touches upon bubbles, but the focus on rational models limits us and we omit important models on bubbles and limits to arbitrage. For a more comprehensive literature survey on bubbles we refer to Brunnermeier (2001, 2008). Other books and surveys like Heathcote, Storesletten, and Violante (2009), Gertler and Kiyotaki (2010), Freixas and Rochet (1997), Bhattacharya, Boot, and Thakor (2004), Veldkamp (2011) and Shin (2010) have a related focus and substitute in for the missing parts in our survey.

2 Persistence, Amplification and Instability

2.1 Persistence

The initial macroeconomics literature with financial frictions represented by Bernanke and Gertler (1989) and Carlstrom and Fuerst (1997) focused on the fact that a shock though temporary can have long-lasting persistent effects. While even in a standard real-business-cycle model temporary shocks can have some persistence, in the present models temporary shocks have much stronger persistence through feedback effects of tightened financial frictions. In these models negative shocks to entrepreneurial net worth increases the financial frictions and force the entrepreneurs to invest less. This results in a lower level of capital and lower entrepreneur net worth in the following period. This decrease again leads to lower investment and lower net worth in the following periods.

The models are set in the framework of a standard Solow growth model where output is produced via a single aggregate production function $Y_t = f(K_t, L_t)$. However, agents are not homogeneous but instead a fraction η of the population are entrepreneurs and a fraction $1 - \eta$ are households. The difference between the two is that only entrepreneurs can create new capital from the consumption good. To produce capital, entrepreneurs will invest out of their own wealth and will borrow from households but this borrowing is not without frictions.

The key friction in the models is the assumption of costly state verification first introduced by Townsend (1979). Each individual entrepreneur's technology is subject to an idiosyncratic shock which is not observable to outsiders and verifying it comes at a cost. The optimal contract between an entrepreneur and the households providing outside funding has to ensure that the entrepreneur doesn't take advantage of the information asymmetry but also has to be mindful of the surplus destroyed by costly verification. This trade-off is resolved by a contract resembling standard debt. The