Reindustrialization of Tunisia:
Towards equitable and sustainable development, and further democracy
Conference at Tunis/Hammamet, 12-13 February 2016

Presentation by Professor Emeritus Dr. Karl Wohlmuth, University of Bremen, Faculty of Economics and Business Studies, Director of the Research Group on African Development Perspectives Bremen

Title of Presentation: Deindustrialization, Reindustrialization and the Contribution of Coherent Industry and STI Policies: What are the Tasks ahead for Tunisia?

Conference organized by Professor Jelel Ezzine, TAASTI and ENIT, Tunis
Reindustrialization of Tunisia:
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1. Towards A New Development Model for Tunisia
2. Managing the Trends of Deindustrialization in Tunisia
3. The Contribution of STI Policies in Tunisia
4. Scoping the Reindustrialization Processes in Tunisia
5. The Contribution of Coherent Industry and STI Policies
6. The Tasks Ahead: An Agenda for Action
Impressive researches and policy recommendations presented for a new development model for Tunisia: Early after the 2010/2011 events in Tunisia, the Government of Tunisia, Tunisian research institutions, regional and international organisations started to lay out frameworks for a new Tunisian development model.

Reindustrialization of Tunisia
Towards A New Development Model for Tunisia

Approaches propagated for a New Tunisian Development Model:

Identifying and Overcoming the Binding Constraints to Growth

Eliminating the Rent-seeking Type of Economic Policies

Identifying the Competencies and Capabilities for Dynamic and Equitable Growth

New Industrial Policies for Structural Transformation
Reindustrialization of Tunisia
Towards A New Development Model for Tunisia

Identifying Binding Constraints to Growth: The Results

Using the HRV methodology, focussing on private sector investment returns and on the financing of investments

**Binding Constraint 1:** Low Appropriability of Returns because of weak institutions and contradictory policies

**Binding Constraint 2:** Low Appropriability of Returns because of high fiscal and regulatory costs

**Emerging Risk Factors:** Other Binding Constraints
Towards A New Development Model for Tunisia

Figure 1: The HRV Growth Diagnostic Tree

What Constrains Private Investment and Entrepreneurship?

- Low Private Returns to Economic Activities
  - Low Appropriability
    - Macro Risks and Distortions
    - Micro Risks and Distortions
    - Market Failures in Innovation
  - Low Intrinsic Returns
    - Poor Natural Capital
    - Low Human Capital
    - Poor Infrastructure

- High Cost of Finance
  - Costly Local Finance
    - Low Savings
  - Costly Foreign Finance

Emerging Risk Factors:
- Other Binding Constraints

Source: HRV (2005)
Towards A New Development Model for Tunisia

Figure 2.13: Growth Rate of Output per Worker 2000-2010

Source: World Development Indicators

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Table 5.5: Percentage of Firms Citing Unfair Competition and Anti-competitive Practices as a Major or Severe Obstacle, 2010

<table>
<thead>
<tr>
<th></th>
<th>Unfair competition</th>
<th>Anti-competitive practices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Totally exporting companies</td>
<td>28.25</td>
<td>23.29</td>
</tr>
<tr>
<td>Partially exporting companies</td>
<td>52.16</td>
<td>47.84</td>
</tr>
<tr>
<td>Producers for domestic market only</td>
<td>50.33</td>
<td>43.44</td>
</tr>
</tbody>
</table>

Source: 2010 ITCEQ Enterprise Survey
Towards A New Development Model for Tunisia

Table 5.6: Post-Revolution Views on Market Practices, 2011

<table>
<thead>
<tr>
<th>Responses to Question: What Factors Compromise your Competitiveness Today?</th>
<th>Totally Exporting Firms</th>
<th>Partially exporting</th>
<th>Local Market</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insecurity</td>
<td>60%</td>
<td>49%</td>
<td>51%</td>
</tr>
<tr>
<td>Unfair competition</td>
<td>23%</td>
<td>49%</td>
<td>60%</td>
</tr>
<tr>
<td>Anti-competitive practices</td>
<td>26%</td>
<td>41%</td>
<td>36%</td>
</tr>
<tr>
<td>The parallel market</td>
<td>12%</td>
<td>22%</td>
<td>12%</td>
</tr>
<tr>
<td>Other</td>
<td>13%</td>
<td>7%</td>
<td>5%</td>
</tr>
</tbody>
</table>

Source: ITCEQ Survey on Competitiveness 2011
Note: Due to small samples, subsample comparisons may not be accurate
Towards A New Development Model for Tunisia

Identifying Binding Constraints to Growth: Using the HRV methodology, focusing on private sector investment returns and financing of investments

Binding Constraint 1:
- Low Appropriability of Returns because of weak institutions and contradictory policies

Binding Constraint 2:
- Low Appropriability of Returns because of high fiscal and regulatory costs

Emerging Risk Factors:
- Other Binding Constraints

---

Figure 5.4: Perception of Degree of Corruption of Public Authorities by Enterprises

<table>
<thead>
<tr>
<th>Public Administration</th>
<th>Moderately Affected</th>
<th>Affected</th>
<th>Very Affected</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>19</td>
<td>33</td>
<td>29</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Customs</th>
<th>Moderately Affected</th>
<th>Affected</th>
<th>Very Affected</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>17</td>
<td>31</td>
<td>32</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Police</th>
<th>Moderately Affected</th>
<th>Affected</th>
<th>Very Affected</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>13</td>
<td>26</td>
<td>40</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fiscal system</th>
<th>Moderately Affected</th>
<th>Affected</th>
<th>Very Affected</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>20</td>
<td>30</td>
<td>28</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Judicial system</th>
<th>Moderately Affected</th>
<th>Affected</th>
<th>Very Affected</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>18</td>
<td>31</td>
<td>23</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Public Services</th>
<th>Moderately Affected</th>
<th>Affected</th>
<th>Very Affected</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>21</td>
<td>19</td>
<td>14</td>
</tr>
</tbody>
</table>

Source: ITCEQ Enterprise Survey 2011

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Towards A New Development Model for Tunisia

Table 5.13: Percentage of Workers by Contract Type
Tunisia, Algeria, and Morocco (Non-Microenterprises)

