game: 40,2,5,5,6
noise=0/AFK
10/05/01

Instructions

This is an experiment in the economics of decision making. The National Science Foundation and other agencies have provided the funds for this research. The instructions are simple. If you follow them closely and make appropriate decisions, you may make an appreciable amount of money. These earnings will be paid to you, in cash, at the end of the experiment.

1. In this experiment you will be asked to make decisions in several periods. You will be randomly matched with another player for a sequence of plays, referred to as a cycle.

2. The length of a cycle is randomly determined. After each play, there is a 90% probability that the cycle will continue for another period.

3. Once a cycle is finished, you will be randomly paired with another subject for a new cycle.

4. The game you will play is the following:

	the other's choice	
your choice	1	2
1	25, 25	15, 28
2	28, 15	16, 16

The first entry in each cell represents your payoff, while the second entry represents the payoff of the person you are paired with. After each of you both have made your choices, you will *not* be told directly what the other person's choice was but will instead receive a signal (z) – which is the same for 2 players paired together – that is related to those choices as follows:

z = s(your choice, other's choice)

Values z can take on are given by the following table:

z	the other's choice	
your choice	1	2
1	20	18
2	18	16

In other words:

If your choice is 1 and the other's choice is 1, z = 20.

If your choice is 1 and the other's choice is 2, z = 18.

If your choice is 2 and the other's choice is 1, z = 18.

If your choice is 2 and the other's choice is 2, z = 16.

z is here to let you know what the other has selected.

6. The first cycle to end after one hour of play will determine the end of the experiment.

TO BE READ TO SUBJECTS WHILE SHOWING A SCREEN SHOT USING THE PROJECTOR

- As you can see, this gives you the payoff associated with each choice. Once the choice is made, the public signal is displayed.
- At the bottom you see the probability the game will end after this play, the next one, and so on. These are the probabilities starting from this point onward. So, for instance, if you are in period 2, the probability there will be a third period is 90% and if you are in period 9, the probability there will be another period is also 90%. This is as if we were rolling a 10 sided die after each period to determine if we should continue or not.
- At the top right, your points will be displayed at the end of a cycle.
- After each play, please write down your choice and the public signal on your record sheet. You will have 25 seconds to record this information.
- After each cycle, please write down your points on your record sheet.
- At the end of the experiment (the first cycle to end after 1 hour of play), you will be paid $0.017 for every point you have made. There is no show-up fee for this experiment.
- Are there any questions?

- Before we start, let me remind you that:
- You and the player you are paired with observe exactly the same public signal z.
- There is a 90% chance that any given period you are in is not the last.
- The determination of which period is last is totally random.
- You will play with the same person for the entire cycle.

- Write down what time it is _________

TO BE READ BETWEEN CYCLES

- Please write down the points you have earned in this cycle on your record sheet.
- Remember that there is a 90% chance that any given period you are in is not the last.
- The determination of which period is last is totally random.
- You will now be re-matched with somebody randomly.
- You will play with that person for the entire cycle.

game: 40,2,5,5,6
noise=1/AFK
10/05/01

Instructions

This is an experiment in the economics of decision making. The National Science Foundation and other agencies have provided the funds for this research. The instructions are simple. If you follow them closely and make appropriate decisions, you may make an appreciable amount of money. These earnings will be paid to you, in cash, at the end of the experiment.

1. In this experiment you will be asked to make decisions in several periods. You will be randomly matched with another player for a sequence of plays, referred to as a cycle.

2. The length of a cycle is randomly determined. After each play, there is a 90% probability that the cycle will continue for another period.

3. Once a cycle is finished, you will be randomly paired with another subject for a new cycle.

4. The game you will play is the following:

	the other's choice	
your choice	1	2
1	25, 25	15, 28
2	28, 15	16, 16

The first entry in each cell represents your payoff, while the second entry represents the payoff of the person you are paired with. After each of you both have made your choices, you will *not* be told directly what the other person's choice was but will instead receive a noisy signal (z) – which is the same for 2 players paired together – that is related to those choices as follows:

z = s(your choice, other's choice) + x

Values z can take on are given by the following table:

z	the other's choice	
your choice	1	2
1	20 + x	18 + x
2	18 + x	16 + x

where x is a random variable selected independently in each period. (We will discuss how this random variable works in more details shortly).

In other words:

If your choice is 1 and the other's choice is 1 *and the value of x is 0*, z = 20.

If your choice is 1 and the other's choice is 2 *and the value of x is 0*, z = 18.

If your choice is 2 and the other's choice is 1 *and the value of x is 0*, z = 18.

If your choice is 2 and the other's choice is 2 *and the value of x is 0*, z = 16.

z is here to help you assess what the person you have been paired with has chosen. For this purpose, note that for any given x, and whatever your choice is, z will be always be higher if the person you have been paired with chose 1 rather than 2.

5. But the thing that makes it really challenging is that x will not always take on the value of 0 and you will not be told the value of x. Rather what you know is that the random variable x is drawn from a distribution which is represented graphically below and which can be expressed mathematically as:

$$f(x) = (1/2)\exp(-|x|)$$

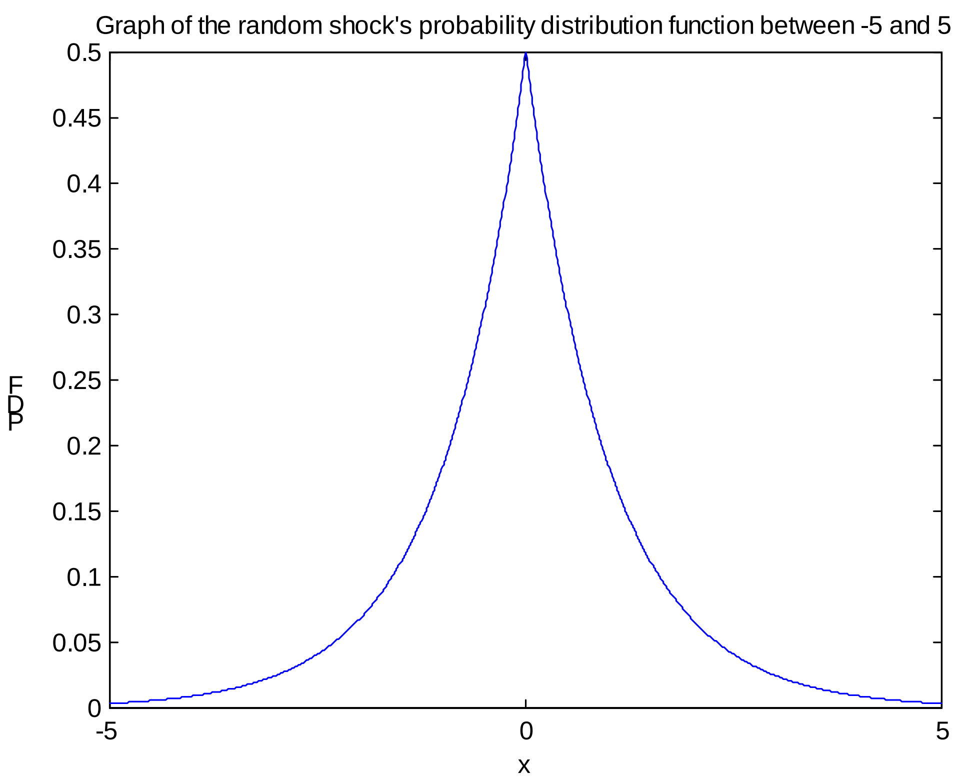


Figure 1

As you can see, x is distributed symmetrically around 0, and kind of has the same shape as a normal distribution – i.e. x is more peaked around 0 than the normal distribution, but like the normal it is symmetrically distributed around 0 and has infinite positive and negative tails.

Hence, you cannot know for certain what the other chose from the realization of z. Nonetheless, z gives you some information about what has happened. The figure below gives you an idea of how z relates to the choices made and the random variable x.

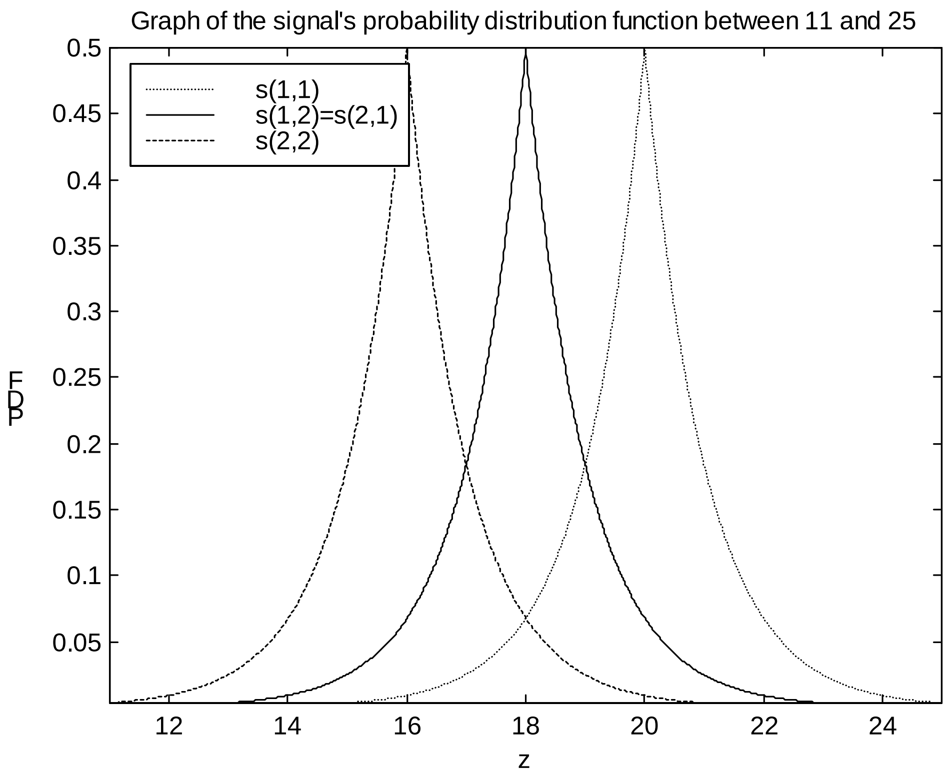


Figure 2

The dashed (left most) line gives you the pdf for z if both choices are 2. It is centered on 16.

