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Strategic Ambiguity in Electoral Competition

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**Strategic Ambiguity in
Electoral Competition ***

by

Enriqueta Aragonès⁺
and
Zvika Neeman⁺

January 1994

* We thank Jim Fearon, Tim Feddersen, Mike Jones, Roger Myerson, Don Saari and especially Itzhak Gilboa for their many comments and suggestions that have improved the paper considerably. Enriqueta Aragonès gratefully acknowledges financial support from FPU-MEC (Spain).

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Strategic Ambiguity in Electoral Competition*

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January, 1994

ABSTRACT

Many have observed that political candidates running for election are often purposefully expressing themselves in vague and ambiguous terms. Moreover, the candidates' ambiguity typically involves precisely those issues which stand in the center of public debate. In this paper, we provide a simple formal model of this phenomenon. We assume that candidates prefer to be ambiguous, at least as long as it does not impair their chances to be elected. One reason for their preference for ambiguity is that the more ambiguous a candidate is, the less he is committed to specific policies when in office, and the more freedom he has when confronting unforeseen contingencies. We model the electoral competition between two candidates as a two-stage game. In the first stage of the game, the candidates simultaneously choose their ideologies, and in the second stage of the game, they simultaneously choose their level of ambiguity. Our results show that an equilibrium always exists, and the two candidates always choose the same level of strategic ambiguity. We find that for certain ranges of parameter values, both candidates will express themselves in ambiguous terms. More interestingly, the candidates may find it advantageous to differentiate themselves ideologically. Thus, we show the existence of an equilibrium where one candidate chooses, say, a "*leftist*" ideology, the other candidate chooses a "*centrist*" ideology and both candidates remain vague regarding their future policies in case they win the election.

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1. Introduction

Many have observed that political candidates running for election are often purposefully expressing themselves in vague and ambiguous terms. Moreover, the candidates' ambiguity typically involves precisely those issues which stand in the center of public debate. As Anthony Downs (1957) has pointed out, it is on the "critical issues" that candidates perceive incentives to equivocate, or to "becloud their policies in a fog of ambiguity." Nicholas Biddle, the manager of William Henry Harrison's campaign for the presidency, is reported to have given his candidate the following advice: "Let him say not a single word about his principles, or his creed – let him say nothing – promise nothing. Let no Committee, no convention – no town meeting ever extract from him a single word, about what he thinks now, or what he will do hereafter."¹ More recently, in the last election race, A. M. Rosenthal wrote about Ross Perot the following: "But in public any intellectual challenge like obvious questions about concrete domestic or foreign policy irritated him intensely. He refused to deal with them, despite his growing knowledge."² Putting it in more blatant terms, A *New York Times* editorial have remarked "So far, as Lyndon Johnson might have said, Mr. Perot has been 'all hat and no cattle'."³ The other two candidates, Bill Clinton and George Bush were not treated much more favorably in this respect. On the pages of the *New York Times*'s OP-ED, C. Sigal has written "Bill Clinton is [the Democratic party's] Polonius, a near-genius of the cloudy and orotund. There are bores and there are deadly bores, and there are calculated bores who put us to sleep because they need us unconscious to commit daylight robbery."⁴ Regarding George Bush, Mickey Kantor, the chairman of the Clinton campaign said in a prepared statement "George Bush is hiding under the table when it's time to put the issues on the table."⁵

While these quotations may appear rather critical, their main point is quite familiar. Indeed, we have been accustomed to ambiguous electoral competition. As Downs (1957) argues, candidates have very good reasons to be ambiguous. Ambiguity allows a candidate to appeal to a larger constituency because the wider is a candidate's platform, the easier it is for voters to find that their preferred policy is compatible with it. Moreover, a candidate who advocates an ambiguous platform during the campaign enjoys greater freedom in implementing his policies once he wins the election without having to sacrifice his credibility. As Shepsle (1972) notes "...we can accept with Downs the assumption that politicians do not lie – that false information does not

¹ N. Biddle "Correspondence", 1919, p. 256. This reference is taken from Shepsle (1972) which contains more insightful examples.

² A.M. Rosenthal, "The Perot Mystery", *The New York Times*, July 17, 1992.

³ *The New York Times* editorial, "Mr. Perot: Where's the Cattle?", Sept 30, 1992.

⁴ C. Sigal, "Clinton as Polonius", *The New York Times*, July 23, 1992.

⁵ B. Drummond Ayres Jr. "Bush rejects panel's plan for 3 debates", *The New York Times*, Sept 4, 1992.

enter the communications system – while still acknowledging the politician's advantage in speaking “half-truths” and in varying his appeals with variations in audience and political climate.”

A candidate's decision regarding his level of ambiguity can be interpreted as a choice of the candidate's level of commitment. Every candidate is identified with a certain ideological position which he proclaims. While this position restricts the set of actual policies a candidate may implement, it does not necessarily define these policies precisely. The range of policies which may correspond to a certain ideology is determined by the candidate's ambiguity. The more ambiguous a candidate is, the greater is his freedom in policy choice.

From the candidates' perspective, the level of ambiguity is the result of a conscious decision. A candidate who advocates an explicit and unambiguous platform is actually committing himself to implement more specific policies. On the other hand, a candidate who presents an ambiguous platform is less committed, avoiding promises which can be attributed to him later. The level of ambiguity of a candidate is determined by the amount and quality of the information that he provides regarding his future policies. Since we accept the assumption that candidates do not lie, it follows that the candidates' level of ambiguity actually determines their level of commitment to their ideology.

In this paper, we present a model of electoral competition that incorporates the level of ambiguity as a strategic choice variable. In our model, two candidates start the campaign by identifying themselves ideologically. An ideology, in this context, refers to a broad and not necessarily precise description of one's convictions and positions concerning various issues that stand at the center of public debate. The act of joining a party, for instance, can serve as an example of ideological identification. Another example is, say, the New-Hampshire primaries, in which a candidate already has to associate himself with a certain ideology. The mere fact that the candidate competes in the primaries of the Democratic or the Republican party is sufficient to distinguish him ideologically. Furthermore, each candidate has to express *some* opinions to draw voters' attention. Still, at this stage of the campaign, the candidates' positions on the issues that are at stake are typically rather vague. As the campaign unfolds, the candidates have many opportunities to make themselves more explicit, say, in interviews, debates, talk shows, and so forth. Yet, once a candidate announces his ideology, he cannot change his mind and choose a different one, because he will be perceived, and justly so, as unreliable. The candidates can, however, still choose how explicit they want to be with respect to their prospective policies.

Generally, a candidate can choose to become very explicit with respect to certain issues, and extremely ambiguous or vague with respect to other issues. For simplicity, however, we

introduce only one ideology dimension into the formal model and assume that a candidate simply has to choose whether he is ambiguous or not. Thus, this model makes the simplest assumptions possible while still capturing the fact that the candidates are free to decide how much information they release regarding their future policies.