<table>
<thead>
<tr>
<th>Percent of workers</th>
<th>Tunisia</th>
<th>Algeria</th>
<th>Morocco</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permanent (indefinite contract)</td>
<td>38.9</td>
<td>67.8</td>
<td>82.1</td>
</tr>
<tr>
<td>Definite/fixed term contract</td>
<td>44.7</td>
<td>29.5</td>
<td>14.9</td>
</tr>
<tr>
<td>Trainees and apprentices</td>
<td>8.2</td>
<td>1.2</td>
<td>2.7</td>
</tr>
<tr>
<td>Sub-contractors</td>
<td>8.2</td>
<td>1.5</td>
<td>0.3</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Full time</td>
<td>81.5</td>
<td>98.9</td>
<td>95.1</td>
</tr>
<tr>
<td>Part time</td>
<td>18.5</td>
<td>1.1</td>
<td>4.9</td>
</tr>
</tbody>
</table>

Source: ROSES (2005)
Towards A New Development Model for Tunisia

Figure 1.5: Tax Wedge in Selected Countries and By Education Level in Tunisia

Source: Processed from World Bank (2013a) (top) and Belghazi (2012) (bottom).
Towards A New Development Model for Tunisia

Figure 1.7: An Economic Desert: Net Job Creation in Tunisia by Firm Size and Age, 1997-2010 (Green=positive, Red=negative)

Source: Authors’ calculations using RNE.
Towards A New Development Model for Tunisia


Figure 7.11: Share of tertiary-educated workers by sector

Source: ITCEQ

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Reindustrialization of Tunisia
Towards A New Development Model for Tunisia

Severe Risks in the Transition Period towards a New Development Model: All these appropriability problems are still prevalent, and new risks emerge, such as macro risks, micro risks, market failures, further imbalances in human development and in infrastructure supplies, environmental problems, and banking intermediation problems. “Ben Ali sector protection” is still alive and used!!

Industrial Strategy Horizon 2016: Ambitious programmes, but not acknowledging the appropriability problems. Label: Tunisia, the Euromedvalley for Industry & Technology
Reindustrialization of Tunisia
Managing the Trends of Deindustrialization in Tunisia

**Industrialization:** Challenges for manufacturing from global competition, global value chains, technological developments, but promising routes of development, like in services; but manufacturing is still seen as a base for cumulative productivity increases.

**Deindustrialization:** Defined as a decline in the share of manufacturing employment in the overall employment of a country, or as a sustained decline in the share of manufacturing in GDP and overall employment.
Managing the Trends of Deindustrialization in Tunisia, Source: UNIDO/Tregenna 2015, p. 12

Figure 1: Inverted-U curve showing some possible premature deindustrialisers, 2009

Data sources: Own calculations, employment data from ILO, income data from Penn World Tables³

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Reindustrialization of Tunisia
Managing the Trends of Deindustrialization in Tunisia

Various Causes of Deindustrialization: Rising income per capita, as the classical source of deindustrialization, with moves from secondary to tertiary sectors; there are also shifts of the inverted U-curve itself, because of a statistical illusion effect via sectoral outsourcing, falling income elasticity of manufactured goods, higher productivity growth in the manufacturing sector, and the new international division of labour with intensified global competition and technology transfers; between 1980 and 1990 the income per capita at the turning point has halved.
Reindustrialization of Tunisia
Managing the Trends of Deindustrialization in Tunisia

Different Forms of Decentralization: Advanced country (or classical) deindustrialization, premature deindustrialization of developing countries, and pre-industrialization deindustrialization of least developed countries; within each concept of deindustrialization there are relatively shrinking or relatively expanding manufacturing activities; considerable scope for managing.

MENA country group deindustrialization and the case of Tunisia: Different trends for the manufacturing share in overall GDP and total Employment; Special Case Tunisia?
Managing the Trends of Deindustrialization in Tunisia, UNIDO/Tregenna 2015, p. 19

Figure 4: Share of manufacturing in total employment, countries by region, 1970-2010

Source: Employment data from ILO

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Managing the Trends of Deindustrialization in Tunisia, UNIDO/Tregenna 2015, p. 20

Different Forms of Decentralization:

- Advanced country (or classical) deindustrialization
- Premature deindustrialization of developing countries
- Pre-industrialization...

MENA country group deindustrialization and the case of Tunisia:

- Different trends for the manufacturing share in overall GDP and total employment
- Special case Tunisia?

Figure 5: Share of manufacturing in GDP, countries by region, 1970-2010

Source: Value added data from UN

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Managing the Trends of Deindustrialization in Tunisia, Country Note Tunisia, AEO 2014, p. 4

Table 2. GDP by sector (percentage)

<table>
<thead>
<tr>
<th>Sector</th>
<th>2008</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture, hunting, forestry, fishing</td>
<td>8.6</td>
<td>9.4</td>
</tr>
<tr>
<td>of which fishing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mining</td>
<td>8.5</td>
<td>8.1</td>
</tr>
<tr>
<td>of which oil</td>
<td>7.3</td>
<td>7.5</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>19.5</td>
<td>17.0</td>
</tr>
<tr>
<td>Electricity, gas and water</td>
<td>1.4</td>
<td>1.4</td>
</tr>
<tr>
<td>Construction</td>
<td>4.4</td>
<td>4.6</td>
</tr>
<tr>
<td>Wholesale and retail trade, hotels and restaurants</td>
<td>13.8</td>
<td>13.1</td>
</tr>
<tr>
<td>of which hotels and restaurants</td>
<td>5.4</td>
<td>4.6</td>
</tr>
<tr>
<td>Transport, storage and communication</td>
<td>13.2</td>
<td>13.2</td>
</tr>
<tr>
<td>Finance, real estate and business services</td>
<td>14.7</td>
<td>14.8</td>
</tr>
<tr>
<td>Public administration, education, health and social work, community, social and personal services</td>
<td>15.4</td>
<td>17.8</td>
</tr>
<tr>
<td>Other services</td>
<td>0.5</td>
<td>0.5</td>
</tr>
<tr>
<td><strong>Gross domestic product at basic prices / factor cost</strong></td>
<td><strong>100.0</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Source: Data from domestic authorities.
Managing the Trends of Deindustrialization


