LIBERIA CONSTRAINTS ANALYSIS

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Acronyms	Description
ACS	American Colonization Society
AfT	Agenda for Transformation
CA	Constraints Analysis
CBL	Central Bank of Liberia
CIA	Central Intelligence Agency
CPA	Comprehensive Peace Accord
CSOs	Civil Society Organizations
FAO	Food & Agriculture Organization
FDI	Foreign Direct Investment
FOI	Freedom of Information
FED	Food and Enterprise Development (FED)
GDP	Gross Domestic Product
GoL	Government of Liberia
HDI	Human Development Index
HIPC	Heavily Indebted Poor Countries
HRV	Ricardo Hausmann, Dani Rodrik and Andres Velasco
ICT	Information Communication Technology
IDPs	Internally Displaced Persons
IFC	International Finance Corporation
ILO	International Labour Organization
IMF	International Monetary Fund
LACC	Liberia Anti- Corruption Commission
LBR	Liberia Business Registry
LISGIS	Liberia Institute of Statistics & Geo-Information Services
MCC	Millennium Challenge Corporation
MEs	Multinational Enterprises
MFIs	Micro Finance
MoF	Ministry of Finance
MoGD	Ministry of Gender & Development
MRU	Mano River Union
NIC	National Investment Commission
NPLs	Non-Performing Loans
OFD	Official Development Assistance
PACI	United Nations Global Compact and the World Economic Forum Partnering Against Corruption Initiative
PPCC	Public Procurement and Concession Committee
PRS	Poverty Reduction Strategy
PV	Political stability and the absence of violence /Terrorism
SMEs	Small, Medium Enterprises
UN	United Nations
UNDP	United Nations Development Programme
UNMIL	United Nations Mission in Liberia
USAID	United States Agency for International Development
USG	United States Government

Acronyms	Description
WDI	World Development Indicator (World Bank)
WGIs	World Governance Indicators

1 EXECUTIVE SUMMARY

1.1 INTRODUCTION

Liberia's political history is as unique as its economic history. Liberia has been an independent state since 1847; its GDP grew from $48m to $366m during the period 1950 to 1969 (Lowenkopf, 1976) when most Sub-Sahara African states were still under colonial rule, however, Liberia's governance institutions remained weak and its economic growth was neither equitable nor sustainable. This failure is deeply rooted in the division of Liberia's economy into two distinct economies; one of which can be characterized as a traditional agrarian economy coexisting with economic activities managed and owned by urban social, political and economic elites, with the latter dominated by foreigners. The other economy is basically an enclave economy characterized by raw material export-led growth, which has historically failed to significantly impact the quality of life of ordinary Liberians. Both economies were significantly damaged by a violent civil war which lasted for about 14 years.

Liberia was founded in 1822 by the American Colonization Society (ACS) as a home for free black emigrants. The ACS provided financial support for the emigration of free blacks to Cape Mesurado on the West Coast of Africa (later to become a part of Liberia) thus creating a homeland for free blacks on the African continent. The emigrants, later known as the settlers, built a country inspired by American culture, values and institutions. According to James Ciment, "They [freed blacks] endeavored to recreate the only social and political order they knew, that of the antebellum South – with themselves as the master class." Settler hegemony led to social, political and economic distinctions between settlers and indigenous Liberians. This development led to the marginalization of the indigenous population from the benefits of economic, social and political activities. It was not until 1951 that Liberia held its first election under universal suffrage, over 100 years since independence. Such marginalization and the slow pace of assimilation resulted in the emergence of wealth and social stratification that undermined inclusive growth and development in Liberia and intensified social tensions between the settler and indigenous Liberians.

For the period from 1950 onward, Liberia's growth had been driven mainly by extractives such as iron ore and cash crops such as rubber, coffee and cocoa. Foreign investment for the period 1950 to 1970 amounted to $750 million (Lowenkopf, 1976). However, Liberia found itself vulnerable to external shocks due to the lack of export diversification and commodity dependence. By the 1970s, volatile world prices triggered by the global oil crisis brought Liberia's economy into a long-term decline (World Bank, Liberia Growth Diagnostics, 2012).

On April 12, 1980, after nearly 133 years of civilian rule by descendants of settlers, Samuel K. Doe, a Master Sergeant in the Armed Forces of Liberia, seized state power in a violent military coup d'état under the banner of the People's Redemption Council. The coup brought settler dominance and rule to a violent end with the promise of a revolution that would bring about socio-economic change throughout Liberia. However, the junta's rule was marred by political violence, economic decline, widespread corruption, and poor governance (Armon & Carl, 1996).

In December 1989, a civil war began, waged putatively to end the excesses of the Doe regime. Unfortunately, the war led to massive destruction and diminished the productive capacity of the Liberian economy. Roads, bridges, power plants, factories, farms, telecommunications and transport infrastructure were severely destroyed. Trained and skilled workers migrated to other countries, resulting into a major brain drain. Many children could not attend school during the 14- year civil war. According to the 2007 Demographic and Health Survey conducted by the Liberia Institute of Geo-Information Service (LISGIS), only 40% of primary-school-age children in Liberia were attending primary school, and only 19.6% of secondary-school-age students were attending secondary school.

As a consequence of this past, Liberia, a country richly endowed with natural resources and which has a long history of independence, is sadly one of the poorest countries in the world, ranking 174th out of 186 countries on the Human Development Index.

In 2003, the Accra Comprehensive Peace Accord (CPA) was signed bringing an end to Liberia's civil war. In 2005, free and fair democratic elections were held, leading to the election of Mrs. Ellen Johnson-Sirleaf as President of Liberia. Since the end of the civil war and the beginning of the Sirleaf Administration, Liberia has continued to experience steady economic growth and the reactivation of its traditional productive sectors, as well as off-shore oil and gas exploration. Creating the enabling environment for sustained growth and development is a major challenge facing the government.

Despite the massive destruction wreaked by war and the numerous challenges of institution building, long standing social cleavages human capacity deficiencies, infrastructure constraints and patterns of abuse of public resources, Liberia has embarked on a sustained path of economic recovery.

The last ten years of peace in Liberia have seen major attempts and progress in addressing these challenges in partnership with the international community. The first attempt centered on a development platform known as the Poverty Reduction Strategy (PRS). While gains were moderate, they were relatively significant in consolidating peace and security, while restoring basic social services. Economic growth has trended upward since 2004, with real GDP growth of 7.5% projected for 2013 (IMF). Inflation has been kept in the single digit range. Inflows of Foreign Direct Investment (FDI) have grown sharply with major investments in iron ore mining and oil palm production. The country has seen significant increase in primary school enrollment, with major renovation and reconstruction of schools and hospitals. More than 50% of the population now have access to improved source of water. Road construction and maintenance have been undertaken with strong emphasis on both primary and farm-to-market access roads.

The Government embarked upon reforms in the civil service which have targeted capacity building, while anti-corruption and transparency laws have been passed. The establishment of the (LAAC), the Public Procurement and Concession Commission (PPCC), Liberia Extractive Industry Transparency Initiative (LEITI), the Commercial Court and the passage of the Freedom of Information (FOI) Act have been significant achievements.

Despite these gains, Liberia must address the problems faced by its large youth population, which remains concentrated in the informal sector with vulnerable means of livelihood and limited skills. Such vulnerabilities contributed in part, to the large number of youth who were attracted to different warring factions and participated in the civil war as a means of survival. Poverty and low income remain daunting challenges for many households, with higher severity among those with female heads and those living in rural Liberia. The Liberian Government must not only find the means to trigger growth, but it must ensure that the majority of Liberians benefit from this growth.

To this end, the Government of Liberia has concluded its new development strategy, **Agenda for Transformation, Steps towards Liberia Rising 2030** (**AfT).** The AfT is a five-year development strategy considered as the first step in achieving the goals set out in Liberia Rising 2030, Liberia's long-term vision of socio-economic transformation and development. The AfT sets out precise goals and objectives that Liberia will achieve in the next five years in order to take the necessary steps toward its long term goals, which are to become a more prosperous and inclusive society.

In pursuing its goals, the Liberian Government will have to ensure that the most binding constraints to economic growth are addressed. This is the only sure path to accelerated growth and development. The private sector is the indispensable engine of growth and the government will have to partner with it to achieve sustainable growth.

This evidence-based economic analysis will assist the Government and its development partners in pin-pointing the constraints to growth in Liberia and more specifically the most binding constraints. This diagnosis is followed by further analysis to understand why these constraints exist, and to point to specific interventions most likely to alleviate them. Although acquiring empirical data was a challenge to this analysis, supplementary anecdotal evidence gathered from a series of stakeholder's consultations and qualitative reports have afforded a deep and fundamental understanding of the nature of these challenges.

1.2 CONSTRAINTS ANALYSIS METHODOLOGY

To drill down into these questions, we employ the growth diagnostic framework developed in 2005 by Ricardo Hausmann, Dani Rodrik and Andres Velasco, referred to hereafter as HRV. They provide the framework for conducting this constraints analysis.

A Constraints Analysis (CA) involves posing and answering a sequence of diagnostic questions that highlight the "root causes" that constrain investment. Diagram 1.1 below presents a hierarchical framework or "tree" to organize and motivate the questions driving the CA. Answering those questions involves: (1) selecting and formulating the diagnostic questions in a sensible way for the country at hand; (2) researching and marshaling key evidence and data that shed light on the questions; and (3) answering the questions based on the balance of such evidence.