We model the election process as a two stage game. Two candidates compete for political power in two stages. In the first stage, the candidates simultaneously announce their ideological positions. We assume that the possible ideologies are simply "*Leftist*", "*Centrist*", and "*Rightist*". In the second stage of the game, the candidates decide how ambiguous they want to be by simultaneously announcing their level of commitment to their announced ideologies. For simplicity, we assume that the level of commitment that the candidates choose can only take two values: "high" or "low". Since in the second stage of the game the ideologies of the candidates are publicly known, the candidates can choose their levels of commitment conditional on the ideology choices (of both of them) in the first stage. A candidate that chooses to be highly committed to his ideology, expresses his position in unambiguous terms. On the other hand, a candidate that wishes to remain ambiguous, expresses a lower degree of commitment to his announced ideological position. At this stage of the game, the candidates cannot change their already announced ideological positions. While this assumption is somewhat restrictive, it reflects the fact that reliability is an important political factor. A politician that is perceived as swinging between two different ideological poles loses his credibility, and can hardly be expected to have any serious chance of winning the election. After the two candidates have voiced their ideological credo and their degree of commitment to it, election takes place and the winning candidate is determined by majority rule.

We now briefly describe the candidates' and the voters' preferences. The candidates do not have any *a-priori* preference for either ideological position. Rather, they wish to win the election while being as uncommitted as possible. More specifically, the candidates are assumed to be indifferent with respect to their ideology, provided that they win the election. That is, they have no policy preferences of their own, and, furthermore, each ideology is *a-priori* as "expedient" as any other. Thus the choice of ideology will only affect their *chances* of winning the election.

By contrast, the choice of ambiguity level may affect both the probability of winning the election and the utility of governing. Thus, the second strategic choice variable, namely, the level of commitment may confront a candidate with a tradeoff: it will sometimes be the case that a higher level of ambiguity (i.e., low level of commitment) decreases the probability of winning the election, but increases the desirability of winning the election.

We assume that winning the election results in some "utility" for a candidate, which depends on the level of commitment. Winning the election with a low level of commitment allows the candidate to implement more expedient policies without breaking past promises. Not knowing what specific positions will turn out to be more convenient to follow once in office, a candidate prefers winning without commitment to winning with commitment. For example, while a committed leftist candidate has to implement a leftist policy if he wins the election, a less committed leftist candidate might also implement a centrist policy if the need arises. An example that illustrates this point is the issue of gays serving in the military. During his campaign, Clinton promised to let gay people serve in the army. When he won the presidency, he realized that fulfilling his promise involves great difficulties, and indeed he backed off. Another reason to prefer ambiguity may be that a vague candidate enjoys greater freedom in choosing his policy and can therefore "sell" it to lobbyist groups after winning the election, thereby increasing his base of support, and possibly increasing his party's budget.

In short, we assume that candidates prefer a low to a high level of commitment. Since this choice generally interacts with the probability of winning the election, they have to strike a balance between potentially conflicting incentives. We make the standard assumption that the candidates are expected utility maximizers; that is, they maximize the product of the probability of winning the election and the utility of assuming office.

The voters in this model are assumed to belong to three main blocs: Leftist, Centrist, and Rightist. The preferences of the voters depend only on their ideological identification. A voter's preferences are lexicographic: when comparing two candidates, she always prefers the one who is ideologically closer to her. Only if the ideologies of the candidates are identical, does the voter consider their commitment levels. The preference for commitment depends on the ideology of the voter, and, specifically, on whether she would like the candidate to "drift" from his stated ideology. A leftist voter, for example, has the following preferences: she prefers a candidate which stands for a leftist ideology to a centrist candidate, and a centrist candidate is obviously preferred to a rightist candidate. As for the ideological commitment of the candidates – a committed leftist candidate is the best, a less committed leftist candidate is not as good, but is still better than anyone else. The voter is indifferent between the degree of commitment of centrist candidates. Lastly, a less committed rightist candidate is preferred to a committed one – which is worse yet. The preferences of a rightist voter are symmetric: first comes a committed rightist candidate, then a less committed rightist candidate, and so on. A centrist voter prefers a committed centrist candidate the most, then she prefers a less committed centrist candidate. She is indifferent

between lowly committed leftist and rightist candidates, and is most averse to highly committed extreme candidates.

The rationale behind these preferences is as follows: voters want a candidate who adopted their favorite position to be as dogmatic as possible. On the other hand, when the candidate's position differs from the voter's, the latter may prefer a low level of commitment depending on the direction in which she expects the candidate's position to "drift". Specifically, if the candidate chose an extreme position ("*Left*" or "*Right*") which is *not* shared by the voter, she will welcome any "drift" in the candidate's position, which can only get closer to hers. If, however, the candidate may "drift" in either direction – say, in the case of a centrist candidate and a leftist voter – we simply assume that the voter is indifferent with respect to the level of commitment.⁶ In addition, we assume that all of the voters that are not indifferent to the outcome of the election vote. Voters abstain only if they are indifferent to the outcome of the election. We assume that all the voters vote sincerely. That is, they vote for the candidate they prefer.

We also make explicit assumptions on the information structure of the model. Namely, the candidates do not know the exact sizes of the voters' blocs, instead, they have beliefs over them. Each voter knows, of course, her preferences or to which bloc she belongs.

The main results of our model are as follows. A subgame perfect equilibrium always exists. Furthermore, it is unique apart from certain parameter ranges in which two equilibria coexist.⁷ In equilibrium, both candidates choose the same level of commitment or ambiguity. The candidates choose ambiguous platforms when the cost of commitment is significant, provided that neither of the extremist blocs is too "important". The candidates choose the same ideology when they believe that one of the blocs is very important; in this case, they choose this bloc's ideology. More interestingly, the candidates choose *different* ideological positions when the cost of commitment is not too low, and, when they believe that one of the extremist blocs is important (but not very important). In this case, one candidate chooses the extremist bloc's ideology while the other candidate chooses the centrist ideology. Both candidates choose to be uncommitted in this case. The intuition behind this result comes from the tradeoff that the candidates face between the probability of winning the election and their level of utility in case they win the election. That is, at an equilibrium with differentiated ideologies, one candidate has a lower probability of winning the election. However, he realizes that should he switch to the other candidate's position, in the second stage there will be a competition over the level of commitment. True, each

⁶ This may be viewed as a "risk neutrality" assumption. However, our basic results do not depend on this assumption.

⁷ Ignoring multiplicity of equilibria in degenerate cases.

candidate can guarantee a 50% probability of winning the election by imitating his opponent, but the coveted prize becomes less desirable: the winner of the election is bound by his campaign's promises. Anticipating this second-stage competition, a candidate may prefer to stick to an ideology which guarantees a lower chance of winning, but a higher degree of freedom if he indeed ends up assuming office.

The rest of the paper is organized as follows: in section 2, we describe the formal model and present the electoral game. In section 3, we present our results. We discuss possible extensions of the model in section 4, and the relationship to the existing political and economic literature in section 5. Section 6 concludes. A detailed formal derivation of the results is relegated to the appendix.

2. The Formal Model

As we have said earlier in the introduction, we model the electoral competition between two candidates as a two stage game. We now describe the game, starting with the preferences of the candidates and the voters.

