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EVALUATING THE CENTRALIZED-LAYERS APPROACH TO US FEDERAL FINANCIAL REGULATION

by David VanHoose

Contact

David VanHoose
Professor of Economics, Baylor University
David_VanHoose@baylor.edu
254-710-6206

Abstract

Since the 1930s, Congress has created successive layers of centralized federal regulatory oversight of the US financial system. The Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 added yet another layer of regulatory responsibility by creating the Financial Stability Oversight Council (FSOC), a committee composed primarily of heads of various federal agencies with supervisory responsibilities involving various functions of financial firms. This paper draws on the literature that applies economic analysis of regulation to evaluate Dodd-Frank's centralized-layers financial regulatory structure, which continues a shift toward greater horizontal consolidation of regulation at the federal level but now also vertically integrates US financial regulation within the FSOC. It concludes with an assessment of whether Congress should reconsider the centralized-layers approach to regulation and, if so, whether alternative approaches exist that are likely to be more socially desirable.

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I. Introduction

Passage of the Dodd-Frank Wall Street Reform and Consumer Protection Act in 2010 formalized a centralized-layers approach to financial regulation—an approach that the *Economist* (2012) noted has led to a gradual shift from one federal regulator for every three US banks in 1935 to three federal regulators for every one bank today. With regard to centralization of legal and regulatory control of the US economy's financial sector, the 2010 legislation continued a transferal of financial regulatory authority from the states to the central government that had been initiated by the Banking Acts of 1863 and 1864 and advanced by the Glass-Steagall Act of 1933 and other laws during and since the Great Depression.

Even as Congress during the 1980s relaxed certain 1930s-era financial market constraints by implementing the Depository Institutions Deregulation and Monetary Control Act and follow-up legislation (see, for instance, Cargill and Garcia [1982, 1985]), it adhered to a model of financial authority heavily centralized at the federal level. Key provisions of the Dodd-Frank Act authorized and required federal agencies to issue at least 400 new "rules" intended to exert greater federal command and control over allowable ranges of private firm choices and market processes.

In conjunction with its adoption of these provisions enhancing centralized federal government powers, the 2010 legislation established a new policy body charged with coordinating the various layers of federal authority over diverse functional activities of financial firms. Reflecting a widespread perception that incomplete cooperation among federal agencies contributed to regulatory breakdowns before and during the Panic of 2008, the Dodd-Frank Act

created the Financial Stability Oversight Council (FSOC). Congress thereby replaced the Working Group on Financial Markets, a small body that President Reagan's 1987 Executive Order 12631 created, with an aim to improve policy cooperation and with a much-broadened agency committee mandated by law to coordinate the member agencies' supervisory activities. Table 1 (see page 43) shows the members of the pre- and post-2010 centralized regulatory bodies and lists the FSOC's 10 voting members.

Industrial organization economists who study structures of private industries regularly consider two dimensions of market organization. The first is a *horizontal* dimension, which focuses on competitive interactions within the industry. The second is a *vertical* dimension, which focuses on how firms organize their functions, including acquisition of inputs, production of intermediate and final products, and distribution and sale of those products to consumers.

This paper applies the horizontal-vertical dichotomy to evaluate the new structure of federal financial regulation. From a financial regulatory perspective, the horizontal dimension refers to supervision of a single industry organized around a closely related set of financial products and to competitive elements involving multiple regulators. The vertical dimension of regulation involves regulatory responsibilities across multiple organizational functions of financial firms. Previous analysis often reflects presumptions that horizontal "market incentives" at best weakly influence interactions among regulators and that vertical "market integration" of government supervision of financial firms' functions poses no substantive issues.

In fact, horizontal incentives do matter in assessing the financial regulatory structure, just as incentives matter in evaluating market forces in the private financial sector. In the case of commercial banks, for instance, at the federal level alone there are three federal agencies—the Federal Reserve (Fed), the Office of the Comptroller of the Currency (OCC), and the Federal

Deposit Insurance Corporation (FDIC)—among which bank "clienteles" have been able to choose as primary supervisors through their choices of legal charter and decisions about Federal Reserve membership. Consequently, horizontal considerations are certainly important in banking regulation. Furthermore, federal laws have singled out a range of financial firms' functions for oversight by agencies such as the Securities and Exchange Commission (SEC), the Commodity Futures Trading Commission (CFTC), and the Consumer Financial Protection Bureau (CFPB). For instance, Jickling and Murphy (2010) describe the regulation of securities analysis, brokerage, and dealing; derivatives market trading; and financial-specific firm–consumer relationships. The degree to which the regulators' interactions are or are not integrated influences the scope of regulations these agencies adopt and the nature of their supervisory activities. Hence, the vertical dimension also is relevant within the realm of financial regulation.

By investing centralized authority within the FSOC, the Dodd-Frank Act staked out strong positions on the appropriate horizontal and vertical properties of the US financial regulatory structure. This paper seeks to evaluate the appropriateness of these positions. Section 2 reviews the lessons that economic analysis offers regarding the appropriate structure of regulatory authorities both outside of the financial sector and within that sector. It begins with an overview of general recommendations offered by the economic theory of regulation and then focuses specifically on horizontal and vertical issues. Section 3 follows up by juxtaposing these recommendations from economic theory against the realities of the Dodd-Frank Act's implementation with respect to horizontal and vertical dimensions of the structure of US financial regulation.

Section 4 summarizes the main conclusions forthcoming from this evaluation. One of these is the judgment that placing the three federal bank supervisors within the FSOC rulemaking

superstructure yields gains via reduced inefficiencies due to duplicative activities and a reduced potential for a competitive race to the bottom in supervisory quality at the sacrifice of possible specialization and competition gains. Another is the conclusion that vertically integrating regulation activities—particularly deposit insurance—within the FSOC further reduces the likelihood of a race to the bottom by supervisory agencies but boosts concerns about the potential for regulatory capture. On net, therefore, greater horizontal and vertical centralization of regulatory functions within the FSOC arguably has ambiguous effects on the overall quality of US financial regulation. With respect to several other recommendations of basic economic analysis—to limit discretion to supervisory agencies, to express and pursue goals in terms of publicly available information and market-based data, to keep regulators focused on key goals via incentive-based contracts, and to ensure coequal status of different agencies to reduce the potential for capture—the Dodd-Frank Act's structural changes are all in the wrong direction.

II. Basic Lessons from Economic Analysis of the Regulatory State

It is doubtful that when the US federal political union was formed, many of its founders could have envisioned the development of today's regulatory state. As Stewart (1990) discusses, James Madison (1787) argued that the diverse US federal republic would encompass such an array of disparate, diffuse, and self-interested factions that no single interest group could gain dominance. Nor, Madison contended, could permanent coalitions of interests be maintained.

Nevertheless, the upsurge of interstate business operations during the late 19th and 20th centuries gave rise to special interests seeking regulation of businesses. Free interstate commerce that threatened individual states with exits of businesses to other states in response to state regulatory actions impeded these interest groups' aims. Supreme Court repudiations of dual

federalism jurisprudence during the 1930s, however, enabled Congress to delegate rule-making authority to federal agencies, provide the agencies with adjudicatory powers, and limit the executive branch's authority to influence the agencies' activities.

