Riketta, 2005) and our results corroborate that financial supervisors with previous tenure in the financial sector are more lenient towards the financial sector, and that this is because they socially identify with the financial sector.

Third, we pose that a supervisor's professional identification may counteract the negative effects from socially identifying with the financial sector. Because the financial sector and the supervisor's profession are rival groups in many important respects, the effects of a supervisor's professional identification may 'interfere' with the effects from socially identifying with the financial sector (cf. Hekman, Steensma, Bigley, & Hereford, 2009b). As a result, supervisors with a strong professional identity are less likely to conform to the norms that are prevalent within the financial sector – and perhaps even act against it – even though they may very well socially identify with the financial sector. Thus, a solution for counteracting regulatory capture fostered by social identification with the financial sector may, in part, lie in promoting a strong professional identity among supervisors.

In sum, by theorizing and by empirically demonstrating how social identification with the financial sector is likely to reduce the effectiveness of financial supervisors, how a supervisor's prior tenure in the industry affects that supervisor's effectiveness as a result of socially identifying with the financial sector, as well how this negative effect can be mitigated by fostering supervisors' professional identity, our theory and supportive empirical findings make noteworthy contributions to the extant literature on regulatory capture and governance in general.

THEORY

Regulatory Capture

Regulatory capture occurs when public officials instead of serving the public interest, as they are mandated to do, end up acting systemically to favor specific vested interests (Stigler 1971). Regulatory capture is not limited to regulators or supervisors, however, but may also involve politicians as they play an important role in deciding upon the regulatory framework for supervisory agencies. As a result, different stakeholders seek to indirectly change supervisors' course of action by influencing politicians' decisions on the regulatory framework. Research shows, for instance, that in the United States the financial sector exercises a significant influence over the voting behavior of politicians on financial sector regulation by substantially contributing to politicians' electoral campaigns (Mian, Sufi, & Trebbi, 2010). In this vein, Kroszner & Strahan (1999) show that special interest theory can explain the design and timing of bank branching deregulation of the 1970s and 1980s in U.S. states. The authors find that a greater share of small banks delays deregulation; likewise, when small banks are financially strong, states deregulate later. Similarly, in states where banks can sell insurance, a relatively large insurance sector is associated with an increase in the time to deregulation. In addition to deciding upon the general regulatory framework, politicians also directly interfere with supervisory operations. Quintyn & Taylor (2003), for instance, show that in almost all systemic financial sector crises of the 1990s, political interference in the supervisory process led to regulatory forbearance which was a major factor contributing to the weakening of banks in the run-up to the financial crisis.

In reaction to politician's susceptibility to this unduly influence, many countries have granted their regulatory and supervisory authorities greater independence to ensure that they do not give in to pressure from politicians who are likely to be motivated by short-run (electoral) considerations (Liedorp, Mosch, van der Cruijsen, & de Haan, 2013; Quintyn, Ramirez, & Taylor, 2007). It is important to realize, that when supervisors are freed from political control, the risk of 'capture' by other groups — in particular, the industry they supervise — increases. The financial sector can thus be expected to deploy a wide array of financial and technical resources to influence regulatory and supervisory policies directly, trying to bring behavior of regulators and supervisors in line with their private interests.[3] There is, indeed, evidence that lobbying activities reflect these private interests. For instance, Igan, Mishra, & Tressel (2012) report that financial intermediaries' lobbying activities in the U.S. on mortgage lending and securitization issues are significantly related to their mortgage lending behavior. Specifically, lenders that lobby more intensively (i) originate more risky mortgages, (ii) securitize these loans on larger scale; and (iii) have faster growing mortgage

[3] To explain this, economists generally refer to the so-called collective action problem, according to which small interest groups with a strong interest in the issue at hand (in our context: financial firms) are better able to coordinate their activities and affect policies than large groups with diffuse interests (in our context, for instance, deposit holders) (Stigler, 1971).

loan portfolios. Thus, while independence from political influence is critical for averting regulatory capture, it appears that supervisors' and regulators' independence from the financial sector itself may be considered as an increasingly important determinant of supervisory and regulatory effectiveness.

While capture may occur in all regulated sectors, this phenomenon is expected to be particularly severe in the financial industry where there is a conflict of interest between financial firms trying to maximize profit and regulators and supervisors who want to provide consumer protection and maintain systemic financial stability (Benink & Schmidt 2004). Also, the inherent complexity of the financial sector and resulting information asymmetry between financial firms and public officials is likely to give rise to ambiguity in supervisory and regulatory processes (Laffont & Tirole, 1991). Furthermore, and perhaps most importantly, the financial sector is characterized by strong social norms (Nicholson et al., 2011). In this vein, Kwak (2013) notes that capture is most pervasive when (1) there is a high degree of similarity between industry representatives and regulators and supervisors; (2) an industry has a notable social purpose with which regulators and supervisors can identify; (3) an industry has high social, cultural, or intellectual status; many social connections between industry and regulators and supervisors[4]; and technically complex issues. These are all criteria that are applicable to the financial sector. They hint at an important but understudied relationship, namely that capture may occur not so much through special interests directly influencing officials, but rather through a more subtle internalization ('as by osmosis') of the objectives, interests and values of the financial sector (Buiter, 2009; McPhilemy, 2013). Indeed, Barth, Caprio, & Levine (2012, p. 38) point out that "even well-intentioned, incorruptible officials might be subject to the same human psychological factors that induce referees and umpires in sport to conform to the interests of the home crowd." Useful as this psychological interpretation of capture may seem, there is a serious problem as

[4] According to Kwak (2013), regulators and supervisors are likely to share more social networks with financial institutions than with competing interest groups such as consumers, with whom they have fewer contacts. Individuals care about the opinions of other people in their network, but they "conform more readily to the opinions and expectations of others when these others are watching than when they are not" (Baumeister, 1982, p. 8).

acknowledged by Kwak (2013): it is hard to identify empirically. Drawing from social identity theory and by studying financial sector supervision at the individual level of analysis we seek to address this important gap.

Social Identification with the Financial Sector

According to social identity theory, part of an individual's self-concept is derived from his or her membership of social groups, which results in salient social identities (Tajfel, 1982). Tajfel (1978, p. 63) defines social identity as "that part of an individual's self-concept which derives from a person's knowledge of his or her membership of a social group together with the value and emotional significance attached to that membership". In addition to unique, individuating characteristics, an individual's self-concept may be extended to include social groups. This self-conception in terms of 'we' rather than 'I' is referred to as social identity and implies a psychological merging of self and group (Dutton, Dukerich, & Harquail, 1994; van Knippenberg & Sleebos, 2006). Social identities provide individuals with a sense of entity: who they are, who or what other entities are and how these entities are associated (Ashforth et al., 2008). A person derives utility from his or her identity. That utility is a function of the social status of the group a person identifies with, his or her similarity to the ideal type of that group, and the degree of conformity between his actions and expectations of that group (Akerlof & Kranton, 2000). According to social identity theory, a person is simultaneously a member of several groups, and his thoughts and actions are influenced by the group affiliation that is most salient in a given context (Ashforth et al., 2008).

