Let the general triangle distribution be 1-F(x,z)=G(x) The slope of G'(x) is positive initially but decreasing in x and at some critical level of x, c it turns negative. The point c which strictly increasing in z.

1 $\tilde{x}$

This is strictly decreasing in z but the degree at which $\tilde{x}$ is influenced decreases with higher values of z.
Is strictly decreasing in a. However this the effect of a is quickly decreasing.
Is increasing in p. Constant effect

2 $\check{x}$

Is increasing in r.
Is decreasing in z.

3 $\hat{x}$

remember, decreasing $\hat{x}$ increases profits
If p = 0 then $\hat{x} = 0$
Is strictly increasing in p.
Note: I should compare the effects of increasing p on profits vs the decrease in $\hat{x}$
z is strictly decreasing $\hat{x}$. Note:(this increase is relatively more severe in hat than check?)
alpha decreases $\hat{x}$

4 *general*

There exists a critical level of r for all parameter values where the people who are willing to pay collapses.
The lower the z parameter, the more resistant to r they are, but if too low there is no equilibrium at all.

5 Who has the bigger mass

Note that the area of the intermediate triangle is $(z - \check{x})f(\check{x})\frac{1}{2}$
The area of the smaller triangle is $(z - \hat{x})f(\hat{x})\frac{1}{2}$
The area between the x's is therefore.
$(z - \check{x})f(\check{x})\frac{1}{2} - (z - \hat{x})f(\hat{x})\frac{1}{2}$
There are more pirates than non-pirates iff:
$(z - \check{x})f(\check{x})\frac{1}{2} - (z - \hat{x})f(\hat{x}) > 0$
$\rightarrow 2\hat{x}(1 + \frac{1}{z}(z - \hat{x})) - \check{x}(1 + \frac{2}{z}(z - \check{x})) - z > 0$