

Security design, asymmetric information and accounting fraud: optimal Contingent Convertibles

Giulio Trigilia
University of Warwick

February 24, 2014

Abstract

We consider a model of external financing under ex-ante asymmetric information and profit manipulation (non verifiability). Contrary to the conventional wisdom, we show that the optimal contract is not standard debt, and it is not monotonic: it resembles a contingent convertible (CoCo) bond. In particular: (i) if the profit manipulation and/or the adverse selection problem are not severe, there exists a unique separating equilibrium in CoCos; (ii) in the intermediate region, if the distribution of earnings is unbounded above there exists a unique pooling equilibrium in CoCos, otherwise debt might be issued but it is not the unique equilibrium; (iii) finally, if profit manipulation and/or adverse selection are severe, there would be no financing. These findings suggest that the standard monotonicity constraints exogenously imposed in the security design literature cannot be justified. More importantly, we stress that profit manipulation is part of the optimal contract, and that non-monotonic, convertible securities mitigate the asymmetric information problem. The milestone payments example in venture capital is discussed as an application.