Particularly relevant for financial sector supervisors' functioning in their dealing with the financial sector is social identity theory's cognitive emphasis on self-categorization. Self-categorization refers to how social categorization produces prototype-based depersonalization of self in relationship to a social group (Hogg & Terry, 2000). Public officials who socially identify with the financial sector are psychologically intertwined with this sector. Social identification with the financial sector would lead financial supervisors to internalize group-defining (i.e. financial sector) characteristics in their self-concept and strive for behaviors that are prototypical for this sector (cf. Ashforth et al., 2008). To illustrate, Barth, Caprio, & Levine (Barth et al., 2012, p. 8) by referring to referees in in several types of sport who are found to be biased in favor of the home-playing team, they argue that: "For regulatory officials, the "home crowd" *is* the financial services industry. People from the financial services industry "surround" regulatory officials; they meet with regulators daily. It is the financiers who will immediately jeer and taunt officials if they do not like y their "calls". Since regulators might have recently worked for the financial services industry and might soon be going to work there, *it would be natural for regulators to identify fairly closely with the financial services "community"* that envelops them."[5]

In essence, we propose that the more supervisors socially identity with the financial sector, the more their behavior will be shaped by behaviors that are prototypical for the financial sector (cf. Ellemers et al., 2004; van Knippenberg & Hogg, 2003), thereby thwarting their independence of mind from the financial sector. Social identification with the financial sector would psychologically compel supervisors to conform to norms and values that are prevalent in and prototypical for the financial sector even when these norms can be considered unethical or in contrast with personal norms (Ashforth & Anand, 2003; Umphress, Bingham, & Mitchell, 2010). Social identification with the financial sector can be expected to thwart supervisors' independence from the industry thereby – perhaps inadvertently – favoring financial sector's vested interests and hampering supervisors' responsibility to serve the public interest. As such, we propose that social identification with the financial sector hurts supervisors' task performance.

H1: Social identification with the financial sector will be negatively associated with supervisory task performance.

The Revolving Door

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[5] Emphasis added. These authors refer to regulators but their argument equally applies to supervisors.

The fact that many monitoring officials come from the industry or end up there has long been thought to be a source of potential bias in regulation and supervision (Dal Bó, 2006). There are several well-known examples of supervisors and regulators coming from or going to the financial industry. For instance, a revolving door has long connected Wall Street and the New York Fed. Previous governors, including E. Gerald Corrigan and William J. McDonough, wound up as investment-bank executives, while its current president, William C. Dudley, came from Goldman Sachs. Also at the work floor level the pervasiveness of the revolving door is beyond dispute. For instance, about half of the supervisors working at supervisory authorities in the Netherlands come from the financial industry. This is not a surprise. As the financial industry is constantly developing new, often complicated, financial products and/or risk management strategies, it is difficult for supervisory authorities to assess the potential benefits and threats of these innovations. They therefore need the expertise from the financial industry to effectively supervise the sector. However, the revolving door may also carry the risk that supervisors are overly sympathetic to the needs of their supervisees because they come from this sector themselves (McPhilemy, 2013).

In its simplest form the entrance version of this revolving door highlights that supervisors who come from the industry will behave differently than those not coming from the industry and that these differences will persist over the course of a supervisor's tenure. By analyzing decisions in the Federal Communications Commission using data from 1955 to 1974, Cohen (1986) finds that commissioners with previous industry experience are more supportive of industry interests along their careers as regulators. Indeed, in his review of the regulatory capture literature Dal Bó (2006) finds that public officials with prior employment in the financial sector are likely to be more lenient. While there are a number of possible mechanisms to explain this relationship, prior industry experience is likely to lead to favorable attitudes of regulators and supervisors to the industry because their previous service and their prior industry service is likely to lead to greater understanding of industry positions. Regulators and supervisors are likely to carry those attitudes into their work. Thus, rather than finding pro-industry public officials who knowingly act on the behalf on vested interests, we are more likely to find well-meaning regulators and supervisors with prior sector experience who tend to see the concerns of the financial sector as legitimate and conducive to general welfare, because those are the concerns they are most familiar with.

In other words, and in accordance with social identity theory, prior tenure in the financial sector is expected to facilitate the incorporation of the financial sector into a supervisor's self-definition. In their research on organizational identification Mael & Ashforth (1992) already reported that how long an individual has actively been involved with an organization is positively associated with identification. Furthermore, in her meta-analysis Riketta (2005) finds that organizational tenure significantly predicts the extent to which individuals identify with the organization. So the longer supervisors have been actively involved in the financial sector, the more likely that they identify with the financial sector. Through prolonged exposure, the financial sector's attributes are likely to become more salient for the purpose of self-categorization. Membership of the financial sector therefore becomes a central part of supervisor's self-concept (cf. Dutton et al., 1994). Longer tenure in the financial sector would also provide more time to build close relationships with colleagues and other financial sector community members, facilitating the construction of their social identity as members of the financial sector. Consistent with social identity theory's argument that social identities are constructed though a process of consensual validation (George & Chattopadhyay, 2005), supervisors' prior tenure in the financial sector should be associated with the incorporation of the financial sector into their self-concept.

H2: Prior tenure in the financial sector will be positively associated with social identification with the financial sector.

Hypothesis 1 predicts an inverse relationship between social identification with the financial sector and supervisors' task performance, and Hypothesis 2 predicts a positive relationship between supervisors' prior tenure in the financial sector and their social identification with the financial sector. Together, these hypotheses specify a model in which prior tenure in the financial sector indirectly diminishes supervisors' task performance by fostering social identification with the financial sector. This notion is in line with regulatory capture arguments that prior financial sector experience is likely to lead supervisory lenience, because supervisors are more likely to see the concerns they are most familiar with as legitimate. Accordingly, we anticipate social identification to mediate the prior sector tenure – supervisory task performance relationship.

> H3: Social identification with the financial will mediate the relationship between prior tenure in the financial sector tenure and supervisory task performance.

Professional Identification with being a Supervisor

An important distinction between professional employees and other types of employees is that professionals tend to maintain multiple social identities, one of which is associated with their profession (Bamber & Iyer, 2002; Hekman et al., 2009b; Johnson, Morgeson, Ilgen, Meyer, & Lloyd, 2006). Professional identification refers to the extent to which supervisors experience a sense of oneness with their profession (cf. Hekman et al., 2009b). In accordance with social identity theory, social identification with being a supervisor leads supervisors to include central and distinctive facets of being a supervisor into their self-concept (cf. Ashforth et al., 2008). Because both identification with being a supervisor and identification with the financial sector are strongly rooted in the work context, these two salient social identities are likely to interact in shaping supervisors' task performance (Ng & Feldman, 2008). As both identities are social identities with many rival characteristics, professional identification with being a supervisor is likely to interfere with the effects from socially identifying with the financial sector (cf. Hekman et al., 2009b). It is important to realize in this respect that social identification not only shapes one's self-perception in relation to in-group members, but it also leads to view non-group members as dissimilar and less trustworthy (Gaertner, Mann, Murrell, & Dovidio, 1989; Hogg, Abrams, Otten, & Hinkle, 2003). As such, we may expect that a supervisor's professional identity will moderate the impact of social identification with the financial sector.