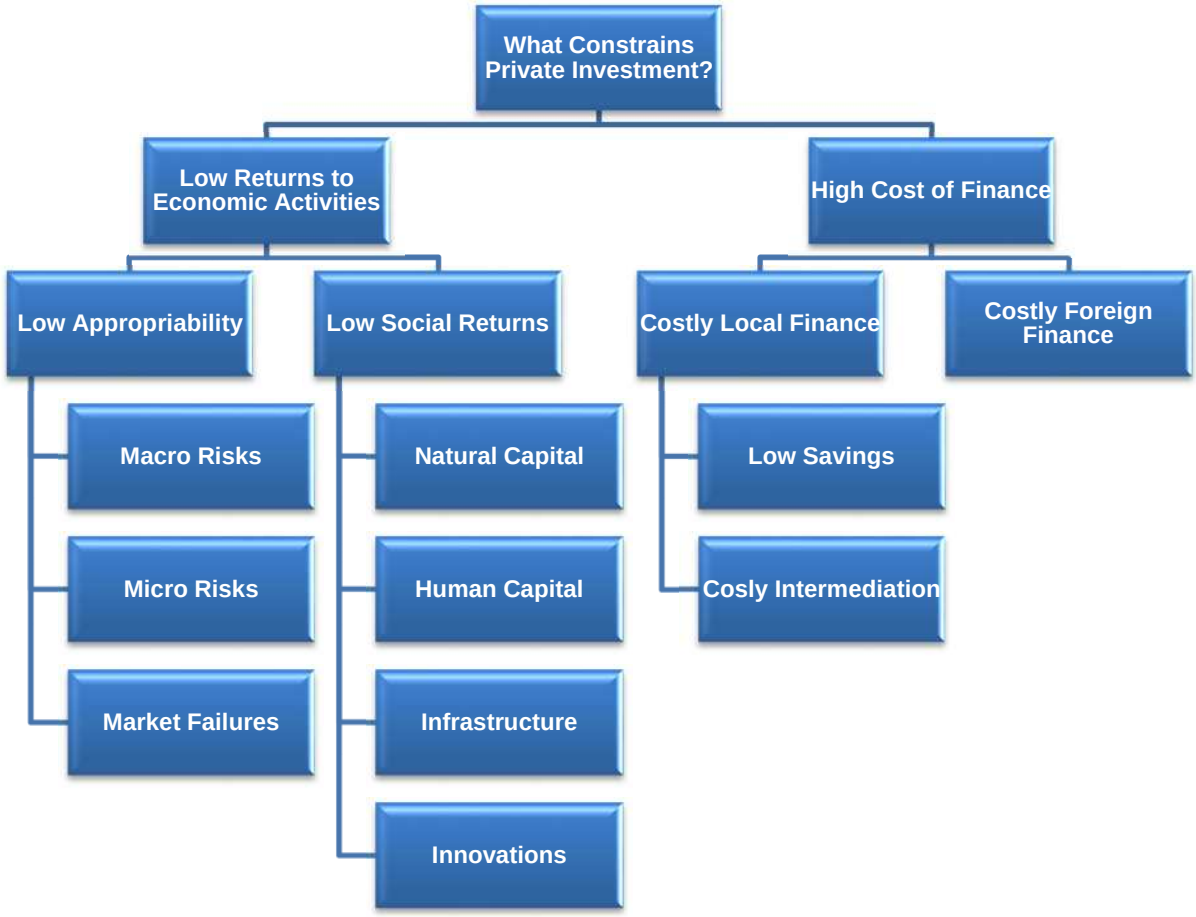


Diagram 1.1: Constraints Analysis Diagnostic Tree

Adapted from Figure 1 of HRV (2005), "Growth Diagnostics"

The CA builds on the premise that private investment, both domestic and foreign, represents the primary engine of economic growth. Countries seeking to accelerate growth, then, are faced with the fundamental question that lies at the center of the CA exercise: "What constrains private investment?" The boxes in the second row of the figure suggest two distinct alternative answers to this question: "Low returns to economic activities" and "High cost of finance." If evidence suggests the latter is true (i.e., the cost of capital is high), the tree presents a series of issues that need to be considered to understand the systemic explanations. This approach helps keep the focus on problem identification and prevents the premature leap to possible solutions (e.g., subsidized credit) that would not address the underlying causes of expensive capital. The CA tree also examines whether low returns to economic activities explains the current levels of private investment. In general, using the hierarchy of Diagram 1.1 as a guide, we consider in turn the questions suggested there, working our way down the tree to determine

which of the possible explanations are most responsible for low investment and, in turn, low growth rates.

Conducting the analysis for the CA entails moving through the Diagnostic Tree by applying principles of "differential diagnosis" such as those articulated in Ricardo Hausmann's "Mindbook." These principles are based upon the notion that a 'low' amount of a factor in an economy could be due to demand side or supply side constraints, and one is trying to identify those factors for which the supply is severely curtailed relative to demand, and for which the cost to the economy is highest. Ways to test whether a constraint to growth is binding are therefore:

1. The (shadow) price of the constraint should be high.

   This principle is easiest to apply when market prices for the constrained resources are readily available. Common examples would include high lending interest rates as an indicator of an important constraint on finance, or high market wages indicating scarcity of certain types of workers or skills.

2. Movements in the constraint should produce significant movements in the objective function.

   Illustrations of this principle could include investment volumes that track closely remittance inflows, or labor productivity that varies in accordance with key indicators of workers' health outcomes.

3. Agents in the economy should be attempting to overcome or bypass the constraint.

   An important example of this principle would be a large informal sector as an indicator of microeconomic obstacles to business activity (e.g., "red tape"). Another, more sector-specific example could be a significant fraction of enterprises purchasing diesel generators in the face of unreliable or expensive grid-based electricity supplies.

4. Agents less intensive in that constraint should be more likely to survive and thrive, and vice versa.

(CULLED FROM MCC GUIDANCE DOCUMENT)

1.3 PRELIMINARY CONSIDERATIONS

The power of the Growth Diagnostic framework consists in its fixation on a narrow set of binding constraints, among a laundry list of constraints that affect development and growth in low income countries. In contexts of scarce economic resources, the reality in most countries, the framework enables the focused direction of resources to relaxing constraints that have the biggest multiplier impacts.

The challenge of the framework though is that it imposes the requirement of economic data on countries which vary considerably in the development of their data infrastructure. The data landscape in Liberia is generally precarious as the country has only over the last four years begun the process of building economic and development databases. More time will be needed to accumulate macroeconomic time series data that permit more sophisticated econometric modeling. Surveys, such as the World Bank Enterprise Surveys or the 2010 Labor Force Survey, have proven helpful in this analysis, though these surveys tend to be on average three to four years dated.

One area in which the effect of data limitation has been pronounced is in the analysis of the impact of constraints on employment generation. Employment data are generally difficult to access in Liberia. Suggestions to use employment data gathered through tax filings and documents from the Ministry of Finance proved meaningful, but the severity of data gaps, the limited number of firms with employment data and the absence of data from key sectors such as agriculture severely undermined the extent to which extrapolations can be made from such data. It was not possible to pool together a usable employment dataset given the tight deadline associated with this analysis.

Despite the persistence of issues of data quality and availability, this analysis makes the most effort to employ the principles of growth diagnostics outlined in the previous section. It may be readily observed that the analysis differs from many others in basing conclusions on painstaking application of the four principles of growth diagnostic—the four tests. The motivation for this effort is that a constraints analysis is essentially not a recitation of economic history but a summary of economic evidence underpinning conclusions that particular constraints bind investment growth, job creation or poverty reduction. The downside of emphasizing the four tests is that where quality of data is an issue, conclusions may not be as robust as originally intended. Despite such limitations, the conclusions reached in this analysis generally anchor in the spirit and rigor demanded by the Growth Diagnostics methodology. The analysis generally observes where data limitations or issues affect the strength of particular conclusions.

Others may express doubt in the extent to which the Growth Diagnostic Methodology may tease out the real constraints that bind development in Liberia. This methodology, as is the case with most economic frameworks, has its limitations. Some of the tests, such as tests 2 and 4, tend to be difficult to apply, since they require the isolation of particular causal factors when the reality is that many covariates may explain economic outcomes. However, use of evidence-based rationalizations, even where mistaken, is generally preferred to the use of conjectures, hunches and political sentiments to make policy decisions that affect millions of people.

Choice of Comparators

Sierra Leone, Guinea, The Gambia, Ghana and Cote d'Ivoire are used as comparators throughout this analysis. Sierra Leone, Guinea and The Gambia are Liberia's low income peers. Ghana and La Cote d'Ivoire are Lower Middle Income countries but are used as comparators mainly because Liberia aspires toward their higher income status. Occasionally, Liberia's performance is benchmarked against averages from Sub-Saharan African, low income and/or lower middle income countries. In some instances some of the comparators are missing due to lack of available data.

Categorization of Constraints and Risks

Constraints are described as either binding, leaning binding or major. Other constraints that do not fall into these categories are considered risks. Binding constraints are those which emerge from the four tests with generally strong positive results. A binding constraint should in theory significantly affect the long term growth of investment or employment and its relaxation should generally generate huge impacts across sectors. Leaning Binding constraints are those that may bind on specific sectors, but not necessarily in the overall national economy. Major constraints and those that lean binding remain significant in their impact on investment and/or poverty reduction. Cross cutting constraints with strong impact on investments but whose implications cannot necessarily be tested are considered risks.

1.4 THE BINDING CONSTRAINTS

The evidence reviewed via application of the Growth Diagnostics principles suggests two binding constraints to investment growth in Liberia. These are the absence of reliable and affordable supply of electricity and the dilapidation of a significant portion of the country's primary road network.