2.1 The candidates

We denote the two candidates by 1 and 2. In the first stage of the game, the candidates simultaneously choose their ideologies. A candidate can choose to be "*Leftist*", "*Centrist*", or "*Rightist*". In the second stage of the game, the candidates simultaneously announce their degree of commitment to their ideologies, which at this stage are publicly known. Formally, a candidate's strategy can be described by a vector (I, f) . I denotes the ideology chosen by the candidate, $I \in \{L, C, R\}$ where L stands for "*Leftist*", C stands for "*Centrist*", and R – for "*Rightist*". f denotes the candidate's choice of commitment level as a function of the ideology choices of the first stage. Since in the second stage, the ideologies of the candidates are publicly known, the candidates can choose their levels of commitment conditional on them. The chosen level of commitment can take only two values, $c \in \{c_l, c_h\}$ where $0 \leq c_l < c_h$. c_l stands for a choice of a low level of commitment, and c_h stands for choice of a high level of commitment. Formally, the level of commitment f is a function that maps the ideologies that were chosen in the first stage into $\{c_l, c_h\}$, or $f: \{L, C, R\} \times \{L, C, R\} \rightarrow \{c_l, c_h\}$. The strategy of a specific candidate $i, i \in \{1, 2\}$ is denoted by (I_i, f_i) .

We assume that the candidates have identical utility functions which are increasing in the probability of winning the election and decreasing in their degree of commitment. The benefit of winning the election exceeds the cost of commitment so that the candidates would like to win the

election even if they are highly committed. Formally, the utility function of candidate i is $U_i(I_1, f_1; I_2, f_2) = P_i(I_1, c_1; I_2, c_2)(k - c_i)$ where $c_i = f_i(I_1, I_2)$ is candidate i 's level of commitment; $P_i(I_1, c_1; I_2, c_2)$ denotes the probability that candidate i wins the election given the candidates' choices of ideologies and levels of commitment; and k is some positive constant such that $k - c_h \geq 0$. The interpretation of this utility function is that winning the election is worth k to the candidates, and in case of winning the election, the candidates prefer to be less committed. Note that as k increases, the significance of commitment decreases and the model "converges" to the usual Downsian model.

2.2 The Voters

The voters in this model are assumed to belong to three main blocs: *Leftist*, *Centrist*, and *Rightist*. The preferences of the voters depend only on their ideological identification, that is, their bloc. We present the voters' preferences in the following table: (the alternatives are ranked in decreasing order from top to bottom),

<u>Leftist</u>	<u>Centrist</u>	<u>Rightist</u>
(L, c_h)	(C, c_h)	(R, c_h)
(L, c_l)	(C, c_l)	(R, c_l)
$(C, c_l), (C, c_h)$	$(L, c_l), (R, c_l)$	$(C, c_l), (C, c_h)$
(R, c_l)	$(L, c_h), (R, c_h)$	(L, c_l)
(R, c_h)		(L, c_h)

The voters vote sincerely. That is, they vote for the candidate who is ranked higher in their preference profile if such exists. In case a voter is indifferent between the two candidates, she abstains from voting.

It is worth noting that our model is robust with respect to perturbing the voters' preferences. (See section 4.1).

2.3 The Information Structure

Recall that the voters are assumed to belong to three main blocs: *Leftist*, *Centrist*, and *Rightist*. Without loss of generality, we can normalize the size of the population to be 1. We denote the size of the "*Leftist*" bloc by n_L , the size of the "*Centrist*" bloc by n_C , and the size of the "*Rightist*" bloc by n_R . Each bloc has a non-negative size and $n_L + n_C + n_R = 1$. The candidates do not know the exact sizes of the voters' blocs, but they have beliefs about them. Specifically, we assume that the candidates have an identical prior distribution defined over n_L , n_C , and n_R .⁸ In general, the beliefs of the candidates can be described by a probability distribution over the two dimensional simplex as in the following figure,

- figure 1 -

Each point in the figure corresponds to a different distribution of bloc's sizes. The respective sizes of the leftist and rightist blocs are depicted by the axes, and the size of the centrist bloc corresponds to the distance of the point from the diagonal line connecting the points (0,1) and (1,0). Thus, for example, the probability that the leftist bloc forms a majority corresponds to the integral of the distribution function over the area denoted by δ ; the probability that the rightist bloc forms a majority corresponds to the integral of the distribution function over the area denoted by α ; and the probability that the number of leftist voters exceeds that of the rightist voters corresponds to the integral of the distribution function over the area denoted by $\gamma + \delta$.

However, as we demonstrate in the sequel, the exact distribution of the sizes of voters' blocs is immaterial. For our results, the information contained in the distribution can be summarized by the following two probabilities: the probability that the leftist bloc forms a majority, or $P(n_L > 1/2)$; and the probability that the rightist block forms a majority, or, $P(n_R > 1/2)$. To conclude, we assume the following information structure: each voter knows his type, that is, she knows the bloc to which she belongs, or alternatively, she knows her preferences. This information, however, is unobservable to the candidates. The candidates do not know the exact sizes of the voters' blocs, but they have beliefs about them. As we demonstrate later, these beliefs can be summarized by the probabilities that the candidates assign to the events that the leftist and rightist blocs form a majority, respectively.

⁸ This assumption is not too restrictive.

2.4 The Electoral Game

As we have said before, the electoral game consists of two stages. In the first stage, the candidates simultaneously choose their ideology. Formally, this is described by the following 3×3 game,

	L	C	R
L	$G(L,L)$	$G(L,C)$	$G(L,R)$
C	$G(C,L)$	$G(C,C)$	$G(C,R)$
R	$G(R,L)$	$G(R,C)$	$G(R,R)$

Candidate 1 is the row player, and candidate 2 is the column player. Notice that the entries in the game matrix describe the game to be played in the second stage of the electoral game (rather than the terminal payoffs). Each choice of ideological positions in the first stage of the electoral game defines a different game to be played in the second stage. In the second stage of the electoral game, the candidates play a 2×2 game $G(I_1, I_2)$ in which their level of commitment is determined. The second stage game (parametrized by I_1, I_2) is described by the following game matrix,

$G(I_1, I_2)$		c_l	c_h
c_l		$P_2(I_1, c_l; I_2, c_l)(k - c_l)$	$P_2(I_1, c_l; I_2, c_h)(k - c_h)$
		$P_1(I_1, c_l; I_2, c_l)(k - c_l)$	$P_1(I_1, c_l; I_2, c_h)(k - c_l)$
c_h		$P_2(I_1, c_h; I_2, c_l)(k - c_l)$	$P_2(I_1, c_h; I_2, c_h)(k - c_h)$
		$P_1(I_1, c_h; I_2, c_l)(k - c_h)$	$P_1(I_1, c_h; I_2, c_h)(k - c_h)$

As before, candidate 1 is the row player and candidate 2 is the column player. The candidates' respective utilities are depicted in the game matrix. Candidate 1's utility is the lower left one, and candidate 2's utility is the upper right one.

