Abstract: Motivated by the empirical facts, we construct an endogenous growth model in which heterogeneous R&D firms are financially constrained and use cash to finance R&D investments. The interaction between financial constraints and heterogeneity is an important determinant of the optimality of the Friedman rule. If there are no financial frictions, the presence of heterogeneity does not affect the optimality of the Friedman rule. If there are severe financial frictions, however, heterogeneity has an important effect. Without heterogeneity, the Friedman rule is optimal. However, with heterogeneity among R&D firms, deviating from the Friedman rule improves social welfare under a plausible condition.