Extracts from:

The Invisible Hand and the Banking Trade: seigniorage, risk-shifting, and more

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Abstract
The classic Diamond-Dybvig model of banking assumes perfect competition and abstracts from issues of moral hazard. To reflect conditions prevailing in UK banking, one needs to incorporate market power and excessive risk-taking by banks with limited liability. We show how the effectiveness of bank franchise value in checking risk-taking may be undermined by the prospect of bailouts; and how bail-in provisions are being designed to correct this.

‘There are few ways a man may be more innocently employed than in getting money.’
Samuel Johnson (1775)

1. Introduction

The quotation above, from a letter of Samuel Johnson to his printer, was penned shortly before Adam Smith published the metaphor of the Invisible Hand. It seems to express the same sentiment --- that the pursuit of profit may be good for economic welfare. Adam Smith famously cited the butcher, the brewer and the baker to make his point - that competitive market forces will benefit the consumer. Should the same logic not apply to the banker?

To judge from the textbooks, it should. In the classic paper by Diamond and Dybvig (1983), for example, it is shown how banks can provide liquidity insurance to depositors while at the

1 Forthcoming in Brussels Economic Review
same time providing finance for longer term investors; and how the magic of maturity transformation, which raises the expected utility of all depositors, can be achieved under a zero profit constraint.\textsuperscript{2} In his memorial lecture at Adam Smith’s birthplace in Scotland, Alan Greenspan (2005), then Chairman of the Federal Reserve System, suggested that the Invisible Hand also applied to finance and spoke in favour of financial deregulation. For, during the era known as the Great Moderation, monetary authorities in both the US and the UK had come to practise ‘light touch’ or self-regulation in banking and finance.

As Stiglitz (2012) argues in The Price of Inequality, however, a less benign view of the operations of financial markets and banks is called for in the light of the subsequent ‘North Atlantic’ financial crisis -- involving not only the US and the UK but many other countries, including Iceland and Ireland whose economies were ravaged by losses in banking.

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It has been argued in the literature, in Hellmann et al. (2000) for example, that monopoly/oligopoly bank profits may have the beneficial side effect of checking moral hazard: the prospect of losing their banking licences inhibits excess risk-taking by big banks who see themselves as Too Big To Gamble. This optimistic line of reasoning is, we believe, seriously flawed insofar as it ignores the leverage that large banks can exert on society to provide bailouts.

If the market power that yields seigniorage also means that the bank is Too Big to Fail, then it may exacerbate rather than cure excess risk-taking\textsuperscript{3}. If parameters of the risks being taken can

\begin{footnotesize}
\textsuperscript{2} Deposit banking is, of course, subject to the risk of coordination failure (in the form of bank runs); but this can be handled by a Lender of Last Resort or by deposit insurance, as the authors point out.

\textsuperscript{3} In 2008, for example, a UK High Street bank tried to buy Lehman Brothers New York before bankruptcy (a gamble that was blocked at the last minute by the Chancellor of the Exchequer).
\end{footnotesize}
be concealed, moreover, prudential banking may be threatened not only by market power but also by ‘gaming’ the regulator.

6. The U-shaped prudential frontier; and innovation that outwits regulation

How concentration in the banking industry (and the seigniorage profits it generates) may at first mitigate moral hazard, for banks Too Big To Gamble (TBTG), and then promote is illustrated in Figure 5, with the level of regulatory capital plotted on the vertical axis, and industry concentration on the horizontal (measured by the reciprocal of the number of banks).

A heuristic impression of the trade-off between regulatory capital and franchise value discussed by Hellman, Murdock and Stiglitz is indicated by the downward sloping line labelled HMS, where \(k_C\) on the left is the capital needed for competitive banks, while \(k^*\) is that needed for a monopoly bank. Below this line, as indicated, risk-taking behaviour is to be expected, while, above it, prudence should prevail, were it not for two factors that pose a threat to safe banking, TBTF and ‘gaming the regulator’.

If one assumes that the willingness of the authorities to bailout banks only kicks in above a certain level of concentration (shown as \(M'\)), and that the bailout policy involves no loss of seigniorage, then the effect of this bailout policy can be seen from the progressive rise of HMB above HMS to the right of point \(M\). The regulatory capital requirement for a monopolist who is TBTF is shown as \(k'_b\) on the right hand side of the Figure; and as shown in the last two rows of Table 2, this could match that required under competition, \(k_C\). In the absence of appropriate bail-in provisions, the effect of TBTF is to reshape the trade-off predicted by Hellman et al into a U-shaped curve. The bail-in provisions discussed above are designed to correct this regulatory distortion.
Figure 5. Twin threats to prudent banking: TBTF and ‘gaming’ the regulator.

In discussing these trade-offs, we have so far assumed that the parameters of the risk-taking opportunities available to the banks are common knowledge, so the regulatory regime can be designed so that gambling is not incentive-compatible in a rational expectations equilibrium. But what if the parameters are not known by regulators and/or uninsured depositors? As Foster and Young (2010) emphasise, derivatives may be used to shift returns over time so as to fool investors and regulators4; and, as Haldane et al. (2010) indicate, UK banks were able to fool the regulators as to risks they were taking before the financial crisis of 2008. In that case, the U-shaped NGC will be shifted upwards, as indicated by the dotted schedule (labelled FY in the Figure), shrinking the area associated with prudent banking.

4 Take for example, undated out-of-money-puts where – unlike the Ponzi scheme where the premium are only financed by attracting new depositors -- the returns on the balance sheet will be the annual insurance premium paid by those holding the puts (with downside risk left off the balance sheet, see Rajan, 2010).
Steps to correct such distorted incentives include: greater transparency, including effective real time monitoring (as under the FIDICIA regulations in the USA); restrictions on bonuses, including deferred payment and ‘claw-back’ provisions (as being considered in the EU); and restructuring the banking sector, so as to separate commercial from investment banking (as outlined by the Independent Commission on Banking in the UK).

8. Conclusion: back to banking basics?

The results obtained in this paper can be summarized as follows. Monopoly power in banking, which raises profits and generates positive franchise value, reduces depositor welfare. Regulatory capital reduces risk-taking incentives for the monopolist. So too can franchise values, for banks that are, so to say, Too Large To Gamble. But not for banks that are Too Big To Fail, if their franchise values are protected by bailout.

Adam Smith was famously critical of monopoly pricing by those with market power. As for risk-taking, he warned in the Wealth of Nations that:

   To depart on any occasion from [the principles of the banking trade], in consequence of some flattering speculation of extraordinary gain, is almost always extremely dangerous and frequently fatal to the banking company which attempts it. (Book V, Ch 1, Article 1.)

In our view, banking in Britain before the crisis was no example of the benign operation of the invisible hand at work: quite the contrary. The reforms advocated by the ICB and the provisions for special resolution of banks are, however, designed to offset these distorted incentives and to get the taxpayer ‘off the hook’.

While we have focused on two challenges to the operation of the Invisible Hand – market power and risk-taking – there are others that should be registered before concluding – such as the principal-agent problem that arises when bank executives put their interest (and bonuses)
before that of shareholders\textsuperscript{5}; and the presence of powerful ‘pecuniary externalities’ calling for macro-prudential regulation\textsuperscript{6}.

\textsuperscript{5} As discussed by Akerlof and Romer (1993) for example.

\textsuperscript{6} This perspective – what might be called the LSE Critique of Basel II – is most eloquently developed by Adrian and Shin (2008) and Shin (2010).