The solid (center) line gives you the pdf if one of you chooses 1 and the other chooses 2. It is centered on 18.

The dotted (right most) line gives you the pdf if both choices are 1. It is centered on 20.

As you can see, suppose you selected 2 (hence we are only looking at the dashed and solid lines – the left most curves), a z of 14 is more likely to arise if the player you have been paired with selected 2 than if he/she chose 1 (the dashed line is above the solid line when z = 14). However, you do not know what the other has selected, so that the probability of observing a z in a certain interval involves somewhat more complicated calculations, examples of which are provided in figures 3 and 4 below. Nonetheless, the intuition is the same, the higher the z the more likely the other player has chosen 1 rather than 2, and vice versa.

Please look at the figure 3 now (at the end). Given your prior beliefs about the probability the player you have been paired with chose 1, your choice, and the particular realization of z, the graph shows you the probability the player you have been paired with actually chose 1 or 2. The graphs show results for 3 special cases regarding your prior beliefs that the other player chose 1 or 2. The horizontal axis indicates the particular values of z for when you have chosen 1 or you have chosen 2.

For instance, suppose you believe (before observing z) the player you have been paired with is as likely to choose 1 as he/she is to choose 2 (a 50% chance of 1 or 2). This means you should look at the middle line in figure 3. Then, if you observe a z of 19.5, and you chose 1, the probability that the other player actually chose 1 is between 70-75% (actually 73.1%). On the other hand, had you chosen 2, and you observed a z of 19.5 the chances are close to 90% (88.1% to be precise) that the other player actually chose 1. If instead you observe a z of 20.5, and you have chosen 1, then the probability the other player actually chose 1 is 88.1%. Further, if you have chosen 1, but actually observed a z of 18.5, then the probability the other player actually chose 1 is 26.9%.

Note that since the probabilities that the other player chose 1 or 2 have to add to 1, the figure also tells you what is the probability the other player really chose 2, which is simply 1 – the probability he/she chose 1. For simplicity, we also provide you with a graph (figure 4) that directly gives you that information. Hence, if you have observed a z of 19.5, you have chosen 1, and your prior beliefs are still 50-50%, the probability the other player really chose 2 is 1 – 0.731 = 0.269, that is there is a 26.9% chance he/she chose 2. However, if you prefer, you can find this number by looking at figure 4.

Now compare these last examples to cases where you are more confident that the player you have been paired with is likely to choose 1 – say that based on past experience you believe there is a 75% chance that he/she will choose 1. Now observing a z of 19.5 should lead you to believe there is a 89.1% chance he/she really selected 1 compared to 73.1% chance if you believed before observing z there was only a 50-50 chance of the other player choosing 1. On the other hand, had you chosen 2, and you observed a z of 19.5 the chances are 95.7% that the other player actually chose 1, compared to 88.1% with 50-50%. And, if you have chosen 1, but you actually observed a z of 18.5, then you should now believe that the other player has chosen 1 with 52.5%, compared to 26.9% chance if you believed before observing z there was a 50-50% chance. Thus, the more confident

you are that the other player is likely to chose 1, the lower z can be before its more likely than not that he/she actually chose 2.

Now consider a case where you are less confident that the player you have been paired with is likely to choose 1 – say that based on past experience you believe there is a 25% chance that he/she will choose 1. Now a z of 19.5 tells you there is a 47.5% chance that 1 was actually selected compared to the 73.1% chance if you believed there was a 50-50 chance of the other player choosing 1. On the other hand, had you chosen 2, and you observed a z of 19.5 the chances are 71.1% that the other player actually chose 1, compared to 73.1% with 50-50%. And, if you have chosen 1, but you actually observed a z of 18.5, then you should now believe that the other player has chosen 1 with 10.9%, compared to 26.9% chance if you believed before observing z there was a 50-50% chance. Thus, the less confident you are that the other player is likely to chose 1, the higher z must be before its more likely than not that he/she actually chose 1.

A few final points to note:

- The probability that the other player you have been paired with chooses 1 or 2 sums to 1.
- A higher z is always associated with a higher probability that the player you have been paired with selected 1 and a lower z is always associated with a higher probability he/she selected 2.
- Note that although they are not listed in the table, it is easy to see that if you believe with certainty that the other has selected 1 (or 2), then z doesn't give you any additional information. That is, if you are certain the player you have been paired with will take a certain action, then z doesn't tell you very much, because x can take any value from minus to plus infinity.
- If you chose 1, all z's below 18.0 give you exactly the same information and all z's above 20.0 also convey the same amount of information (that's why the lines are straight below and above those z in the graphs). The same is true for values of z below 16.0 and above 18.0 if you chose 2.

6. Although you will not be told your earnings after each choice, at the end of each cycle you will be told your total earnings for that cycle.

