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AFRICA PRIVATE SECTOR GROUP

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**THE DEMOCRATIC REPUBLIC OF CONGO**

**The Potential for Growth: An Investment Climate Assessment**

May 2008

The World Bank

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## ACKNOWLEDGEMENTS

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The *Investment Climate Assessment (ICA)* is based on an analysis of investment climate survey data gathered by EEC Canada with technical assistance from the Regional Program on Enterprise Development (RPED) in the Africa Region's Finance and Private Sector Group at the World Bank. Ivan Rossignol was the task team leader of this report, under general direction from Marilou Uy, Iradj Alikhani, Demba Ba and Jean-Michel Happi. Other team members included Manju Kedia Shah, Vijaya Ramachandran, Inessa Love, Guillemette Jaffrin, Amadou Dem, Guiseppe Iarossi, and Josephine Ngou. Mustafa Souissi of the African Development Bank also contributed to the report.

The authors would like to stress that the investment climate survey was conducted during the run-off of the first presidential election. This might have introduced some biases in the interpretation of the data collected.

We would particularly like to thank the Congolese government authorities who provided support in the preparation of this report, as well as the Congolese business associations, including Fédération des Entreprises Congolaises (FEC) and the private sector enterprises who contributed their time participating in the survey. Finally, the team wishes to thank Vincent Palmade and Zoubida Alloua, who served as peer reviewers for this work.

MAP OF THE DEMOCRATIC REPUBLIC OF CONGO (DRC)



(CIRCLED AREAS REPRESENT CITIES WHERE THE SURVEY WAS CONDUCTED)

### **The promise of private sector-led shared growth**

1. The DRC is the third most populous country in Sub Saharan Africa and has many natural advantages that would enable it to experience rapid sustained economic growth and rapid poverty alleviation. These include rich and diverse natural resources, such as mining and hydroelectric potential, abundant fertile land, and a large domestic market. The country is emerging from conflict<sup>1</sup> and democratic election, and benefits from significant external capital inflows from export of commodities with surging prices and donor aid, as well as debt relief. Starting from a low base (with GDP per-capita in 2006 about 1/3 of where it was in 1980<sup>2</sup>) an economic rebound would also be expected, and indeed is happening: current GDP growth is hovering around 6 percent. Nevertheless, this level of performance is insufficient to address poverty, with the Millennium Development Goals being mostly out of reach. Growth needs to be accelerated, shared better and sustained over the years to come. While certain countries have been unable to respond to such challenges, others, including Uganda in the 1990s and Mozambique now, have registered impressive results. DRC can also engage on a similar path.

2. The DRC is ranked last in the Doing Business ranking. The investment climate therefore seems to be an obvious entry point for reforms. This ICA confirms and deepens the aforementioned study and provides a broader view of the firms' perspective on the most binding constraints as well as insights on regional disparities.

3. The profile of the private sector in such a large country is paradoxical. With the exception of mining, the universe of firms with five or more full time paid permanent employees did not exceed 1,296 for the whole country, at the time of the survey. About 21,460 micro-enterprises were registered (Appendix A).

4. The private sector in the DRC has great potential to contribute to broad-based growth. But, in spite- of five years of post-conflict steady growth, this potential has yet to be realized. Capital investment by foreign and domestic enterprises has been fairly low in the past three years, during which fewer than half of all enterprises have made new capital investments. Evidence from enterprise surveys reveals that private sector growth and investment in the country are constrained by an unfavorable investment climate—enterprises in the DRC face some very tough obstacles in their everyday operations. In

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<sup>1</sup> While the country is mostly at peace, there are still important pockets of conflict in the Kivu Region. None of the cities surveyed are directly affected by the conflict.

<sup>2</sup> PPP method, Constant GDP US\$, value in 2000.

particular, the slow growth of the manufacturing sector is attributable to unreliable electricity supply, lack of access to finance further compounded by important internal and commercial debt arrears; uncertainty due to policy shifts, and the burden of high tax rates, ad hoc visits from inspectors, crime, and corruption (referred as “*tracasseries administratives*”). The uncertain macro-economic conditions, the lack of economic integration of the country (making the development of supply chains difficult), the dominance of the public sector in the key segments of the economy (such as transport, energy and mining) and the prevalence of “informal practices” among major economic actors, the weak regulatory environment (e.g. the commercial code dates from the colonial times; DRC is not a member of OHADA<sup>3</sup>), worsen the conditions for the development of a healthy private sector.

5. Encouragingly, the Government has instituted some structural reforms and policy changes (such as the mining code, the investment code, the liberalization of prices) that have led to an increase in foreign direct investment (FDI)—from US\$699.49 million in 2001 to more than 1 billion in 2006<sup>4</sup>—across various sectors, most notably in telecommunications. In addition, with its vast mineral resources (including oil), its immense hydroelectric power, and a domestic market of 60 million people, the DRC’s economic potential and attractiveness for FDI remains unmatched in the region. The recent commodity boom is expected to attract further foreign investors’ interest.

6. In order for sustained shared growth to be realized and for investments to materialize, Government needs to quickly implement a number of regulatory and policy reforms and to develop a more predictable policy environment<sup>5</sup>. It also needs to make sure that all private sector entrepreneurs, not just those in certain sectors benefit from an enabling environment conducive to their activities.

7. This Overview presents the most binding constraints faced by private sector actors in the DRC and the steps to be taken to resolve them. The Technical Appendix to this Overview contains the results of the *Investment Climate Assessment*, which provides a detailed picture of the DRC’s investment climate, based on a survey of 444 enterprises in Kinshasa, Lubumbashi, Matadi, and Kisangani conducted in June and July 2006 (representing nearly 1 percent of tax paying companies in DRC). The survey covers microenterprises with fewer than five employees; formal manufacturing enterprises; and retail, construction, hotel, and other types of enterprises. Broadly defined, a country’s investment climate

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<sup>3</sup> At the time of issuance of this report, DRC had completed the first steps to adopt the OHADA legal framework.

<sup>4</sup> In stock, from the World Investment Report, UNCTAD, 2007. Available data on FDI in DRC lacks accuracy. It is estimated that in 2001 FDI net inflows represented 1.65 percent of GDP in 2001 and 5.66 percent in 2005 (with a peak of 10.17% in 2004), World Bank, SIMA database.

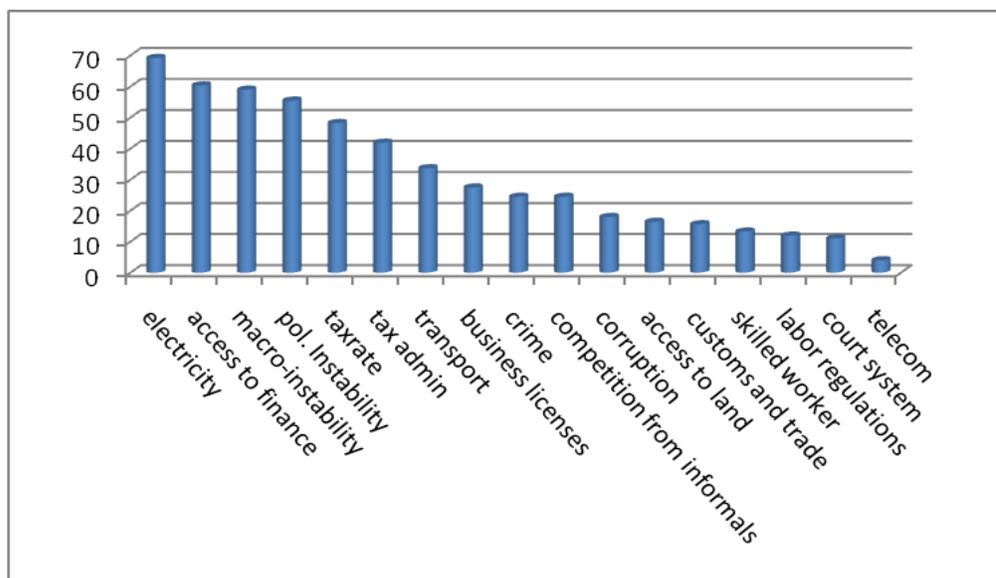
<sup>5</sup> For example, the on-going review of the mining contract and its uncertain process have had a detrimental impact on the share prices of some mining companies established in DRC and on the willingness of major banks to finance investments in the mining sector in DRC.

includes its unique attributes or “geography,” as well as the state of its infrastructure, economic and social policy institutions, and governance mechanisms.

### A Weak Investment Climate is Constraining Businesses

8. Reliable electricity supply, access to finance, and macroeconomic and political stability—elemental ingredients for a successful private sector—dominate the concerns of enterprises in the DRC. . Figure 1 shows the percentage of enterprises that rank each of a list of problems to be major or severe. It is worth noting that DRC’s ranking in Doing Business suggests that some of the constraints currently not perceived as binding could quickly become important as the infrastructure hurdles are overcome. Furthermore, firms already operating have been able to cope with certain problems that potential new entrants may not be able to address – thus contributing to foregone activities, informality and lower enterprise growth that would otherwise be possible.

**Figure 1: Percentage of Enterprises Ranking Business Climate Problems as Major or Severe**

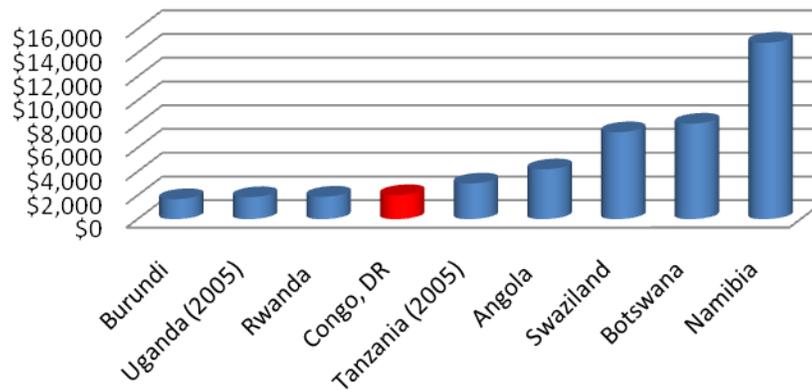


Source: World Bank Enterprise Survey, 2006.

9. The weak business environment imposes a high burden on Congolese enterprises. Congolese firms generally show a low productivity rate. The formal manufacturing sector, comprising enterprises with more than five full-time paid employees, shows lower labor productivity, older capital stock, and lower total factor productivity than do the manufacturing sectors in Tanzania or Angola (Figure 2). Value added per worker (a proxy for labor productivity) in manufacturing enterprises is only about \$2,000, compared to almost \$4,000 in Angola, and more than \$6,000 in Namibia, Swaziland, and Botswana. The

tracking of this indicator over time could serve as a good proxy for whether or not investment climate reforms are having a positive impact.

**Figure 2: Labor Productivity in the DRC and Other African Countries**



Source: World Bank Enterprise Survey, 2006.

### Electricity and Transportation are Serious Bottlenecks to Growth

10. Infrastructure constraints are major or severe in many areas of the DRC (Figure 3), particularly the lack of reliable electricity supply. An inefficient public utility, low operational generation capacity, and an aging transmission and distribution network result in an average of 19 outages a month. Only 40 percent of enterprises own or share a generator. The impact on production and sales is high—enterprises estimate that on average, they lose 7 percent of production due to power outages every year. Investment in the electricity sector (including private participation in generation and distribution) is still very low. Five years after the end of the conflict, significant investments to rehabilitate the system and develop the massive hydro potential of the Inga site<sup>6</sup> — potentially the largest hydroelectric power source in Africa — have not yet materialized.

11. Inadequate transport also increases the cost of doing business in most regions and hinders the integration of the national economy. DRC, a country the size of Western Europe, has around 2,800 km of paved roads. Most importantly, regions are not integrated into a common and reliable transport network, which limits their potential for growth. Because of the size of the country, the transport network relies on a multimodal approach (river, road and rail) to connect all the provinces. However, with the

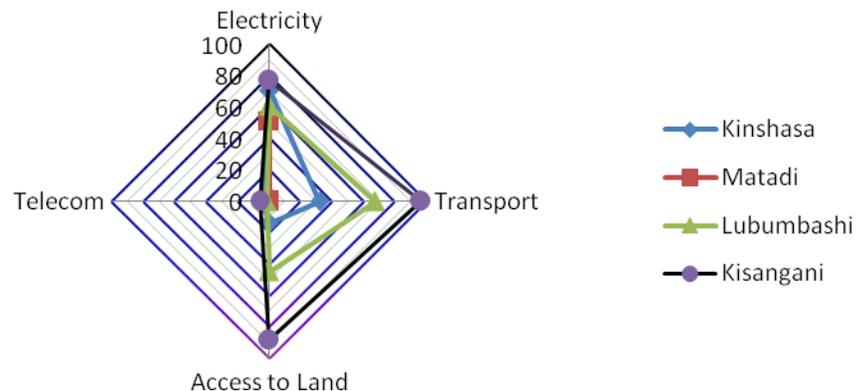
<sup>6</sup> Two hydroelectric power plants are in operation (Inga 1, with a capacity of 351 MW and Inga 2 with a capacity of 1,424 MW); however, because of their obsolescence and lack of maintenance, the two plants only operate at half their capacity. Plans have been developed for Inga 3 (which could respectively produce 3,500 and 39,000 megawatts)

economic collapse of the 90s, this network disintegrated. Populated with non functioning public enterprises, the country’s main port (Matadi) remains an important bottleneck for trade facilitation, mostly due to customs inefficiencies.

12. About 80 percent of enterprises in Kisangani report transportation, as well as access to land and electricity, as severe constraints. This can be explained by the fact that Kisangani can only be served by a supply chain via air or river.<sup>7</sup> Boats from Kinshasa usually take between two weeks to one month to reach Kisangani, when they do not become immobilized by sand banks. Even enterprises in Lubumbashi that have the option to trade through Zambia face transport bottlenecks, noting transport and access to land as more important constraints<sup>8</sup> compared to enterprises in Kinshasa and Matadi.

13. Lack of capital investments in the electricity and transport sectors are the result of years of mismanagement of public enterprises, lack of sectoral policies and strategies, and active measures taken by previous governments against private sector entry. The work started by the Government to develop public private partnerships seeks to alleviate these constraints, but is progressing slowly.

**Figure 3: Percentage of Enterprises Ranking Infrastructure Constraints as Major or Severe, by Region**



Source: World Bank Enterprise Surveys, 2006.

**Access to Finance is Problematic**

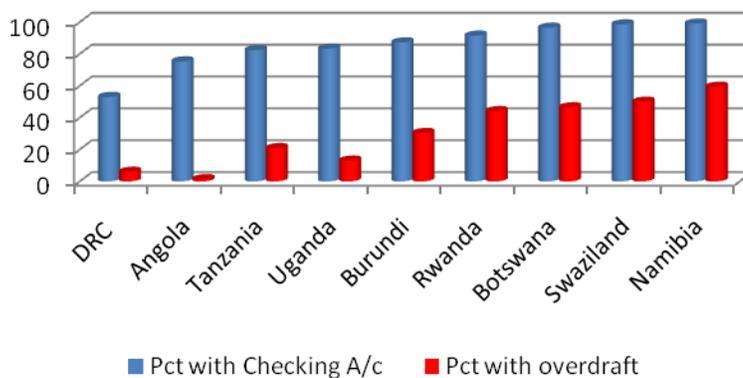
14. There are only a few banks in DRC, they rarely operate in the regions, and electronic payments systems have not been established. The banking sector almost collapsed following years of economic mismanagement and inflation. Nine commercial banks have been liquidated since 1998. Today DRC

<sup>7</sup> River dredging allowing for better access occurs only sporadically.

<sup>8</sup> SNCC, the public enterprise that manages railways, is in a state of virtually bankruptcy and can hardly maintain its rolling stock. Roads remain the most reliable way to access land, but are poorly maintained. The customs are also causing major bottlenecks and long queues of trucks can be seen waiting on the Zambia side of the border (trucks can wait up to a week).

counts 11 commercial banks, with around 60 branches across the country and less than 100,000 bank accounts. The level of financial intermediation is one of the lowest in Africa: in 2006, commercial banks assets accounted for around 10 percent of GDP, while the average is 25 percent in Sub Sahara Africa. Similarly, bank credit to the private sector accounted for 2.8 percent of GDP, compared to 15.7 in Sub Sahara Africa. Enterprises in the DRC therefore operate mostly on a cash basis. Only 50 percent of formal enterprises have a bank account (Figure 4), and only 10 percent have access to overdraft facilities. Only 6 percent have bank loans. Most enterprises with access to finance tend to be larger foreign enterprises. Smaller domestic enterprises operate almost entirely on a cash basis, leading to lower efficiency and productivity due to a lack of long term investments supported by credit. Accounting standards are weak and enterprises rarely have audited accounts. Lack of reliable financial information on enterprises reduces access to financial services.

**Figure 4: Manufacturing Enterprises’ Linkages to the Formal Banking Sector in the DRC and Other African Countries**



Source: World Bank Enterprise Survey, 2006.

15. Access to finance is also severely constrained by lack of land titles and lack of a functioning registry. The legal system does not allow for the enforcement of property or repossession rights.

16. Enterprises in the DRC are further constrained by the fact that informal sources of finance are very limited, including remittances. This makes DRC significantly different from other African countries. In many countries with limited formal financial intermediation, informal finance has developed to compensate for this, in particular through ethnic network linkages. For example, the use of formal and informal trade credit is very high in Kenya, even among smaller enterprises. This is not the case in the DRC, where little trade credit is available to purchase inputs. Small enterprises in the formal manufacturing sector report that they seldom borrow from friends and family for their working capital or

investment needs. The development of the formal financial sector is thus a cornerstone for the development of the private sector.

### **Governance and Corruption Remain Serious Issues**

17. Macroeconomic and political instability are major concerns for Congolese enterprises. Recent increases in the rate of inflation (at about 17.5% in 2007) have resulted in a high level of uncertainty for the small and informal enterprises, which are the only enterprises using the Congolese francs. The lengthy political transition process that started in 2001 and ended in December 2006, has also taken its toll—for instance, enterprises in Kisangani are very concerned about political instability (Kisangani was the scene of heavy fighting during the “Second Congo War” in 1998-99). Regular fighting in the Kivu between armed militias and Congolese forces have also had a serious impact on the perception of DRC as a good investment destination. It has also hurt the development of potentially high-growth cities such as Goma.<sup>9</sup>

18. After years of mismanagement and institutionalized corruption, tax rates and the administrative burden of inspections in the DRC are also among the highest in Sub-Saharan Africa<sup>10</sup>. The high tax rates, the frequency of inspector visits, and the inefficiency of the tax administration create incentives for enterprises to evade taxes. The survey shows that on average, only 60 percent of income is reported for tax purposes. This situation encourages enterprises – even relatively large ones – to remain in the informal sector and limit their operations at the cost of foregone investments in additional workers and capital stock. Enterprises in the Lubumbashi region, which are among the most productive in the DRC, seem to be more affected by tax harassment—the frequency of inspector visits is much higher in this region. This may indicate greater rent seeking by government officials in that region, probably because Lubumbashi is benefiting from an exceptionally favorable growth and prosperity due to mining sector investments.

Overall, bureaucratic corruption is systemic. The Kaufmann-Kray indicators of governance, as well as Transparency International’s governance rankings, place the DRC at the very bottom of a global list of countries. While enterprises responding to the survey ranked corruption lower than other constraints, this may be because infrastructure and finance are much more binding constraints. A comparison of enterprise survey data shows that the percentage of enterprises paying bribes and being subject to inspector visits is the highest in Africa in absolute terms. In practice, bribe payments are expected—the majority of enterprises in the DRC report that they know in advance about the bribes they need to pay to

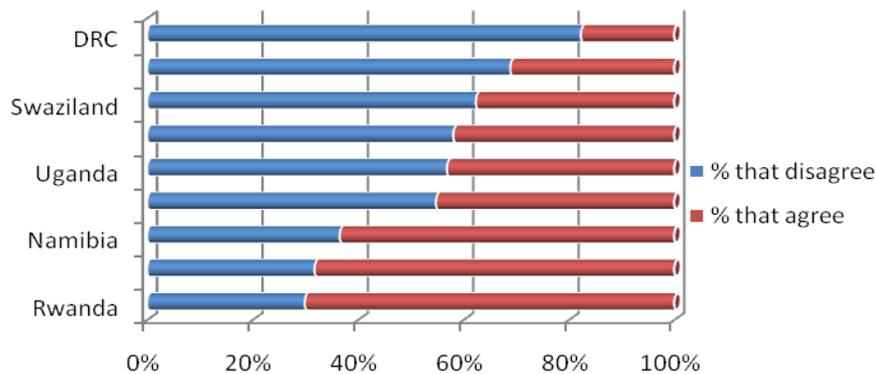
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<sup>9</sup> Strategically situated at the border of Rwanda, on the shore of a lake shared by Rwanda and DRC, Goma is a trading post that could enjoy high growth rates through trade and tourism once there is a more stable political situation.

<sup>10</sup> In the Doing Business rankings, DRC ranks 173 for Enforcing Contracts, 149 for Paying Taxes and 141 for Registering Property.

sustain operations, indicating that these additional costs are already factored into their cost structure. The judicial system is ineffective and has limited capacity for contract enforcement and conflict resolution. Enterprises in the DRC have little faith in this system — about 80 percent of survey respondents disagree with the statement that the court system is fair, impartial, and uncorrupted (Figure 5).

**Figure 5: Perception of the Court System in the DRC and Other African Countries**



Source: World Bank Enterprise Survey, 2006.

### The Potential for Growth in the DRC

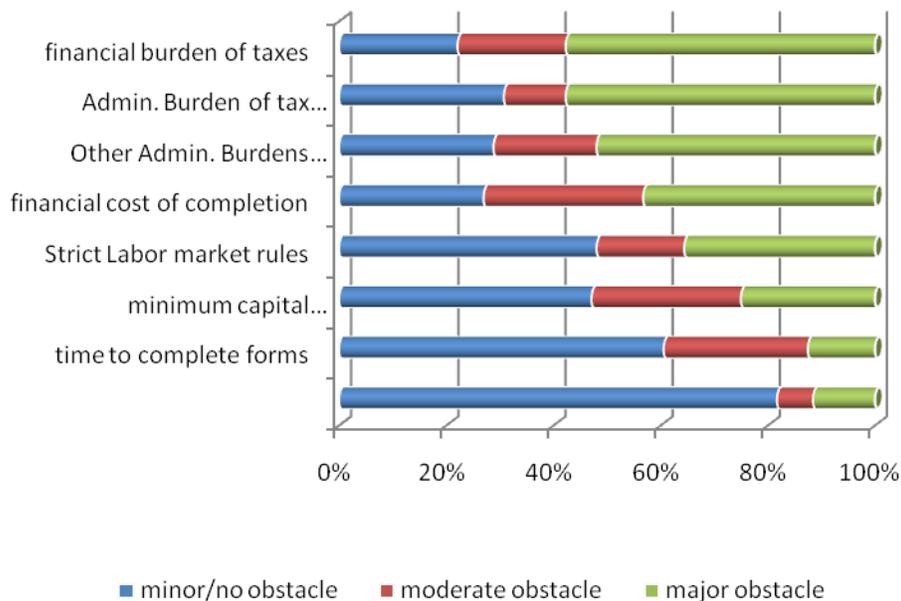
19. Due to the wide variety of problems described above, DRC has one of the worst investment climates in the world (DB 2008). Nevertheless, Congolese enterprises are resilient; the survey data show that some are even growing in this harsh business environment. Almost 50 percent of enterprises reported job growth from 2002-2006, while fewer than 20 percent reported job losses during this period. In addition, many small enterprises have recently entered the market—the average enterprise age is only seven years, compared to more than 10 years in comparator countries. Most promisingly, the “right” enterprises are expanding and/or entering the market— they are led by entrepreneurs with higher education, prior experience, access to formal financial services, and Internet access. With the proper incentives in place, this group of enterprises is likely to serve as incubators for successful future medium and large formal sector enterprises.

20. The DRC also has a dynamic micro-enterprise sector, which bodes well for the future. These enterprises appear to have high growth potential—about 80 percent of all economic activity is generated in this sector. Micro-enterprises that were surveyed for this analysis are not recorded in the official manufacturing census—while most have a municipal license, only a small subset comply with all tax and licensing laws. The data show that most micro-enterprises in the DRC are not “survival enterprises,” but rather are based in permanent structures with electricity and water hookups. Remarkably, they are

owned by educated entrepreneurs—in fact, the micro-enterprise sector in the DRC has one of the highest percentages of university-educated entrepreneurs in all of Sub-Saharan Africa. This group of firms appears to have significant growth potential in response to improvements in the investment climate.