Stewart (1990) contends that the centralized federal regulatory approach to making and enforcing rules came to be dominated by self-interested factions that the US Constitution's checks and balances were intended to suppress. According to Stewart (p. 342), "By an irony of inversion, Madison's centralizing solution to the problem of faction has produced Madison's Nightmare: a faction-ridden maze of fragmented and often irresponsible micro-politics within the government." The result, Stewart (p. 343) contends, is regulatory dysfunction that can yield unexpected outcomes:

> The legal commands adopted by central agencies are necessarily crude, dysfunctional in many applications, and rapidly obsolescent . . . These dysfunctions not only overburden the regulated entities but also cause them to fail at their intended goals. Legal blueprints drafted in Washington inevitably fall short of their postulated outcomes and produce unintended side effects when officials attempt to apply them to unforeseen or changed conditions.

In many circumstances, Sunstein (1990, p. 407) argues, unexpected consequences can manifest themselves in the form of regulatory paradox, or self-defeating regulatory strategies that often "achieve an end precisely opposite to the one intended." This paradox, Sunstein concludes (p. 413), is "a product of the government's failure to understand how the relevant actors—administrators and regulated entities—will adapt to regulatory programs. . . . Strategic responses, the creation of perverse incentives for administrators and regulated entities, unanticipated changes in product mix and private choices—these are the hallmarks of the paradoxes of the regulatory state."

In spite of this understanding of the likelihood of unanticipated and paradoxical responses to regulation, many economists and policy makers cite a "need" for one form of regulation or

another to mitigate financial-market externalities, market power, or informational asymmetries (see, for instance, Santos [2001] and Carletti [2008]). As Viscusi, Harrington, and Vernon (2005) discuss, this perspective on regulation arises from the idea that regulation "occurs when it should occur because the potential for a net social welfare gain generates public demand for regulation." In other words, if a given form of government regulation exists, it must have arisen and continue to endure because it succeeds in addressing social ills. Viscusi, Harrington, and Vernon call this the normative-analysis-as-positive-theory (NPT) approach to regulation, which many economists alternatively refer to as the public-interest approach.

A broader theory of regulation that encompasses the NPT/public-interest perspective is Peltzman's (1976) economic theory of regulation. That theory yields a public-interest-style outcome as a special case: A regulator with the discretion to act on preferences geared toward a consumer-oriented outcome of perfectly competitive production and pricing will undertake policies geared toward producing such an outcome. At another extreme, however, a discretionary regulator that values support from firms in the supervised industry—that is, a regulator "captured" by the industry—will engage in policies that promote industry-profit-maximizing outputs and prices (see Dal Bó [2006] for a full review). As Stigler (1971) noted, for some regulated industries, such policies might include direct restraints on market entry that limit output and boost market prices. For other industries in which regulators are unable to constrain entry directly, indirect instruments such as minimum quality standards could be used as tools to push up fixed costs faced by potential entrants and discourage entry sufficiently to enable incumbents to receive steady flows of economic profits (see Pham and VanHoose [2012]).

As Samuel (2009) discusses, collusion between a captured supervisor and a regulated agent can be examined as essentially a contractual arrangement in which the agent makes a side

payment to the supervisor. Samuel evaluates a common presumption that if a government offers a regulator a higher reward for doing its job properly, the potential for capture is reduced. He shows that this policy can help mitigate what he calls ex post corruption (i.e., capture) that occurs after the supervisor has exerted effort to collect information about the agent. The policy does not necessarily rule out what he terms preemptive corruption, or ex ante regulatory capture, that occurs in advance of the expense of supervisory effort. Samuel concludes that if rewards to the supervisor are the only way to prevent corruption, then an equilibrium without ex post corruption may not necessarily be preferred to one with preemptive corruption.

Arguably, Samuel's analysis also indicates the importance of establishing an optimal regulatory structure in which an "equilibrium" is reached. How might a government structure regulation in a way that minimizes the potential for regulators to be captured? Martimort (1999) examines how repeated interactions between a supervisor and regulated firms can make it more likely that they adopt jointly collusive agreements, to the detriment of the political principals seeking regulation in the public interest. In Martimort's model, as time passes, more interaction between a supervisor and the firms that it regulates requires an increasing number of "collusion-proofness" constraints to be satisfied to avoid capture. Martimort concludes that preventing capture ultimately requires gradual removal of regulatory discretion in favor of reliance on hard-and-fast rules, which he calls "bureaucratization." Within the realm of banking regulation, Martimort's prescription for adherence to nondiscretionary bureaucratic rules dovetails with a recent analysis by Haldane and Madouros (2012), although these latter authors suggest that this approach has advantages even for public-interest-oriented regulation. Complex financial regulations, Haldrane and Madouros argue, can expand the range of assumptions factored into discretionary supervision and hence expand exposure to biases in those assumptions. This

argument implies that simpler, more bureaucratic rules actually could be more effective at making banks safer.

Tirole (1994) emphasizes as well the crucial nature of information in influencing the relationship between society, its regulatory agents that supervise private firms, and the regulated clientele industries. In a summary of key conclusions from information-based theories of regulation examined in Laffont and Tirole (1991), Tirole discusses how the design of regulatory structure can reduce the potential for capture. Paralleling Martimort's point, Tirole emphasizes the importance of reducing the stakes for interest groups through supervision according to a rulebook instead of granting regulators discretion highly dependent on inside information held by the supervisor and regulated firms. When information arises as a consequence of dealings between supervisors and regulated firms, Tirole argues, regulators should fully reveal the information to the public at large. Finally, although Tirole notes difficulties in taking into account all feasible contingencies, he argues in favor of establishing incentive-based contracts for regulators to ensure rule-based supervision and regulatory truth-telling.

How might society tailor the incentives of regulators to limit the scope for capture? Helm (2006) suggests requiring a regulator to conduct its policies based on information that is market-based and hence observable by the public as well as by the regulator and its clientele firms. Helm also argues against command-and-control regulation, which enables regulatory and clientele insiders to operate on the basis of private information, thereby assisting in hiding collusion and capture. His conclusion is that granting regulators the independence to pursue publicly known, market-based objectives serves the public interest.

Publicly available, market-based information informing such goals would include readily observable data on market-clearing prices, such as the rate of return that banks pay on

subordinated debts and certificates of deposit (see, for instance, discussions supporting proposals for market-based regulation offered by Evanoff and Wall [2000] and Calomiris [2004]). Insider information possessed by financial institutions and their regulators, such as the results of regulatory "stress tests" known only by these entities, would not be eligible for inclusion. As the recent scandal regarding the London Interbank Offered Rate (LIBOR) has revealed, some survey-based data also may constitute inside information available only to financial institutions and regulatory officials, such as Federal Reserve Bank of New York officials who apparently were aware of systemic LIBOR underreporting but did not reveal that information to the public (see Paletta and Hilsenrath 2012).

Many economists commonly argue that financial markets are replete with "soft information" that is difficult for the public to observe. How might governments ensure the public's access to information that is perhaps more readily available to financial firms and public-agency supervisors and which influences the manner in which regulators frame and pursue their goals? Levine (2010) suggests establishing what he calls a "Sentinel," which presumably would be a separate agency tasked with collecting and disseminating all relevant financial market data and information about financial regulations and the governance process that supervisors must follow.

Financial regulators may be particularly susceptible to industry capture. Hardy (2006) notes that Laffont and Tirole's (1991) criteria for industries prone to regulatory capture all apply to the banking industry: (1) As Pilloff (2009) documents, the industry exhibits high levels of concentration within regional (metropolitan statistical area) markets, which simplifies the incumbents' task of reaching agreement on a regulatory structure consistent with their self-interest; (2) industry incumbents have much at stake as a consequence of regulation by an agency

possessing discretionary powers; and (3) the industry exhibits several forms of informational asymmetries as well as other complexities that incumbents and the regulator can utilize to help shield the pro-industry purposes of regulation. Woodward (2000) makes an analogous argument with respect to the securities industry and offers several supportive case studies.