Symmetry considerations imply that in order to analyze the second stage game, we need to study only four different classes of second stage games:

- (1) Where both candidates have chosen a centrist ideology in the first stage, or $G(C,C)$.
- (2) Where both candidates have chosen an identical ideological position in the first stage, but not the centrist one, $G(L,L)$ or $G(R,R)$.
- (3) Where the candidates have chosen adjacent ideological positions in the first stage, $G(L,C)$, $G(C,L)$, $G(C,R)$, or $G(R,C)$.
- (4) Where the candidates have chosen extreme ideological positions in the first stage of the game, $G(L,R)$ or $G(R,L)$.

3. The Results

We compute the subgame perfect equilibria of the electoral game above. In a subgame perfect equilibrium, the candidates choose their ideologies in the first stage while taking into account the implications of their choices to the second stage game. In the second stage, they continue to play their equilibrium strategies, as foreseen in the first stage of the game. We provide a detailed analysis of the game in the appendix.

As will become apparent in the sequel, our results depend on the relative significance of commitment as expressed by the ratio $\frac{k-c_h}{k-c_l}$, denoted ρ . Notice that $0 \leq \rho < 1$. When ρ is small, the cost of commitment is significant and the candidates will tend to avoid committing themselves to their ideologies. On the other hand, when ρ is larger, the cost of commitment is insignificant and the candidates' principal objective of winning the election will dominate. We restrict our attention to the more interesting case where,⁹

$$\frac{1}{2} \leq \rho = \frac{k-c_h}{k-c_l} < 1$$

⁹ If $\rho < \frac{1}{2}$ our analysis shows that equilibria where both candidates choose the same ideology and a low level of commitment exist. We find these equilibria – as well as the assumption that the level of commitment is very important to the candidates (namely, $\rho < \frac{1}{2}$) – somewhat unintuitive.

We summarize the results in the following three theorems. Each theorem describes the results for different parameter values. (The proofs are straightforward and follow from the analysis of the second stage games presented in the appendix.)

Theorem 1 *If $P(n_L > \frac{1}{2}) < \frac{1}{4}$ and $P(n_R > \frac{1}{2}) < \frac{1}{4}$, then in the unique subgame perfect equilibrium of the electoral game both candidates locate at the center and choose a high level of commitment.*

Theorem 2 *If $P(n_L > \frac{1}{2}) > \frac{1}{2}$ then in every subgame perfect equilibrium of the electoral game (at least one exists) both candidates choose L in the first stage of the game. More specifically,*

- *when $\rho < 2(1 - P(n_L > \frac{1}{2}))$, the unique equilibrium outcome is $(L, c_l; L, c_l)$.¹⁰*
- *when $2(1 - P(n_L > \frac{1}{2})) \leq \rho \leq \frac{1}{2P(n_L > \frac{1}{2})}$, $(L, c_l; L, c_l)$ and $(L, c_h; L, c_h)$ are the only equilibrium outcomes.*
- *when $\frac{1}{2P(n_L > \frac{1}{2})} < \rho \leq 1$, the unique equilibrium outcome is $(L, c_h; L, c_h)$.*

The results of theorems 1 and 2 are not surprising. Indeed, if the parties believe that a bloc of voters is large enough to form a majority with a probability greater than half, they would naturally choose this bloc's ideology. Yet, this median voter result is obtained only for a special case. In this game, there exist non symmetric equilibria as well.

Theorem 3 *If $\frac{1}{4} < P(n_L > \frac{1}{2}) < \frac{1}{2}$ and $P(n_L > \frac{1}{2}) > P(n_R > \frac{1}{2})$ then the outcomes of the subgame perfect equilibrium are unique (up to renaming the names of the parties),*

- *when $\frac{1}{2} < \rho < 2P(n_L > \frac{1}{2})$ the equilibrium outcome is $(L, c_l; C, c_l)$.*
- *when $2P(n_L > \frac{1}{2}) < \rho < 1$ the equilibrium outcome is $(C, c_h; C, c_h)$.*

Notice that in order to fully describe the results of the electoral game, we need to specify the results for the case where $P(n_R > \frac{1}{2}) > \frac{1}{2}$ and for the case where $\frac{1}{4} < P(n_R > \frac{1}{2}) < \frac{1}{2}$ and

¹⁰ Note that $2(1 - P(n_L > \frac{1}{2}))$ may be smaller than $\frac{1}{2}$. Still, the result holds for $\rho < \frac{1}{2}$ as well.

$P(n_R > \frac{1}{2}) > P(n_L > \frac{1}{2})$. Yet, since the results in these cases are symmetric to those described in theorems 2 and 3, respectively, we omit their explicit statement.

We summarize the results in the following two figures. In figure 2, the probabilities $P(n_L > \frac{1}{2})$ and $P(n_R > \frac{1}{2})$ are held fixed while ρ is varied between $\frac{1}{2}$ and 1. The figure depicts the various ideologies chosen as equilibrium outcomes.

- figure 2 -

On the borders between the different areas of the figure (that is, on the lines), the possible equilibrium outcomes are those of the bordering areas.

In figure 3, ρ is held fixed. The figure depicts the various equilibrium outcomes as the probabilities $P(n_L > \frac{1}{2})$ and $P(n_R > \frac{1}{2})$ vary.

- figure 3 -

As in figure 2, on the borders between the different areas of the figure, the possible equilibrium outcomes are those of the bordering areas. We see that when both $P(n_L > \frac{1}{2})$ and $P(n_R > \frac{1}{2})$ are small, both candidates choose a centrist ideology. When $P(n_L > \frac{1}{2})$ increases, one of the candidates continues to choose a centrist ideology while the other candidate switches to a leftist ideology. When $P(n_L > \frac{1}{2})$ increases even more, both candidates choose leftist ideologies. However, in order not to alienate the rest of the voters they do not become too committed to their (extremist) ideology. When $P(n_L > \frac{1}{2})$ is even larger, two equilibria exist: one in which the candidates choose a leftist ideology and a low level of commitment and the second where the candidates choose a leftist ideology and a high level of commitment. This is the only instance of a multiplicity of equilibria (except for the borders between the different ranges). Finally, when $P(n_L > \frac{1}{2})$ is very large, both candidates choose a leftist ideology and a high level of commitment. Since, in this case, the leftist voters are believed to comprise most of the vote, both candidates try to win their support by highly committing themselves to their leftist ideology.

4. Discussion: Possible Extensions of the Model

One may wonder how general our results are. The model presented here makes several restrictive assumptions: one is about the preferences of the voters, a second is about the possible ideological choices, and a third is about the timing of the model. In particular, we address the following three questions: (1) how robust are our results to perturbing the preferences of the voters and, more specifically, to having "risk-averse" voters? (2) Will the candidates continue to choose adjacent ideological positions in a model with many available ideological positions? And finally, (3) How does our model generalize to a repeated game?

4.1 Perturbing Preferences

We believe that the profile of voter preferences as described in section 2.2 is the most plausible in the context of ambiguous candidate promises. However, our model is robust with respect to the voters being risk averse over the whole range of candidates' choices. The results are qualitatively identical to the results obtained before. In our set-up, risk averse voters have lexicographic preferences: first, regardless of the choice of commitment level, they prefer the candidate which is ideologically closer to them. Then, between candidates that have chosen the same ideological position in the first stage, they always prefer the candidates with the higher level of commitment.