7. The first cycle to end after one hour of play will determine the end of the experiment.

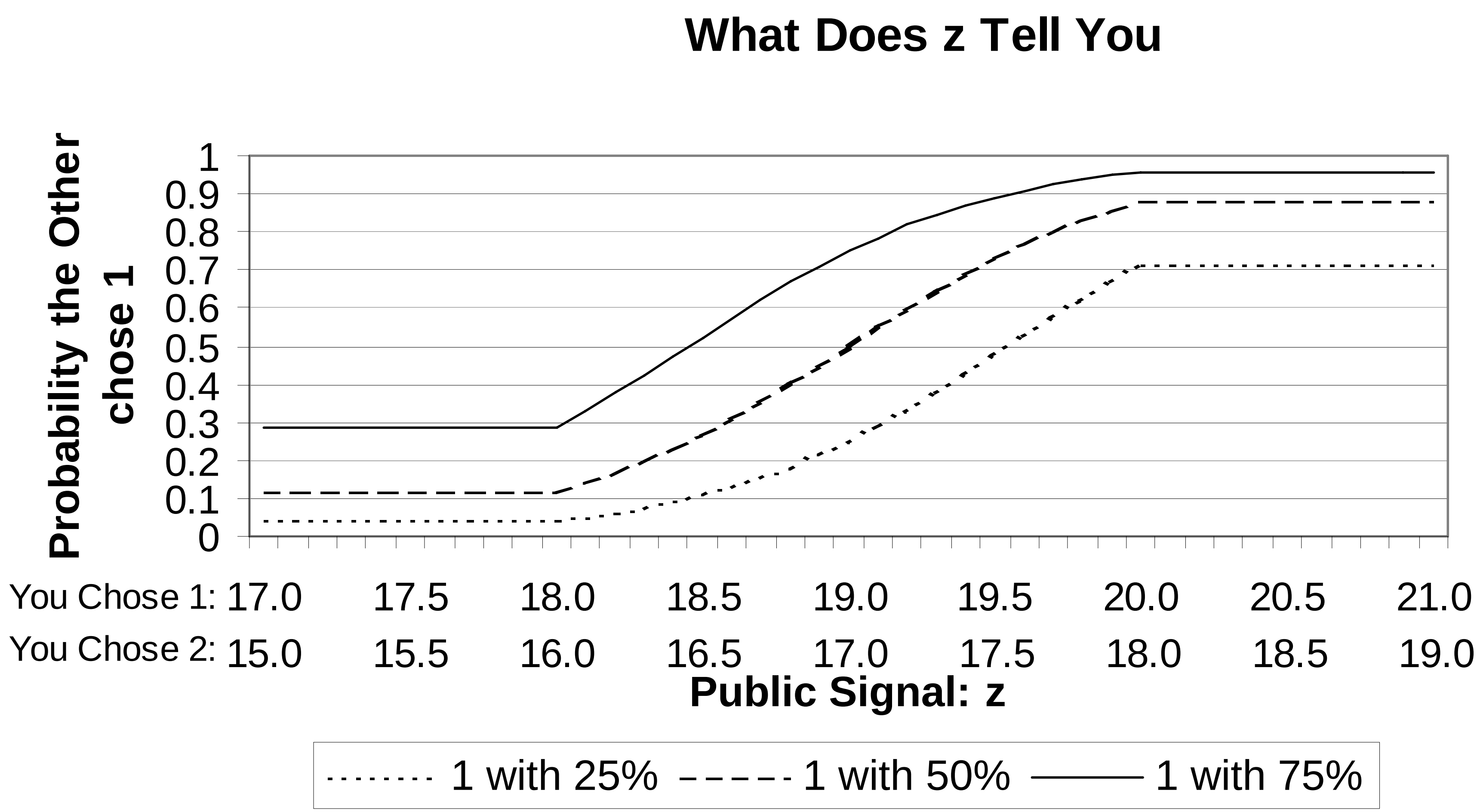
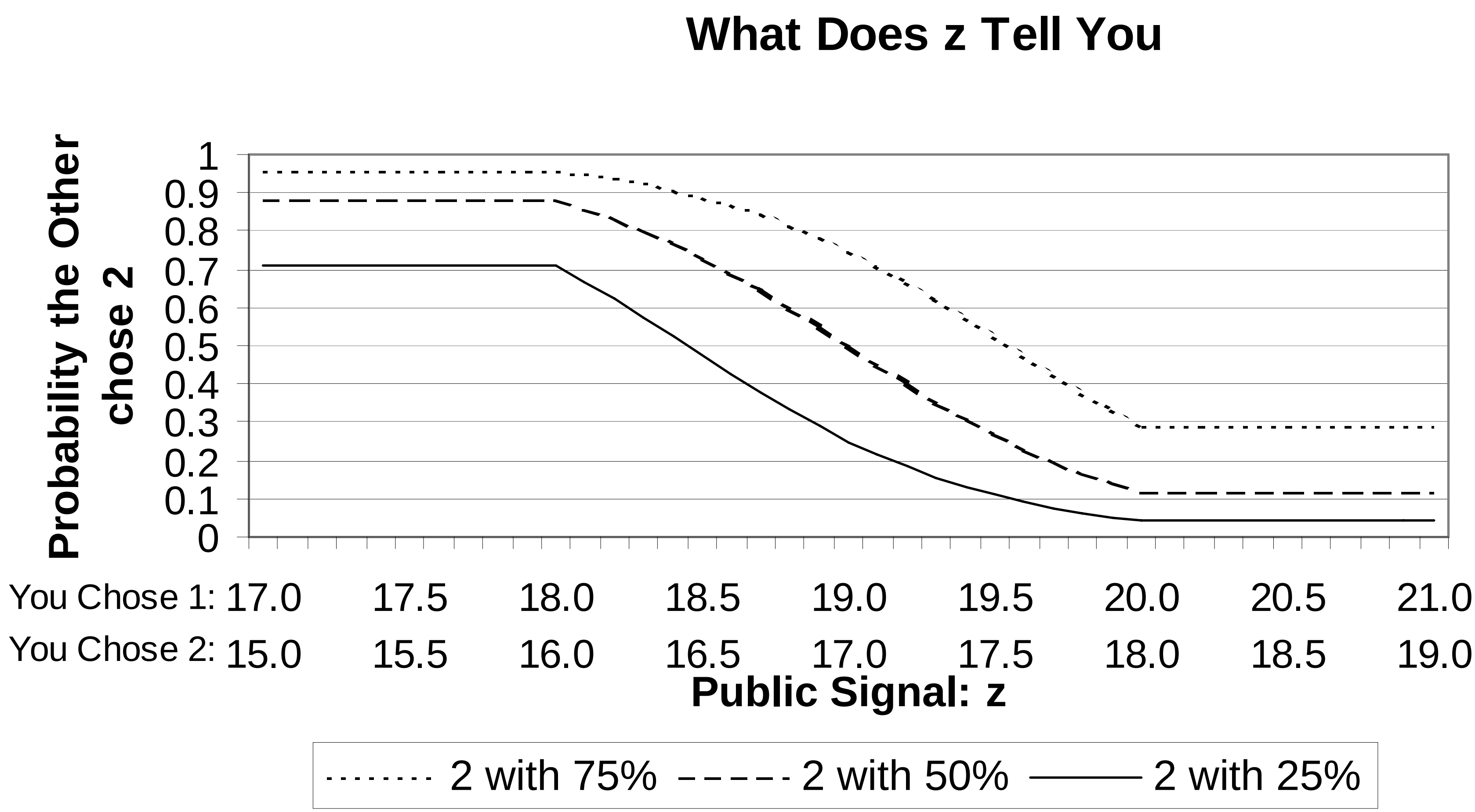

What Does z Tell You
Probability the Other chose 1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
You Chose 1: 17.0 17.5 18.0 18.5 19.0 19.5 20.0 20.5 21.0
You Chose 2: 15.0 15.5 16.0 16.5 17.0 17.5 18.0 18.5 19.0
Public Signal: z
1 with 25%
1 with 50%
1 with 75%

Figure 3



What Does z Tell You
Probability the Other chose 2
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
You Chose 1: 17.0 17.5 18.0 18.5 19.0 19.5 20.0 20.5 21.0
You Chose 2: 15.0 15.5 16.0 16.5 17.0 17.5 18.0 18.5 19.0
Public Signal: z
2 with 75%
2 with 50%
2 with 25%

Figure 4

TO BE READ TO SUBJECTS WHILE SHOWING A SCREEN SHOT USING THE PROJECTOR

- As you can see, this gives you the payoff associated with each choice. Once the choice is made, the public signal is displayed.
- At the bottom you see the probability the game will end after this play, the next one, and so on. These are the probabilities starting from this point onward. So, for instance, if you are in period 2, the probability there will be a third period is 90% and if you are in period 9, the probability there will be another period is also 90%. This is as if we were rolling a 10 sided die after each period to determine if we should continue or not.
- At the top right, your points will be displayed at the end of a cycle.
- After each play, please write down your choice and the public signal on your record sheet. You will have 25 seconds to record this information.
- After each cycle, please write down your points on your record sheet.
- At the end of the experiment (the first cycle to end after 1 hour of play), you will be paid $0.017 for every point you have made. There is no show-up fee for this experiment.
- Are there any questions?

- Before we start, let me remind you that:
- You and the player you are paired with observe exactly the same public signal z.
- There is a 90% chance that any given period you are in will continue for one more period (a 10% chance that this is the last period).
- The determination of which period is last is totally random.
- You will play with the same person for the entire cycle.

- Write down what time it is __________

TO BE READ BETWEEN CYCLES

- Please write down the points you have earned in this cycle on your record sheet.
- Remember that there is a 90% chance that any given period you are in is not the last.
- The determination of which period is last is totally random.
- You will now be re-matched with somebody else at random.
- You will be paired with that person for the entire cycle.

game: 40,2,5,5,6
noise=4/AFK
01/28/03

Instructions

This is an experiment in the economics of decision making. The National Science Foundation and other agencies have provided the funds for this research. The instructions are simple. If you follow them closely and make appropriate decisions, you may make an appreciable amount of money. These earnings will be paid to you, in cash, at the end of the experiment.

1. In this experiment you will be asked to make decisions in several periods. You will be randomly matched with another player for a sequence of plays, referred to as a cycle.

2. The length of a cycle is randomly determined. After each play, there is a 90% probability that the cycle will continue for another period.

3. Once a cycle is finished, you will be randomly paired with another subject for a new cycle.

4. The game you will play is the following:

	the other's choice	
your choice	1	2
1	25, 25	15, 28
2	28, 15	16, 16

The first entry in each cell represents your payoff, while the second entry represents the payoff of the person you are paired with. After each of you both have made your choices, you will *not* be told directly what the other person's choice was but will instead receive a noisy signal (z) – which is the same for 2 players paired together – that is related to those choices as follows:

z = s(your choice, other's choice) + x

Values z can take on are given by the following table:

z	the other's choice	
your choice	1	2
1	20 + x	18 + x
2	18 + x	16 + x

where x is a random variable selected independently in each period. (We will discuss how this random variable works in more details shortly).

In other words:

If your choice is 1 and the other's choice is 1 *and the value of x is 0*, z = 20.

If your choice is 1 and the other's choice is 2 *and the value of x is 0*, z = 18.

If your choice is 2 and the other's choice is 1 *and the value of x is 0*, z = 18.

If your choice is 2 and the other's choice is 2 *and the value of x is 0*, z = 16.

z is here to help you assess what the person you have been paired with has chosen. For this purpose, note that for any given x, and whatever your choice is, z will be always be higher if the person you have been paired with chose 1 rather than 2.

