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## Flexible and mandatory banking supervision<sup>\*</sup>

### Alessandro De Chiara<sup>a,\*</sup>, Luca Livio<sup>b</sup>, Jorge Ponce<sup>c</sup>

<sup>a</sup> Department of Economics and Business, Central European University, 9 Nádor utca, Budapest 1051, Hungary

<sup>b</sup> ECARES, Solvay Brussels School of Economics and Management, Université libre de Bruxelles, 50 Avenue Roosevelt, Brussels 1050, Belgium

ABSTRACT

<sup>c</sup> Banco Central del Uruguay, 777 Diagonal Fabini, Montevideo 11100, Uruguay

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#### 1. Introduction

Tighter regulation and more powerful supervision of the financial sector are being implemented in most countries, e.g. the Dodd-Frank Act in the United States and the Capital Requirements Directive IV in Europe. Although the new rules may imply positive welfare effects, many commentators have stressed that they may also impose large social costs.<sup>1</sup> These costs may include legal and compliance direct costs, but also indirect costs which are related to the stronger reliance on supervisory information. Indeed, some of the measures being undertaken lead to a more intense supervision of banks and entail qualitative assessments of their organization and practices by the supervisor. A closer interaction of supervises with more powerful supervisors and the

\* Corresponding author.

dependence on supervisory information may backfire, paving the way for the capture of the supervisor by banks.<sup>2</sup>

In this paper, we develop a formal model, inspired by Boyer and Ponce (2012), that explicitly takes into account the possibility that banks capture the supervisor, and study mechanisms to reduce the social welfare costs introduced by the threat of supervisory capture. In practice, supervisory capture may manifest in different ways ranging from the extreme case of illegal collusion between banks and the supervisor to forms other than corruption where there is not per se illegality, e.g. post-career concerns like revolving doors, exchange of favors or presents, and lobbying. In this paper we focus

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The implementation of tighter regulation and more powerful supervision may impose large social costs

due to the strong reliance on supervisory information that requires direct assessment by a supervisor

(i.e. Mandatory Supervision). We show that by introducing a Flexible Supervision contract, which is

designed to be chosen by those banks that have incentives to capture the supervisor and allows them

to bypass Mandatory Supervision, the most efficient regulation under asymmetric information may be implemented. Benevolent regulators should introduce Flexible Supervision regimes for the less risky,

more capitalized and transparent banks in addition to the traditional Mandatory Supervision regime.



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*E-mail addresses:* dechiaraa@ceu.edu (A. De Chiara), llivio@ulb.ac.be (L. Livio), jponce@bcu.gub.uy (J. Ponce).

<sup>&</sup>lt;sup>1</sup> See, for instance, "Banks face pushback over surging compliance and regulatory costs" on The Financial Times, May 28, 2015, and Cochrane (2014).

<sup>&</sup>lt;sup>2</sup> The phenomenon of regulatory/supervisory capture has long been studied (see, for example, the seminal work by Stigler, 1971) and its pervasiveness in the financial sector has often been documented (see Woodward, 2000, and the references therein). Recent examples of the willingness of the financial sector to capture powerful supervisors are documented by Bloomberg ("Wall Street Lobbyists Besiege CFTC to Shape Derivatives Rules", October 14, 2010): "With power from Congress to oversee the previously unregulated \$615 trillion market for over-the-counter derivatives, it [the Commodity Futures Trading Commission] has become one of the hottest lobbying spots in town." David Beim ("Report on Systemic Risk and Bank Supervision", 2009) argues that the Federal Reserve Bank of New York was overly deferential to the banks being supervised and that such attitude could be seen as a (weak) form of supervisory capture (see David Beim's Testimony "Before the Senate Committee on Banking, Housing and Urban Affairs Financial Institutions and Consumer Protection Subcommittee", November 21, 2014). Recent recordings of conversations among New York FED officials show that supervisors continue to adopt a non-confrontational style with the industry and are unwilling to speak up (see, for example, "New Scrutiny of Goldman's Ties to the New York Fed after a Leak" on The New York Times, November 19, 2014).

on the consequences of supervisory capture that are common to all its manifestations: an increase in the private benefits of the parties involved that may generate a negative externality to society.

In this framework, we show that the optimal supervisory architecture complements a supervisory regime where the direct assessment by a supervisor is always required (*Mandatory Supervision*) with a *Flexible Supervision* regime where banks self-select the regulatory contract (i.e. capital and other regulation) that has been designed for their level of risk. Under this scheme, supervisory capture is overcome by reducing the interaction between supervisors and supervisees, without entailing any loss of information with respect to the case in which supervision is Mandatory for all banks. Moreover, by implementing the optimally designed supervisory plan that makes use of both Flexible and Mandatory Supervision, it is possible to achieve the same outcome in terms of social welfare as when capture is not a concern.