In a more general model, where the ideology or the policy space is represented by a bounded interval, risk averse voters will still prefer the candidates that proclaim an opposite ideology to themselves to be less committed because of "end-effects". An ambiguous rightist candidate that is located close to the end of the line segment cannot possibly choose more extremist rightist policies because they are unavailable to him. If he does not implement a rightist policy, he is bound to implement a more centrist policy. Thus, in expectation, an ambiguous rightist candidate will choose a more centrist policy than a committed rightist candidate, and so, even risk averse leftist and centrist voters will favor him more than a committed rightist candidate. In the absence of "end-effects", when the policy space is unbounded, a possible counterpart of the preferences depicted in section 2.2 are bell-shaped preferences where the voters behave as risk averse towards a candidate that has declared an ideology similar to their ideal point, risk neutral towards a candidate that has chosen an ideology which is not very close to their ideal point, and as risk loving towards a candidate that has chosen an ideology which is very different from their ideal point.¹¹

¹¹ McKelvey (1980) employs similar preferences.

4.2 Generalizing the Number of Available Ideologies

Our answer to the second question is that the degree of differentiation depends on the voters' preferences. The main question here is when are the candidates perceived as "similar" by the voters. Recall that when the candidates are perceived as "similar" they can only compete along the commitment dimension in the second stage of the game. Thus, we can construct, for example, a model with five possible ideological positions: "*Extreme Left*", "*Center-Left*", "*Center*", "*Center-Right*", and "*Extreme Right*", and define voters' preferences in a "natural" way so that we obtain an equilibrium with differentiation where the candidates do not locate adjacently. Consider for example a situation in which one candidate chooses a *Center-Left* ideology, and the other candidate chooses a *Center-Right* ideology. Each candidate has a probability $\frac{1}{2}$ of winning the election, and both candidates are uncommitted. We claim that this situation is an equilibrium. The reason is as follows: in this situation, the *Centrist* voters are indifferent between the two candidates and therefore they abstain from voting. Suppose now that the *Center-Left* candidate, for example, considers deviating in the first stage of the game and choosing a *Centrist* ideology. He will thus possibly win the support of the *Centrist* voters and increase his probability of winning the election. Yet, if the *Extreme Left* voters consider *Centrist* and *Center-Right* candidates to be "similar", they will vote for the more committed candidate of the two. The deviating *Center-Left* candidate can either remain uncommitted and risk losing the election since he will lose the support of the *Extreme Left* voters, or increase his level of commitment and win the support of the *Extreme Left*, *Center-Left*, and *Center* bloc voters. He thus faces the following trade-off: either he deviates, increases his probability of winning but also increases his level of commitment, or, he maintains the status-quo. As long as the level of commitment is not too insignificant the *Center-Left* candidate will prefer not to deviate. Similarly, the *Center-Right* candidate will not deviate, and the above situation will be maintained as an equilibrium.

4.3 Repeated Game Analysis

One of the reasons for remaining ambiguous is that by following such a strategy, a candidate has more freedom to choose a different policy in subsequent elections without risking his reputation. If a candidate considers running for two consecutive terms, being ambiguous in the first campaign allows him to adopt more policies in the ensuing campaign without being criticized for inconsistency. More generally, it may be worthwhile to study the effects of strategic ambiguity in a repeated game situation where the cost of ambiguity or commitment is determined endogenously. (A first step in this direction is Alesina and Cukierman (1990)). The difficulty with this approach is that one has to explicitly model the reaction of voters to candidates that advertise a different ideology at each campaign, and the voters' reaction to candidates that did not fulfill

their campaign promises. Furthermore, one has to take into account the difference between the incumbent and the challenger. One possible way of doing this would be to judge the incumbent according to his success and trustworthiness and the challenger according to his political opportunism as reflected in his changing campaign promises.

5. Related Literature

5.1 Political Science Literature

As mentioned in the introduction, the notion of strategic ambiguity has been extensively dealt with in political science literature. Many have commented about it, including George Orwell, Anthony Downs (1957), and Giovanni Sartori (1962). (For a survey of this literature, see Shepsle (1972)) This literature has led to several attempts of formal modeling of strategic ambiguity. Generally, these formal models have employed the assumptions of the standard spatial model. Ambiguous strategies were represented as probability distributions (lotteries) over the policy space. Zeckhauser (1969) is probably the earliest formal discussion of ambiguous policy formation. He shows that under certain conditions, a lottery over some subset of the alternatives can defeat the median position, and that a component of this lottery can defeat the lottery itself. Thus, an alternative that wins a majority of the vote may not exist. However, he shows that if an equilibrium of the m -dimensional election game exists, it must be in unambiguous strategies. Shepsle (1972) shows that if only uniform lotteries are permitted and the incumbent is restricted to select a less ambiguous lottery than the challenger, there exist voter preferences such that the challenger's choice will command more votes than any policy available to the incumbent. McKelvey (1980) studies the effect of the introduction of a fixed amount of ambiguity (or variance). He shows that it has no effect on the location or existence of equilibria in unidimensional models. For higher dimensions, assuming that voters' utility functions are multivariate normal density functions, the introduction of ambiguity does not disrupt equilibria when they exist.

In contrast to the results of this paper, the former literature on strategic ambiguity did not differ qualitatively from the standard spatial model literature. Ambiguous policies were chosen only in special cases where the model did not allow the incumbent and the challenger to choose similar policies. As Austen-Smith (1983) has remarked, "vagueness and imprecision in policy specification by candidates is commonplace: the issue for spatial theory is to explain why this can be a rational strategy. Unfortunately, the few results obtained are for the most part only suggestive."

5.2 Related Economic Literature

The model presented here is reminiscent of Hotelling's (1929) model. In Hotelling's model, two sellers choose locations on a line of finite length, to be thought of as "main-street", and then compete in prices. Consumers are evenly distributed along the line and each one of them consumes exactly one unit of the product, irrespective of its price. Each consumer buys from the seller who quotes the least delivered price, that is, the mill price plus the transportation costs which were assumed to be linear with respect to the distance between the consumer and the seller. In this model, Hotelling derived the Principle of Minimal Differentiation: both sellers will tend to position themselves at the center of the market.

Hotelling's result remained unchallenged for the next half century. Fifty years later, d'Aspremont, Gabszewicz, and Thisse (1979) have discovered a subtle mistake in Hotelling's calculations. As they have showed, the model does not have an equilibrium in pure strategies. To recover the pure-strategy equilibrium, d'Aspremont, Gabszewicz, and Thisse considered a slightly modified version of Hotelling's model where consumers have quadratic transportation costs as a function of the distance. However, contrary to Hotelling's result, they have shown that for their version of Hotelling's model, the Principle of Maximum Differentiation holds. That is, in the first stage of the game the sellers locate as far from one another as possible – the first seller locates at the leftmost end of the line segment, and the second seller locates at the rightmost end of the line segment. The intuition behind this surprising result is that the sellers can soften the price competition of the second stage by locating far away from each other in the first stage of the game. The sellers do not have an incentive to move closer to the median consumer because if they do so the other seller will retaliate in the second stage by cutting his prices and escalating the price war. Locating as far as possible from the other seller allows the sellers to charge higher prices without losing their consumers.