While previous research on capture has not directly addressed the moderating role of professional identity, some studies hint at the importance of professionalism. For instance, Berry (1979) finds that regulatory commissions are less susceptible to regulatory capture when they have higher budgets and stringent recruitment policies, which Berry considers to be measures of professionalism. In a similar vein, Dal Bó (2006, p. 217) notes that while direct evidence on this effect of professionalism is yet to be explored, professionalism of regulators and supervisors is likely to have "non-innocuous effects" for capture. Social identification with the financial sector and professional identification is likely to orient regulators and supervisors in a fundamentally different way in their dealings with the financial sector. While social identification with the financial sector makes public officials predisposed to be more lenient towards the financial sector as their 'in-group', professional identification can be expected to counter-moderate this effect.

Furthermore, supervisors will undoubtedly vary in the extent to which they identify both with the financial sector and with the profession of being a supervisor (cf. Bamber & Iyer, 2002; Hekman, Bigley, Steensma, & Hereford, 2009a; Johnson et al., 2006). While some supervisors will see themselves first and foremost as professional supervisors, others will view themselves predominantly as being members of the financial sector, and still others will view their profession and the financial sector as equally self-defining (cf. Hekman et al., 2009b; Johnson et al., 2006). When supervisors possess similar levels of financial sector and professional identification they are likely to experience identity conflicts, because the financial-sector identity and the professional identity directs supervisors to engage in incompatible courses of action (also see Hekman et al., 2009b), substantiating the notion that a strong professional identity is likely to have 'non-innocuous effects' for capture driven by social identification with the financial sector. We therefore hypothesize that professional identification will counteract the adverse effects of socially identifying with the financial sector on a supervisor's task performance.

H4: Professional identification with being a supervisor will moderate the relationship between social identification with the financial sector and supervisory task performance.

By proposing that professional identification will moderate the inverse relationship between social identification with the financial sector and supervisory task performance, it is also likely that supervisors' professional identification will conditionally influence the strength of the indirect relationship between prior financial sector tenure and supervisory task performance – suggesting a pattern of moderated mediation as depicted in Figure 1. Because we expect a weak relationship between social identification with the financial sector and supervisory task performance when professional identification is high, but not when it is low, we hypothesize that:

H5: Professional identification with being a supervisor will moderate the indirect effect of financial sector tenure on supervisory task performance (through social identification with the financial sector). Specifically, social identification with the financial sector mediates the relationship between financial sector tenure and supervisory task performance when a supervisor's professional identity is low but not when it is high.

INSERT FIGURE 1 ABOUT HERE

METHOD

Sample and Procedure

Our research relies on data gathered from supervisors working at two Dutch financial supervisory institutions. In The Netherlands financial market supervision is organized through the so-called Twin Peaks model, in which *De Nederlandsche Bank* (DNB) is responsible for micro- and macro-prudential supervision, focusing on the health of financial institutions (banks, insurance companies and pension funds) and on financial sector stability, while the *Autoriteit Financiële Markten* (AFM) is responsible for business conduct supervision of financial institutions and the financial market. Electronic surveys were distributed anonymously to all employees of DNB and AFM responsible for financial sector supervision.

Measures

All measures for analyses were collected on questionnaires filled out by individual supervisors. Although such data have the potential for response-response biases, our interest was not in the simple covariation between measures. Furthermore, a supervisor's prior tenure in the financial sector, a variable with a low probability of perceptual bias, was used to predict perceptual measures. Moreover, it is also important to note that method bias cannot account for any statistical significant interaction effects as already brought to the fore by Evans (1985) and more recently reiterated by Siemsen, Roth, & Oliveira (2010) and by Podsakoff, MacKenzie, & Podsakoff (2012) among others. Although method bias can inflate (or deflate) bivariate linear relationship, it cannot inflate, but does deflate, interaction effects.

Supervisory task performance. Task performance was measured with Williams & Anderson's (1991) measure of task performance. Items include 'adequately completes assigned duties', 'performs tasks that are expected of him/her and 'fails to perform essential duties (reverse scored)'. Due to the confidentiality of financial supervision it was not possible to record information that could be linked to individuals. As a result, supervisors participated anonymously and it was not possible to connect external performance ratings to individual supervisors. We therefore implemented a referent-shift approach by asking respondents how their boss would rate their performance, since external perspective taking has been reported to remedy self-serving disadvantages of self-reported performance (Schoorman & Mayer 2008).[6] Accordingly, respondents provided ratings of their task performance taking the perspective of their boss on a seven-point scale (1= strongly disagree, 7=strongly agree) and Cronbach's alpha was .89.

In addition, we asked respondents to report their formal yearly performance evaluation (1=insufficient, 5=exemplary). The task performance measure used in our study was significantly related to the broader yearly performance evaluation (r = .17; p < .01), providing evidence for the convergent validity and the appropriateness of the present task performance measure (Nunnally, 1978). However, it should be noted that this yearly performance evaluation is a rather broad measure of performance and several respondents were unwilling to provide information on their formal yearly evaluation.

Social identification with the financial sector. We measured the extent to which supervisors socially identity with the financial sector using Mael & Ashforth's (1992) six-item group identification scale. We refined the wording of the items to reflect social identification with the financial sector. Example items are: "when someone criticizes the financial sector, it feels like a personal insult", "when I talk about the financial sector, I usually say 'we' rather than 'they'". Supervisors rated their social identification with the financial sector on a seven-point scale (1= strongly disagree, 7=strongly agree), and Cronbach's alpha was .79.

Professional identification. Identification with being a supervisor was measured with a four item scale adapted from Jetten, Branscombe, Spears, & McKimmie (2003) and Luhtanen & Crocker (1992) (also see Crisp & Beck, 2005). The referent category was adapted to reflect the supervisor's professional identity. The items were "I identify strongly with supervisors in general", "Being a supervisor is an important part of who I am", "I feel strong ties with other supervisors in general" and "I feel a strong sense of solidarity with other

[6] As social desirability may create a bias (see Podsakoff, MacKenzie, Lee, & Podsakoff, 2003), we followed Fowler (1995) and added statements in the preamble to the question that acknowledge that situational constraints can impede performance.

supervisors in general". The items were rated on a seven-point scale (1=strongly disagree, 7=strongly agree), and Cronbach's alpha was .85.

Prior financial sector tenure. We assessed prior tenure in the financial sector by asking respondents how many years they had worked in the financial sector before they joined the supervisory agency.