Figure 2.12: Employment by Sector, Selected Years

<table>
<thead>
<tr>
<th>Sectoral shares of total employment</th>
<th>1984</th>
<th>1994</th>
<th>2004</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>27.9</td>
<td>21.5</td>
<td>16.3</td>
<td>17.7</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>20.1</td>
<td>19.9</td>
<td>19.6</td>
<td>18.4</td>
</tr>
<tr>
<td>Industry excl. Manufacturing</td>
<td>16.1</td>
<td>13.9</td>
<td>14.7</td>
<td>14.6</td>
</tr>
<tr>
<td>Services</td>
<td>35.9</td>
<td>44.7</td>
<td>49.4</td>
<td>49.3</td>
</tr>
</tbody>
</table>

Source: Tunisian National Institute of Statistics
Managing the Trends of Deindustrialization in Tunisia

Industrial Strategies and Policies

Pro-active and Comprehensive Industrial Policies are lacking: “Industrial Strategy Up to 2016” of Tunisia has focussed on the new international market realities, but has not considered the biased character of industrial policy towards small vested interest groups; need for reindustrialisation not seen; linkages onshore-offshore and manufacturing-agriculture-services underdeveloped or lacking completely; lack of complementary macroeconomic, trade, technology, competition, education and skills, and labour market policies; direct public transfers open-ended.
Managing the Trends of Deindustrialization in Tunisia

Source: World Bank/Cadot/Mattoo 2013, p. 31

Figure 2. Evolution of Total Exports for Typical FAMEX Beneficiary and Control Firm

Note: The figure is based on the numbers presented in Appendix Table D.1.
Managing the Trends of Deindustrialization in Tunisia

Industrial Strategies and Policies

Accumulation, Distribution and Management of Industrial Rents are not supportive: Rents created by industrial policies and economic support measures were not reinvested for growth, competitiveness and sustainability of supported firms and industries; the unfavourable rent management did affect quite negatively also firms and industries in export sectors and in neglected regions as market development and technological sophistication were prevented; results were a low growth of labour productivity and a lack of structural change.
Managing the Trends of Deindustrialization in Tunisia

Industrial Strategies and Policies

No incentives for the reallocation of skilled workers and for structural transformation: the persistence of an increasingly dualistic labour market prevented upgrading and labour mobility; a low share of tertiary-educated workers in manufacturing, in agro-processing and in minerals beneficiation hindered economic and social upgrading; only simple forms of integration into global value chains were supported instead of building knowledge platforms for broader industrial activities through horizontal specialisation and specialized niches of manufacturing;
Managing the Trends of Deindustrialization in Tunisia

Figure 1.6: Sectoral labor Productivity and Employment (in 2009)
Shows Severe Misallocation of Resources

Source: Authors’ calculations based on 2009 data from the INS.
Managing the Trends of Deindustrialization in Tunisia

Source: EIB, 2015, p. 39

Figure 9: Contribution of structural change to aggregate productivity growth in Egypt Tunisia and Turkey (%)

Source: Calculated by the authors based on Atiyas and Bakis (2013) El-Haddad (2013) and Marouani and Mouelhi (2013)
The Contribution of STI Policies in Tunisia: A Role in Managing Deindustrialization?

The National Innovation System (NIS) of Tunisia is centralised and uneven: R&D in enterprises is limited (<0.3% of GDP); BERD/GERD of not more than 20%; also the incentives for networking enterprises with R&D institutions and innovators in the country are weak, especially the fiscal policy ones; the innovation efficiency (innovation output/input) is very low; R&D expenditures are infrastructure-centred, not on capability formation in a broader sense; there is a diversified public research system, but the relation to the enterprise system is weak.
The Contribution of STI Policies in Tunisia
A Role in Managing Deindustrialization?

Absorption of tertiary education graduates is low and unbalanced: The tertiary education graduates are in sectors with low value added per human capital unit; huge imbalances in human capital allocation; upgrading of industry and export promotion programmes give no incentives for the employment of tertiary graduates; weak linkages between universities and enterprises; numerous public programmes to subsidize innovation are not coordinated; wide duplication of efforts; huge gap between some few larger companies and the SMEs in terms of R&D.
The Contribution of STI Policies in Tunisia
A Role in Managing Deindustrialization?

“Knowledge Triangle”, but limited “Knowledge Circulation”: The knowledge triangle (KT) between industry, universities and public research institutions is not open for knowledge circulation (KC) and R&D valorisation, as there is a lack of incentives to share knowledge; there is no effective coordination of NIS and KT stakeholders at policy and implementation levels; promotion of high technology sectors, but not upgrading of technological capabilities in neglected regions and key economic sectors; insignificant links to the finance and venture capital sector;
The Contribution of STI Policies in Tunisia
The Dimensions of Capability Formation and Knowledge Circulation, Source: Nissanke, africaportal, 2015, p. 11

Figure 3. Capability building through technology and knowledge transfers
The Contribution of STI Policies in Tunisia
The National Innovation System: Complex, but Not Integrated

- Innovative and R&D-intensive Enterprises
- R&D/STI Policy/Programmes
- Labour/Taxation Policies for STI
- Financing of R&D and Innovations
- Tertiary/Vocational Education
- Research/Science System

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Scoping the Reindustrialization Processes in Tunisia
The Concept of Reindustrialization

Reindustrialization is a popular concept in advanced countries: Germany, for example, has seen after the unification in October 3, 1990 a deindustrialization process in Eastern Germany (with regard of heavy industries and basic chemicals) and a parallel reindustrialization process (towards high technology sectors, productive agriculture, and important services fields). Germany is now working on an Industry 4.0 type reindustrialization process (“internet of things”) to keep the country in a leading position in world competitiveness. UK and other advanced countries too.
Scoping the Reindustrialization Processes in Tunisia

The Development Objectives of Reindustrialization

Reindustrialization in Tunisia is a must for various development objectives: Parallel to further managing the deindustrialization process, reindustrialization in Tunisia has the potential to reduce poverty, overall unemployment and the unemployment of tertiary education graduates, to strengthen the manufacturing sector but also mining and oil, agriculture and services sectors, to deepen the integration into global value chains, to contribute to mitigating the severe regional inequality problems, and to facilitate the growth of firms and of employment generation.
Scoping the Reindustrialization Processes in Tunisia

Four Key Dimensions of Reindustrialization

1. Reindustrialization via Other Economic Sectors, such as Agriculture, Mining/Oil, and Services

2. Reindustrialization via Initiatives at Regional Development and Regional Integration

3. Reindustrialization via Deeper Integration into Global Value Chains

4. Reindustrialization via Green Growth Development Strategies
Scoping the Reindustrialization Processes in Tunisia
Reindustrialization 1: A New Sector Perspective

To start again the process of structural change in Tunisia: A new agricultural development policy is needed (alongside of new policies for mining/oil, the manufacturing sector, and the services sector). A new agricultural development policy is the base and has benefits for employment creation, regional development within Tunisia, regional integration with neighbouring countries, for the strengthening of agricultural value chains, for stimulating agribusiness and agro-industrial development. The system of price support and food self-sufficiency has to be adapted.

