
“Ponzi” Pyramid Schemes



Max has received this email. It describes a scheme for making money.

From: A Crook
Date: Thursday 15th January 2009
To: B Careful
Subject: Get rich quick!

Dear friend,

Do you want to get rich quick? Just follow the instructions carefully below and you may never need to work again:

1. At the bottom of this email there are 8 names and addresses.
Send \$5 to the name at the top of this list.
2. Delete that name and add your own name and address at the bottom of the list.
3. Send this email to 5 new friends.

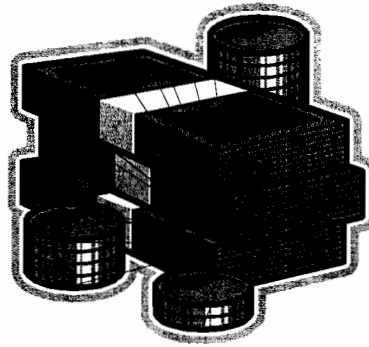
1. If that process goes as planned, how much money would be sent to Max? Show your calculations.

“Ponzi” Pyramid Schemes: (continued)

2. What could possibly go wrong? Explain your answer clearly.

3. Why do they make Ponzi schemes like this illegal?

“Ponzi” Pyramid Schemes		Rubric	
		Points	Section points
1. Gives correct answer: \$5⁹ or \$1953125 (accept 2 million dollars) <i>Partial credit:</i> \$5 ⁸ or \$390625 5 to any power greater than 2		3	
		(2)	
		(1)	3
2. Allow up to 4 points for any sensible statements such as: People might not send any emails. They might not send any money. The email may go into the Spam folder.		4 x 1	4
3. Allow up to 3 points for any sensible statements such as: It is a scam because: It gives people an unrealistic expectation of what they will receive. It takes people’s money and they may not receive any.		3 x 1	3
Total Points			10



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1. If that process goes as planned, how much money would be sent to Max? Show your calculations.

with each send, number of payers multiplies by 5
Max will be at the top in 8 sends, so total payers =
 $5 \times 5 \times 5 \times 5 \times 5 \times 5 \times 5 \times 5 = 5^8 = 390,625$ payers
each pays \$5. $390,625 \times \$5 = \$1,953,125$
almost \$2 million.

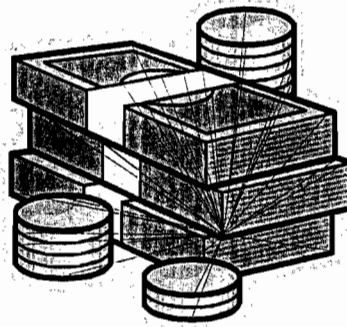
“Ponzi” Pyramid Schemes: (continued)

2. What could possibly go wrong? Explain your answer clearly.

People who receive the email may not send it to 5 new friends, or to anyone. There is no way to ensure that the email will keep going, so the chain stops before Max is at the top, he loses \$5. Also people can delete other people's names on the list and use the other addresses in the wrong way. Or people may not send any money. Or the police might get the email. It can go SO wrong!!

3. Why do they make Ponzi schemes like this illegal?

By the time this email has been circulated the people at the bottom of the list should make a lot of money but there will be so many people in it by then that the people at the top would need all the world to join in so it is a scam as they could not possibly get all that money. So it is really just taking people's money with untrue promises.



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1. If that process goes as planned, how much money would be sent to Max? Show your calculations.

$\$ = 5^n$, $n = \#$ of people who have recieved
this email 390,625 people would
of recieved this email by the time Mark
reaches the top of the list resulting in \$1,953,155

"Ponzi" Pyramid Schemes: (continued)

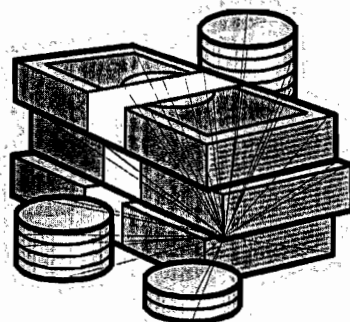
2. What could possibly go wrong? Explain your answer clearly.

People receiving the email could ignore it resulting in less people receiving the email which means less money. the email may be lost in spam. people might send it on but send no money. they may send it to the same friends as someone else.

3. Why do they make Ponzi schemes like this illegal?

By the time this email has been circulated the people at the bottom of the list probly has made trillions and quadrillions. It promises invest returns that are not actually paid off by new coming investors leaving a neverending chain of giving and taking.

