Competitive Cities
HOW CAN CITIES GENERATE MORE JOBS?

Stefano Negri, Austin Kilroy, Megha Mukim
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Overview

Recap: Why are cities important?
• Centers for job creation
• Cities have powers to influence and act

Initial results on 3 key questions
1. “How have other cities created jobs and growth?”
2. “What should be top priorities for my city?”
3. “How can I get it done?”

Piloted engagements
• Counties in Kenya
• City of Johannesburg
Recap: Why are cities important?
Recap: Why are cities important?

“No country has ever reached middle-income status without a significant population shift into cities”
(Commission on Growth and Development)

But....
- Many Cities are not fully harnessing their potential.

Source: World Development Indicators.
Note: Data correspond to changes between 1985 and 2010. GDP = gross domestic produ
Recap: Something is going wrong…

- Urban share of poverty in developing world has jumped from 17% to 28%.
- The world’s urban population continues to increase by one billion in 10 years.
- How will one billion new jobs be created?

“What’s all this about competitive/smart/innovative/productive/global cities, and how can I make [Kano/Kigali/Karachi] into one?”

“I invested $300m in a BRT. Why isn’t the industrial zone growing?”

“How do I generate jobs in the next 3 months?”

“Why is my city 139th on the Mercer’s/ELU/McKinsey/Brookings city index? (and does it matter?)”

“How do I make my city into a nanotechnology/aeronautics cluster?”
We need to understand how cities can leverage their scope and capabilities.
Team work: Configuring a city resource base
Scope: subnational policy levers to facilitate job creation

A competitive city…

uses its administrative leverage and capacity...to make the most of resources at its disposal...to facilitate the private sector...in order to grow, create jobs, improve incomes of employees...and adapt to external shocks through innovation, improved productivity and access to external markets.

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STRATEGY

SCOPE & CAPACITY

CATALYZING FIRMS

PRIORITIZATION

GROWTH PATHWAYS

RECAP

RESULTS

PILOTS

NEXT STEPS
…generates our three workstreams

3. Implementation
- “How do I get it done?”
- (Policy levers; Implementation structures)

2. Decision Support
- “What should be the top priorities for my city?”
- (Diagnostics; Prioritization)

1. Analytics
- “How have other cities created jobs & growth?”
- (Data analysis; Case studies)
What have we found so far?
#1: “How have other cities created jobs and growth?”
Most cities follow countries in moving up income brackets. But there are some pioneers that lead the way up...

<table>
<thead>
<tr>
<th>2000</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low income (&lt;= $1,035 GDP pc)</td>
<td>Low income (&lt;= $1,035 GDP pc)</td>
</tr>
<tr>
<td>78 cities</td>
<td>16 cities</td>
</tr>
<tr>
<td>Lower middle income ($1,036-$4,085 GDP pc)</td>
<td>Lower middle income ($1,036-$4,085 GDP pc)</td>
</tr>
<tr>
<td>112 cities</td>
<td>161 cities</td>
</tr>
<tr>
<td>Upper middle income ($4,086-$12,615 GDP pc)</td>
<td>Upper middle income ($4,086-$12,615 GDP pc)</td>
</tr>
<tr>
<td>75 cities</td>
<td>59 cities</td>
</tr>
<tr>
<td>High income (&gt; $12,615 GDP pc)</td>
<td>High income (&gt; $12,615 GDP pc)</td>
</tr>
<tr>
<td>137 cities</td>
<td>166 cities</td>
</tr>
</tbody>
</table>

*Sample set encompasses 400 cities and excludes cities from Argentina, Malaysia, Morocco, Peru, Russia, Serbia, South Africa, Turkey, UAE, Ukraine, USA, Venezuela because of data availability. China was also excluded because it dominates the upward momentum (including leapfrogging) along the income path.
Sectoral shares change as city income levels rise

At early stages of development cities serve as a multi-function hub that involves all sectors.

