

Table 1: Proportion of Families and Individuals with Accounts by Income Quartile

	Low Income First Income Quartile	Upper Income Quartiles
Family has Bank Account	76%	98%
Proportion of Families in which:		
Couple has joint account	58%	85%
Male Partner has sole account	18%	27%
Female Partner has sole account	18%	28%
Sample Size	314	1323

Table 2: Average Share of Money in Accounts for Families with at Least one account by Income Quartile

	First Income Quartile		Upper Income Quartiles	
	Mean	SD	Mean	SD
	Avg. Share of Money in Joint acct.	0.68	0.44	0.75
Avg. Share of Money in Male partner's acct.	0.15	0.33	0.13	0.28
Avg. Share of Money in Female partner's acct.	0.16	0.33	0.12	0.26
Sample Size	239		1295	

In the last 10 years, advocates for low income families have worked to help families build assets by saving money. One strategy is to promote the use of bank accounts rather than alternative financial services such as pay-day loans or check-cashing services.

A recent study examined the types of bank accounts among low income families and compared them to those for higher income families. Using a national random sample, they compared families in the first income quartile (the bottom 25 percent of families) with those in upper income quartiles. The researchers were also interested in gender equity in access to family money within low income families.

Table 1 shows the proportion of different-sex couples with joint and individual accounts (accounts held by only one member of the family).

Table 2 shows the average share of money held in joint accounts and in individual accounts for men and women. This is limited to families that have at least one bank account.

1) How many low income families had any bank account? Find a 95 percent confidence interval for the proportion of low income families with any bank account.

For 95% CI (proportion, large sample):

$$\hat{p} \pm z_{\alpha/2} \sqrt{\frac{\hat{p}(1-\hat{p})}{n}}$$

$$\hat{p} = .76$$

$$z_{\alpha/2} = 1.96$$

$$= .76 \pm 1.96 \sqrt{\frac{.76(1-.76)}{314}}$$

$$= .76 \pm .047 \quad \text{lower: .713}$$
$$\text{upper: .807}$$

The 95% confidence interval for the proportion of low income families with any bank account is 71.3 to 80.7%

2) What share of money is held by low income families in joint accounts (which are accessible to both partners)? Test the hypothesis that, on average, 75 percent of money (a share of .75) in accounts is held in joint accounts for low income families. [Use a 5 percent significance level.]

For comparison of 1 mean to a benchmark (large sample):

$$Z = (\bar{x} - \mu_0) / (S / \sqrt{n})$$

$$\bar{x} = .68$$

$$\mu_0 = .75$$

$$S = .44$$

$$n = 239$$

$$H_0: \text{share in joint account} = .75$$

$$H_a: \text{share in joint account} \neq .75$$

$$Z = (.68 - .75) / (.44 / \sqrt{239})$$

$$Z = -2.46, \text{ critical value of } 1.96 \text{ (for 5\% significance)}$$

$$|-2.46| > 1.96, \text{ so reject } H_0 \text{ at 5\% level}$$

*Use (S / \sqrt{n}) to calculate standard error, the share held in accounts is a mean, NOT a proportion.

3) Provide a p value for the test in Part 2.

Take Z as calculated above (2.46)

Look up 2.46 in Z table

$$P(0 < Z < 2.46) = .493$$

$$P(Z < -2.46) = .5 - .493 = .007 \text{ (for 1 tail)}$$

$$p = 2 * (.0070) = .013$$

4) How many women have access to any account? In low income families, 7 percent of women have both a sole and joint account. Using the information from Table 1, write out your formula in probability terms, calculate the proportion of women with access to either a sole or joint account. Provide a 95 percent confidence interval for that proportion.

$$P(\text{joint OR sole account}) = P(\text{joint}) + P(\text{sole}) - P(\text{joint AND sole})$$

$$P(\text{joint OR sole}) = .58 + .18 - .07$$

$$P(\text{joint OR sole}) = .69$$

69% of low income women have access to either a sole or joint account.

CI for 1 proportion (large sample):

$$\hat{p} \pm z_{\alpha/2} \sqrt{\frac{\hat{p}(1-\hat{p})}{n}}$$

$$\hat{p} = .69$$

$$z_{\alpha/2} = 1.96 \text{ (for 95\% CI)}$$

$$n = 314$$

$$= .69 \pm 1.96*(.026)$$

$$\text{lower: } .639$$

$$\text{upper: } .741$$

5) Write up your results and any other information from the tables for advocates interested in helping families (and all individuals within families) have access to bank accounts. Be sure to provide your numerical results (appropriately translated). Use only the space below.

A recent national study provided analysis that may be useful in setting programmatic priorities to increase access to mainstream financial services for low income families and to ensure gender equity in access to family funds.

Overall, low income families are less likely than upper income families to have some type of bank account. We estimate the proportion of low income families with at least one bank account to be between 71% and 81%.¹ In contrast, an estimated 98% of upper income families have at least one bank account.

More specifically, the data suggest that low income women have relatively less access to bank accounts as well. Among low income families, 7 percent of women have access to both a sole and joint account and 69% of low income women have access to either a joint or sole account. Combined with the fact that the majority of money (for both low and higher income individuals) gets held in joint accounts, this suggest that efforts directed towards opening joint accounts for families might be most effective.² This might increase saving among families, and ensure that both women and men have access to these accounts.

Further research could tease apart whether or not there are significant differences between the type of account held by lower versus upper income families and the proportion of money held in the different types of bank accounts. Also, research has not yet fully established the link between having a bank account and saving for family assets.

¹ 95 percent confidence interval

² Though, on average less than 75% is held in joint accounts for low income families (Z=2.46, p=.013).