In studies of specific instances of banking regulation, Abrams and Settle (1993), Kroszner and Strahan (1999, 2001), and Lown and Wood (2003) have provided evidence that incumbent commercial banks have, at various times throughout history, been able to steer regulation toward shaping the structure of their industry. In principle, evidence that Dick (2007) offers regarding a tendency for market concentration to remain invariant to market size might, as she suggests, be interpreted as consistent with a Sutton-style (1991) "natural oligopoly" in banking. Nevertheless, Pham and VanHoose (2012) note that the evidence is also consistent with a regulatory-capture story in which the significant fixed costs of banking regulations documented by Elliehausen (1998) protect incumbents from profit-eroding entry. Finally, Rosenbluth and Schaap (2003), Stiroh and Strahan (2003), and Masciandaro and Quintyn (2008) have offered some direct evidence favoring the conclusion that regulatory capture may be a relevant concept in banking.

The Horizontal Dimension: Financial Regulatory Competition, Collusion, and Capture

Modern financial firms typically confront multiple regulators. As Kushmeider (2005) and Ludwig (2011) discuss, any resulting supervisory overlaps and duplications could make such a system less efficient and result in blurred lines of authority and accountability. Another complication is that each financial regulator might allow itself to be captured by its regulated clientele firms. In the case of the banking industry, commercial banks have been able to select

among the three federal regulators charged with supervising their operations. Consequently, the Fed, the FDIC, and the OCC have effectively engaged in horizontal rivalry for regulated clienteles. To the extent that these regulators have supervisory discretion, the interactions among these regulators along a horizontal dimension could have been either competitive or collusive, with spillover effects onto the extent to which regulatory capture might have occurred.

Esty and Geradin (2000) attempt to evaluate whether the Tiebout (1956) model of horizontally distributed governmental jurisdictions applies as well to regulatory dominions. In the Tiebout model, people's decisions about where to locate ultimately produce efficient allocations of public resources. If so, then horizontal rivalry for supervised clienteles, such as banking firms, ultimately will yield a self-correcting equilibrium in which regulators impose essentially identical and appropriate supervisory rules. In such an equilibrium, clientele firms would have no incentives to engage in regulatory arbitrage by changing regulatory jurisdictions in order to select a different supervisor.

Based on an examination of data from more than 1,500 banks that changed regulators between 1983 and 1999, Rosen (2003) offers evidence that he concludes supports a Tiebout-style interpretation. He finds that banks tend to opt for different regulators when they are changing either in an upward or downward direction the risk levels of their loan portfolios. In particular, his results indicate that banks affiliated with multibank holding companies and not involved in recent mergers are more likely to switch regulators when reconfigurations of their balance sheets make their portfolios more complicated for a supervisor to monitor. Furthermore, when banks switch regulatory jurisdictions, their performances tend to improve. He concludes that bank regulators tend to specialize, which permits banks to select the regulator that best matches their strategy. Thus, a bank can improve its performance by choosing a different supervisor.

Esty and Geradin contend, however, there are possible "regulatory market failures" that might stand in the way of applying Tiebout's framework along the horizontal dimension of regulation. They argue that these include (1) elements that impede the mobility of regulated firms among jurisdictions; (2) the potential for policy externalities, or spillover effects of one dominion's regulatory decisions onto another; (3) costly imperfect information that complicates assessing regulatory costs and benefits across jurisdictions; (4) economies of scale in regulatory activities; and (5) the potential for "races to the bottom" in supervisory standard setting.

Reinicke (1994) emphasizes the last of these possible pitfalls. He suggests that

> the existence of multiple regulatory agencies in the US financial system creates institutional overlap among the regulators at the federal level. . . . This forces regulators to compete with each other in a market for regulation and reverses the traditional role of public policy.
>
> To maintain their status and clientele, individual regulatory agencies cannot merely contemplate the interests of the financial system as a whole, but must, at all costs, embrace the preferences of the very individual segment of the financial industry that they regulate. Unless they can defend or even enlarge the market share of their constituency, and thereby their own regulatory turf, they will not be able to endure over time.

When might public-interest-oriented and initially independent financial regulatory authorities generate gains by centralizing functionally similar supervisory activities instead of maintaining separate jurisdictions? Dell'Ariccia and Marquez (2006) consider this question. Their discussion presumes that regulatory jurisdictions are financially integrated, so their analysis can be interpreted as having potential applicability to legally separate regulatory jurisdictions within the same nation. In their theoretical framework, the regulator within each jurisdiction sets its own bank capital standard, with higher capital requirements unambiguously making banks safer within their model. Dell'Ariccia and Marquez demonstrate that two independent regulators that fail to take into account positive spillovers of higher capital requirements across jurisdictions will set more lenient capital regulations than would a single

regulator supervising both jurisdictions simultaneously. Centralization in the form of a regulatory union might overcome this regulatory externality but at the cost of a loss of regulatory flexibility, particularly if characteristics of the jurisdictions are relatively heterogeneous. In addition, both regulators in their model would opt for a centralized regulatory union only if a united agency would impose tougher capital requirements than the toughest already imposed among the existing regulators.

Instead of considering formation of a regulatory union, Weinberg (2002) explores horizontal regulatory issues from the perspective of regulatory competition, a setting that Reinicke argues has accorded with the US bank regulatory environment. He considers a framework in which a bank regulator seeks to ensure that its income does not fall below supervisory costs by selecting the probability of a bank examination. An examination reveals whether a bank has chosen a high-risk action that ultimately brings about failure or a low-risk action that typically does not. The regulator also determines a fee to charge to the examined banks that elect not to engage in risky behavior and hence survive to transmit the fee. If an examination reveals that a bank has made a high-risk choice and will fail, the bank is closed at a cost to the deposit insurance system.

In the context of his framework, Weinberg shows there is a set of examination-probability and examination-fee combinations that both satisfies the regulator's own budget constraint and induces a bank to select the less-risky choice and remain an ongoing enterprise. He also demonstrates that if a regulator faces lower- and higher-risk groups of banks, more frequent, higher-fee examinations would be appropriate for the riskier group. The same examination-probability and examination-fee setting would be necessary if the regulator could not distinguish between the two groups ex ante, with a more safety-conscious regulator

establishing a setting that would ensure the less-risky choice by the high-risk banks. A less conservative regulator, in contrast, might opt for a setting that yields a few bank failures from time to time between examinations.

When Weinberg applies his theory to an environment with two regulators that engage in horizontally rivalry for bank clienteles, the outcomes naturally depend on the regulators' degrees of conservatism. A key implication of Weinberg's analysis is that if multiple regulators are sufficiently nonconservative, a "race to the bottom" can result, with both regulators settling for a minimal number of examinations and miniscule examination fees in order to retain clienteles, as Reinicke suggests.

The Vertical Dimension: Financial Regulatory Integration, Information Sharing, and Capture

Weinberg's study also touches on an important vertical regulatory issue: whether regulators charged with conducting supervisory examinations of banks should also function as deposit insurers. His analysis indicates that a safety-conscious regulator that serves as both an examining supervisor and a deposit insurer typically will have an incentive to set an examination probability and combined examination-deposit insurance fee that ensures minimal failures, though such a vertically integrated regulator might settle for a small number of failures if its degree of conservatism is below a critical threshold.

