Employment Measurement:
Comparing survey and resume reports

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Extended Abstract

The last decade has seen a dramatic rise in data collection efforts globally. Within development there has been a considerable push for international aid agencies to conduct and rely on evidence based research. The reliability of the evidence for policy making depends heavily upon the quality of the data used in the impact evaluations being conducted. Labor reforms have recently been put back in the spotlight with the recent World Development Report highlighting the importance of jobs as a mechanism to reduce poverty (WDR, 2013). A growing number of labor programs geared at increasing employment and wages have become increasingly common. In most cases self-reported survey data is used to measure the employment outcomes. How reliable this data is has received some but limited attention.

The implications of survey methodology on labor statistics has been extensively studied in the United States. Bound et al. (2001) provide a review of this literature and highlight that in general validation studies show that measurement error is not classical, rather true values are typically negatively correlated with reported values. Newer work in developing countries focus on a broader set of survey methodology issues. Bardassi et al. (2011) examine the impact of module details proxies on aggregate labor statistics using a survey experiment while, Guarcello et al.

(2009) and Dillon et al. (2010) focus on survey design on child labor reporting. Beegle et al. (2012) examines survey methodology implications for consumption data; and Beaman and Dillon (2012) consider alternative definitions of the innocuous term "household".

As highlighted in Bardassi et al. (2011) it is imperative to understand how and who answers surveys affects the labor statistics collected. They show that two features of survey design have significant implications for the data collected. First, individuals responding to shorter labor modules tend to think about employment broadly including domestic activities. After excluding these incorrect reports of work, the reports from the shorter module yield lower aggregate female employment rates and higher working hours for males and females. Second, using proxies within a household produces lower male employment rates with no impact on female employment rates. This experiment highlights how sensitive labor statistics are to the survey methodology utilized.

In this paper, we contribute to the growing developing country survey methodology literature by examining the extent to which different sources of data matter for labor force variable measurement. Specifically we examine how survey data and resume data compare. We examine how reports from these sources compare in a low income country setting, however, among well-educated urban men. Examining this population is important for a number of reasons. First, urban labor market programs are burgeoning in Africa and their impacts will be studied, understanding alternative approaches for collecting data will be useful in designing such studies. Second, given non-classical measurement error that has largely been observed, specifically that measured values are negatively correlated with actual values in developed contexts it might also be a concern in among better off communities in developing countries. This has implications for income growth, and income inequality estimates. Third, developing country labor markets are characterized by higher turnover, standard measurement of labor force statistics may be more susceptible to biases under these conditions.

The data used comes from a real recruitment process conducted in Malawi. Details are provided in Godlonton (2013a). As part of this recruitment process individuals were encouraged to bring their resumes.[2] Embedded into the recruitment process was an experiment that collected baseline survey data (Godlonton, 2013a and 2013b) that provides current and retrospective labor force

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[2] Most individuals (95 percent) did bring their resume to the training.

data. As such, this dataset includes both survey data reports and resume reports for key labor market outcomes of interest for the same individual. The survey methodology component is not randomized. However, we make use of two distinct sources for the same individual in our comparisons and show how resume and survey data compare.

Table 1 describes our sample. Due to the eligibility requirement of the recruiter the sample is all male and fairly well educated with 13 years of completed schooling. Men are approximately 25 years of age, and almost 15 percent are married. This study was conducted in the Capital city, Lilongwe and thus it is unsurprising that the sample is ethnically diverse with almost one third Chewas, 19 percent Tumbuka and 16.4 percent Ngoni. Although, submitted a resume for the job was not required (although strongly encouraged), only four participants in the sample did not submit a resume.

Table 1: Summary Statistics:

| | | N = 268 | | | |
	Mean	SD	Min	Median	Max
Demographics:					
Age	25.604	4.638	18	25	45
Married	0.149	0.357	0	0	1
Number of children	0.299	0.784	0	0	4
Education	13.082	1.021	12	13	15
Ethnicity:					
Chewa	0.310	0.463	0	0	1
Yao	0.030	0.170	0	0	1
Tumbuka	0.190	0.393	0	0	1
Lomwe	0.112	0.316	0	0	1
Ngoni	0.164	0.371	0	0	1

We will compare the survey and resume reports using three different approaches. First, we examine average differences. Second, we consider the internal (within individual) consistency of the labor force measures relying on the kappa statistic. This measures the difference between the expected variation (due to chance) and the actual variation betwdeen the survey- and resume-constructed outcome measures. Third, we will examine whether the distributions of outcomes differ across sources.