Table B9.1.1 Cost of Production in Domestic Resources

<table>
<thead>
<tr>
<th>Products</th>
<th>2000</th>
<th>2004</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soft wheat</td>
<td>1.86</td>
<td>3.13</td>
<td>0.9</td>
</tr>
<tr>
<td>Soft wheat, irrigated</td>
<td>0.97</td>
<td>n.d.</td>
<td>0.65</td>
</tr>
<tr>
<td>Hard wheat</td>
<td>1.2</td>
<td>0.96</td>
<td>0.56</td>
</tr>
<tr>
<td>Heard wheat, irrigated</td>
<td>0.61</td>
<td>n.d.</td>
<td>0.39</td>
</tr>
<tr>
<td>Barley</td>
<td>3.14</td>
<td>4.02</td>
<td>1.69</td>
</tr>
<tr>
<td>Potatoes</td>
<td>0.56</td>
<td>0.5</td>
<td>1.39</td>
</tr>
<tr>
<td>Tomatoes</td>
<td>0.6</td>
<td>0.45</td>
<td>0.66</td>
</tr>
<tr>
<td>Oranges</td>
<td>0.83</td>
<td>0.31</td>
<td>1.29</td>
</tr>
<tr>
<td>Peaches</td>
<td>0.49</td>
<td>0.49</td>
<td>1.39</td>
</tr>
<tr>
<td>Olive oil</td>
<td>0.91</td>
<td>0.82</td>
<td>0.36</td>
</tr>
<tr>
<td>Bovine integrated local breed</td>
<td>0.79</td>
<td>2.22</td>
<td>3.65</td>
</tr>
<tr>
<td>Bovine, non-integrated local breed</td>
<td>1.85</td>
<td>2.6</td>
<td>4.57</td>
</tr>
<tr>
<td>Bovine, integrated pure breed</td>
<td>1.32</td>
<td>1.75</td>
<td>&lt;0</td>
</tr>
<tr>
<td>Bovine, non-integrated pure breed</td>
<td>1.46</td>
<td>2.03</td>
<td>&lt;0</td>
</tr>
<tr>
<td>Integrated milk</td>
<td>0.82</td>
<td>1.23</td>
<td>1.15</td>
</tr>
<tr>
<td>Non-integrated milk</td>
<td>1.06</td>
<td>2.1</td>
<td>1.91</td>
</tr>
<tr>
<td>Ovine</td>
<td>0.44</td>
<td>0.65</td>
<td>0.5</td>
</tr>
</tbody>
</table>


Figure 9.3: Composition of Budget Transfers to the Agricultural Sector in Tunisia, 2000-2009

Source: WTO (Domestic support) and Ministry of Agriculture and Water Resources.

To start again the process of structural change in Tunisia: A new agricultural development policy is needed (alongside new policies for mining/oil, the manufacturing sector and the services sector). A new agricultural development policy is the base and has benefits for employment creation, regional development within Tunisia, regional social welfare within Tunisia as well as agribusiness and agro-industrial development. The system of price support and food self-sufficiency has to be adapted.

### Table 9.1: Contribution of Individual Products to the Growth of the Agricultural Sector

<table>
<thead>
<tr>
<th></th>
<th>Share in overall production (1990-2010)</th>
<th>Contribution to the growth of the sector (1990-2010)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Competitive</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Durum wheat</td>
<td>10.0</td>
<td>8.0</td>
</tr>
<tr>
<td>Arboriculture</td>
<td>27.0</td>
<td>23.5</td>
</tr>
<tr>
<td>Horticulture</td>
<td>15.2</td>
<td>15.2</td>
</tr>
<tr>
<td>Fisheries</td>
<td>5.8</td>
<td>-0.7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>58.0</td>
<td>46.0</td>
</tr>
<tr>
<td><strong>Non competitive</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cereals (excluding durum wheat)</td>
<td>4.2</td>
<td>5.0</td>
</tr>
<tr>
<td>Livestock</td>
<td>35.2</td>
<td>46.7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>39.4</td>
<td>51.7</td>
</tr>
<tr>
<td>Other products</td>
<td>2.6</td>
<td>2.3</td>
</tr>
</tbody>
</table>

*Source: Author’s calculations.*
To start again the process of structural change in Tunisia: A new agricultural development policy is needed (alongside with new policies for mining/oil, the manufacturing sector and the services sector). A new agricultural development policy is the base and has benefits for employment creation, regional development within Tunisia, regional ... agribusiness and agro-industrial development. The system of price support and food self-sufficiency has to be adapted.