ELECTRICITY

Power tariffs in Liberia are about the highest in the world at US$0.57 per kilowatt hour and the Africa Infrastructure Country Diagnostic (AICD) infrastructure study on Liberia suggests that this is even lower than the true cost of generating power, which is put at US$0.77 per kilowatt hours. This cost pales relative to the average cost of operating generators, which the World Bank puts at US$3.96 per kilowatt

hours, implying significant cost for the more than 63% of firms that primarily rely on generators. The cost of fuel is a major factor in these high tariffs. These conditions are largely a consequence of the destruction of Liberia's hydroelectric dam and the diminished capacity of the Liberia Electricity Corporation, which provided as much as 191 MW of power prior to the war. The LEC now provides about 22.64 MW of power up from 9.6 MW in 2009, implying an urban access rate of about 5.6%, compared to Sierra Leone's 35%. National electricity access in Liberia is a paltry 1.7%.

Liberia's low supply of electricity presents significant challenges to the attainment of economies of scale for firms and economic sectors. Scale economies are generally intense in the use of electricity. Firms in vegetable and agro-processing, for example, are not competitive in the absence of reliable and affordable electricity supply. This may partly explain why value-addition industries are currently stymied in Liberia.

Aside from its cost implications, the electricity constraint may also be impacting economic diversification, which has been touted as a major strategy toward achieving inclusive growth. The International Finance Corporation's (IFC's) ***Liberia Sector Prioritization*** has noted that "processing will increase the value of primary exported commodity but Liberia has been unable to capture this opportunity." The World Bank's "Increasing Local Procurement by the Mining Industry in West Africa" amply documents the gains from integration of local manufacturing and procurement by mining concessions in West Africa. The study suggests that Liberian manufacturing might benefit from local procurement of consumables and replacement parts, including consumables used as part of mineral extraction and processing. The reality is that both the development of agro-processing value chains and the manufacturing of local consumables for the mining sector are heavily intense in electricity. These outcomes appear to be hindered by the lack of adequate electricity infrastructure, raising the opportunity costs of gains from multi-sector integration and dampening the potential for job creation and poverty alleviation.

Investment in electricity is largely expected to increase the supply of electricity, lowering costs while providing stronger incentives for integrating economic sectors, as discussed previously. The gains from increased and affordable electricity supply extend beyond its relevance for business investment to considerations of human livelihood. Electricity affects outcomes in health. Improved electricity access may divert resources spent on hospital fuel toward procuring HIV/AIDS or malaria drugs or toward training nurses. The impact of improved electricity access on investment, employment generation, poverty reduction and living standard may be huge.

ROADS

Only about 6.9% of Liberia's entire road network and about 39% of the primary road network straddling the key growth corridors are paved. During the rainy season these unpaved roads deteriorate significantly, exacting huge toll on individuals and businesses. Freight costs during the rainy season are about US$0.5/mt/km, while costs in sub-Saharan Africa lie in the US$(0.4-0.14) mt/km range. The 2007 Liberia Marketing Survey notes that the cost to transport goods from counties to Monrovia during the rainy season goes up by about 53% in counties where road networks deteriorate significantly.

The World Bank estimates that the current agriculture road network only serves about 25% of food crop smallholders and that extending the impact to the majority of farmers would require extending the country's road network. About 39.3% of firms in Liberia view transportation as a major constraint.

Road constraints go beyond costs and appear to be impacting outcomes in sectors such as agriculture, transport and exact huge burdens on rural livelihoods. The World Bank notes that Liberia's current output or rice production of about 295,150 MT is significantly below it potential output of 22,896,632 MT. While many other constraints may explain this gaping shortfall, bad roads do play a role in limiting the scaling up of subsistence agriculture to commercial levels. Agriculture value chains are being affected by poor roads, since both the lack of an extensive network of farm to market roads and the deterioration of roads during the wet season makes it difficult for key participants along the chain to access rural farms. Relative to its GDP and income peers, Liberia has an extremely low number of trucks to transport agriculture products, which is partly explained by impassable roads acting as a brake on demand for transport infrastructure. Poor roads equally impact rural livelihood in many ways.

Counties that are totally cut off from the rest of the country during the raining season experience steep rise in the prices of basic food commodities needed by the poor to maintain normal levels of calorie intake and to keep rural dwellers at a poverty line of US$1.25. The net effect of bad roads on the poor is to reduce the real income that is normally spent on food. There are healthcare dimensions of roads as well. The lacks of rural roads affect the supply of transportation, which means that women and children in rural areas have to walk for several hours to access the nearest health facilities. For women engaged in agriculture, the opportunity cost is huge since this is time spent away from valuable production.

Investments in roads are expected to generate big impacts in the Liberian economy. The World Bank estimates that repair of bridges, for example, would generate about 15-30% returns based on cost estimates and agriculture productivity assumptions. The World Bank notes that returns using current level of agriculture production would be significantly underestimated but basing estimates on assumptions of increased agriculture output, the Bank finds substantial returns to road investments. A mini survey along the newly constructed Cotton Tree-Buchanan Highway finds that among firms interviewed, transport costs have fallen by about 40%, travel times have reduced by about 60%, and nearly 70% of the firms report an increase in sales. For these considerations, it is argued that relaxing road constraints hold substantial promise for strong impacts on investment, employment generation and poverty reduction.

1.5 "LEANING BINDING" CONSTRAINT

ACCESS TO LAND

The prevalence of land disputes in postwar Liberia has been put at 16% by the University of California-School of Law's *Talk Peace*. In the 'conflict prone counties' of Nimba, Lofa and Grand Gedeh, the prevalence of disputes has been estimated at about 25%, according to Yale University's *Patterns of Conflict and Cooperation in Liberia*. In sector specific terms, the shadow price of land access appears high for oil palm concessions and for the forestry sector, both of which have been hamstrung by land access and property rights issues. The opportunity cost of delay in the commencement of concessions activities is high in terms of cost of investment, the number of jobs, revenue generation to the government and valuable and required social contributions from concessionaires. The current moratorium on the forestry sector, emanating from land governance issues surrounding Private Use Permits (PUPs) has affected employment and undermined poverty reduction, implying a relatively high shadow price. On the other hand, Liberia performs strongly against comparators on the "Ease of Accessing Industrial Land Index" (World Bank's Investing across Border indicators), while it performs poorly on land tenure security according to the World Bank Doing Business Indicators (2013). *P*revalence of land disputes involving farm land grabs have minimal correlation with rice and cassava productivity, but we lack the data to compare a more direct measure of land tenure security such as the percentage of farmers holding formalized titles.

The above considerations suggest that the evidence on land access appears mixed, making the constraint a major constraint that leans binding.

Any protraction of land governance and land access issues will impact rubber and food crop smallholders, reducing the ability of the former to meet supply needs of rubber companies while undermining the income of the latter. Small and Medium Enterprises (SMEs) who are heavily constrained in access to credit would equally be affected, as would real estate firms facing stalled property development due to court stays. Land issues will also affect females, who now make up the majority of food crop growers, denying them of incomes and putting at risk the development of children who are mainly dependent on these incomes.

Improvements in land governance may avert such outcomes. The Land Commission has now produced a Land Policy. The executive summary to the Land Policy reads:

This Land Rights Policy concerns four land rights categories (Public Land, Government Land, Customary Land, and Private Land), and a cross-cutting sub-category called Protected Areas, which must be conserved for the benefit of all Liberians. For Public Land and Government Land, the Policy sets forth critical policy recommendations regarding: how the Government transfers such land, and how the Government acquires land, especially through the exercise of eminent domain (i.e. forced acquisition). With respect to the new category of Customary Land, there are several significant recommendations: Customary Land and Private Land are equally protected; and communities will self-define, be issued a deed, establish a legal entity, and strengthen their governance arrangements to make them fully representative and accountable. The Government also undertakes to support communities in implementing these recommendations. Finally, several Private Land issues are detailed, which include loss of ownership, leases, easements, and adverse possession.

1.6 MAJOR CONSTRAINTS

This section considers major constraints that are significant in their impact on investment or job creation. These constraints require serious policy attention, as they may bind investment growth in the near future if the governance and policy issues that render them major are not addressed in the near term.

CONTRACT ENFORCEMENT

According to the World Bank Doing Business Survey, the time it takes to litigate contract enforcement cases in Liberia is about 3.5 years. Litigation in Sierra Leone according to this same source is about 1.4 years. Such high costs in terms of litigation time are symptoms of dysfunctions in a country's judicial system. The evidence surveyed suggests that these dysfunctions may be affecting the confidence firms have in the Liberia judicial system. About 55% of medium firms in Liberia view the court system as a major constraint.

The impact of weak contract enforcement appears to be huge on banks, which are heavily intense in the constraint. A review of the sample of cases at the Commercial Court, which was created to relax contract enforcement constraints, shows that about 22% of the cases have involved banks. Banks are important and relevant because they are gateways to expansion of private sector credit.

The significance of contract enforcement as a major constraint in Liberia appears to consist in its triangulation with access to credit and weak land governance. Many banks are generally reluctant to expand credit to SMEs on account of weak contract enforcement. Delays and complications in the enforcement of collateral on bad loans generally undermine the value of collateral as a guarantor in future lending. In much the same way, collateral complications may derive from insecurity of land tenure and weak land governance. Litigation over property held in collateral might be avoided with improvements in land governance. This triangulation, in tandem with the critical role of banks in economy wide credit expansion, elevates the importance of contract enforcement to investment growth. Small firms in Liberia typically have less to do with courts while big firms tend to view the price of contract enforcement as the "cost of doing business." Also, contract enforcement may affect credit expansion but that impact may not be as direct as the effect of non-performing loans or an overall risky credit environment. While improvements in contract enforcement, via the Commercial Court, may generally correlate with investment growth, contract enforcement as a single constraint does not appear to seriously affect the investment decision of firms and as such does not rise to the level of a binding constraint.