The intuition of the two-stage competition in our model is similar to theirs. However, both the voters' and the candidates' preferences are quite different. Our voters, as opposed to economic consumers that prefer a lower price regardless of the location of the seller, prefer a candidate that choose an opposing ideology to be less committed rather than highly committed. More significantly, the candidates' objectives are mainly to win the election, rather than to maximize their share of the vote. This discontinuity of the candidates' utility (with respect to the share of the voters at $\frac{1}{2}$) makes our model and results rather different. In particular the principle of maximal differentiation does not hold in our model.

6. Conclusion

The main contribution of this paper is that it offers a plausible model of strategic ambiguity and that it suggests a new rationale for policy differentiation in electoral competition. The existing literature offers three possible explanations to policy and ideological differentiation. Probabilistic voting (see e.g., Hinich, 1977), parties with different policy preferences (see e.g., Wittman, 1983), and sequential entry (Palfrey, 1984). By contrast, our model suggests that the strategic use of ambiguity alone can account for this phenomena.

Incorporating the choice of the level of ambiguity adds a new strategic dimension to the standard model of electoral competition. In other models of electoral competition, allowing the policy space to have two or more dimensions does not change the nature of the analysis qualitatively. (However, the existence of equilibrium may become problematic.) Both candidates have an incentive to change their position in the direction of the median voter. By contrast, in this model the candidates have somewhat different incentives. The candidates may have an incentive to differentiate themselves in the ideology space so that they can soften the competition in the commitment space. Thus, the candidates are able to adopt more pragmatic policies which they prefer. Hence, this model generalizes the result of Downs (1957) by showing that the median voter result, where both candidates choose the same ideological position, holds only as a special case. Yet, the spirit of the median voter result is retained. From the voters' perspective, ambiguity (or low commitment) blurs the ideological differences between the candidates. Less committed candidates that have chosen different ideologies during the campaign might end up choosing similar policies in case they win the election because they recognize that certain policies are the most advantageous.

Our results depend on the importance of the level of ambiguity or commitment ρ to the candidates. When commitment does not play a major role in the candidates preferences, both parties will choose the median voter's ideology in the first stage of the game and will strongly commit to it. When, on the other hand, the candidates value the flexibility in choosing their subsequent policy more, the equilibrium outcome of the game will have the candidates choosing different ideological positions in the first stage of the game in order to relax the commitment competition in the second stage.

Finally, we should emphasize that any model that shares the underlying features of our model, namely, a two-stage game where the candidates share similar preferences for the outcome of the second stage of the game, and uncertainty about voter's preferences, will yield similar results. The candidates will differentiate themselves in the first stage of the game in order to relax

the competition in the second stage of the game. The interpretation of the formal model presented here, of strategic ambiguity, is not the only one possible. For example, another interpretation might be of a strategic choice of the level of corruption. As in our model, both candidates can be thought of as sharing a common interest for higher personal corruption. Thus, the candidates will differentiate themselves ideologically in the first stage of the game so that they will be able to relax the competition in the second stage of the game and be more corrupt. (Myerson (1993) offers related analysis.)

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Appendix: The Analysis of the Electoral Game

We start by computing the pure strategy equilibria of the second stage games. First, consider the game $G(C,C)$. Notice that since leftist and rightist voters are indifferent to the results of the elections, only centrist voters participate in the elections.

$G(C,C)$		c_l	c_h
c_l		$\frac{1}{2}(k - c_l)$	$k - c_h$
		$\frac{1}{2}(k - c_l)$	0
c_h		0	$\frac{1}{2}(k - c_h)$
		$k - c_h$	$\frac{1}{2}(k - c_h)$

In the game $G(C,C)$, (c_h, c_h) is always an equilibrium since $k - c_h \geq 0$. For the same reason (c_h, c_l) and (c_l, c_h) cannot be equilibria of $G(C,C)$. (c_l, c_l) is an equilibrium if and only if $\frac{k - c_h}{k - c_l} \leq \frac{1}{2}$. So, $G(C,C)$ has the following pure strategy equilibria,

- in case $0 \leq \frac{k - c_h}{k - c_l} \leq \frac{1}{2}$, (c_l, c_l) and (c_h, c_h) are possible equilibria.
- In case $\frac{1}{2} < \frac{k - c_h}{k - c_l} \leq 1$, (c_h, c_h) is the unique equilibrium.

We analyze the game $G(L,C)$ (the analysis of $G(C,L)$, $G(C,R)$ and $G(R,C)$ is analogous). Notice that, in this game, leftist voters vote for the leftist party and centrist and rightist voters vote for the centrist party.

$G(L,C)$		c_l	c_h
c_l		$(1 - P(n_L > \frac{1}{2}))(k - c_l)$	$(1 - P(n_L > \frac{1}{2}))(k - c_h)$
		$P(n_L > \frac{1}{2})(k - c_l)$	$P(n_L > \frac{1}{2})(k - c_l)$
c_h		$(1 - P(n_L > \frac{1}{2}))(k - c_l)$	$(1 - P(n_L > \frac{1}{2}))(k - c_h)$
		$P(n_L > \frac{1}{2})(k - c_h)$	$P(n_L > \frac{1}{2})(k - c_h)$

Strict dominance considerations imply that (c_l, c_l) is the unique equilibrium of this game.

We analyze the game $G(L,R)$ (the analysis of $G(R,L)$ is analogous). In this game, the leftist voters vote for the leftist party, the rightist voters vote for the rightist party, and the centrist voters vote for the less committed party of the two, provided there is one.

$G(L,R)$		c_l	c_h
c_l		$P(n_R > n_L)(k - c_l)$	$P(n_R > \frac{1}{2})(k - c_h)$
		$P(n_L > n_R)(k - c_l)$	$(1 - P(n_R > \frac{1}{2}))(k - c_l)$
c_h		$(1 - P(n_L > \frac{1}{2}))(k - c_l)$	$P(n_R > n_L)(k - c_h)$
		$P(n_L > \frac{1}{2})(k - c_h)$	$P(n_L > n_R)(k - c_h)$

In the game $G(L,R)$, (c_h, c_h) is an equilibrium only if $\frac{k - c_h}{k - c_l} \geq \frac{1 - P(n_R > \frac{1}{2})}{P(n_L > n_R)} = \frac{1 - P(n_R > \frac{1}{2})}{1 - P(n_R > n_L)}$, but since $P(n_R > n_L) \geq P(n_R > \frac{1}{2})$ this equilibrium is impossible. (c_l, c_l) is an equilibrium if and only if $\frac{k - c_h}{k - c_l} \leq \frac{P(n_L > n_R)}{P(n_L > \frac{1}{2})}$ and $\frac{k - c_h}{k - c_l} \leq \frac{P(n_R > n_L)}{P(n_R > \frac{1}{2})}$. So, this equilibrium is always possible. (c_h, c_l) is an equilibrium only if $\frac{k - c_h}{k - c_l} \geq \frac{P(n_L > n_R)}{P(n_L > \frac{1}{2})}$ which

is impossible, and so, this equilibrium, as well as (c_l, c_h) are impossible. So, in the game $G(L, R)$, there exists a unique equilibrium, namely:

- (c_l, c_l) is the unique equilibrium.

