Understanding Labour Demand in South Africa: the importance of data sources

Andrew Kerr

DataFirst, University of Cape Town

14 March 2014

Questions

- What is labour demand?
- What is demand-side data?
- What data can be used to shed light on labour demand in South Africa?
- In theory the above are a focused set of research questions- in practice the research turned out to be more complicated because I think different people in the project have different answers to the following key question:
- What does LMIS aim to do with data?
  - I'll discuss this as I go along.

What is labour demand? (for an economist)

- Derived demand for labour of all firms currently operating in a market.
- Labour demand influenced by wages paid to workers, price of capital, technology, demand for whatever is being produced.

What is labour supply?

- Derived supply of labour (number of people willing to work, hours) for all workers at different wages.
- Influenced by wages offered, technology, skills, costs of getting to work etc.

Market outcome

- Where workers with different skills are working, the wages these workers earn and the level of unemployment are determined by both the demand and supply of labour.
- This outcome is what we can see when we look at Stats SA's (Q)LFS household survey data. It does tell us something about labour demand though.
- Demand side analysis has generally focused on firms-
  - which firms and industries are expanding, which are contracting?
  - Which firms and industries are hiring workers with different skills?
  - Is inequality being driven by skill biased technical change?
- To answer these questions international research has focused on firm level micro data in the last 20-30 years.

What does LMIS aim to do with data?

- Several things mentioned by HSRC/DHET when working on this project-
  - Generate occupational demand data.
  - Generate forecasts for skills planning.
  - Link different sources of data.
  - Understand the workings of the labour market.
- LMIP website says aim is to “bring together demand and supply-side labour market data from numerous sources into a coherent database, constituting a labour market information system (LMIS) that supports analysis to generate labour market intelligence.”
- But…

What is LMIS for?

- Key question is – for what purpose are we generating LM intelligence?
  - A narrower technocratic function, eg. forecasting demand for skills to help plan university and FET enrolments?
  - Or broader, eg to better our understanding of how the labour market works to improve policy making?
  - Uncertainty evident in statement that “DHET has good supply side data and that as such a paper on labour supply data sources not necessary”- only true if one is taking a narrow view of what LMIS is to be used for.
  - I think DHET only has data on flows (and even then only education data, what about retirements etc.)- not stocks.
  - Example of a dam.

What does LMIS aim to do with Demand-side data?

- Does “Skills planning” mean Manpower Forecasting Analysis and its descendants?
  - an older (1960s) strand of labour demand analysis based on predicting labour demand, to improve planning for state funded education.
- A key part of LMIP, eg. theme 2.
- SA Department of Labour (2003) State of Skills report says “aims of MFA have generally been regarded as unworkable.”
- Criticisms of MFA:
  - impossible to accurately forecast given how fast technology and society changing.
  - Importance of changes in prices of labour and capital, which were ignored.
  - Not easy to translate occupational requirements into educational requirements.
  - Generally abandoned in the 1980s.
- Move has been towards understanding how the labour market functions, rather than predicting how things will look in the future.
- Is there space for other types of labour demand analysis in the LMIP?
  - What would these look like?
  - How do they link to the other research themes?
  - How would data collection and data provision efforts link to those institutions already undertaking this work (eg. my employer!).

What can labour market micro data be used for?

- Household survey labour force data can help use answer questions like
  - Who is working?
  - who wants to work but can't?
  - What education levels do the unemployed have?
  - How much different levels of education are renumerated?
  - How has the demand for skilled and unskilled labour changed over time?
  - Is there evidence discrimination is lessening or rising over time?
- These are related to labour demand.
- These can all be (and many have been) answered using household survey data.
- Firm surveys offer the possibility of a different perspective.