5. But the thing that makes it really challenging is that x will not always take on the value of 0 and you will not be told the value of x. Rather what you know is that the random variable x is drawn from a distribution which is represented graphically below and which can be expressed mathematically as:

$$f(x) = (1/8)\exp(-|x|/4)$$

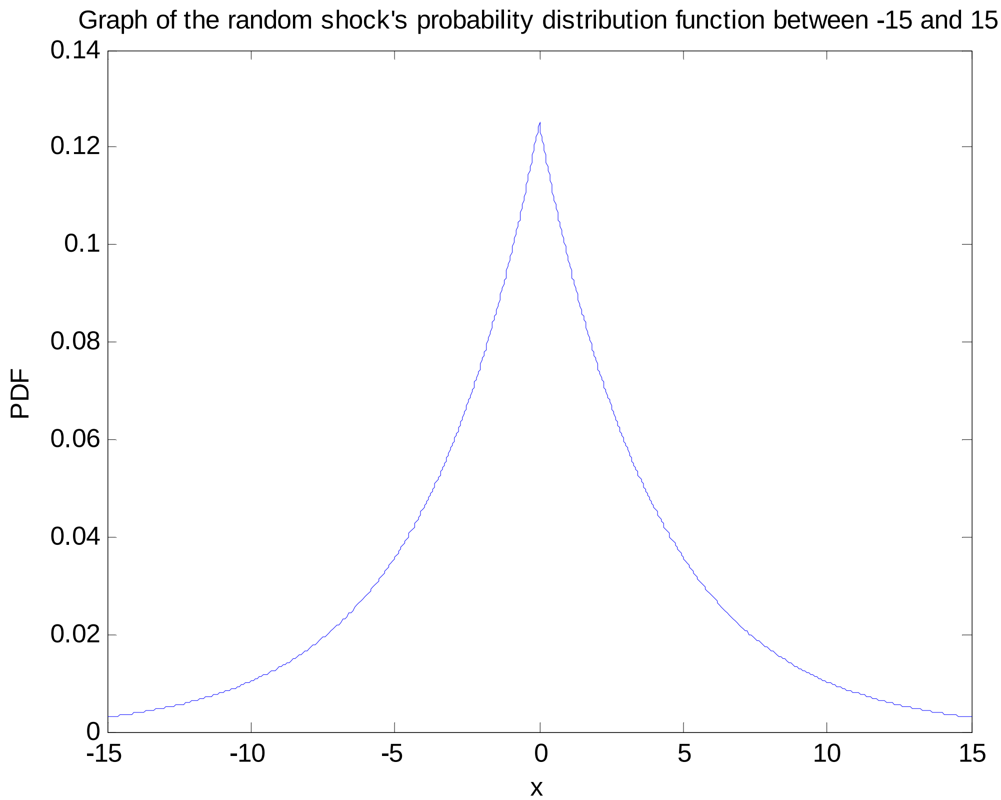


Figure 1

As you can see, x is distributed symmetrically around 0, and kind of has the same shape as a normal distribution – i.e. x is more peaked around 0 than the normal distribution, but like the normal it is symmetrically distributed around 0 and has infinite positive and negative tails.

Hence, you cannot know for certain what the other chose from the realization of z. Nonetheless, z gives you some information about what has happened. The figure below gives you an idea of how z relates to the choices made and the random variable x.

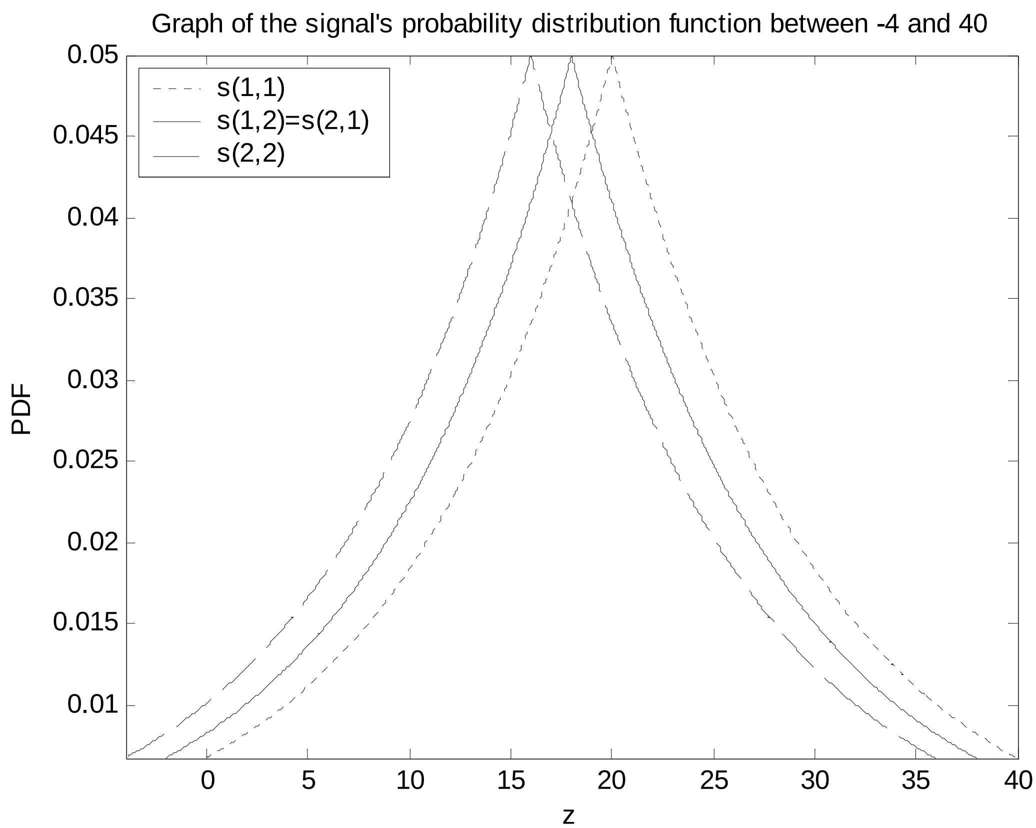


Figure 2

The dashed (left most) line gives you the pdf for z if both choices are 2. It is centered on 16.

The solid (center) line gives you the pdf if one of you chooses 1 and the other chooses 2. It is centered on 18.

The dotted (right most) line gives you the pdf if both choices are 1. It is centered on 20.

As you can see, suppose you selected 2 (hence we are only looking at the dashed and solid lines – the left most curves), a z of 14 is more likely to arise if the player you have been paired with selected 2 than if he/she chose 1 (the dashed line is above the solid line when z = 14). However, you do not know what the other has selected, so that the probability of observing a z in a certain interval involves somewhat more complicated calculations, examples of which are provided in figures 3 and 4 below. Nonetheless, the intuition is the same, the higher the z the more likely the other player has chosen 1 rather than 2, and vice versa.

Please look at the figure 3 now (at the end). Given your prior beliefs about the probability the player you have been paired with chose 1, your choice, and the particular realization of z, the graph shows you the probability the player you have been paired with actually chose 1 or 2. The graphs show results for 3 special cases regarding your prior beliefs that the other player chose 1 or 2. The horizontal axis indicates the particular values of z for when you have chosen 1 or you have chosen 2.

For instance, suppose you believe (before observing z) the player you have been paired with is as likely to choose 1 as he/she is to choose 2 (a 50% chance of 1 or 2). This means you should look at the middle line in figure 3. Then, if you observe a z of 19.5, and you chose 1, the probability that the other player actually chose 1 is between 55-60% (actually 56.2%). On the other hand, had you chosen 2, and you observed a z of 19.5 the chances are close to 60% (62.2% to be precise) that the other player actually chose 1. If instead you observe a z of 20.5, and you have chosen 1, then the probability the other player actually chose 1 is 62.2%. Further, if you have chosen 1, but actually observed a z of 18.5, then the probability the other player actually chose 1 is 43.8%.

Note that since the probabilities that the other player chose 1 or 2 have to add to 1, the figure also tells you what is the probability the other player really chose 2, which is simply 1 – the probability he/she chose 1. For simplicity, we also provide you with a graph (figure 4) that directly gives you that information. Hence, if you have observed a z of 19.5, you have chosen 1, and your prior beliefs are still 50-50%, the probability the other player really chose 2 is 1 – 0.562 = 0.438, that is there is a 43.8% chance he/she chose 2. However, if you prefer, you can find this number by looking at figure 4.

Now compare these last examples to cases where you are more confident that the player you have been paired with is likely to choose 1 – say that based on past experience you believe there is a 75% chance that he/she will choose 1. Now observing a z of 19.5 should lead you to believe there is a 79.4% chance he/she really selected 1 compared to 56.2% chance if you believed before observing z there was only a 50-50 chance of the other player choosing 1. On the other hand, had you chosen 2, and you observed a z of 19.5 the chances are 83.2% that the other player actually chose 1, compared to 62.2% with 50-50%. And, if you have chosen 1, but you actually observed a z of 18.5, then you should now believe that the other player has chosen 1 with 70.0%, compared to 43.8% chance if you believed before observing z there was a 50-50% chance. Thus, the more confident

you are that the other player is likely to chose 1, the lower z can be before its more likely than not that he/she actually chose 2.