Control variables. It is possible that differences across the two supervisory authorities may be associated with variance in the outcome variables. To control for this variance we included a dummy variable for one of the institutions in the regression model. Furthermore, because tenure may shape a supervisor's performance by knowing how to get things done 0r hold greater legitimacy (cf. Ashforth & Mael, 1989; Ibarra, 1993; Riketta, 2005), we include the number of years a respondent has worked as a supervisor. Furthermore, we acknowledge that individuals differ with regard to their propensity to socially identity with social groups in general, which is specifically relevant when investigating the effects from social identification with multiple foci, since an individual's overall proclivity to socially identify with different foci may distort the proposed relationships (Doosje, Ellemers, & Spears, 1995). We therefore include supervisors' level of identification with the employing institution as a proxy for this overall proclivity (cf. George & Chattopadhyay, 2005). We measured supervisors' identification with their employing institution with Mael & Ashforth's (1992) six-item group identification scale. We refined the wording of the items to reflect identification with the institution (e.g. "when I talk about [name supervisory institution], I usually say 'we' rather than 'they'". Supervisors rated their identification with the institution on a seven-point scale (1= strongly disagree, 7=strongly agree), and Cronbach's alpha was .74.

Discriminant and Convergent Validity

We used confirmatory factor analysis to assess the discriminant and convergent validity of the scales used in the hypothesized model. We computed parameter estimates using the AMOS 21.0 computer package with the maximum likelihood method. We first tested a model with the three intended constructs (social identification with the financial sector, professional identification, supervisory task performance). The overall fit of the model was adequate ($\chi 2=181.11$, df=99, $p<.001$), the goodness-of-fit index (GFI) was .92, the comparative fit index (CFI) was .97, and the root mean square error of approximation (RMSEA) was .057. In addition, the factor loadings were all significant at $p<.001$. To evaluate the discriminant validity of our measures, we tested three alternative models. For the first model, all sector identification and professional identification items loaded on one identification construct ($\Delta \chi 2=301.89$[7], df=2, $p<.001$, GFI=.79, CFI=.84, RMSEA=.12). The second model contained one latent construct for all task performance and professional identification items and one latent construct for sector identification ($\Delta \chi 2=772.68$, df=2, $p<.001$, GFI=.66, CFI=.65, RMSEA=.18). Finally, the third model contained one latent construct for all the items ($\Delta \chi 2=1159.61$, df=3, $p<.001$, GFI=.54, CFI=.49, RMSEA=.22). The fit for all of these alternative models was significantly worse than the hypothesized measurement model.

Since the data was collected from two different supervisory organizations we felt that it was important to demonstrate the invariance of the measurement model parameters across organizations (Williams, Vandenberg, & Edwards, 2009). Specifically, we found that the measurement model in which both organizations are tested simultaneously represents the factor structure for both organizations equally well (GFI = .89, CFI = .95, RMSEA = .039), thereby demonstrating configural invariance. Furthermore, to establish metric invariance we constrained the factor structure to be the same across the two organizations and we compared this constrained model with a freely estimated model. There were no significant differences between the constrained and the freely estimated model ($\Delta \chi 2=27.3$, df=32, *ns*) indicating that the factors loadings were equal across the two organizations and that there is metric invariance.

Data analysis

[7] All $\Delta \chi^2$ are in comparison to the hypothesized model.

We used ordinary least squares regression to test our hypotheses in which we hypothesized direct effects. We employed bootstrapping procedures to obtain parameter estimates for the indirect effect between financial sector tenure and supervisory task performance (through social identification with the financial sector) at both higher (+1SD) and lower (-1SD) levels of professional identification, and we assessed the statistical significance of these estimates based on bias-corrected 95%-confidence intervals. By applying bootstrap procedures, it is possible to assess the significance of the indirect effect while avoiding power problems from non-normal sampling distributions of the indirect effect (Edwards & Lambert, 2007). Parameter estimates were obtained by utilizing the bootstrapping procedures set out in Hayes (2013). We standardized all predictors prior to the analysis.

RESULTS

Descriptive Statistics

Table 1 presents the means, standard deviations, and Pearson zero-order correlations between variables. The average supervisor has approximately 6 years of tenure at the employing supervisory institution and has worked in the financial sector for 4.9 years. As expected, prior tenure in the financial sector is positively related to social identification with the financial sector (r = .17, p < .01).

For all analyses, we screened the data for outliers using standardized and studentized residuals, Cook's *D*-statistic and DFBETA's (Aguinis, Gottfredson, & Joo, 2013). In only one of the analyses did observations exceed the minimum cutoff criteria for Cook's *D*-statistic and DFBETA and deviated more than four standardized and studentized residuals from their predicted values. In this analysis (the ordinary least squared regression relating task performance to social identification with the financial sector), the three outlying cases were removed from further analyses.

INSERT TABLE 1 ABOUT HERE

Hypotheses testing

Table 2 shows the result of hierarchical multiple regression analyses of social identification with the financial sector and supervisory task performance. Hypothesis 1 predicts that social identification with the financial sector is negatively related to task performance. Model 3 (Table 2) provides support for this hypothesis, as the coefficient for social identification is negative and significant (β = .18, p < .05). Hypothesis 2 predicts that prior tenure in the financial sector is positively related to social identification with the financial sector. In order to test this hypothesis we regressed social identification with the financial sector on a supervisor's prior tenure in the financial sector. As shown in Model 2, the coefficient for prior sector tenure is positive and significant (β = .18, p < .01), providing support for Hypothesis 2. Furthermore, Hypothesis 3 suggests an indirect relationship, whereby the indirect association between prior tenure in the financial sector and supervisory task performance runs through social identification with the financial sector. To directly test for this indirect effect we used the bootstrapping procedures outlined by Hayes (2013). The upper half of Table 3 shows that the bias corrected and accelerated 95% confidence interval for the estimate of the indirect effect excluded zero (-.07, -.02), providing support for a negative indirect effect that is statistically different from zero. This result is consistent with Hypothesis 3.

INSERT TABLE 2 ABOUT HERE

In Hypothesis 4 we proposed that professional identification moderates the relationship between social identification with the financial sector and task performance. As depicted in Model 5 (Table 2), the coefficient for the interaction of social identification with the financial sector and professional identification was significantly associated with task performance (β = .17, p < .01). To gain further insight into the nature of the interaction effect, we plotted the relationship between social identification with the financial sector and task performance at high and low values of professional identification (one standard deviation above and below the mean, respectively) (cf. Aiken & West 1991). Figure 2 presents the resulting graph and confirms that social identification with the financial sector is negatively related to supervisory task performance when professional identification is low, but not when professional identification is high. Hence these results support Hypothesis 4. Finally, Hypothesis 5 suggests that the indirect effect of tenure in the financial sector on task performance – that runs through social identification with the financial sector – will also be conditional on professional identification. The lower half of Table 3 reports a significant and negative indirect relationship when professional identification was low (indirect relationship at -1SD=-.07; 95% confidence interval =-0.14 to -0.02). The indirect relationship was not significantly different from zero, however, when professional identification was high (indirect relationship at -1SD=-.01; 95% confidence interval =-0.04 to 0.02). Thus, Hypotheses 5 received full support. We note that the results for Hypotheses 1 to 5 remained virtually unchanged when excluding all controls.