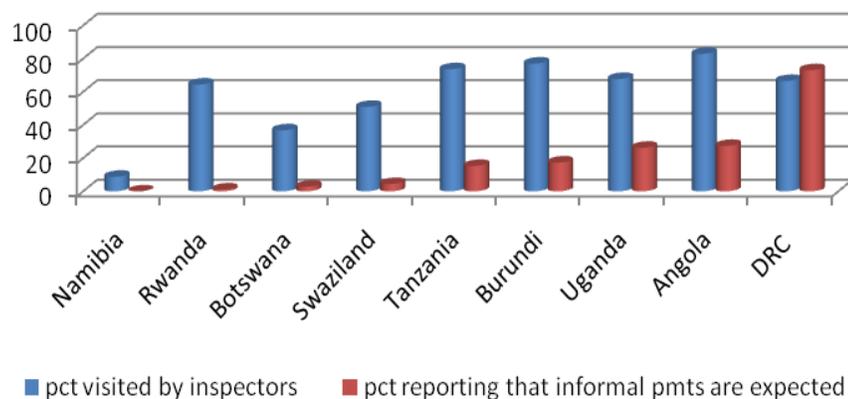
21. Enterprises report that they choose to remain informal not necessarily because of their inability to sort through the paperwork required to formalize, or due to the time or cost involved in registering, but because informality allows them to circumvent higher taxes and rent seeking by inspectors and tax officials. Weak governance and corruption, therefore, have a direct impact on the size of the informal and formal sectors (Figures 6 and 7).

**Figure 6: Reasons for Informality—Percentage of Micro-enterprises Ranking Each Factor as a Minor, Moderate, or Major Obstacle**



Source: World Bank Enterprise Survey, 2006.

**Figure 7: Burden of Inspections and Informal Payments**



Source: World Bank Enterprise Survey, 2006.

22. Finally DRC is a large country where private sector growth is likely to be different from region to region and city to city. More efforts towards the decentralization of the Government should help better manage revenue collection and also better reinvest a portion of these to address region-specific hurdles to doing business.

#### **PROPOSED REFORMS: ELEMENTS OF A PRIVATE SECTOR-LED GROWTH STRATEGY**

23. Given the above diagnostic, a question for policy-makers is why should Government focus on investment climate reforms while some investments are still flowing in? By describing how investment climate constraints enterprise development, this analysis argues that the private sector growth registered so far is largely a direct result of the post conflict surge in investments, and argues that this growth cannot be sustained and shared unless the fundamentals of a better investment climate and lower cost of doing business, are put in place. In this context, what type of private sector development policy should DRC pursue? A first approach would consist in focusing on the main constraints preventing private sector supply response: a summary of the proposed reforms discussed in the Technical Annex, is presented in the matrix. It is suggested that these reforms will help alleviate some of the major constraints identified here. A second, complementary approach would be to tackle specific special development issues through approaches such as growth poles or special economic zones, both of which can help to accelerate investment climate reforms in a focused way and serve as demonstration for broader initiatives. The definition of such approaches is outside the scope of this study, but would seem to be areas worth exploring through future economic and sector work.

24. The five key areas where constraints are most immediate and binding —macroeconomic (including taxes), institutional reforms and legal environment, access to finance, infrastructure, and corruption — require mutually reinforcing policy and institutional reforms as well as infrastructure roll-out to help spur investment and make businesses more productive. This will necessitate action by Congolese policymakers and the business community, as well as support from development partners. An important precondition is the consolidation of the peace process in DRC and political stability. Once these reforms are initiated it would be important for Government to adopt a more medium to long-term approach, with regard to of other constraints that do not appear as binding today but could rapidly become critical – such as the labor market.

## DRC: Proposed investment climate reforms

Proposed Measures	Improve the macroeconomic environment	Strengthen critical institutions, Engage in Legal reforms	Increase access to finance	Improve critical infrastructure	Fight corruption and poor governance
<b>Short Term</b>	<ul style="list-style-type: none"> <li>• Maintain macro-economic stability (inflation in CF and US\$/CF exchange rate) (<i>Min. of Finance</i>)</li> <li>• Clear internal commercial debt arrears vis-à-vis private creditors (<i>Min. of Finance</i>)</li> <li>• Clear arrears with the London and Kinshasa Clubs of creditors (<i>Min. of Finance</i>)</li> <li>• Improve the efficiency of the customs one- stop-shop in Matadi and eliminate interference from public enterprises (<i>Min. of Finance, Plan, Portefeuille</i>)</li> <li>• Establish a conducive tax system for the private sector: review tax exemption regime, lower the direct and indirect tax burden on enterprises in alignment with best practices (<i>Min. of Finance</i>)</li> <li>• Establish and disseminate clear rules for tax controls in enterprises</li> </ul>	<ul style="list-style-type: none"> <li>• Complete the membership to OHADA (<i>Min. of Justice, Parliament, Presidency, judiciary</i>)<sup>11</sup></li> <li>• Promulgate and implement Public Private Partnership laws to allow the transformation of public enterprises and allow private sector entry , issue related regulations (<i>Min. of Portefeuille</i>)</li> <li>• Strengthen the technical capacity of COPIREP to carry out PPPs</li> <li>• Refocus ANAPI mandate on investment promotion, review its organizational structure, and strengthen its institutional capacity (<i>Min. of Plan</i>)</li> </ul>	<ul style="list-style-type: none"> <li>• Improve Central Bank supervisory capacity for banks and non bank financial institutions (including microfinance institutions) (<i>Central Bank</i>)</li> <li>• Finalize the restructuring of the banking sector (<i>Central Bank</i>)</li> <li>• Improve secured transaction legal and judicial framework (for immovable and movable collateral), (<i>Min. of Justice</i>)</li> <li>• Modernize the credit bureau Establish a credit registry (<i>Central Bank, commercial banks, microfinance institutions</i>)</li> <li>• Promote political and commercial risk insurance tools through African Trade Insurance Agency, ATI (<i>ATI</i>)</li> <li>• Establish an effective the payment system to facilitate flow of funds within the country and internationally (<i>Central Bank</i>)</li> </ul>	<ul style="list-style-type: none"> <li>• Improve utilities management by carrying out sector reforms in the electricity and water sectors (<i>Min. of Portefeuille and Energy, COPIREP</i>)</li> <li>• Carry out sector reforms in the transport sector (RVA, ONATRA, SNCC, RVF, RVM) to restore the multi modal transport infrastructure and re-connect the country (<i>Min. of Portefeuille and Transport</i>)</li> <li>• Assess the potential of special economic zones around identified “growth poles” and value chains (<i>Min. of Industry, Min. of Plan</i>)</li> </ul>	<ul style="list-style-type: none"> <li>• Implement through appropriate regulations the anti-corruption law and code of conduct for civil service</li> <li>• Overhaul negative incentives system given to tax administration and customs officials (<i>Min. of Finance</i>)</li> <li>• Publish contracts with the public sector and joint ventures, especially in the mining and forestry sectors (<i>EITI, Min. Plan, Finance</i>)</li> <li>• Encourage use of arbitration centers and commercial courts (<i>Min. of Justice, private sector representative bodies</i>)</li> <li>• Encourage a high level public / private sector dialogue to identify solutions to improve the investment climate and reduce “tracasseries administratives” (<i>Presidency, Min. Plan, private sector representative bodies, ANAPI</i>)</li> </ul>

<sup>11</sup> In February 2008, the President of DRC sent the Letter of Intent to join OHADA to the President of Senegal (Senegal is the depository country of the OHADA Treaty).

<p><b>Medium Term</b></p>	<ul style="list-style-type: none"> <li>• Promote a more efficient customs system through, possibly, a management contract (<i>Min. of Finance, Min. of Plan</i>)</li> <li>• Increase measures on decentralization to help increase revenue collection.</li> </ul>	<ul style="list-style-type: none"> <li>• Harmonize Congolese legal framework with OHADA framework (<i>Min. of Justice</i>)</li> <li>• Modernize the labor code through tri-partite dialogue (<i>Min. of Labor</i>)</li> <li>• Review the land law and develop a land reform strategy with a focus on the main commercial centers (<i>Min. des Affaires Foncières</i>)</li> </ul>	<ul style="list-style-type: none"> <li>• Complete reorganization and strengthening of the Central Bank (<i>Central Bank</i>)</li> <li>• Encourage the development of leasing companies (<i>Min. of Finance, Central Bank</i>)</li> </ul>	<ul style="list-style-type: none"> <li>• Develop and implement “growth poles” strategies, e.g. in the mining, agro-processing, power sectors (<i>Sectoral ministries</i>)</li> </ul>	<ul style="list-style-type: none"> <li>• Implement judiciary reform, through the implementation of the Action Plan for Justice Reform (<i>Min. of Justice and development partners</i>)</li> <li>• Develop a transparent framework for the negotiation of major investment projects (<i>Presidency, Min. Plan</i>)</li> </ul>
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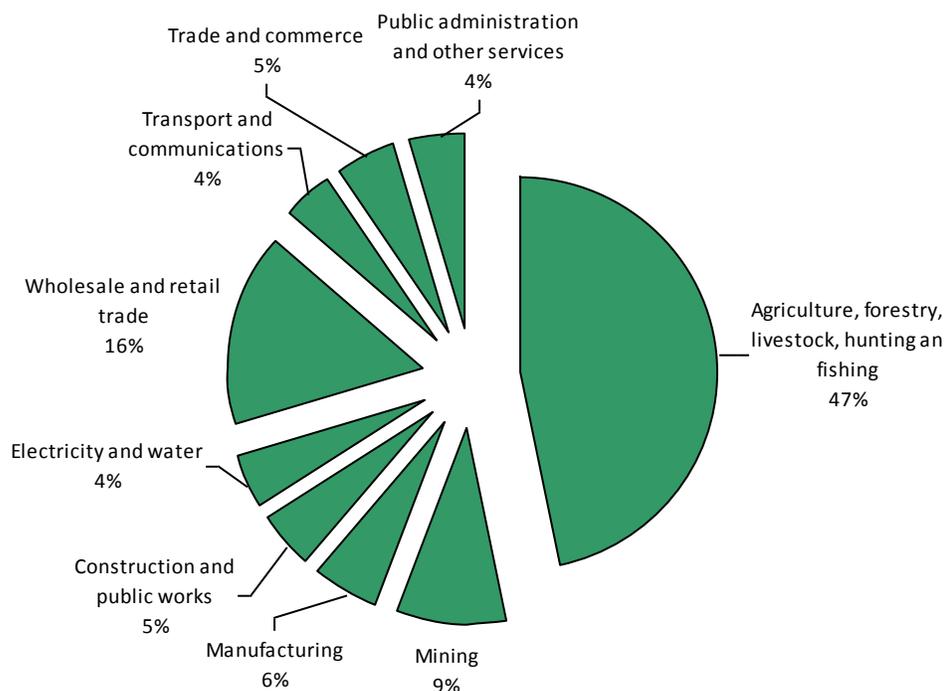
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MACROECONOMIC BACKGROUND<sup>12</sup>

FIGURE 1.1: SECTORAL BREAKDOWN OF GDP IN 2006 (AS A PERCENTAGE)



Source: IMF Country Report No. 07/329, September 2007

25. The Democratic Republic of Congo (DRC) is one of the poorest countries in the world. Decades of war and political instability destroyed most infrastructure and productive activities—per capita GDP in the 1980s was only a third of that in 1962, and it declined even further in the 1990s. GDP per capita dropped from US\$380 in 1960 to US\$224 in 1990 to the current US\$120 (in constant dollars). Initial macro economic reforms have helped to tame hyper-inflation and stabilize exchange rates, and thanks to a massive injection of foreign aid<sup>13</sup> and FDI, real GDP growth has surged from 3.5 percent in 2002 to 6.5 percent in 2005 and 7.0 percent 2007<sup>14</sup>. Among the main

<sup>12</sup> This section presents a summary of key macroeconomic issues that impact the private sector. Much greater detail on historical factors, macroeconomic indicators and macro policy changes in the DRC are presented in other World Bank and IMF reports such as the World Bank Country Assistance Strategy (CAS) and are not repeated here.

<sup>13</sup> About 9.5% of GDP.

<sup>14</sup> IMF Country Report No. 07/329, September 2007

sectors that provided the impetus for growth in 2006 are cement and construction, wood, beverages (alcoholic and carbonated), services (the telecom sector mostly) and the electricity sector.

26. The country has an abundance of natural resources, including varied mineral resources such as copper, cobalt, diamonds, gold, zinc and petroleum. The mineral resources sector has the potential for driving the growth of the Congolese economy. But the natural resources sector is not yet a main generator of growth in the DRC, as most of the mining concessions have not come into production yet.

27. Overall however, after an initial surge, the pace of structural reforms has slowed down over the past years. Expenditures have again exceeded budget projections<sup>15</sup>, the quality of expenditures has decreased, the deficit has increased, and inflationary pressures have grown.

#### FISCAL POLICY: INCREASED EXPENDITURES AND A RISING DEFICIT

28. The 2007 deficit is estimated at 2.1 percent of GDP. Grants accounted for 5.2 percent of GDP in 2005 and 7.9% of GDP in 2006, 57 percent of the state budget were financed by external aid.

29. Expenditures greatly exceeded projections during the past two years. These slippages were due in part, first, to non-recurrent costs associated with the presidential election: the national police received bonuses during the elections, and setting up the electoral process cost money as well. Security problems to the east of the country also required public funds to deal with. Second, while the census of government officials allowed limiting the payment of ghost salaries, it also led to the regularization of public sector employees who had not received their salaries for several months. Third, the decentralization process led to higher rates of budget transfers to provincial departments and decentralized agencies. Fourth, domestic debt servicing was relatively high owing to high indebtedness and the rise in Central Bank charges. Debt servicing stood at 6.9 percent of GDP in 2006.

#### MONETARY POLICY: FOREIGN CURRENCY DOMINATES, CONGOLESE FRANC STILL TOO RISKY

30. The Congolese franc floats freely against the US dollar. However about 85 percent of quasi-monies (fixed deposits and currency deposits) are in foreign currency. Inflation increased significantly at an annual rate of 17 percent and the national currency depreciated by about 15 percent against the US dollar in 2007. These changes generally do not affect the formal private sector where transactions are recorded in US dollars. Micro-enterprises, however, are negatively affected by these developments because they tend to operate more in a Congolese franc economy. Bank refinancing rates increased several times during 2006, from 28.5 percent to 45 percent between January and December, and the required reserve rate increased from 2 percent to 4 percent, which is still low by international standards.

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<sup>15</sup> Most overruns incurred in 2007 are related to the security situation in Eastern provinces.

## EXTERNAL AND INTERNAL FINANCIAL POSITION

31. External public debt is extremely high, at US\$10,519 million in 2006. With the adoption of its Poverty Reduction and Growth Strategy Paper, DRC is expected to reach the Heavily Indebted Poor Countries (HIPC) Completion point by end 2009 and thus permanently benefit from around US\$10 billion in debt relief (in nominal term). The internal debt arrears of about US\$1.2 billion are in the process of being cleared, which has allowed re-establishing normal relations between the state and the private sector, and has allowed substantial injection of private capital into the Congolese economy. Negotiation of the external private debt under the London Club is under way.

## TRADE POLICY

32. Import duties (levied on the c.i.f<sup>16</sup> value) vary between 0 percent (farm inputs, banknotes, and stamps), 5 percent (capital goods, fuel oil, and industrial flours), 10 percent (food products, pharmaceutical products, flours for direct consumption, spare parts and petroleum products) and 20 percent (on finished products). Export duties vary between 0.5 percent to 10 percent for mining exports (e.g. 0.5 percent for ferrous metals, 2 percent for non ferrous metals, 2.5 percent for precious metals, 4 percent for precious stones, 1.5 percent for artisanal gold and diamonds). Duties for other export goods vary between 1 percent (coffee) to 6 percent (logs).

33. Allegations of corruption are frequent, with heavy reliance on high levels of physical examination of goods. Documentation on traded goods is paper-based, but supported by IT for selected purposes. As highlighted by the survey, collection of duties and taxes are routinely slow and burdensome. Published laws, regulations, and procedures are incomplete, outdated, and cumbersome: DRC ranks 154 out of 178 in the indicator “trading across borders”. However, the Government is making efforts to improve customs administration, rationalizing procedures and implementing computerized systems. A Guichet Unique (one-stop shop) was established in the main port of Matadi. The Guichet Unique is computerized using the Sydonia software. A private firm was contracted for risk assessment and pre-shipment inspection of imports to speed up the customs clearance time by reducing the undue reliance on physical inspections. However, the current customs arrangements at the Matadi one stop shop still show the signs of poor governance.

## HOW THE MACROECONOMIC CONTEXT AFFECTED AND CONTINUES TO AFFECT THE PRIVATE SECTOR

34. The growing control of the state on the economy and the economic turmoil (hyperinflation, impact of “zairisation<sup>17</sup>”) throughout the 1980s and 1990s has had a strong crowding out effect on the private sector. In 2001, most of productive (including mining) and trading activities were in the control of almost defunct public

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<sup>16</sup> Cost, insurance and freight

<sup>17</sup> “Zairisation” refers to the decision by Mobutu in the mid 1970s to nationalize all the enterprises previously held by foreigners.

enterprises. The highest recorded inflation rates in Africa and the ever growing taxation rates pushed most of the formal sector into the informal economy. In 2001, the size of the private sector in DRC had dwindled to less than 1,000 firms. The unpaid internal debt arrears and weakness of the financial sector further prevented the development of a new private sector.

35. While major improvements have taken place, the macro-economic context still has a negative impact on private sector growth. : High tax rates favor the development of an informal economy; high inflation rates in Congolese Franc negatively badly tax the informal sector; lack of financial intermediation prevents the growth of domestic investments. Finally, starting from such a low base, the perception of a very stable macroeconomic environment is now necessary for the Government to fully restore confidence of the private sector.

## CHAPTER 2: INVESTMENT CLIMATE IN THE DRC

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36. In this chapter, we look at how firms rank different constraints and which ones present a serious obstacle to enterprises. We then conduct a more detailed analysis of various constraints—examining subjective rankings on infrastructure, corruption and governance issues and macroeconomic and political instability. For each of these constraint blocks, we benchmark enterprises in the DRC with comparators, examine differences across regions within the DRC, and examine how these constraint perceptions are correlated with objective measures such as power outages, tax payments, inspector visits, and informal payments to government officials. Our results indicate that enterprises in the DRC are much more disadvantaged by these indirect business costs compared to others regionally. The DRC firms are particularly affected by unreliable electricity supply, transportation, access to finance (which will be discussed in detail in chapter 5), tax burden and a group of constraints collectively termed corruption: bureaucratic burden caused by tax and other inspector visits, an unreliable court system and bribes to bureaucratic officials.

### CONSTRAINTS TO DOING BUSINESS: FIRM PERCEPTIONS

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37. As a starting point for assessing investment climate problems, the ICA asked firms to rank various areas of the investment climate and to determine how serious an obstacle they are to enterprise operations and growth. These are perception-based measures which may suffer from several potential biases, but as prior research<sup>18</sup> shows, managers do appear to discriminate between constraints in a reasonable way; these measures provide a useful first step in the business-government consultative process and help to prioritize more specific behavioral analysis and policy reforms.

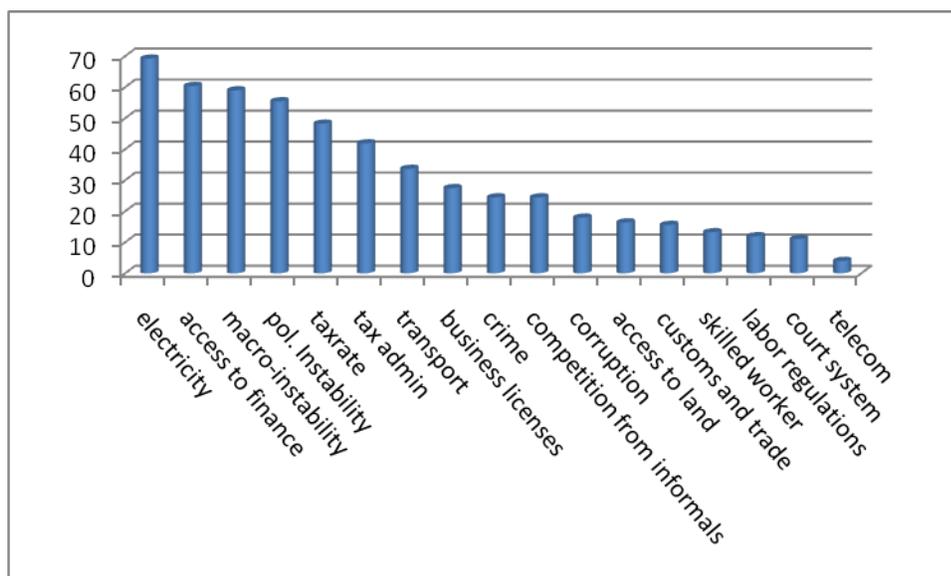
38. In the DRC survey, managers were asked whether different aspects of the investment climate were a problem for their enterprise's operations and growth both in the short and medium term. They responded using a five-point scale, ranging from "no problem" to "very severe problem." For each area, we calculate the percent of firms that rated it as a "major" or "very severe" problem. All responses are weighted by sector and location weights. The responses for manufacturing firms are shown in Figure 2.1.

39. Seven of the 16 constraints are rated as major or severe by more than 30 percent of firms. The rankings do not significantly vary between formal firms and micro-enterprises. Electricity, access to finance, and macroeconomic instability appear to be the top three constraints to operations and growth for a majority of firms in all sectors. Taxation and, more generally, regulatory and administrative burden are also major constraints that seem to hamper Congolese establishments' performance, on which the Government can have an immediate influence.

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<sup>18</sup> This issue is comprehensively examined in the paper "What matters to African Firms: The Relevance of Perceptions Data" by Alan Gelb, Vijaya Ramachandran, et al, World Bank Working Paper, 2007.

FIGURE 2.1: PERCENT OF MANUFACTURING FIRMS RANKING PROBLEMS AS MAJOR OR SEVERE

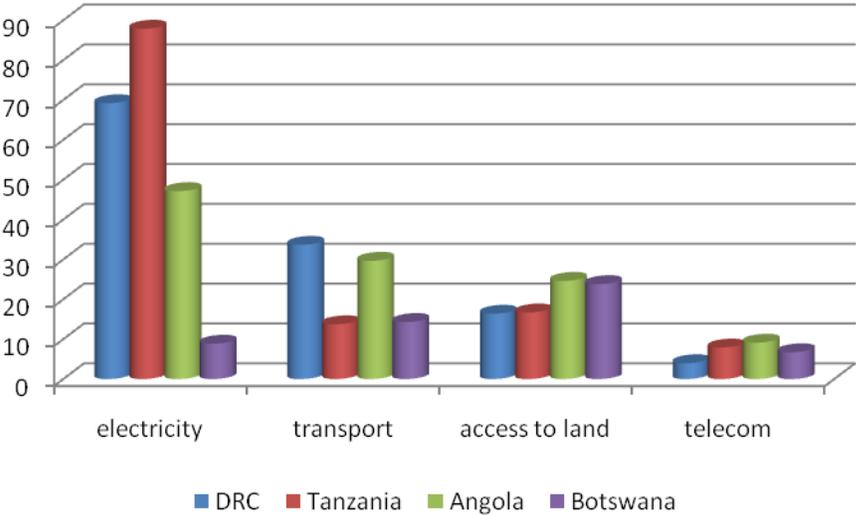


Source: World Bank Enterprise Surveys, 2006

#### POOR QUALITY OF INFRASTRUCTURE SERVICES

40. Without an adequate infrastructure platform with reliable and affordable water, electricity, transportation and telecommunications services, enterprises cannot efficiently operate and connect to their suppliers and markets. High-quality infrastructure is a key pillar of a sound investment climate. But, unfortunately, infrastructure is deficient in most low-income sub-Saharan African countries. The DRC is no exception. Figure 2.2 compares infrastructure constraints for Congolese firms to those in Tanzania, Angola and Botswana. Electricity is a significant problem in all the three countries, but a staggering (nearly) 70 percent of firms in the DRC report it to be a major problem. Enterprises in the DRC are also more concerned about transport than other countries—more than 30 percent find it to be a major or severe problem. Access to land is not a severe constraint, and with the deregulation and entry of mobile phones, telecom has ceased to be a constraint for almost all firms in sub-Saharan Africa.