HUMAN CAPITAL

Firms in Liberia generally complain that they cannot meet their skills demand and some appear to be bypassing this constraint by importing skilled labor. An analysis of permits for foreign workers reveals that across sectors, firms are importing top level skills. Skills in engineering and other specialized areas are observed to be common among the imported skills. During private sector roundtables on this constraints analysis, representatives from banking institutions, for example, noted that the typical owners of small businesses in Liberia generally manage through trial and error, lacking basic business skills such as business planning, financial management, human resource development and management, and competitive pricing of products and services.

According to World Bank Enterprise Surveys conducted in 2009, only about 3.8% of small firms and 17.7% of medium firms view workforce skills currently as their most major constraint. About 49% of large firms view workforce skills as a major constraint but tend to rank workforce skills third among the list of all constraints. Only about 19% of large firms offer formal training as a way around the constraint.

These findings appear to be consistent with the low returns observed to education in Liberia, which suggests that skilled labor may not currently be as scarce as to command expected high returns. In terms of human health, firms do not appear to be losing workers at a rate that may compromise productivity and output.

On the other hand, once binding constraints are relaxed, human capital may emerge as a binding constraint, given that the pipeline of *skilled* workers with secondary and tertiary education will remain very limited over the medium term. The World Bank Inclusive Growth study indicates human capital is a binding constraint in the *non-traditional* sectors, noting human capital in Liberia has not risen above the minimum (skills) threshold required for sustainable long-term and inclusive growth.

These considerations imply that while human capital is currently not a binding constraint across all sectors, it is a major constraint to Liberia's transition from a natural resource-based, labor-intensive economy to one that is natural resource-based and skill-intensive. Without a stronger education and training system, Liberians will not be able to leverage and take full advantage of inflows of FDI. Opportunities for females may also remain limited, unless female enrollments and education attainment economic continues to increase at secondary and tertiary levels.

ACCESS TO CREDIT

About 35% of small firms and 27% of medium firms and 30% of large firms view access to finance as a major constraint, according to the Enterprise Surveys. While for small and medium firms these proportions are relatively smaller than proportions for firms in Guinea, Cote d'Ivoire Ghana and the Gambia, they do however illustrate the fact that access to finance is a serious problem in Liberia. The evidence surveyed reveals that the price of finance is generally lower among comparators and that private sector credit has grown over the past several years, indicating that that supply of credit may not be the critical issue.

These considerations support the conclusion that the cost of finance does not appear to explain the finance constraint in Liberia. Such explanation appears to lie in micro distortions such as a risky and adverse credit environment, weak contract enforcement, lack of credit reference systems and the absence of a credit bureau that serves as a mechanism for filtering good borrowers from bad and risky ones. Any further increases in the volume of lending seem to depend on improvements in these micro distortions, which may enable the supply of available credit to meet a high credit demand at both higher average interest rates and greater volume of private sector lending.

The conclusion is that access to finance is not a binding constraint to investment growth but remains a significant constraint. The case of the manufacturing sector is particularly noteworthy. Data on commercial bank lending to key economic sectors reveals that manufacturing is consuming a very small share of financing. This may be because only a small number of manufacturing firms are applying for loans, which begs the question why only few manufacturing firms are seeking financing. If the number

of firms seeking loans is high, then this may mean that many are not getting approvals, an indication of the persistence of the credit constraint.

1.7 MAJOR RISKS

The following constraints are considered major risks which requires consistent policy focus.

POLITICAL STABILITY

Liberia has now enjoyed more than 10 years of sustained peace. Much of this peace has been kept by the United Nations Mission in Liberia (UNMIL), which has fielded as high as about 13,000 troops over the past decade. The current drawdown of UNMIL is an indication of greater confidence in the political stability of Liberia. However, the drawdown may equally raise the alert on the country among potential investors who might be overly attuned to even minor post-UNMIL disruptions. Strong leadership on political stability remains critical for investment, especially the ability to manage “un-met expectations” from the “peace dividend”.

CORRUPTION

Corruption remains endemic, though the country has over time improved on key corruption indicators. About 69% of large firms view corruption as a major constraint, while the proportion for small firms is 31.3% and that for medium firms is 23.1%, according to the World Bank Enterprise surveys. These firms pay as a price of corruption about 3.5% of the value of contract. This is not different from the price firms in comparator countries pay as a price of corruption, which is an indication that the shadow price of corruption in Liberia may not be high.

Although large firms complain about corruption, only about 22% of them are expected to “give gifts to get things done” and about 36.5% are expected to “give gifts in meetings with tax officials, according to Enterprise Surveys.” About 47% of large firms report they experience at least one bribe payment a year, while the proportion for small firms is 70.7% and that for medium firms is 71.3 %. These patterns indicate that large firms tend to overrate the impact of corruption while the opposite appears true for small and medium firms. However, the evidence surveyed suggests that cost of corruption for firms generally does not appear high, which is consistent with the fact that Liberia has shown remarkable improvements in its corruption indicators. According to the Transparency International’s Corruption Perception Index for 2012, Liberia does better than all comparators, Sierra Leone, Guinea, The Gambia and Cote d’Ivoire, with the exception of Ghana.

However, corruption appears to impact investment and growth through several channels. One channel is the use of natural resource rents to finance critical infrastructure and human capital that are vital for investment. Liberia’s history of ‘growth without development’ is largely a story of the misapplication of resource rents. With iron ore exports about to assume about 15% of GDP by 2015, rubber exports consuming the largest share of GDP in agriculture, combined with developments in the oil palm and hydrocarbon sectors, the role of natural resource rents in spurring growth remains central.

This makes corruption a key risk that has to be continuously flagged in Liberia’s development process; especially in light of the role corruption may have played in catalyzing the onset of the violent conflict in 1990.

CONCESSIONS MANAGEMENT

Since 2005, the GoL has taken important steps to structure the governance of concessions and has moved to address coordination failures in monitoring and regulating concession contracts. One major achievement is the formalization of the concession management process through the Public Procurement and Concessions Act (PPCA), which was passed in 2005 and amended in 2010. A second achievement is the establishment of the National Bureau of Concessions (NBC), in response to the

2010 World Bank institutional assessment that 'no one government entity is responsible for monitoring and reporting the technical performance and social and developmental impact of concessions'

Despite these improvements, critical challenges remain. The lack of a clear delineation of roles among key government entities appears to bottleneck cooperation and information sharing, undermining concessions management. For example, while the NBC serves as the coordination body, it is individual line ministries and agencies that in practice take responsibility for the day-to-day monitoring of concession issues relating to their own sector.

Concessionaires cite as a major challenge the absence of counterpart line ministries and agencies at the local level to deal effectively with concession issues. The persistence of land access challenges for oil palm concessions, for example, highlights weaknesses and fault lines in concessions management.

A Moore Stevens-LEITI audit finds that more than half of 68 concession agreements are in violation of the Public Procurement and Concessions Law.

These challenges and issues point to risk within the sector which must be managed and contained to leverage the sector as a beachhead of inclusive growth and an important mainstay of employment, aiming to avert a recurrence of natural resource curse observed in earlier decades.

COMMODITY PRICE VOLATILITY AND DUTCH DISEASE

Commodity price volatility partly explains Liberia's sustained 17 year per capita GDP decline which spans the beginning of 1972 and the onset of conflict in 1989. Liberia still remains vulnerable to commodity price shocks, which may occasion impacts in macroeconomic pro-cyclicality. Pro-cyclicality means fiscal spending moves with increases in the price of commodities such as rubber and iron ore and declines with decreases in these prices. The effect of such co-movement is that a precipitous drop in prices may affect revenue needed for infrastructure financing or for impacting poverty reduction. Effective strategies around these risks, such as counter-cyclical fiscal spending, as is done by Chile, may be in order.

Dutch Disease refers to instances in which large protracted foreign exchange inflows enter the country, bidding up the price of non-traded goods and appreciating the real exchange rate. Competitiveness declines, resources migrate to the now more profitable non-traded services sector and away from non-mineral tradable sectors. In the process, the agricultural and manufacturing sectors, the mainstay of employment, decline (IMF Article IV Consultation).

There are concerns of the likelihood of reduced profitability of certain domestic firms and distortion in the Liberian economy as a result of a *Dutch disease*-type effect. Earnings from natural resources, plus significant capital inflows from aid, UNMIL, remittances & FDI result in additional spending on local non-tradables, even in the presence of partial dollarization. This then pushes up domestic prices, evidenced in part by the real exchange rate appreciation, which affects input costs for domestic businesses, and encourages a shift into non-tradable production. Over the medium-term, this could have the effect of discouraging growth in import-substituting and export industries.

The underlying issue is one of competitiveness of local firms in the international market and as such, to address the causes of Dutch disease (and counteract any real exchange rate overvaluation), improvements to cost competitiveness are needed. However, due to the high degree of dollarization, which limits the impact exchange rate devaluation can have, this will need to come through increased productivity and lower domestic costs, perhaps by addressing structural bottlenecks such as energy and transport costs (IMF 2012).

These are concerns that have to be watched but evidence in Liberia does not suggest that Dutch Disease type phenomena rise to the level of a binding constraint.

1.8 THE HISTORICAL CONTEXT OF BINDING CONSTRAINTS IN LIBERIA

The historical context of constraints to growth in Liberia is important for understanding the role of different constraints at different historical periods in Liberia, and why growth has been elusive. The Table below shows different constraints to growth in Liberia over different historical periods, namely poor governance during the Pre-War period, instability during the Civil War period, and the poor state of infrastructure in the Post-War period. The table is instructive in answering the question, "why is x constraining growth in Liberia, when x was not a binding constraint in the past." The table further indicates that each historical period has experienced a different intensity level of a constraint which affected growth. The concomitant relaxation of all three constraints would facilitate investment, employment and the alleviation of poverty. Liberia has experienced a steady and stable average growth rate of 7.5% as a result of stability and sound governance. Since the signing of the CPA in 2003, Liberia has held two free and fair democratic elections, and enjoyed 10 years of peace. Additionally, sound governance has led to Liberia's successful completion of the Heavily Indebted Poor Country (HIPC) process and its recent eligibility for Millennium Challenge Corporation (MCC) compact development.

