Problem Set #6

Econ 899, Fall 2021

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Tasks 1 and 2

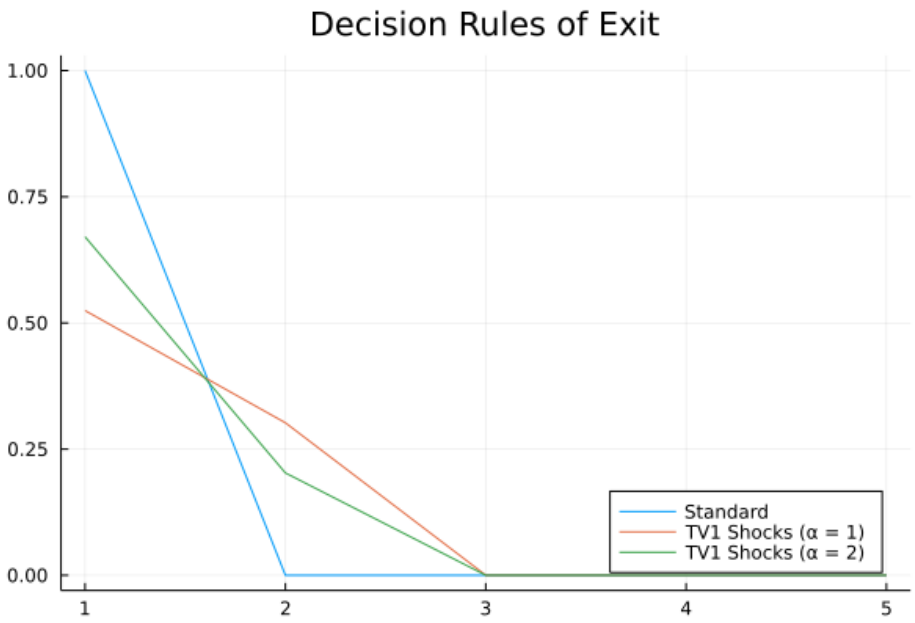
Both versions of the Hopenhayn and Rogerson (1993) model are calculated, and the results are presented below.

Variable	**Standard**	**TV1 Shock** ($\alpha = 1$)	**TV1 Shock** ($\alpha = 2$)
Price Level	0.739	0.691	0.719
Mass of Incumbents	6.66	6.74	6.04
Mass of Entrants	1.66	2.81	2.31
Mass of Exits	2.64	4.22	3.51
Aggregate Labor	179.83	188.89	182.62
Labor of Incumbents	142.63	139.50	136.65
Labor of Entrants	37.20	49.39	45.97
Fraction of Labor in Entrants	.207	.261	.252

With randam disturbances, the price level drops and a change in price makes the mass of entrants increase. This, in turn, positively affects the mass of incumbents, as well as the mass of exits.

Task3

The decision rules of exit is illustrated below. With random shocks, the least productive firms do not exit with certainty, and there exists some probability that the second least productive firms exit. Nevertheless, there still is a negative correlation between the productivity of firms and the probability of exit.



Task4

If we increase fixed costs to 15, then the second least productive firms exit with certainty in the standard model. Random shocks alleviates this obvious relationshp, but in TV1 shock with $\alpha = 1$ the least productive firms almosty certainly exits.