In the model, a welfare-maximizing financial stability committee designs bank regulation and the supervisory arrangement. Since optimal regulation depends on the riskiness of the bank's portfolio, which is private information of the banker, the committee may employ a supervisor to assess the banks' riskiness. The supervisor applies a technology that generates evidence correlated with the riskiness of the bank. If hired, the supervisor can either report the collected evidence or pretend that she observed no informative signals. This opens the possibility that banks capture a self-interested supervisor. There may be several reasons why supervisors pursue other objectives than social welfare maximization. For simplicity, we assume that the supervisor is interested in the payment she gets when reporting supervisory information to the committee. In this case, those banks that are better off when no information is reported may be willing to reward the supervisor for reporting uninformative evidence.

In order to prevent capture under the Mandatory Supervision regime, the financial stability committee must reward the supervisor when she provides evidence that may hurt bankers. In other words, the supervisor should be turned into a bounty-hunter, as in Tirole (1986), Laffont and Tirole (1991) and Kofman and Lawarree (1993). The salary of the supervisor should be such that she does not find it profitable to collude with the banker. Given the interests at stake, this reward might be very large, thereby magnifying the distortions to the optimal regulatory policy that the committee may be able to implement. Hence, due to the threat of capture, social welfare will be lower than in the second best world where the supervisor is benevolent instead of self-interested. However, social welfare under Mandatory Supervision will be higher than in a situation in which no supervisor is used.

The prevention of capture under Mandatory Supervision implies that the supervisor fully extracts the banker's information rent in equilibrium where they are jointly informed about the riskiness of the bank. This observation sets the stage for an alternative supervisory arrangement, i.e. Flexible Supervision that can forestall supervisory capture without social costs. Under Flexible Supervision, the financial stability committee offers an additional regulatory contract that gives the banker at least the same payoff he would obtain if his bank were assessed by a self-interested supervisor. If the banker self-selects this regulation, then there is no need for the supervisor's report because the financial stability committee can infer the riskiness of the bank from the banker's decision. As a result, Flexible Supervision will not involve any loss of information. Moreover, it will allow the committee to save the supervisor's reward in equilibrium and, in turn, to implement the second-best optimal regulatory policy.<sup>3</sup>

<sup>3</sup> In addition to reducing the welfare costs due to the threat of supervisory capture, Flexible Supervision may also save on compliance and on-site supervision costs. We

Policy implications follow directly from the theoretical results: benevolent financial stability committees should avoid the welfare costs due to the threat of supervisory capture by introducing a Flexible Supervision regime in addition to the traditional Mandatory one. Under these two regimes, the less risky banks are willing to signal their type by putting more capital at risk and being more transparent. In exchange, they are subjected to a less stringent intervention by the supervisor, which, in turn, reduces the scope for supervisory capture with welfare improving effects. This Flexible Supervision regime needs to be complemented with a more stringent Mandatory Supervision regime applied to the rest of the banking system. Direct implementation of the theoretical selfselection mechanism embedded in Flexible Supervision may be, however, difficult in practice. Nevertheless, we argue that this theoretical result provides a rationale for the differentiated supervisory practices that we observe in the real world, where the frequency and intensity of supervision is contingent on banks' characteristics and soundness indicators.

The rest of the paper is organized as follows. The next section reviews the related literature. Section 3 introduces the baseline model. Section 4 is devoted to the analysis of Flexible and Mandatory Supervision. There we derive the main results of the paper and policy implications. Section 5 studies several extensions and robustness checks. Section 6 provides some concluding remarks. Proofs and other technicalities are in Appendices A and B.

#### 2. Related literature

This paper contributes to the literature on the design of banking regulation and supervision. Boot and Thakor (1993) and Giammarino et al. (1993) provide early contributions which have pursued an incentive approach similar to ours. Closely related articles by Marshall and Prescott (2001, 2006) study optimal contingent fees and capital requirements to induce banks to report the level of risk truthfully. However, in their models there is no supervisor who collects a signal on the bank's riskiness and, as a result, no capture opportunities may arise. Prescott (2004) shows that auditing of the bank's riskiness should be stochastic so as to save on costly supervisory resources. We also propose a mechanism to drastically reduce the cost of implementing effective supervision which entails that some banks will not be directly supervised. In contrast to our paper, Prescott (2004) finds that safest banks ought to be audited more frequently for incentive reasons.

Many recent studies focus on the allocation of supervisory tasks to centralized and decentralized supervisors. Agur (2013) highlights how competition between bank regulators may have dire consequences in the presence of regulatory arbitrage. Carletti et al. (2016) argue that centralizing supervision might have countervailing effect on banks' risk taking behavior. This occurs when local supervisors, who are biased in favor of domestic banks, are charged with collecting supervisory information.<sup>4</sup> Dell'Ariccia and Marquez (2006) compare two settings. One in which national regulators interested in their own domestic banking system set policies non-cooperatively and one in which an international regulator sets the same policy for the banks of all countries. Within this strand of the literature, our paper is most closely related to Boyer and Ponce (2012) who argue that splitting supervisory responsibilities between independent supervisory authorities is a superior institu-

do not consider these costs in the model but they are sizable in the real world. Their inclusion in the model would not affect the qualitative results but it might make it optimal to induce the financial stability committee to use the Flexible Supervision contract more often.

<sup>&</sup>lt;sup>4</sup> A conflict of interests between local and central supervisors is also analyzed by Colliard (2014).

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