These achievements have undoubtedly relaxed stability and governance constraints faced by Liberia in the past. Despite capacity challenges, Liberia's present level of governance has significantly improved, and promises to address the elusive problem of inclusive growth. Poor governance in the past contributed to the inefficient and inappropriate allocation of resources and the inability of government to leverage FDI to achieve national development goals. Stability and good governance, when complemented with infrastructure development will facilitate and encourage further investment and job creation, thus providing and increasing household incomes and lowering poverty levels throughout the country. The identification of infrastructure, particularly poor transport networks and lack of electricity, as the binding constraint to growth by this economic analysis, confirms the priorities of the AfT.

The MCC's insistence on continued eligibility under its good governance requirement will certainly contribute to the momentum Liberia is currently experiencing in good governance and progressive reforms.

BACKGROUND TABLE THE HISTORICAL CONTEXT OF LIBERIA'S CONSTRAINTS TO GROWTH

PRE-WAR PERIOD (up to 1989)		
INFRASTRUCTURE		ELECTRICITY: Mt. Coffee Hydro operational, HFO power generating units operational, supplementary power supplied by concessions, transmission and distribution network in place. ROADS: Most roads in good condition; rural road maintenance stations operational throughout country
GOVERNANCE	STRONGEST CONSTRAINT	Single party dominance, major issues with political rights, civil liberties, freedom of information, rule of law, and corruption. Lack of accountability and transparency in governance coupled with rent seeking. Ineffective concession management and overall poor governance leading to lack of inclusive growth.
STABILITY		Rice riots, coup of 1980, many attempted coups
CIVIL-WAR PERIOD (1989-2003)		
INFRASTRUCTURE		Major destruction of infrastructure and lack of maintenance and care over a protracted period. ELECTRICITY: Destruction and breakdown of the national power grid including the looting of transmission and distribution lines and equipment. ROADS: Most roads were in fairly good condition but over time progressively deteriorated in condition.
GOVERNANCE		Contested jurisdiction and legitimacy; major issues with political and civil rights, lack of effective governance, and corruption.
STABILITY	STRONGEST CONSTRAINT	Continued civil war, regional instability
POST-WAR PERIOD (2004-)		
INFRASTRUCTURE	BINDING CONSTRAINT BASED ON CONSTRAINTS ANALYSIS	ELECTRICITY: 1.7% national access to electricity, highest tariffs in the world, less than 5% of pre-war power output (22.46 MW in 2013, 412 MW prior to war). ROADS: Only 6.9% of road network paved, most roads in deplorable condition with critical conditions in the rainy season sometimes cutting off access to some regions. Extremely high transport fares.
GOVERNANCE		HIPC completion, MCC eligibility, successful multi-party elections, reforms in procurement, tax administration, land administration, fiscal governance, control of corruption, rule of law, freedom of information, security, concession management, and general transparency and accountability. Capacity challenges continue to constrain effective governance.
STABILITY		10 years of peace, successful elections, security sector reform, national reconciliation program, and independent Human Rights Commission.

1.9 SUMMARY OF EVIDENCE: DRILLING DOWN THE HRV GROWTH DIAGNOSTIC TREE

The evidence surveyed shows that constraints to investment in Liberia do not lie along the path of high cost of finance, the right branch of the HRV Growth Diagnostic tree. The cost of finance is comparatively low relative to comparators. At 14%, average nominal lending rate is significantly lower than rates among comparators. Real interest rate in Liberia is also one of the lowest among comparators. Evidence exists of credit expansion. Private sector credit as a percent of GDP has expanded overtime though not at the same rate generally observed among comparators. Thus further expansion of credit has demand side implications. Though many small and medium firms are demanding loans, as seen through Enterprise Surveys and evidence from private sector roundtables, banks are not meeting this demand. This is due to extreme risk aversion, which is related to weak contract enforcement and the lack of credit reference systems. The net effect is that further expansion of the volume of lending would not lie in further reductions in interest rates but in the resolution of micro distortions, such as weak contract enforcement, that lie on the left branch of the HRV tree.

This means that binding constraints to growth lie on the left branch of the HRV tree, which looks at evidence in terms of low private returns to economic activities. Returns may be affected by either low social returns or low appropriability, which works through both government and market failure channels. The analysis finds evidence that market failures constrain growth to a certain extent, but that they do not bind the overall economy. The evidence finds disconnects between Liberia's products, mainly extractive raw materials, and new investments. Local entrepreneurs have not been able to develop labor intensive sectors as in textiles production. Neither have they been able to leverage the potential to develop sectors that promote import substitution. However, these entrepreneurs have largely been constrained by the lack of public infrastructure inputs, which amplify market failure challenges. Significant coordination challenges remain in the agriculture sector as well. Major inputs that facilitate the development of agriculture value chains are missing. These are big challenges but they are not binding constraints to the overall economy. This implies that any binding constraint under appropriability might come from government failures.

Government failures revolved around macro and micro risk issues. The last several years have seen sound macroeconomic fundamentalism in Liberia. The country's debt distress has been resolved through a HIPC debt waiver and strong debt management strategy remains in place. The IMF analysis points to debt levels remaining sustainable. However, the country remains vulnerable to shocks in commodity prices, which can entail pro-cyclical macroeconomic shocks. There is risk of Dutch disease which may entail the loss of competiveness due to protracted foreign exchange inflows into Liberia. These appear to be having some effects on the housing sector which are relatively priced high due to presence of large expatriates from NGOs, the concessions sector and the UN. Businesses are complaining about the high rental price of property in some areas. However Dutch disease type influences are minimal at present given that the Liberian economy is highly dollarized. Both Dutch disease and commodity price volatility are not binding constraints to growth.

Micro risks such as corruption remain major but do not present a binding constraint to business as revealed by the evidence. Taxes in Liberia are about the lowest among comparators and do not cause any major distortions for firms. As noted earlier, contract enforcement has strong impacts on access to credit, though it is a major and not a binding constraint. The number of days to resolve contract disputes is protracted beyond levels seen among comparators. Data shows that banks in Liberia are increasingly relying on non-interest income, an outcome that may be related to the difficulty of debt recovery through courts but that may also be related to the proportion of non-performing loans and other risk factors that are not generally linked to contract enforcement. These considerations move contract enforcement into the category of major constraint.

Weak land governance and impacts on Land access in Liberia is strong. However as gauged through the prevalence of land conflicts, which is comparatively about the same in Sierra Leone and Ghana, the

shadow price of land access does not appear too high. Land access appears to bind for the oil palm concessions but not for the entire agriculture concessions sector. Rubber exporting firms do not report land access as a significant constraint as do food crop producing smallholders. Overall land access is a major constraint for key sectors such as oil palm and forestry, where poor governance of PUP has led to the placement of a moratorium by the government on the sector. Though not binding on the overall economy, land access and land governance issues remain significant

The final branch of the HRV Diagnostic Tree is the low social returns branch which contains human and natural capital constraints together with infrastructure. Human capital is not a binding constraint for health and workforce skills factors. The overall health of workers is in a condition that does not suggest labor productivity is being undermined. Liberia has a high prevalence of malaria and death per 10,000 populations relative to comparators. The number of deaths from HIV/AIDS is higher than that in comparator Sierra Leone. But these are not happening at a level that distorts economic production. On workforce skills, the evidence of the returns to education does not seem to support the argument of the scarcity of skilled labor, which would render the shadow price of workforce skills very high. The World Bank Enterprise Surveys evidence appears to suggest that only about 35% of firms in Liberia are bypassing the constraint by importing skilled labor. A similar proportion of firms is offering formal training according to the same survey. This suggests that firms are bypassing but probably not at a significant degree. Also it must be noted that firms do not necessarily need all workers to be highly skilled. Evidence from the Ministry of Labor work permit data suggests that firms are importing a small number of high-skilled persons. The reality is that firms do complain about labor force skill issues but generally do not consider it as a major constraint, as indicated by the Enterprise Surveys. In terms of natural capital, Liberia is richly endowed. The key challenge revolves around the management of natural resource rents and the governance of these resources, not the absence of resource bounty. Natural capital is not a binding constraint to investment growth in Liberia.

The last branch and final branch of the tree is infrastructure, of which roads and power have emerged as binding constraints. Some evidence for roads and infrastructure was considered earlier in a description of why these were binding constraints. Airports and seaports are critical but are not binding. Liberia appears competitive relative to comparators despite its post-war context. The volume of imports and exports has generally been on the increase, signifying a solid reliance on ports by firms and businesses. Liberia's water and sanitation infrastructure is generally inadequate but does not present a binding constraint to firms. Along water and sanitation indicators, Liberia is not too far from comparators, though it has a relatively low capacity to deliver pipe-borne water. However, access to boreholes and wells in Liberia is comparatively good. The ICT sector appears to be growing. Liberia had one mobile phone operator in 2001. Today, there are about four and two have competitive market shares. Both cell phone and internet calling rates have plummeted precipitously over time. With the introduction of the ACE fiber optics cable, the ICT sector is bound to have a positive impact on investment growth. ICT is not a binding constraint to investment in Liberia.