Due to the available data we will compare a number of labor outcomes including employment in the last six months; occupations held in last six months as well as for the most recent three jobs; we will compare employer information for this set of jobs as well as the duration of employment. However, in this extended abstract we only present the employment status comparisons.

First, it is worth comparing how basic demographics compare across resumes and survey data. Table 2 Panel A presents results for key demographics for which we should not expect differences across the data sources. Specifically, we show that age, marital status and education measures do not differ systematically across data sources. The average differences are fairly small and in all cases not statistically significant. Furthermore the distributions are not statistically significantly different from one another.

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Table 2: Panel A:

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| | N | Survey Data | | CV Data | | Difference | p-value of Distribution Test |
		Mean	SD	Mean	SD		
Age	264	25.553	4.600	25.820	4.575	0.267	0.415
Married	252	0.159	0.366	0.139	0.347	-0.020	0.547
Education	264	13.083	1.017	13.167	0.961	0.083	0.133

*** denotes significance at the 1 percent level   ** significance at the 5 percent level
* significance at the 10 percent level

In Table 2 Panel B, we present preliminary comparisons for employment over the last 6 months and how these variables compare across sources. We find that individuals are slightly more likely to have worked as reported from the survey data. This may be due to individuals considering a broader interpretation of employment when asked about previous employment opportunities than those which they wish to record on a resume. In the next version we will compare the duration, employer and occupation for each of the last three jobs held as determined by the resume and in the survey and will be able to either confirm this or offer alternative explanations, find that for more recent periods, survey data reports exceed resume reports.

Second we find that in the most recent month prior to the survey, individuals are more likely to have reported working in the survey data compared to the resume data. This is in part explained

by individuals not updating their resumes prior to each interview to which they apply[3]. Furthermore, we find that for recall periods three to six months prior, survey data reports are lower relative to resume reports. Unfortunately we do not have data from the survey data preceding six months.

Table 3: Comparing Data Sources: Employment Outcomes

		Survey Data		CV Data			p-value Distribution
	N	**Mean**	**SD**	**Mean**	**SD**	**Difference**	**Test**
Ever worked	264	0.777	0.417	0.716	0.452	-0.061	0.110
Worked in…							
May-11	264	0.117	0.323	0.015	0.122	-0.102	0.000
Apr-11	264	0.121	0.327	0.102	0.304	-0.019	0.490
Mar-11	264	0.167	0.373	0.133	0.340	-0.034	0.273
Feb-11	264	0.121	0.327	0.144	0.352	0.023	0.442
Jan-11	264	0.148	0.356	0.159	0.366	0.011	0.717
Dec-10	264	0.144	0.352	0.220	0.415	0.076	0.024

*** denotes significance at the 1 percent level   ** significance at the 5 percent level
* significance at the 10 percent level

As we continue to work on this paper we will consider additional measures of variable reliability and will explore a significantly wider range of employment outcomes, including occupation and employer status. Comparing resume and survey data in this way can help us consider alternative data collection techniques to complete household surveys particular in urban, more educated communities.

References:

Bardasi, E., Beegle, K., Dillon, A., and Serneels, P. (2011). "Do Labor Statistics Depend on How and to Whom the Questions Are Asked? Results from a Survey Experiment in Tanzania," *World Bank Economic Review*, Vol. 25(3):418-447.

Beegle, K., de Weerdt, J., Friedman, J. and Gibson, J. (2012). "Methods of Household Consumption Measurement through Surveys: Experimental Results from Tanzania," *Journal of Development Economics*, Vol. 98:3-18.

Bound, John, Charles, Brown, Nancy, Mathiowetz, 2001. Measurement error in survey

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[3] In the paper we will adjust comparisons to control for the last time the resume was updated. However, this is in of itself an interesting finding as men are not updating their resume before applying for new work.

data. In: Heckman, J., Leamer, E. (Eds.), *Handbook of Econometrics*, Vol. 5. Elsevier Science, Amsterdam: North-Holland.

Dillon, A., E. Bardasi, K. Beegle, and P. Serneels 2010. "What Explains Variation in Child Labor Statistics? Evidence from a Survey Experiment in Tanzania." *World Bank Policy Research Working Paper No. 5414.*

Godlonton, S. (2013a): "Employment Risk and Performance," Working Paper.

Godlonton, S. (2013b): "Returns to Work Experience: Evidence from Malawi," Working Paper.

Guarcello, L., I. Kovrova, S. Lyon, M. Manacorda, and F.C. Rosati 2009. "Towards Consistency in Child Labour Measurement: Assessing the Comparability of Estimates Generated by Different Survey Instruments." Understanding Children's Work Project Draft Working Paper.

World Development Report: Jobs (2013). World Bank.