Naturally, a race to the bottom cannot occur with a single vertically integrated regulator. Weinberg shows how a vertically integrated supervisor and deposit insurer facing competition from another regulator that does not have deposit insurance responsibilities can, if the latter regulator also is sufficiently less conservative than the deposit insurer, result in a steady drop in the integrated regulator's clientele. The result could be a race to the bottom, with examination

probabilities and fees being reduced to miniscule amounts. Avoiding this outcome, Weinberg's analysis indicates, would require horizontally competing regulators to possess both supervisory and deposit insurance responsibilities and to be endowed with sufficient degrees of conservatism. In contrast, absent vertically integrated regulatory functions and sufficient safety-consciousness, the regulators' interests in clientele retention are likely to become so predominant that they effectively become captured by the banks they regulate and that the deposit insurer must insure. Baker (2010) argues that such capture occurred during the decades preceding the recent financial crisis and ultimately resulted in policies contributing to its severity.

Several researchers have addressed vertical issues in the structure of regulation. Laffont and Martimort (1999), for instance, analyze a theoretical framework in which the act of regulating a firm involves two separate supervisory information-gathering functions. Thus, in contrast to Weinberg's analysis within a narrower banking context, there is no horizontal dimension of rivalry among the model regulators Laffont and Martimort studied. Within this setting, Laffont and Martimort evaluate whether it is more efficient for society to have a single, integrated regulator perform both functions or to separate the functions and assign them to two regulators. In either situation, because the regulators are self-interested and, hence, nonbenevolent, there is a potential for firms to make side payments to one or both regulators to ensure supervisory forbearance—that is, to engage in regulatory capture. Laffont and Martimort show that separating regulatory tasks between two regulators reduces the level of supervisory discretion in comparison to the single-regulator case. As a consequence, the sum of gains for two regulators that collude in their supervision is typically no higher than the profits available to a single supervisor. Separating regulatory functions, therefore, can reduce the potential for regulatory capture.

Building on earlier work by Repullo (2000), Kahn and Santos (2005) focus on vertical

issues in bank supervision while presuming that regulators always seek to act in the public interest. Hence, they ignore the issue of regulatory capture. Kahn and Santos analyze whether to assign a single regulator the responsibilities for deposit insurance and lender-of-last-resort-at-a-penalty-rate functions or to give these powers to separate regulators. They examine a very rudimentary, stylized model in which a financial firm allocates a fraction of "deposit" funds (subject to liquidity demand shocks) to illiquid "loans" offering a random payoff versus an alternative liquid asset that yields a known and certain "market" interest rate assumed to equal zero. As in Laffont and Martimort's analysis, informational issues are important. A supervising regulator may be able to incur a monitoring cost to observe a signal of the payoff on loans, which that regulator might choose to share with other regulators.

In the Kahn-Santos model, under efficient regulation banks would place all of their deposits in loans so as to maximize expected profits, and the regulator would liquidate any bank when its condition falls below a critical threshold. The model assumes that regulators generally experience disutility from political costs associated with closing banks. Kahn and Santos show that a single regulator that acts as both deposit insurer and lender of last resort produces a less-than-efficient outcome in which banks hold low-return liquid assets both to avoid paying a penalty rate for lender-of-last-resort credit and to be able to continue operating due to forbearance—the act of allowing an insolvent bank to continue operating—on the part of the regulator. The Kahn-Santos analysis concludes that such forbearance is optimal for the regulator, which in equilibrium never closes a bank if liquidity shocks are small and which requires sufficiently large liquidity shocks to close a bank at all. Giving a single regulator supervisory authority induces that regulator to offer less forbearance, which in turn incentivizes the bank to allocate all funds to lending since it

knows that the regulator will close it if its financial condition is poor even if it does not require liquidity assistance.

In a setting in which (1) one regulator is the deposit insurer but cannot withdraw insurance coverage and hence effectively close the bank, (2) another has lender-of-last-resort authority, but (3) neither regulator has supervisory powers, Kahn and Santos obtain results analogous to the single-regulator case without supervisory powers. Granting the deposit insurer either supervisory powers or authorizing the right to withdraw insurance coverage moves the equilibrium closer to efficiency, as in the single-regulator case with supervisory powers. At relatively high levels of liquidity shocks, having a separate deposit insurer with supervisory powers or insurance-withdrawal authority leads to less forbearance and an improvement on the single-regulator case. But when liquidity shocks are meager, a single regulator is more socially desirable.

Kahn and Santos also investigate incentives for regulators to monitor banks and share information about the results of their monitoring activities. They find that a single regulator lacking authority to close banks engages in "too little" supervisory monitoring. This result follows both because of a bias toward forbearance that makes information gleaned from monitoring less valuable and because intervention only occurs when liquidity issues arise that also reduce the gains from monitoring.

To study information-sharing incentives when there are two regulators, Kahn and Santos consider a narrower version of their model in which possible outcomes of both the liquidity shock and the loan payoff signal are either "high" or "low" and both a last-resort lender and a deposit insurer possess authority to close down banks. They show in this setting that if the last-resort lender observes only liquidity shocks while the deposit insurer sees only the loan payoff

signal, then in some situations neither regulator has an incentive to share information, and the last-resort lender always provides liquidity rather than close banks. Only when both regulators have complete information will either one exercise its bank-closure power, thus indicating the importance of information sharing among supervisors.

In contrast to the analysis of Kahn and Santos, a recent study by Boyer and Ponce (2012) considers the potential for regulatory capture alongside an analysis of divisions of functions among separate regulators. Boyer and Ponce, who build in part on the analysis of Laffont and Martimort, also consider vertical integration of regulatory functions within a "financial stability committee," which acts as a principal stand-in for society as a whole and relies on either one or two bank supervisors who decipher signals regarding banks' performance prospects. The committee offers a regulator a supervisory "contract" that includes an information-contingent menu of regulations for banks and wage payments to the supervisors—where the source of information is the signal interpretation of the supervisor(s). In their model, benevolent, public-interested supervisors report fully the information extracted from observable signals, whereas nonbenevolent, self-interested supervisors consider bargaining for side payments from regulatory capture by banks to provide favorable reports to the committee.

In the case in which the committee relies on a single supervisor, Boyer and Ponce find that nonbenevolence and the potential for regulatory capture create a distortionary spillover onto overall regulatory policy settings determined by the committee. The magnitude of the side payment that banks offer to the supervisor depends on the size of the gain to banks and the supervisor from colluding, so the committee must decrease the potential gain from collusion between the banks and supervisor. Doing so requires both setting higher—as compared with the benevolent-supervisory case—capital requirements that reduce the operating scales of riskier

banks and establishing tougher regulations that reduce profits in situations that would give banks incentives to offer side payments.

Boyer and Ponce show that when the financial stability committee utilizes two independently functioning, nonbenevolent supervisors to obtain information about banks' prospects, blocking the transmission of at least one correct signal to the committee would require collusive side payments from banks to both supervisors. Yet banks' overall gains from collusion in situations in which false reports to the committee would benefit the banks remain unchanged. Consequently, the capacity of either of the two supervisors to obtain a side payment sufficient to induce a false report is lower. Moving from one to two supervisors thereby decreases the expected potential for supervisor capture and, hence, reduces the need for the committee to set capital requirements as high or to establish regulations as tough on bank profitability.

