

Time Inconsistency in Liquidity Regulation

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Abstract

This paper shows the existence of time inconsistency in liquidity regulations by using a model characterized by pecuniary externalities generated by asset fire sales. We first show that banks' liquidity holdings in a competitive equilibrium are inefficiently low from a social point of view. This occurs because of fire sale externalities, that is, atomistic banks cannot internalize the effect of their investment decisions on the asset price. In this setting, the social planner under commitment can achieve higher welfare by holding more liquidity. Higher liquidity holdings lead to less severe decreases in asset prices during times of distress. However, we find that the planner faces the time inconsistency problem. It is optimal for the planner to reduce the liquidity holdings below the commitment level when the economy enters a recession. If banks know that regulations will be relaxed in a recession, they take more risks than the regulator expects. Therefore, time inconsistency makes regulation less effective.