

therefore characterized by extreme technological illiquidity (using the notation of BGG, $\Phi(I/K) = 0$ for all I). The purpose is to instead study at what price capital can be redeployed and sold off to second best use by reallocating it from one group of agents to another. The focus is therefore on the *market liquidity* of physical capital. Amplification then arises because fire-sales of capital from the more productive sector to the less productive sector depress asset prices and cause a feedback effect. The static amplification was originally pointed out by [Shleifer and Vishny \(1992\)](#) in a corporate finance framework with debt overhang. In [Kiyotaki and Moore \(1997\)](#) an additional dynamic amplification effect is also at work, since a temporary shock translates in a persistent decline in output and asset prices, which in turn feed back and amplify the concurrent initial shock even further.

More specifically, there are two types of infinitely-lived risk-neutral agents of constant population sizes. The productive agents are characterized by (i) a constant-returns-to-scale production technology which yields tradable output ak_t in period $t + 1$ for an input of k_t of assets in period t , and (ii) a discount factor $\beta < 1$.⁷

The unproductive agents are characterized by (i) a decreasing-returns-to-scale production technology which yields output $\underline{F}(k_t)$ in period $t + 1$ for an input of \underline{k}_t of assets in period t , where $\underline{F}' > 0$ and $\underline{F}'' < 0$, and (ii) a discount factor $\underline{\beta} \in (\beta, 1)$.

Due to their relative impatience, the productive agents will want to borrow from the unproductive agents but their borrowing is subject to a friction. Agents cannot pre-commit their human capital and each productive agent's technology is idiosyncratic in the sense that it requires this particular agent's human capital as in [Hart and Moore \(1994\)](#). This implies that a productive agent will never repay more than the value of his asset holdings. Since there is no uncertainty about future asset prices, this results in the following borrowing constraint:⁸

$$Rb_t \leq q_{t+1}k_t$$

In comparison to the borrowing constraints derived from costly state verification, here the cost of external financing is constant at R up to the constraint and then becomes

⁷In addition to the tradable output, the technology also produces ck_t of non-tradable output. This assumption is necessary to ensure that the productive agents don't postpone consumption indefinitely because of their linear preferences.

⁸With uncertainty about the asset price q_{t+1} and a promised repayment B_{t+1} the actual repayment will be $\min\{B_{t+1}, q_{t+1}k_t\}$. As creditors have to receive Rb_t in expectation for a loan of b_t this implies that the credit constraint with uncertainty is $Rb_t \leq E_t[\min\{B_{t+1}, q_{t+1}k_t\}]$. Note that this requires $B_{t+1} > Rb_t$, i.e. a nominal interest rate B_{t+1}/b_t greater than the risk-free rate of R .