To introduce vertical complications faced in a hierarchical regulatory structure, Boyer and Ponce consider a revised environment in which one of two supervisors utilized by a financial stability committee transmits its report on a signal of banks' prospects but does not observe the other supervisor's report on the signal that its monitoring yields. Therefore, the supervisor that does not observe the other supervisor's report effectively is a junior, subordinate supervising agent reporting to both the committee and the senior supervisor. Boyer and Ponce show that although this revised structure still creates smaller distortions for the regulatory policy mix (capital requirement and regulatory burden on profits) as compared with the case of a single nonbenevolent supervisor, the magnitudes of the distortions are unambiguously greater than in the case of independent supervisors. A regulatory structure with multiple independent supervisors, they conclude, is preferable to a structure in which one supervisor is subordinate to others. Nevertheless, both multiple-regulator structures yield better results than a single-regulator structure.

Esty and Geradin (2000) also argue in favor of a nonvertically integrated regulatory process, but they offer an alternative rationale. On the one hand, they suggest, a vertically layered regulatory structure would permit horizontally coordinated regulatory actions across jurisdictions aimed at taking regulatory market failures into account. On the other hand, vertical involvement of multiple regulators *within* each regulatory dominion—such as financial institutions and markets—would act to restrain the potential for regulatory capture associated with centralized regulation. Thus, Esty and Geradin promote horizontal centralization buttressed by competition-promoting vertical independence of regulators focusing on separate functions of supervised firms.

Easterbrook (2003) supports the idea that nonvertical integration of regulation promotes competition. He points to vertical regulatory rivalry between the Fed and the SEC in establishing rules to limit competition under the Glass-Steagall framework. "The Federal Reserve permitted holding company structures that evaded [Glass-Steagall] restrictions, and the development of new derivative securities allowed . . . supposedly separated entities to transact business that was functionally identical to the other's." According to Easterbrook (p. 1302), "The SEC tried to get together with the Fed to stop this, but the Fed (with the support of its own clients) would not cooperate."

Table 2 (see page 44) summarizes the conclusions forthcoming from the economic analysis discussed in this section. The first column summarizes fundamental issues for which applications of economic analysis to the regulatory problem offer recommendations for regulatory structure. The second column lists these recommendations. The third column lists the sources of the corresponding analysis and recommendations, which are mixed regarding horizontal centralization and vertical integration.

III. Evaluating the New US Centralized-Layers Approach to Financial Regulation

As discussed at the outset, since the 1930s the United States has witnessed a steady progression toward centralization of the process of financial regulation. Across all functions that financial institutions perform, this trend toward federal regulatory centralization continued even in the midst of the deregulation of a number of financial markets in the 1980s. It has continued apace with the passage and implementation of the Dodd-Frank Act. Thus, along the horizontal dimension of regulation, federal government agencies have become predominant, with some scope remaining for rivalry among commercial bank regulators.

The Dodd Frank Act's creation of the Financial Stability Oversight Council has taken the centralization process a step further by mandating that all key federal financial regulators participate in the FSOC. Thus, there is now a formal mechanism through which federal financial regulators coordinate their regulation across the range of functions that financial firms perform, yielding a more nearly vertically integrated regulatory structure. Therefore, Congress has created a new centralized-layers structure for US financial regulation.

How did the centralized-layers structure for US financial regulation come about and proceed? Did Congress give any thought to whether further federal consolidation of regulatory authority along a horizontal dimension and a major shift toward vertical integration would truly yield outcomes in the public interest? Does the structure it created in the form of the FSOC accord with the recommendations of the economic theory of regulation? Let us begin by considering the first question in some detail in the next subsection before turning to the latter two questions in the subsection following.

The Process of Designing and Implementing the Dodd-Frank Act's Centralized-Layers Structure

Although politicians across the US political spectrum were quick to blame "greedy speculators" for the financial meltdown that occurred between 2006 and 2009, Paletta (2008) noted that even Vice Chair of the Federal Reserve's Board of Governors Donald Kohn admitted, "I don't know that we fully appreciated all the risks out there . . . [hence] the Fed did not perform flawlessly—I absolutely agree with that." While agreeing about seemingly little else, the Financial Crisis Inquiry Commission (2011) ultimately concurred that poor supervision by the Fed and other financial regulators contributed to the crisis.

The executive and legislative branches of government contemplated completely reconfiguring the US financial regulatory structure. Although Blackwell and Hopkins (2009) reported in early 2009 on the failure of a White House proposal for consolidating regular bank supervision within a single regulator and placing systemic regulation solely within the Fed, in the summer of that year, Hopkins (2009) noted continuing interest within the US Senate to consolidate bank regulation within a single federal regulatory agency. Paletta (2009b) described a sudden settlement shortly thereafter between the White House and Congress to preserve most of the previously existing regulatory agencies but no final decision on ranges of powers to be granted to the individual agencies. The resulting political uncertainty created what Paletta (2009a) described as a "brawl" among federal regulatory agencies—an interpretation supported by former FDIC chair Sheila Bair's (2012) characterizations of specific fellow regulators as pursuing self-interested objectives or acting as captured supervisors.

Nevertheless, back-to-back reports in early 2010 by Kaper (2010a, 2010b) illustrate the continuing flux in the political arena. On March 16, one report summarized a proposal by Senate Banking Committee Chairman Chris Dodd for a financial regulatory structure very much like

what ultimately emerged within the Dodd-Frank Act. The following day's report, however, discussed an alternative proposal from Dodd to place the Fed in charge of supervising 55 large bank holding companies and assigning the FDIC and OCC to supervise the remaining banks.

A great deal of churning took place in the policy-structuring arena between 2009 and 2010. As Landy (2010a, 2010b) reports, the one area of agreement among political actors operating within the prevailing democratic majority was that that the regulatory structure was too fragmented, with blurred lines of regulatory authority concerning broad systemic issues. Ultimately, Dodd's March 16, 2010, proposal emerged as the basis for the bill that ultimately became the Dodd-Frank Act. The 848-page act established the FSOC, the Office of Financial Stability Policy and Research based within the Treasury, and the Consumer Financial Protection Bureau (CFPB) funded by Fed seigniorage. The legislation eliminated the Office of Thrift Supervision in favor of consolidating the US Treasury's regulatory activities within the OCC.

The Dodd-Frank Act called for the FSOC and its constituent regulatory agencies to issue speedily a number of new "rules" aimed at curtailing the risk of any future financial breakdowns. The FSOC initially moved very slowly in response to the legislation. By the end of 2011, only a handful of FSOC meetings had taken place, and Borak and Hopkins (2010), Hopkins (2010), and Borak (2011) reported that observers characterized these meetings as dominated by interagency squabbling. The FSOC issued a few general reports required by the Dodd-Frank Act but offered few specific policy recommendations (FSOC 2011a, 2011b). As Rehm (2011) discusses, during the first few months, Treasury and Federal Reserve officials primarily set the FSOC's agenda, in part because of unfilled vacancies at the heads of several other agencies. According to Rehm, the FSOC appeared to be "a messy collection of more than a dozen state and federal agencies," with the FSOC's mission complicated by Congress

"putting everyone and anyone on it[, so that] there are just too many people on the council for it to be effective."

A particularly novel feature of the Dodd-Frank Act was the authority that it granted to the two new regulatory bodies—the FSOC and the CFPB—to determine on their own which specific firms required new forms of regulation. The FSOC could decide which nonfinancial firms required special supervision as systemically important companies, and the CFPB received wide discretionary latitude regarding the scope of its regulatory authority.