Then industry starts to dominate but its share of the GVA tends to decline as cities grow richer. High-end services begin to increase their dominance.
Key predictors of city outcomes vary by income level

<table>
<thead>
<tr>
<th>Determinants of City Competitiveness</th>
<th>Low to Lower Middle Income Cities (&lt;$4,085)</th>
<th>Upper Middle Income Cities ($4,085-$12,615)</th>
<th>High Income Cities (&gt;=$12,615)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Institutions &amp; Regulations (EIU institutional effectiveness: level of corruption, transparency, fiscal autonomy)</td>
<td>Positive and significant correlation</td>
<td>Positive and significant correlation</td>
<td>Positive and significant correlation</td>
</tr>
<tr>
<td>Physical Infrastructure (EIU and UN infrastructure index: public transport, telecom; Doing business: cost of electricity)</td>
<td>Positive and significant correlation</td>
<td>Positive and significant correlation</td>
<td>Positive and significant correlation</td>
</tr>
<tr>
<td>Social Infrastructure (UN Quality of Life; EIU social and cultural index; Healthcare index)</td>
<td>Positive and significant correlation</td>
<td>Positive and significant correlation</td>
<td>Positive and significant correlation</td>
</tr>
<tr>
<td>Human Capital (Education; EIU human capital: healthcare, entrepreneurship, working age population)</td>
<td>Positive and significant correlation</td>
<td>Positive and significant correlation</td>
<td>Positive and significant correlation</td>
</tr>
<tr>
<td>Innovation (Number of patents)</td>
<td>Positive and significant correlation</td>
<td>Positive and significant correlation</td>
<td>Positive and significant correlation</td>
</tr>
<tr>
<td>Access to Finance (Doing business: Credit bureau coverage; EIU financial maturity: breadth and depth of financial cluster)</td>
<td>Positive and significant correlation</td>
<td>Positive and significant correlation</td>
<td>Positive and significant correlation</td>
</tr>
</tbody>
</table>

Positive and significant correlation

Negative and significant correlation
Case studies are designed to understand the ‘how’

Case Studies document *how* and *why* actions led to growth and job creation.

We chose one top performing city in each Region (database of 750 cities).

Focus on ‘teachable moments’ for other cities.

- 5 of 7 case studies have been completed.
- Each case study = background research + two weeks fieldwork interviews

City GDP per capita in 2012

- Bucaramanga $11,529
- Gaziantep $5,902
- Kigali $1,380
- Coimbatore $3,046
- Changsha $15,340
Strategic interventions; growth coalitions; and leverage

• Effective internal management structures;
• Fostering productive inter-institutional collaboration.

• Co-created with private sector;
• Role of public sector to incentivize quality and uptake.

• Appropriate and effective infrastructure;
• Lobbying & leveraging national and provincial investments.

• Reinvesting profits in local economy;
• Leveraging national support programs.
What does it look like in practice? Gaziantep, Turkey

Local firms:
- Fierce rivals in marketplace, but come together on common interests, (e.g. lobbying for infrastructure upgrades)

Two main business chambers (commerce and industry):
- Large professional staffs, budgets, and political influence.
- Help determine priorities, build consensus, and advocate on behalf of business interests.

Credible individuals with a track record of success (e.g. President of Sanko Holdings, one of the largest firms in Turkey—based in Gaziantep).

Municipality:
- Supportive, not dominating
- Business-friendly, not highly educated! (70% with degrees in 1989; down to 35% in 1999)

City Council:
- Forum for information sharing and consensus.
- >300 members, (80% private sector, universities, or civil society; 20% public sector).
- Several thematic working groups issuing recommendations.

Firms said “we did it ourselves”… But on investigation we found good instruments:
- Effective Organized Industrial Zones
- Funding for education and research
- Tax incentives (six-tier system of regions)
- Subsidies to travel to trade fairs
- SME and entrepreneurial assistance
Effective cities build competitive advantage with their hinterlands

- **Kigali**: apex city for the country; aiming to become a regional center in Great Lakes;
- **Bucaramanga**: innovation center for oil industry in neighboring Barrancabermeja; regional center of higher learning;
- **Coimbatore**: functional synergies in textile industry (production in neighboring Tirupur; product design, training, management in Coimbatore);
- **Gaziantep**: pistachios grown near Hakkari, but processed in Gaziantep; cotton grown in Urfa, but processed in Gaziantep; regional node on the ‘silk road’…
- **Changsha**: leading city in a cluster of Xiangtan and Zhuzhou.
#2: “What should be the top priorities for your city?”
1. Combine a city snapshot...

2. ...with diagnostics on growth pathways.

