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Multiple bank regulators and risk taking☆

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ABSTRACT

The potential for banks to arbitrage between regulators exists both in the US, with its multiple federal banking regulators, and in Europe, due to multinational banking. This paper models multiple regulators that have an agency bias, which can give rise to a "race to the bottom". The model is used to analyze the interaction between the regulatory equilibrium and several salient pre-crisis features: rising bank leverage; wholesale funding with asymmetric information; and increasing supervisional costs to disentangling bank asset exposures. Each of these raises bank risk taking on its own, but regulatory competition is shown to be an amplification mechanism.

1. Introduction

> "Retaining multiple regulatory agencies preserves the regulatory arbitrage that allows institutions to pick the oversight scheme that benefits them most, often at the expense of consumers and the health of the system overall" Letter by US Senator Schumer to US Treasury Secretary Geithner.[1]

The potential for competition between bank regulators to harm regulatory standards is high on the political agenda, in the US as well as in Europe. In the US banks can in effect select their primary regulator by choosing their charter and deciding on Fed membership. The OCC regulates all nationally chartered banks, the Fed state-chartered member banks and the FDIC state-chartered non Fed-members. Although in the aftermath of the financial crisis, the unification of US bank regulation was on the table, the US government eventually decided to retain this triple regulator system for banks. In Europe cross-border banking is challenging the home country based supervision model, and is a key factor behind the policy discussions about the formation of pan-European bank supervision. There is at least casual evidence that in the run-up to the financial crisis politicians in various European countries wanted to attract or retain international financial institutions by ensuring that domestic regulations were not overly tough. An example can be found in the minutes of a Dutch parliamentary debate (Tweede Kamer, 2007), in which political parties express concern that new proposed regulations might be harsher than in other European countries.

This paper analyzes the implications of a multiple regulator environment by modelling regulators who compete with each other because, in addition to their social objectives, they care about the size of their mandate. The founding assumption of our theory is thus that regulators have empire building considerations and want to increase the number of banks that they supervise. The reason for this may be financial, in that regulators' funding directly depends upon their size. This is the case for the OCC, for instance.[2] In fact, when Chase Manhattan Bank switched regulators in 1995, the OCC lost fees worth 2% of its budget (Rosen, 2003). Johnson and Kwak (2010, pp. 96–97) have argued that the funding dependence of the

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[1] MSNBC, June 17th, 2009: http://www.msnbc.msn.com/id/31354523/ns/business-stocks_and_economy.

[2] "The OCC's operations are funded primarily by assessments on national banks." http://www.occ.treas.gov/about/index-about.html.

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OCC and the now defunct OTS (Office of Thrift Supervision) led them to treat banks as their "customers".

However, beyond the funding considerations, regulators may also value a large mandate intrinsically. The literature on regulatory capture by firms has a long history (Stigler, 1971), and "empire building" is one of the reasons for such capture. Several case studies document the importance of regulatory capture in the financial sector (Kane, 1990, 2001; Woodward, 1998; ICFR, 2012). Moreover, Rosen (2003) finds that regulatory switches by US banks are an empirically prevalent phenomenon and are not just due to technical issues, like mergers and acquisitions. Over his 1983–1999 sample period 10% of banks switched regulators at least once, and these are often large banks. Nonetheless, Rosen finds that the increases in bank risk following switches are not large. But although multiple regulators may in equilibrium have similar standards, they could all still have lower standards than a single regulator would have.

Our model is based on banks that do not internalize all the social externalities of their own bankruptcy, and therefore have incentives to underinvest in the costly monitoring of their borrowers. Regulators can force banks to change behavior, but only if they understand enough about their activities. To gain sufficient insight regulators need to exert supervisional effort. Banks can observe the type of regulator they are dealing with – a tough regulator that invests in supervision, or a lax regulator that does not. And, paying a switching cost, banks can change regulator. Since regulators care about preventing bank failure they are sometimes able to all sustain high standards. But when regulators' incentives to deviate are too strong a "race to the bottom" takes place and all are lax. Overall this is outcome worse for all regulators, but they are stuck in a Prisoners' Dilemma.

