Workers and Jobs
Guided Enquiry for Jobs Diagnostic Supply Side with Hands-On Examples

Michael Weber & Jörg Langbein
Jobs Diagnostic and Solutions
November 5, 2019
Jobs from a Worker’s perspective

- **Productivity**
  - Tap into Productivity enhancing Transitions
    - Between Occupations or Sectors
    - Formalization – to Higher Quality Jobs
    - Urbanization/Migration

- **Individual and Household’s Welfare**
  - Expected Earnings over Time
  - Physical and Psychological Wellbeing

- **Social Cohesion**
  - Social Identity
  - Social Networks
  - Sense of Fairness
Workers respond to the demand for Labor

Productivity enhancing Transitions are occurring through:

- Change of Occupations/Sectors
- Formalization – to higher quality jobs
- Urbanization/Migration

[Diagram showing the relationship between workers, job seekers, firms, vacancies, and employment and earnings.]

Source: Jobs Group
Workers respond to the demand for Labor but transitions are constrained

Productivity enhancing Transitions are occurring through:
- Change of Occupations/Sectors
- Formalization to higher quality jobs
- Urbanization/Migration

Lack of Aggregate Demand

Lack of Information Skills Mismatch Insufficient Bargaining Power

Labor Force Participation
Type of occupation
Human Capital Search

Employment and Earnings

Entrepreneurs

New firms

Expansion/contraction of current or creation of new establishments

Source: Jobs Group

But transitions are constrained
Guided Enquiry
A guided enquiry for the jobs diagnostic – supply side

- Uses labor force and other household surveys
- Maps the profile of the workforce
- Observes trends over time and points to anomalies through cross-country comparisons
- Examines anomalies specifically looking into labor market rigidities and structural constraints
Step-wise guided enquiry – Supply side

1. step

Profile of Jobs

2. step

Trends in labor supply

3. step

Trends in employment and education

3. step

Workers' earnings and household consumption

4. step

What determines labor market outcomes?

5. step

Benchmark to identify anomalies

Interpretation To Identify Challenges

Wrap up

What determines labor market outcomes?
Step 1: What is the profile of jobs and work in the economy?

- Provides the structure of the workforce and jobs held in the country
- Using past trends helps to infer how economic transformation *should be* affecting job transitions

Example for Low and Middle Income Countries:
Example of Step 1: Profile of Jobs in Uganda
Step 2: What is the trend in labor supply and how is it related to the country’s demography?

**Demography**
- What share of the working age population participates in the labor force?

**Labor Force**
- What are the trends within the active labor force?

**Variation**
- Are there variations over time and by population sub-groups?

**Indicators:**
- Labor force participation rate
- Employment-to-population rate
- Unemployment rate

Overall; disaggregation by age, gender, area, education and region; (if possible) comparison over time
Example of step 2: Trends in labor supply and Uganda’s demography
Example of step 2: Trends in labor supply and Uganda’s demography
Step 3: What are the trends in employment and education?

Indicators:

- Share of employment types
- Share of (in)formality
- Shares of industry sectors and occupation
- Share of educational attainment

Overall; disaggregated by age, gender, regions, education, and area; (if possible) comparison over time
Example of step 3: What are the trends in employment and education?
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Step 4: How much do workers earn and how do labor market outcomes compare across households?

Indicators:

- Mean of hourly/monthly earnings
- Mean of working hours
- Share of workers with secondary job: Overall, (if possible) comparison over time
- Consumption and income deciles per household

Overall; disaggregated by age, gender, regions, education, and area; (if possible) comparison over time
Example of step 4: Workers’ earnings and comparison of further labor market outcomes?
Example of step 4: Workers’ earnings and comparison of further labor market outcomes?
Step 5: Which worker characteristics determine labor market outcomes?

Indicators:
- Probability of employment, unemployment and inactivity
  - controlling for age, gender, marital status, area, education, household size, Number of children, young and older household members, region
- Probability of wage/formal/public/non-agricultural employment
- Hourly/monthly earnings regression
  - controlling for age, gender, marital status, area, education, household size, Number of children, young and older household members, region, sectors (broad definition), occupations, formality status, work contract
Example of step 5: Which worker characteristics determine labor market outcomes?
Example of step 5: Which worker characteristics determine labor market outcomes?

![Graphs showing marginal effects of various worker characteristics on wage employment in Uganda 2016 UNHS.]

Note: Dependent variable is 1 if the worker is a wage worker and 0 otherwise.
Example of step 5: Which worker characteristics determine labor market outcomes?