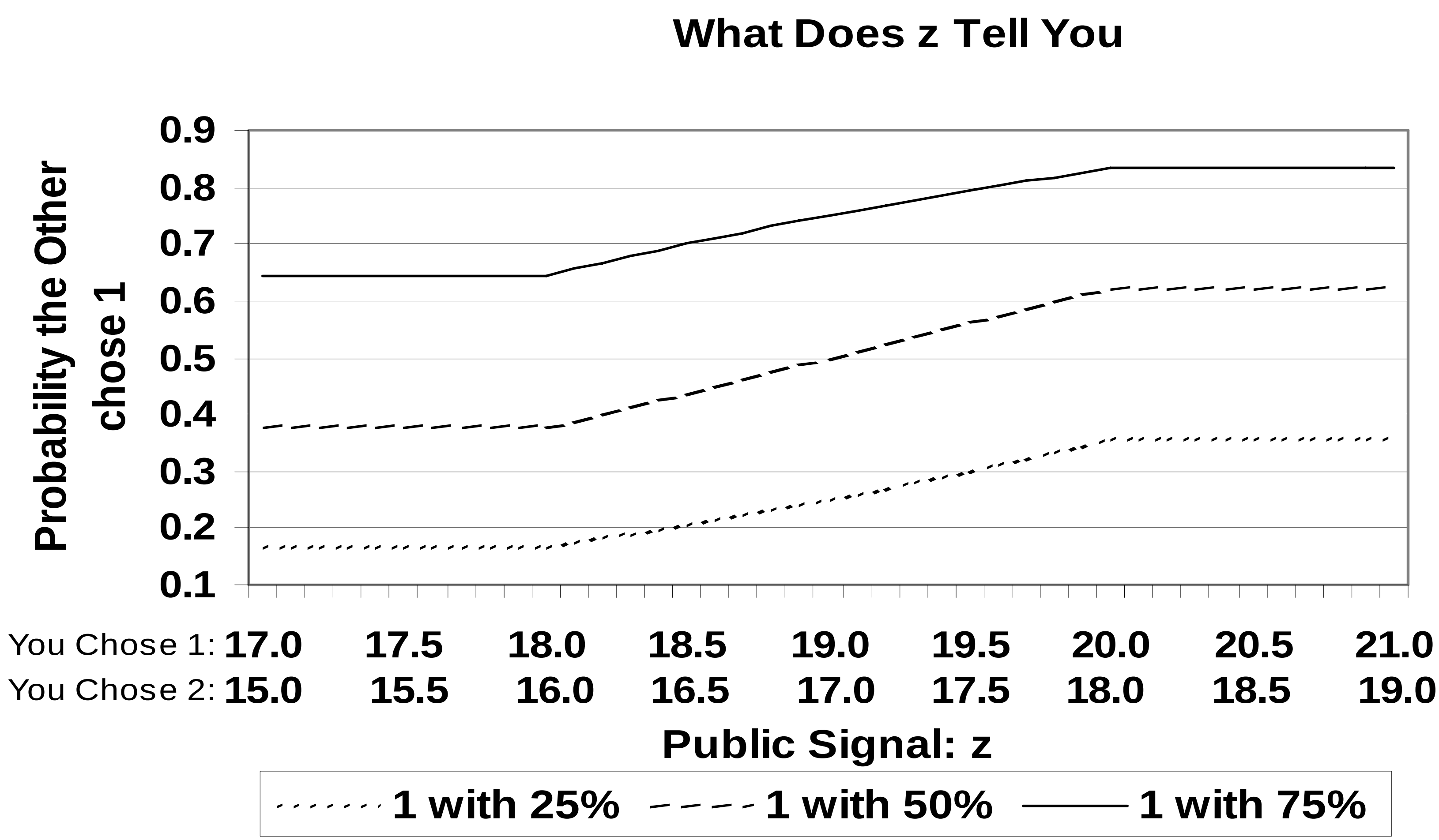
Now consider a case where you are less confident that the player you have been paired with is likely to choose 1 – say that based on past experience you believe there is a 25% chance that he/she will choose 1. Now a z of 19.5 tells you there is a 30.0% chance that 1 was actually selected compared to the 56.2% chance if you believed there was a 50-50 chance of the other player choosing 1. On the other hand, had you chosen 2, and you observed a z of 19.5 the chances are 35.5% that the other player actually chose 1, compared to 62.2% with 50-50%. And, if you have chosen 1, but you actually observed a z of 18.5, then you should now believe that the other player has chosen 1 with 20.6%, compared to 43.8% chance if you believed before observing z there was a 50-50% chance. Thus, the less confident you are that the other player is likely to chose 1, the higher z must be before its more likely than not that he/she actually chose 1.

A few final points to note:

- The probability that the other player you have been paired with chooses 1 or 2 sums to 1.
- A higher z is always associated with a higher probability that the player you have been paired with selected 1 and a lower z is always associated with a higher probability he/she selected 2.
- Note that although they are not listed in the table, it is easy to see that if you believe with certainty that the other has selected 1 (or 2), then z doesn’t give you any additional information. That is, if you are certain the player you have been paired with will take a certain action, then z doesn’t tell you very much, because x can take any value from minus to plus infinity.
- If you chose 1, all z’s below 18.0 give you exactly the same information and all z’s above 20.0 also convey the same amount of information (that’s why the lines are straight below and above those z in the graphs). The same is true for values of z below 16.0 and above 18.0 if you chose 2.

6. Although you will not be told your earnings after each choice, at the end of each cycle you will be told your total earnings for that cycle.

7. The first cycle to end after one hour of play will determine the end of the experiment.



What Does z Tell You
Probability the Other chose 1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
You Chose 1: 17.0 17.5 18.0 18.5 19.0 19.5 20.0 20.5 21.0
You Chose 2: 15.0 15.5 16.0 16.5 17.0 17.5 18.0 18.5 19.0
Public Signal: z
1 with 25%
1 with 50%
1 with 75%

Figure 3

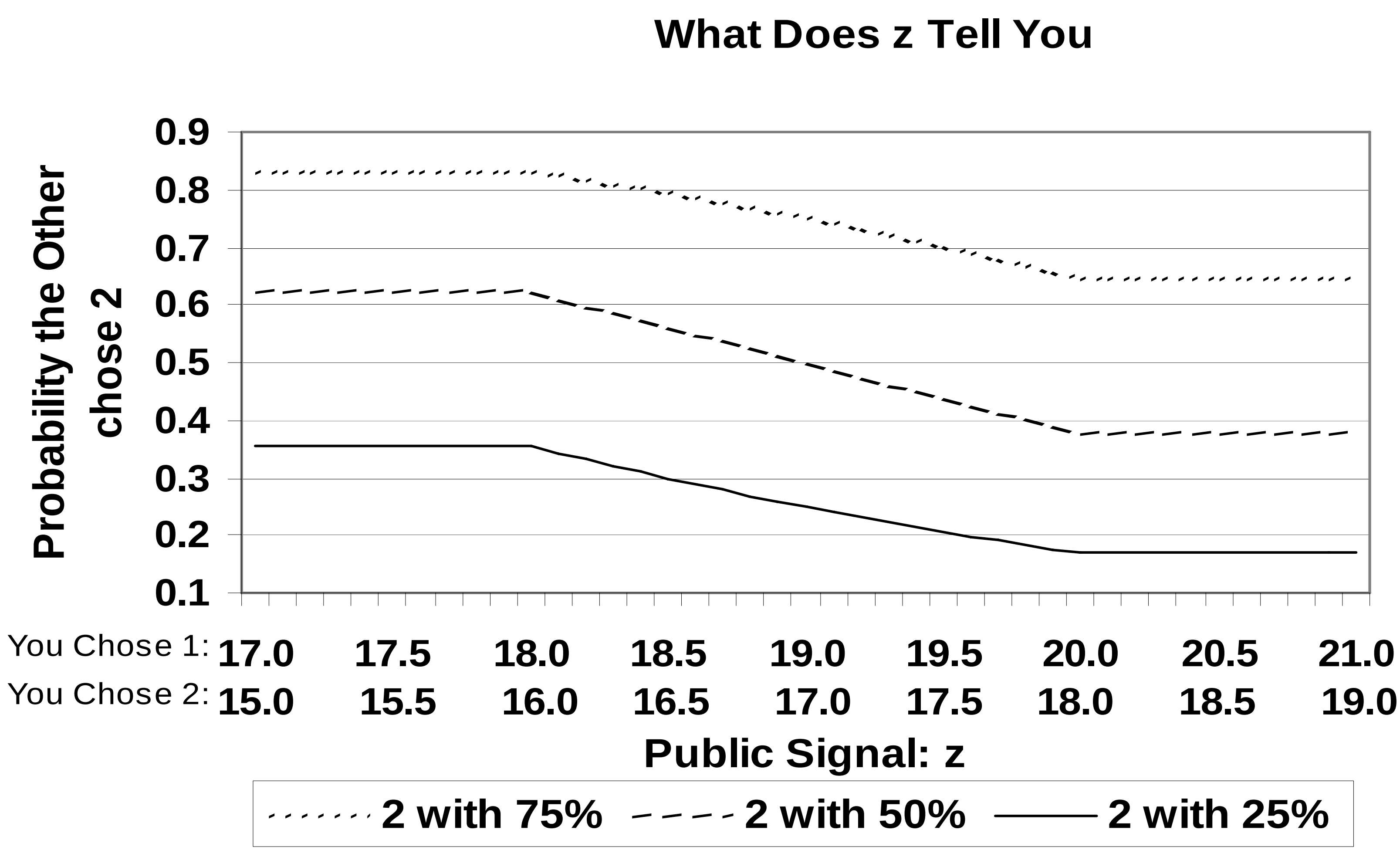

What Does z Tell You
Probability the Other chose 2
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
You Chose 1: 17.0 17.5 18.0 18.5 19.0 19.5 20.0 20.5 21.0
You Chose 2: 15.0 15.5 16.0 16.5 17.0 17.5 18.0 18.5 19.0
Public Signal: z
2 with 75%
2 with 50%
2 with 25%

Figure 4

TO BE READ TO SUBJECTS WHILE SHOWING A SCREEN SHOT USING THE PROJECTOR

- As you can see, this gives you the payoff associated with each choice. Once the choice is made, the public signal is displayed.
- At the bottom you see the probability the game will end after this play, the next one, and so on. These are the probabilities starting from this point onward. So, for instance, if you are in period 2, the probability there will be a third period is 90% and if you are in period 9, the probability there will be another period is also 90%. This is as if we were rolling a 10 sided die after each period to determine if we should continue or not.
- At the top right, your points will be displayed at the end of a cycle.
- After each play, please write down your choice and the public signal on your record sheet. You will have 25 seconds to record this information.
- After each cycle, please write down your points on your record sheet.
- At the end of the experiment (the first cycle to end after 1 hour of play), you will be paid $0.017 for every point you have made. There is no show-up fee for this experiment.
- Are there any questions?

