Summary of Madagascar’s Investment Climate Assessment

Malagasy’s private sector suffers from low productivity, particularly for non-EPZ firms, and a poor business environment which affects the sector as a whole. EPZ firms, however, perform better than firms in most other Sub-Saharan African countries. Cost of and access to finance and macroeconomic instability are major concerns which Malagasy firms share with other African countries. One notable difference, however, is that firms in Madagascar rank corruption and tax rates lower than other African countries. Price controls and inflation are the leading constraints in Madagascar.

This assessment is based on a detailed survey of 293 enterprises in the manufacturing sector. Within each firm, up to ten employees were also surveyed for a total of 639 workers. Through benchmarking perceptions between comparator countries, it links business environment to firm level costs and investment disincentives.

Firm and Worker Competitiveness in International Perspective

Two different conclusions can be drawn from this analysis: First, Malagasy firms lag behind in most aspects of competitiveness when compared with firms in other countries; and second, export processing zone (EPZ) firms are not only significantly more efficient than non-EPZ firms but also more competitive regionally.

Non-EPZ enterprises perform on par with firms in Uganda and Tanzania, but EPZ firms perform better than firms in most other Sub-Saharan African countries. As Table 1 suggests, EPZ and non-EPZ firms differ in many aspects, which partly explains these opposing conclusions.

Taking into account these differences, the results for Malagasy firms show the following characteristics. Overall, Malagasy firms show a low median labor productivity. Labor productivity is higher for large firms’ employees, who add almost twice as much value as those in the median-sized enterprises (less than 100 employees). EPZ firms have also slightly higher labor productivity.

Table 1: Median Productivity for Madagascar by Export Status

<table>
<thead>
<tr>
<th></th>
<th>Capacity</th>
<th>Capital per</th>
<th>Capital</th>
<th>Value Added</th>
<th>Labor Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Utilization</td>
<td>Worker</td>
<td>Productivity</td>
<td>per Worker</td>
<td>per Worker</td>
</tr>
<tr>
<td>Median</td>
<td>80.0</td>
<td>$2029</td>
<td>0.86</td>
<td>$1,453</td>
<td>$495</td>
</tr>
<tr>
<td>EPZ firms</td>
<td>80.0</td>
<td>$947</td>
<td>1.33</td>
<td>$1850</td>
<td>$591</td>
</tr>
<tr>
<td>Non-EPZ firms</td>
<td>75.0</td>
<td>$2298</td>
<td>0.64</td>
<td>$1407</td>
<td>$475</td>
</tr>
</tbody>
</table>
Madagascar has the highest value added as a percentage of capital stock compared with all other comparator countries except India. High returns to capital are mainly due to limited investment in capital stock: During the last three years combined, gross investment accounted for only 7 percent of sales or 3.8 percent of capital stock.

An estimate of total factor productivity (TFP) shows that there are increasing returns to scale in manufacturing.1 Fully foreign EPZs are most productive (with 46 percent higher productivity). Human capital affects productivity, so firms that provide internal formal training to workers also tend to have higher productivity. However, the use of external training institutions has not been shown to yield better performance.2

Survey results show that Malagasy firms have low unit labor costs (see figure 2). With a median value of 0.33, unit labor cost falls with firm size, as labor costs rise less than labor productivity. Unit labor costs are also lower for EPZ firms compared with non-EPZ firms because their higher labor costs are largely offset by their higher labor productivity.

Figure 2: Country Comparison of Median Labor Costs

Enterprise in Madagascar have less capital per worker than all other comparator countries except Uganda (figure 3). Capital intensity falls with firm size however. Large firms operate in the low-capital garments sector, while small firms operate in the more capital-intensive paper and publishing sector.

Chief Barriers to Growth, Productivity, and Investment in Madagascar

Overall, Malagasy firms perceive a less favorable business environment than do Mauritian and Chinese firms. However, when compared with firms in other African countries, they note sharing most of the same problems, with cost of and access to finance and macroeconomic instability as major constraints. One notable difference, however, is that firms in Madagascar rank corruption and tax rates lower than other African countries (Table 2). Price controls and inflation are the leading constraints in Madagascar.

Trade policies in Madagascar are fairly efficient compared with other countries. Madagascar has one of the lowest clearing times and is bettered only by Malaysia and Mauritius (among countries where surveys were conducted) in import clearing time and only by Malaysia in export clearing time. However, for a significant proportion of the largest firms (40 percent), which are the main exporters, the quality of customs administration is considered to be poor or very poor.

Malagasy firms experience a high bureaucratic burden measured as the proportion of senior management time spent with regulators.