FIGURE 2.2: INFRASTRUCTURE CONSTRAINTS ACROSS COUNTRIES - % RANKING PROBLEMS AS MAJOR OR SEVERE



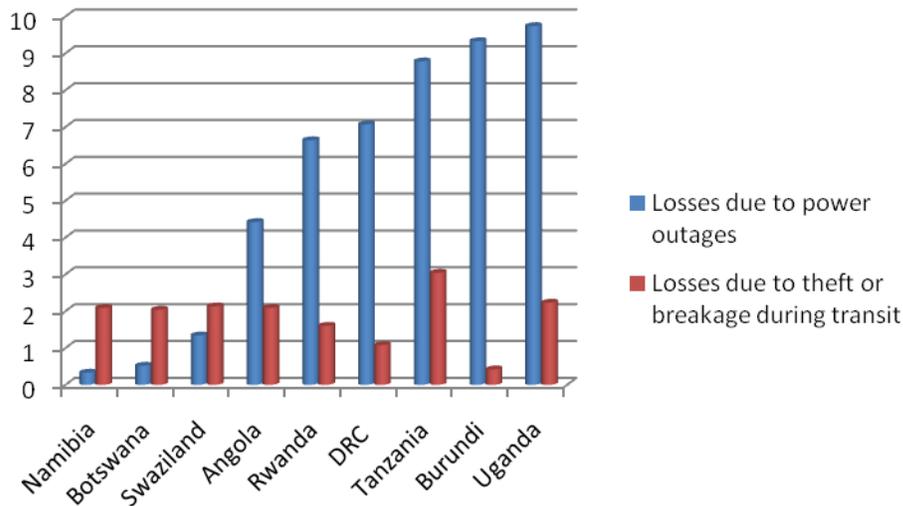
Source: World Bank Enterprise Surveys, 2006

**ELECTRICITY**

41. Although the DRC has the largest hydropower potential in Africa and the second potential in the world, this survey indicates that unreliable electricity supplies is the most pressing constraint that Congolese firms face, regardless of their exporter status, size or ownership (see Appendix C). Almost 70 percent of firms perceive electricity as a major constraint. The severity of this constraint varies by region (see Figure 2.3); it is reported as most severe in Kinshasa and Kisangani, followed by Lubumbashi. Only about half the firms in Matadi rate electricity as major constraint (probably because of the power station on the Mpozo River which supplies power to the town). For the industries, establishments in retail seem to be less affected with a considerably lower percentage.

42. Survey results show that 97 percent of enterprises experience frequent power outages—an average of 19 outages a month. The outages are more frequent in Lubumbashi where establishments experience 34 outages per month. Matadi is considerably better off with only six per month.

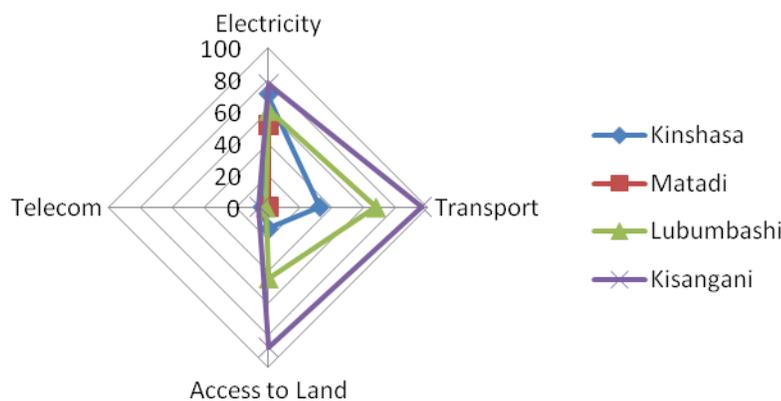
FIGURE 2.4: POWER AND TRANSPORT LOSSES ACROSS COUNTRIES



Source: World Bank Enterprise Surveys, 2006

43. Power outages negatively affect establishments' performance; on average, 7 percent of annual sales are lost due to power outages (in comparison, only 1 percent of sales is lost due to theft or breakage during transport). As seen above, these losses are much higher than countries like Namibia, Swaziland, Botswana and Angola, but

FIGURE 2.3: INFRASTRUCTURE CONSTRAINTS ACROSS REGIONS IN THE DRC - % RANKING THE PROBLEM AS MAJOR OR SEVERE



Source: World Bank Enterprise Surveys, 2006

lower than countries with power crises such as Uganda and Tanzania. Power outages increase indirect production costs and adversely impact enterprise competitiveness in the DRC.

44. And although electricity is highly unreliable, power generators are not widely available. About 40 percent of the establishments own or share a generator (Appendix C4), compared to 63 percent in Angola and 52 percent in Rwanda. Generators are, predictably, more frequent in the food industry where products tend to be perishable.

## TRANSPORTATION

45. Transportation is another major constraint in the infrastructure system. Although considerably less of a concern than electricity, about one-third of firms consider transportation a major constraint. For a country the size of the DRC, there is no well-functioning transport network. The country has a total area of more than two million square km with a national road system of only 157,000 km. paved roads however represent less than 5% of this. When available, the transport network is often congested and does not allow for normal use of the supply chain. The lack of access and poor quality of roads increase the transaction costs and affect returns of businesses: firms cannot get to inputs and cannot sell outputs. More importantly, the country is not economically integrated, which hinders competition and prevents economies of scale.

46. Establishments' perception of transportation as a constraint varies widely across regions in the DRC. As Figure 2.4 shows, establishments in the port city of Matadi do not seem to be severely affected by transport issues. The port is on the Congo River but has good access to the ocean. A railway connects the city to Kinshasa. But in Kisangani, at the far east of the country, more than 90 percent of enterprises stress that transportation is a severe constraint. The city is the farthest navigable point upstream from Kinshasa. Establishments in Lubumbashi, located 1,500 km southeast of Kinshasa, also seem to be penalized by the transport system; more than half of the firms surveyed complained about the severity of the constraint, not because they are far from Kinshasa, but because the regional transport network that includes Zambia is ineffective. The city has a modern international airport but the railway system is unreliable due to lack of investments. Finally, exporters are more affected than non-exporters; micro-enterprises and small establishments are also more concerned about transportation than larger establishments.

## CORRUPTION AND GOVERNANCE

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47. While corruption *per se* was not ranked as a major constraint by firms, this paper groups the next set of constraints under the umbrella of "corruption and governance" because there are elements of corruption and poor governance in many of the constraints that did in fact rank higher: the high tax rate, frequent inspections by government officials and the informal payments that must be made during such visits, and an unfair judicial system and unpredictable interpretation of the law. The estimated cumulative cost of corruption for Congolese establishments averages 4 percent of annual sales, which is higher than in most of the comparator countries (see Figure 2.16). The low ranking of corruption, therefore, does not necessarily imply that it is not costly for firms, but

rather, given how endemic it is, that enterprises have factored it in as a part of business costs. In fact, 60 percent of firms say they know in advance the amount of informal payments needed when dealing with government officials with regards to customs, taxes, licenses, and regulations.

48. Corruption seems to negatively affect the performance and the quality of rulings of the court system. As shown in Figure 2.11, 80 percent of firms strongly disagree that the court system is fair, impartial and uncorrupted. This is again much higher than the comparator countries. The difficulty to efficiently resolve disputes is likely to affect wealth creation and expansion. In the DRC, business associations such as the *Fédération des Entreprises Congolaises (FEC)* provide mediation services, but this cannot replace a well functioning and credible court system accessible to all investors.

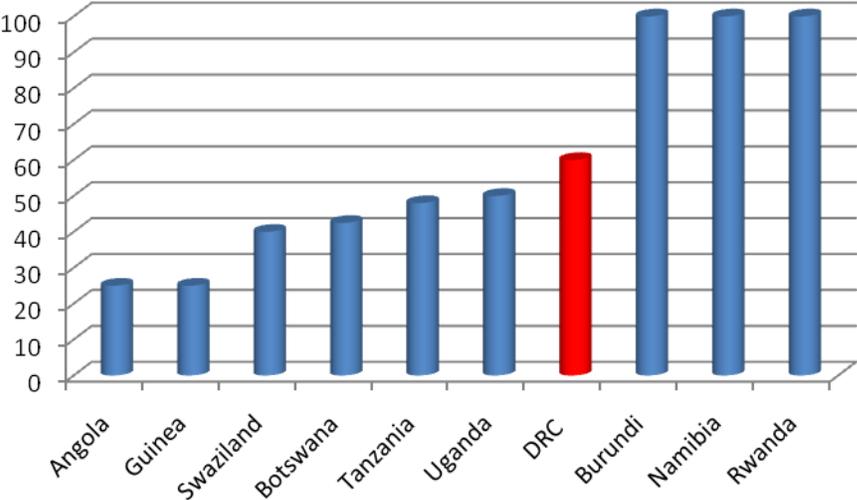
49. The unpredictability and inconsistency of government officials' interpretation of the laws and regulations is also a greater matter of concern. Figure 2.10 indicates that 57 percent of establishments disagree that the interpretation is predictable. Such uncertainty is only higher for firms in Angola. Enterprises in Rwanda have benefited greatly from recent government reforms: most firms in Rwanda find laws consistent. Uncertainty in the DRC impacts strategic planning and investment decisions. This unpredictability varies with the region and establishments characteristics. As shown in Appendix 4, it is more of a concern in Lubumbashi, and in the food industry. It is also more of a concern for domestic, larger, and exporting establishments. These firms are likely to be the most profitable, and hence subject to greater random rent-seeking by government officials.

50. The business regulatory environment appears to severely affect firms operations. More specifically, the burden of taxation is highlighted as a major constraint in the DRC compared to all other comparator countries. Close to half of the establishments surveyed consider the tax rate, which amounts to 40 percent of net profits, a severe constraint. This concern is higher for exporting, medium-size and foreign establishments.

51. The high tax rate results in low tax compliance in the country. As shown in Figure 2.5, only a median of 60 percent of income is reported for tax purposes in the manufacturing sector. In countries such as Rwanda and Burundi, which have revamped their tax codes, tax compliance is high, with more than half of firms reporting that 100 percent of their income is reported.

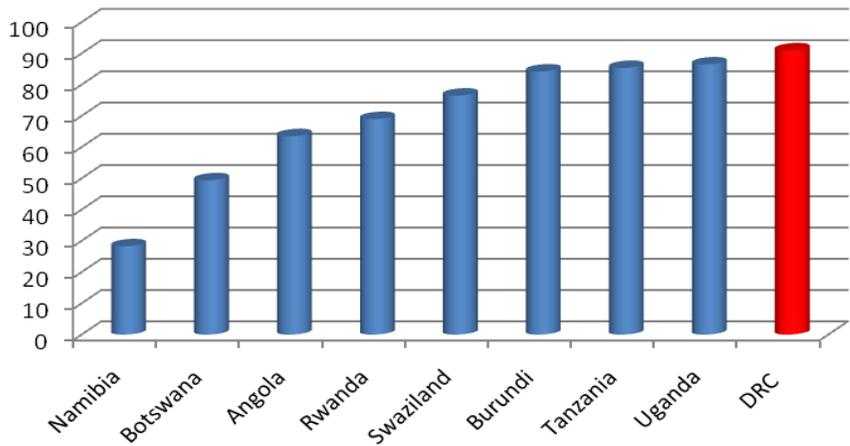
52. Another constraint related to corruption is the frequency of visits by government officials. Congolese establishments report that, over the course of one year they were visited, inspected, or required to meet with tax officials on average ten times (compared, for example, to five times Angola). More than 80 percent of firms in the DRC have been visited at least once by tax officials, and 67 percent of firms report that payments are expected during such visits, compared to 12 percent in Angola, none in Rwanda and 13 percent in Uganda (see Figure 2.15).

FIGURE 2.5: CROSS COUNTRY COMPARISON - % OF INCOME REPORTED FOR TAX PURPOSES



Source: World Bank Enterprise Surveys, 2006

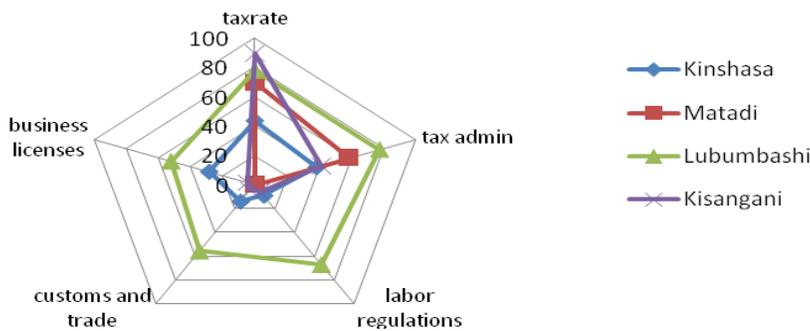
FIGURE 2.6: CROSS COUNTRY COMPARISON - % VISITED BY INSPECTORS



Source: World Bank

Enterprise Surveys, 2006

FIGURE 2.7: REGULATORY CONSTRAINTS ACROSS REGIONS- % RANKING PROBLEM AS MAJOR OR SEVERE



Source: World Bank Enterprise Surveys, 2006

**BUSINESS LICENSING AND PERMITS NOT A MAJOR CONSTRAINT**

53. Business licensing and permits ranks only in the middle of the investment climate constraints listed in the survey. Congolese firms seem to be less concerned about the difficulty in obtaining business licensing and permit than in other countries. Less than 30 percent of them rate the constraint as severe. As presented in Table 2.1, it takes fewer days to obtain a construction-related permit in the DRC than in Angola. The high standard deviations indicate high unpredictability of the time required to obtain the administrative documents. Indeed, there is a 32 percent chance that the time required to obtain a construction-related permit is 45 days or more; the unpredictability is even greater with operating license, for which there is a 32 percent chance that 70 days or more will be required to obtain the license. This constraint is not high in the list of concerns from the firm perspective, however.

TABLE 2.1: DOING BUSINESS INDICATOR “DEALING WITH LICENSES”

Economy	Dealing with Licenses			
	Rank	Procedures (number)	Time (days)	Cost (% of income per capita)
Angola	136	14	337	1,109.7
Botswana	122	24	167	322.3
Burundi	171	20	384	9,939.0
Congo, Dem. Rep.	138	14	322	2,112.6
Namibia	31	12	139	156.7
Rwanda	124	16	227	822.1
Swaziland	19	13	93	94.0
Tanzania	170	21	308	2,365.5
Uganda	81	16	143	811.8

Source: Doing Business 2008 ([www.doingbusiness.org](http://www.doingbusiness.org))

TABLE 2.2: NUMBER OF DAYS TO OBTAIN SELECTED ADMINISTRATIVE DOCUMENTS (ENTERPRISE SURVEY)

DRC	Avg.	St. Dev	Coeff. Var	Median	N. Obs
Construction-related permit	24	21	0.9	15	22
Import License	12	12	0.9	7	19
Operating License	24	46	1.9	10	106

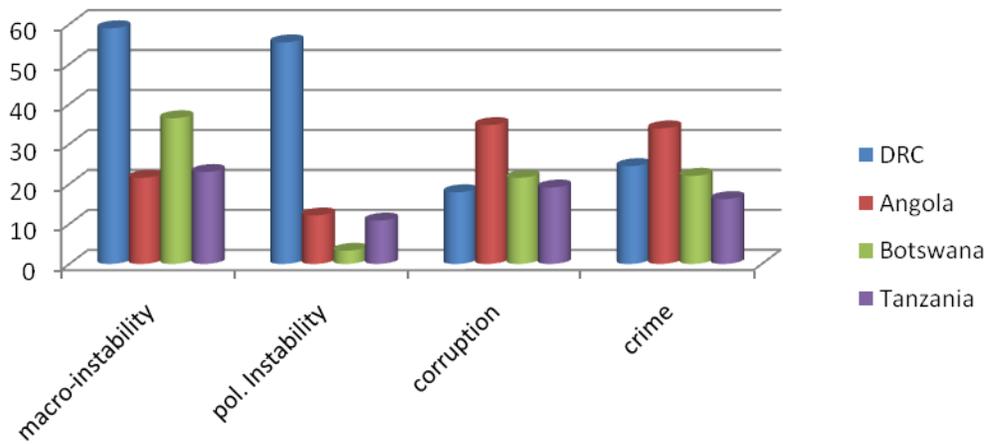
Angola	Avg.	St. Dev	Coeff. Var	Median	N. Obs
Construction-related permit	39	47	1.2	18	67
Import License	24	19	0.7	20	84
Operating License	24	36	1.4	8	156

SOURCE: WORLD BANK ENTERPRISE SURVEYS, 2006

#### MACROECONOMIC AND POLITICAL INSTABILITY

54. A stable macroeconomic environment and political climate is essential for firms to produce efficiently and plan for future growth. Transparency in government laws and enactment is an essential prerequisite for a stable business climate. But macroeconomic and political instability are reported as major constraints by the firms surveyed (see Figure 2.8 and 2.9).

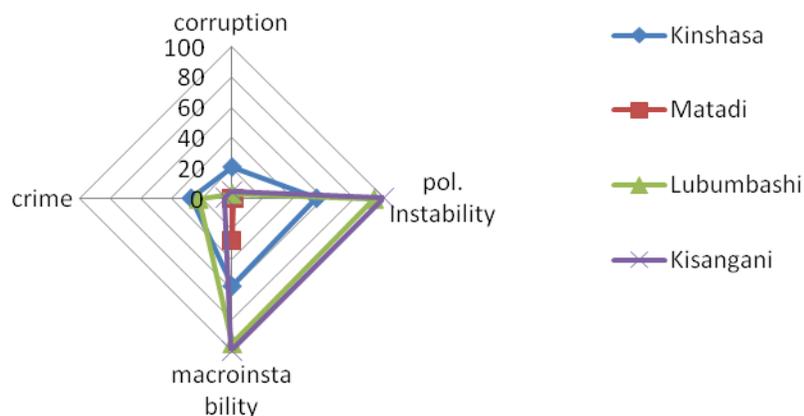
FIGURE 2.8: GOVERNANCE CONSTRAINTS ACROSS COUNTRIES - % RANKING THE PROBLEM AS MAJOR OR SEVERE



Source: World Bank Enterprise Surveys, 2006

55. Macroeconomic instability is the third most prevailing investment climate constraint in the DRC, due to uncertainty and changes in the rates of inflation and the exchange rate. Political instability follows closely behind; 56 percent of establishments complained that political instability is severe. This resulted from years of political turmoil and uncertainty about the future of the transitional government which took office in June 2003. The latter government had four vice presidents from various political parties and included the former government, political opposition, and the main rebel groups involved in the war that started in 1998. The transitional government was due to hand over power following the first democratic presidential elections scheduled for July 2006. The survey was done prior to the elections and during a period of great political uncertainty. A new president was elected in November 2006; with assistance from donors and peacekeeping troops, the situation appears stable but fragile.

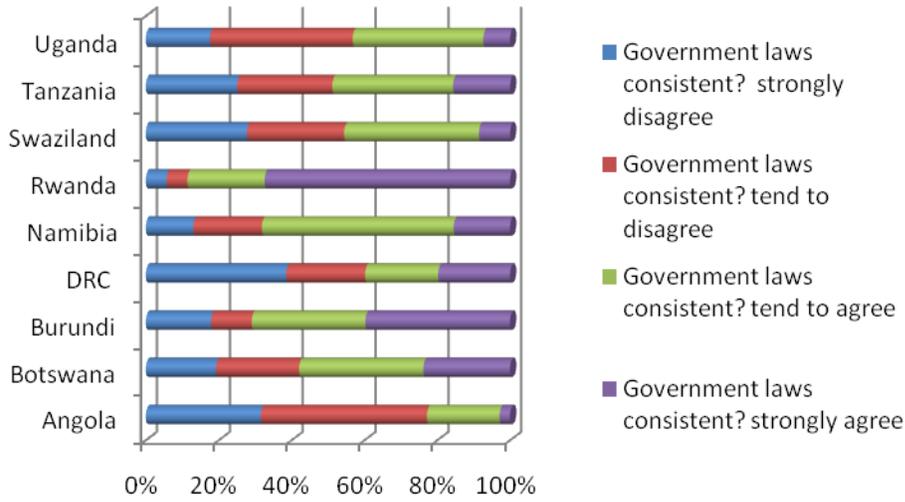
FIGURE 2.9: GOVERNANCE CONSTRAINTS ACROSS REGIONS IN DRC



Source: World Bank Enterprise Surveys, 2006

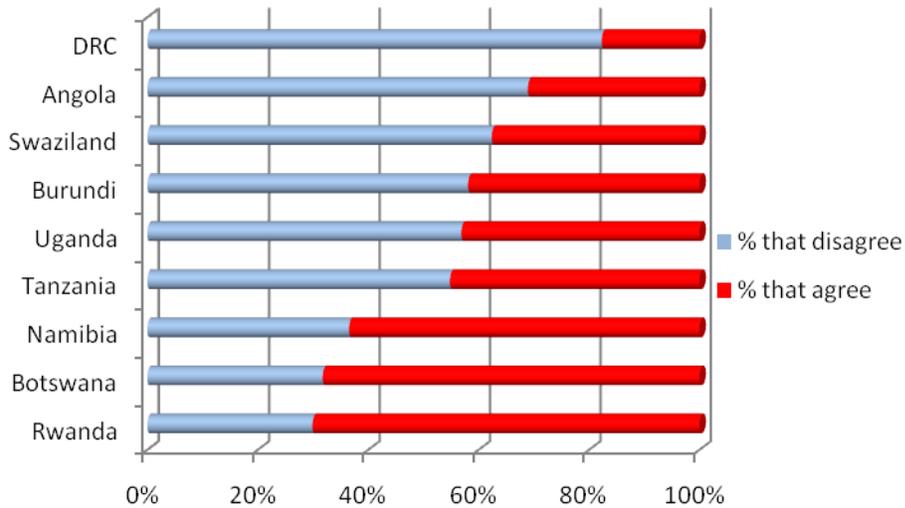
56. Establishment's perception of the macroeconomic and political instability varies again across the regions. As seen in Figure 2.10, while all the establishments in Kisangani are severely affected, only 20 percent of firms are affected in Matadi. These results are not surprising; while Matadi has been relatively calm and isolated from the Congolese war, Kisangani has been a conflict zone where, in 1999, Ugandan and Rwandan armed forces clashes. The city was controlled by rebel groups. The war in the region formally ended in July 2003 with an agreement by the belligerents to create a government of national unity. Despite the agreement, the city remained unstable with sporadic outbreaks of fighting. The macroeconomic performance of the city was naturally unstable as captured by the results of the survey. But, surprisingly, although a conflict zone, only 7 percent of the establishments surveyed in the city rated crime, theft and disorder as a major constraint.

