# Review sheet for unit 3

**Chapter 11:** Two-party competition – deterministic voting

• Downs wrote that "parties formulate policies in order to win elections, rather than win elections in order to formulate policies". Explain what this means, discuss the extent to which it is true, and explain broadly how it fits into the analysis in chapters 11-13.

• Explain why two hot dog stands on a strip of beach might be right next to each other – and right next to the median beachgoer – in the equilibrium of the game where each vendor positions his stand to maximize profits. Explain clearly what assumptions go into this result, making note of which assumptions may be unrealistic.

• Explain why two political parties in a one-dimensional issue space might be right next to each other – and right next to the median voter – in the equilibrium of the game where each party positions its platform to maximize votes. Explain clearly what assumptions go into this result, making note of which assumptions may be unrealistic.

• What is meant by 'alienation' and 'indifference' in this context? Explain clearly why political parties' platforms might not be located next to each other at the median voter's position if voting behavior includes alienation and/or indifference. Try to illustrate such an example with a diagram.

• Explain why party primaries prior to the general election might also prevent party platforms from converging at the median vote.

• Suppose that the issue space has more than one dimension, and that for every point in the space, there is another point that a majority prefers. Discuss some of the differences between representative democracy (chapter 11) and direct democracy (chapter 5) in this context. Why might cycles take longer to play out in the case of representative democracy, without disappearing altogether?

• Define the uncovered set. How is it different from the Smith set? Give an example with a tournament diagram in which the two sets are not equivalent.

**Chapter 12:** Two-party competition – probabilistic voting

• Explain intuitively the difference between probabilistic and deterministic models of voter behavior. What factors may account for the 'noise' or 'chance' in the probabilistic models?

• Explain what is meant by each of these two formulae used in the context of probabilistic voting models: $EV_1 = \sum_{i=1}^{n} \pi_{1i}$ and $\pi_{1i} = f_i(U_{1i}, U_{2i})$.

• Suppose that the ideal points of three voters in two-dimensional issue space form a triangle, so that for every point, there is another point that is preferred by a majority. Whereas two party competition with deterministic voting may lead to an endless cycle, two party competition with probabilistic voting might lead to a stable equilibrium. Give as much intuition as you can for this result.

• Suppose that, from the perspective of politicians, voters (indexed by $i$) belong to 'interest groups' (indexed by $j$), such that different interest groups have different probability distributions of 'bias' terms $b_{ij}$, where voters vote for party 1 if and only if $U_{1i} > U_{2i} - b_{ij}$. Explain what a positive value of $b_{ij}$ means about the disposition of voter $i$ to the two parties. Viewing interest groups in terms of the distribution of their bias terms, explain which ones are more likely to get favorable treatment from political parties, and why.

**Chapter 13:** Multiparty systems

• Explain how proportional representation systems differ from single winner systems such as plurality, Borda, etc. Give as strong an argument as you can for proportional representation systems, and then give as strong an argument as you can for single winner systems.

• Example: Party A has 1/2 of the votes and 2/3 of the seats. Party B has 1/3 of the votes and 1/3 of the seats. Party C has 1/6 of the votes and zero seats.
Calculate the effective number of parties by vote (ENV), the effective number of parties by seats (ENS), and the disproportionality (Dev). Explain intuitively what each of these terms mean, and how one should interpret the values you calculated.

• What is meant by a coalition government? Suppose an example with five parties, A through E, and one issue dimension, such that A is the most leftist, B is the second-most leftist, and so on up to E, which is furthest to the right. Seat totals are 25 for A, 18 for B, 30 for C, 22 for D, and 5 for E. What does Robert Axelrod's hypothesis of minimal connected winning coalitions predict? Explain.

• Explain the effect of the electoral system on the number of parties. Consider party list, single transferable vote, block voting, plurality, two round runoff, Hare, and Condorcet-Hare, placing each one on a spectrum from fewer parties to more parties. For each system, give an intuitive explanation of your placement.