

Reading Questions

Monday, September 12th

1 The National Residency Matching Program

In some labor markets competition over a limited talent pool is fierce. College (American) football recruiting, for example. College football teams are big money for universities – a winning team can substantially increase alumni donations or provide lucrative television contracts – and recruiting or “scouting” the best players is done by professionals. Instead of competing for students graduating high school, these scouts have increasingly sought younger super stars, hoping to lock them in early to avoid competition. In 2010 David Sills, 13, was recruited by football powerhouse USC.

When firms attempt to recruit or lock-in younger and younger talent the labor market is described as “unraveling,” and this process is not limited to football recruiting. First-year law students have begun receiving offers, and historically doctors were recruited after their second year of medical school, when it was difficult to judge their future performance (we take no position on whether it’s harder to judge if a half-trained medical student will make a good doctor or if a thirteen year-old will make a star quarterback). For Harvard undergrads, this would be like joining a firm after your sophomore year!

The National Residency Matching Program (NRMP) was developed to stop these early commitments and reduce the chaotic assignment of doctors to hospitals. Now students submit a list of hospitals they’d like to work at, in preference order, and hospitals submit a list of students they’d like to recruit, in preference order. A centralized clearing house looks at both lists and then informs students where they’ll go, and hospitals who they’ll receive. Importantly, students will always go to their most preferred hospital that will have them, as long as they’re honest about their preferences. ¹

QUESTIONS

1. If a game was so complex that computing a best response was ‘very hard’ (often too difficult for a supercomputer to solve, for example), would you expect people to play a Nash equilibrium in that game?

¹This brief description of the Match, which was redesigned by Harvard’s Al Roth, fails to describe a great deal of interesting complexity and detail. For an interesting, informal history see <http://kuznets.harvard.edu/~aroth/papers/JAMA.OriginsAndHistoryNRMP.Roth.pdf>

2. If you were designing a mechanism or game to be played by real people, why might you want the game to have a Nash equilibrium in 'honest' strategies, like the NRMP students' dominant strategy of honestly listing their preferred hospitals?
3. What would it mean if the NRMP had an *ex post* equilibrium in honest strategies? What about *ex ante*? If you could choose between them (all else constant), which would you prefer for the NRMP?

2 A Repeated Bayesian Game

Chapter 6.3 defines a Bayesian game, but not a repeated or extensive-form Bayesian game. Consider the game in Figure 6.7 played repeatedly (for ever and ever).

QUESTIONS

1. While no single player is initially sure of the game being played, if both pooled their information they could identify it. Could a player's actions reveal what they think the game is? If so, how might this affect future play?
2. In complicated Bayesian games (not necessarily the one in Figure 6.7), do you think it might ever be beneficial (in the long-run) to play a strategy that was suboptimal in the current round? What are some reasons why or why not?
3. Would an impatient person be more or less likely to adopt a strategy that was suboptimal in the current round?