YOUTH ENTREPRENEURSHIP IN SWAZILAND

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Outline of the Presentation

• Youth unemployment, obstacles to entrepreneurship in Africa

• Analytical framework

• Comparing the results with data from Swaziland

• Experiences of other countries with interventions
Youth and Adult Unemployment in Selected African Countries
Source: African Economic Outlook 2012
Share of Youth in Working Age Population (%)

Unemployment by area (% of LF)
Constraints to Entrepreneurship in SSA

• After the global financial crisis, productive entrepreneurship is high on policy agenda as a potential driver of inclusive growth;

• Key questions: (i) what are some of the impediments to productive entrepreneurship and (ii) how can policies help overcome them?

• According to the WB Enterprise Surveys, constraints on the side of firms -- infrastructure and the limited access to credit -- impede firms at the earlier (e.g., factor driven) stage of development;

• Constraints on the side of workers -- the lack of skilled labor, labor regulations -- are more binding in the later stages (e.g., at the efficiency-driven and the innovation-driven stage of development);
Factors impacting rate of start ups:

Regulations, Start-up Cost, Education/Innovation, 2004 - 2011
Relative Constraints on Firm Activities and the Level of Development, 2005-08

- **Electricity**
  - AFR
  - non-AFR

- **Skills**

- **Finance access**

- **Tax rates**

- **Labor regulations**

- **License**

**Log of GDP per capita**
Constraints to youth entrepreneurship

- The lack of involvement of youth in the economic activities;
- The need for changed societal attitudes to young people who are often underestimated;
- **The lack of start-up capital**; the limited access to finance;
- **The lack of skills** in identifying business opportunities and turning them into firms;
- Entrepreneurship training programs not geared towards youth;
- Limited supportive infrastructure such as incubators for youth business ideas.
The Model – Set Up

a one-period economy with the population size normalized to one.

two types of agents, entrepreneurs and workers, with population shares $\mu$ and $1 - \mu$, respectively

a portion $1-p$ of both entrepreneurs and workers are adults and portion $p$ are young people

All agents receive $\bar{w}$ amount of consumption good, $c$, from their domestic or informal sector production.

isk neutral preferences in consumption $E(c)$ where $E$ denotes the expectations agents form at the beginning of the period about the income they will receive from their activities.
At the beginning of the period, entrepreneurs search for opportunities to open firms and incur cost equal to $d(x_i) = x_i^2 / 2\gamma_i$, where $i = A, Y$ for adults and youth, respectively

$\gamma$ is a search efficiency parameter that takes on two values: $\gamma_Y$ for the young entrepreneurs (that is with probability $p$) and $\gamma_A$ with probability $1-p$, where $\gamma_A > \gamma_Y > 0$.

The search results in probability $x_i$, $i = A, Y$ of opening a business which then produces output $y$ using $n$ amount of labor as follows:

$$y = \frac{1}{1-\alpha} z^\alpha n^{1-\alpha}$$
With entrepreneurs paying workers a market-determined (competitive) wage \( w \), each entrepreneur running a firm earns profit amounting to
\[
\pi = \frac{1}{1-\alpha} z^\alpha w^{1-\alpha} - wn.
\]

The market clearing condition for entrepreneurs is \( \mu = m + m_u \) where \( m \) denotes aggregate number entrepreneurs who run a business and \( m_u \) are entrepreneurs self-employed in the informal sector.

Entrepreneurs who do not find a business opportunity to open a business become self-employed in the informal sector and earn income \( b \).

At the beginning of the period, workers acquire skills for the private sector at a cost of \( k(q_i) = q_i^2 / 2\theta \), where \( i = A,Y \) while \( \theta \) again takes on two values: \( \theta_i \) for youth and \( \theta_y \) with probability \( 1-p \), with \( \theta_i > \theta_y > 0 \).

Workers’ learning efforts result in probability \( q_i, i = A,Y \) of obtaining skills and job in the private sector at wage \( w \), which reflects their marginal product of labor.

Denoting \( N \) as the total labor working in the private sector \( n \) (e.g., \( N = nm \)), the market clearing condition is \( 1-\mu = N + N_u \), where \( N_u \) are the unemployed
The entrepreneur of type $i = Y, A$, where $Y$ denotes young and $A$ denotes adult, solves:

\[
\max \ E(c_i) \\
\text{s.t. } c_i \leq \bar{w} + x_i \pi + (1 - x_i) b - \frac{x_i^2}{2\gamma_i}
\]

Similarly, the worker of type $i = Y, A$ solves:

\[
\max \ E(c_i) \\
\text{s.t. } c_i \leq \bar{w} + q_i w - \frac{q_i^2}{2\theta_i}
\]
Decentralized solution

\[
\frac{\bar{x}}{\bar{y}} = \pi - b = \frac{\alpha}{1 - \alpha} z \left[ \frac{(1 - \mu)\bar{q}}{\mu\bar{z}} \right]^{-\alpha} - b
\]

\[
\bar{q} = w = \left[ \frac{\mu\bar{z}}{(1 - \mu)\bar{q}} \right]^\alpha
\]