FIGURE 2.10: GOVERNANCE CONSTRAINTS IN MANUFACTURING FIRMS



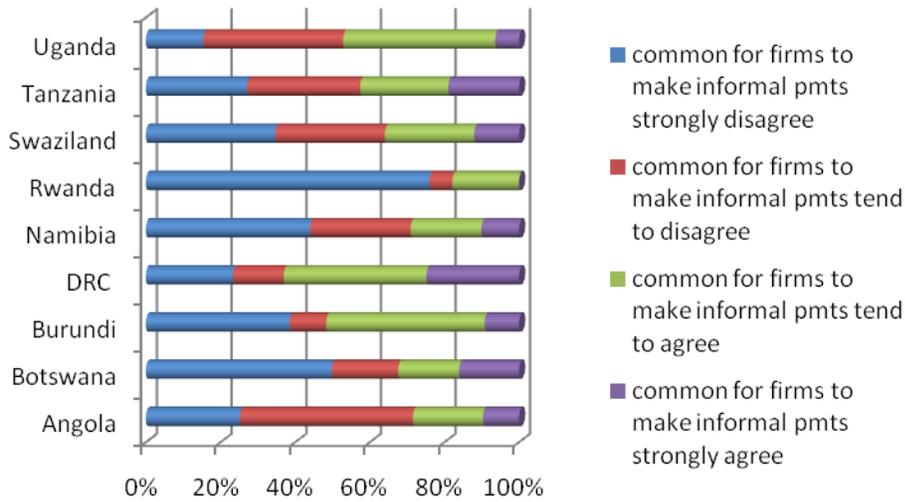
Source: World Bank Enterprise Surveys, 2006

FIGURE 2.11: COURT SYSTEM: FAIR, IMPARTIAL AND UNCORRUPTED



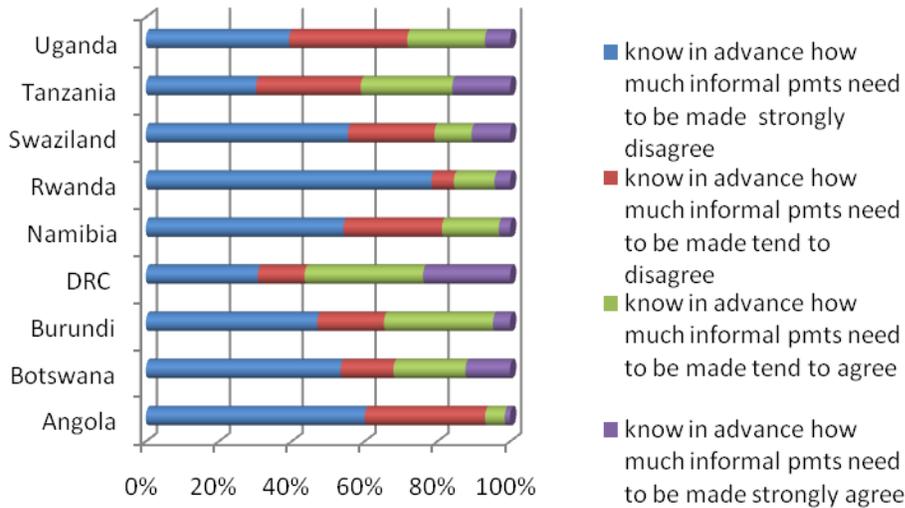
Source: World Bank Enterprise Surveys, 2006

FIGURE 2.12: MANUFACTURING FIRMS - % FIRMS FOR WHICH IT IS COMMON TO MAKE INFORMAL PAYMENTS



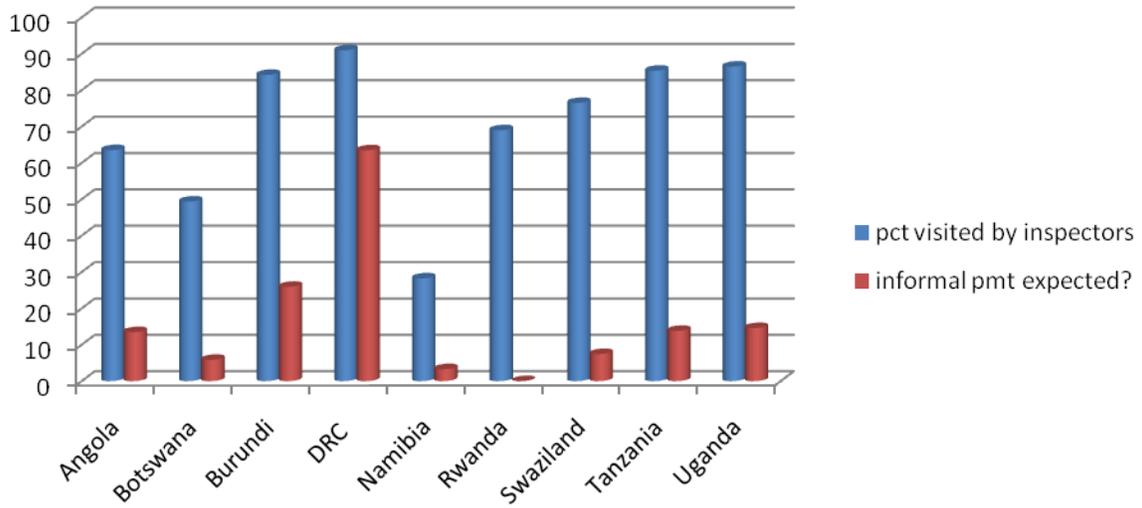
Source: World Bank Enterprise Surveys, 2006

FIGURE 2.13: MANUFACTURING FIRMS - % KNOWING IN ADVANCE THE AMOUNT OF INFORMAL PAYMENT NEEDED



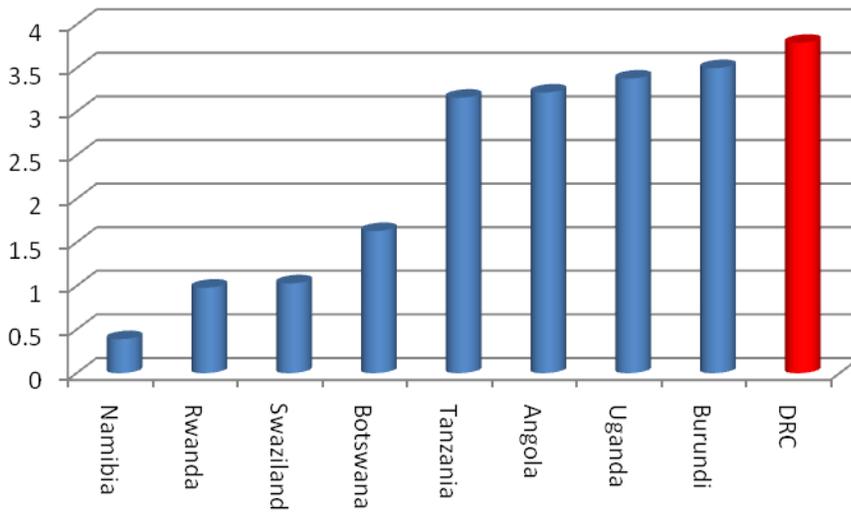
Source: World Bank Enterprise Surveys, 2006

FIGURE 2.14: MANUFACTURING FIRMS - CROSS COUNTRY COMPARISON OF % VISITED BY INSPECTORS AND INFORMAL PAYMENTS EXPECTED



Source: World Bank Enterprise Surveys, 2006

FIGURE 2.15: PERCENTAGE OF SALES PAID IN BRIBES



Source: World Bank Enterprise Surveys, 2006

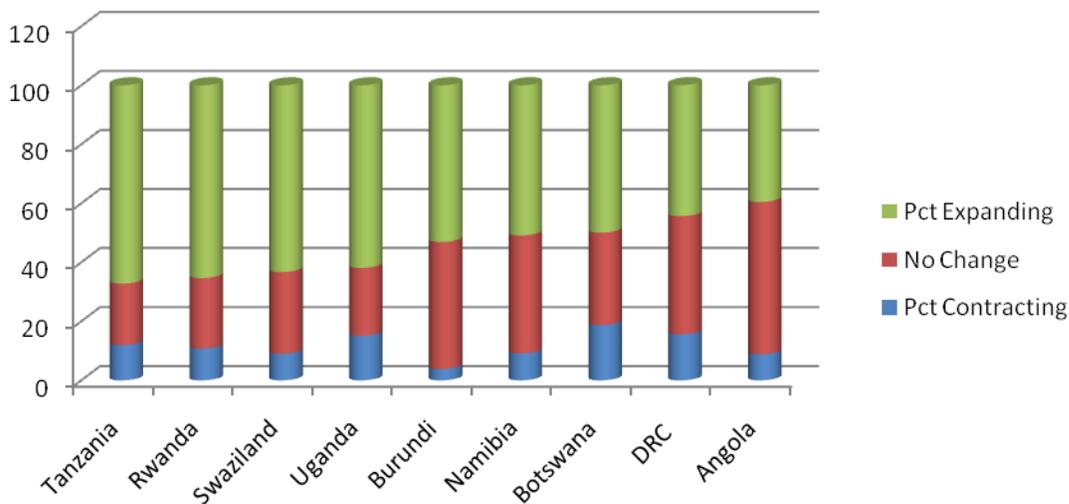
## CHAPTER 3: ENTERPRISE GROWTH AND PERFORMANCE IN THE DRC

57. This chapter examines patterns of enterprise growth and performance in the DRC. We first look at job creation and loss: have firms been growing in the last few years or is the industrial sector stagnant? We then look at enterprise performance and growth, and their determinants in the DRC. Both partial and Total Factor Productivity (TFP) measures are used to benchmark DRC firms compared to others in sub-Saharan Africa. We then examine the characteristics determining differentials within the industrial sector.

### ENTERPRISE GROWTH

58. The industrial sector is growing, slowly. Examining the growth patterns of firms in the DRC to its comparators (Figure 3.1), we see that for all sectors combined, 44 percent of enterprises in the DRC have added jobs in the last four years; 40 percent left their workforce unchanged; and 16 percent reduced their workforce. This pattern is roughly similar to that of firms in Namibia, Botswana, and Angola, though firm growth in the DRC is slower than other reform-oriented low-income economies such as Tanzania, Rwanda and Uganda. Firms that only recently entered the market have also been growing in the last three years—more than 40 percent of them added jobs compared to only 11 percent that reduced the number of workers employed. Mean annual employment grew at 6 percent for existing firms from startup to present.

FIGURE 3.1: JOB CREATION AND DESTRUCTION WITHIN FIRMS (2002-PRESENT)



Source: World Bank Enterprise Surveys, 2006

59. Table 3.1 shows patterns of employment growth from 2002 to present, and from 2002 to present for firms that reported employment for both periods. We see that while employment remains unchanged for the median firm between 2002-present, there is a large degree of dispersion around it. While almost 44 percent of firms report job additions during this period, less than 16 percent report shrinking.

TABLE 3.1: PATTERNS OF EMPLOYMENT GROWTH IN DRC

	Number of firms	Percent of firms adding jobs	Percent of firms shrinking	Average employment. growth rate
2002-Present	340	44.4%	15.6%	0.05%
Start-Present (firms > 3 years)	341	60.4%	18.2%	0.06%
Start-Present (firms <3 years old)	99	41.4%	11.1%	0.12%

Source: DRC Enterprise Survey, 2006

60. What is driving firm growth? Are the “right” firms growing? In a system of patronage, corruption and severe market distortions such that exists in the DRC, we would *a priori* not expect to see any correlation between entrepreneur characteristics, learning channels and enterprise growth. However, if the market environment is not severely distorted, while threshold levels of growth are lower, we would expect the better entrepreneurs to expand, indicating a move towards greater efficiency.

61. We examine this issue of enterprise growth by looking at the role of human capital and finance characteristics, after controlling for initial firm size and firm age.<sup>19</sup> Results show that, after controlling for initial firm size and firm age, micro-enterprises (many of which are owned by university-educated entrepreneurs) are growing faster than firms owned by individuals with less education (though those with a post-graduate degree do not have an additional skills advantage to grow faster than those with a bachelors degree). Entrepreneur experience is significant in determining the rate of growth: those with more experience within the same industry grow faster than others. Results also indicate that foreign firms have grown faster than others in employment. These findings imply that policies that improve higher education and promote linkages with foreign firms will increase private sector employment growth.

62. Our study also finds that there is a strong correlation between firm growth and Internet access and access to financial services. Since data are available for the current period for these variables, these can only measure association, rather than causality. Yet, these are measures of enterprise efficiency; we would expect to see positive correlations only if the market supports more efficient firms, rather than firms that operate in small, segmented, anti-competitive markets. Our regression results show that both these variables are significantly correlated with

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<sup>19</sup> Appendix B.1 presents the regression results on firm growth. Enterprise growth is measured as the logarithmic growth in employment between start and present. The first column presents the standard model, including initial firm size and firm age as key determinants of enterprise growth, and augments that with other firm characteristics. Due to possibility of the “regression to the mean” effect, we also try the alternate specification, including average firm size instead of initial firm size as an explanatory variable.

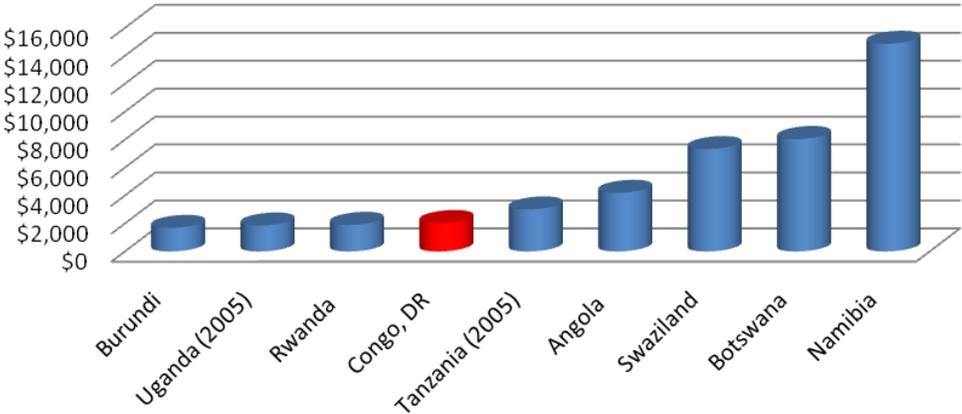
firm growth: while causality cannot be measured, it is clear, from a policy standpoint, that improving overall access to the Internet and finance and banking facilities will aid private sector growth.

**ENTERPRISE PERFORMANCE**

63. Firm performance is examined by looking at labor productivity, labor costs, unit labor costs (which measures labor costs as a percentage of value added), capital productivity, and residual total factor productivity.

64. Labor productivity, measured by the value added per worker ratio, is lower in the DRC than in most comparator countries (see Figure 3.2). Median labor productivity in the DRC is similar to those of workers in Uganda, Burundi and Rwanda; it is much lower than those of workers in Angola, Botswana, Swaziland and Namibia.

FIGURE 3.2: VALUE ADDED PER WORKER



Source: World Bank Enterprise Surveys, 2006

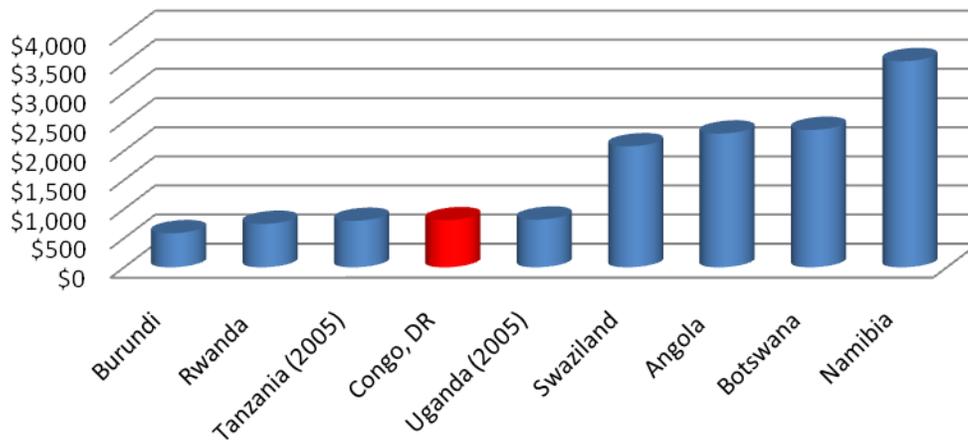
65. Examining differences across sectors, size class and ownership (Tables 2.2-2.4), we see that labor productivity increases with firm size; workers in large firms are almost twice as productive as workers in micro-enterprises. Labor productivity is much higher for foreign firms compared to firms that are locally-owned, and for exporters, compared to domestic enterprises. It is also highest in the food sector, compared to others, driven by its higher capital intensity.

### UNIT LABOR COST IN THE DRC

66. The DRC's competitiveness is inextricably linked to its unit labor cost. Two sets of numbers are crucial to determining how productive the DRC is relative to the rest of the world: the wages paid to workers, and the value added of these workers relative to their wages. We saw above that firms in the DRC have low labor productivity; however, labor in the DRC can still be internationally competitive if wages are correspondingly low. In developing countries with reasonably flexible labor markets and exchange rate regimes, wages are expected to be low at the beginning of the move to industrialization. Wages rise as a result of economic progress, leading to a movement towards higher value added industries.

67. We see that labor costs per worker are lower than the more developed economies of Namibia, Swaziland and Botswana, lower than those in neighboring Angola, and only slightly higher than that of firms in Rwanda, Burundi and Tanzania.

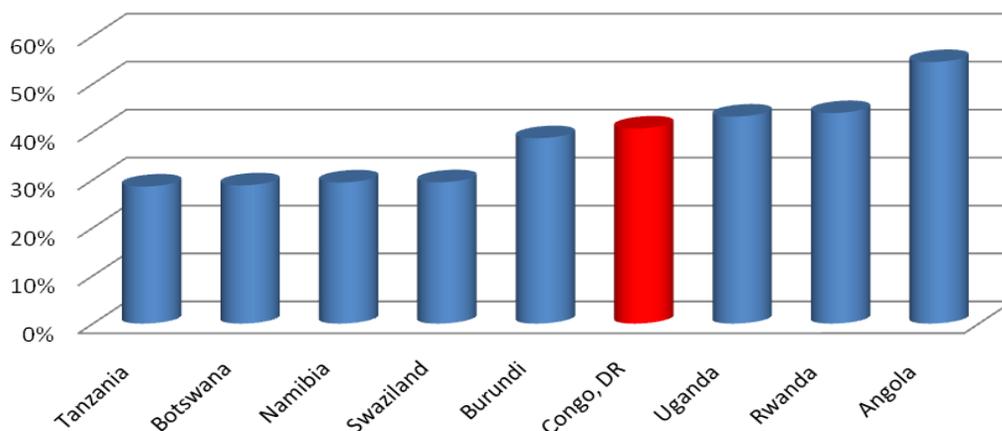
FIGURE 3.3: LABOR COST PER WORKER



Source: World Bank Enterprise Surveys, 2006

68. Examining the ratio of wages to value added, i.e., unit labor costs across countries, we see that median labor costs are 40 percent of industry value added in the DRC, which is lower than several other countries including Angola, Rwanda and Uganda; only slightly higher than Burundi; and much higher than the more productive workforce economies of Swaziland, Namibia and Botswana. Tanzania enjoys lower unit labor costs because its lower labor productivity is offset by lower wages.

FIGURE 3.4: LABOR COSTS AS A PERCENTAGE OF VALUE ADDED



Source: World Bank Enterprise Surveys, 2006

69. Unit labor costs vary across sectors, firm ownership and size class. The largest difference lies in firm size: micro-enterprises have the lowest unit labor costs; large firms' labor costs are more than 50 percent of value added. For increase in competitiveness, this ratio can be lowered through improvements in productivity or reduction in labor costs. These issues are discussed further in chapter six.

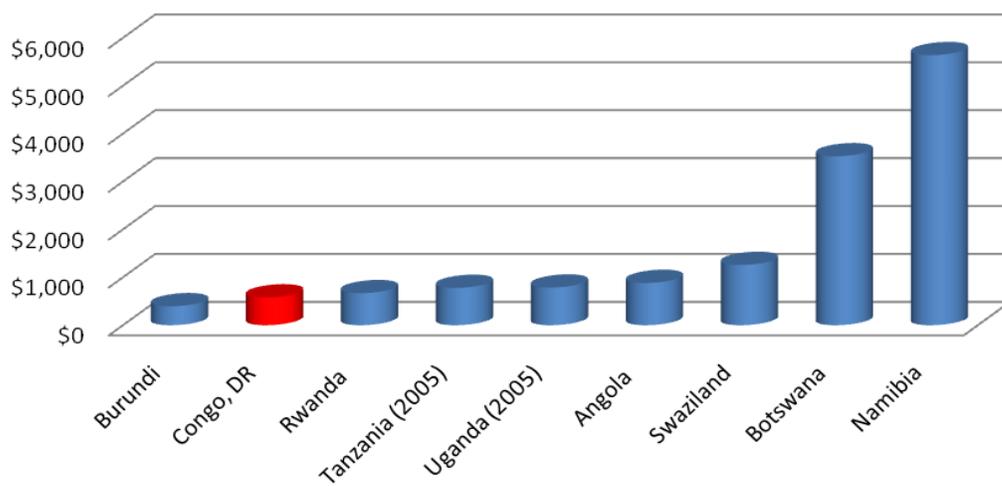
70. Performance of a firm's workers reveals only a partial picture of enterprise competitiveness. We also need to look at the role of capital.

#### CAPITAL INTENSITY IN DRC MANUFACTURING

71. Figure 3.5 presents the capital intensity of enterprises in the DRC. We see that firms in the DRC are very labor intensive. Median capital intensity is very low in the manufacturing sector—it is the lowest among all the countries surveyed, except for Burundi, and slightly lower than firms in Rwanda. Corresponding to this very low capital per worker, we see very high returns to capital (

72. Table 3.-Table 3.2): every dollar of capital (book value) generates more than \$3 in value added. Additional investments in capital stock can lead to increased returns and improved labor productivity of Congolese firms. However, as shown in chapters four and five, the poor investment climate, prevailing macroeconomic and political uncertainty, and lack of linkages with the banking sector all limit long-term investments in capital stock.

FIGURE 3.5: CAPITAL PER WORKER: BOOK VALUE, US\$



Source: World Bank Enterprise Surveys, 2006

TABLE 3.3: PARTIAL PRODUCTIVITY RATIOS: BY FIRM SIZE

Variable	Overall	Micro	Small	Medium	Large
Labor productivity	2157.9	1664.4	2466.2	2651.3	3004.9
Capital productivity	3.433	2.856	3.590	2.871	5.117
Capital Labor ratio	615.4	547.05	624.14	576.71	556.13
Unit Labor Costs	0.40	0.38	0.40	0.48	0.52

TABLE 3.2: PARTIAL PRODUCTIVITY MEASURES: BY OWNERSHIP

Variable	Domestic	Foreign	Non-Exporters	Exporters
Labor productivity	1827.8	3060.1	2117.3	4268.9
Capital productivity	3.43	3.27	3.40	3.60
Capital Labor ratio	546.15	841.95	616.97	588.02
Unit Labor Costs	0.40	0.38	0.40	0.33

TABLE 3.2: PARTIAL PRODUCTIVITY RATIOS: BY SECTOR

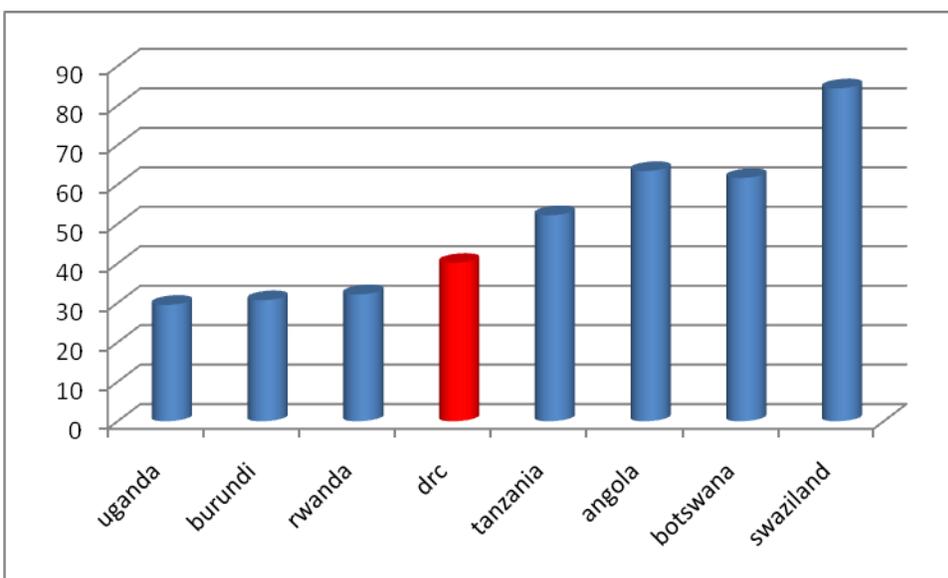
Variable	Chemical	Food	Furniture	Garment	Other mfg
Labor productivity	2158	2975	1295.9	1851	2673
Capital productivity	2.17	2.93	3.14	9.5?	3.77
Capital Labor ratio	618.4	731.3	395.6	285.8	611.8
Unit Labor Costs	0.50	0.32	0.46	0.40	0.42

### TOTAL FACTOR PRODUCTIVITY (TFP) RESULTS

73. The overall impact of a firm's factors on enterprise productivity can be examined by looking at TFP, which is the ratio of output to inputs and measures the contributions of other firm or industry specific characteristics that impact firm productivity.

74. We first examine the TFP of enterprises in the DRC compared to others in the region (see regression results in Appendix B2). Comparing TFP in the DRC with those in other countries (Figure 3.6), we see that Congolese enterprises have very low TFP; it is only 40 percent of firms in Namibia. It is slightly higher than those of firms in Uganda, Burundi and Rwanda, but much lower than that of firms in Tanzania, Angola, Botswana, Swaziland and Namibia.

FIGURE 3.6: TFP IN COUNTRIES AS A PERCENT OF TFP IN NAMIBIA



Source: World Bank Enterprise Surveys, 2006

75. Although firms in the DRC have low TFP compared to others, there exists a large dispersion in productivity across firms within the DRC. The Enterprise Survey allows us to identify which firms within the DRC are better performing compared to others.