We use our model to investigate the relation between the regulatory equilibrium, bank behavior and several salient pre-crisis developments in the financial sector. We show that the regulatory regime interacts with those developments. That is, bank risk taking would have gone up in any case, but the potential for competition among bank regulators serves as an amplification mechanism. We first consider that in the years leading up to the crisis, the rising complexity of assets made it more difficult for regulators to understand what activities banks engage in, and how risky these are. We model a decline in regulators' capacity to understand bank activities as a decrease in the probability that supervisional effort leads to sufficient insight. This has a direct effect on risk taking, because banks know they are less likely to be caught. But there is also a feedback through the regulatory equilibrium: as the benefit of exerting supervisional effort declines, deviations to lax standards happen sooner, and this further increases the possibility (within the model: the number of parameterizations) that bank risk rises. We find a similar amplification effect when banks' cost of monitoring borrowers goes up.

Extending the model to endogenous bank leverage, we consider what happens if debt instruments become cheaper, as motivated by the run-up to the crisis due to both relatively accommodative monetary policy (Adrian and Shin, 2010; Borio and Zhu, 2012) and the increasing availability of wholesale funding (Brunnermeier et al., 2009; Diamond and Rajan, 2009). Cheaper debt raises levering incentives, which, in turn, are complementary with monitoring incentives, because banks experience a smaller cost of default. The more attractive risk taking becomes, the greater the incentive to switch regulator, amplifying the effect on equilibrium bank risk.

Subsequently, we extend the model to analyze the relationship between the regulatory environment and the potential for a freeze in wholesale funding as witnessed briefly in 2007 and subsequently for a longer time after the collapse of Lehman Brothers in 2008. The wholesale market is modelled similarly to Freixas et al. (2004), where financiers are unable to disentangle if a bank is illiquid or insolvent, which gives rise to adverse selection and the potential for a market freeze. We find that more regulators imply more parameterizations for which funding gridlock comes about. Essentially, there is now a two-sided Prisoners' Dilemma. Not only regulators can end up in a bad non-cooperative state, but so can banks, because they collectively have an interest to limit risk and keep the wholesale market open, but individually deviate to higher risk.

Finally, we consider how the model performs for several alternative specifications. We extend the basic model to asymmetric bank sizes and to a setting where regulators care only for their own interests, but face a punishment cost for bank failure.

2. Literature

Our theory focuses on the potential negative effects of regulatory competition and is based on the idea that existing multiple regulator regimes evolved for historical, not economic, reasons. In Europe separate nation states are the obvious reason for the emergence of multiple regulators. But also for the US it is often claimed that its system came about through a combination of historical events and is sustained as a political equilibrium (Scott, 1977). The difficulty of altering that equilibrium has been highlighted by the recent episode of regulatory reform. One Financial Times article argues that "the administration has decided not to consolidate more regulators due to the political difficulties involved" (Guha and Braithwaite, 2009). In another US Senator Warner (2009) states that "as past administrations have learnt, the status quo has many stakeholders who will bitterly oppose even the most objectively meritorious change".

This is not to deny that there could also be positive effects associated to regulatory competition, which we do not model. These include the efficiency of regulatory services (Kane, 1984; Dermine, 1991), horizontal differentiation between regulators (Tiebout, 1956) and the prevention of collusion between the regulator and firms (Laffont and Martimort, 1999). However, the theoretical literature on competition in bank regulation (as opposed to general firm regulation) has tended to focus on its negative implications, and our paper is no exception to this.[3]

The existing theoretical literature on multiple bank regulators focusses on cross-border externalities rather than on banks that switch regulators. This line of research analyzes the interplay between multinational banking and national supervision. National regulators of multinational banks do not internalize the effects of their supervision on the welfare of other countries, and therefore supervise too little. In Dell'Ariccia and Marquez (2006) the trade-off is between internalizing the externalities imposed by international banking and losing regulatory flexibility in a union. Hardy and Nieto (2011) extend Dell'Ariccia and Marquez's framework, portraying how deposit insurance overprovision interacts with banking supervision underprovision under cross-border externalities. In Dalen and Olsen (2003) externalities imply sub-optimal capital requirements, but national regulators' concern for the cost of deposit insurance induces them to raise loan quality standards in response. And Holthausen and Rønde (2004) use a "cheap talk" game to show that national regulators underprovide information to each other. In Acharya (2003) in addition to capital requirements regulators can also close down troubled banks. Acharya shows that when regulators are heterogeneous in their degree of forbearance, the

[3] See, however, Boyer and Ponce (2012), who apply the argument of Laffont and Martimort (1999) to banking, and show how concentration of regulation can lead to capture by banks, lowering welfare.