1 person	25 people	125 people	625 people	3,125	15,625	78,125	390,625
1 \$5	3 \$5	4 \$5	5 \$5	6 \$5	7 \$5	8 \$5	9 \$5
2	4	5	6	7	8	9	10
3	5	6	7	8	9	10	11
4	6	7	8	9	10	11	12
5	7	8	9	10	11	12	13
6	8	9	10	11	12	13	14
7	9	10	11	12	13	14	15
8	10	11	12	13	14	15	16
9 MAX	11	12	13	14	15	16	17



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Max will be at the top in 8 sends, so total payers =

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each pays \$5. $390,625 \times \$5 = \$1,953,125$

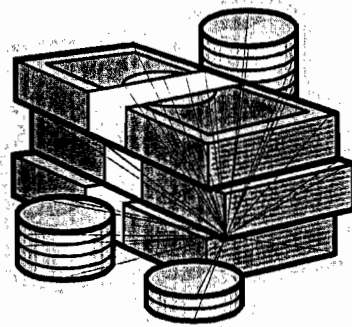
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2. What could possibly go wrong? Explain your answer clearly.

People who receive the email may not send the email to 5 new friends, or to anyone. There is no way to ensure that the email will keep going, so if the chain stops before Max is at the top, he loses \$5. Also people can delete other people's names on the list and use the other addresses in the wrong way.

3. Why do they make Ponzi schemes like this illegal?

The schemes do not always work like this. Some people delete the email straight away. This means that people will not receive the amount of money they expected, so they will be disappointed and cheated. Some people may not receive any money at all and may see the scheme as a scam and shouldn't be allowed. The expectations are very unrealistic.



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1. If that process goes as planned, how much money would be sent to Max? Show your calculations.

$5 \times 5 \times 5 \times 5 \times 5 \times 5 \times 5 \times 5$ (every person sends the email to another 5 people, repeats 8 times until Max gets to the top of the list) $5^8 = 390,625$ each person pays \$5, so $390,625 \times 5 = \$1,953,125$

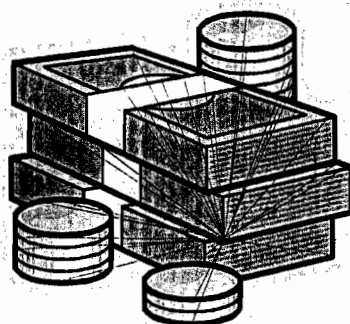
"Ponzi" Pyramid Schemes: (continued)

2. What could possibly go wrong? Explain your answer clearly.

There may be people who don't follow the directions, so the whole process would be messed up. Also, people who received this email might just ignore it and Max wouldn't earn as much as planned. This way of making money isn't safe and organized.

3. Why do they make Ponzi schemes like this illegal?

Because personal informations are all exposed to public & complete strangers and it's not a legal way to get money from other people like this. This email would be considered as a spam and probably won't make people rich.



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1. If that process goes as planned, how much money would be sent to Max? Show your calculations.

$\$1,953,125!$ If Max sends the email to 5 friends and adds his name to the 8th spot on the list, the first person will receive $\$5 \cdot 5 \text{ friends} = \25 . Max's 5 friends will send the email to 25 other friends ($5 \cdot 5 = 25$), and the second person will receive $\$5 \cdot 25 \text{ friends} = \125 . The 3rd person will receive $\$5 \cdot 125 \text{ friends} = \625 . Therefore, if the pattern goes on, Max, the 8th person, will receive $\$5 \cdot 5^8 \text{ friends} = \$5 \cdot 390,625 \text{ friends} = \$1,953,125$.

"Ponzi" Pyramid Schemes: (continued)

2. What could possibly go wrong? Explain your answer clearly.

Since this is a chain letter, Max's friends will probably just delete the message instead of following the instructions. Also, the friends probably have spam folders, so the message will go in there. Even if Max's friends do look at the message, they may not send \$5 to the name at the top of the list. Also, Max's friends may send the email to the same people.

3. Why do they make Ponzi schemes like this illegal?

These schemes are often phony and don't do what they say they'll do. It's really easy to get fooled by these schemes, and there's a high chance that the people making these schemes just want to get your address and do bad things to you. Therefore, these schemes are illegal. There's very little chance of success, and the schemes themselves are cheats.