Problem on indivisible labor and consumption insurance

A social planner allocates employment and consumption among the individual members of a cooperative. There is just one period. There are *N* members of the group. A member who is assigned to work earns a wage *W* and gives his earnings to the social planner, who allocates total labor earnings among the group members. The social planner chooses a fraction *p* of the members to work, leaving *(1-p)* to not work. That means the group will supply *pN* workers to the labor market and receive total earnings *pNW.* The realized utility of a working member is:

$\ln(C_1)$ where C_1 is consumption allocated to a working member.

The realized utiility of a nonworking member is $\ln(C_2) + Z$ where C_2 is consumption allocated to a working member and *Z* is the utility of leisure.

Taking the wage *W* as given, the social planner chooses *p,* C_1 and C_2 to maximize *expected* utility for a member of the group, that is expected utility *before* a member knows whether he will be assigned to work or not work.

Derive C_1, C_2 and the group's total labor supply. Would you say their labor supply is very elastic, very inelastic, or something in between?