3. Clarify the logic of interventions...

4. ...and support decisions with multiple criteria
Constraints and opportunities can be examined at city-wide and industry-level scales…

Level 1: Highlight city-wide competitiveness factors

Level 2: Dissect industry structure

Level 3: Reality check on industry needs
#3: “How do I get it done?”
Mayor’s Wedge can take a toolbox approach to implementation

**Leverage scope and capacity**

= Government powers and functions
+ Ability to perform functions well

- **Context**
- **Functions**
- **Budget/Staff**
- **Revenue**
- **Politics**

**Learn from implementation techniques**

i. **Turnaround cities**: Projectized initiatives, and a sense of urgency to organize, lead and deliver.

ii. **Economic development agencies**: Aggregating priority efforts in a single accountable organization (with powers). Professionalized service offering.

iii. **Day-to-day management**: Performance and efficiency improvements for cities to manage their basic functions.
The Mayor’s Wedge matters to city competitiveness

- Delegating more public functions to mayors, i.e. expanding the scope of a mayor’s administrative remit is associated with higher levels of employment.
- However, financial autonomy is negatively associated with economic outcomes! (i.e. to avoid mismatch of local functions and budgets, cities do better when central governments still provide transfers to local governments…).

Findings in China:

- Scope is a necessary, but not sufficient condition for city competitiveness
  - Scope alone does not lead to better firm level outcomes;
  - Scope combined with capacity does help firms grow

How did cities in China use their Mayor’s Wedge?

<table>
<thead>
<tr>
<th>Tax and fees</th>
<th>Land-related policies</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Cities enjoyed a higher urban construction tax</td>
<td></td>
</tr>
<tr>
<td>- Could collect the surcharges levied on the issuing of motorcycle registration.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Administrative powers</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Cities have more authority on foreign trade and exchange management.</td>
</tr>
<tr>
<td>- Could establish branches of custom and large state-owned banks.</td>
</tr>
<tr>
<td>- Could approve projects with a higher investment cap.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Government size; Rank and salary; Reputation</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Cities could establish more branches of government and have a larger number of government employees.</td>
</tr>
<tr>
<td>- Cities generally carry greater prestige and are more attractive to investors from outside.</td>
</tr>
</tbody>
</table>
### Key success factors

- **Lagos State Government began reforms with the civil service:**
  - removing “ghost workers”;
  - reassigning staff based on their expertise;
  - increasing salaries and helping workers afford large life expenses (such as saving for a home) to boost morale;

- **City’s inept tax agency was replaced entirely, and new agency functioned like a private sector company:**
  - flexible hiring and firing (replacing permanent appointments);
  - rotating roles for officials to avoid corruption;
  - complaints’ office and public phone number (encouraging citizens to pay taxes by offering customer service);

- **Increasing tax collection—by creating special govt department for formal and informal taxpayers:**
  - government met regularly with stakeholder groups, to agree on such things as tax rates for informal workers);

- **Lagos’ turnaround followed a plan for about 10 years (through two administrations):**
  - adequately budgeted for the plan;
  - monitored its success with performance-based approaches;
  - led by a proactive leadership of Governors Tinubu and Fashola.
Where are we currently using this approach?
Engagements on technical support and lending are growing

- Engagement in progress (RAS, ESW, NLTA)
- Engagement being planned
- Initial discussions

South Africa RAS (TTL: David Sislen; co-TTL Austin Kilroy).
- Phase 1 completed in Johannesburg; Phase 2 commencing.
- Phase 1 commencing in Cape Town.
- Other cities forthcoming.

Burundi Urbanization Review
(TTL: Jonas Parby / co-TTL Megha Mukim).
- CCKB assisting on city and industry diagnostics, prioritization framework and implementation strategies

Shanghai 2050 (TTL: Paul Procee).
- CCKB providing technical inputs.

Tanzania lending operation under discussion

Malaysia RAS (TTL: Judy Baker).
- CCKB providing technical inputs to RAS team.

Rwanda lending operation under discussion

Kenya Urbanization Review
(TTL: Dean Cira / Sheila Kamunyori).
- CCKB assisting on Kenyan counties’ competitive advantages and implementation strategies.