(Micro)data sources

- Main distinction- households-individuals or firms?
- Statistics South Africa's OHS, LFS and QLFS the main household surveys used for analysis.
- Used to look at changes in earnings over time (Burger and Yu 2007)
- DataFirst has created a harmonised version of these surveys called PALMS- a stacked cross sectional micro data set of 39 Stats SA surveys.
  - Publicly available from datafirst.uct.ac.za
  - Can explore trends in employment, unemployment, earnings, monetary returns to education between 1994 and 2012 (soon to be 2014).
- "Are the OHSs/QLFSs/QLFSs fit for purpose?" is one question I was asked for this project-
  - It depends what that purpose is.
  - For predicting detailed occupational demand- probably not.
  - For understanding broad changes in the labour market in post-Apartheid South Africa- probably.
- Panel data can answer different set of questions- eg NIDS, KIDS, LFS and QLFS panels (QLFS panel not yet released officially yet).
  - Transitions between education and work, between different types of work etc, but maybe not at the fine-grained level DHET wants for planning purposes.

Firm level microdata sources

- Firm surveys mainly undertaken by Stats SA- a range of topics covered- employment and wages, financial data, capital stocks and investment.
- Surveys include Annual Financial Survey, Large sample surveys and Quarterly Employment Statistics survey.
- Not generally analysed beyond the Stats SA release documents because microdata is not publicly released.
- There has been some access granted to the QES:
  - Kerr et al (forthcoming) showed that large firms (250+ employees) are the only ones with positive net job creation on average and that small firms have negative net employment creation rates.
  - Also showed that hiring and firing regulations seem to be less of an issue than has sometimes been assumed.
- Firm surveys could be used to look at the effects of bargaining council agreements on employment for example, a very important question that economists have not been able to answer using the data we have at present.
- Survey of employers and self-employed targets informal businesses: data is available from Stats SA, I'm working on a REDI/National Treasury project to make all 4 waves (2001, 2005, 2009, 2013) harmonised and publicly available.
- LMIS could target making firm data more widely available- this would definitely improve our knowledge of how the labour market works.

Administrative microdata

- Administrative data is an alternative to survey data- collected for an administrative function but data can be used for analysis.
- Several potential sources of admin data:
- UIF- could be used to look at firms' demand for labour, which firms are growing/shrinking, how firms respond to changes in wages (eg bargaining councils/sectoral determinations).
  - Little known about the data or its quality.

Admin microdata cont.

- SARS collects data on individuals and firms. There is currently a National Treasury project to get (limited) access to this data. LMIS could motivate for wider access.
  - Can be used to look at growth in labour demand by sectors, responses to changes in wages and many other topics.
- Public Employment Service data- DoL has data on those who register for help obtaining employment- could look at who uses and what outcomes are for individuals of different skill sets.
- PERSAL data- public sector makes up 22% of formal employment- can get a very accurate picture of one part of the labour market because this is covers ALL public employees.
  - Has been used but not extensively, also not publicly available.

Linking different sources of data

- Mentioned to myself as a potential source of value added.
  - Need clarity on what is meant by linking.
- Micro data cannot easily be linked without some way of identifying people/firms in different data sources.
- Potentially Stats SA and SARS data could be linked- more easily done with firms than people (Stats SA does not ask for SA id numbers, not sure about addresses(?), so matching would be tricky- but could be done in the future).
- Would give more detailed data on education and experience of a subset of the SARS respondents- a richer data set for looking at education and skills planning.
- Requires changes from Stats SA that it may be unwilling to undertake.

Some conclusions

- Understanding labour demand is important both for understanding how the economy functions and for skills planning.
- Much demand-side micro data exists, only some of this is publicly available.
  - If LMIS has a narrow focus on skills planning and forecasting then some of this data will not be that useful since Stats SA firm data, SARS data and UIF data do not have any education or occupation questions.
  - If broader focus then more of the data will be useful, the question then is if LMIS is well placed to work at gaining access to these data.
- Possible uncertainty as to the scope of the LMIS should be clarified.
- Scope for LMIS to lobby for data access but there are other players already engaged in this task, at least for some of the data sources mentioned.