SUMMARY OF EVIDENCE MATRIX

Type of Investment Incentive	Input	Test 1	Test 2	Test 3	Test 4	**Findings**	Certainty
Access to Finance	Finance	Negative	Positive	Negative	Negative	Not Binding	Strong
Type of Investment Incentive	Input	Test 1	Test 2	Test 3	Test 4	**Findings**	Certainty
Low appropriability of investment returns	Market Failures					Not Binding but concern for coordination challenges with implications for value chain development	Moderate
	Governance (Political Stability, Rule of Law, Government effectiveness, Regulatory Quality					Four Tests not applied but evidence presented indicate that these constraints do not bind and that there is measurable progress. But strong risks remain as progress appears to have slowed	Moderate
	Corruption	Negative	Positive			Corruption poses a very serious risk and cuts across several sector. Low shadow price suggest may not bind but remains serious risk. Difficult to apply Test 3 and 4	Moderate
	Contract Enforcement	Mixed	Positive	Negative	inconclusive	Not Binding	Moderate
	Land Access	Mixed	Mixed	Mixed	Positive	Leaning Binding	Moderate
	Taxation	Negative	Inconclusive, inadequate time to determine impact of tax reduction	Positive, but motive inconclusive	Negative	Not Binding	Strong
	Fiscal policy	Negative				Not Binding	Strong
	Monetary policy	Negative				Not Binding	Strong
	Exchange rate	Negative				Not Binding	Strong
Type of Investment Incentive	Input	Test 1	Test 2	Test 3	Test 4	**Findings**	Certainty
Low overall return to investment	Education	Negative	Positive	Negative	Negative	Not Binding, but concern expressed for quality of education	Moderate
	Health	Mixed	Positive	Negative	Negative	Not Binding	Moderate

	Water and Sanitation	Negative				Not Binding	Moderate
	Inland transport	Positive	Positive	Positive	Positive	Binding	Strong
	Air	Negative				Not Binding	Strong
	Sea	Negative	Positive			Not binding, but could concern expressed for future gas and oil industry	Strong
	Electric energy	Positive	Positive	Positive	Positive	Binding	Strong
	ICT	Negative				Not Binding	Strong

2 OVERVIEW OF LIBERIA'S GROWTH AND DEVELOPMENT EXPERIENCE

This section surveys Liberia's growth and development experience over the past five decades. The aim is to tease out historical growth patterns and examine the structural underpinnings of growth. The chapter provides important framing for the Constraints Analysis (CA), which aims to isolate the binding constraints to investment growth, employment generation and poverty reduction.

The Liberian economy has alternated between impressive growth performance dating back to the 1950s and a devastating growth collapse due to conflict in the 1990s, with performance highs and lows mediating these extremes. Today, with 2012 GDP growth averaging around 7.5%, which has been relatively sustained in the past four years, the Liberian economy is experiencing a recovery that began after the signing of the CPA in 2003. But recovery is challenged by chronic deficits in critical infrastructure; a largely undiversified economy, dependent mainly on its traditional export products – iron ore, rubber and timber- which are exposed to global markets volatility, and by constraints in human capital development and in access to finance.

Over the period 1960-2011, per capita has been one of the highest among regional comparators, averaging US$447 (in constant 2000 dollars) even after allowing for descent into conflict, during which income per head plummeted to a low of US$54 in 1995. Today, income per head hovers around US$279, about US$169 below the 50-year average.

But any story of per capita income belies the structural inequities that underlie Liberia's growth experience. The real story of Liberia's economic development is the inability of the political economy of Liberia to leverage the gains from economic growth for the broadest base of the population.

This chapter explores the underpinnings of the divergence of economic growth and development in Liberia, more commonly styled 'growth without development.[1]' The first section examines patterns and correlations that illustrate Liberia's growth performance. Here, the policies and programs undergirding economic outcomes of the past five decades are analyzed. The second section looks at the structure of the Liberian economy in terms of its predominant enclave character. The third considers the drivers of economic growth in Liberia. Section four surveys trends in employment, productivity and wages over the period, while five discusses the nexus of growth, poverty and income inequality. The final section ties Liberia's growth experience with the CA methodology developed by HRV, explaining the methodology and posing the fundamental question that is analyzed throughout the CA: what constrains private investment in Liberia?

2.1 ECONOMIC POLICIES OF LIBERIA: 1960-2011

The Open Door policy, launched by President William V. S. Tubman in 1944, is the overarching economic policy that has governed Liberia's post World War II development. The Open Door policy invited American, European and other firms to participate in the exploitation of iron ore, engage in plantation agriculture and operate other commercial ventures. Another aim of the Open Door Policy was to seek external loans and foreign economic and technical assistance. [2] In addition to the Open Door policy, President Tubman launched a series of development plans, spanning 1946- 1960. The five-year (1946-1950) "Overall Economic Plan to Develop the Republic of Liberia" aimed to spend US$23 million in public sector projects. [3] The plan did not materialize largely because the Liberian treasury could not finance it, leading to other plans such as the Nine Year Development Plan (1951-1960).[4]

[1] Robert Clower and group of researchers from Northwestern University ……

[2] Ibid. p. 8.

[3] Kraaij, F.P.N. van der: The Open Door Policy of Liberia: An Economic History of Liberia.

[4] Ibid., p. 308

By 1961, production in the iron ore and rubber enclaves consumed a lion share of GDP and became the lynchpin of the impressive growth performance observed in the 1950s, during which Liberia was second only to Japan in economic growth rate.[5] This outstanding performance continued in the next decade, in which real per capita GDP saw almost an uninterrupted surge, peaking in 1972.

At the onset of the 1970s, it was generally recognized that Liberia had been growing economically but that growth was not equitable. The first patterns of income inequality were emerging in the data surveyed during this period. In 1974, per capita GDP in the traditional economy which supported 60 percent of the population was less than US$120, compared to almost US$900 in the monetary economy and an estimated US$2,400 in the concessions sector.[6] To address these challenges, President William R. Tolbert, upon his ascendancy after the death of Tubman in 1971, and with advice from the World Bank, launched a four year 'Growth with Development Strategy' (1976-1980). The plan focused on a) economic diversification, mainly through development of the agriculture sector; b) more equitable distribution of the benefits of growth; and c) distribution of sustainable socioeconomic activities throughout the country. Unfortunately, the Growth with Development Strategy did not achieve its intended objectives due to a combination of negative external shocks driven largely by declines in demand for the country's primary exports and economic mismanagement (World Bank, Inclusive Growth Diagnostics). President Tolbert was overthrown in 1980 and a military regime under the leadership of Master Sergeant Samuel K. Doe took the political reins of Liberia.

The economic policies and programs of the 1980s did not reverse Liberia's declining terms of trade and the country's persistent pattern of income inequality. Economic mismanagement, political uncertainty and turbulence exacerbated external commodity shocks. President Doe launched the Green Revolution, which entertained ambitions to revive a struggling agriculture sector, looking to move the country on a path to food security and food self-sufficiency. The government sought to increase resource allocation to the public sector. A Green Revolution Action Plan prepared by the government, which elaborated the nature and scope of the new policy changes, especially longer term planning, awaited validation when civil war broke out in December 1989.[7]

After the growth collapse of the 1990s and a subsequent slump due to the conflict that led to the resignation of President Charles Taylor, the Liberian economy is on a path of recovery. In 2008, the government of President Ellen Johnson-Sirleaf launched a three-year Poverty Reduction Strategy (PRS-I), which aimed to i) secure peace and security in a very fragile post conflict environment; ii) ensure economic revitalization by stimulating private sector led growth; iii) rehabilitate infrastructure and restore basic services; and iv) reform public sector agencies and strengthen the rule of law. PRS-I was billed at US$1.6 billion. Key program outcomes included enhanced security in Liberia; increased public confidence in security officers and institutions; improved protection against crimes; stronger revenue performance; more streamlined public expenditures; gradual stimulation of employment; greater recognition of the need for justice sector reform and an increased focus on transparency and accountability.

A second poverty reduction strategy, styled the AfT, is now being implemented. At a cost of US$3.3 billion, the AfT covers the first five years of development (2012-2017) under Vision 2030, which is Liberia's long term development strategy. Both the AfT and Vision 2030 prioritize inclusive growth, aiming to reverse the persistence of inequities and inequalities in incomes, access to national wealth and economic opportunities.

Figure 2.1 below provides a snapshot of the evolution of per capital GDP over the past five decades. The figure shows that a nearly 20 year per capita GDP decline mediates the peaking of growth in the early 70s and the recovery from collapse in the mid-90s.

[5] Clower, et al. Growth Without Development, p. 24

[6] World Bank 1978, quoted from the World Bank Document, Liberia, Inclusive Growth Diagnostics.