Sfax NLTA being requested

RECAP
RESULTS
PILOTS
NEXT STEPS
Pilot: Diagnostics for Kenyan counties
1. WE BENCHMARKED COMPETITIVENESS ACROSS COUNTIES

Counties gaining competitiveness

- Machakos
- Kiambu
- Kisumu
- Kwale
- Laikipia

Jobs in old firms: Red
Jobs in new firms: Pink

Counties becoming less competitive

- Mombasa
- Bomet
- Kakamega
- Nairobi
- Nakuru
- Nandi
- Bungoma
- Nakuru

Jobs in old firms: Red
Jobs in new firms: Pink

Difference between shares of national total of jobs in new firms and in old firms

Source: Team analysis of Kenya Census of Industrial Production 2010
2. WE ANALYZED FIRM-LEVEL DATA: COUNTRIES ARE GAINING/LOSING SHARE

Existing Firms

Emerging firms

Source: Team analysis of Kenya Census of Industrial Production 2010
3. WE ANALYZED COUNTY DYNAMISM

**Existing Firms**

- **Investment**
  - Nairobi: 52%
  - Nakuru: 1%
  - Machakos: 1%
  - Mombasa: 1%
  - Kiambu: 2%
  - The rest: 43%

- **Sales**
  - Nairobi: 29%
  - Kajiado: 1%
  - Kiambu: 9%
  - Kericho: 2%
  - Bomet: 1%
  - The rest: 71%

- **Export**
  - Nairobi: 48%
  - Kiambu: 13%
  - Kericho: 10%
  - Bomet: 7%
  - Kajiado: 5%

**Emerging Firms**

- **Investment**
  - Nairobi: 71%
  - Nakuru: 0%
  - Machakos: 1%
  - Mombasa: 0%
  - Kiambu: 5%
  - The rest: 23%

- **Sales**
  - Nairobi: 40%
  - Kajiado: 0%
  - Kiambu: 15%
  - Kericho: 4%
  - Bomet: 2%
  - The rest: 39%

- **Export**
  - Nairobi: 46%
  - Kiambu: 16%
  - Kericho: 20%
  - Bomet: 13%
  - Kajiado: 0%

Source: Kenya Census of Industrial Production 2010
<table>
<thead>
<tr>
<th>Global experience suggests city strategies need…</th>
<th>How does Kenyan county economic development plans compare?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commitment of local government</td>
<td>First plans prepared too quickly; county govts not really bought-in</td>
</tr>
<tr>
<td>Institutional structure</td>
<td>Is present, but in many just depicts the status quo</td>
</tr>
<tr>
<td>Use analytics</td>
<td>Most use analytics, but a lot lack good data</td>
</tr>
<tr>
<td>Leveraging local assets</td>
<td>Only the Nairobi plan includes a review of ongoing policies and existing institutions</td>
</tr>
<tr>
<td>Clear measurable, realistic goals/ evaluation</td>
<td>Most plans lack this, even though M&amp;E and clear goals are ‘required’</td>
</tr>
<tr>
<td>Balance between strategic goals and quick wins</td>
<td>Quick wins and pragmatic approach sometimes lacking.</td>
</tr>
<tr>
<td>Engagement of local actors from early stages</td>
<td>Participatory process somewhat pursued, but not very efficiently.</td>
</tr>
<tr>
<td>Secure stream of funding, and budgetary process</td>
<td>Most counties create a wish list nor linked to funding.</td>
</tr>
<tr>
<td>Links to the national process</td>
<td>All plans start from linking cities objectives to Kenya 2030</td>
</tr>
<tr>
<td>Institutionalization</td>
<td>Uncertain if plans ensure continuity</td>
</tr>
</tbody>
</table>
Pilot: RAS with City of Johannesburg
1. WE IDENTIFIED RELEVANT COMPARATORS

Comparator Cities:
- Best practice
- Direct comparator
- Global leader
- Johannesburg

RECAP  RESULTS  PILOTS  NEXT STEPS
Except for the period of extremely strong job creation in 2005-2006 Joburg has been behind its direct comparators. The nature of the incredibly fast growth 2005-06 needs to be investigated further.

Johannesburg was severely hit by crisis and experienced the highest jobs loss among its direct comparators in 2009

However Joburg has been recovering strongly since 2009 and has been performing better than Shanghai and Santiago, cities where jobs growth has slowed down rather dramatically.

