Measuring income expectations using phone surveys

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Expectations about future income are a crucial determinant of job-search behaviour. Such beliefs matter for both structural estimation and as outcome measures for active labour market policies. For our work in South Africa (Carranza et al., 2019), we carefully piloted ways of measuring beliefs about future income. The population of our study was young, disadvantaged jobseekers in Urban Johannesburg most of whom graduated from high school. For this study, we wanted to use our measures of beliefs both as outcomes and for structural estimation. Crucially, we wanted to measure both the mean and variance of expected income. We also wanted to distinguish between income expectations for formal work and informal work, as well as expected income in case of unemployment, as these are important ingredients in structural models.

We elicited income expectations for three mutually exclusive and exhaustive categories displayed in Table 1.

Table 1: Work status categories

	Formal, permanent. employment	**Any other work**	**Unemployment**
Definition	You are working full-time in a permanent, formal job with a regular salary and a written contract.	You are doing any kind of job or work for payment that is not a permanent formal job. This could include temporary or casual work, piece jobs, self-employment, and family work for pay. You could do more than one of these activities at once.	You are unemployed: you are not doing any kind of job or work for pay.

To aggregate expectations across categories, we also asked about the likelihood of each scenario. Specifically, we asked the following questions.

1. What is the chance (out of 100%) that you will be in **Situation 1** three months from now? That is, you work in a full-time permanent, formal job with a regular salary and a written contract and not doing any other job?
2. What is the chance (out of 100%) that you will be in **Situation 2** three months from now? That is, you are doing any kind of job or work for payment that is not a permanent formal job. This could include temporary or casual work, piece jobs, self-employment, and family work for pay.
3. What is the chance (out of 100%) that you will be in **Situation 3** three months from now? That is, you will not do any kind of work for pay.

We considered restricting the probabilities to sum to 100 but found this to be impractical over the phone. Rather, we restricted the answer to each question to be between 0 and 100 and then reweighted the probabilities to sum to 100 for each respondent.

For the two employment categories, we then elicited income expectations roughly following the methodology by McKenzie et al. (2013). We asked about the mean, maximum and minimum that jobseekers thought they could earn in each situation in the following way:

1. What salary do you think you would earn in this situation? (Take-home or after deductions). Include all jobs.
2. What is the **lowest** possible salary you could be earning? (Take-home or after deductions)
3. What is the **highest** possible salary you could be earning? (Take-home or after deductions)

The only restriction we imposed was that the maximum earning had to be larger than the mean and the minimum had to be smaller than the mean earnings.

Finally, we asked the following questions to get an estimate of the shape of the CDF.

4. What do you think the chance is (out of 100%) that you would earn between R ${belief_minimum} and R ${(belief_minimum +belief_maximum)/2} in this situation?

This question provides further information about the shape of the expected income distribution.

Based on this data, we then fit a uniform and a triangular distribution for each category using questions 2-4. Table 2 shows that the uniform distribution leads to slightly higher estimates for both mean and variance of the distribution compared to using a triangular distribution. The direct elicitation falls in between the two detailed elicitations. The correlation between the direct elicitation and the extrapolated values is between 0.86 and 0.92. Taken together, the direct elicitation seems to do a relatively good job at capturing the mean earnings expectation. As we only required the variance estimates for structural estimation, we dropped the more detailed questions after 50% of our survey to limit the burden for our respondents.

Table 2: Comparison of different expectation estimates

	Uniform distribution	**Triangular distribution**	**Direct elicitation**
Expected earnings (sd) for formal, full-time employment.	6752 (1530)	5868 (1250)	6272
Expected earnings (sd) for other work.	3866 (850)	3375 (694)	3640

References

Carranza, E., Garlick, R., Orkin, K., & Rankin, N. (2019). Job Search and Matching with Two-Sided Limited Information. *Working Paper*.

McKenzie, D., Gibson, J., & Stillman, S. (2013). A land of milk and honey with streets paved with gold: Do emigrants have over-optimistic expectations about incomes abroad? *Journal of Development Economics*, *102*, 116–127.