76. We examine this issue by using the augmented Cobb-Douglas production function approach.<sup>20</sup> Results are presented in Appendix 2B. Controlling for factor inputs, we see that firms in Lubumbashi are much more efficient than firms in other areas; this corresponds to past investments in this region due to its high mineral resources. Firms that use the Internet for correspondence with suppliers and clients are likely to be more efficient than others

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<sup>20</sup> More rigorous econometric methods will be adopted estimating total factor productivity and its determinants as further data becomes available. These results are preliminary.

(this may be a management effect), as are firms who export at least 10 percent of their products. Interestingly, firms that have a banking relationship are also significantly more productive than others. Foreign-owned firms are no more efficient than domestic enterprises, and entrepreneur education, which, as shown above, is important in determining employment growth and the size of enterprises, is not significant in determining current firm performance, once other factors are controlled for. Our results imply that improvements in the overall investment climate, including greater technology linkages with access to the Internet, policies that help to move resources to the exporting sectors and policies that foster greater financial sector linkages will lead to improved efficiency of Congolese firms. Promoting linkages with foreign firms and greater access to university education, and improvements in financial services will lead to higher enterprise growth.

## CHAPTER 4: MICRO-ENTERPRISES IN THE DRC

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77. Beginning in 2006, a separate module was added to the Enterprise Surveys for micro-enterprises. These enterprises are generally not included in government census lists, and therefore are not in the population of firms from which the samples of firms are selected in the manufacturing survey. However, they form an important component of the industrial sector, especially in developing countries such as the DRC, where our survey estimates indicate that a vast majority of firms—over 90 percent—are micro-enterprises. While industrial employment is skewed towards larger enterprises (10 large firms with 500 workers is equivalent to 2,500 micro-enterprises with two workers each), it has been argued that micro-enterprises create a preponderant share of newly created jobs and therefore hold the key to employment generation and poverty reduction. In economies such as the DRC, with a small formal manufacturing sector, the lack of formal sector employment provides an incentive for people to become self-employed and start micro-enterprises. Examining characteristics of these enterprises is an important step towards designing taxation, financial and labor policies to assist private sector growth, and the growth of micro-enterprises in particular.

78. In this study, micro-enterprises are defined as those employing less than five workers. For many reasons including their small size, high turnover rate, and the difficulty of obtaining reliable information from official sources about them (since many are not registered with government institutions), EEC Canada selected an aerial sampling approach to estimate the population of establishments and select the sample in this stratum for all regions of the survey. A total of 104 micro firms were surveyed; 87.5 percent of these firms were located in Kinshasa. The majority of firms surveyed were retail (46.2 percent) followed by manufacturing (31.6 percent) with remaining firms in other sectors of the economy.

79. Some micro-enterprises are registered with one or more government bodies while others are not registered at all. Firms are classified as “registered” if they have at least one of the following:

- The firm name is registered with the Office of the Registrar or other government institution responsible for approving company names
- The firm is registered with the local courts or other government institutions responsible for commercial registration
- The firm has an operating or trade license or is otherwise registered for a general business license with a municipal agency
- The firm obtained a tax identification number from the tax administration or other agency responsible for tax registration

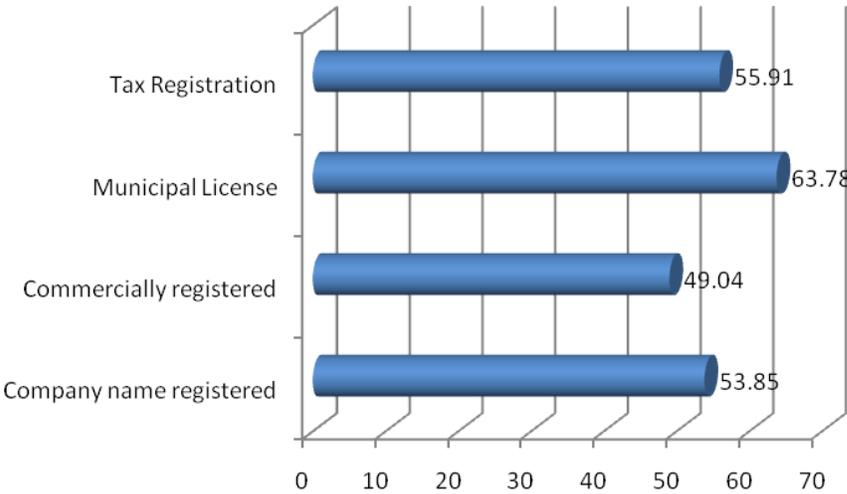
80. Most of the micro-enterprises surveyed have at least one registration, while only 14 percent of firms have no registration at all.

**OBSTACLES TO REGISTERING WITH GOVERNMENT INSTITUTIONS**

81. Since micro-enterprises are a growth area in the DRC, it is important to ascertain how to create conditions that support their growth. Since registering with government institutions brings added legal legitimacy for firms, it is important to understand what constraints are discouraging micro-enterprises from registering with government

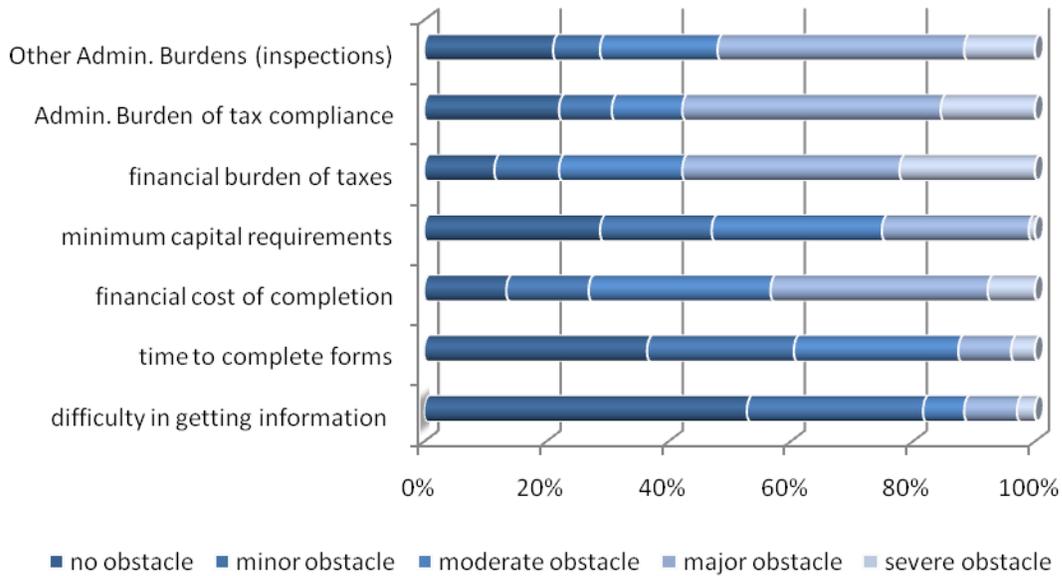
**FIGURE 4.1: REGISTRATION STATUS OF MICRO-ENTERPRISES**

Pct of Firms Registered in Each Category



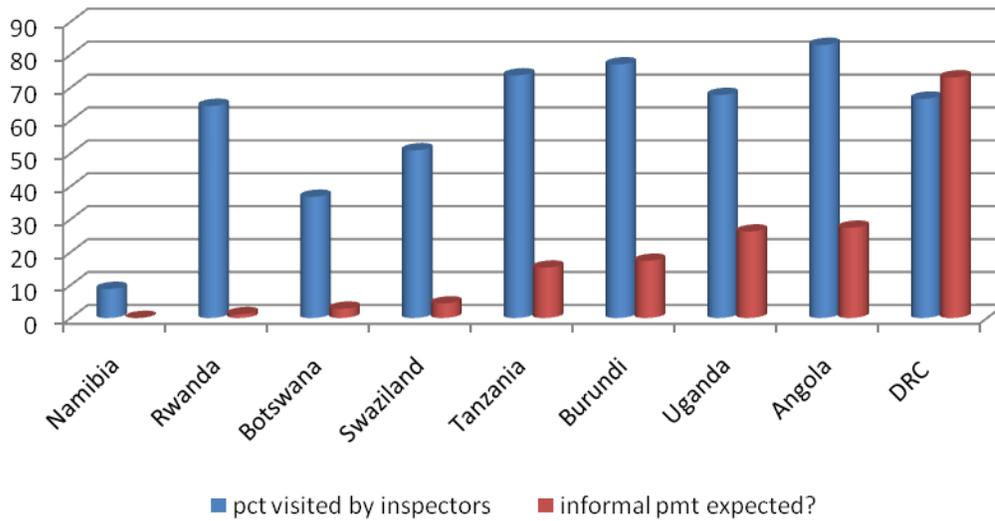
institutions. As seen below, more than 50 percent of micro-enterprises report that the financial and administrative burden of taxes as the primary reason for not registering. The burden of inspections is also high: more than 50 percent of micro-enterprises are visited by inspectors, and of those, 60 percent report that informal payments are expected at the time of the visit. This is much higher than all comparator countries.

FIGURE 4.2: MICRO-ENTERPRISES IN THE DRC: OBSTACLES TO REGISTERING WITH GOVERNMENT INSTITUTIONS



Source: World Bank Enterprise Surveys, 2006

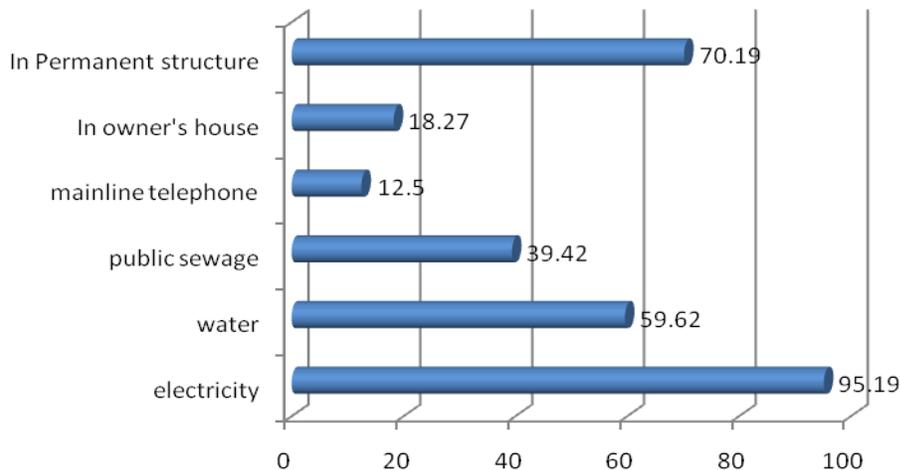
FIGURE 4.3: BURDEN OF INSPECTIONS: CONGOLESE FIRMS FACE THE HIGHEST BURDEN



Source: World Bank Enterprise Surveys, 2006

82. Micro-enterprises were asked about the infrastructure facilities at their establishment: whether they had electricity connections, water connections, public sewage systems and a landline phone connection. Examining across countries, (Figure 4.4), we see that micro-enterprises in the DRC are not based in makeshift temporary structures. Almost all enterprises have electricity connections and almost 40 percent also have water facilities. Alleviating the power problem in the DRC (power outages remain the biggest constraint, as seen in the business environment chapter) will have a direct impact on all enterprises, including the smallest firms.

FIGURE 4.4: INFRASTRUCTURE FACILITIES IN MICRO-ENTERPRISES

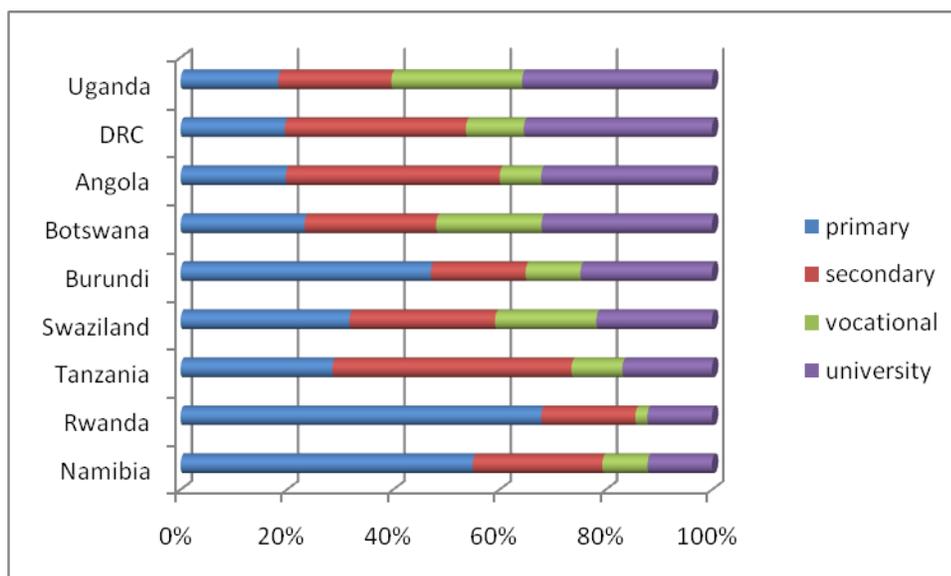


Source: World Bank

**ARE MICRO ENTERPRISES LOW-SKILLED? No.**

83. Comparing across countries in sub-Saharan Africa, we see that owners of micro-enterprises in the DRC are more highly educated than all comparator countries (except Uganda, which has the same percentage): 38 percent of these entrepreneurs have university education, compared to only 7 percent in Namibia.

FIGURE 4.5: DISTRIBUTION OF OWNER’S EDUCATION IN MICRO-ENTERPRISES



Source: World Bank Enterprise Surveys, 2006

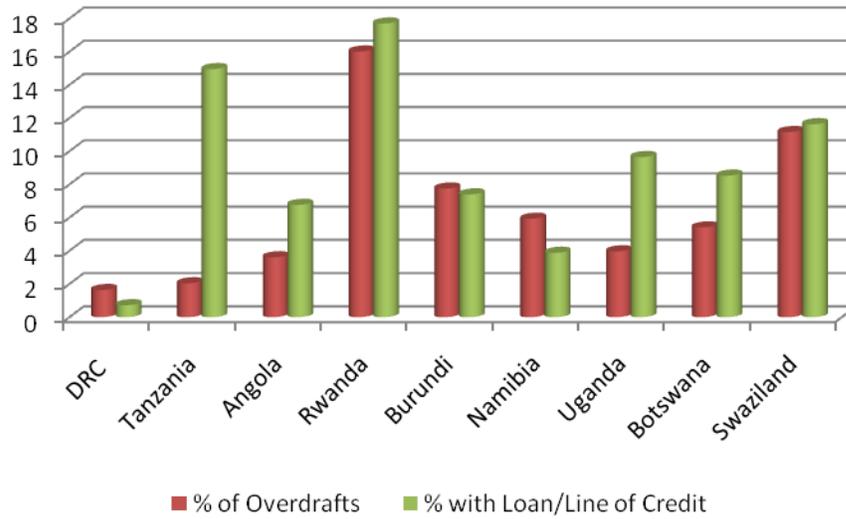
**MICRO-ENTERPRISES HAVE EXTREMELY LIMITED ACCESS TO FINANCE**

84. Another important constraint to growth is limited access to finance. While human capital limits the end size of a firm, an entrepreneur with limited managerial skills will continue to operate his/her small street shop or hair salon, etc., with only one or two employees for the lifetime of the firm. However, if he/she has business knowledge, the profits can be reinvested in the enterprise, allowing it to grow. The rate of growth will be constrained by the amount of retained earnings, if firms do not have access to borrowing privileges. Access to finance allows skilled entrepreneurs to grow faster.

85. Enterprise rankings on finance may reflect an actual constraint to growth, or could simply reflect a desire for more capital, even though a firm may not have the collateral to borrow or the skills to expand operations. Examining rankings across countries, we see that micro-enterprises in the DRC are more likely to complain about lack of access to finance compared to other countries, except Uganda and Burundi, where the rankings are similar. How do these rankings compare to actual access to the formal financial sector? Figure 4.7 presents the linkages with the formal financial sector by examining the percentage of firms that have overdrafts and those that have

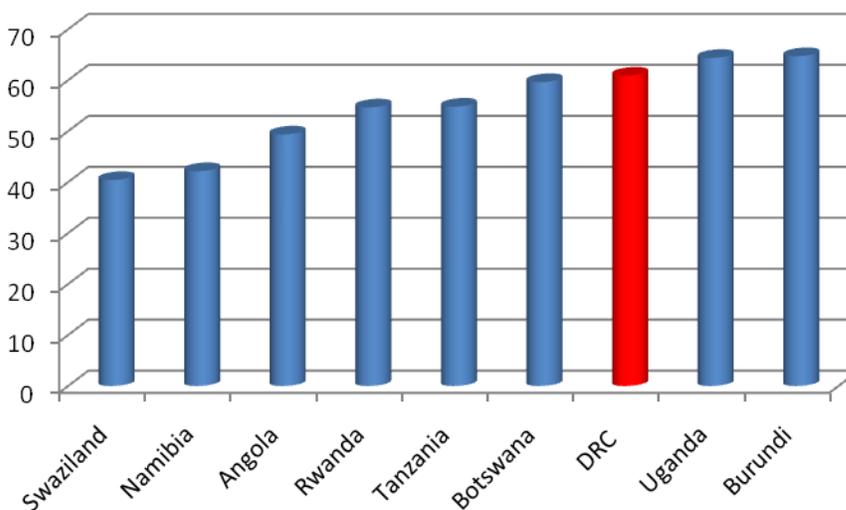
loans or a line of credit. We see that micro-enterprises in the DRC have virtually no linkage; only one firm has an overdraft facility and there is no borrowing through a line of credit or loan.

FIGURE 4.6: MICRO FIRMS FINANCIAL CHARACTERISTICS



SOURCE: WORLD BANK ENTERPRISE SURVEYS, 2006

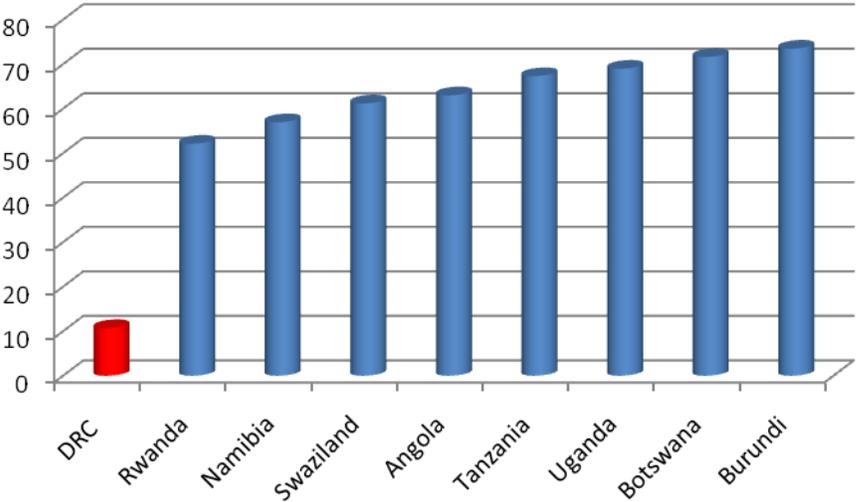
FIGURE 4.7: ACCESS TO FINANCE - PERCENT OF MICRO-ENTERPRISES RANKING PROBLEM AS MAJOR OR SEVERE



SOURCE: WORLD BANK ENTERPRISE SURVEYS, 2006

86. Micro firms in the DRC also have the lowest access to the formal banking sector, even for deposit accounts. Less than 10 percent of firms have a checking or saving account. These percentages are far lower than those in other countries in the region.

FIGURE 4.8: PERCENTAGE OF MICRO-ENTERPRISES WITH BANK ACCOUNTS



SOURCE: WORLD BANK ENTERPRISE SURVEYS, 2006

87. Overall, results from the Enterprise Survey indicate that addressing governance issues that involve rent seeking by bureaucrats and that deter firm expansion and visibility to tax authorities and improving access to financial services are essential to increase entry and growth of micro-enterprises.

## CHAPTER 5: ACCESS TO FINANCE

### A REVIEW OF THE FINANCIAL SECTOR: AN UNDERDEVELOPED AND FRAGILE SECTOR

88. Banks are the dominant institutions in the small Congolese financial sector (see Table 2 below). Commercial banks' assets accounted for about 10 percent of total GDP and 75 percent of total financial sector assets in 2006<sup>21</sup>. Yet, the rate of bank financial penetration is very low: there are 11 banks in operation<sup>22</sup> holding about 100,000 accounts for a population of about 60 million.

Table 2: Financial system structure, 2006

	Number of		Financial sector assets (2004)		Financial sector assets (2006)	
	Institutions	Branches	Billions of CF	Percent of GDP	Billions of FC	Percent of GDP
<b>Commercial banks</b>	11	58	182.5	7.0%	405.1	10.1%
Domestic banks	3	20	107.5	4.1%	138.7	3.5%
Foreign owned banks	8	38	75.0	2.9%	266.4	6.7%
<b>Insurance companies</b>	2	146	22.9	0.9%	n.a	n.a
State pension fund	1	36	13.3	0.5%	n.a	n.a
Other insurance companies	1	110	9.5	0.4%	n.a	n.a
<b>Other non-bank financial institutions</b>						
Finance companies	1	10	19.2	0.7%	n.a	n.a
Savings and loans	1	66	16.0	0.6%	n.a	n.a
Postal savings network	1	69	n.a	n.a	n.a	n.a
Non-bank microfinance institutions	59	n.a	n.a	n.a	n.a	n.a
Development finance institutions	1	1	0.9	0.0%	n.a	n.a
<b>Total financial sector</b>	76		241.5	9.3%		

Source: Democratic Republic of Congo, Selected Issues and Statistical Appendix, the DRC Financial Sector, IMF, September 2007

89. All banks are majority privately owned and foreign ownership is significant. The state holds minority shares in only two banks and 8 of the 11 banks in operation are totally or majority foreign-owned. This is higher than the average for Sub-Saharan Africa (SSA) banking systems, which in turn have higher shares of foreign ownership than other low-income countries.

<sup>21</sup> Estimate: the BCC does not compile data on a regular basis for the nonbanking financial sector.

<sup>22</sup> Seven banks (which includes a well known regional commercial bank and an international microfinance institution adopting the commercial bank status) are about to start operating (they received a license from the Central Bank and recently received the authorisation – through a Presidential Decree – to establish SARLs, the required legal status to operate as a commercial bank).

90. Bank networks have limited coverage. Since the state-owned banks with large networks were liquidated, there are now fewer than 60 bank branches for a country the size of Western Europe. With one branch per one million inhabitants, the DRC has one of the lowest bank penetration rates in the world. Further, banks are concentrated in the capital, Kinshasa, though a few branches have recently opened in economically important cities like Lubumbashi (capital of the mineral-rich Katanga province), Kisangani, Mbuji-Mayi, Kananga, Goma, Bukavu, and Matadi. The dearth of financial services in rural areas where 65 percent of the population reside is a source of concern.

91. The depth of the banking sector and the extent of the financial intermediation it provides are minimal; cash is the dominant financial instrument. Using broad money to GDP as a measure of the size of the financial sector, the DRC ratio is just 11 percent, compared with an average of 33 percent in Sub-Saharan Africa (Table 3)<sup>23</sup>. The ratio of M1 to GDP is 5 percent. Even though total assets of the banking sector as a percent of GDP rose from 1.8 percent in 2000 to about 10 percent by the end of 2006, it is still considerably below the 25 percent average for low-income SSA countries. The DRC also lags other SSA countries in private sector credit and bank deposits. Interbank activity is rare (3 percent of GDP in 2006), a sign of immature financial markets.

Table 3: Banking sector development, 2001-2006

	2001	2002	2003	2004	2005	2006
<b>Democratic Republic of Congo</b>						
Bank assets	4.1	4.2	5.1	8.1	7.3	10.1
Private sector deposits	1.9	2.0	2.5	4.1	4.2	6.1
Bank credit to private sector	0.7	0.6	0.8	1.5	1.9	2.8
Broad money	5.0	4.9	5.4	8.3	7.9	10.7
<b>Sub-Saharan Africa</b>						
Bank assets	22.2	23.4	24.0	23.7	23.7	24.5
Private sector deposits	10.5	21.8	22.3	22.9	23.9	25.3
Bank credit to private sector	12.3	12.5	13.3	14.1	15.0	15.7
Broad money	29.5	31.4	31.4	31.6	31.9	33.2

Source: Democratic Republic of Congo, Selected Issues and Statistical Appendix, The DRC Financial Sector, IMF, September 2007

92. Banking sector operations are highly dollarized. The sector balance sheet is 75 percent denominated in foreign currency. Because of past inflation, there is a strong preference for foreign exchange as a vehicle for savings and for settlement of large transactions. This preference is also due to the absence of large-denomination Congolese banknotes, though payment systems other than cash are virtually nonexistent. Most bank loans (75 percent) and deposits (87 percent) are denominated in foreign currency (mostly US\$).