INSERT FIGURE 2 ABOUT HERE

INSERT TABLE 3 ABOUT HERE

DISCUSSION

While regulatory capture is a pervasive phenomenon in the supervision of financial institutions extant studies have not examined the determinants and mechanisms that drive regulatory capture among regulators and supervisors. Notwithstanding the limited evidence on the mechanisms and determinants of regulatory capture, the issues of regulatory capture and the revolving door between the financial sector and regulatory and supervisory agencies are considered to be major concerns in policy circles (Dal Bó, 2006; Makkai & Braithwaite, 1992; Pagliari, 2012). Given the limited knowledge on the mechanisms that drive regulatory capture our purpose was to address this broad limitation. Using a survey approach, we empirically explored the psychological mechanisms driving regulatory capture and supervisory task performance. To the best of our knowledge, our study is the first empirical examination that studies the psychological mechanisms driving task performance of supervisors.

An important question is which social psychological mechanisms are likely to drive regulatory capture, thereby thwarting independence of mind from the industry which officials are supposed to monitor independently. Drawing from fundamental social-psychological insights we argued and empirically demonstrated that a supervisor's social identification with the financial sector is negatively associated with supervisory task performance. Furthermore, our results corroborate that the negative relationship between prior tenure in the financial sector and task performance is mediated by social identification with the financial sector. The fact that many officials come from the industry has long been thought to be a potential source of bias in regulatory and supervisory decisions. While the evidence on the consequences of this revolving door is still well short of abundant, there are theoretically several channels through which industry employment may affect regulators' and supervisors' performance (Dal Bó, 2006). Our results provide evidence that social identification with the financial sector may be considered as a fundamental psychological mechanism behind the impact of the revolving door phenomenon.

By noting that 'the ties that bind can also blind' Golden-Biddle & Rao (1997) already suggested that scholars investigating non-executive directors whose job it is to scrutinize top management should be sensitive to when social identification should be considered a strength and when it should be considered a constraint for these directors. Similarly, regarding financial sector supervisors arguably their most important quality to objectively evaluate and scrutinize the financial sector is independence of mind from the industry. A worthwhile contribution in this respect is that while social identification may have many beneficial effects for employees working within organization, our results substantiate that when independence of mind is critical for task performance social identification with the financial sector is likely to have adverse effects. Indeed, social identity scholars have already advanced the idea that social identification may have adverse effects because it can solicit unethical behavior on behalf of the 'in-group' (Umphress et al., 2010) and foster behavior associated with groupthink (Haslam et al., 2006).

In our view, it is crucial to recognize that because social interactions are such a fundamental aspect of social life that social identification is the unavoidable byproduct of necessary interactions between human beings. It would be unfeasible to strip all interactions between industry and regulatory and supervisory agencies of their human elements (Kwak, 2013). A second important question posed in this article therefore was whether we could identify attenuating factors that may limit the adverse effects from socially identifying with the financial sector. While further research is undoubtedly needed to understand the inherent complexities of the mechanisms underlying regulatory capture, our results do demonstrate that a supervisor's professional identity appears to have non-innocuous effects for social identification with the financial sector. Furthermore, these interactive effects between social identification with the financial sector and professional identification may also be expected to be relevant for other groups, such as regulators and supervisors in other sectors, but also non-executive directors, that are likely to be susceptible to the same fundamental social psychological processes in performing their fiduciary duties to scrutinize senior management. These groups may all be considered as professional groups for which independence of mind may be considered as an important quality to carry out their work.

Moreover, whereas professions are prevalent in organizational life, identification with the profession has been scantly addressed (Ashforth et al., 2008). Although it is not the prime focus, our research also adds to the growing literature on professional identification (Ashforth et al., 2008; Hekman et al., 2009a; Withers, Corley, & Hillman, 2012). Thus, although our findings are supportive of the regulatory capture view, they also suggest that supervisors who strongly socially identify with the financial sector do not show unwavering support for the financial sector. A supervisor's professional identity counteracts the adverse effects of social identification with the financial sector.

Practical Implications

The practical implications of our article become apparent when we realize that financial supervisors who are crucial for maintaining financial stability, often come from the financial sector, and that research on the social psychological mechanisms driving regulatory capture is virtually non-existent. At the same time, policy makers are implementing policies based on scant empirical evidence to forego regulatory capture. The practical implications of our current study are rather straightforward. First, social identification with the financial sector does negatively affect supervisory task performance and supervisors who come from the industry are more likely to socially identify with the financial sector. The latter finding illustrates that the revolving door phenomenon may indeed have negative consequences. Therefore, supervisory institutions may actively implement policies designed to reduce social identification with the financial sector particularly for those with prior sector tenure. Second, and perhaps more importantly, stimulating a strong professional identity of being a supervisor, through measures such as introductory programmers and follow-up courses, setting up a professional group of financial supervisors or stimulating membership of professional groups, is likely to curb regulatory capture. In this vein, rather than exfoliating regulators' and supervisors' interactions with the financial sector, our results point to a more feasible approach to limit capture, namely by fostering professional identity to counteract the negative effects from socially identifying with the financial sector.

Our study may also shed light on some proposed policies to protect against capture. For instance, some authors suggest that imposing ‘cooling-off’ periods may diminish the impact of the revolving door phenomenon (Pagliari, 2012). However, our results suggest that supervisors do not stop identifying with the financial sector once they leave the industry. In addition, social identification with the sector does not wear off over the course of the supervisors’ tenure. Imposing ‘cooling off’ periods would therefore do little to alleviate the detrimental effects of supervisors socially identifying with the financial sector. Similarly, as pointed out by Pagliari (2012), various authors have discussed how periodically rotating staff may play a role in preventing supervisors from developing an excessive affinity to the industry they supervise or an excessively narrow understanding of their responsibilities. Our results also do not lend support to this view, as we do not find that supervisors’ social identification with the industry is affected by their tenure at the supervisory institutions. In fact, term limits may make regulation and supervision more lenient, arguably because regulators and supervisors are more concerned with their reputation in the market (Dal Bó, 2006).

Limitations and Future Research

This study is not without limitations. For instance, although our results provide a robust pattern of results, there are other factors that are likely to influence supervisory task performance. Likewise, we only examined one part of the revolving door phenomenon by analyzing the impact of previous tenure in the industry on social identification with the financial sector. Additionally, it is possible that common method variance was a biasing factor in our study because we used survey methodology to test our predictions. All measures for analyses were collected on questionnaires filled out by individual regulators. However, it is important to note in this respect that method bias cannot account for any statistical significant interaction effects (Evans, 1985; Podsakoff et al., 2012; Siemsen et al., 2010).

Furthermore, a supervisor's prior tenure in the financial sector is a variable with a low probability of perceptual bias and we are able to demonstrate that a supervisor's prior tenure in the financial sector also indirectly influences supervisory task performance through social identification with the financial sector, thereby also ameliorating the possibility of a spurious relationship between social identification with the financial sector and task performance caused by common method.[8] In addition, we incorporated several non-statistical techniques for reducing the potential of common method bias (Podsakoff et al., 2012). For instance, we assured participants' confidentially and we specifically informed respondents that there were no right or wrong answers.