Infrastructure represents a major constraint as well: Electricity and waste disposal were viewed as operating poorly/very poorly by over 40 percent of the firms surveyed and account for most of indirect costs. Compared with most other countries surveyed, Malagasy firms face the most unreliable electricity service regime considering the high frequency of power outages per year and the low degree of generator ownership (table 3).

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1 Estimated by using an OLS production function where log of total sales was the dependent variable.

2 Several econometric issues can be raised in the context of these regressions. Endogeneity is always an issue in cross-section data. Sector specific production functions are also more appropriate. These issues will be addressed in future research papers. Productivity regressions, using a single-step OLS procedure, have been shown to yield consistent estimates and is the approach used here.
Access to credit in Madagascar is not different from countries like Tanzania and Uganda, although it does have a higher share of firms with lines of credit (Figure 4). The main problems are that small firms have less access than large firms and, on average, firms use retained earnings to finance 80 percent of new investments.

The value of collateral requirement is high in Madagascar. Relative to the value of the loan, the collateral requirement is 137 percent on average, higher than every other country except Kenya. There is also a strong correlation between the quality of records generated by firms (that is, annual budgets) and access to bank finance.

Regarding educational distribution, the model worker in Madagascar has between 6 and 9 years of schooling making education levels in the country comparable to those of workers in other countries at similar stages of development. However, it is important to note that Madagascar has the fewest university-educated workers in manufacturing (figure 5).

Wages are low in Madagascar compared with those in other countries: Unskilled production workers earn about $36 per month compared with $45 in India, $57 in Uganda, $85 in China, and $145 in Mauritius. Wages increase with firm size, education, tenure, and formal training and are higher in EPZ firms than in non-EPZ firms.

And, finally, there are limited opportunities for in-firm and off-site training. However, it is only firm-supplied training that has a direct positive impact on productivity.

**EPZ and Non-EPZ Firm: Main Differences**

A comparison between EPZ and non-EPZ firms shows marked differences in the two types of firms for a number of
difference factors. Clearly, EPZ firms are much more competitive than non-EPZ firms.

- Most manufacturing jobs created between 2002 and 2004 were in EPZ firms.
- EPZ firms have slightly higher labor productivity and much lower capital intensity. The capital base of EPZ firms is lower than that of non-EPZ firms.
- Unit labor costs are lower for EPZ firms relative to non-EPZ firms.
- Total factor productivity is much higher for EPZs, especially for foreign-owned firms, which also reflects the lack of backward linkages to the rest of the economy.
- A higher percentage of non-EPZ firms report price controls, inflation, macroeconomic instability, and cost of and access to finance as major constraints.
- Corruption is a major impediment uniformly across all firm categories.

**Policy Implications**

A comprehensive strategy in Madagascar that would lead to long-term gains for a larger proportion of the population should focus on the following measures:

- **Improving labor productivity** with (1) tax benefits that would encourage privately supplied training; and (2) diversification of Madagascar’s industrial base in labor-intensive manufacturing, taking advantage of its low unit labor costs.
- **Addressing total factor productivity dualism with policies regarding EPZ firms** with (1) investments in capital stock that parallel growth of employment in the EPZ sector; and (2) evaluation of the incentive structures that ensure growth of efficient enterprises and avoid dependence on exceptional regulatory benefits.
- **Examining generalized tax cuts** by (1) rebalancing tax exemptions for EPZ firms; and (2) reducing taxes on imported goods and machines to further capital deepening and diversification of footloose industries.
- **Fighting corruption through regulatory reform** by (1) streamlining regulations to reduce the opportunities for corruption; and (2) improving incentives for regulatory officials to reduce incidences of bribery as well.
- **Reducing indirect costs due to inadequate infrastructure** by (1) improving electricity supply quality and creating a tax structure that encourages the purchase of generators; and (2) improving transport, which will reduce inefficiencies throughout the supply chain.
- **Expanding access and lower cost of finance for small and medium enterprises (SMEs)** with (1) increased competition and promotion of microfinance institutions for SMEs; and (2) government-led development
Figure 5: Worker Education in the Manufacturing Sector, by Country

- None
- Primary
- Secondary
- Vocational/Technical
- University

This note is part of a series of summaries of analytical work of the Africa Private Sector Unit. This note is authored by Jessica Bocard based on a report entitled Madagascar Investment Climate Assessment (June 2005). The report was written by a team led by Ivan Rossignol, and including Manju Kedia Shah, James Habyarimana, and Linda Cotton. For more information, contact Melanie S. Mbuyi via email at mmbuyi@worldbank.org or via telephone on 202 473 9574. A copy of the report is also available from www.worldbank.org/afr/afrps.