### Table 9.5: Winners and Losers from a Reform of Agricultural Policies in Tunisia

<table>
<thead>
<tr>
<th>Farm</th>
<th>Change in gross margin</th>
<th>% of total farms</th>
<th>% of the arable area</th>
<th>Type of farm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farms benefiting from the liberalization</td>
<td>Gain from 55 to 294%</td>
<td>41</td>
<td>30</td>
<td>Olive oil, Off season Horticulture (Gabes) Citrus (Nabeul)</td>
</tr>
<tr>
<td>Farms the profitability of which would be more or less the same</td>
<td>Gain of 47%</td>
<td>42</td>
<td>41</td>
<td>Arboriculture and sheep rearing (Central and South) Irrigated farms</td>
</tr>
<tr>
<td>Farms loosing from liberalization</td>
<td>Loss from 1 to 79%</td>
<td>16</td>
<td>30</td>
<td>Cereal farms (North and North West)</td>
</tr>
</tbody>
</table>

Source: Linear Programming modelling results, World Bank (2006)

Figure 8.5: Service Trade Restriction Index (STRI) by Sector and Region

Source: Data from World Bank Service Trade Restriction Database
Note: STRI is calculated as simple country averages.
Emergent MENA economies exclude Iran and Yemen
Scoping the Reindustrialization Processes in Tunisia, Source: World Bank 2014, page 113

*Figure 3.2: Cronyism and Regulation in 2010*

**Prevalence of Regulatory Restrictions across Sectors**

- **Authorization**:
  - Sectors with BA firms: 39.3%
  - Sectors without BA firms: 24.3%

- **FDI Restriction**:
  - Sectors with BA firms: 42.9%
  - Sectors without BA firms: 14.1%

*Source: Authors’ calculations*
Scoping the Reindustrialization Processes in Tunisia
Reindustrialization 1: A New Sector Perspective

Supporting Value Chain Formation and Strengthening:
The cases of organic agriculture, food processing, olive oil production, and the cases of tourism, ICT, and professional services development show that Tunisia can develop such chains successfully, but only if the basic macro, meso, and micro incentives are right in the country. The same applies to mining and petroleum subsectors. Value chain financing, better links to R&D, and new type industrial policies could enhance such value chains. A huge job creation potential of investments is envisaged (see Job Creation Strategy, IFC).
Scoping the Reindustrialization Processes in Tunisia, Source: IFC 2012

**Exhibit 5:** Economy-wide value added associated with $1 million investment into a specific sector by type of value-added (in $ millions)
Scoping the Reindustrialization Processes in Tunisia

Reindustrialization 2: A Regional Development Perspective

Economic Policies are not neutral in terms of space and incentives for industrial development: So far the economic and regional development policies in Tunisia were not neutral in terms of space. This has affected negatively industrial development, employment creation, and the utilisation of comparative advantages in the regions. More than 83% of the firms are located in coastal governorates, and nearly 40% of the firms are in two business districts (Tunis, Sfax). Manufacturing is not diversified in interior regions, and there is only little change.
Scoping the Reindustrialization Processes in Tunisia
Reindustrialization 2: A Regional Development Perspective

Some interior governorates (as Tozeur and Medenine) became even less diversified (more specialized in agro-food industry). This makes the interior regions more vulnerable to demand and supply shocks, in terms of value added, public revenues, and employment. The diversification level and the human development level are much lower in the internal regions, and the chances for reindustrialization depend on newly designed, locally-based, nationally backed, and pro-active industrial policies. The lessons from the past failures have to be learned.

Figure 4.1: Geographic Distribution of Incentives Granted under the Investment Incentives Code, 2008-2011 (TND million)

Source: Ministère du développement et de la coopération internationale (MDCI)

Figure 10.2: Firm Density per Square Kilometer in Tunisia, 2012

Firms per sq. Km

High

Low
Scoping the Reindustrialization Processes in Tunisia

Reindustrialization 2: A Regional Development Perspective

The Proximity Factor in New Industrial Policies: Partial migration of labour-intensive activities to disadvantaged regions nearby the coastal regions; incentives have to become “spatially neutral”, what means that coastal areas will benefit from advanced technology/technological sophistication/marketing/export development support for all the firms (export and domestic sector firms); disadvantaged areas will benefit from support of labour-intensive activities, backed by infrastructural and institutional development measures. So far, the systems of support were non-neutral.
Scoping the Reindustrialization Processes in Tunisia
Reindustrialization 2: A Regional Development Perspective

The Sub-Regional Approach towards New Industrial Policies: The 13 most disadvantaged regions have only 17.9% of manufacturing sector employment and 22.5% of the industrial companies. Building on the established local industries and on proximity is essential. Three elements were identified: a) creating viable development zones for industrial development, b) supporting - via a new space-neutral investment code - the use and the development of local productive capacities, competences and capabilities, and c) creating adapted techno-hubs in the three regions.
Scoping the Reindustrialization Processes in Tunisia
Reindustrialization 2: A Regional Development Perspective

Three Development Zones and the New Industrial Policies: The North–West Region (NWR) is based on agri-business and electronics; proximity of Bizerte with textile and electronic industry; potential in the three sectors. The Centre-West Region (CWR) is based on agri-business and textiles; proximity of Sfax and Sousse could contribute to metal production; Monastir and Mahdia are relevant for textiles. The South Region (SR) is based on agri-business, construction, ceramics and glass, chemical and rubber, and textiles; proximity to Gafsa is important.
Scoping the Reindustrialization Processes in Tunisia
Reindustrialization 2: A Regional Development Perspective

Key Public Investments and Very Specific Investment Incentives as Instruments of New Industrial Policies:
Important are: Infrastructural Network Investments (roads, highways, communication infrastructure); Investments to develop Industrial and Technological Zones by new forms of Public-Private Partnership; Investments to link the Competitiveness Poles (Bizerte, Sousse, Sfax, Monastir, Gafsa) by New Trade and Partnership Initiatives; newly designed and very specific Investment Incentives (for R&D, Linking to Value Chains, Export Development, Marketing).
Scoping the Reindustrialization Processes in Tunisia
Reindustrialization 3: A Global Value Chain Perspective

Tunisia has huge potentials for reindustrialization, but they can be activated only on the basis of new industrial policies: The Industrial Strategy with Horizon 2016 is ambitious, but not more than a list of hopes and expectations. Much more is needed – an approach combing capabilities, sector-specific networks ad spatial impacts. It is a task to identify sectors with opportunities, innovation potential, and benefits for neglected regions. Such an approach was outlined on the basis of an Innovation Investment Index, but it has to be implemented.
Scoping the Reindustrialization Processes in Tunisia, Source: Industrial Strategy Tunisia, p. 20

Tunisia has huge potentials for reindustrialization, but they can be activated only on the basis of new industrial policies: The Industrial Strategy with Horizon 2016 is ambitious, but not more than a list of hopes and expectations. Much more is needed – an approach combining capabilities, sector-specific networks, and spatial impacts. It is critical to identify key clusters and value chains, creating a platform for innovation and fostering entrepreneurship. Such an approach was outlined on the basis of an Innovation Investment Index, but it has to be implemented.
Tunisia has huge potentials for reindustrialization, but they can be activated only on the basis of new industrial policies: The Industrial Strategy with Horizon 2016 is ambitious, but not more than a list of hopes and expectations. Much more is needed – an approach combining capabilities, sector-specific networks, and spatial impacts. It is important to understand that such an approach was outlined on the basis of an Innovation Investment Index, but it has to be implemented.
Reindustrialization 3: A Global Value Chain Perspective

Source: EBRD 2014, p. 8

Tunisia has huge potentials for reindustrialization, but they can be activated only on the basis of new industrial policies.