Mincerian wage regression

<table>
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<th>Worker Characteristics</th>
<th>2005</th>
<th>2012</th>
<th>2016</th>
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<tbody>
<tr>
<td>Female</td>
<td>-0.394***</td>
<td>-0.419***</td>
<td>-0.643***</td>
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<tr>
<td></td>
<td>(-9.21)</td>
<td>(-8.01)</td>
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<td>Individual age</td>
<td>0.0931***</td>
<td>0.0600***</td>
<td>0.0792***</td>
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<td></td>
<td>(8.24)</td>
<td>(3.35)</td>
<td>(7.81)</td>
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<td>Age Squared</td>
<td>-0.00108***</td>
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<td>-0.000886***</td>
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<td></td>
<td>(-6.93)</td>
<td>(-2.61)</td>
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<td>No education</td>
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<tr>
<td>Primary incomplete</td>
<td>0.120*</td>
<td>0.0990</td>
<td>0.126*</td>
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<td></td>
<td>(1.68)</td>
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<td>(1.81)</td>
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<tr>
<td>Primary complete but secondary incomplete</td>
<td>0.418***</td>
<td>0.213**</td>
<td>0.353***</td>
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<td></td>
<td>(5.39)</td>
<td>(2.17)</td>
<td>(4.91)</td>
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<td>Secondary complete</td>
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<td>0.547***</td>
<td>0.850***</td>
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<td></td>
<td>(4.57)</td>
<td>(4.44)</td>
<td>(6.00)</td>
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<td>Some tertiary/post-secondary</td>
<td>1.018***</td>
<td>0.873***</td>
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<td></td>
<td>(10.45)</td>
<td>(5.84)</td>
<td>(6.81)</td>
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<td>Rural</td>
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<td>(-5.00)</td>
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<td>Central</td>
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<td>Western</td>
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<td>-0.330***</td>
<td>-0.804***</td>
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<td></td>
<td>(-5.12)</td>
<td>(-4.58)</td>
<td>(-14.85)</td>
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<td>Skilled agriculture</td>
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<tr>
<td>Senior officials</td>
<td>1.177***</td>
<td>0.766***</td>
<td>1.267***</td>
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<td>(3.91)</td>
<td>(3.58)</td>
<td>(5.22)</td>
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<td>Professionals</td>
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<td>Technicians</td>
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<td></td>
<td>(4.55)</td>
<td>(0.07)</td>
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<td>Clerks</td>
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<td>(2.94)</td>
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<td>(0.96)</td>
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<td>Service and market sales workers</td>
<td>0.0205</td>
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<td>(6.69)</td>
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<td>Craft workers</td>
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<td>(2.08)</td>
<td>(3.33)</td>
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<td>(3.58)</td>
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<td>Elementary occupations</td>
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<td>(-1.76)</td>
<td>(3.92)</td>
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<td>8157</td>
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</table>
Step 6: Interpretation

- **Benchmarking**: Compare with similar countries (same income group, jobs typology etc.)
- **Syndromes**: Combine the syndromes to identify underlying problem
- **Control group of successful workers**: Do comparisons by socio-demographic characteristics for different worker types
Example of step 6: Summary and Interpretation

- Uganda’s Labor Force is growing quickly.

- Most jobs are on farms and most youth join the workforce on farms. Most off farm work is informal. Waged work is rising over time, but mostly informal.

- Share of self-employment has been falling over recent years. It is lower than in other LIC. Unpaid work seems to be increasing though, also in comparison to other LIC.

- New workers who tend to have completed primary schooling raise the average workforce education. However, mean earnings are stagnating. So are returns to highest education levels – a declining skills mismatch?

- Hourly earnings are falling fastest in services where hours worked are rising. This suggests that the recent move out of agriculture (2012-2016) cannot be explained by higher productivity within services, something that can be further explored in the macro-analysis.
Ten Key Labor Market Indicators

- Labor force participation rate
- Employment-to-population ratio
- Unemployment rate
- Job Status: • Public sector wage worker, • Private wage worker (informal/formal), • self employed, • family and unpaid workers
- Job Quality: • Education/skills level • Sector (Agriculture, industry, service, etc.) • Occupation • Contract type
- Subjective work satisfaction
- Labor Mobility: Job duration or transition rate
- Hours of work (under-employment)
- Benefits
- Wage/Earnings
Hands-on Exercises – Following the Guided Enquiry for Human Capital and LM Supply Side Analysis

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Step-wise guided enquiry – Supply side

1. step
Profile of Jobs

2. step
Trends in labor supply

3. step
Trends in employment and education

4. step
Workers’ earnings and household consumption

5. step
What determines labor market outcomes?

Wrap up

Benchmark to identify anomalies

Interpretation To Identify Challenges

To Identify Challenges
Standard Supply-side Outputs using LFS/LSMS

- Question 1 - Jobs and workers profile
- Question 2 - Labor supply and demography
- Question 3 - Employment and education
- Question 4 - Earnings
- Question 5 - Worker characteristics and LM outcomes

- 2.1 Labor Force Participation
- 2.2 Active Labor Force
- 2.3 Out of Labor Force
- 3.1 Employment Types
- 3.2 Industry sectors
- 3.3 Occupation
- 3.4 Education
**Group assignments – Resources on the Shared Drive**

1. Folder with Figures:
   - Selected figures for the country to be analyzed
   - Figures for benchmarking with the respective income group or region

2. Files featuring indicators and pivot data for the respective country and the benchmarks, includes:
   - Key labor market indicators, (i) overall and (ii) disaggregated by area, age, and gender
   - A sheet allowing for interactive Pivot Table usage
   - Data quality indicators
Example Moldova

Overall question:
• How has domestic employment developed for Moldovans, Is there a rationale for (youth) to migrate?

