We provide a macroeconomic model with rational exuberance in which the land price-to-dividend ratio (P-D ratio) shows temporarily explosive dynamics as observed in data. In our model, the economy departs from a stationary economy and generates the explosive land price dynamics, followed by a large reduction. The explosive dynamics are generated when (i) the economy is growing, and (ii) the economy entails high leverage. We also show that the explosive dynamics is closely related to the existence of bubbles, and the condition for the existence of bubbles is in line with the existing empirical method to detect bubbles. The macroeconomic dynamics with bubbles and without bubbles differ qualitatively.