Lemma 1 *In a subgame perfect equilibrium, the candidates do not choose (L, R) or (R, L) in the first stage of the game.*

Proof We show that the candidates do not choose (L, R) in the first stage of the game. Since (c_l, c_l) is the unique equilibrium played after the parties choose (L, C) in the first stage of the game, by deviating and choosing C , party 2 gets the vote of the centrist voters and so increases its probability of winning the elections from $P(n_r > n_l) = 1 - P(n_l > n_r)$ to $1 - P(n_l > \frac{1}{2})$ without changing its level of commitment. $\square$

We analyze the game $G(L, L)$ (the analysis of $G(R, R)$ is analogous). Notice that, in this game, the committed party gets the vote of the leftist block and the less committed party gets the vote of the centrist and rightist voters.

$G(L, L)$		c_l	c_h
c_l		$\frac{1}{2}(k - c_l)$	$P(n_l > \frac{1}{2})(k - c_h)$
		$\frac{1}{2}(k - c_l)$	$(1 - P(n_l > \frac{1}{2}))(k - c_l)$
c_h		$(1 - P(n_l > \frac{1}{2}))(k - c_l)$	$\frac{1}{2}(k - c_h)$
		$P(n_l > \frac{1}{2})(k - c_h)$	$\frac{1}{2}(k - c_h)$

In the game $G(L, L)$, (c_h, c_h) is an equilibrium if and only if $\frac{k - c_h}{k - c_l} \geq 2(1 - P(n_l > \frac{1}{2}))$, so (c_h, c_h) can be an equilibrium if and only if $P(n_l > \frac{1}{2}) \geq \frac{1}{2}$. (c_l, c_l) is an equilibrium if and only if $\frac{k - c_h}{k - c_l} \leq \frac{1}{2P(n_l > \frac{1}{2})}$. (c_h, c_l) is an equilibrium if and only if $\frac{k - c_h}{k - c_l} \geq \frac{1}{2P(n_l > \frac{1}{2})}$ and $\frac{1}{2} \geq P(n_l > \frac{1}{2})$ which is an impossibility. Therefore, this equilibrium, as well as (c_l, c_h) are impossible. So, in the games $G(L, L)$ or $G(R, R)$ the following equilibria exists.

- In case $0 \leq \frac{k - c_h}{k - c_l} < 2(1 - P(n_L > \frac{1}{2}))$ (c_l, c_l) is the unique equilibrium.
- In case $2(1 - P(n_L > \frac{1}{2})) \leq \frac{k - c_h}{k - c_l} \leq \frac{1}{2P(n_L > \frac{1}{2})}$, (c_l, c_l) and (c_h, c_h) are possible equilibria.
- In case $\frac{1}{2P(n_L > \frac{1}{2})} < \frac{k - c_h}{k - c_l} \leq 1$, (c_h, c_h) is the unique equilibrium.

Notice that if $P(n_L > \frac{1}{2}) < \frac{1}{2}$, then (c_l, c_l) is the unique equilibrium.

Lemma 2 *If $P(n_L > \frac{1}{2}) < \frac{1}{2}$ (respectively, $P(n_R > \frac{1}{2}) < \frac{1}{2}$) then in a subgame perfect equilibrium, the parties do not choose (L, L) , (respectively (R, R)) in the first stage of the game.*

Proof We show that in a subgame perfect equilibrium the parties will not play (L, L) in the first stage. The proof for the case of (R, R) is similar. Since $P(n_L > \frac{1}{2}) < \frac{1}{2}$, by deviating and choosing C , party 2 guarantees the vote of the centrist and rightist voters and so increases its probability of winning the elections from $\frac{1}{2}$ to $1 - P(n_L > \frac{1}{2})$ without changing its level of commitment. $\square$