<sup>23</sup> In the context of a highly dollarized economy, broad money is higher than what is officially measured because of unrecorded dollar currency in circulation for which there are no estimates.

93. The microfinance sector, although growing fast, is still embryonic. The sector consists of a one commercial bank targeted at micro, small and medium enterprises, several MFIs, and numerous cooperatives. The BCC has granted licenses so far to 59 of them (11 MFIs and 46 cooperatives). Information on MFIs is limited and unreliable, even though each institution is obligated to communicate financial statements to the BCC regularly.

#### BENCHMARKING FINANCIAL INDICATORS IN DRC WITH COMPARATORS

94. Investment into capital assets is necessary to support sustainable growth and usually accompanies the periods of expansionary growth. We observe that 41 percent of formal manufacturing firms have purchased equipment in 2005. This is lower than some other countries: 51 percent of firms in Angola and 66 percent of manufacturing firms in Namibia are making new investments. Investment in other sectors is more at par with other countries; firms in the residual sector, which includes construction, hotels, information technology, etc., are more likely to invest than others. While micro-enterprises have lower incidence of asset purchase, when they do invest, they purchase a larger amount of new assets relative to existing assets—an average of 18 percent relative to average of 5 percent for formal firms.

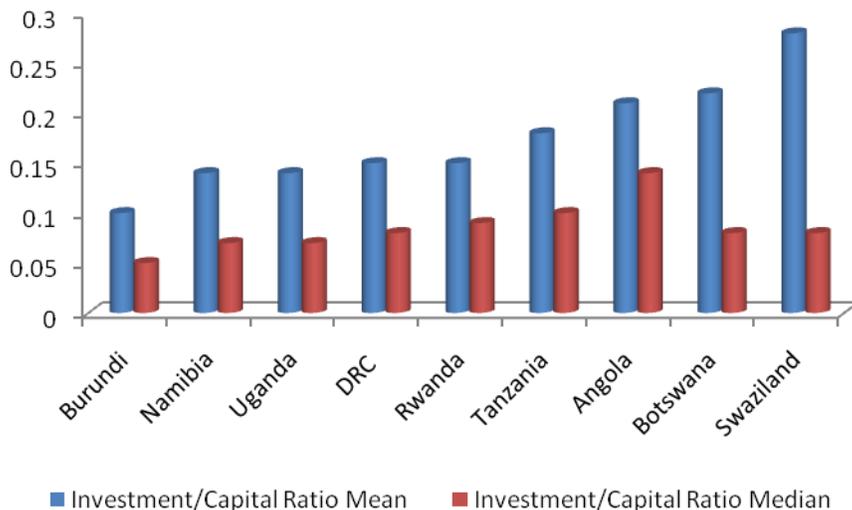
TABLE 5.1: PERCENT OF FIRMS MAKING EQUIPMENT INVESTMENT (WEIGHTED)

	Manufacturing	Informal	Residual	Retail
Angola	50.57	34.72	35.21	32.35
Botswana	55.44	36.58	57.56	45.13
Burundi	60.67	33.3	64.56	54.06
DRC	40.83	32.75	57.96	44
Namibia	65.63	42.6	52.3	38.66
Rwanda	44.37	44.53	68.79	41.63
Swaziland	62.63	42.7	56.54	46.67
Tanzania	59.96	28.66	48.52	35.4
Uganda	44.99	36.13	40.71	17.38

Source: World Bank Enterprise Surveys, 2006

95. Of firms making investments, we see that the rates of investment differ significantly across countries. Examining these differences for the manufacturing sector, we see that median investment in the DRC is 8 percent, while mean investment is at 15 percent of existing capital stock for formal firms. This is significantly lower than countries such as Angola, Botswana and Swaziland, but higher than countries like Burundi, Namibia and Uganda. Therefore, the DRC falls somewhere in the middle of the range relative to its comparator countries.

FIGURE 5.1 CROSS COUNTRY COMPARISONS OF INVESTMENT/CAPITAL RATIO

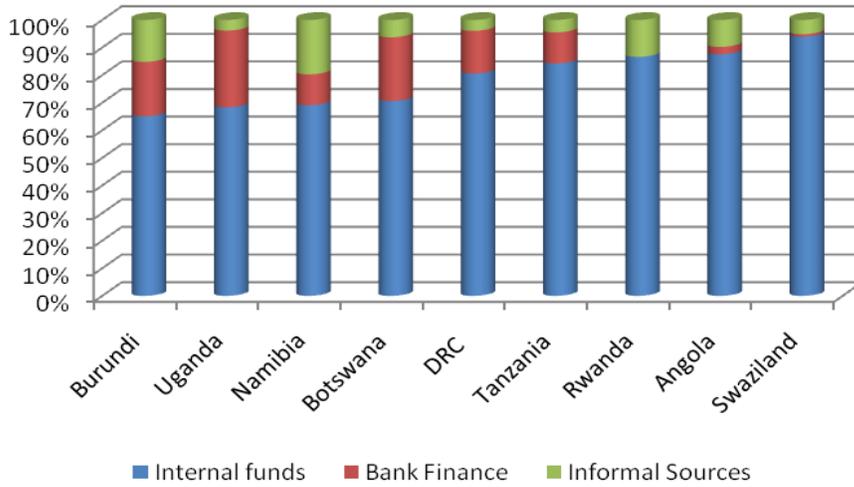


Source: World Bank Enterprise Surveys, 2006

96. Next we compare the sources of finance for working capital and investment (Figure 5.1).<sup>24</sup> All around the world, retained earnings is the main source of internal funds. We observe that in the DRC retained earnings comprise between 72 percent and 75 percent of all funds used for working capital and a similar percentage for investment. This is similar to most other countries—even in middle-income countries such as Botswana, more than 60 percent of the finance for working capital and investment comes from internal sources (Figure 5.2 and Figure 5.3). Bank finance represents only a very minor source of funds for firms in the DRC. Only 4 percent of working capital finance and 15 percent of investment finance for formal firms come from banking sector.

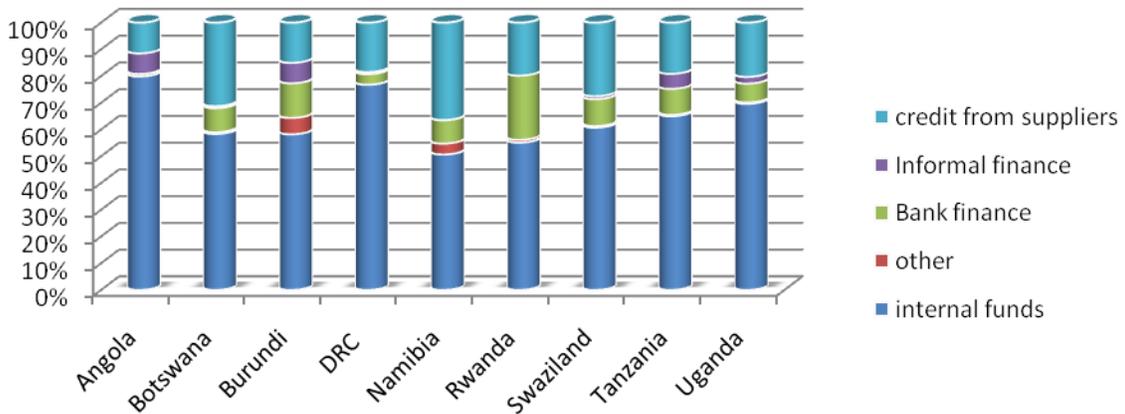
<sup>24</sup> To simplify the graph, the category “other” was omitted, which explains why for some countries the total is not equal to 100 percent. In the DRC “other” is not an important source of funds.

FIGURE 5.2 SOURCES OF FINANCE FOR INVESTMENT (WEIGHTED)



Source: DRC Enterprise Survey, 2006

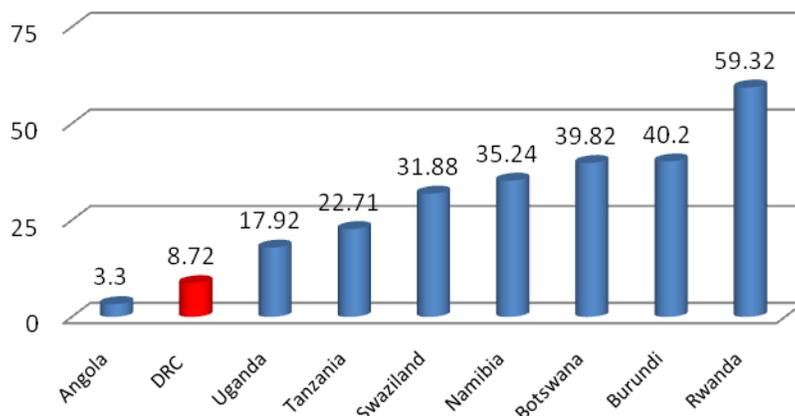
FIGURE 5.3 CROSS-COUNTRY COMPARISON OF SOURCES OF FINANCE FOR WORKING CAPITAL



Source: World Bank Investment Climate Survey

97. Comparing enterprise linkages to the formal financial sector, we see that very few formal manufacturing firms in the DRC have any loans or lines of credit. Only 8.2 percent of firms in the DRC have these borrowing privileges, compared to more than 30 percent for firms in the middle-income countries and also Rwanda.

FIGURE 5.4 PERCENT WITH LINE OF CREDIT/LOAN



Source: World Bank Enterprise Surveys, 2006

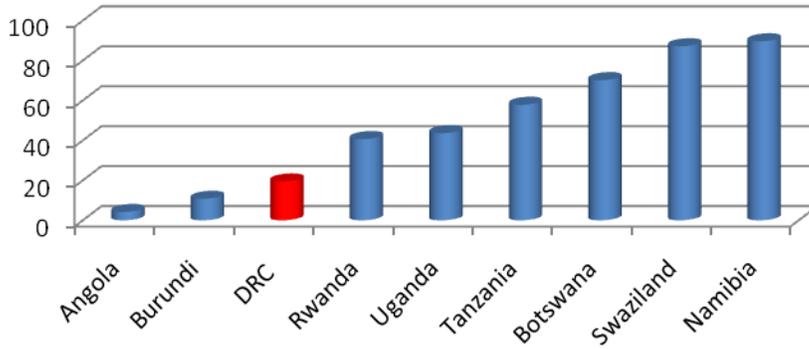
98. Interest rates are relatively low in the DRC, with a reported average of about 11 percent. This could indicate that only the best firms can obtain financing, while higher-risk firms simply have no access. This corroborates well with the low percent of firms with access to the banking sector.

99. The Access to Finance Obstacle presents self-reported evaluation by survey respondents on the degree of the obstacle that access to finance presents for the current operation of the business. Figure 5.5 presents the percent of firms that report access to finance to be a major or severe obstacle. In the DRC, 59 percent of firms report access to finance to be a major problem—it is the highest in the region.

100. How does this subjective ranking compare to objective measures of access? To compare an objective measure of access across countries, we look at percentage of firms which have bank linkages such as checking/saving accounts or overdrafts. These findings are presented in Figure 5.5. Again, we see that firms in the DRC are least likely to use banking products—only 53 percent of formal manufacturing firms have a checking account, while only 9 percent have overdraft facilities. This is much lower than all other countries except Angola, where the numbers are slightly higher.

101. Access to the formal financial sector is likely to be correlated with an enterprise’s accounting practices. If firms have proper audited accounts, they are more likely to gain banking access. Examining these statistics in Figure 5.8 we see that less than 20 percent of firms in the DRC have audited accounts—slightly higher than Angola and Burundi, but much lower than other countries.

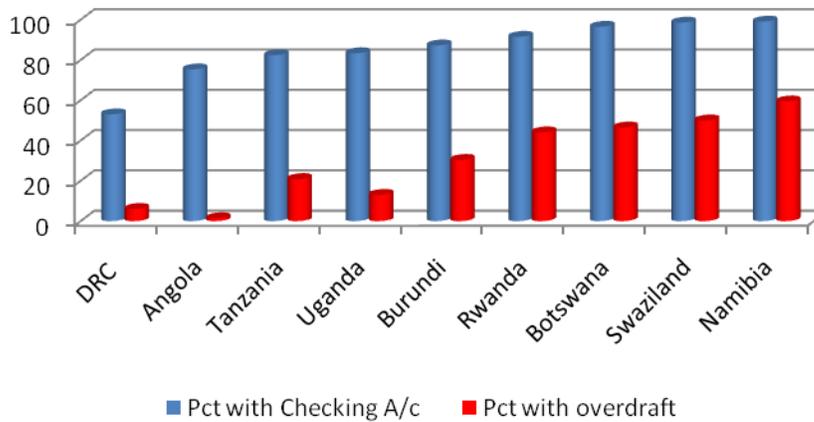
FIGURE 5.5 PERCENT WITH AUDITED ACCOUNTS



Source: World Bank Enterprise Surveys, 2006

102. In sum, the DRC appears to perform similarly to Angola on many available indicators of access, but much worse than Rwanda, Uganda, Tanzania and other African countries.

FIGURE 5.6 COUNTRY COMPARISON OF PERCENT WITH CHECKING ACCOUNTS AND OVERDRAFT



Source: World Bank Enterprise Surveys, 2006

103. Looking at characteristics of access to bank loans, we see that only a small proportion of all firms have applied for a loan—only 6 percent of micro-enterprises and 12 percent of formal firms did so in 2005. On average the rejection rates are very high, which may partially explain the low application rates—81 percent of applications were rejected. Over two-thirds of firms had to apply for loans more than once in 2005, but multiple applications are associated with higher rejection rates. Appendix D also shows that most applications get rejected because of inadequate collateral. Larger firms get rejected due to insufficient profitability or incompleteness of loan application, while smaller firms have other reasons for rejections.

104. Appendix D, Table 1 presents the reasons why most firms do not apply for loans. Over 30 percent of firms report that they do not apply because the procedures are complicated and about 5 percent do not apply because they lack collateral. The percent of firms that report not applying because they expect to be rejected varies from 7 percent for larger firms and 20 percent for smaller firms. Given the number of actual applications rejected discussed above, which is 81 percent for formal firms; it is surprising that more firms do not report applying for the reasons of expecting to be rejected. This may indicate lack of information on the firm side about the workings of the banking sector (specifically, the actual percent of rejection rates).

105. Collateral requirements are rather high: the average amount of collateral required is 130 percent of the loan amount, with a median of 100 percent. About a quarter of all firms with loans provide over 150 percent of collateral, relative to the loan amount. Most of the collateral comes in the form of land and buildings (over two thirds of the firms who provide collateral do it in the form of the land and buildings), while machinery and equipment are used as collateral by about one-third of firms. Receivables and personal assets of the owners are used less frequently as collateral.

#### ACCESS TO FINANCE BY FIRM CHARACTERISTICS

106. In this section we focus on comparing a variety of access indicators available in the DRC survey across different categories of firms surveyed. All results discussed in this section are obtained using multivariate regression analysis and are reported in Appendix D, Table 2. The regression analysis includes both formal and micro enterprises, which allows us to see whether micro enterprises are significantly different from formal firms in terms of access to finance.

107. We find that young and small firms report less usage of credit products, although age is a more significant predictor of low access than size (with size dummies being significant only at about 11 percent for micro-enterprises and 12 percent for small firms). Controlling for size and age we find that LLCs (limited liability companies), foreign and non-African owned firms are not significantly different from their respective comparison categories of firms in actual usage of credit products. This means that size and age dummies capture all the differences across these categories observed earlier. Thus, LLCs and foreign and non-African owned firms are more likely to be larger and older and after controlling for size, these firm characteristics do not significantly influence the actual usage of credit products. We still observe lower rejection rates and lower subjective indicators of access obstacle in foreign firms, which suggests that foreign firms do have a more favorable access.

108. We also do not find any significant differences in the usage of credit products, rates of loan applications, rejections and proportion of bank finance by firms in Kinshasa and outside, although firms in Kinshasa report higher subjective access obstacles.

109. Two additional variables are included in regression analysis: an indicator for whether the firm has an external auditor and whether or not the firm owns land. An external audit theoretically makes the firm's financial

statements more reliable, which reduces the information asymmetry between the firm and financial institutions, and thus should improve the firm's access to finance. Owned land could be used as collateral and should also be associated with increased access. We find that firms with the external auditor are more likely to use credit products, more likely to apply for loans and less likely to be rejected. Owned land is not significantly related to objective indicators of access, but firms with owned land report fewer access obstacles.

## INVESTMENT AND FIRM CHARACTERISTICS

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110. Appendix D, Table 3 reports regression analysis of two measures of investment: an indicator for whether or not the firm has purchased assets in 2005 and investment amount, defined as new purchase of machines, vehicles, equipment, land or buildings as percent of estimated value of existing machines, vehicles, equipment, land or buildings. As control variables we use the same firm characteristics used in the access indicators regressions. In addition we include several access indicators to test whether access to finance is associated with higher incidence or larger amount of investment.<sup>25</sup>

111. We find that age is unrelated to the probability of investment or its amount, while size is significantly correlated with investment: micro-enterprises and small firms are significantly less likely to purchase assets and if they do, they invest a smaller amount. Interestingly, foreign firms make fewer investments than domestic firms, while those owned by non-Africans invest more. Manufacturing and retail firms invest less relative to the "other firms," which includes information technology, construction, transport, hotels and restaurants, among others. We also find that owner gender, LLC, auditor, land ownership and geographic location indicators are not significant in predicting incidence or amount invested.

112. With regard to access indicators, we find that subjective indicators of access obstacles (the obstacle rating and the indicator for whether or not they consider access as a major obstacle) are not related to the incidence or amount of investment. However, objective indicators, such as whether or not the firm is using any of the credit products (overdraft, loan or line of credit) are positively and significantly related to the incidence and amounts of investment. This evidence further supports the argument made above about giving more weight to objective indicators of access.

113. Applying for a loan is significantly related to purchasing of assets, but not to the amount of assets. We also find that all firms that applied and have obtained a loan are more likely to have purchased assets.<sup>26</sup> On the

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<sup>25</sup> The regressions with Purchased Assets as dependent variable is estimated using Probit model and regressions with investment amount as dependent variable is estimated by Tobit model with a lower bound of zero, to account for those who have made no investments.

<sup>26</sup> For this reason we cannot run a regression predicting purchase assets with rejected as control variable (since it predicts the outcome perfectly).

other hand, some of those that were rejected have also purchased assets. However, having been rejected significantly reduces the size of investment relative to existing assets.

114. This evidence is in line with the argument that access to credit helps increase investment. However, an alternative explanation is also possible—that those firms with investments may have good growth potential and hence would be favored by banks. Without additional data or experimental design it is impossible to infer the causality of the relationship between investment and access. However, the presence of a positive relationship between access and investment is suggestive of the importance of access to finance for promoting investment and growth.

## CONCLUSION

115. In sum, the main conclusion of the chapter is that the access to finance in DRC is extremely limited, even for formal firms. Very few firms apply for loans and the rejection rates are extremely high. The lack of demand for loans does not explain low application rates. Multiple applications are common, but lead to increased rejection rates. As a consequence, bank finance plays an unimportant role in financing of firms in the DRC, with self-financing serving as almost exclusive source of funds.

116. There is very unequal access across difference categories of firms. Foreign firms enjoy better access to external funds, while micro-enterprises, small and young firms are relatively disadvantaged. Bank finance for investment is available almost exclusively to formal manufacturing firms. Firms in Kinshasa have relatively similar access to finance compared to the other surveyed cities; however they are likely to report higher subjective access obstacles.

117. In many countries with limited formal financial intermediation, informal finance has developed to compensate for lack of formal finance. This is not the case in the DRC where informal financial intermediation is also limited, with the exception of self-financing. Trade credit finance (purchasing inputs on credit) provides a relatively important source of finance for manufacturing firms, but is less important for firms in other industries. More surprisingly, family, friends and informal sources are not reported to be a significant factor in financing of businesses, providing about 5 percent of total funds only (for working capital or investment for firms in the formal manufacturing sector). The overall results of this chapter are not surprising, given the recent post-war history of the DRC and the weak state of its financial sector.

118. These results call for enhanced attention to the strengthening of the financial sector, including the microfinance sector, through improvements in legal and judicial environment, financial sector regulation and supervision and measures aimed at promoting development of a more competitive and inclusive financial sector. Competition should lead banks and other financial institutions to expand their services to private sector clients and reach small- and medium-sized businesses.



## CHAPTER 6: THE LABOR MARKET

119. A successful private sector contributes to poverty reduction in part through the income earned by employees. This chapter first presents the broad characteristics of employment in a sample of manufacturing firms in the DRC. We then examine the patterns of worker earnings and its determinants.

120. We begin by examining a firm owner/chief manager's perception on labor market constraints. Firms were asked to rate the extent to which a number of factors presented any obstacle to their current operation, ranking each factor on a scale of 1 to 5, where 5 represented a very severe obstacle, and 1 indicated no obstacle. Here, we present a firm's ranking on labor regulation and "inadequately educated workforce." Table 6.1 shows the percentage of firms reporting these two constraints as major/severe.

121. Only 16.1 percent of firms rank education of workers to be a problem; 16.8 percent rank labor regulations to be a major or severe problem. Medium-sized firms are most adversely impacted by labor regulations and skill requirements: most firms in all size classes do not find labor regulations to be a binding constraint, nor is the education of the workforce.

TABLE 6.1 PERCENTAGE OF FIRMS THAT REPORT FACTOR AS MAJOR OR SEVERE CONSTRAINT

Firm Categories	Labor Regulations	Skills and Education of Available Workers
Micro	12.8%	20.5%
Small	15.6%	14.4%
Medium	40.0%	20.0%
Large	20.0%	10.0%
Domestic	16.5%	15.2%
Foreign-owned	17.4%	16.5%
Non-exporter	15.9%	15.2%
Exporter	27.3%	27.3%
Total	16.8%	16.1%

SOURCE: WORLD BANK ENTERPRISE SURVEYS, 2006

122. Firms were also asked whether labor regulations impacted their decision to hire or fire workers. Only 8.7 percent reported this to be an issue. These responses suggest that enterprises in the DRC either enjoy a flexible labor market or do not apply the regulations; government regulations do not impact hiring and firing of workers.

123. However, when asked what percentage of workers a firm in a current line of business reports for tax purposes, we see a significant dispersion across size categories and for foreign firms, compared to domestic enterprises (Table 6.2). The data is skewed to the right for domestic enterprises; it is skewed to the left for foreign

firms, indicating that a larger group of foreign firms report a high percentage of workers for tax purposes, and there is a relatively small group of firms that report low values for the number of workers in the firm. The opposite is true for domestic firms. Across size categories, we do not see a large difference between the median and mean except for medium firms. Medium firms are likely to report most of their workers for tax purposes; the number is far lower for firms in other size categories.

TABLE 6.2 PERCENTAGE OF WORKERS REPORTED FOR TAX PURPOSES

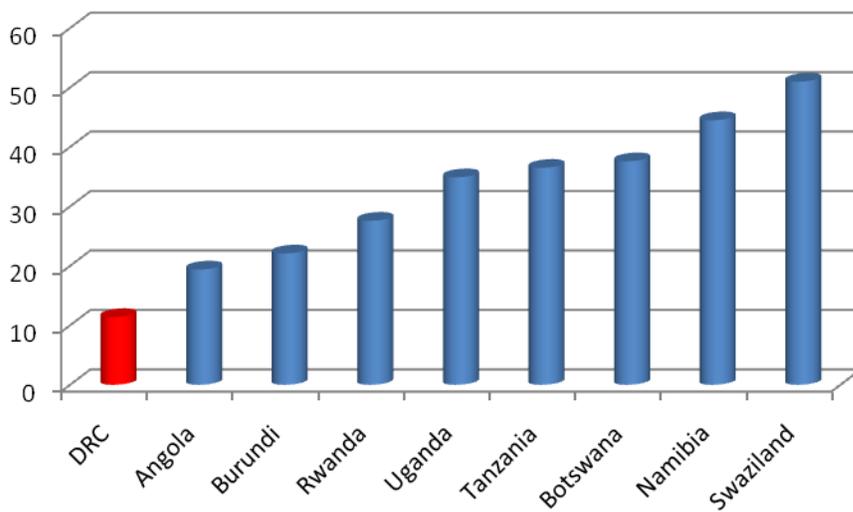
Firm Categories	Median	Mean
Overall	60%	57%
Micro	50%	52%
Small	70%	66%
Medium	85%	71.9%
Large	67.5%	65%
Domestic	50%	55%
Foreign	80%	68.9%

SOURCE: WORLD BANK ENTERPRISE SURVEYS, 2006

#### TRAINING

124. Only 10 percent of manufacturing firms reported any formal training programs for their workers. When this question was asked to the workers, only 1 percent of workers reported receiving any current training in the skilled category. It seems the incentives to train the workforce do not exist in the DRC at the moment.