To the best of our knowledge, this study provides the first empirical evidence on the functioning of financial sector supervisors at the individual level of analysis. We encourage future research to further investigate mechanisms driving regulatory capture besides social identification. Future research may also gauge other targets of identification, such as relational identification of supervisors with CEOs of supervised institutions or identification with specific supervised institutions, perhaps fostered by charisma of the CEO or prominence of the institutions in question. In addition, it would also be worthwhile to investigate other contextual conditions, such as the role of a supervisor's manager or the interplay between supervisors and employees of supervised institutions. There are many avenues for further research.

[8] Similarly, two stage regression analyses in which prior tenure in the financial sector is interpreted as an instrumental variable corroborate that social identification with the financial sector exogenously predicts supervisory task performance.

REFERENCES

Aguinis, H., Gottfredson, R. K., & Joo, H. 2013. Best-Practice Recommendations for Defining, Identifying, and Handling Outliers. *Organizational Research Methods*, 16(2): 270–301.

Aiken, L. S., & West, S. G. 1991. *Multiple Regression: Testing and Interpreting Interactions*. London: Sage.

Akerlof, G. A., & Kranton, R. E. 2000. Economics and Identity. *The Quarterly Journal of Economics*, 115(3): 715–753.

Albert, S., Ashforth, B. E., & Dutton, J. E. 2000. Organizational identity and identification: Charting new waters and building new bridges. *Academy of Management Review*, 25(1): 13–17.

Ashforth, B. E., & Anand, V. 2003. The normalization of corruption in organizations. *Research in Organizational Behavior* (Vol. 25, pp. 1–52). New York: Jai-Elsevier Science Inc.

Ashforth, B. E., Harrison, S. H., & Corley, K. G. 2008. Identification in organizations: An examination of four fundamental questions. *Journal of Management*, 34(3): 325–374.

Ashforth, B. E., & Mael, F. 1989. Social Identity Theory and the Organization. *Academy of Management Review*, 14(1): 20–39.

Baker, A. 2010. Restraining regulatory capture? Anglo-America, crisis politics and trajectories of change in global financial governance. *International Affairs*, 86(3): 647–663.

Bamber, E. M., & Iyer, V. M. 2002. Big 5 auditors' professional and organizational identification: Consistency or conflict? *Auditing-a Journal of Practice & Theory*, 21(2): 21–38.

Barth, J. R., Caprio, G., & Levine, R. 2012. *Guardians of Finance. Making Regulators Work for Us*. Cambridge (MA): MIT Press.

Baumeister, R. F. 1982. A self-presentational view of social phenomena. *Psychological Bulletin*, 91(1): 3–26.

Benink, H. A., & Schmidt, R. H. 2004. Europe's single market for financial services: views by the European Shadow Financial Regulatory Committee. *Journal of Financial Stability*, 1(2): 157–198.

Berry, W. 1979. Utility Regulation in the States: The Policy Effects of Professionalism and Salience to the Consumer. *American Journal of Political Science*, 23(2): 263–277.

Buiter, W. H. 2009, September 7. Lessons from the global financial crisis for regulators and supervisors. Financial Markets Group, London School of Economics and Political Science.

Claessens, S., Underhill, G. R. D., & Zhang, X. 2008. The Political Economy of Basle II: The Costs for Poor Countries. *The World Economy*, 31(3): 313–344.

Cohen, J. E. 1986. The Dynamics of the "Revolving Door" on the FCC. *American Journal of Political Science*, 30(4): 689–708.

Crisp, R. J., & Beck, S. R. 2005. Reducing intergroup bias: The moderating role of ingroup identification. *Group Processes & Intergroup Relations*, 8(2): 173–185.

Dal Bó, E. 2006. Regulatory Capture: A Review. *Oxford Review of Economic Policy*, 22(2): 203–225.

De Larosière, J. 2009. *The Larosière Report*. Brussels: The High-Level Group on Financial Supervision in the EU, European Commission.

Doosje, B., Ellemers, N., & Spears, R. 1995. Perceived Intragroup Variability as a Function of Group Status and Identification. *Journal of Experimental Social Psychology*, 31(5): 410–436.

Dutton, J. E., Dukerich, J. M., & Harquail, C. V. 1994. Organizational Images and Member Identification. *Administrative Science Quarterly*, 39(2): 239–263.

Edwards, J. R., & Lambert, L. S. 2007. Methods for integrating moderation and mediation: A general analytical framework using moderated path analysis. *Psychological Methods*, 12(1): 1–22.

Ellemers, N., De Gilder, D., & Haslam, S. A. 2004. Motivating individuals and groups at work: A social identity perspective on leadership and group performance. *Academy of Management Review*, 29(3): 459–478.
Evans, M. G. 1985. A Monte Carlo study of the effects of correlated method variance in moderated multiple regression analysis. *Organizational Behavior and Human Decision Processes*, 36(3): 305–323.
Fowler, F. J. 1995. *Improving Survey Questions: Design and Evaluation (Applied Social Research Methods)* (p. 200). SAGE Publications, Inc.
FSA. 2009. *The Turner Review*. London, UK: Financial Services Authority (FSA).
Gaertner, S. L., Mann, J., Murrell, A., & Dovidio, J. F. 1989. Reducing intergroup bias: The benefits of recategorization. *Journal of Personality and Social Psychology*, 57(2): 239–249.
George, E., & Chattopadhyay, P. 2005. One foot in each camp: The dual identification of contract workers. *Administrative Science Quarterly*, 50(1): 68–99.
Golden-Biddle, K., & Rao, H. 1997. Breaches in the boardroom: Organizational identity and conflicts of commitment in a nonprofit organization. *Organization Science*, 8(6): 593–611.
Haslam, S. A., Ryan, M. K., Postmes, T., Spears, R., Jetten, J., & Webley, P. 2006. Sticking to our guns: social identity as a basis for the maintenance of commitment to faltering organizational projects. *Journal of Organizational Behavior*, 27(5): 607–628.
Hayes, A. F. 2013. *An introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York, NY, US: Guilford Press.
Hekman, D. R., Bigley, G. A., Steensma, H. K., & Hereford, J. F. 2009a. Combined effects of organizatonal and professional identification on the reciprocity dynamic for professional employees. *Academy of Management Journal*, 52(3): 506–526.
Hekman, D. R., Steensma, H. K., Bigley, G. A., & Hereford, J. F. 2009b. Effects of Organizational and Professional Identification on the Relationship Between Administrators' Social Influence and Professional Employees' Adoption of New Work Behavior. *Journal of Applied Psychology*, 94(5): 1325–1335.
Hogg, M. A., Abrams, D., Otten, S., & Hinkle, S. 2003. The social identity perspective - Intergroup relations, self-conception, and small groups. *Small Group Research*, 35(3): 246–276.
Hogg, M. A., & Terry, D. J. 2000. Social identity and self-categorization processes in organizational contexts. *Academy of Management Review*, 25(1): 121–140.
Ibarra, H. 1993. Personal Networks of Women and Minorities in Management: A Conceptual Framework. *The Academy of Management Review*, 18(1): 56–87.
Igan, D., Mishra, P., & Tressel, T. 2012. A Fistful of Dollars: Lobbying and the Financial Crisis. *NBER Macroeconomics Annual*, 26(1): 195–230.
Jetten, J., Branscombe, N. R., Spears, R., & McKimmie, B. M. 2003. Predicting the paths of peripherals: The interaction of identification and future possibilities. *Personality and Social Psychology Bulletin*, 29(1): 130–140.
Johnson, M. D., Morgeson, F. P., Ilgen, D. R., Meyer, C. J., & Lloyd, J. W. 2006. Multiple professional identities: Examining differences in identification across work-related targets. *Journal of Applied Psychology*, 91(2): 498–506.
Kroszner, R. S., & Strahan, P. E. 1999. What Drives Deregulation? Economics and Politics of the Relaxation of Bank Branching Restrictions. *The Quarterly Journal of Economics*, 114(4): 1437–1467.
Kwak, J. 2013. Cultural Capture and the Financial Crisis. In D. Carpenter & D. Moss (Eds.), *Preventing Capture: Special Interest Influence in Legislation, and How To Limit It*. Cambridge University Press, Cambridge.
Laffont, J.-J., & Tirole, J. 1991. The Politics of Government Decision-Making: A Theory of Regulatory Capture. *The Quarterly Journal of Economics*, 106(4): 1089–1127.
Liedorp, F., Mosch, R., van der Cruijsen, C., & de Haan, J. 2013. Transparency of banking supervisors. *IMF Economic Review*, 61(2): 310–335.
Luhtanen, R., & Crocker, J. 1992. A collective self-esteem scale - self-evaluation of ones social identity. *Personality and Social Psychology Bulletin*, 18(3): 302–318.