The Dodd-Frank Act also enhanced the authority of one existing regulator. The legislation empowered the Fed to obtain information gleaned by other regulators for its systemic-supervision duties. The law did *not*, however, include a quid-pro-quo requirement for the Fed to provide to other regulators information yielded by its own monitoring efforts.

Between the fall of 2011 and late 2012, as Davidson and Wack (2011), Lowrey (2012), and Adler, Davidson, and Finkle (2012) report, the FSOC began to operate in a more organized fashion. The Dodd-Frank Act declares that banks with assets exceeding $50 billion are systemically important, and in October 2011, the FSOC initiated the process of determining which among nonbank financial firms with more than $50 billion also would be classified as systemically important. Since then, the FSOC has issued a flurry of Dodd-Frank-mandated "rules."

As Davidson (2011) notes, the CFPB's first order of business was to announce its intention to subject the nation's largest banks to supervisory monitoring, both remotely and via on-site examinations. More recently, as Randall (2012) reports, the CFPB has begun implementing a plan to supervise 175 consumer-debt-collection companies. The CFPB also appears to have taken advantage of its considerable discretion over the use of its portion of the

Fed's seigniorage earnings and its authority to retain unallocated portions of fines it assesses. Neugebauer (2012), for instance, has noted that the agency has announced an aim to spend more than $120 million per year on unnamed "other services," which reportedly include plans to provide information to US consumers in 187 different languages. Neugebauer also reports that 60 percent of the numerous CFPB employees hired to date earn more than $100,000 per year. According to Blackwell (2012), the agency contends that its aggressive hiring and compensation effort is consistent with its aim to structure itself in a way that will reduce the threat of regulatory capture.

As Wack (2012) reports, the Dodd-Frank Act also authorizes the CFPB to establish and maintain a Civil Penalty Fund. The legislation grants the CFPB authority to allocate collected fines to compensate victims of fraudulent activities or, "to the extent that such victims cannot be located" or that payments to them "are otherwise not practicable," to allocate the funds instead to "consumer education and financial literacy." So far, the CFPB has not provided a definitive statement about what types of consumer education and financial literacy programs might qualify for special dispensation from its fund.

Gruenberg (2012) has reported that the FDIC and other bank regulators have been implementing orderly resolution rules as stipulated by the Dodd-Frank Act. Nevertheless, much of the FSOC banking regulators' attention between 2010 and 2012 remained focused on replacing international bank regulation agreements established under the auspices of the Bank for International Settlements in Basel, Switzerland. The first of these agreements, commonly known as Basel I, was a 30-page document crafted in the late 1980s. It established minimum ratios of different measures of bank capital (stockholder equity or equity plus various long-term bank debt instruments) to alternative measures of bank assets (either total assets or weighted-average asset

measures using regulator-specified risk weights). When banks responded by reshuffling their balance sheets in ways that satisfied the letter of the Basel I requirements but violated the spirit of the rules by effectively boosting overall risk, international bank regulatory authorities developed a new 347-page Basel II agreement during the early 2000s. As VanHoose (2007a) discusses in more detail, this agreement overhauled Basel I's risk-measurement system for capital regulation, established a "supervisory process" for participating regulators, and mandated "market transparency" on the part of regulated banks. The Basel II agreement was gradually being implemented before the financial meltdown of 2007–2008.

Of course, as VanHoose (2007b) points out, decades of economic research on bank capital regulation have yielded mixed conclusions about the relationship between capital requirements and the risk configurations of banks. In addition, as Friedman and Kraus (2011) emphasize, official "risk weights" that international regulators have assigned for bank capital requirements over the years have exhibited little relationship to the actual realizations of risks on the part of banks, savers, and investors in markets for mortgage-backed securities and, more recently, sovereign debts. Furthermore, as VanHoose (2007a) discusses, to the Basel drafters, "supervisory process" is a code for regulatory policy discretion, and "market discipline" seems to mean greater transparency on the part of market participants without any other particular reliance on discipline provided by markets.

When the Dodd-Frank Act was enacted, the Basel I agreement was still applicable for most small banks, the Basel II agreement was being phased in for large banks, and FSOC-member bank regulators (the Fed, the OCC, and the FDIC) were immersed in discussions of yet another version of Basel. What emerged by early 2012 from these agencies' time-intensive efforts, in conjunction with regulators in other nations, was a reworking of the Basel framework

known as Basel III, a 616-page agreement that may ultimately require about 30,000 pages of "rules." This updated framework mainly appends to the partially implemented Basel II system a larger number of required capital ratios and offers increased discretion to regulators in application of those ratios. Hence, regulators decided to maintain the Basel Accord even though adherence between 1988 and 2007 failed to prevent risky balance sheets that resulted in substantial insolvencies at a number of institutions and spillover illiquidity problems for the banking system as a whole. In spite of all of this effort, Borak (2012a) reports a fraying in international support for Basel III. This breakdown reflects divergences among national regulators in perceived effects on the performances and safety and soundness of banks in different countries—divergences that an analysis by Kopecky and VanHoose (2012) suggests should naturally arise since no single array of capital ratios is likely simultaneously to improve the quality of lending in all nations.

To date, the initial "test case" that has arisen for the FSOC has, as widely reported (for instance, by Borak [2012b], Grind [2012], Gulino and N'Diaye [2012], and Lynch and Wutkowski [2012]), concerned the SEC's refusal to adopt proposed rules governing mutual fund accounting and financial reporting (see *Wall Street Journal* 2012). Ultimately, as Wyatt (2012) reports, the FSOC voted to "recommend" to the SEC three options for mutual funds: (1) changing to floating net asset values, (2) requiring mutual funds to maintain a buffer of 1 percent of assets while limiting withdrawals by large savers, or (3) requiring a buffer of 3 percent of assets. The FSOC suggested that SEC failure to adopt one of these options might lead the FSOC to declare the entire mutual fund industry to be "systemically important" and hence subject to direct systemic-based regulations that would supersede SEC rules. This first instance of a particular issue arising for FSOC-level consideration suggests that the FSOC is, indeed, as the

Dodd-Frank Act's framers apparently intended, operating as a vertically integrated regulatory body. Specifically, the FSOC determined that changes in mutual fund rules were required to take into account the interactions of these financial institutions with other horizontal layers of regulatory responsibility. The result has been a decision by the entire body to intervene at the horizontal level that in the past was reserved solely for the SEC.

At the time this paper was written, the SEC's future independence had been called into question. O'Malia (2012) points to CFTC-SEC roundtable discussions generating cooperation between these two key financial-market regulators. Some observers, however, contend that voluntary cooperation is insufficient and argue for even further centralization. Bair (2012) and a House of Representatives Staff study (2012) suggest merging the CFTC and SEC into a single agency operating within the FOMC regulatory superstructure.

Does the Centralized-Layers Approach Adhere to Recommendations Forthcoming from Economic Analysis?

A year following the Dodd-Frank Act's passage and the FSOC's establishment, Rehm (2011) coupled her view that the FSOC was too large and unwieldy with the assessment that Congress "should have consolidated federal oversight of all depository institutions—banks, thrifts, and credit unions—into a single agency." She concluded, "The Fed should have been focused on monetary policy, clearly a full-time job, and the FDIC should have been stripped down to deposit insurer." Two years later, Bair's (2012) recommendations roughly paralleled those of Rehm, except that Bair was more favorable to retaining the FSOC's broadly based, centralized-layers structure. Bair, however, preferred the idea of the FDIC being a consolidated supervisory agency for nonsystemically important financial institutions. The OCC, Bair suggested, had outlived its

usefulness, because in her view, during the 2007–2008 financial meltdown, the OCC demonstrated an aversion to taking sufficiently speedy and appropriate actions to rein in risky activities of banks that it supervised.