The Industrial Strategy with Horizon 2016 is ambitious, but not more than a list of hopes and expectations. Much more is needed – an approach combining capabilities, sector-specific networks, and spatial impacts. It is necessary to develop a comprehensive strategy that includes targeted investments in sectors and regions. Such an approach was outlined on the basis of an Innovation Investment Index, but it has to be implemented.

Morocco: How to build capabilities to support the knowledge economy?

Tunisia: How to unlock the capability potential?

Note: MENA countries are marked with green pentagons.
Tunisia has huge potentials for reindustrialization, but they can be activated only on the basis of new industrial policies:

The Industrial Strategy with Horizon 2016 is ambitious, but not more than a list of hopes and expectations. Much more is needed – an approach combining capabilities, sector-specific networks, and spatial impacts. It is crucial to identify strategic sectors and regions. Such an approach was outlined on the basis of an Innovation Investment Index, but it has to be implemented.

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Reindustrialization 3: Opportunity Gains and Product Complexity Index 2010
Source: EBRD 2014, p. 78
Reindustrialization 3: Product Evolution in Chemical and Medical Industries. Source: EBRD 2014, p. 79

Current position:
- Flora in pharmacy
- Medical instruments
- Inorganic chemicals

Average RCA: 8.9
Average PCI: -0.4

Leveraging existing capabilities Tunisia can produce:
- Not medicaments pharmaceutical goods
- Rubber for hygienic and pharmaceutical articles
- Organic surface-active agents
- Varnishes and lacquers

Average PCI: 0.67

Addressing capability gaps in the sector can move up the value-chain network in:
- Medicinal and pharmaceutical products
- Organic chemicals

Average PCI: 0.79
Reindustrialization 3: Pharmaceutical Value Chain
Perspective Tunisia, Source: EBRD 2014, p. 90

Tunisia has huge potentials for reindustrialization, but they can be activated only on the basis of new industrial policies:

The Industrial Strategy with Horizon 2016 is ambitious, but not more than a list of hopes and expectations. Much more is needed – an approach combining capabilities, sector-specific networks, and spatial impacts. It is essential to strengthen the basis of competitiveness in Tunisia and to create a competitive industry from the bottom up. The approach to value chains requires an innovative and comprehensive strategy for value chain competitiveness.

Such an approach was outlined on the basis of an Innovation Investment Index, but it has to be implemented.
Reindustrialization 3: An Integrated Global Value Chain Perspective, Source: EBRD 2014, p. 91

Medical device, although nascent in Tunisia, is at the cross-road of all three innovative sectors,
Tunisia has huge potentials for reindustrialization, but they can be activated only on the basis of new industrial policies: The Industrial Strategy with Horizon 2016 is ambitious, but not more than a list of hopes and expectations. Much more is needed – an approach combining capabilities, sector-specific networks, and spatial impacts. It is essential to consider not only product evolution but also the value chain network. Such an approach was outlined on the basis of an Innovation Investment Index, but it has to be implemented.

**Diagram Description:**
- **Current position:** Electric machinery and components, Telecommunication equipment, Power generating equipment, Automobile components.
  - Average PCI: 0.56
- **Leveraging existing capabilities can produce:** Electrical measuring and controlling instruments, Data processing equipment, Laundry equipment, Air conditioning machines, Office Machinery.
  - Average PCI: 0.89
- **Adressing capability gaps can move up the value-chain network in:** Professional, scientific and controlling instruments and apparatus, Photographic apparatus, equipment and optical goods, Road vehicles (including air-cushion vehicles).
  - Average PCI: 1.14
Reindustrialization 3: ICT high potential segments, Source: EBRD 2014, p. 87

- **Telecommunications:**
  - Traditionally a lucrative market
  - 3 local players
  - High penetration rate for mobile (above 100%)
  - Operators such as Tunisiana are investing in developing their capabilities to offer added value services

- **Software: E-Payment/Security:**
  - Proven success of local players (BFI/Vermeg)
  - Growth driven by important demand from offshore markets
  - Solutions developed locally based on local expertise
  - Segment needs considerable investments in capital and technical resources

- **Software: Mobile Solutions:**
  - Market dominated by few start-ups
  - Market benefiting from the existence of dedicated incubators such as «Startup Factory»
  - Low turnovers/margins
  - Easily accessible market

- **Software: EAS (Progiciel):**
  - High potential for local editors as their solutions are adapted to the local market
  - Relies on developing local expertise

- **Hardware:**
  - Low Margins
  - Many Competitors
  - Saturated Market
Reindustrialization 3: Tunisia Innovation Investment Index, Source: EBRD 2014, p. 94