Mael, F., & Ashforth, B. E. 1992. Alumni and Their Alma Mater: A Partial Test of the Reformulated Model of Organizational Identification. *Journal of Organizational Behavior*, 13(2): 103–123.

Makkai, T., & Braithwaite, J. 1992. In and out of the Revolving Door: Making Sense of Regulatory Capture. *Journal of Public Policy*, 12(1): 61–78.

McPhilemy, S. 2013. Formal Rules versus Informal Relationships: Prudential Banking Supervision at the FSA Before the Crash. *New Political Economy*, 18(5): 748–767.

Mian, A., Sufi, A., & Trebbi, F. 2010. The Political Economy of the US Mortgage Default Crisis. *American Economic Review*, 100(5): 1967–1998.

Mizruchi, M. S., & Stearns, L. B. 1994. A Longitudinal Study of Borrowing by Large American Corporations. *Administrative Science Quarterly*, 39(1): 118–140.

Ng, T. W. H., & Feldman, D. C. 2008. Long work hours: a social identity perspective on meta-analysis data. *Journal of Organizational Behavior*, 29(7): 853–880.

Nicholson, G., Kiel, G., & Kiel-Chisholm, S. 2011. The Contribution of Social Norms to the Global Financial Crisis: A Systemic Actor Focused Model and Proposal for Regulatory Change. *Corporate Governance: An International Review*, 19(5): 471–488.

Nunnally, J. C. 1978. *Psychometric theory* (2nd ed.). New-York: McGraw-Hill.

Pagliari, S. 2012. How Can We Mitigate Capture in Financial Regulation? In S. Pagliari (Ed.), *Making Good Financial Regulation. Towards a Policy Response to Regulatory Capture*. Guildford, Grosvenor House Publishing Ltd.

Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. 2003. Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5): 879–903.

Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. 2012. Sources of method bias in social science research and recommendations on how to control it. *Annual review of psychology*, 63: 539–69.

Quintyn, M., Ramirez, S., & Taylor, M. W. 2007. The Fear of Freedom. Politicians and the Independence and Accountability of Financial Supervisors. In D. Masciandaro & M. Quinty (Eds.), *In Designing Financial Supervision Institutions: Independence, Accountability and Governance*. Cheltenham: Edward Elgar.

Quintyn, M., & Taylor, M. W. 2003. Regulatory and Supervisory Independence and Financial Stability. *CESifo Economics Studies*, 49(2): 259–294.

Riketta, M. 2005. Organizational identification: A meta-analysis. *Journal of Vocational Behavior*, 66(2): 358–384.

Schoorman, F. D., & Mayer, R. C. 2008. The Value of Common Perspectives in Self-Reported Appraisals: You Get What You Ask For. *Organizational Research Methods*, 11(1): 148–159.

Siemsen, E., Roth, A., & Oliveira, P. 2010. Common Method Bias in Regression Models With Linear, Quadratic, and Interaction Effects. *Organizational Research Methods*, 13(3): 456–476.

Sijbrand, J., & Rijsbergen, D. 2013. Managing the Quality of Financial Supervision. In A. J. Kellermann, F. de Vries, & J. de Haan (Eds.), *Financial Supervision in the 21st Century*. Heidelberg: Springer.

Stigler, G. J. 1971. The Theory of Economic Regulation. *The Bell Journal of Economics and Management Science*, 2(1): 3–21.

Tajfel, H. 1978. Social categorization, social identity and social comparison. In H. Tajfel (Ed.), *Differentiation between social groups* (pp. 61–76). London: Academic Press.

Tajfel, H. 1982. Social-psychology of inter-group relations. *Annual Review of Psychology*, 33: 1–39.

Umphress, E. E., Bingham, J. B., & Mitchell, M. S. 2010. Unethical Behavior in the Name of the Company: The Moderating Effect of Organizational Identification and Positive Reciprocity Beliefs on Unethical Pro-Organizational Behavior. *Journal of Applied Psychology*, 95(4): 769–780.

Van Knippenberg, D., & Hogg, M. A. 2003. A social identity model of leadership effectiveness in organizations. *Research in Organizational Behavior* (Vol. 25, pp. 243–295). New York: Jai-Elsevier Science Inc.

Van Knippenberg, D., & Sleebos, E. 2006. Organizational identification versus organizational commitment: Self-definition, social exchange, and job attitudes. *Journal of Organizational Behavior*, 27(5): 571–584.
Williams, L. J., & Anderson, S. E. 1991. Job Satisfaction and Organizational Commitment as Predictors of Organizational Citizenship and In-Role Behaviors. *Journal of Management*, 17(3): 601–617.
Williams, L. J., Vandenberg, R. J., & Edwards, J. R. 2009. Structural Equation Modeling in Management Research: A Guide for Improved Analysis. *The Academy of Management Annals*, 3(1): 543–604.
Withers, M. C., Corley, K. G., & Hillman, A. J. 2012. Stay or Leave: Director Identities and Voluntary Exit from the Board During Organizational Crisis. *Organization Science*, 23(3): 835–850.