- Before we start, let me remind you that:
- You and the player you are paired with observe exactly the same public signal z.
- There is a 90% chance that any given period you are in will continue for one more period (a 10% chance that this is the last period).
- The determination of which period is last is totally random.
- You will play with the same person for the entire cycle.

- Write down what time it is __________

TO BE READ BETWEEN CYCLES

- Please write down the points you have earned in this cycle on your record sheet.
- Remember that there is a 90% chance that any given period you are in is not the last.
- The determination of which period is last is totally random.
- You will now be re-matched with somebody else at random.
- You will be paired with that person for the entire cycle.

game: 40,2,5,5,6
noise=10/AFK
02/02/26

Instructions

This is an experiment in the economics of decision making. The National Science Foundation and other agencies have provided the funds for this research. The instructions are simple. If you follow them closely and make appropriate decisions, you may make an appreciable amount of money. These earnings will be paid to you, in cash, at the end of the experiment.

1. In this experiment you will be asked to make decisions in several periods. You will be randomly matched with another player for a sequence of plays, referred to as a cycle.

2. The length of a cycle is randomly determined. After each play, there is a 90% probability that the cycle will continue for another period.

3. Once a cycle is finished, you will be randomly paired with another subject for a new cycle.

4. The game you will play is the following:

	the other's choice	
your choice	1	2
1	25, 25	15, 28
2	28, 15	16, 16

The first entry in each cell represents your payoff, while the second entry represents the payoff of the person you are paired with. After each of you both have made your choices, you will *not* be told directly what the other person's choice was but will instead receive a noisy signal (z) – which is the same for 2 players paired together – that is related to those choices as follows:

z = s(your choice, other's choice) + x

Values z can take on are given by the following table:

z	the other's choice	
your choice	1	2
1	20 + x	18 + x
2	18 + x	16 + x

where x is a random variable selected independently in each period. (We will discuss how this random variable works in more details shortly).

In other words:

If your choice is 1 and the other's choice is 1 *and the value of x is 0*, z = 20.

If your choice is 1 and the other's choice is 2 *and the value of x is 0*, z = 18.

If your choice is 2 and the other's choice is 1 *and the value of x is 0*, z = 18.

If your choice is 2 and the other's choice is 2 *and the value of x is 0*, z = 16.

z is here to help you assess what the person you have been paired with has chosen. For this purpose, note that for any given x, and whatever your choice is, z will be always be higher if the person you have been paired with chose 1 rather than 2.

5. But the thing that makes it really challenging is that x will not always take on the value of 0 and you will not be told the value of x. Rather what you know is that the random variable x is drawn from a distribution which is represented graphically below and which can be expressed mathematically as:

$$f(x) = (1/20)\exp(-|x|/10)$$

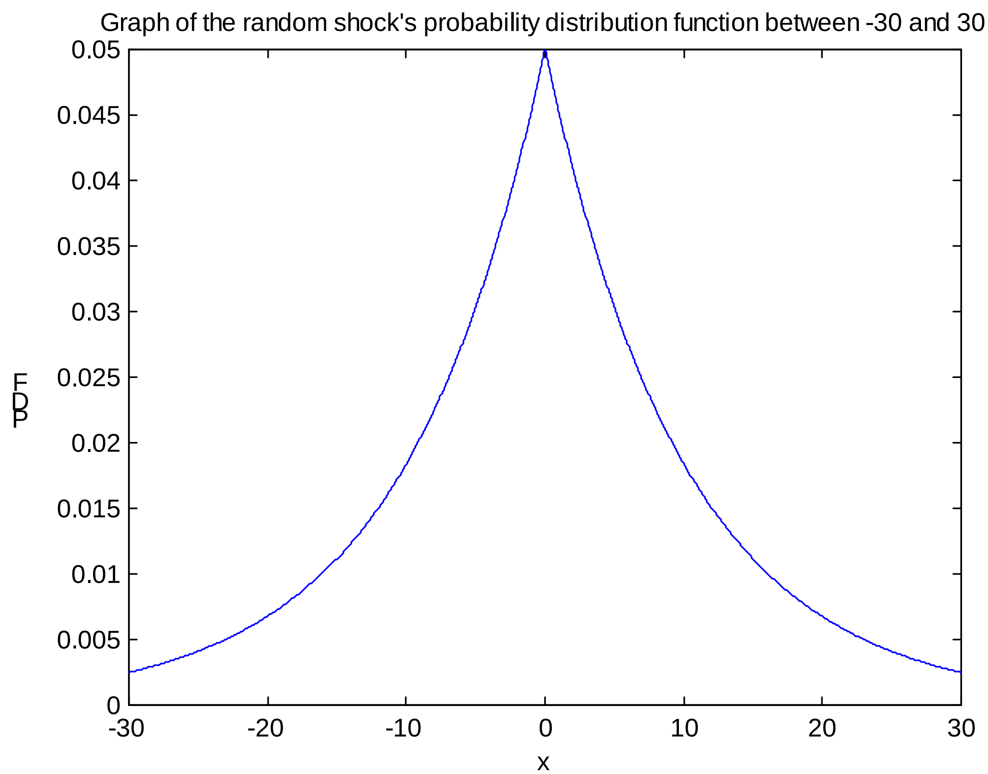


Figure 1

As you can see, x is distributed symmetrically around 0, and kind of has the same shape as a normal distribution – i.e. x is more peaked around 0 than the normal distribution, but like the normal it is symmetrically distributed around 0 and has infinite positive and negative tails.

Hence, you cannot know for certain what the other chose from the realization of z. Nonetheless, z gives you some information about what has happened. The figure below gives you an idea of how z relates to the choices made and the random variable x.

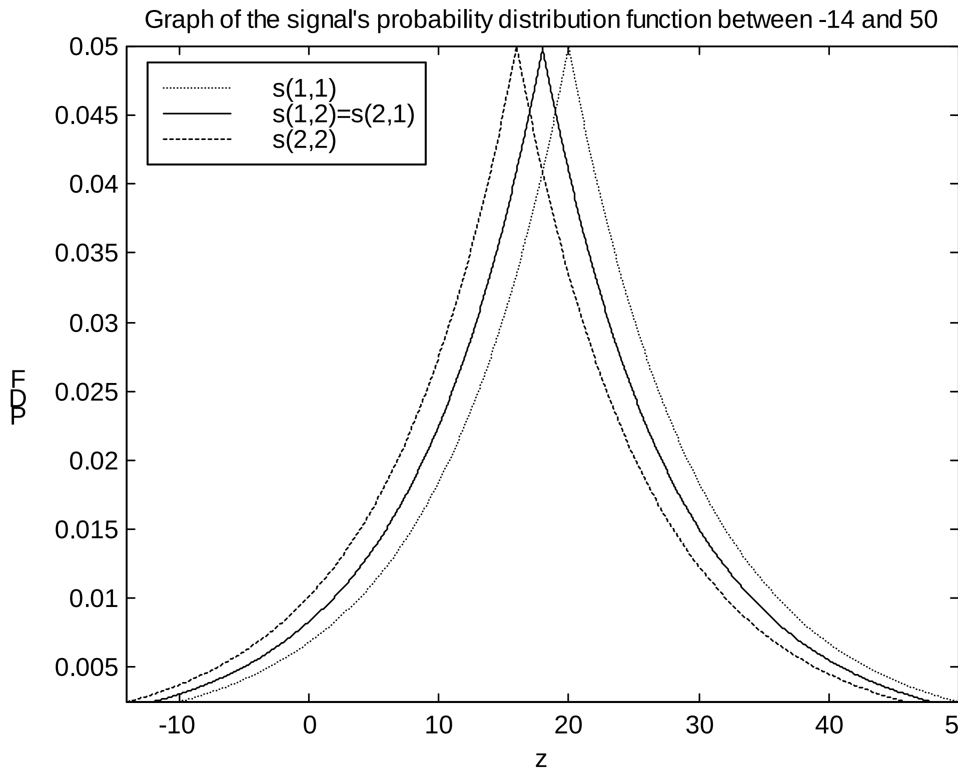


Figure 2

The dashed (left most) line gives you the pdf for z if both choices are 2. It is centered on 16.

The solid (center) line gives you the pdf if one of you chooses 1 and the other chooses 2. It is centered on 18.

The dotted (right most) line gives you the pdf if both choices are 1. It is centered on 20.

As you can see, suppose you selected 2 (hence we are only looking at the dashed and solid lines – the left most curves), a z of 14 is more likely to arise if the player you have been paired with selected 2 than if he/she chose 1 (the dashed line is above the solid line when z = 14). However, you do not know what the other has selected, so that the probability of observing a particular z involves somewhat more complicated calculations, examples of which are provided in figures 3 and 4 below. Nonetheless, the intuition is the same, the higher the z the more likely the other player has chosen 1 rather than 2, and vice versa.