Source: World Bank team analysis of World Bank and Oxford Economics Data. N.B. Data are estimated for 'metropolitan areas' which do not always correspond to administrative boundaries of each city. In Johannesburg’s case, the metropolitan area covers City of Johannesburg plus some neighboring parts of Gauteng.
3. WE DISSECTED THE STRUCTURE OF JOHANNESBURG’S ECONOMY

<table>
<thead>
<tr>
<th>Industry</th>
<th>Johannesburg</th>
<th>South Africa</th>
<th>Location Quotient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>11986</td>
<td>725709</td>
<td>0.13</td>
</tr>
<tr>
<td>Mining</td>
<td>14584</td>
<td>426998</td>
<td>0.27</td>
</tr>
<tr>
<td>Food beverages and tobacco manufacturing</td>
<td>36757</td>
<td>351963</td>
<td>0.32</td>
</tr>
<tr>
<td>Textiles and footwear</td>
<td>20306</td>
<td>246200</td>
<td>0.64</td>
</tr>
<tr>
<td>Wood and paper products</td>
<td>5186</td>
<td>85160</td>
<td>0.45</td>
</tr>
<tr>
<td>Publishing and printing</td>
<td>14363</td>
<td>72629</td>
<td>1.55</td>
</tr>
<tr>
<td>Coke, oil refining and nuclear fuel processing</td>
<td>1903</td>
<td>54682</td>
<td>0.27</td>
</tr>
<tr>
<td>Manufacture of chemical, class and non-metal products</td>
<td>31086</td>
<td>310744</td>
<td>0.78</td>
</tr>
<tr>
<td>Manufacture of metal products</td>
<td>22325</td>
<td>27905</td>
<td>0.63</td>
</tr>
<tr>
<td>Manufacture of machinery and appliances</td>
<td>12776</td>
<td>76233</td>
<td>1.31</td>
</tr>
<tr>
<td>Manufacture of electric equipment</td>
<td>16283</td>
<td>36256</td>
<td>3.51</td>
</tr>
<tr>
<td>TV and radio equipment</td>
<td>711</td>
<td>1095</td>
<td>5.07</td>
</tr>
<tr>
<td>Medical and optical equipment</td>
<td>10886</td>
<td>25118</td>
<td>3.39</td>
</tr>
<tr>
<td>Manufacture of motor vehicles, air, water and rail transport</td>
<td>1261</td>
<td>47569</td>
<td>0.21</td>
</tr>
<tr>
<td>Manufacture of motor vehicles</td>
<td>8380</td>
<td>94377</td>
<td>0.74</td>
</tr>
<tr>
<td>Other manufacturing and recycling</td>
<td>22747</td>
<td>107885</td>
<td>1.05</td>
</tr>
<tr>
<td>Utilities</td>
<td>16200</td>
<td>128053</td>
<td>0.99</td>
</tr>
<tr>
<td>Construction</td>
<td>109785</td>
<td>1216568</td>
<td>0.71</td>
</tr>
<tr>
<td>Wholesale</td>
<td>37248</td>
<td>192082</td>
<td>1.52</td>
</tr>
<tr>
<td>Retail and repairs</td>
<td>352663</td>
<td>2505399</td>
<td>1.10</td>
</tr>
<tr>
<td>Hotels and restaurants</td>
<td>72039</td>
<td>571420</td>
<td>0.99</td>
</tr>
<tr>
<td>Transport &amp; telecommunications</td>
<td>143710</td>
<td>970709</td>
<td>1.16</td>
</tr>
<tr>
<td>Financial services</td>
<td>142320</td>
<td>393199</td>
<td>2.82</td>
</tr>
<tr>
<td>Real estate and rental services</td>
<td>26491</td>
<td>148455</td>
<td>1.35</td>
</tr>
<tr>
<td>IT services</td>
<td>26563</td>
<td>118727</td>
<td>1.75</td>
</tr>
<tr>
<td>R&amp;D</td>
<td>6564</td>
<td>25989</td>
<td>2.97</td>
</tr>
<tr>
<td>Legal activities</td>
<td>40270</td>
<td>174028</td>
<td>1.81</td>
</tr>
<tr>
<td>Other business services</td>
<td>232851</td>
<td>1206981</td>
<td>1.51</td>
</tr>
<tr>
<td>Government and defence</td>
<td>86777</td>
<td>965672</td>
<td>0.70</td>
</tr>
<tr>
<td>Education</td>
<td>89760</td>
<td>1010971</td>
<td>0.69</td>
</tr>
<tr>
<td>Healthcare and social services</td>
<td>109038</td>
<td>935031</td>
<td>0.91</td>
</tr>
<tr>
<td>Other services</td>
<td>94548</td>
<td>587338</td>
<td>1.26</td>
</tr>
<tr>
<td>PRIVATE HOUSEHOLDS WITH EMPLOYED PERSONS</td>
<td>145834</td>
<td>1256407</td>
<td>0.91</td>
</tr>
</tbody>
</table>

Priority sectors may be existing concentrations, plus Green and Logistics?