In contrast, Abernathy (2012) faulted perceived failures of the FSOC to abide by the FSOC chair's six stated principles for enacting Dodd-Frank "rules": speedy action, transparency and consultation, avoiding layering new requirements atop old regulations, allowing for continued private financial innovations, leveling market playing fields, and utilizing coordinated benefit-cost analysis. Separately, Finkle (2012) reported on FSOC agencies' efforts to lobby against the passage of legislation requiring them to take estimated costs as well as benefit forecasts into account when considering proposed new regulations.

Aside from this benefit-cost issue, these and most other critiques of the FSOC superstructure have focused on its operational activities since 2010. Researchers and practitioners have given little attention to whether the centralized-layers structure created by the Dodd-Frank Act accords with basic recommendations forthcoming from application of economic analysis.

Table 3 (see page 45) evaluates the extent to which features of the Dodd-Frank Act are consistent with recommendations of economic analysis. Its first two columns repeat the first two columns of table 2. The third column lists the Dodd-Frank/FSOC centralized-layer prescriptions for addressing the issues. The last column assesses whether the new legal provisions for financial regulation accord with the recommendations forthcoming from basic economic analysis.

The first four rows of the table list issues related to the general structure of regulatory agencies. As discussed in section 2, economic theories of regulation argue in favor of minimal supervisory discretion, a regulatory focus on the use of publicly available information,

orientation of goals and policymaking around market-based data, and contractual arrangements intended to induce supervisors to attain objectives in the public interest. All these recommendations are geared toward reducing the potential for regulatory capture by forcing regulators' operations into the open and directing regulators toward public-interest-oriented supervision. In contrast, as the third-column entries indicate, the Dodd-Frank Act expands the discretionary powers of financial regulators, permits considerable volumes of information to remain inside the supervisory process, reinforces this process toward command and control instead of the utilization of market-based data, and leaves in place bureaucracy-based incentives for supervisors. Hence, the entries in the last column—"Consistent with Economic Analysis?"—regarding these four issues are identical "no" answers. None of these Dodd-Frank/FSOC stances is consistent with the basic recommendations forthcoming from an application of economic analysis to an evaluation of the structure of regulation.

As noted earlier, discussions prior to the law's passage veered wildly from one day to another about whether to consolidate bank supervisory activities within two or perhaps even just one regulator versus retaining the current three-regulator structure. Hence, whether greater horizontal centralization of financial regulation would or would not be appropriate clearly vexed the Dodd-Frank Act's framers. As the second column of table 3 indicates, perhaps this result is not surprising given that on this issue there are economic arguments on both sides. Discussions of the bill's formulation prior to final legislation were largely closed to the public, so it is difficult to know what led to the eventual decision to retain the three-regulator setup but to force all three to coordinate within the FSOC structure, thereby moving toward greater horizontal centralization. If the law's framers considered these economic arguments, then their choice about addressing this issue summarized in the third column must have been guided by an overarching

intent to reduce the possibility of a regulatory race to the bottom. This decision was not cost-free. Maintaining the three-regulator system kept in place any inefficiencies arising from duplication of effort. At the same time, forcing the banking supervisors to work together prevents realizing future gains from specialization and horizontal regulatory rivalry.

A novel feature of the Dodd-Frank Act was the vertical integration of federal financial regulation via establishment of the FOMC. This action moves within a "single silo" all of the various regulators' key functions.

The second cell in the next-to-last line of table 3 summarizes the mixed recommendations of economic analysis regarding this issue. To the extent that vertical integration might cause all regulators to take into consideration implications of their supervisory decisions for the solvency of the federal deposit insurance system, economic analysis justifies the FSOC-centered regulation established by the Dodd-Frank Act. The single-silo shift potentially exposes the FSOC as a whole to the increased possibility of regulatory capture, although each of its component parts continues to confront temptations to be captured by clientele firms in any event. Overall, whether the Dodd-Frank Act's stance on this issue is economically appropriate is ambiguous, as the last column indicates.

The final row of table 3 concerns the issue of whether a hierarchical predominance of certain regulatory supervisors within a vertically integrated structure is appropriate. Economic analysis suggests that the likelihood of regulatory capture is reduced when multiple functional supervisors possess coequal status. The FSOC's structure does retain separate functional supervisors, which theory indicates is preferable to a single supervisor. Nevertheless, the Treasury secretary's dual role as chair of the FOMC and chief of the department in which the OCC is housed gives it predominance over other regulators. Furthermore, the Fed's special status

as systemic-risk supervisor with the power to obtain information from other agencies without sharing its own information also gives it a hierarchical advantage. These features of the FSOC's structure create pressures for regulatory capture of either the Treasury or the Fed—each of which Bair (2012) alleges already were captured by at least portions of their clienteles at various times during and following the recent financial crisis. These considerations explain the "no" answer in the last cell of table 3.

For the Fed, its predominant authority as the FSOC's primary systemic regulator adds to existing conflict-of-interest dangers. Fed policy makers commonly extoll the virtues of combining bank regulatory authority with the Fed's monetary (and, since the crisis, credit) policy responsibilities (see, for instance, Haubrich and Thomson [2008]). Nevertheless, as current Fed chair Ben Bernanke (2001) noted before his appointment to that position,

> [An] argument against a bank supervisory role for the Fed is the potential for moral hazard. To the extent that the Fed has institutional objectives other than maximizing social welfare, giving the central bank too broad a range of powers may invite abuse. For example, if the Fed were anxious to conceal the insolvency of some part of the banking system (an impulse that we have seen at times in other supervisory agencies), it might be tempted to distort interest rate policies in a way that increases bank profits or asset values, at the expense of macroeconomic objectives. Conversely, it is also possible that the Fed might use its supervisory authority to coerce banks into making loans that they otherwise would not make, in order to serve some goal such as providing short-term macroeconomic stimulus.

In light of these conflict-of-interest and other efficiency issues, Goodhart (2002) suggests that, with the possible exception of developing countries lacking funding and short of qualified individuals to serve as supervisors, nations would be better served by assigning central banking and regulatory functions to separate agencies. So far, the US government has opted not to heed this suggestion. The widening of the Fed's regulatory responsibilities, discretionary supervisory authority, and senior status in relation to other financial regulatory agencies "doubles down" on a choice to pretend that the potential for conflict-of-interest problems to arise at the Fed is magically nonexistent.

Overall, table 3 indicates that it is uncertain whether the economic analysis presented in this paper justifies adoption of the Dodd-Frank Act's centralized-layers approach. Across several key regulatory issues, the FSOC superstructure that the legislation created is inconsistent with the recommendations forthcoming from previous economic analysis of regulation. Congressional decisions to expand discretion of financial regulators, to allow them to continue to utilize information hidden from public view, and to avoid expressing and acting on market-based data are all contrary to economics-based recommendations. Congress's failure to contemplate changes in the evaluation of performance of agency supervisors and its decision to give the Treasury and the Fed privileged status relative to other agencies within the FSOC also violate recommendations forthcoming from economic analysis of the regulatory process.