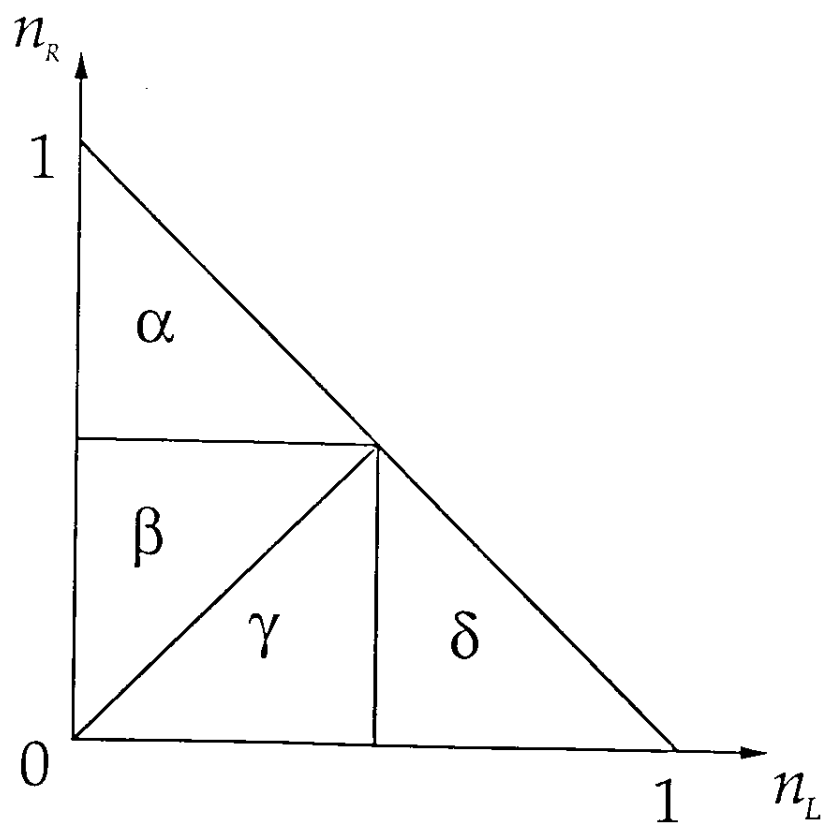


Figure 1

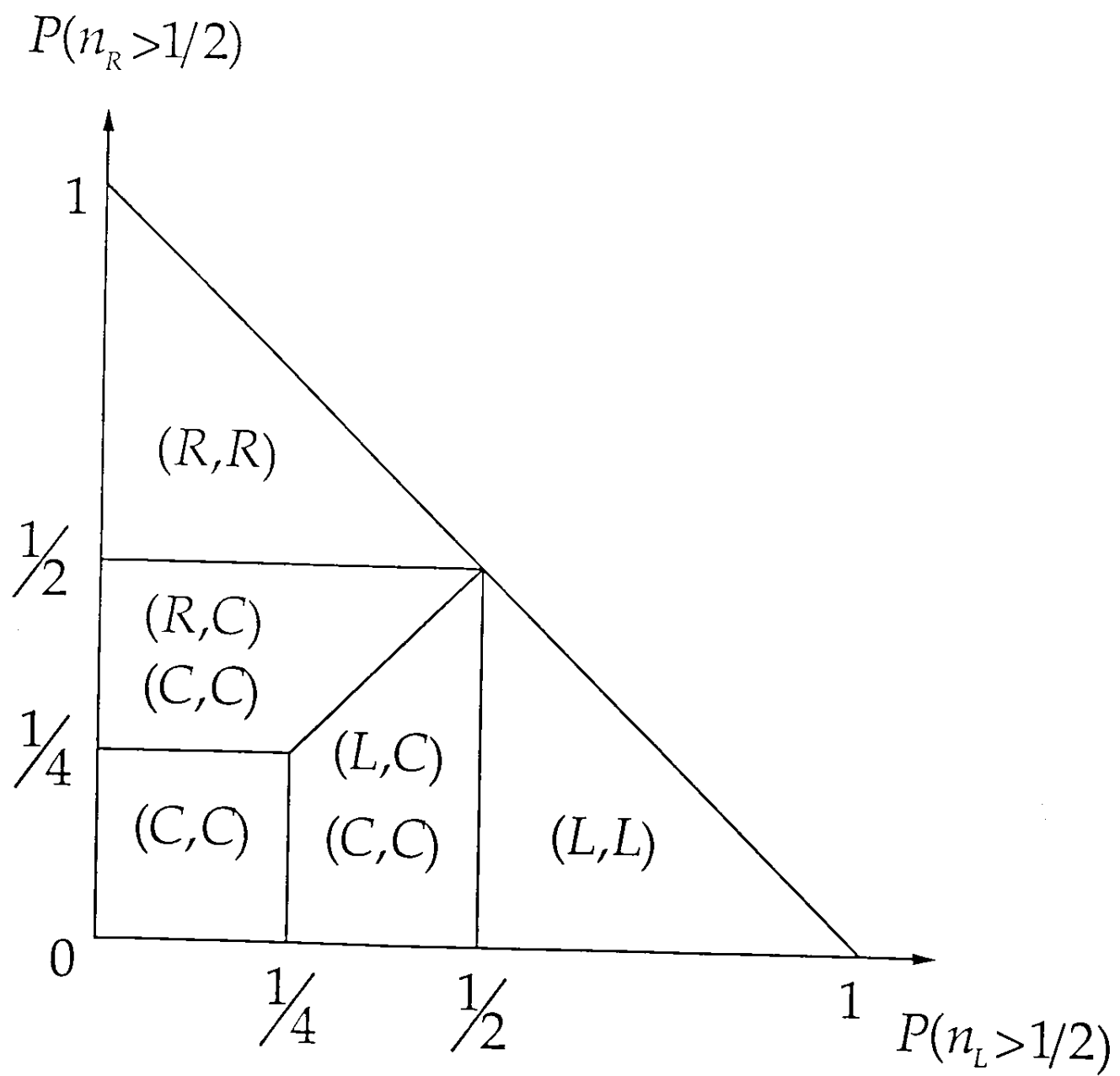


Figure 2

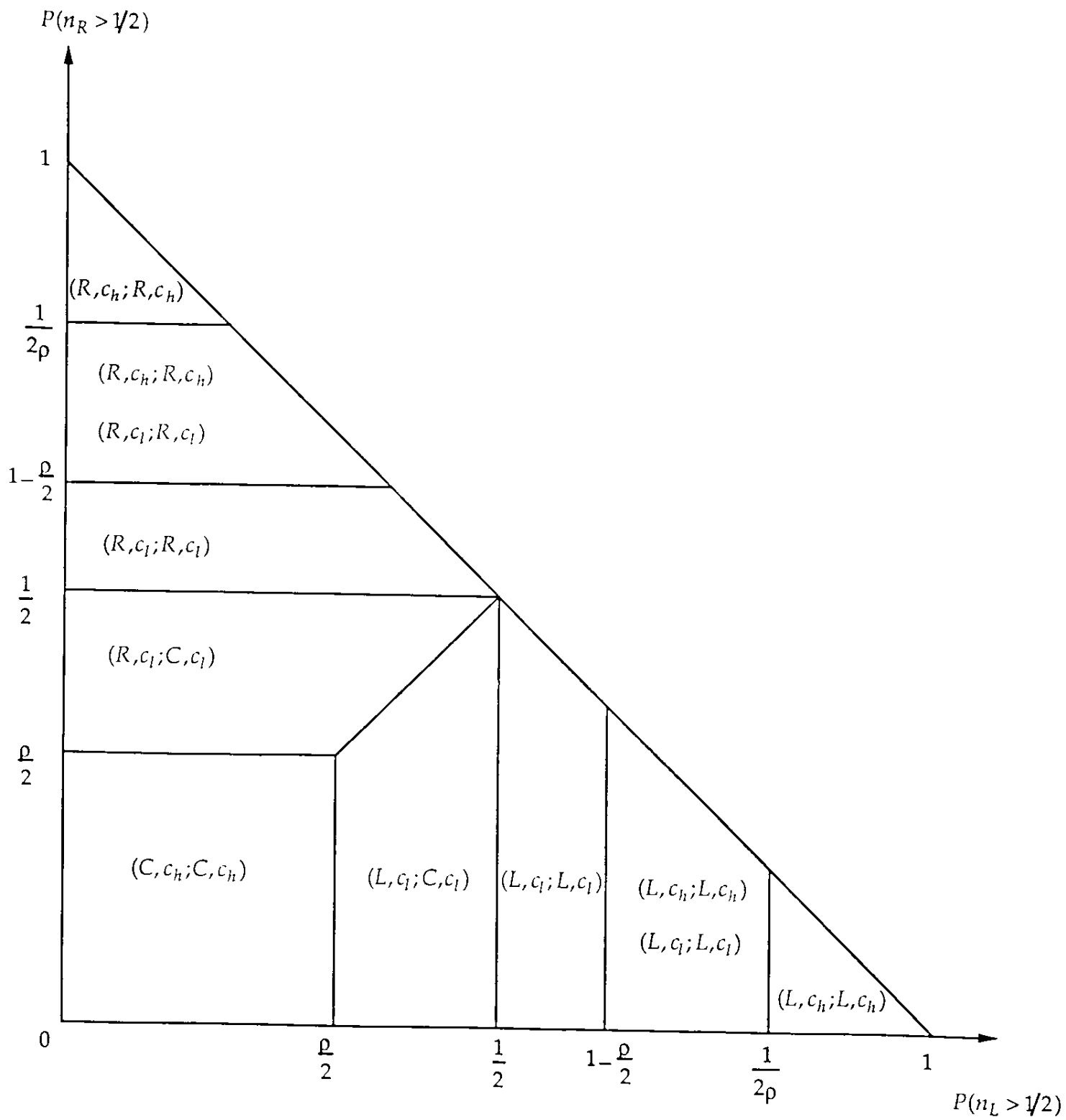


Figure 3