N.B.: Location Quotient (LQ) measures to what extent an industry is over or under represented by jobs in the city relative to jobs in the national economy.

Here, we take key opportunities as being sectors with high LQ and high absolute employment numbers.
# 4. WE IDENTIFIED SOME POTENTIAL ‘STRATEGIC BETS’

<table>
<thead>
<tr>
<th>Industry</th>
<th>Reason for selection / non-selection</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Primary focus industries</strong></td>
<td></td>
</tr>
<tr>
<td>R&amp;D</td>
<td>• Existing specialization&lt;br&gt;• Potential for creation of jobs with high multiplier effects&lt;br&gt;• Opportunity to link local academic and industrial expertise</td>
</tr>
<tr>
<td>Special Equipment manufacturing</td>
<td>• Existing specialization&lt;br&gt;• High value added and job multipliers&lt;br&gt;• Link to local academic strength</td>
</tr>
<tr>
<td>Logistics</td>
<td>• Favorable geographic location&lt;br&gt;• Proximity to a major port&lt;br&gt;• Potential for middle-range skill job creation.</td>
</tr>
<tr>
<td>Construction</td>
<td>• Potential for large scale low skilled job creation&lt;br&gt;• Relative underrepresentation in the local economy</td>
</tr>
<tr>
<td>Small and medium enterprises</td>
<td>• Key job creators&lt;br&gt;• While needs differ by industry, often face similar growth barriers.</td>
</tr>
<tr>
<td><strong>Secondary focus</strong></td>
<td></td>
</tr>
<tr>
<td>Financial Services</td>
<td>• Has potential to build on the role of a regional financial center&lt;br&gt;• But far behind global leaders</td>
</tr>
<tr>
<td>Legal Service</td>
<td>• Opportunity based on expanding demand from real sector across South Africa</td>
</tr>
<tr>
<td>IT – services/ BPO</td>
<td>• Has good IT infrastructure, and skilled population&lt;br&gt;• But labor costs are too high, and possibly is too late to move into this market.</td>
</tr>
<tr>
<td><strong>Green economy</strong></td>
<td>Addressed in a separate presentation</td>
</tr>
</tbody>
</table>
5. WE BENCHMARKED EACH ‘STRATEGIC BET’

Ongoing Internationalization of R&D is driven by several factors:

• Increased mobility of knowledge and technology, means that companies need to be at the global frontier to compete.

• At the same time with liberalization and emergence of new centers of expertise (including those in developing world) the nature of corporate R&D offshoring changed from “home-base exploiting” – when knowledge is generated centrally and then exploited on foreign markets, to “home-base augmenting” – exploiting expertise in external locations to generate new knowledge and use it in home markets.

• While codified knowledge is easily transferable, transfer of tacit knowledge (that is essential for innovation) relies on proximity. At the same time modern communication technology supports coordination of research projects even if the teams are spread around the world.

• “Pull” factors that attract R&D activities may vary. In some cases proximity to center of expertise (TATA motors), in others it is proximity to manufacturing and centers of production (IBM).