Please look at the figure 3 now (at the end). Given your prior beliefs about the probability the player you have been paired with chose 1, your choice, and the particular realization of z, the graph shows you the probability the player you have been paired with actually chose 1 or 2. The graphs show results for 3 special cases regarding your prior beliefs that the other player chose 1 or 2. The horizontal axis indicates the particular values of z for when you have chosen 1 or you have chosen 2.

For instance, suppose you believe (before observing z) the player you have been paired with is as likely to choose 1 as he/she is to choose 2 (a 50% chance of 1 or 2). This means you should look at the middle line in figure 3. Then, if you observe a z of 19.5, and you chose 1, the probability that the other player actually chose 1 is between 50-55% (actually 52.5%). On the other hand, had you chosen 2, and you observed a z of 19.5 the chances are 55.0% that the other player actually chose 1. If instead you observe a z of 20.5, and you have chosen 1, then the probability the other player actually chose 1 is 55.0%. Further, if you have chosen 1, but actually observed a z of 18.5, then the probability the other player actually chose 1 is 47.5%.

Note that since the probabilities that the other player chose 1 or 2 have to add to 1, the figure also tells you what is the probability the other player really chose 2, which is simply 1 – the probability he/she chose 1. For simplicity, we also provide you with a graph (figure 4) that directly gives you that information. Hence, if you have observed a z of 19.5, you have chosen 1, and your prior beliefs are still 50-50%, the probability the other player really chose 2 is 1 – 0.525 = 0.475, that is there is a 47.5% chance he/she chose 2. However, if you prefer, you can find this number by looking at figure 4.

Now compare these last examples to cases where you are more confident that the player you have been paired with is likely to choose 1 – say that based on past experience you believe there is a 75% chance that he/she will choose 1. Now observing a z of 19.5 should lead you to believe there is a 76.8% chance he/she really selected 1 compared to 52.5% chance if you believed before observing z there was only a 50-50 chance of the other player choosing 1. On the other hand, had you chosen 2, and you observed a z of 19.5 the chances are 78.6% that the other player actually chose 1, compared to 55.0% with 50-50%. And, if you have chosen 1, but you actually observed a z of 18.5, then you should now believe that the other player has chosen 1 with 73.1%, compared to 47.5% chance if you believed before observing z there was a 50-50% chance. Thus, the more confident

you are that the other player is likely to chose 1, the lower z can be before its more likely than not that he/she actually chose 2.

Now consider a case where you are less confident that the player you have been paired with is likely to choose 1 – say that based on past experience you believe there is a 25% chance that he/she will choose 1. Now a z of 19.5 tells you there is a 26.9% chance that 1 was actually selected compared to the 52.5% chance if you believed there was a 50-50 chance of the other player choosing 1. On the other hand, had you chosen 2, and you observed a z of 19.5 the chances are 28.9% that the other player actually chose 1, compared to 52.5% with 50-50%. And, if you have chosen 1, but you actually observed a z of 18.5, then you should now believe that the other player has chosen 1 with 23.2%, compared to 47.5% chance if you believed before observing z there was a 50-50% chance. Thus, the less confident you are that the other player is likely to chose 1, the higher z must be before its more likely than not that he/she actually chose 1.

A few final points to note:

- The probability that the other player you have been paired with chooses 1 or 2 sums to 1.
- A higher z is always associated with a higher probability that the player you have been paired with selected 1 and a lower z is always associated with a higher probability he/she selected 2.
- Note that although they are not listed in the table, it is easy to see that if you believe with certainty that the other has selected 1 (or 2), then z doesn't give you any additional information. That is, if you are certain the player you have been paired with will take a certain action, then z doesn't tell you very much, because x can take any value from minus to plus infinity.
- If you chose 1, all z's below 18.0 give you exactly the same information and all z's above 20.0 also convey the same amount of information (that's why the lines are straight below and above those z in the graphs). The same is true for values of z below 16.0 and above 18.0 if you chose 2.

6. Although you will not be told your earnings after each choice, at the end of each cycle you will be told your total earnings for that cycle.

7. The first cycle to end after one hour of play will determine the end of the experiment.

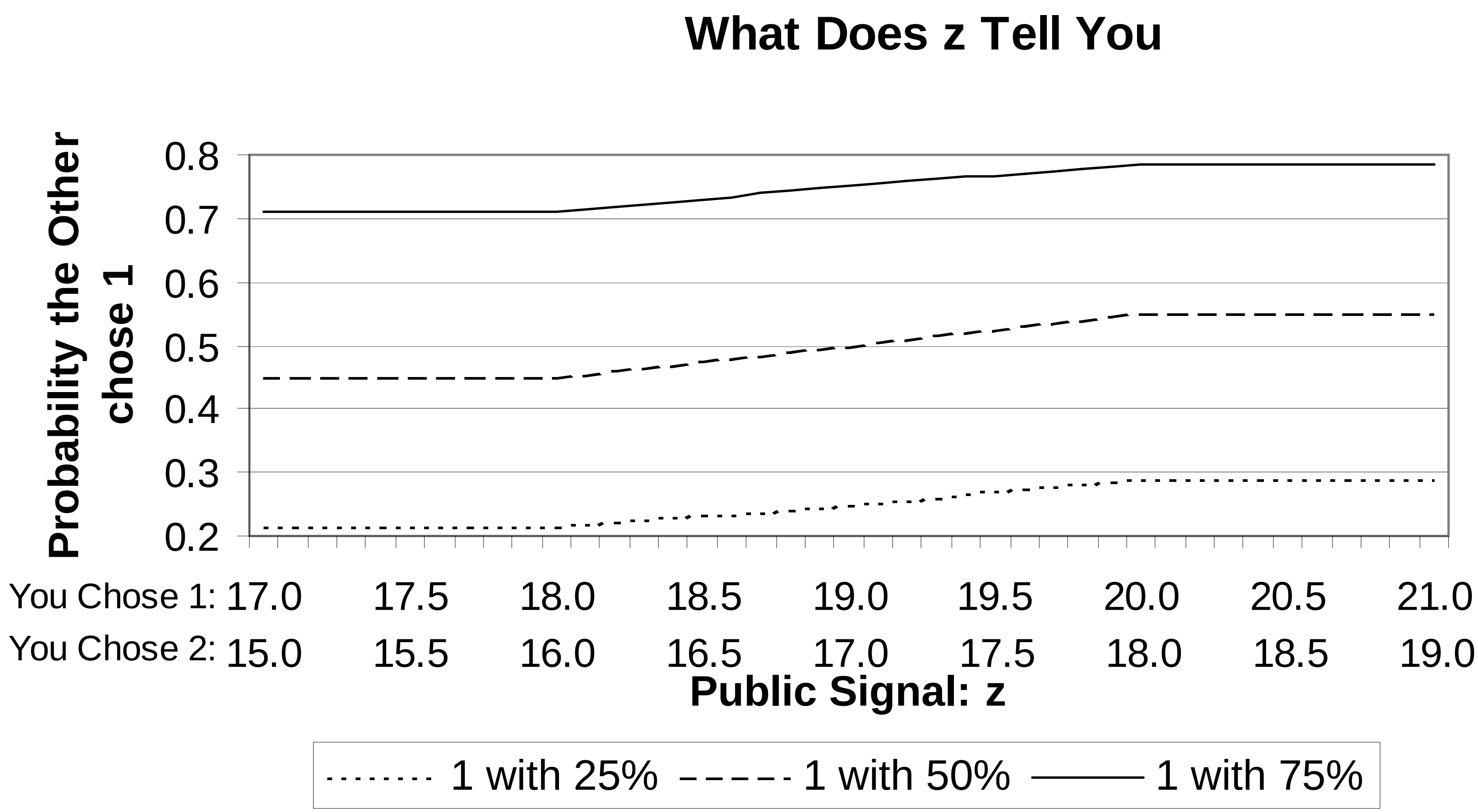

What Does z Tell You
Probability the Other chose 1
0.8
0.7
0.6
0.5
0.4
0.3
0.2
You Chose 1: 17.0 17.5 18.0 18.5 19.0 19.5 20.0 20.5 21.0
You Chose 2: 15.0 15.5 16.0 16.5 17.0 17.5 18.0 18.5 19.0
Public Signal: z
1 with 25%
1 with 50%
1 with 75%