Question 1:
• How has the (rural) Moldovan population changed over time?

Question 2:
• How has the labor force changed over time between rural and urban areas?
• Are there any trends observable when comparing to other countries?

Question 3:
• Has the development in the composition of the population and its location affected the sector and type of work?

Question 4:
• What determines finding employment? What determines finding a formal job?

Question 5:
• How do these developments affect earnings, the youth and bottom 40?
## Overall question:

- What is Mozambique's jobs challenge and potential for the future?

## Question 1:

- How has Mozambique's working age population developed over time?

## Question 2:

- Has the change in the working age population affected the labor force composition?
- Are trends visible, especially in contrast to other countries?

## Question 3:

- For those in employment, how have job types and sectors changed overall and when compared to others?
- Are there differences by subgroups?

## Question 4:

- What is the development of education in Mozambique over time and in an international comparison?

## Question 5:

- What about job quality in Mozambique? Is the current status comparable to other countries?
Example Vietnam

Overall question:
- Jobs in Vietnam – A role model for developing countries?

Question 1:
- How has the Vietnamese economy changed over time?

Question 2:
- What determines participation in the economy?
- Is the Labor Force Participation similar to other countries in the same region or income group?

Question 3:
- What are the different jobs Vietnamese workers engage in?
- How does this compare to benchmark countries?

Question 4:
- What are determinants of earnings and returns to education in Vietnam?

Question 5:
- Who is benefitting from the developments in the Vietnamese labor market and who is not?
Overall question:
• Is Belize capturing its growth potential?

Question 1:
• Is Belize experimenting sound economic growth?

Question 2:
• How is Belize’s demographic structure evolving?

Question 3:
• How does the changing demographic structure affect the labor force? Has there been any significant change in the gender composition of the labor force?

Question 4:
• What economic sector dominates the Belizean economy? What does its gender composition look like?

Question 5:
• How is productivity evolving?

Question 6:
• Is unemployment high or low? Are wages increasing? How about working hours?
Example Botswana

Overall question:

• Jobs in Botswana – What are issues you would take up to design a pro-poor employment policy?

Question 1:

• What is the trend in labor supply, urbanization and how is it related to poverty?

Question 2:

• What are the trends in employment?

Question 3:

• Is Botswana engaging in a structural transformation and how does it relate to poverty?

Question 4:

• Is education a way out of poverty?
• Which role does education play in finding a job?
**Hands – on session:**

- Please form groups of around 5 people
- Each group receives a country example
- Separate sheets with the questions for you are distributed
- 30 minutes time to work on the questions
- We will facilitate the group exercise
- Please prepare a short, focused presentation afterwards
- There is no power point needed for the presentation
Thank you!
ANNEX: Concepts and variable definition - Sectors

- Sector variables are given in the broad categories: Agriculture, Industry and Services and can be used as input for the Macro Excel tool
- Disaggregated sectors are also given and can be transformed to the Macro Excel tool

<table>
<thead>
<tr>
<th>I2D2</th>
<th>ISIC (revision 3.1)</th>
<th>Macro Excel Tool</th>
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<tbody>
<tr>
<td>Agriculture, Hunting, Fishing</td>
<td>01-05</td>
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<tr>
<td>Mining</td>
<td>10-14</td>
<td>Mining &amp; Utilities</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>15-37</td>
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<tr>
<td>Electricity and Utilities</td>
<td>40-41</td>
<td>Mining &amp; Utilities</td>
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<td>Construction</td>
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<tr>
<td>Commerce</td>
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<td>Wholesale &amp; Retail</td>
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<tr>
<td>Transportation, Storage, and Communication</td>
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<td>Transport &amp; Communications</td>
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<td>Financial, Insurance, and Real Estate</td>
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<td>Other Activities</td>
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<td>Services: Public Administration</td>
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<td>Other Activities</td>
</tr>
<tr>
<td>Other Services</td>
<td>80-99</td>
<td>Other Activities</td>
</tr>
</tbody>
</table>
ANNEX: Concepts and variable definition – Mincerian Regression

• Returns to education are calculated using Mincerian type of Ordinary Least Squares (OLS) regression.
• In a simple model returns or education are calculated using education levels as independent variable and a wage variable in logarithmic form as outcome variable. Controls like age, gender and area are included.
• Further specifications include sector, occupation, formality of work indicators and public sector indicator to disentangle the effects of those components on earnings.
• As the hourly wages are in logs, the percent change for continuous variables can be interpreted by multiplying the value for with 100.
• For dummy values, the exponent of the respective variable needs to be subtracted from 1.