FIGURE 6.1 PERCENTAGE OF FIRMS OFFERING FORMAL TRAINING



Source: World Bank Enterprise Surveys, 2006

### WORKER COMPENSATION

125. The nature of the contract between firms and employees determines the extent to which changes in the product market, conditions in the international market, and regulations are likely to affect changes in employment. The type of contract written between firms and workers depends on collective bargaining arrangements, monitoring technologies, regulations governing hiring and firing, and prevailing labor market conditions. In what follows, we examine the role of a number of factors in the determination of wage and employment levels.

126. Firms were asked to provide total compensation (wages and benefits) for each of the five categories of labor: managers/proprietors, professionals, skilled production workers, unskilled production workers, and non-production workers. From this data, median monthly compensation per worker category were computed. Table 6.3 shows the distribution of median monthly compensation in US dollars for each category and country.

127. We see that worker earnings in the DRC are much higher than in all East African countries except Kenya. This reflects, in part, the higher costs of living in the DRC, but also minimum wage laws. There is a much narrower spread between worker categories compared to other countries. In particular, we see little difference between the wages of skilled and unskilled production workers; this is perhaps due to the overall low skill requirements in the manufacturing sector. As seen in the productivity section, firms have very little capital per worker (most of that is dated). Skill requirements to be a machine supervisor/technician are likely to not differ significantly from being a machine operator. We examine this issue further below.

TABLE 6.3 MEDIAN MONTHLY COMPENSATION

Worker Category	DRC	Zambia	Tanzania	South Africa	Malawi	Kenya	Uganda	Madagascar
Managers	319.7	357.71	217.26	2086.9	348.95	376.26	139.08	168.91
Professionals	157.6	360.02	186.22	1670.9	257.12	138.35	78.34	109.88
Skilled	101.3	83.08	82.77	554.7	78.06	87.22	43.12	53.34
Unskilled	98.5	42.48	56.9	292.5	32.14	114.92	44.51	33.6
Non-production	84.4	54	62.07			170.79	69.69	49.34

SOURCE: WORLD BANK ENTERPRISE SURVEYS, 2006

TABLE 6.4 MEDIAN MONTHLY EARNINGS IN THE DRC \$: BY WORKER AND FIRM CATEGORY

Worker Category	Micro	Small	Medium	Large	Domestically-owned	Foreign-owned
Managers	56.4	na	na	Na	98.5	319.7
Professionals	na	67.1	107.2	194.9	151.2	157.6
Skilled Production	65.4	65.4	116.1	102.1	65.8	101.3
Unskilled Production	63.3	73.9	67.3	102.1	56.4	98.5
Non-production	56.4	63.3	74.7	97.5	81.1	84.4

SOURCE: WORLD BANK ENTERPRISE SURVEYS, 2006

128. Table 6.4, presents median monthly wages for all occupational categories broken down by firm size class, export status and ownership. The figure shows two striking patterns: larger firms pay higher wages, on average, compared to smaller enterprises (this is especially true for firms with more than 100 workers). Similarly, foreign firms pay much higher wages compared to domestic enterprises.

129. These patterns provide *prima facie* evidence for wage setting mechanisms in the DRC's formal labor market. Several factors may determine why bigger firms pay higher wages. It could be due to the presence of unions, efficiency wages, or fairness norms.

130. We explore the wage setting mechanism further using individual level data from sample of workers interviewed during the survey. Sampled workers were asked to report current wages and payment frequency. We convert all reported wages into monthly wages by converting all payment frequencies into a monthly rate.

131. The decision to acquire education or further on-the-job training is in part determined by labor market returns to these activities. We use the individual level data to estimate these labor market returns. We exploit the

employer-employee matched data to control for observable differences in firm quality which might otherwise bias estimates due to sorting. We include as controls measures of human capital such as years of schooling, years of work experience before joining the current firm, returns to tenure, which measures the number of years within the current firm, and whether or not a worker has received past training. We also include measures of worker bargaining power such as union membership. Finally, we include measures of firm quality such as export status, foreign-ownership, firm size and firm age. All specifications include sector controls.

132. The results of these estimations are shown in Appendix E. Returns to schooling in this sample are high. Controlling for other factors, an additional year of schooling is associated with an increase in wages of nearly 7 percent. There is no statistically significant difference in the earnings of men and women in the manufacturing sector in the DRC.

133. We do not find any significant impact of union membership, once we control for other firm and worker characteristics. Similarly, past worker training has no impact on earnings, which is unsurprising, given the low numbers of training reported overall.

134. We see that prior experience matters; workers with each additional year of prior experience earn about 13 percent higher wages compared to others. Similarly, tenure within the current enterprise leads to higher earnings: workers with each year of additional experience within the firm earn 22 percent higher wages compared to others. Tests of the hypothesis that firm size does not matter are all rejected at the usual levels of significance for large firms, suggesting that even when we control for observable individual characteristics, an individual in a large firm earns more than an otherwise similar individual in a smaller firm. This is strong evidence for the efficiency wage model.<sup>27</sup>

135. Foreign ownership and export status are both important determinants of worker earnings. Holding other factors constant, a foreign owned firm pays about 12 percent more than a domestically-owned firm. Similarly, an exporting firm pays 72 percent higher wages than a non-exporting firm, while all other factors remaining the same.<sup>28</sup> One plausible explanation for this result is endogenous matching: either higher quality firms select better workers or high-quality firms have larger rents to share.

136. Our results on the wage-firm size relationships suggest that one way to improve earnings and reduce poverty is to enact policies that induce firm growth: a large firm pays about 30 percent more than a small firm. Improving the investment climate enables firms to grow by way of increasing the demand for jobs but also

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<sup>27</sup> Given that unionization rates or TFP rates are not highly correlated with firm size, the only plausible explanation for the size effect is if workers of unobserved high ability match to firms with unobserved high quality.

<sup>28</sup> There are only five exporters in our sample; this result needs to be interpreted with caution.

providing higher-wage jobs. Results also imply that general improvements in the education system will lead to higher incomes. Current training programs offered to workers are virtually non-existent, both within enterprises and by outside institutions. ICA results in East Asia and other parts of Africa, especially Mauritius and South Africa, show that worker training is an important determinant of earnings, in countries which have managed to move up on the income ladder. Creating a stable environment that fosters long-term growth of the private sector, provision of external training institutes, providing training incentives within the enterprise, are urgently required to improve the average level of worker skills, enterprise productivity and worker earnings in the DRC.

## CHAPTER 7: POLICY IMPLICATIONS

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137. For DRC to succeed in realizing its potential, political stability, good macroeconomic and trade policies are all necessary but not sufficient conditions to foster private sector growth. These need to be complemented with a host of favorable conditions relating to its investment climate.

138. The Enterprise Survey results presented in this report indicate that deficiencies in the investment climate are a key barrier to private sector growth. Private sector firms across the board report regulatory, governance and infrastructure problems to be major or severe constraints that increase costs and reduce competitiveness of firms operating in Congo compared to others regionally. Government policies should focus on creating an enabling environment that encourages investment, reduces enterprise indirect costs, and supports efforts to improve productivity levels. While there has been some progress since 2001, much more needs to be done to foster private sector growth. Policies that require urgent focus are highlighted here. These recommendations are not presented by order of priority, to allow the Government makes its decision based on the reality of the Congolese political economy.

### MACROECONOMIC AND POLITICAL STABILITY

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139. Political and macroeconomic stability is an essential prerequisite for a dynamic private sector. More than 60 percent of enterprises in DRC report this to be major or severe constraint. This negative perception translates into lower private investments and consequently lower growth of the economy. By reinforcing macroeconomic stability through better expenditure management, better monetary policy and fight against government corruption, commitment to its contractual obligations towards the private sector through payment of internal debt arrears, the Government will send a positive message to domestic and international investors.

### FINANCIAL SECTOR REFORM

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140. Results of our survey show that access to finance in DRC is extremely limited, even for the largest enterprises. This situation reflects the continued lack of trust in the banking sector, partly stemming from years of poor governance and conflict in the DRC. In addition, banks have lost their lending culture as well as support from their foreign shareholders for most cases, which make their expansion difficult.

141. The growth of the financial sector will be at the center of the “*redemarrage*” of the Congolese economy. Increased private sector lending will allow firms to finance much needed investment in both working capital and assets, which in turn will result in higher productivity.

142. Urgent attention needs to be paid to the strengthening of this sector through (i) a strengthened financial sector regulation and supervision to create the right incentives but also put in place the correct checks and balances for increased lending to the economy; (ii) completion of the restructuring of the banking sector; (iii) a fortified microfinance sector.

## REVAMPING CORPORATE TAX STRUCTURES AND TAX ADMINISTRATION

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143. The highest corporate income tax rate in the DRC is 40 percent, which is much higher than comparator countries-Botswana has the lowest corporate tax rate—15 percent for manufacturing firms; others in the region have tax rates ranging between 25-35 percent. However, as noted in a recently released report<sup>29</sup> that compares tax systems in 175 countries, corporate income tax is only a subset of the total tax burden faced by companies—other taxes include payroll tax, fuel tax, property tax, vehicle tax, municipal fees, sector specific taxes, etc. Combining all these taxes, the DRC has one of the highest effective tax rate—222 percent of profits, and consequently very low compliance. ICA results also indicate that this creates incentives for formal manufacturing firms to under-report income—only 60 percent of income on average is reported for tax purposes—and total number of employees. Firms, on average, report only 50 percent of their workforce for tax purposes.

144. An overhaul of the direct and indirect tax system is what is expected by the private sector as a matter of priority. Several tax systems could be considered, with always the objective of significantly reducing the number of taxes, growing the universe of firms paying taxes while at the same time providing the right incentives for firms to invest, grow and correctly report their activities.

## REDUCING CORRUPTION

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145. The Enterprise Survey results indicate that corruption is systemic. Most enterprises are subject to frequent and time consuming inspections and are required to pay bribes to “get things done”. The systemic nature of corruption strangely makes it predictable as only 20% of firms in the survey report corruption to be a major or serious problem. The Corruption Perception Index (CPI) produced by Transparency International, and the Kray Kaufmann indicators also rank DRC in the 156<sup>th</sup> place and in the lowest percentile, respectively. Besides, firms do not seek recourse through formal systems as the ICA show that a vast majority of firms in DRC have no faith in the court system—80% disagree that the court system is fair, impartial and uncorrupted.

146. These indirect costs impact the competitiveness of Congolese firms regionally and deter entry into the formal manufacturing sector.

147. The Government could tackle this by (i) setting up a transparent tax system based on its simplicity; (ii) implementing the Anti-corruption law and the Code of Conduct for Civil Service; (iii) helping change the mentalities by setting its own example through a new board governance for public enterprises; (iv) carry out a comprehensive judicial reform including: stopping all intervention of the executive branch, paying judges and punishing corrupt practices.

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<sup>29</sup> “Paying Taxes: The Global Picture,” World Bank and PriceWaterhouseCoopers, 2007.

## IMPROVEMENTS IN ELECTRICITY AND TRANSPORT INFRASTRUCTURE

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148. A majority of low income developing countries in Africa face power shortages due to dilapidated power systems that cannot meet the demands of a growing economy, and corruption that leads to high leakages in the power supply system. DRC firms face power shortages that include frequent and long power cuts; a majority of firms cannot substitute public power supply through generators. While several public investments tackling the generation potential of DRC and the distribution network are expected to improve the situation, more will need to be achieved in the short term. The transport sector has also proven to be a hindrance to the development of the private sector with most supply chains not functioning

149. Faced with an important need for investment, the Government needs to aggressively seek the development of public-private partnerships in the energy and transport sectors, while at the same time continue to invest in these sectors in a sustainable manner. Experience in other African countries shows that public-private partnerships will materialize only if the government can provide the appropriate macroeconomic environment and low level of political risks. Being a major source of rent for multiple actors in these sectors, the governance of the public utilities needs to be seriously addressed.

## APPENDIX A. THE INVESTMENT CLIMATE SURVEY

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(From EEC Canada, who conducted the Enterprise Survey in the DRC)

150. The World Bank Enterprise Survey in the Democratic Republic of the Congo targeted establishments located in Kinshasa, Matadi, Lubumbashi and Kisangani in the following industries (according to ISIC, revision 3.1): all manufacturing sectors (group D), construction (group F), retail and wholesale services (sub-groups 52 and 51 of group G), hotels and restaurants (group H), transport, storage, and communications (group I), and computer and related activities (sub-group 72 of group K). For establishments with five or more full-time permanent paid employees, this universe was stratified according to the following categories of industry:

Manufacturing: Food and Beverages (Group D, sub-group 15);

Manufacturing: Garment (Group D, sub group 18);

Manufacturing: Other Manufacturing (Group D excluding sub-groups 15 and 18);

Retail Trade: (Group G, sub-group 52);

Rest of the universe, including:

Construction (Group F);

Wholesale trade (Group G, sub-group 51);

Hotels, bars and restaurants (Group H);

Transportation, storage and communications (Group I);

Computer related activities (Group K, sub-group 72).

151. The survey also sampled a selection of micro establishments (establishments with less than five full-time permanent paid employees) from the targeted universe, without stratification by industry.

### SAMPLING METHODOLOGY

152. The sample frame for establishments with five or more full-time paid permanent employees consisted in a population of 1296 establishments. This list of establishments was compiled from lists from different sources, including the Central Bank of Congo, the Congolese Enterprises Federation and information gathered in the field while constructing the sample frame of micro enterprises (see below). The master list, once compiled and updated based on initial research in the field, was sent to EEC head office in Montreal. There, the number of establishments to be surveyed in each stratum and location was determined based on the sample frame and the World Bank's guidelines on sampling for the global roll-out of the ICS. Once the target number for each stratum and location was determined, a computer program selected at random establishments from the sample frame sufficient to fulfil the target, as well as a list of replacements.

153. These lists were then sent back to the EEC field team, who oversaw the enumerators in their attempts to survey the selected establishments.

154. In overview, the following observations can be made on the overall population of manufacturing establishments: Kinshasa, the largest city in DRC with a population of 7 million, holds the main manufacturing activities. These activities are essentially in the food, garments, wood products and chemicals sectors. Matadi is considered the second manufacturing city in DRC, because of its port, main point of entry for the country's imports. Lubumbashi, the major city in the mining region of Katanga, also has some manufacturing activities, concentrated in the agro-industrial sector. The survey was carried out in these cities and in Kisangani and covered establishments that employed more than seventy five percent of the industrial sector's workforce.

#### MICRO-ESTABLISHMENTS

155. In this survey, the micro establishment stratum covers all establishments of the targeted categories of economic activity with less than 5 employees. For many reasons including the small size of establishments, their expected high rate of turnovers, the high level of "informality" of establishments in many activities and consequently the difficulty to obtain trustworthy information from official sources, EEC Canada selected an aerial sampling approach to estimate the population of establishments and select the sample in this stratum for all regions of the survey.

156. First, the total targeted sample size of micro establishments for the country was divided between the four regions in proportion to each region's human population. Then, within each region, to randomly select individual micro establishments for surveying, the following procedure was followed: i) select *districts and specific zones* of each district where there was a high concentration of micro establishments; ii) *count all micro establishments* in these specific zones; iii) based on this count, create a virtual list and select establishments at random from that virtual list; and iv) based on the ratio between the number selected in each specific zone and the total population in that zone, create and apply a skip rule for selecting establishments in that zone.

157. The districts and the specific zones were selected at first according to our national sources. The EEC team then went in the field to verify these national sources and to count micro establishments. Once the count for each zone was completed, the numbers were sent back to EEC head office in Montreal.

158. At head office the following procedure was followed: The count by zone was converted into one list of sequential numbers for the whole survey region, and a computer program performed a random selection of the determined number of establishments from the list. Then, based on the number that the computer selected in each specific zone, a skip rule was defined to select micro establishments to survey in that zone. The skip rule for each zone was sent back to the EEC field team.

159. In the DRC, enumerators were sent to each zone with instructions as to how to apply the skip rule defined for that zone as well as how to select replacements in the event of a refusal or other cause of non-participation.

## POPULATION AND SAMPLE SIZE

Table 1

Population size by stratum and sampling region

	Kinshasa	Matadi	Lubumbashi	Kisangani	Total
Manufacturing	269	15	15	9	308
Food and beverages	88	7	9	2	106
Garments	20	1	4	2	27
Other manufacturing	161	7	2	5	175
Retail	430	28	19	17	494
Rest of the universe	445	33	8	8	494
Micro	19678	600	920	262	21460
Total	20822	676	962	296	22756

Table 2

Final sample size by stratum and sampling region

	Kinshasa	Matadi	Lubumbashi	Kisangani	Total
Manufacturing	129	8	7	5	149
Food and beverages	45	5	5	1	56
Garments	14	1	2	1	18
Other manufacturing	70	2	0	3	75
Retail	57	4	1	2	64
Rest of the universe	113	6	5	3	127
Micro	91	6	5	2	104
Total	390	24	18	12	444

## PARTICIPATION

160. During the survey, attempts were made to contact 635 establishments (approximately 50 % of the population):

230 were unreachable as the information provided on their localization or phone number was incorrect;

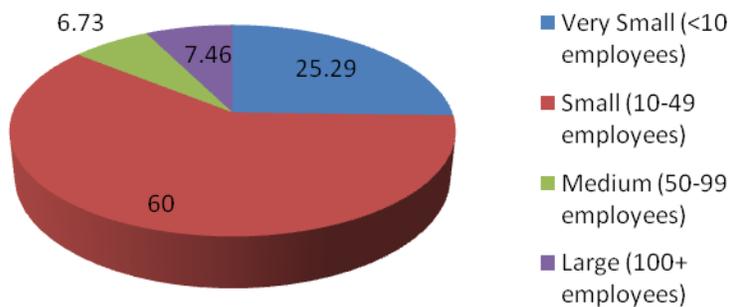
65 were contacted but 35 refused to answer, 16 gave partial information, 14 were willing to participate but were unavailable for an interview during the survey;

340 completed the survey.

161. The success rate with respect to the sample frame was therefore 53.4%. However, the participation rate with respect to contacted establishments was 83.7%.

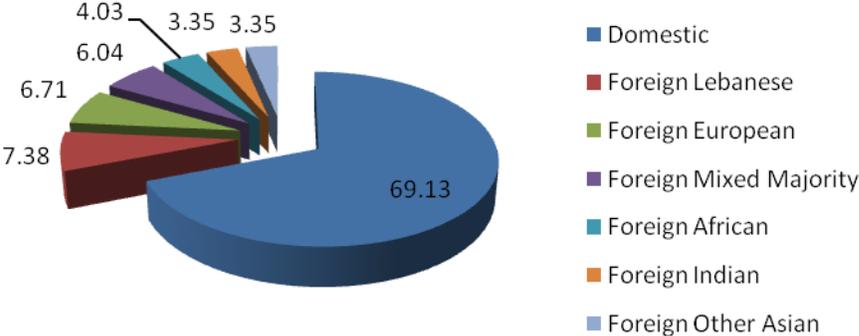
162. The weighted size distributions of manufacturing firms in the sample are presented in Figure 1.3 **Error! Reference source not found.** This distribution is reflective of the population: the majority of firms in DRC are small and micro-enterprises. Most produce for the domestic market: only 11 percent of firms in the sample export more than 10 percent of output. Of those exporting, the majority is made of regional exporters; only two firms in the sample were exporting to developed countries.

FIGURE 1.2: SIZE DISTRIBUTION OF FIRMS IN ENTERPRISE SURVEY



163. Examining the ownership characteristics of firms, a fairly large percentage of firms have at least 10 percent foreign ownership: almost 31 percent of firms report that they are at least partially foreign owned. Almost 31 percent of firms report majority foreign shareholders. Most of these foreign-owned firms are not large multinationals, but small enterprises. Firms were asked about the ethnic background of foreign firms. These data show that foreign-owned firms in the DRC have varied ethnicity without a single group's domination: Lebanese firms own 7.6 percent of manufacturing enterprises, followed by Europeans, who own 6.7 percent of firms in our sample.

FIGURE 1.3: OWNERSHIP CHARACTERISTICS OF CONGOLESE FIRMS



Source: World Bank Enterprise Surveys, 2006

Table 1.1: COMPARATIVE RANKINGS OF COUNTRIES: GDP PER CAPITA AND OTHER EXISTING INDICATORS

Country	Doing Business	GDP per Capita	Institutional Investors Credit Rating	KKR-Voice and Accountability 2005	KKR-Political Stability 2005	KKR-Government Effectiveness 2005	KKR-Regulatory Quality 2005	KKR-Rule of Law 2005	KKR-Control of Corruption 2005
Angola	155	1350	18.7	-1.15	-0.82	-0.96	-1.24	-1.28	-1.09
Botswana	44	5180	63.9	0.68	0.94	0.79	0.76	0.70	1.10
Burundi	160	100	12.7	-1.15	-1.65	-1.34	-1.22	-1.17	-0.86
Congo, DR	175	120	10.7	-1.64	-2.40	-1.64	-1.66	-1.76	-1.34
Namibia	39	2990	46.9	0.36	0.50	0.09	0.11	-0.01	0.06
Rwanda	159	230	15.8	-1.32	-1.21	-1.05	-0.73	-1.00	-0.81
Swaziland	67	2280	31.6	-1.28	-0.04	-0.84	-0.44	-0.75	-0.60
Tanzania	150	340	25.3	-0.31	-0.37	-0.37	-0.51	-0.47	-0.73
Uganda	103	280	25.5	-0.59	-1.32	-0.48	0.01	-0.74	-0.87

## SAMPLE WEIGHTS

Table 3

Sample weights by stratum and sampling region

	Kinshasa	Matadi	Lubumbashi	Kisangani	Total
Manufacturing	2.09	1.88	2.14	1.80	2.07
Food and beverages	1.96	1.40	1.80	2.00	1.89
Garments	1.43	1.00	2.00	2.00	1.50
Other manufacturing	2.30	3.50		1.67	2.33
Retail	7.54	7.00	19.00	8.50	7.72
Rest of the universe	3.94	5.50	1.60	2.67	3.89
Micro <sup>30</sup>	216.24	100.00	184.00	131.00	206.35
Total	53.39	28.17	53.44	24.67	51.25

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<sup>30</sup> The weights for the Micro stratum represent only the areas for which we conducted an area sampling.

## 1. APPENDIX B. ENTERPRISE GROWTH AND PERFORMANCE

TABLE B.1: DETERMINANTS OF ENTERPRISE GROWTH

Variable	Model 1	Model 2
Constant	0.14*** (0.02)	0.10*** (0.02)
Log(firmage)	-0.04*** (0.03)	-0.05*** (0.01)
Log(empt. at start)	-0.05*** (0.006)	
Log(average empt)		-0.002 (0.007)
Food	0.03*** (0.02)	0.005 (0.02)
Garment	-0.002 (0.02)	0.006 (0.02)
Retail sector	0.03*** (0.01)	0.04*** (0.01)
University Ed.	0.03*** (0.01)	0.02* (0.01)
Post Graduate Ed.	0.01 (0.01)	-0.01 (0.02)
Log(Manager Experience)	0.02*** (0.008)	0.02*** (0.008)
Exporters	0.01 (0.03)	-0.01 (0.03)

Foreign Owned	0.06***	0.01
	(0.02)	(0.02)
Email users	0.04***	0.03**
	(0.01)	(0.016)
Banking system users	0.05***	0.021*
	(0.01)	(0.01)
Capital	-0.01	-0.01
	(0.01)	(0.02)
Adj. RSq	0.24	0.13

TABLE B 2: CROSS-COUNTRY RESULTS ON TOTAL FACTOR PRODUCTIVITY

Variable	Coefficient (Standard Error)
Constant	5.07*** (0.16)
Log (Labor)	0.67*** (0.03)
Log (Capital)	0.36*** (0.02)
Foreign Ownership	0.19*** (0.07)
Exporting	0.19** (0.09)
Burundi	0.04 (0.11)
Rwanda	0.08 (0.14)
DRC	0.31*** (0.09)
Tanzania	0.57*** (0.08)
Angola	0.77*** (0.09)
Swaziland	1.05*** (0.13)
Botswana	0.74*** (0.11)
Namibia	1.23*** (0.11)
Adjusted RSq	0.76

TABLE B3: OLS REGRESSION RESULTS, CONGOLESE FIRMS ONLY

Variable	Estimate (standard error)
Constant	-1.83*** (0.31)
Log(Intermed)	0.74*** (0.02)
Log (Capital)	0.02 (0.02)
Log (Labor)	0.17*** (0.04)
Food	0.02 (0.06)
Textile and Garments	0.05 (0.08)
Internet Usage	0.14** (0.07)
Foreign Ownership	-0.01 (0.06)
Exporters	0.16* (0.09)
Own Generator	0.04 (0.06)
Lubumbashi	0.30*** (0.11)

Undergrad. Degree	0.07 (0.05)
Post grad Degree	0.01 (0.07)
Bank Users	0.14*** (0.06)
Adj. Rsq	0.97

### TOTAL FACTOR PRODUCTIVITY METHODOLOGY

164. Although the measures of firm productivity such as labor and capital productivity provide useful information on firm performance, they can be misleading when considered in isolation<sup>31</sup>. To get an overall assessment of productivity, it is necessary to take both capital and labor use into account. This can be done by calculating total factor productivity (TFP). Differences in TFP are differences in output that cannot be explained by differences in the use of labor, capital and other intermediate inputs. Differences in TFP can be due to the quality of workers, the quality of management, the technology used (as long as it isn't embodied in capital), or firm organization. Firms for which TFP is higher are more efficient than other firms because they produce more with less capital and workers.