Optimal solution

\[
\max \left( m \left[ \frac{z^\alpha}{1 - \alpha} \right] n^{1-\alpha} - \mu \frac{\bar{x}^2}{2\bar{y}} - (1 - \mu) \frac{\bar{q}^2}{2\bar{\theta}} \right)
\]

s.t. \( m = \mu\bar{x} ; \ n = \frac{(1 - \mu)\bar{q}}{\mu\bar{x}} ; \ 0 < \bar{x}, \bar{q} < 1 \)
Decentralized and social planner’s solution
Policies towards entrepreneurship

Start-up subsidies

$$\max_{0 < x_i < 1} \left\{ \frac{w + x_i \pi + (1 - x_i) b - \frac{x_i^2}{2\gamma_i} + s x_i}{\gamma_i} \right\}; \ i = Y, A$$

$$\bar{x} = (\pi - b) = \left\{ \frac{\alpha}{1 - \alpha} z \left[ \frac{(1 - \mu)\bar{q}}{\mu \bar{q} z} \right]^{1-\alpha} - (b - s) \right\}$$

$$s = b$$

Support for training

$$\max_{0 < x_i < 1} \left\{ \frac{w - z}{\gamma_i} + x_i \pi + (1 - x_i) b - \frac{(1 - \sigma) x_i^2}{2\gamma_i} \right\}; \ i = Y, A$$

$$\frac{(1 - \sigma)\bar{x}}{\gamma_i} = (\pi - b) = \left\{ \frac{\alpha}{1 - \alpha} z \left[ \frac{(1 - \mu)\bar{q}}{\mu \bar{q} z} \right]^{1-\alpha} - b \right\}$$

$$\sigma = \bar{y} b / \bar{x}$$
Equity considerations

When the government subsidizes search of adult entrepreneurs by the amount $b$, the equal search effort of young entrepreneurs would be achieved through subsidy to young entrepreneurs that exceeds $b$, $s_Y > b$, amounting to:

$$ s_Y = b + \frac{\gamma_A - \gamma_Y}{\gamma_Y} $$

where $s_Y > s_A = b > 0$ since $\gamma_A > \gamma_Y$.

In the government-sponsored entrepreneurial training, youth should be prioritized for the training:

$$ \frac{\gamma_Y}{\gamma_A} = \frac{1 - \sigma_Y}{1 - \sigma_A} $$

It follows from (11) that since $\gamma_A > \gamma_Y$, the government needs to sponsor training for young entrepreneurs more so that youth search efficiency rises more than that of adults: $\sigma_Y > \sigma_A$. 
When the society experiences disutility from unemployment, the social planner’s objective function then changes to:

$$\max \left( m \left[ \frac{z^\alpha}{1-\alpha} \right] n^{1-\alpha} - \mu \frac{\bar{x}^2}{2\bar{q}} - (1-\mu) \frac{\bar{q}^2}{2\bar{q}} - \frac{A}{2} (\mu - \mu_x)^2 \right)$$

s.t.  \( m = \mu \bar{x}; \ n = \frac{(1-\mu)\bar{q}}{\mu \bar{x}}; \ 0 < \bar{x}, \bar{q} < 1 \)

where \( \frac{A}{2} m_u = \frac{A}{2} (\mu - \mu_x)^2 \) is cost of unemployment; with \( m_u \) denoting entrepreneurs who did not find a productive business opportunity and are unemployed/in the informal sector. Solution is characterized by:

$$\frac{\alpha}{1-\alpha} \left[ \frac{(1-\mu)\bar{q}}{\mu \bar{x} z} \right]^{\frac{1-\alpha}{\alpha}} = \frac{\bar{x}}{\bar{p}} + A \mu^2 (x - 1)$$

When the society assigns social costs to youth unemployment only, problem becomes:

$$\max \left( m \left[ \frac{z^\alpha}{1-\alpha} \right] n^{1-\alpha} - \mu \frac{\bar{x}^2}{2\bar{q}} - (1-\mu) \frac{\bar{q}^2}{2\bar{q}} - \frac{A}{2} (\mu - \mu_x)^2 \right)$$

s.t.  \( m_y = p \mu \mu_x; \ m_d = (1-p) \mu \mu_x \ n = \frac{(1-\mu)\bar{q}}{\mu \bar{x}}; \ 0 < \bar{x}, \bar{q} < 1; \) and \( m = m_y + m_d \)
Optimal search with and without youth unemployment cost
Underdeveloped private sector – The size of the private sector in Swaziland and other SACU countries (1996-2008)