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sub-questions</td>
<td>1.1. Do capabilities exist?</td>
<td>2.1. Does the country focus on the high or low end of the value chain network?</td>
<td>2.2. Is the product/service complex?</td>
<td>3.1. Do they have a market?</td>
<td>3.2. What is the potential gain in Opportunity value?</td>
</tr>
<tr>
<td>Variables</td>
<td>Revealed Comparative Advantage (scaled)</td>
<td>Sector value chain network level of complexity (scaled)</td>
<td>Product complexity index (scaled)</td>
<td>Market size (scaled)</td>
<td>Opportunity Gain (scaled)</td>
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<td>Scientific, Measuring and Medical electronic equipment</td>
<td>100</td>
<td>49</td>
<td>100</td>
<td>29</td>
<td>90</td>
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<td>Auto parts</td>
<td>47</td>
<td>49</td>
<td>77</td>
<td>44</td>
<td>78</td>
</tr>
<tr>
<td>Hardware and telecom electronics</td>
<td>78</td>
<td>49</td>
<td>46</td>
<td>34</td>
<td>82</td>
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<tr>
<td>Telecom</td>
<td>64</td>
<td>47</td>
<td>38</td>
<td>100</td>
<td>36</td>
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<tr>
<td>Mobile Solutions</td>
<td>64</td>
<td>100</td>
<td>100</td>
<td>3</td>
<td>94</td>
</tr>
<tr>
<td>Aircraft equipment parts</td>
<td>68</td>
<td>49</td>
<td>86</td>
<td>7</td>
<td>100</td>
</tr>
<tr>
<td>E-Payment/Security</td>
<td>64</td>
<td>100</td>
<td>78</td>
<td>5</td>
<td>100</td>
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<tr>
<td>R&amp;D - Engineering</td>
<td>64</td>
<td>56</td>
<td>100</td>
<td>5</td>
<td>100</td>
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<tr>
<td>Household electronics</td>
<td>47</td>
<td>49</td>
<td>62</td>
<td>26</td>
<td>70</td>
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<tr>
<td>Enterprise Application Software</td>
<td>64</td>
<td>100</td>
<td>66</td>
<td>3</td>
<td>89</td>
</tr>
<tr>
<td>Essential Oils, soaps, Odorous substances, organic substances, surface-active agents</td>
<td>89</td>
<td>41</td>
<td>13</td>
<td>18</td>
<td>81</td>
</tr>
<tr>
<td>ITO</td>
<td>64</td>
<td>56</td>
<td>75</td>
<td>5</td>
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<td>IT Implementation</td>
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<td>63</td>
<td>6</td>
<td>81</td>
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<td>IT consulting</td>
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<td>57</td>
<td>50</td>
<td>6</td>
<td>80</td>
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<tr>
<td>Operations management</td>
<td>64</td>
<td>57</td>
<td>50</td>
<td>6</td>
<td>80</td>
</tr>
<tr>
<td>Training and education</td>
<td>64</td>
<td>67</td>
<td>36</td>
<td>6</td>
<td>81</td>
</tr>
<tr>
<td>Non-medical pharma</td>
<td>35</td>
<td>41</td>
<td>61</td>
<td>13</td>
<td>87</td>
</tr>
<tr>
<td>Perfumery and cosmetics</td>
<td>59</td>
<td>41</td>
<td>16</td>
<td>15</td>
<td>91</td>
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<tr>
<td>Hardware</td>
<td>64</td>
<td>32</td>
<td>26</td>
<td>34</td>
<td>75</td>
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<tr>
<td>Support services</td>
<td>64</td>
<td>37</td>
<td>36</td>
<td>6</td>
<td>92</td>
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<tr>
<td>Medicines</td>
<td>7</td>
<td>41</td>
<td>73</td>
<td>13</td>
<td>91</td>
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<tr>
<td>Organic Chemicals</td>
<td>11</td>
<td>41</td>
<td>47</td>
<td>4</td>
<td>94</td>
</tr>
</tbody>
</table>

**Note:** Industrial products are in grey, ICT and Offshoring services are in blue

Tunisia has huge potentials for reindustrialization of type three, but these can be activated only if a dynamic export development process is supported: It is very necessary to export products which are Rising Stars (RS) and to export products which are representing Missed Opportunities (MO), while the export of products being Falling Stars (FS) and being in Strategic Retreat (SR) may be a benefit for some companies, but this will not be sufficient to create more employment via exports in the longer run (when global demand for a product is declining).

<table>
<thead>
<tr>
<th></th>
<th>FS</th>
<th>MO</th>
<th>RS</th>
<th>SR</th>
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<tr>
<td>HT</td>
<td>8</td>
<td>2</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>MT</td>
<td>36</td>
<td>2</td>
<td>22</td>
<td>14</td>
</tr>
<tr>
<td>LT</td>
<td>10</td>
<td>5</td>
<td>11</td>
<td>20</td>
</tr>
<tr>
<td>RB</td>
<td>28</td>
<td>16</td>
<td>33</td>
<td>33</td>
</tr>
<tr>
<td>Total</td>
<td>82</td>
<td>25</td>
<td>72</td>
<td>68</td>
</tr>
</tbody>
</table>
Scoping the Reindustrialization Processes in Tunisia

Reindustrialization 4: A Green Growth Perspective

A Green Growth Perspective of Reindustrialization delivers Multiple Developmental Benefits: Tunisia has huge potentials for reindustrialization of type 4, with beneficial impacts on employment creation; absorption of tertiary education graduates; regional development impulses; environmental protection benefits; activation of eco-services, such as tourism and logistics; waste management, recycling and remanufacturing businesses; and development of new high technology sectors; these potentials can be activated through new industrial policies.
Six areas have the potentially highest impact on youth employment, entrepreneurship development, overall employment, reform of the education and training system, and on structural change: These are the development of innovative clean-tech companies; renewable energy development; improving waste management; developing greening existing tourism and developing eco-tourism; developing further organic agriculture; and greening construction activities. Huge employment, skills and technology gains are anticipated.
Reindustrialization 4: A Green Growth Perspective

A Green Growth Perspective of Reindustrialization delivers Multiple Developmental Benefits:

- Tunisia has huge potentials for reindustrialization of type 4, with beneficial impacts on employment creation;
- absorption of tertiary labor market;
- development of new high technology sectors;
- environmental protection benefits;
- activation of eco-services, such as tourism and logistics;
- waste management, recycling and remanufacturing businesses;

These potentials can be activated through new industrial policies.

Figure 5.2. Use of renewable energy in Arab countries, 2010

Share of renewable energy in total primary energy supply

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a) NOEC = Net Oil Exporting Countries. NOIC = Net Oil Importing Countries.

Reindustrialization 4: A Green Growth Perspective delivers multiple developmental benefits: Tunisia has huge potentials for reindustrialization of type 4, with beneficial impacts on employment creation; absorption of tertiary education and high technology sectors; environmental protection benefits; activation of eco-services, such as tourism; and development of new high technology sectors; these potentials can be activated through new industrial policies.