165. Mechanically, TFP is calculated by estimating a Cobb-Douglas production function, using data for enterprises from all manufacturing sub-sectors, and looking at the residuals and coefficients on various variables in an augmented production function. To allow us to compare TFP between DRC and other low- and middle-income comparator countries, we pool the observations for all nine countries into a single regression. The production function is estimated both using OLS and stochastic frontier approach. The Likelihood function in the Stochastic frontier approach was lower than that of OLS, hence only OLS results are reported.

166. The dependent variable is the natural log of value added and all regressions control for the enterprises' use of capital and workers.<sup>32</sup> All models include country dummies to pick up differences in TFP between the different countries and also to reduce problems associated with exchange rates. The regressions also include a full set of sector dummies.

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<sup>31</sup> This methodology is adopted from George Clarke.

<sup>32</sup> Following Caves (1990), value-added rather than sales is used as the dependent variable.

167. The augmented production function is:

$$\log (VA_{ijk}) = \sum_k \mu_k + \sum_j (\alpha_j + \beta_j \log (\text{Capital}_{ijk}) + \gamma_j \log (\text{workers}_{ijk})) + \delta \text{ Firm Characteristics}_{ijk} + \varepsilon_i$$

where VA is value-added in firm i in sector j in country k. Labor and capital are the number of workers and the book value of machinery and equipment. The coefficients on labor and capital,  $\beta$  and  $\gamma$ , are assumed to vary between sectors. Sector and country dummies,  $\alpha$  and  $\mu$ , are included to allow for systematic differences in productivity across countries and sectors. In some specifications, a series of enterprise level controls (such as dummies indicating whether the firm exports and foreign ownership) are included.

168. The coefficients on the dummy variables, for example, country coefficient of 0.4 for DRC indicates that

$$\ln(\text{TFP, DRC}) - \ln(\text{TFP, Uganda}) = 0.31 \text{ (Uganda is the excluded country)}$$

$$\text{Therefore, } \ln(\text{TFP, DRC}/\text{TFP, Uganda}) = 0.31$$

$$\text{Therefore, } \text{TFP}(\text{DRC}/\text{Uganda}) = \exp(0.31) = 1.36, \text{ indicating that TFP in DRC is higher than that of Uganda by 36\%}.$$

APPENDIX C. CONSTRAINTS TO INVESTMENT

TABLE C1: GENERAL CONSTRAINT TO OPERATIONS – BY REGION

General Constraint	DRC	Kinshasa	Matadi	Lubumbashi	Kisangani
Telecommunication	3.6	3.6	0.0	5.5	7.7
Electricity	76.1	76.8	54.2	83.3	84.6
Transportation	32.4	31.6	0.0	50.0	92.3
Access to land	16.9	15.2	0.0	33.3	76.9
Tax Rates	48.8	44.9	66.6	83.3	84.6
Tax Administration	41.4	38.5	50.0	83.3	53.8
Customs and Trade regulations	17.6	16.7	0.0	66.6	7.6
Functioning of the courts	11.7	11.6	0.0	33.3	7.6
Labor Regulations	12.4	11.6	0.0	50.0	7.6
Inadequately Educated Workforce	14.4	15.4	0.0	16.6	7.6
Business Licensing and Permits	27.5	28.5	0.0	55.5	7.6
Access to Finance (availability and cost)	63.0	65.1	0.0	77.7	92.3
Political Instability	55.8	56.5	4.2	77.7	100.0
Macroeconomic Instability	59.9	59.9	20.8	83.3	100.0
Corruption	18.5	20.3	0.0	11.1	7.7
Crime, Theft, and Disorder	20.9	22.9	0.0	16.6	7.7
Practices of Competitors in the Informal Sector	43.7	46.0	8.3	61.1	15.4
Number of Firms	444	390	24	18	12

TABLE C2: GENERAL CONSTRAINT TO OPERATIONS – BY INDUSTRY

General Constraint	DRC	Food	Garments	Other Mfg	Retail	Other Services
Telecommunication	3.6	3.3	0.0	2.2	4.6	4.5
Electricity	76.1	88.3	90.6	81.1	55.9	79.3
Transportation	32.4	20.0	40.6	37.7	34.8	30.7
Access to land	16.9	15.0	31.2	23.3	15.6	11.7
Tax Rates	48.8	48.3	59.4	46.6	45.8	50.3
Tax Administration	41.4	38.3	40.6	40.0	40.4	44.4
Customs and Trade regulations	17.6	23.3	34.3	23.3	11.9	12.4
Functioning of the courts	11.7	5.0	18.7	16.6	11.0	10.5
Labor Regulations	12.4	15.0	18.7	16.6	7.3	11.1
Inadequately Educated Workforce	14.4	11.6	28.1	16.7	10.1	14.4
Business Licensing and Permits	27.5	28.3	40.6	27.7	27.5	24.2
Access to Finance (availability and cost)	63.0	58.3	71.8	72.2	51.4	66.0
Political Instability	55.8	46.6	62.5	62.2	51.4	57.5
Macroeconomic Instability	59.9	55.0	59.4	72.2	55.9	57.1
Corruption	18.5	16.6	6.3	17.7	14.7	24.8
Crime, Theft, and Disorder	20.9	10.0	15.6	14.4	30.3	23.5
Practices of Competitors in the Informal Sector	43.7	50.0	53.1	48.8	39.4	39.2
Number of Firms	444	60	32	90	109	153

TABLE C3: GENERAL CONSTRAINT TO OPERATIONS – BY ESTABLISHMENT CHARACTERISTICS

General Constraint	DRC	Exporter	Non-Exporter	Informal	Formal	Small	Medium	Large	Domestic	Foreign
Telecommunication	3.6	0.0	3.7	3.0	3.8	3.4	6.0	0.0	3.4	3.5
Electricity	76.1	66.6	76.4	72.0	77.4	77.9	75.8	72.7	76.6	73.1
Transportation	32.4	40.0	32.2	37.0	31.2	32.3	27.3	27.3	32.2	32.8
Access to land	16.9	20.0	16.8	15.0	17.6	16.7	21.2	18.2	16.9	16.4
Tax Rates	48.8	60.0	48.3	38.0	52.2	49.4	65.1	45.5	46.9	59.7
Tax Administration	41.4	60.0	40.1	40.0	41.7	38.4	54.5	45.4	47.7	40.3
Customs and Trade regulations	17.6	40.0	16.8	17.0	17.9	12.5	39.4	18.2	13.8	38.8
Functioning of the courts	11.7	20.0	11.4	12.0	11.7	10.3	19.7	0.0	12.2	8.9
Labor Regulations	12.4	26.6	11.8	14.0	12.0	9.8	19.7	18.2	12.5	11.9
Inadequately Educated Workforce	14.4	20.0	14.2	14.0	14.7	13.3	21.2	9.1	14.0	16.4
Business Licensing and Permits	27.5	53.3	26.6	35.0	25.3	22.4	34.8	36.4	26.5	32.8
Access to Finance (availability and cost)	63.0	53.3	63.4	61.0	63.8	63.1	68.2	54.5	65.8	47.7
Political Instability	55.8	66.6	55.5	58.0	55.8	51.7	66.6	72.7	56.7	50.7
Macroeconomic Instability	59.9	66.6	59.7	62.0	59.1	57.0	66.6	63.6	59.9	59.7
Corruption	18.5	40.0	17.7	14.0	19.0	17.8	28.8	18.2	18.8	16.4
Crime, Theft, and Disorder	20.9	26.6	20.7	22.0	20.6	20.9	19.7	18.2	22.3	13.4
Practices of Competitors in the Informal Sector	43.7	46.6	43.6	43.0	44.1	43.3	48.5	36.4	43.7	43.3
Number of Firms	444	15	429	104	340	263	66	11	377	67

Figure C4: Access to generators (by size and establishments' characteristics)

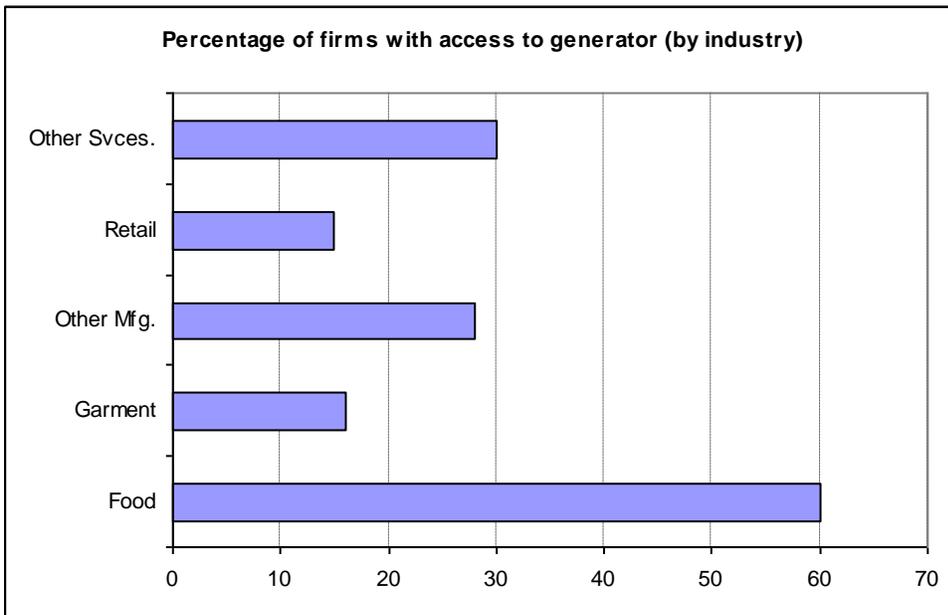
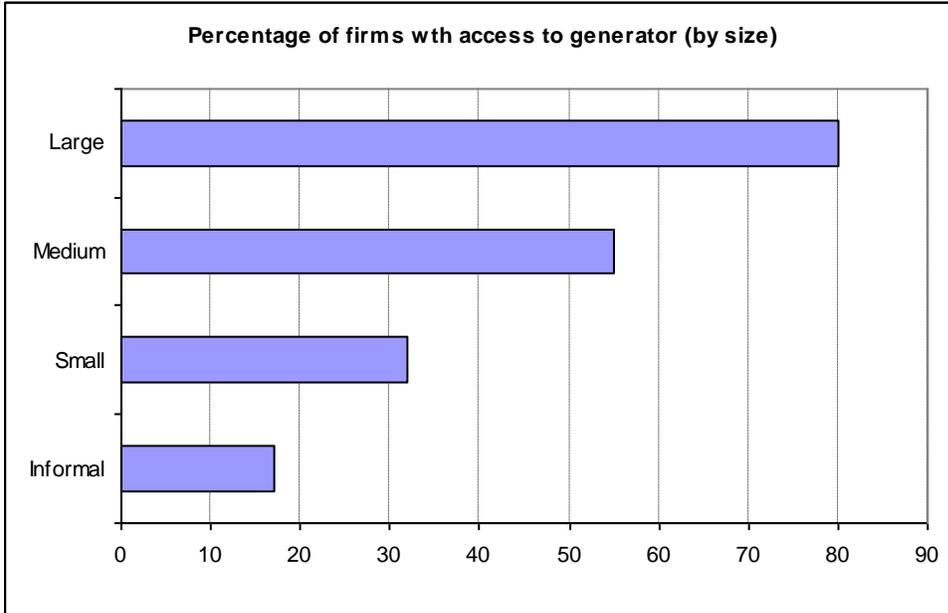


TABLE C5: MEETING WITH TAX OFFICIALS (BY REGION)

	DRC	Kinshasa	Matadi	Lubumbashi	Kisangani
Avg. Number	10	10	5	14	3
St.Dev	12	11	1	5	1
N.Obs	361	253	18	13	7

TABLE C6: MEETING WITH TAX OFFICIALS (BY INDUSTRY)

	DRC	Food	Garment	Other Mfg.	Retail	Other Svces
Avg. Number	10	10	6	10	10	10
St.Dev	12	9	9	10	11	12
N.Obs	361	53	14	68	54	102

TABLE C7: MEETING WITH TAX OFFICIALS (BY FIRM CHARACTERISTICS)

	DRC	Informal	Small	Medium	Large	Exporter	Non Exporter	Foreign	Domestic
Avg. Number	10	12	9	11	13	8	10	14	10
St.Dev	12	15	10	11	9	7	12	18	9
N.Obs	361	70	217	63	11	15	346	65	296

TABLE C8: PERCENTAGE OF MANAGEMENT TIME SPENT DEALING WITH REGULATIONS (BY REGION)

	DRC	Kinshasa	Matadi	Lubumbashi	Kisangani
Avg. Number	8	8	4	5	9
St. Dev	11	12	4	5	4
N. Obs	337	295	18	13	11

TABLE C9 : PERCENTAGE OF MANAGEMENT TIME SPENT DEALING WITH REGULATIONS (BY INDUSTRY)

	DRC	Food	Garment	Other Mfg.	Retail	Other Services
Avg. Number	8	8	7	9	7	7
St. Dev	11	13	6	12	9	12
N. Obs	337	56	18	75	61	127

TABLE C10: PERCENTAGE OF MANAGEMENT TIME SPENT DEALING WITH REGULATIONS (BY FIRM CHARACTERISTICS)

	DRC	Informal	Small	Medium	Large	Exporter	Non-Exporter	Foreign	Domestic
Avg. Number	8	4	6	13	14	13	8	10	7
St. Dev	11	6	10	14	19	14	11	10	12
N. Obs	337	103	260	66	11	14	322	62	275

APPENDIX D. FINANCE

TABLE 1: REASONS FOR APPLICATION REJECTIONS AND LACK OF LOAN APPLICATIONS

Panel A: Reasons for Application Rejections				Panel B: Reasons For Lack of Loan applications.			
	Informal	Formal			Informal	Formal	
Reason		Small	Medium-Large	Reason		Small	Medium - Large
Collateral or cosigners unacceptable	25%	45%	38%	No need for a loan	13%	13%	26%
Insufficient profitability	25%	6%	17%	Application procedures are complicated	32%	37%	40%
Problems with credit history/report	25%	4%	5%	Interest rates are not favorable	15%	8%	6%
Incompleteness of loan application	0%	11%	13%	Collateral requirement are unattainable	5%	5%	7%
Concerns about level of debt already incurred	0%	0%	11%	Size of loan and maturity are insufficient	1%	2%	2%
Other objections	25%	34%	15%	Did not think it would be approved	15%	22%	6%
Total	100%	100%	100%	Other	18%	14%	14%
Sample Size	4	22	11	Total	100%	100%	100%
				Sample Size	98	235	63

SOURCE: WORLD BANK INVESTMENT CLIMATE SURVEY

TABLE 2: REGRESSION ANALYSIS OF ACCESS TO FINANCE INDICATORS

	1	2	3	4	5	6	7
Dependent Variable:	Access obstacle	Access is major/severe obstacle	Has any credit products	Applied for loans	Rejected	Bank finance for Working capital	Bank Finance for Investment
Age: 1-5 yrs dummy	-0.41 [0.03]**	-0.38 [0.02]**	-0.63 [0.01]**	-0.11 [0.59]	0.82 [0.15] <sup>a</sup>	-1.59 [0.14] <sup>a</sup>	-6.49 [0.11] <sup>a</sup>
Age: 6-10 yrs dummy	-0.3 [0.10]	-0.31 [0.07]*	-0.59 [0.02]**	0.04 [0.84]	1.03 [0.06]*	-2.68 [0.00]**	-3.79 [0.39]
Informal dummy	-0.1 [0.71]	-0.22 [0.38]	-0.55 [0.12] <sup>a</sup>	-0.33 [0.30]	-2.21 [0.04]**	-1.79 [0.33]	6.99 [0.33]
Small size dummy	-0.08 [0.71]	-0.19 [0.37]	-0.37 [0.11] <sup>a</sup>	-0.14 [0.58]	-0.83 [0.20]	-1.4 [0.46]	4.72 [0.35]
LLC dummy	0.06 [0.76]	0.09 [0.60]	0.01 [0.97]	0.43 [0.04]**	1.21 [0.17]	0.65 [0.61]	-0.9 [0.83]
Foreign dummy	-0.63 [0.03]**	-0.62 [0.01]**	0.13 [0.62]	-0.49 [0.10]*	-2.55 [0.04]**	1.15 [0.41]	12.13 [0.11] <sup>a</sup>
Female owner dummy	0.41 [0.02]**	0.34 [0.04]**	0.22 [0.37]	0.39 [0.04]**	0.61 [0.21]	0.02 [0.98]	4.59 [0.32]
African owner dummy	0.2 [0.47]	0.19 [0.45]	-0.23 [0.39]	-0.07 [0.81]	0.37 [0.72]	-3.85 [0.05]*	-5.55 [0.31]
Auditor dummy	0.47 [0.04]**	0.2 [0.34]	0.8 [0.00]**	0.93 [0.00]**	-0.99 [0.11] <sup>a</sup>	3.64 [0.07]*	10.8 [0.15] <sup>a</sup>
Own land dummy	-0.37 [0.03]**	-0.26 [0.06]*	-0.03 [0.88]	0.16 [0.36]	0.83 [0.23]	1.4 [0.18]	0.21 [0.95]
Kinshasa region dummy	0.57 [0.02]**	0.46 [0.02]**	0.11 [0.73]	0.29 [0.39]	0.74 [0.31]	-1.57 [0.41]	-7.61 [0.29]
Manufacturing industry dummy	0.36 [0.05]**	0.22 [0.17]	0.05 [0.85]	-0.13 [0.54]	-0.23 [0.68]	0.4 [0.60]	6.56 [0.08]*
Retail industry dummy	-0.35 [0.09]*	-0.25 [0.14]	0.19 [0.52]	0.01 [0.98]	0.78 [0.28]	-0.45 [0.55]	-3.35 [0.25]
Constant	3.13 [0.00]**	0.22 [0.58]	-1.06 [0.01]**	-1.62 [0.00]**	0.03 [0.98]	7.98 [0.00]**	11.41 [0.15]
Observations	444	444	444	444	48	444	190
R-squared	0.09	0.06	0.18	0.14	0.32	0.13	0.2

ROBUST P VALUES IN BRACKETS: A SIGNIFICANT AT 15% \* SIGNIFICANT AT 10%; \*\* SIGNIFICANT AT 5%; \*\*\* SIGNIFICANT AT 1%

TABLE 3: REGRESSION ANALYSIS OF INVESTMENT

	1	2	3	4	5	6	7	8	9
Dependent Variable:	Purchased Assets	Investment Amount	Investment Amount						
Age: 1-5 yrs dummy	0.08 [0.63]	0.13 [0.43]	0.07 [0.65]	0.11 [0.52]	0.13 [0.43]	0.25 [0.14]	0.06 [0.69]	0.13 [0.45]	0.87 [0.00]***
Age: 6-10 yrs dummy	-0.12 [0.48]	-0.03 [0.88]	-0.12 [0.47]	-0.06 [0.73]	-0.07 [0.70]	0.09 [0.60]	-0.16 [0.34]	-0.03 [0.84]	0.52 [0.00]***
Informal dummy	-1.21 [0.00]***	-0.47 [0.07]*	-1.21 [0.00]***	-0.48 [0.07]*	-1.17 [0.00]***	-0.41 [0.12]	-1.21 [0.00]***	-0.46 [0.08]*	0.56 [0.02]**
Small size dummy	-0.76 [0.00]***	-0.55 [0.01]**	-0.75 [0.00]***	-0.53 [0.01]**	-0.71 [0.00]***	-0.49 [0.02]**	-0.77 [0.00]***	-0.54 [0.01]**	-0.04 [0.79]
LLC dummy	0.05 [0.76]	-0.15 [0.42]	0.05 [0.75]	-0.15 [0.42]	0.05 [0.79]	-0.15 [0.43]	-0.01 [0.96]	-0.18 [0.34]	-0.53 [0.04]**
Foreign dummy	-0.98 [0.00]***	-0.65 [0.01]**	-0.99 [0.00]***	-0.65 [0.01]**	-1.04 [0.00]***	-0.7 [0.01]***	-0.97 [0.00]***	-0.62 [0.02]**	
Female owner dummy	0.05 [0.77]	-0.09 [0.61]	0.05 [0.73]	-0.07 [0.68]	0.05 [0.76]	-0.13 [0.46]	0.01 [0.97]	-0.1 [0.55]	-0.48 [0.04]**
African owner dummy	-0.72 [0.01]***	-0.37 [0.12]	-0.71 [0.01]***	-0.35 [0.14]	-0.67 [0.01]**	-0.37 [0.12]	-0.71 [0.01]***	-0.36 [0.13]	-0.2 [0.19]
Auditor dummy	-0.11 [0.58]	0.18 [0.43]	-0.09 [0.63]	0.19 [0.41]	-0.22 [0.28]	0.04 [0.86]	-0.3 [0.16]	0.12 [0.61]	-0.02 [0.91]
Own land dummy	0.14 [0.33]	0.08 [0.57]	0.13 [0.36]	0.07 [0.65]	0.11 [0.42]	0.05 [0.74]	0.09 [0.51]	0.08 [0.60]	-0.25 [0.09]*
Kinshasa region dummy	0.07 [0.72]	0.16 [0.43]	0.08 [0.69]	0.2 [0.34]	0.11 [0.60]	0.19 [0.35]	0.05 [0.79]	0.17 [0.42]	0.88 [0.01]***
Manufacturing industry dummy	-0.52 [0.00]***	-0.81 [0.00]***	-0.5 [0.00]***	-0.82 [0.00]***	-0.5 [0.00]***	-0.78 [0.00]***	-0.5 [0.00]***	-0.8 [0.00]***	1.12 [0.01]***
Retail industry dummy	-0.29 [0.09]*	-0.84 [0.00]***	-0.29 [0.08]*	-0.86 [0.00]***	-0.31 [0.07]*	-0.82 [0.00]***	-0.31 [0.06]*	-0.83 [0.00]***	
Access obstacle	0.05 [0.26]	0 [0.94]							
Access is a major/severe obstacle			0.11 [0.43]	-0.13 [0.36]					
Credit product dummy					0.88 [0.00]***	0.67 [0.01]***			
Applied for a loan							0.81 [0.00]***	0.22 [0.31]	
Rejected									-0.95 [0.00]***
Observations	444	253	444	253	444	253	444	253	24

Robust p values in brackets: a significant at 15% \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

## APPENDIX E. DETERMINANTS OF WORKER EARNINGS

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Dependent Variable	Log (monthly earnings)
Constant	3.02*** (0.19)
Years of Schooling	0.07*** (0.008)
Log(Worker experience)	0.12*** (0.05)
Log(Tenure)	0.20*** (0.04)
Male	0.02 (0.07)
Worker Training	0.06 (0.07)
Worker belongs to Union	0.10 (0.07)
Firm Age (Log)	-0.08*** (0.03)
Medium	0.07 (0.08)
Large	0.29*** (0.08)
Foreign Owned	0.12* (0.06)
Exporter	0.72*** (0.10)
Adjusted Rsq	0.37
N	390