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Financial systemic risk: Taxation or regulation?

Donato Masciandaro [a,b,*], Francesco Passarelli [c]

[a] Department of Economics and Paolo Baffi Centre, Bocconi University, Milan, Italy
[b] Suerf, France
[c] Università di Teramo, Italy

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ABSTRACT

This paper describes financial systemic risk as a pollution issue. Free riding leads to excess risk production. This problem may be solved, at least partially, either by financial regulation or by taxation. From a normative viewpoint, taxation is superior in many respects. However, reality shows that financial regulation is adopted more frequently. This paper makes a positive, politico-economic argument. If the majority chooses regulation, the level is likely to be too harsh. If it chooses taxation, then the level is likely to be too low. Due to regressive effects, a tax on financial transactions receives low support from a majority of low polluting portfolio owners. The same kind of majority may strategically choose regulation in order to burden the minority with a larger share of the cost of reducing systemic risk.

1. Introduction

The dilemma between regulation and taxation of financial activities has come under closer scrutiny as a result of the recent crisis. Both regulation and taxation are policy instruments that curb systemic risk, a peculiar externality resulting from contagion effects.

In a perfect Pigouvian world, taxation and regulation would be equivalent: both policies can achieve a first-best outcome if well calibrated to deal with the above-mentioned externality. But in the real world, financial regulation is largely preferred.

Over the last decade, several G20 countries have imposed different forms of financial transaction tax, but the general trend has been a reduction of their application (Matheson, 2011). More recent experiences confirm this trend. In the US, the 2010 Dodd Frank Act has focused on capital adequacy requirements instead of taxation. In the European Union, the efforts to introduce a financial tax have been frustrated so far by the impossibility to achieve consensus amongst all 27 member states, while they have been able to define common guidelines on banking regulation to face systemic risks. How is that regulation is so frequent in financial markets, while taxation is rarely employed to cope with systemic risk problems?

An intuitive explanation is based on a normative argument. Financial regulation has progressive effects on investors' risk taking, while flat taxation rates yield a proportional impact on risk. Thus policymakers choose the former in order to curb risk where it mostly arises. The presence of a bias in risk measurement strengthens this argument. Regulation has a more precise effect on the curbing of the systemic risk, thus it is less affected by the bias. In a world dominated by uncertainty and asymmetric information the bias can be a severe constraint.

Here we propose an alternative view, which adopts a positive approach based on political economics as first proposed by Alesina and Passarelli (2010) for a general pollution problem. Realistically regulation has a stronger impact on high-risk polluting portfolios, while taxation affects also low-risk polluting portfolios. The majority of low-polluting portfolio owners may have a strategic incentive to choose regulation in order to offload to the minority a larger share of the externality reduction burden. This may lead to a double political distortion: first, a suboptimal choice of the policy instrument; second, a suboptimal level of the policy.

The position of the "median risk producer" plays a crucial role in the political game. Taxes and rules are different in the way they allocate the sacrifices of an externality reduction. In the case of

* Corresponding author at: Department of Economics and Paolo Baffi Centre, Bocconi University, Milan, Italy. Tel.: +39 02 5836 5310; fax: +39 02 5836 5343.
E-mail addresses: donato.masciandaro@unibocconi.it (D. Masciandaro), francesco.passarelli@unibocconi.it (F. Passarelli).

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regulation, most of the sacrifices are made by top-risk producers. We show that even a median risk producer that is slightly above the average leads to a regulation level that is too restrictive. By contrast, with a tax low-risk producers bear a consistent amount of the costs. Thus a low median agent is induced to prefer taxes that are too low. As in the political analysis of income taxation (Meltzer and Richard, 1981), the distortion depends on the position of the median voter relative to the average.[1]

Our model predicts that a democratic society mostly populated by small, low-risk portfolio owners is more likely to choose regulation instead of taxation. This argument explains why regulation is so frequent in financial markets, whereas taxation is adopted much less. Such society is likely to choose a level of the regulation that is too high. This might explains why there is a widespread perception that current regulation policies in financial markets are inefficient and possibly too harsh.

A fundamental assumption is that, independently of the toxicity measure adopted, regulation has a more than proportional impact on more toxic instruments; i.e. it forces people to progressively abate risk in their portfolios. For example, a sharp prohibition rule (such as, "all instruments whose toxicity level is above a given threshold are banned") has a dramatic progressive impact and it works like an extremely convex tax function (such as: "infinite-tax rate above the threshold and zero-tax rate below"). By its nature, taxation tends to be less progressive, if not regressive.

The assumption that regulation is more progressive than taxation can be justified if one considers that usually lending institutions meet regulation on risk by drastically cutting on their most toxic assets. Vice versa, with a tax they may decide to keep some of those assets if they make high profits from them, and just pay the tax.