Figure 5.3. Treatment of municipal solid waste, end 2011

Reindustrialization 4: A Green Growth Perspective

A Green Growth Perspective of Reindustrialization delivers Multiple Developmental Benefits:

- Tunisia has huge potentials for reindustrialization of type 4, with beneficial impacts on employment creation; absorption of tertiary education and training; social and economic development impulses; environmental protection benefits; activation of eco-services, such as tourism and logistics; waste management, recycling and remanufacturing businesses; and development of new high technology sectors. These potentials can be activated through new industrial policies.

Figure 5.4. Receipts per tourist arrival in selected Mediterranean destinations, 2010-12
Reindustrialization 4: A Green Growth Perspective delivers Multiple Developmental Benefits:

- Tunisia has huge potentials for reindustrialization of type 4, with beneficial impacts on employment creation; absorption of tertiary development impulses; environmental protection benefits; activation of eco-services, such as tourism and logistics; waste management, recycling and remanufacturing businesses; and development of new high technology sectors; these potentials can be activated through new industrial policies.

Figure 5.5. Percentage of agricultural land certified as organic, 2011
Reindustrialization 4: A Green Growth Perspective delivers Multiple Developmental Benefits:

- Tunisia has huge potentials for reindustrialization of type 4, with beneficial impacts on employment creation; absorption of tertiary ... development impulses; environmental protection benefits; activation of eco-services, such as tourism and logistics; waste management, recycling and remanufacturing businesses; and development of new high technology sectors; these potentials can be activated through new industrial policies.

Figure 0.2. Youth unemployment by governorate, Tunisia, 2012
Percentage of the labour force in each governorate

A Green Growth Perspective of Reindustrialization delivers multiple developmental benefits to Tunisia, with beneficial impacts on employment creation, absorption of tertiary workers, generation of entrepreneurial development impulses, environmental protection, support for eco-services such as tourism and logistics, and development of new high technology sectors. These potentials can be activated through new industrial policies.
Reindustrialization 4: A Green Growth Perspective delivers multiple developmental benefits: Tunisia has huge potentials for reindustrialization of type 4, with beneficial impacts on employment creation; absorption of tertiary education graduates; development of new growth impulses; environmental protection benefits; activation of eco-services, such as tourism and logistics; waste management, recycling and remanufacturing businesses; and development of new high technology sectors; these potentials can be activated through new industrial policies.

A Green Growth Perspective of Reindustrialization delivers multiple developmental benefits: Tunisia has huge potentials for reindustrialization of type 4, with beneficial impacts on employment creation; absorption of tertiary education; provision of development impulses; environmental protection benefits; activation of eco-services, such as tourism and logistics; waste management, recycling, and remanufacturing businesses; and development of new high-technology sectors. These potentials can be activated through new industrial policies.

Table 4.7. Unemployment rates by level of education, Tunisia, 2010

<table>
<thead>
<tr>
<th>Highest qualification achieved</th>
<th>Unemployment rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>5%</td>
</tr>
<tr>
<td>Primary</td>
<td>9%</td>
</tr>
<tr>
<td>Secondary</td>
<td>13%</td>
</tr>
<tr>
<td>Tertiary</td>
<td>24%</td>
</tr>
<tr>
<td>CAP</td>
<td>21%</td>
</tr>
<tr>
<td>BTP</td>
<td>22%</td>
</tr>
<tr>
<td>BTS</td>
<td>25%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>14%</td>
</tr>
</tbody>
</table>

The Contribution of Coherent Industry and STI Policies

Tunisia needs for a successful reindustrialization more coherent and basically horizontal investment and STI policies: Reindustrialization requests investment and STI policies which are neutral with regard of space/regions, sectors and sizes of enterprises, overcoming the onshore/offshore duality. 79% of the amount of incentives is wasted. An additional job costs not less than $20,000. Only four types of incentives (out of 68 different ones) account for 85% of the incentives. But, a new investment code for Tunisia will work only if three major preconditions are met.
The Contribution of Coherent Industry and STI Policies

Three Major Preconditions for a working New Investment Code: Competition is needed (as 60 percent of the Tunisian economy is closed to competition). A corporate tax reform is needed (the Total Tax Rate is estimated at 62.9 percent in 2012 and 59.9 percent in 2016, while the corporate tax system has many arbitrary exemptions and incentives). Reforming the regulatory burden of investors is needed (as it is > 13% of the turnover of firms). Concerning investment incentives, a Malaysian type of Knowledge and ICT-based Code is recommended.
The Contribution of Coherent Industry and STI Policies

Three Core Capabilities matter for Tunisia’s industry and STI policies and for a redrafted Investment Code: Three capabilities should be promoted when granting incentives for investment. First, technological capability as measured by the Comparative Industrial Performance Index; second, innovation capability as measured by the Global Innovation Index; and third, the information technology (IT) capability, as measured by the Global Innovation Technology Index. Reindustrialization is based on types of manufacturing requiring the three capabilities.
Mixed Outcomes in Tunisia: The *Comparative Industrial Performance (CIP)* measures the capacity to produce and to export manufactures, the technological deepening and upgrading performance, and the global impact of Tunisia’s performance; the middle position of Tunisia has not improved; the *Global Innovation Index (GII)* measures the Innovation Input, Output, Efficiency Ratio, and various Innovation Pillars; Tunisia’s position deteriorated strongly since 2012 (Rank 59) to 2013 (Rank 70) and to 2014 (Rank 78), especially so in the Efficiency and Output Indexes.
The Contribution of Coherent Industry and STI Policies

Mixed Outcomes in Tunisia: The Global Information Technology (IT) Index (or *Networked Readiness Index/NRI*) has seen in 2015 an improvement to rank 81 from rank 87 in 2014. The political, regulatory, business and innovation environment sub-index is poor (rank 103), while the readiness sub-index (with infrastructure, affordability and skills) is relatively favourable (rank 69). Usage and Impact sub-indexes have each a rank 81. The business usage (rank 106), the economic impact (rank 103), and the business and innovation environment (rank 108) are poor.
The Tasks Ahead: An Agenda for Action

**New Investment Code:** to be based on new policies on STI, industry and technology development, competition, regulatory issues, foreign investment, and the total tax rate

**Starting with the Sector Transformation Policies towards reindustrialization:** Parallel action is needed on the four routes of reindustrialization, as inclusive growth is aimed at (employment creation, regional development, etc.)

**Working hard on the “new development model” agenda (“appropriability” issues):** Private and public investors!