TABLE 1
Means, Standard Deviations, and Correlations

	Variables	Mean	S.D.	1	2	3	4	5	6
1	Supervisory institution (dummy)	0.60	0.49						
2	Supervisor tenure (years)	5.95	5.68	-.16**					
3	Identification with supervisory institution	4.83	0.87	-.10	-.02				
4	Prior sector tenure (years)	4.90	6.37	-.10	.01	-.01			
5	Identification with financial sector	3.22	1.00	.00	.12	.31**	.17**		
6	Identification with profession	4.47	1.23	-.24**	.18**	.40**	.08	.40**	
7	Supervisory task performance	6.06	0.69	-.05	.07	.17**	-.10	-.05	.22**

n = 254. +p <.10, *p < .05. **p < .01. ***p<.001 (two-tailed tests)

TABLE 2

Results Hierarchical Regression Analysis Sector Identification and Supervisory Task Performance

	Identification with Financial Sector		Supervisory Task Performance		
Variables	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**
Supervisory institution (dummy)	0.06	0.07	-0.02	0.02	0.02
Supervisor tenure (years)	0.14*	0.14*	0.07	0.06	0.06
Identification with supervisory institution	0.32***	0.32***	0.17**	0.13*	0.12
Prior sector tenure (years)		0.18**		-0.09	-0.08
Identification with financial sector (IFS)				-0.17*	-0.20**
Identification with profession (IP)				0.23**	0.27***
IFS x IP					0.17**
R2	0.11	0.15	0.04	0.09	0.12
Delta R2		0.04***		0.05***	0.03**

Standardized regression coefficients are reported.

n= 254. †p < .10. *p < .05. **p < .01. ***p<.001. (two-tailed tests)

TABLE 3

Results for Indirect Effects on Supervisory Task Performance

Indirect Effect of Sector Tenure on Supervisory Task Performance through Sector Identification

	Boot indirect effect	Bootstrap 95% confidence interval	
		lower bound	upper bound
Sector tenure	-0,03	-0,07	-0,01

Conditional Indirect Effect of Sector Tenure on Supervisory Task Performance through Sector Identification

Professional identification	Boot indirect effect	Bootstrap 95% confidence interval	
Conditional indirect effect at professional identification = M ± 1 SD		lower bound	upper bound
-1 SD (-1.00)	-0,07	-0,14	-0,02
+1 SD (+1.00)	-0,01	-0,04	0,02

n = 254. Bootstrap sample size is 5.000.

Bootstrap 95% bias corrected and accelerated confidence interval

FIGURE 1

Theoretical Model and Hypotheses

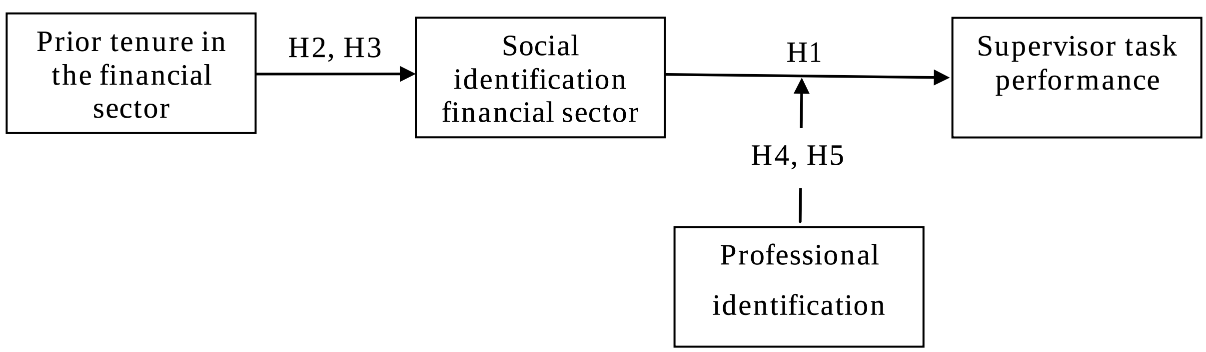
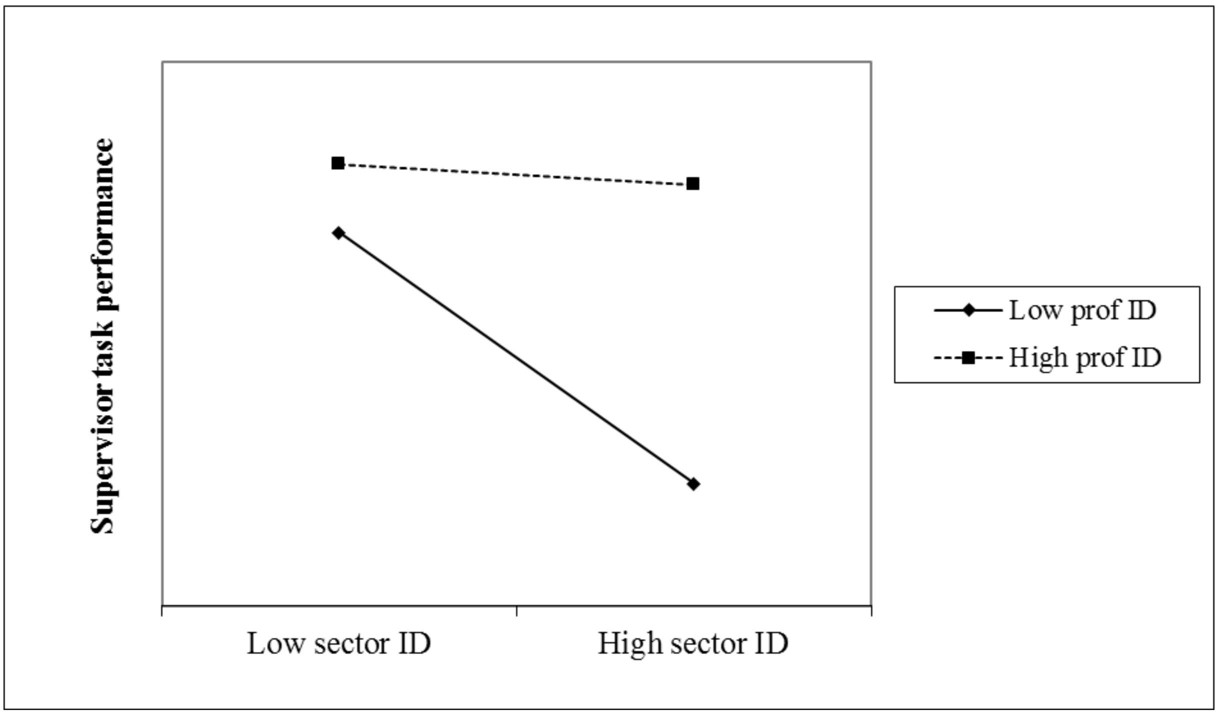


FIGURE 2

Interaction Sector Identification and Professional Identification



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