[7] Ministry of Agriculture, Liberia 2008, Food and Agriculture Policy and Strategy

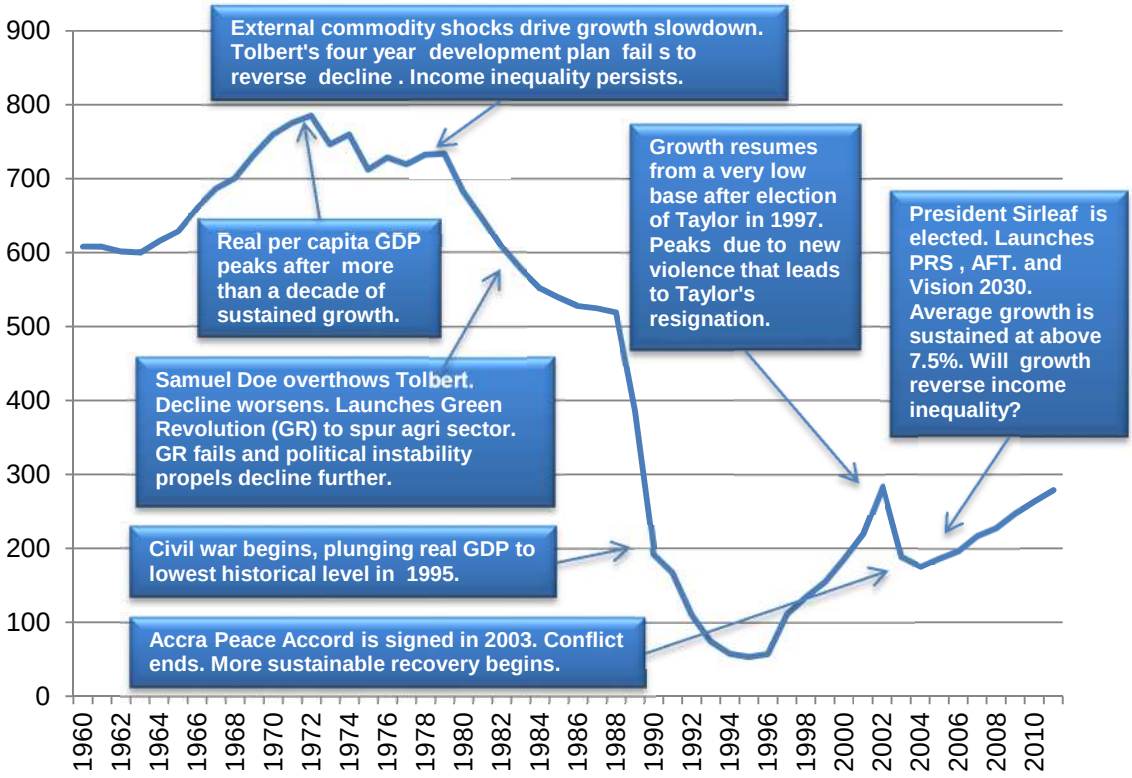


Figure 2.1: Evolution of Real Per Capita GDP, 1960-2011 (Constant 2000 US$)

Source: World Bank, World Development Indicators (WDI)

NEARLY 20 YEARS OF SUSTAINED PRE-WAR GROWTH DECLINE: AN EXPLANATION

The key story emerging from Figure 2.1 is the persistence of per capita GDP decline for nearly 20 years prior to the onset of conflict in 1990. Some explanations for this persistence, in terms of commodity shocks and economic mismanagement, is provided in Figure 2.1 and discussed in previous sections. Another political economy factor, often overlooked, is the decline of political stability in the 1970s and 80s relative to the 50s and 60s. The decades under Tubman witnessed an explosive surge of concessions investment which is not independent of the prolonged political stability characteristic of that era. It is interesting to observe that the nearly 20 year growth decline begins barely more than a year after Tubman's demise, continues during the more politically volatile 70s and decelerates further in the decades of military rule.

This perspective gives the Liberia growth story an immense political economy context in which macroeconomic factors such as investment generally anchor. While commodity shocks do partly explain the decline, the backdrop of deteriorating political governances holds important clues.

The political economy contexts also shift the emphasis on the non-enclave economy, where effects of commodity shocks might be minimal. Such an emphasis raises the relevant question why, despite the availability of cheap electrical power during this period—electricity generation netted about 415 megawatt hours before the war—investment growth in the non-enclave sector could not reverse the decline of the concessions economy?

A possible and plausible answer is that the political turbulence of the 70s might have dampened observed increases in non-enclave investment growth across sectors such as manufacturing. During the 80s, these gains largely evaporated as growth across most sectors plunged into a free fall largely due to military governance and the heightened uncertainty it engendered. Any constraints analysis during 70s and 80s was more likely to have found political governance, not the inadequate supply of

electricity, for example, as the binding constraint to growth. This is supported by the fact that the level of political violence during this period contrasts sharply with the stability seen during the growth decades of the 50s and 60s. Additionally, geo-strategic and Cold War factors, or at least perceptions of these considerations, were fundamentally different between the decades of growth decline and those of growth acceleration.

The foregoing analysis places investment growth in Liberia on a continuum of political stability, which is particularly important given the country's post-conflict contexts.

LIBERIA'S GROWTH IN RELATION TO REGIONAL COMPARATORS

Figure 2.2 compares Liberia against regional comparators Sierra Leone, Guinea and the Gambia. All comparators fall within the World Bank's Low Income classification. Sierra Leone, Guinea and Liberia are bordering countries which make up the Mano River Union.[8]

As Figure 2.2 illustrates, prior to 1984, Liberia historically outperformed all its comparators. After 1984, the Gambia has outperformed Liberia consistently.

This is interesting when one considers that the Gambia is not as resource endowed a country as Liberia. The Gambia counts tourism and groundnuts as its key exports. In 2012, real per capita income in the Gambia was more than twice that in Liberia. Guinea has outperformed Liberia since its descent into conflict but the gap between the two appears to be narrowing. Sierra Leone has the worst historical real per capita performance with growth remaining flat for much of the past five decades. One interesting fact is that though both Sierra Leone and Liberia descended into conflict in 1990, economic collapse in Sierra Leone was much muted than in Liberia, probably due to the fact that war in Liberia had a more devastating impact. Nevertheless, Liberia has shown stronger resilience, rebounding better from the growth collapse relative to Sierra Leone, though the latter grew faster in 2012.

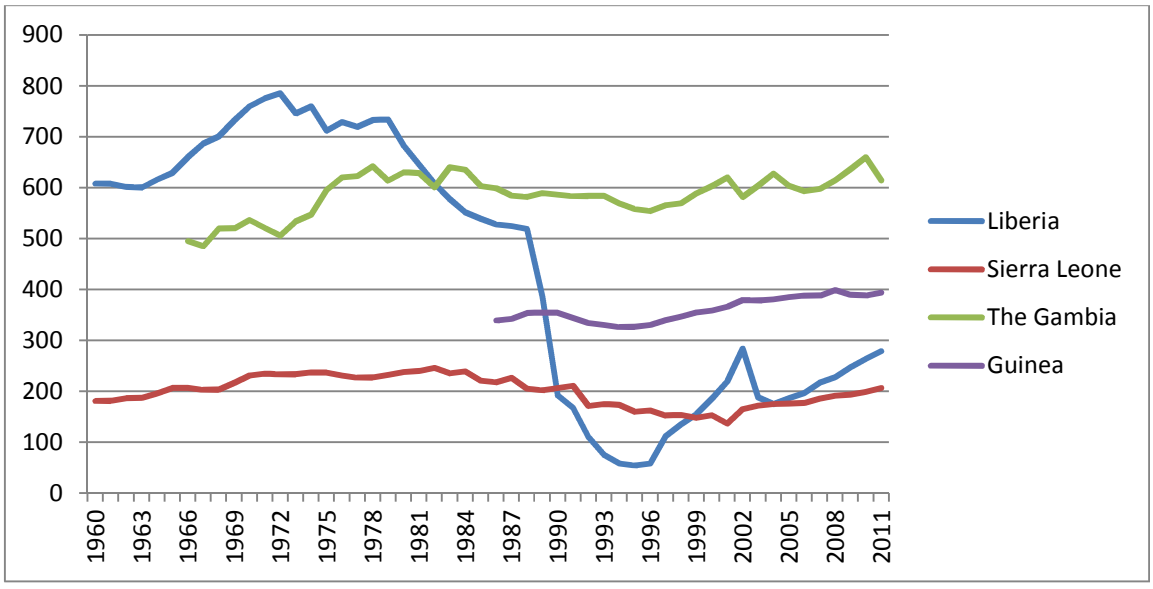


Figure 2.2: Regional Comparison of Real Per Capita GDP, 1960-2011 (Constant 2000 US$)

Source: World Bank, WDI

2.2 STRUCTURE OF THE LIBERIAN ECONOMY

Liberia's primary enclave economy- iron ore mining and rubber and timber exports -- have accounted for the biggest shares of Liberia's growth. The World Bank's Inclusive Growth Diagnostic states that during the 70s iron ore production accounted for 30% of GDP, while rubber and other monetary crops accounted for 15%. Figure 2.3 depicts the evolution of agriculture, industry and services sector shares.

[8] The MRU was established in 1973 by Liberia and Sierra Leone. Guinea joined in 1980. The Goal of the MRU is to foster economic cooperation among the three bordering countries.

It can clearly be seen that prior to 1979, iron ore production – included within the industry sector—powered the Liberian economy. The declining trend of the industry sector after 1979 can be explained in terms of both the declining terms of trade for iron ore production and the depletion of iron ore mines, such as Bomi and Mano River mines.