IV. Conclusion

Passage of the Dodd-Frank Act has continued a long line of actions by the US Congress to centralize financial regulation within federal agencies. The law's establishment of the Financial Stability Oversight Council furthered the centralization of financial regulation along a horizontal dimension by requiring the three federal banking regulators to coordinate within the FSOC. The legislation additionally centralized the layered functions of federal financial regulation and thereby established a vertically integrated regulatory process operating within the FSOC structure.

There is no evidence that the Dodd-Frank Act's framers contemplated economists' recommendations when restructuring federal financial regulation. This failure of legislators to consider economists' counsel is likely due to a presumption that complex laws will unfailingly induce regulatory agencies to pursue and attain public-interest goals without generating

unintended behavioral feedback effects. Of course, unintended effects almost always occur and sometimes can even predominate over intended effects. The Dodd-Frank Act is hardly alone in its failure to take possible unanticipated incentives and consequences—that is, regulatory paradox—into account.

Nevertheless, previous economic analysis offers a number of suggestions for designing regulatory institutions with an aim to promote their pursuit of public-interest-oriented objectives. When designing the centralized-layers structure put into place by the Dodd-Frank Act, the law's framers appear to have ignored the opportunity to take these suggestions into account. To be sure, the implications of this economic analysis regarding the relative advantages or disadvantages of horizontal centralization of regulation are mixed. In addition, there are pros and cons associated with vertical integration of financial regulation's supervisory functions. As a consequence, the net benefit or cost of layering such regulations within a single command-and-control authority arguably is also ambiguous.

It is possible that those who authored and voted in favor of the Dodd-Frank Act considered trade-offs in regulatory design when they opted to centralize further bank regulation and the spectrum of other financial supervisory functions within the FSOC structure. If so, they may have determined that the potential for a regulatory race to the bottom in banking predominated over possible gains from supervisory specialization and competition. Furthermore, the legislation's framers might have determined that the benefits from inducing regulatory agencies to internalize more fully the bailout risks that uncoordinated policies might create outweighed the potentially increased risks of regulatory collusion and capture. Perhaps, however, such considerations played at best a meager role in deliberating the law's provisions.

Evidence in favor the latter interpretation is the fact that the Dodd-Frank Act failed to

consider these trade-offs in regulatory design. The widening of discretionary authority granted to FSOC agencies and—in the case of the Consumer Financial Protection Bureau—budgets contrasts sharply with the standard economic recommendation to limit regulators to establishing and sticking with bureaucratic rules. The Dodd-Frank Act's silence regarding the utilization of information essentially endorses continuation of the policy of hiding from the public inside information shared solely between regulators and their clienteles. The law's reticence to push regulators to rely on market-based data in formulating and pursuing supervisory objectives effectively sanctions reliance on command-and-control policies divorced from the disciplining function of private markets. The legislation's silence on developing and establishing incentives for supervisors to pursue public-interest-oriented policies further reinforces a preference for old-style command-and-control supervision. Finally, the fact that the Dodd-Frank Act grants the Treasury and the Fed greater authority than other agencies within the FSOC enhances the incentives for regulated clienteles to seek to corrupt and capture the two institutions.

Along at least several dimensions, therefore, the Dodd-Frank Act and its revised centralized-layers regulatory structure constitute a reaffirmation of faith in discretion over predictable rules, reliance on hidden regulatory information but failure to incorporate market-based data, and command and control rather than the naturally disciplining role of market forces. The horizontal centralization and vertical integration of regulation within the FSOC framework also appear to reflect an adherence to such faith. Congress could have done much better, and it should strive to do better as the nation continues to struggle with establishing an appropriate financial regulatory structure.

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Table 1. Memberships of Pre- and Post-2010 Centralized Regulatory Bodies

Pre-2010 Working Group on Financial Markets	Post-2010 Financial Stability Oversight Council (FSOC)
Secretary of the Treasury	Secretary of the Treasury, FSOC Chair
Chair of the Board of Governors of the Federal Reserve System	Chair of the Board of Governors of the Federal Reserve System
Chair of the Securities and Exchange Commission	Chair of the Securities and Exchange Commission
Chair of the Commodity Futures Trading Commission	Chair of the Commodity Futures Trading Commission
	Comptroller of the Currency
	Chair of the Federal Deposit Insurance Corporation
	Chair of the National Credit Union Administration
	Director of the Federal Housing Finance Agency
	Director of the Consumer Financial Protection Bureau
	Senate-confirmed independent FSOC member with insurance experience

Table 2. Recommendations of Economic Analysis for the Structure of Financial Regulation

Regulatory Issue	Recommendation of Economic Analysis	Source of Analysis
Discretion available to regulators	Minimal supervisory discretion	Martimort 1999
Information used by regulators	Publicly available information	Tirole 1994; Laffont and Tirole 1991
Role of market-based data	Express and pursue goals in terms of market-based data	Helm 2006; Levine 2010
Incentive-based contracts for regulatory supervisors	Incentive-based contractual arrangements appropriate to keep regulators focused on key goals	Samuel 2009
Horizontal centralization of regulation	*Pro*: Potential for race to bottom, duplication cost inefficiencies *Con*: Specialization, competition gains, supervisory flexibility with decentralized regulation	Esty and Geradin 2000; Reinicke 1994; Weinberg 2002 Rosen 2003; Dell'Ariccia and Marquez 2006
Vertical integration of regulation	*Pro*: Deposit insurance responsibility reduces potential for race to bottom *Con*: Vertical independence allows checks and balances; combining regulatory functions raises corruption-capture potential *Mixed*: Bias toward regulatory forbearance depends on sizes of shocks	Weinberg 2002 Laffont and Martimort 1999; Esty and Geradin 2000; Easterbrook 2003 Kahn and Santos 2005
Hierarchical predominance of certain regulatory supervisors	Potential for capture reduced if functional regulators have coequal status	Boyer and Ponce 2012

Table 3. An Evaluation of Whether Dodd-Frank Act Features Are Consistent with Recommendations of Economic Analysis

Regulatory Issue	Recommendation of Economic Analysis	Dodd-Frank/FSOC Stance on Issue	Consistent with Economic Analysis?
Discretion available to regulators	Minimal supervisory discretion	Wide latitude for discretion in "rulemaking," regulatory scope, and budgeting, particularly for FSOC and Consumer Financial Protection Bureau	No
Information used by regulators	Publicly available information	Both public information and inside information available only after the fact via Freedom of Information Act	No
Role of market-based data	Express and pursue goals in terms of market-based data	Supervisory command and control using both market and inside information	No
Incentive-based contracts for regulatory supervisors	Incentive-based contractual arrangements appropriate to keep regulators focused on key goals	Regulatory supervisors continue to operate within traditionally bureaucratic structure for performance evaluation	No
Horizontal centralization of regulation	*Pro*: Potential for race to bottom, duplication cost inefficiencies *Con*: Specialization, competition gains, supervisory flexibility with decentralized regulation	Reduced rivalry among commercial bank regulators left in place but operating within FSOC superstructure	Uncertain
Vertical integration of regulation	*Pro*: Deposit insurance responsibility reduces potential for race to bottom *Con*: Combining regulatory functions raises corruption-capture potential *Mixed*: Bias toward regulatory forbearance depends on sizes of shocks	More vertically integrated financial regulation via establishment of Financial Stability Oversight Council composed of regulators supervising different functions of financial firms	Uncertain
Hierarchical predominance of certain regulatory supervisors	Potential for capture reduced if functional regulators have coequal status	Treasury secretary chairs FSOC; informational asymmetries between Fed and other bank regulators	No