

The Allocative Efficiency Costs of Mis-directed Capital

In our view, the current Review will have to strike a balance between systemic stability, and, promoting market freedom in the hope that financial prices will turn out ‘exactly right’ for the allocation of capital.

Intrigued by the post-GFC debate on regulation, we have for the last few years investigated the costs of misallocated capital using so-called Computable General Equilibrium (CGE) models, and published the results in two credible journals.¹ In Menzies et al. (2011) the question was asked whether misallocation of capital across US industries has a large cost. In Bird et al. (2010) the question was asked whether a macroeconomic misallocation of capital – caused by an investment boom – has a large cost.

Having examined the costs of historically typical misallocation, we are now executing a project, funded by CIFR, to quantify the costs of misallocation when it is due to financial sector regulation. The benefits of regulation, insofar as they reduce the probability of a disastrous ‘capital strike’ (a reluctance to invest) are pretty plain in the light of recent history, and were, to some extent, explored in Bird et al. (2010).

Members of the Review would be well aware how research can be influenced by prior beliefs. The way in which the analysis is set up can heavily influence, or in extreme cases completely pre-determine, particular results. It is therefore very interesting when research comes out differently to what was expected, and we will focus this submission on those insights of the two papers where this difference was apparent. At the outset, we should say that we approached our work expecting to uncover large costs of capital misallocation.

As is typical in formal model simulations, the computer model of the economy is changed in some interesting way, for the purpose of understanding the current state of affairs, or a possible state of affairs. In Menzies et al. (2011) we got rid of existing misallocations in the US economy, whereby each sector has the ‘wrong’ amount of capital, and in Bird et al. (2010) we made up a distortion where all sectors invested in ‘too much’ capital for a time, across the board. If one believes stock prices are the key price signal for investors, the former situation corresponds to ‘relative mispricing’ in the stock market and the latter to ‘absolute mispricing’.

The costs of relative mispricing were not large. In the closing words of Menzies et al. (2011):

“...plausible misallocations in US capital have fairly small general equilibrium effects. Regulators and policy makers thus have some ‘room to move’ as they explore what we have left unexplored in this paper – the policies and regulatory structures that limit macro-economically destabilizing movements in asset prices.”

In Bird et al. (2010) some absolute mispricing cost surprisingly little too. In particular, a stock market and investment boom where the created capital was *completely worthless* was not as unfavourable as one might think, and was potentially easier to manage than an investment boom where the capital was valuable. What the model taught us here was that a worthless boom is just like government fiscal expansion on worthless projects, but the former is covered to some extent by overseas investors. Furthermore, genuine as opposed to worthless capital creation creates cyclical challenges in the macro-economy, because too much investment brought forward implies a serious downturn in investment later, whereas worthless investment implies no such thing. The drying up of mining investment furnishes a current example of the macroeconomic difficulties of managing front-loaded investment.

Having said this, model simulations of a capital strike caused by financial sector distress exhibited very high costs. To the extent that relative or absolute stock mispricing makes a capital strike more likely, then they are extremely serious matters. This is not a new insight. For example, Mishkin and White (2002) show that there

¹ Bird, R., Dixon, P., Menzies, G. and M. Rimmer (2010), ‘The Economic Costs of US Stock Mispricing’, *Journal of Policy Modeling*, 33(4).

Menzies G., Bird R., Dixon P. and M. Rimmer (2011) ‘Asset Price Regulators, Unite: You have the Macroeconomy to Win and the Microeconomic Losses are Small’, *Economic Record*, 87(278), 449-464.

was severe economic damage only for 8 of 15 US stock market crashes in the last 100 years.² And, only some of these episodes caused a recession. They conclude: *in the absence of financial instability, stock market crashes had negligible effects on the economy*. Historically, mispricing *per se* has not been as important as financial sector distress.

We note a couple of limitations of work like ours, and reasonable extensions which are germane to the review.

1. Our studies are for the US. Comparable studies could be undertaken for Australia to secure the results, although we suspect the similar model framework is unlikely to see them overturned.
2. Very large misallocations of capital by historical standards would need new models with more institutional detail, such as an explicit banking sector, to cover institutional changes to shocks.³ That is, it becomes more problematic to rely on the ‘linearity’ (i.e. double the misallocation leads to double the cost) of existing models.
3. The misallocation of funds away from innovative sectors with high potential growth rates would lead to compounding costs of misallocation. That is, dynamic misallocation will exceed the static ones, perhaps by a lot.
4. The mathematical structure of the economy used in CGE (and most economic models) is such that when a firm (or worker, or any other sort of agent) is ‘close’ to an optimal choice, the effects of being away from the optimum by a small degree are likely to be small.⁴

Formal models provide one way to measure allocative efficiency of changes to the policy environment, such as financial regulation, by comparing scenarios based on simulations. These could be usefully set alongside other less formal observations based on the evolution of actual history – for example, viewing rapid growth in sectors with beneficial tax/regulatory treatment as a sign of inefficiency.

While we do not have a particular policy recommendation, the GFC experience and our modeling suggests that the balance between systemic stability and promoting market freedom – in the hope that financial prices will turn out ‘exactly right’ – is not an easy one to strike. Granted the need to wind back heavy-handed and inappropriate responses to the GFC, there is still a question of the overall stance of regulation: a stance which may have given too much credence to the costs of misallocation in the policies immediately prior to the GFC. Furthermore, on those occasions where market freedom results in ‘exactly wrong’ asset prices (such as housing), which lead the economy into a GFC-style capital strike, deregulation and misallocation become complements rather than substitutes.

Associate Professor Gordon Menzies,
UTS

Team leader of CIFR project ‘modelling the costs and benefits of financial regulation’.

Professor R Bird,
UTS

Director of the Paul Woolley Centre for the Study of Capital Market Dysfunctionality.

Professor P Dixon,
Centre of Policy Studies

Joint editor of Handbook of CGE Modelling.

² Mishkin, F., & White, E. (2002), ‘U.S. stock market crashes and their aftermath: Implications for monetary policy’, NBER 490 Working Paper No. 8992.

³ This is the so-called Lucas Critique of modelling.

⁴ This goes by the quizzical name of the Envelope Theorem. The basic requirement for the theorem is that the economy is thought of as ‘smooth’ rather than ‘discontinuous’ or ‘chaotic’.