Moreover, the fact that regulation is more progressive may result from a measurement problem. In principle, the base of either taxation or regulation should be a non-distorted toxicity measure. However, measuring toxicity may be quite costly, if not virtually impossible. Rules and taxes are then applied to different measures of toxicity which are also differently distorted. In general, rules affect the supply of toxic instruments directly, and this may cause progressive effects. Taxes are usually levied on indirect and less than proportional measures of toxicity, such as financial transactions or banks' turnover. This causes a regressive effect. We explore the relationship between measurement bias and political distortion. We claim that when the ability to tax systemic risk is sufficiently high (i.e. measurement bias is low), there is no regressive effect. In this case a small-portfolio median voter has the incentive to choose a high tax rate. Vice versa, if measurement bias is strong, a tax has a regressive effect. Thus even a small-portfolio median owner prefers a tax rate that is too low. This might explain why in the current debate on financial transaction everybody expects that, in case a transaction tax will be implemented, the tax rate will realistically be very low.

This paper is related to a large body of theoretical literature which has recently studied policy tools to reduce financial systemic risk. Major attention has been devoted to banks' liquidity management, which seems to have been a factor of contagion. In fact, the crisis of the wholesale credit market has determined the rapid withdrawing of short-term debt, with the consequent shock propagation across the system (Brunnermeier, 2009; Allen et al., 2010; Gorton, 2010).

In Perotti and Suarez (2011) the externality problem specifically resides in the wedge between the private and social value of banks' short-term funding. Based on a price vs quantity argument (Weitzman, 1974), the authors claim that, when the main source of bank heterogeneity is credit ability, a flat rate tax on short-term funding is efficient because it allows good banks to continue lending. When heterogeneity concerns solvency or risk-taking, quantity instruments, such as net funding or capital ratios, are preferable. Acharya and +ncn (2010) are in favor of a repo authority which takes over repo positions during systemic events. Gorton (2010) proposes to stop discounted price sales of large collaterals by a state blanket guarantee. Farhi and Tirole (2012) look at bail-out expectations, which imply an endogenous loss of public control over money supply. This calls for measures to reduce the private creation of liquidity risk.

Most of this literature adopts a normative viewpoint, in which the basic question is: "What is the best thing to do?". To the best of our knowledge, no existing work has addressed positive, political economy issues. This paper is novel in this respect. We try to answer a different question: "What is the most likely thing to happen?".

The reminder of this paper is organized as follows: Section 2 discusses the current debate on SRE taxation. Section 3 presents a general model where agents/voters are heterogeneous in the amount of systemic risk that they produce. Section 4 studies the effects of regulation and how people vote on it. Section 5 does the same for a tax. Section 6 addresses the issue of instrument choice. Section 7 contains our conclusions.

2. The current debate

The main kind of externality that justifies government intervention in the financial industry as a whole is systemic risk contagion (a macro prudential externality; Claessens et al., 2010; Goodhart, 2011; Hanson et al., 2011). The definition of any financial portfolio is based on leverage contracts, characterized by the fact that the potential effects are not completed internalized within the contractual relation itself. The default of a specific financial portfolio can originate negative and self-amplifying effects on the claims of other interconnected operators, producing a domino effect. Therefore each financial portfolio can be characterized by a given level of toxicity in terms of systemic risk externality (SRE). At the same time, any financial firm can also be considered as a more or less complex financial portfolio, and its overall attributes – institutions, size, interconnections, substitutability – can contribute to systemic risk (Claessens et al., 2010; Acharya et al., 2012b). In other words, some financial institutions contribute more than others to produce financial system risk (Cooley et al., 2009).

To cope with the financial externality, governments can use two broadly defined policies: taxation or regulation. An SRE tax is aimed at reducing the gap between social and private cost of systemic risk. The latter becomes more costly, thus agents reduce the risk content of their private portfolios. Alternatively the government can directly limit the possibility to build high SRE portfolios, by issuing and enforcing ad hoc SRE regulation.

In principle, taxation is superior to regulation. A nice non-linear SRE tax scheme can be designed to yield any desired progressive impact. The marginal tax rates can be set so that they reflect the agents' marginal costs of reducing risk. Moreover, a tax solves the Mirrlees problem, when the government cannot detect those costs. A tax works best in an environment where information about agents' preferences is costly or impossible to gather (Claessens et al., 2010; Jeanne and Korinek, 2010). Keynes (1936) is the most famous proponent of an SRE tax, although he identified securities

[1] Observe that Meltzer and Richard (1981), and all the subsequent literature, only consider the political distortion on the level of a given instrument. Alesina and Passarelli (2010) and the present paper are probably the first works which study the political distortion on the choice of the instrument too. For an extensive survey of the related political economy literature, see Persson and Tabellini (2002).