Figure 3

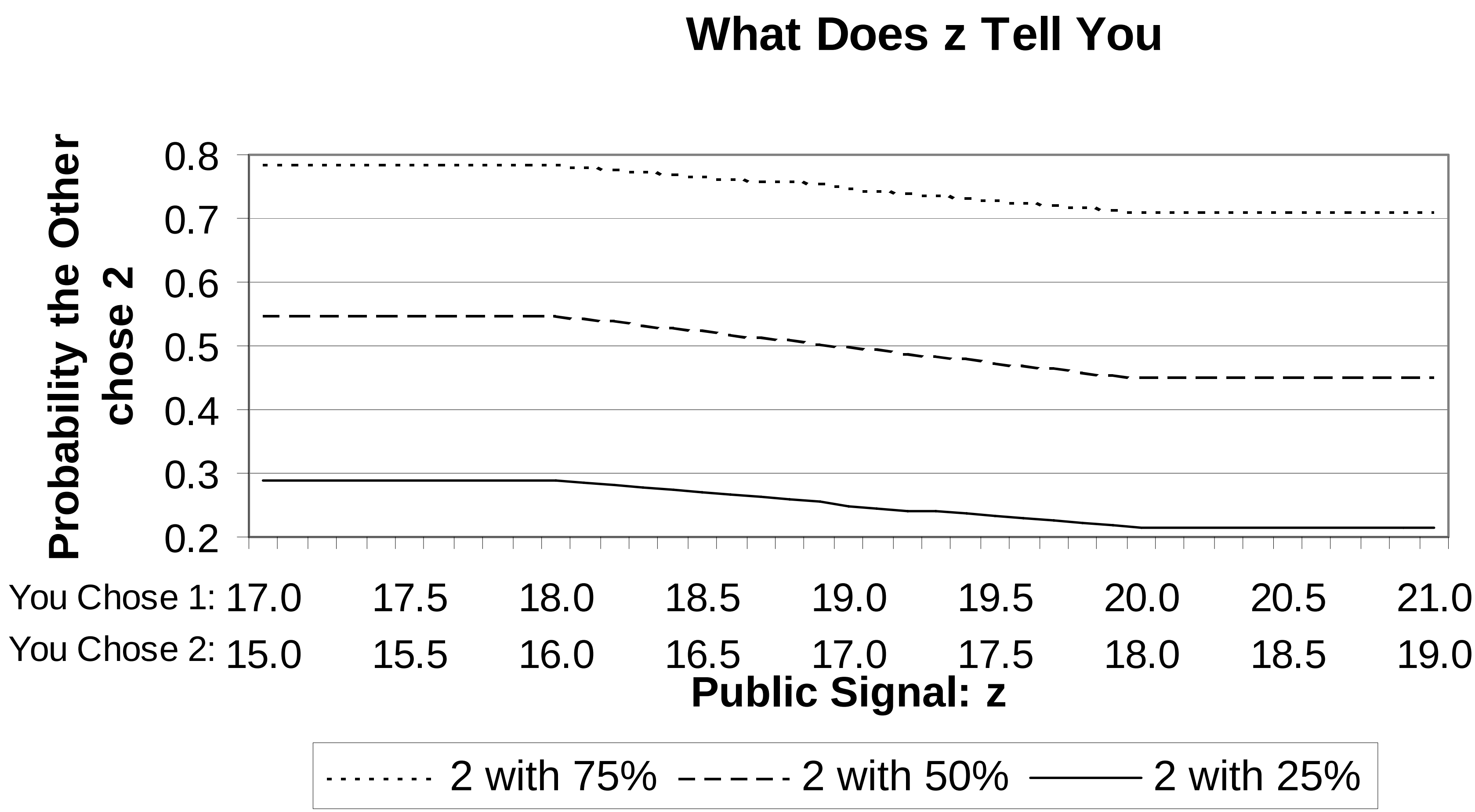

What Does z Tell You
Probability the Other chose 2
0.8
0.7
0.6
0.5
0.4
0.3
0.2
You Chose 1: 17.0 17.5 18.0 18.5 19.0 19.5 20.0 20.5 21.0
You Chose 2: 15.0 15.5 16.0 16.5 17.0 17.5 18.0 18.5 19.0
Public Signal: z
2 with 75%
2 with 50%
2 with 25%

Figure 4

TO BE READ TO SUBJECTS WHILE SHOWING A SCREEN SHOT USING THE PROJECTOR

- As you can see, this gives you the payoff associated with each choice. Once the choice is made, the public signal is displayed.
- At the bottom you see the probability the game will end after this play, the next one, and so on. These are the probabilities starting from this point onward. So, for instance, if you are in period 2, the probability there will be a third period is 90% and if you are in period 9, the probability there will be another period is also 90%. This is as if we were rolling a 10 sided die after each period to determine if we should continue or not.
- At the top right, your points will be displayed at the end of a cycle.
- After each play, please write down your choice and the public signal on your record sheet. You will have 25 seconds to record this information.
- After each cycle, please write down your points on your record sheet.
- At the end of the experiment (the first cycle to end after 1 hour of play), you will be paid $0.017 for every point you have made. There is no show-up fee for this experiment.
- Are there any questions?

- Before we start, let me remind you that:
- You and the player you are paired with observe exactly the same public signal z.
- There is a 90% chance that any given period you are in will continue for one more period (a 10% chance that this is the last period).
- The determination of which period is last is totally random.
- You will play with the same person for the entire cycle.

- Write down what time it is __________

TO BE READ BETWEEN CYCLES

- Please write down the points you have earned in this cycle on your record sheet.
- Remember that there is a 90% chance that any given period you are in is not the last.
- The determination of which period is last is totally random.
- You will now be re-matched with somebody else at random.
- You will be paired with that person for the entire cycle.

game: 40,2,5,5,6
noise=0/OS/AFK
01/09/03

Instructions

This is an experiment in the economics of decision making. The National Science Foundation and other agencies have provided the funds for this research. The instructions are simple. If you follow them closely and make appropriate decisions, you may make an appreciable amount of money. These earnings will be paid to you, in cash, at the end of the experiment.

1. In this experiment you will be asked to make decisions in several periods. You will be randomly matched with another player for every plays.

2. Once a play is finished, you will be randomly paired with another subject for a new play.

4. The game you will play is the following:

	the other's choice	
your choice	1	2
1	25, 25	15, 28
2	28, 15	16, 16

The first entry in each cell represents your payoff, while the second entry represents the payoff of the person you are paired with. After each of you both have made your choices, you will *not* be told directly what the other person's choice was but will instead receive a signal (z) – which is the same for 2 players paired together – that is related to those choices as follows:

z = s(your choice, other's choice)

Values z can take on are given by the following table:

z	the other's choice	
your choice	1	2
1	20	18
2	18	16

In other words:

If your choice is 1 and the other's choice is 1, z = 20.

If your choice is 1 and the other's choice is 2, z = 18.

If your choice is 2 and the other's choice is 1, z = 18.

If your choice is 2 and the other's choice is 2, z = 16.

z is here to let you know what the other has selected.

6. The experiment will end after 75 plays.

TO BE READ TO SUBJECTS WHILE SHOWING A SCREEN SHOT USING THE PROJECTOR

- As you can see, this gives you the payoff associated with each choice. Once the choice is made, the public signal is displayed.
- At the top right, your points will be displayed at the end of a play.
- After each play, please write down your choice and the public signal on your record sheet. You will have 25 seconds to record this information.
- After each play, please write down your points on your record sheet.
- At the end of the experiment (after 75 plays), you will be paid $0.017 for every point you have made. There is no show-up fee for this experiment.
- Are there any questions?

- Before we start, let me remind you that:
- You and the player you are paired with observe exactly the same public signal z.

- Write down what time it is _________

TO BE READ ONCE IN A WHILE

- Please write down the your choices, the public signal, and the points you have earned on your record sheet.
- You will now be re-matched with somebody randomly.

game: 40,2,5,5,6
noise=inf/AFK
05/17/08

Instructions

This is an experiment in the economics of decision making. The National Science Foundation and other agencies have provided the funds for this research. The instructions are simple. If you follow them closely and make appropriate decisions, you may make an appreciable amount of money. These earnings will be paid to you, in cash, at the end of the experiment.

1. In this experiment you will be asked to make decisions in several periods. You will be randomly matched with another player for a sequence of plays, referred to as a cycle.

2. The length of a cycle is randomly determined. After each play, there is a 90% probability that the cycle will continue for another period.

3. Once a cycle is finished, you will be randomly paired with another subject for a new cycle.

4. The game you will play is the following:

	the other's choice	
your choice	1	2
1	25, 25	15, 28
2	28, 15	16, 16

The first entry in each cell represents your payoff, while the second entry represents the payoff of the person you are paired with. After each of you both have made your choices, you will *not* be told what the other person's choice was.

6. The first cycle to end after one hour of play will determine the end of the experiment.

TO BE READ TO SUBJECTS WHILE SHOWING A SCREEN SHOT USING THE PROJECTOR

- As you can see, this gives you the payoff associated with each choice. Once the choice is made, you will not receive additional information.
- At the bottom you see the probability the game will end after this play, the next one, and so on. These are the probabilities starting from this point onward. So, for instance, if you are in period 2, the probability there will be a third period is 90% and if you are in period 9, the probability there will be another period is also 90%. This is as if we were rolling a 10 sided die after each period to determine if we should continue or not.
- At the top right, your points will be displayed at the end of a cycle.
- After each play, please write down your choice. You will have 25 seconds to record this information.
- After each cycle, please write down your points on your record sheet.
- At the end of the experiment (the first cycle to end after 1 hour of play), you will be paid $0.017 for every point you have made. There is no show-up fee for this experiment.
- Are there any questions?

- Before we start, let me remind you that:
- There is a 90% chance that any given period you are in is not the last.
- The determination of which period is last is totally random.
- You will play with the same person for the entire cycle.

- Write down what time it is _________

TO BE READ BETWEEN CYCLES

- Please write down the points you have earned in this cycle on your record sheet.
- Remember that there is a 90% chance that any given period you are in is not the last.
- The determination of which period is last is totally random.
- You will now be re-matched with somebody randomly.
- You will play with that person for the entire cycle.