5. WE BENCHMARKED EACH ‘STRATEGIC BET’ (continued)

<table>
<thead>
<tr>
<th>Key enabling factors</th>
<th>Why?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Producing knowledge</strong></td>
<td></td>
</tr>
<tr>
<td>Top Universities and academic stars</td>
<td>R&amp;D labs benefit from proximity to leading reserves in their field. This allows them exchange information and ideas informally and makes formal collaboration easier. Research by Moretti has shown that production of cutting edge innovation relies immensely on presence of world leading scholars.</td>
</tr>
<tr>
<td>Talent</td>
<td>You can’t rely on academic superstars alone to do the heavy lifting. Running a large R&amp;D operation requires a relatively large pool of qualified specialists.</td>
</tr>
<tr>
<td><strong>Business environment</strong></td>
<td></td>
</tr>
<tr>
<td>Transport and IT infrastructure</td>
<td>Staying connected and keeping the information flowing is essential for research. This means being able to communicate digitally as well as being able to catch a plane to key destinations in the world, as well as to easily get to the nearby University for a meeting or a lab test.</td>
</tr>
<tr>
<td>Competition and entrepreneurship</td>
<td>Vibrant entrepreneurial scene where academic ideas are quickly picked up by dynamic businesses, developed and taken to the markets offers great opportunities to large R&amp;D operators. Both in terms of enlarging pull of ideas and labor, and in terms of acquiring products and innovations.</td>
</tr>
<tr>
<td>Finance</td>
<td>R&amp;D operations require long-term, high risk investment. Corporations may have various sources of financing their R&amp;D activity, start-ups and university spin-offs require mature financial institutions, that can offer products that are adjusted to their needs.</td>
</tr>
<tr>
<td>Regulations</td>
<td>R&amp;D business need to be able to move quickly to stay at the cutting edge. Bureaucratic barriers may slow them down. Efficient IP registration and protection, open immigration regime, low import-export barriers will be of significant importance for a R&amp;D business.</td>
</tr>
<tr>
<td>Quality of life</td>
<td>Safety, housing, affordability,</td>
</tr>
</tbody>
</table>

- Overall, international corporate R&D is most likely to seek locations where cutting edge expertise in the subject is combined with conducive institutional environment and good infrastructure and quality of life.
- **So: how does Johannesburg score on innovation, business environment and quality of life?**

[See the following three slides]

5. WE BENCHMARKED EACH ‘STRATEGIC BET’ (continued)

Does Johannesburg have the skills base and the research capacity to become an R&D hub?

- Johannesburg is behind comparators both in terms of strength of academic institutions and education levels of the labor force

Can Johannesburg offer business environment that R&D investors would require?

- High taxes and quality of internet infrastructure may be limiting Johannesburg’s competitiveness?
- However financial sector is relatively mature, and South Africa performs well on property rights protection.

In Johannesburg these were--

- **Spatial policy lens…..**
  - “How to leverage the BRT corridors for industrial development around nodes?”
    - Structured case profiles of Cleveland, OH; Austin, TX
    - Investment policy that matches city priorities with firm needs (sector profiles)
    - …and link to Land & Housing colleagues to advise on structuring land transactions

- **Industry policy lens…..**
  - “What are the plausible growth paths for Soweto?”
    - Emphasis on realistic objectives; “starting from where you already are” (industries, capabilities)
    - Proactive strategies for investment promotion:
      (a) portfolio approach; (b) anchor ‘mothership’; (c) upgrade existing SMEs.
    - Emphasis on competitive advantage through differentiation and tradable goods & services
  - “How do we grow a Green hub?”
    - Cautionary tales of mismatched training and overestimated product demand
    - Guidance on flexible industry partnerships, with built-in feedback loops
    - Technical inputs for a US$1m catalytic fund to spur industry-research collaborations

- **Procurement policy lens…..**
  - “Can we use city procurements for local economic benefit?”
    - Programmatic approach:
      (i) buyer coordination; (ii) matchmaking; (iii) diagnostics; (iv) upgrading.
Next steps…..
Products under development…

1. Evidence base
   - Nuancing of analytic work (lag-times; inflection points; new data)
   - Consolidated case studies

2. Diagnostics & Decision Support
   - More detail and variety for industry diagnostics
   - Finesse prioritization tools *(help us focus this on your priorities)*

3. Implementation support
   - Consolidated literature on public sector management for cities
   - Mayor’s Wedge framework with institutional assessment
   - Case studies and critical pitfalls *(help us focus this on your priorities)*
## Competitive Advantages and Proactive Sector Targeting

Successful cities have demonstrated an understanding of their competitive advantages and utilized proactive strategies to support specific growth industries.