<table>
<thead>
<tr>
<th>Country</th>
<th>Private Investment, 1996 - 2008</th>
<th>Change in Private Investment</th>
<th>Private Sector Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% of Total Investment</td>
<td>% of GDP</td>
<td>% of Total Investment</td>
</tr>
<tr>
<td>Botswana</td>
<td>65</td>
<td>25</td>
<td>17</td>
</tr>
<tr>
<td>Lesotho</td>
<td>88</td>
<td>29</td>
<td>-1</td>
</tr>
<tr>
<td>Nambia</td>
<td>65</td>
<td>15</td>
<td>5</td>
</tr>
<tr>
<td>South Africa</td>
<td>71</td>
<td>12</td>
<td>-1</td>
</tr>
<tr>
<td>Swaziland</td>
<td>61</td>
<td>10</td>
<td>-19</td>
</tr>
</tbody>
</table>
Cost of doing businesses in Swaziland

Cost of Starting a Business (% of income)

- SSA: 67%
- Swaziland: 24%
- Namibia: 19%
- Lesotho: 13%
- Rwanda: 4%
- Mauritius: 3%
- Botswana: 2%
- South Africa: 0%

Enforcing Contracts (days)

- Swaziland: 900 days
- SSA: 650 days
- Mauritius: 640 days
- Botswana: 600 days
- Lesotho: 600 days
- South Africa: 600 days
- Namibia: 200 days
- Rwanda: 160 days
## Differences in human capital

<table>
<thead>
<tr>
<th>Education and business experience</th>
<th>Young Entrepreneurs</th>
<th>Adult Entrepreneurs</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tertiary education</td>
<td>36.5</td>
<td>49.4</td>
<td>[0.0196] ***</td>
</tr>
<tr>
<td>Previously owned another business</td>
<td>7.7</td>
<td>16.8</td>
<td>[0.0123] ***</td>
</tr>
<tr>
<td>Previously employed</td>
<td>37.8</td>
<td>57.8</td>
<td>[0.0199] ***</td>
</tr>
<tr>
<td>Received business training</td>
<td>49.8</td>
<td>49.1</td>
<td>[0.0197] *</td>
</tr>
<tr>
<td>If yes, training received was useful</td>
<td>27.4</td>
<td>23.2</td>
<td>[1.600]</td>
</tr>
<tr>
<td>Owns only one business</td>
<td>87.6</td>
<td>80.4</td>
<td>[0.0302] ***</td>
</tr>
<tr>
<td>First business</td>
<td>92.3</td>
<td>83.2</td>
<td>[0.01481] ***</td>
</tr>
</tbody>
</table>
## Differences in outcomes

<table>
<thead>
<tr>
<th></th>
<th>Young</th>
<th>Adult</th>
<th>SE and stat. sign.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. monthly sales in 2012 (E)</td>
<td>71,215</td>
<td>110,111</td>
<td>[0.01183] **</td>
</tr>
<tr>
<td>No. of months at full capacity in 2012</td>
<td>9.5</td>
<td>10.5</td>
<td>[0.1371] ***</td>
</tr>
<tr>
<td>Av. no of employees in 2012</td>
<td>2.0</td>
<td>2.7</td>
<td>[0.1494] ***</td>
</tr>
</tbody>
</table>
Kernel density estimate of sales in a regular month
International Experiences with Youth Entrepreneurship Support Programs

• *Project Baobab in Kenya* targeted low income youth in rural areas and provides them with basic business skills in entrepreneurship.

• *Jua Kali Voucher Program in Kenya* was administered as a pilot program by the SME training and technology project in the late 1990s – early 2000s.

• *Self-employment program in Bulgaria* showed increases in employment for high-potential youth, that is highly educated and with short spells of unemployment.

• *Young micro entrepreneurs’ qualification program in Peru* aimed to counteract significant skill shortages among youth entrepreneurs. The training focused on developing business plans.

• *Youth promotion project in Bosnia and Herzegovina* raised attractiveness of agribusiness entrepreneurship and reduced pressure of unemployment.
Lessons from international experiences

- The OECD (2012) study of youth entrepreneurship interventions in Europe emphasized support for high potential young entrepreneurs, in order to stimulate high and inclusive growth. The following lessons were emphasized:
  - (i) importance of selectivity to ensure that youth with viable projects are supported;
  - (ii) preference of more intense support per entrepreneur rather than spreading resources thinly; and
  - (iii) integrated packages of support are more effective than a single instrument. However, the focus on high potential young entrepreneurs may exacerbate the disparities in income and human capital between different groups of youth.

- The importance of integrated service packages rather than isolated measures is a also key lesson
- Another lesson is that if start-up subsidies are involved, credible exit strategy needs to be developed and implemented.
- Moreover, training schemes are more effective when administered by the private sector, even though the government needs to provide incentives the existence of these programs in the first place
Thank you.