Asset Pricing in a Capitalist-Worker Economy

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Abstract

This paper examines the asset pricing implications of a real business cycle model in which ownership of productive capital is concentrated in the hands of a subset of agents (capitalists) who derive income from both dividends and wages. The remaining agents (workers) derive income only from wages. Since workers do not save, all assets (equities and bonds) are priced by the capitalists. This setup contrasts with that of Guvenen (Econometrica, 2009) in which equities and bonds are priced separately by two different groups of agents. In the present model, a temporary shock to the technology for producing new capital (an "investment shock") causes dividend growth to be much more volatile than aggregate consumption growth, as in long-run U.S. data. The model also captures the empirical observation that the consumption growth of equity owners is more volatile than the consumption growth of non-equity owners. I show that the capitalist-worker setup significantly magnifies the equity risk premium relative to a representative-agent economy because the consumption stream of capitalists is more strongly linked to volatile dividends from equities. Under power utility with a risk coefficient below five, the model can roughly match the first and second moments of key asset pricing variables in long-run U.S. data, including the historical equity risk premium. On the macro side, the model performs reasonably well in matching the business cycle moments of aggregate variables, including the pro-cyclical nature of capital’s share of income.

Keywords: Asset Pricing, Equity Premium, Term Premium, Investment Shocks, Real Business Cycles, Wealth Inequality.

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