<table>
<thead>
<tr>
<th>City</th>
<th>Existing Industries</th>
<th>Analysis</th>
<th>Leveraged</th>
<th>Targeted Industries</th>
<th>Proactive Interventions</th>
</tr>
</thead>
</table>
| Bucaramanga | Shoe & apparel manufacturin g, food processing/ agribusiness, petroleum-related | Chamber of Commerce analysis (global competition to existing industries, existing firm capacity, etc.) | 1. Existing knowledge and capacity in science and engineering (oil industry)  
2. High levels of human capital from historically strong education system  
3. Existing firm capacity | 1. Medical Devices, Precision Mechanical Parts  
2. Knowledge Service Outsourcing  
3. Higher Value-Added Confectionery  
4. Medical Tourism | 1. Vocational training partnerships  
2. FDI attraction  
3. Strengthening of industry-academia linkages, technology commercialization  
4. Place marketing |
| Coimbatore  | Mechanical engineering, textiles, food, jewelry | Private SEZ developer analyzed market trends, identified opportunities to attract MNCs from 1\textsuperscript{st} tier Indian cities (spillover) | 1. High levels of human capital, esp. engineers  
2. Low business costs  
3. Decent infrastructure  
4. Geographic proximity to auto cluster in Chennai  
5. Engaged private sector  
6. Supportive ecosystem | 1. IT/ITES/BPO  
2. Mechanical engineering  
3. Tourism  
4. Logistics | 1. Infrastructure upgrades (e.g. new airport, SEZs)  
2. FDI attraction by private SEZ developer  
3. R&D and testing facilities  
4. Trade fair complex |
## Competitive Advantages and Proactive Sector Targeting

<table>
<thead>
<tr>
<th>City</th>
<th>Existing Industries</th>
<th>Analysis</th>
<th>Leveraged</th>
<th>Promoted Industries</th>
<th>Proactive Strategies</th>
</tr>
</thead>
</table>
| Kigali   | Tourism, trade services (agriculture), construction and real estate                 | National gov. analyzed constraints (competition to existing industries, constraints to manufacturing) | 1. Existing firm capacity in tourism services  
2. Large youth population  
3. Donor funding | 1. Niche, high-end gorilla tourism  
2. ICT industry - ongoing development | 1. Tourism permit fees to keep demand up/supply low  
2. Attraction of educational programs (CMU)  
3. Industry specific infrastructure (4G) |
| Gaziantep| Carpets, food, plastics, chemicals, textiles, shoes, metal machinery, construction | National SME agency, chambers of industry and commerce, GAP, Silk Road Dev’t Agc | 1. Existing firms  
2. Strategic geog. location (border)  
3. Internationalties (incl. family)  
4. Low costs | 1. Manufacturing (carpets, food, const. materials)  
2. Tourism  
3. Healthcare | 1. Organized IZs  
2. Land allocation pref  
3. Improved infrastructure  
4. Trade fairs  
5. Inbound & outbound trade missions, GTO office  
6. Sister-city agreements |
| Changsha | Construction engineering, low value add manufacturinng, historically agriculture    | City analyzed lack of industry diversification, need for low & high skill level jobs (and analyzed in light of nationally targeted industries) | 1. Skills from construction engineering & existing firm capacity  
2. Low cost manufacturing and large consumer mkt | 1. Construction engineering  
2. Automobile parts manufacturing  
3. Higher value added manufacturing (electronics) | 1. Promoted international linkages to input suppliers and new market opportunities  
2. Preferential policies in SEZs  
3. Linkages to local input suppliers and vocational training programs |
What can cities do about it? [“Mayor’s wedge”]

NATL GOVT

- Macroeconomic management
- Inter-Ministerial coordination

PRIVATE SECTOR

- Lobbying for industry-specific policy changes

CITY GOVT

- Land use planning
- Taxes & incentives
- Coordination & performance

- City Roads
  - Water
  - Public Transport
  - Sanitation

- Bidding for, implementing Infrastructure Projects
- Raising capital

- Immigration Policies to attract talent
- National Skills Development Plan

- Knowledge hubs
- Linking firms with academia

- Talent Recruitment
- Training Programs
- R&D

- Municipal Tax Revenues
- Road, Water Taxes
- City Bonds

- National Tax Revenues
- Fiscal Management

“Mayor’s wedge”: Highly variable by country and by type of city; in some cases very small
Cities powers and resources to act vary worldwide

Darker the shade of blue = larger mayor’s wedge.

- Cities dependent on strong States;
- Low city spending and revenue;
- (but country is now decentralizing…)

- Strong devolution to cities (with extensive co-sharing);
- Relatively high city spending and revenue;
- Directly elected mayors

- Low city revenue;
- But high levels of local govt spending (conditional transfers);

- Strong national and state agencies;
- Substantial devolution;
- Cities can impose array of taxes

Local government spending (as a % of total government spending).