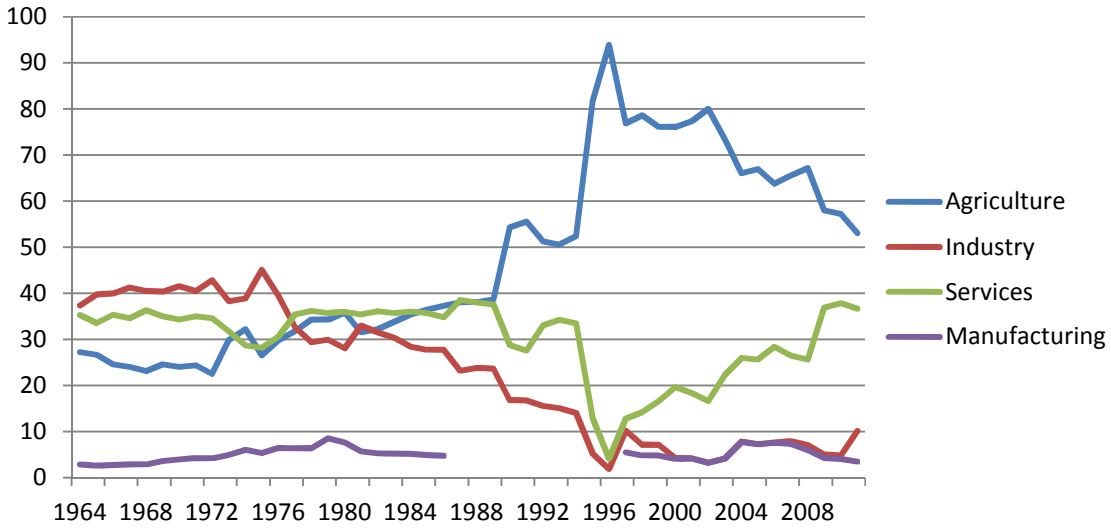


Figure 2.3: Evolution of Sector Shares as % of GDP, 1960-2011
Source: World Bank, WDI

With the onset of conflict, iron ore production ceased, bringing industry's share to below 10 percent of GDP. Commensurate with the historical decline of industry is a relatively stable performance of the services sector- banking, transportation, insurance– averaging around 34% of GDP prior to 1990. The services sector appears to have fully recovered from the impact of conflict and has now resumed its historical performance. Agriculture's sudden spike has to be placed in context. The peak in agriculture around 1995 may be explained in terms of the collapse of virtually most aspects of the Liberian economy except agriculture. As the shares of the other sectors have improved since the recovery, the share of agriculture is trending downward, due to the lack of replanting of cash crops, world market price volatility, (especially for rubber), and the fact that industry and services sectors have grown faster since the end of conflict – most likely due to growth from their respective low bases.

Figure 2.4 displays the breakdown of key sectors in Liberia. The figure shows that services sector has seen strong performance, while manufacturing shows consistent signs of struggle. The figure shows that mining is performing strongly and as noted by the IMF, is expected to perform even stronger due to the resumption of ore exports.

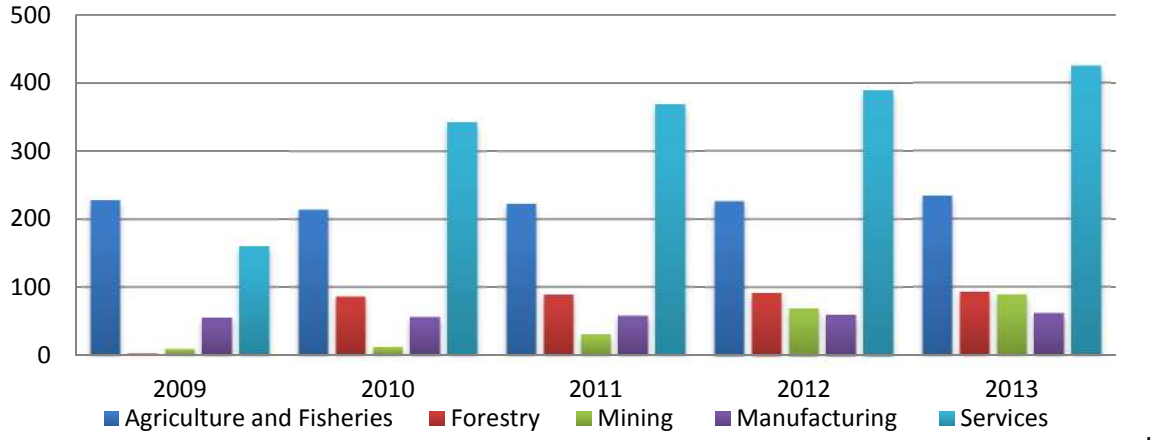


Figure 2.4: Sectorial Origin of GDP in millions of US$
Source: Central Bank of Liberia

PRIVATE INVESTMENT

Figure 2.5 shows a scatterplot of gross capital formation and the log of per capita income for all low income countries, lower middle income countries and non-OECD high income countries. With investment averaging about 16 percent of GDP, Liberia (red) is competitive vis-à-vis its regional comparators, though it falls slightly behind Guinea (green) and the Gambia (blue). Sierra Leone (yellow) performs the lowest among the comparators. Liberia however lags behind low income peers Benin, Burkina Faso, Mozambique, Uganda, Nepal and Malawi, all of which are above the 20 percent mark, but is not significantly different than comparators, Guinea and Gambia.

Figure 2.5 depicts the growth rate of gross capital formation for comparators. Private investment growth in Sierra Leone appears to be ahead of investment growth in Liberia, despite the latter's enjoyment of larger flows of FDI, as shown by the figure 2.6. That Liberia lags behind Sierra Leone despite stronger FDI performance suggests investment growth appears to be concentrated within the enclave sector. This may be continuation of the divergence that lies at the heart of the Liberian economy: divergence in incomes and divergence in the rates of growth of investment across sectors, with traditionally dominant enclave sectors showing signs of investment growth while critical sectors such as manufacturing, transportation and smallholder agriculture continue to struggle. It may be that constraints to growth in Liberia appear to bind smaller sectors more than larger sectors.

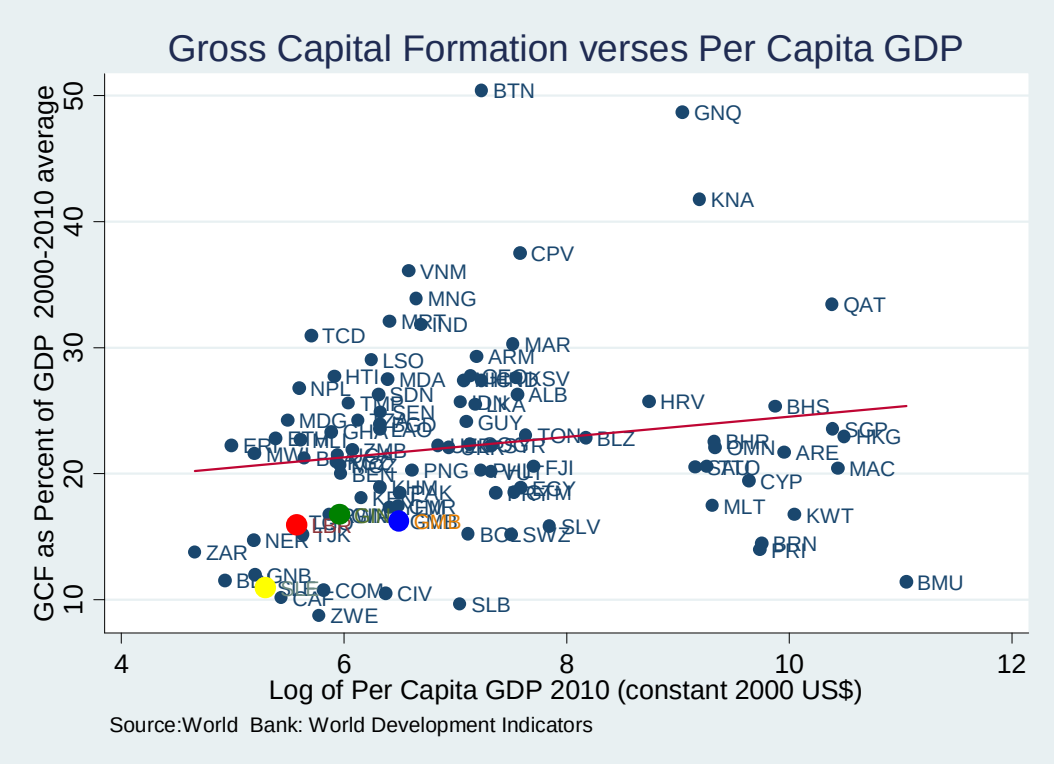


Figure 2.5: Gross Capital Formation and Per Capita GDP
Source: World Bank, WDI

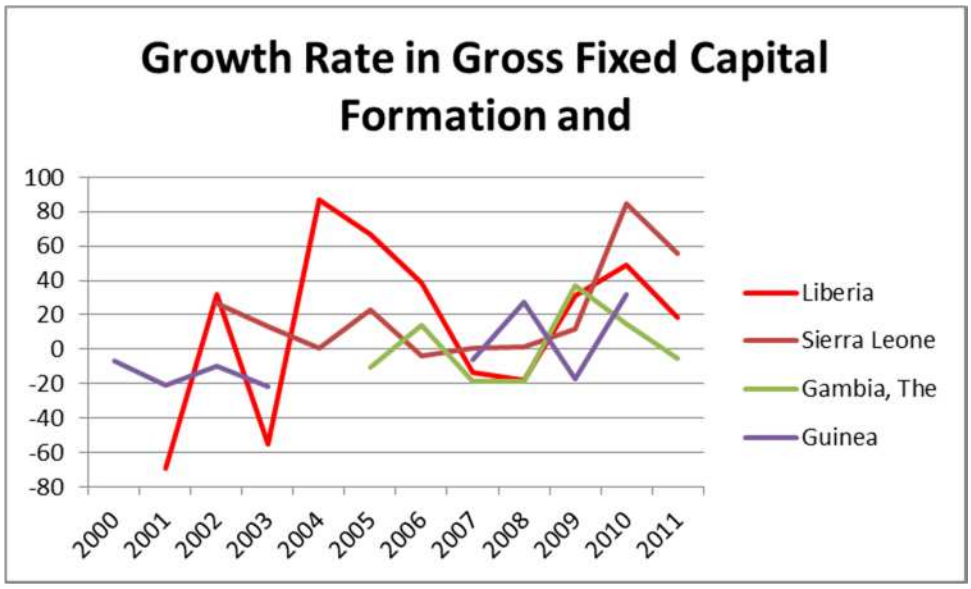


Figure 2.6: Annual Rate of Growth of Gross Capital Formation, 2002-2010
Source: World Bank, WDI

The Liberia Business Registry (LBR) shows that private sector investment is on the rise in Liberia as shown in the increase in the number of both Liberian and foreign owned companies registered from 2006 to 2012 in the graph below.

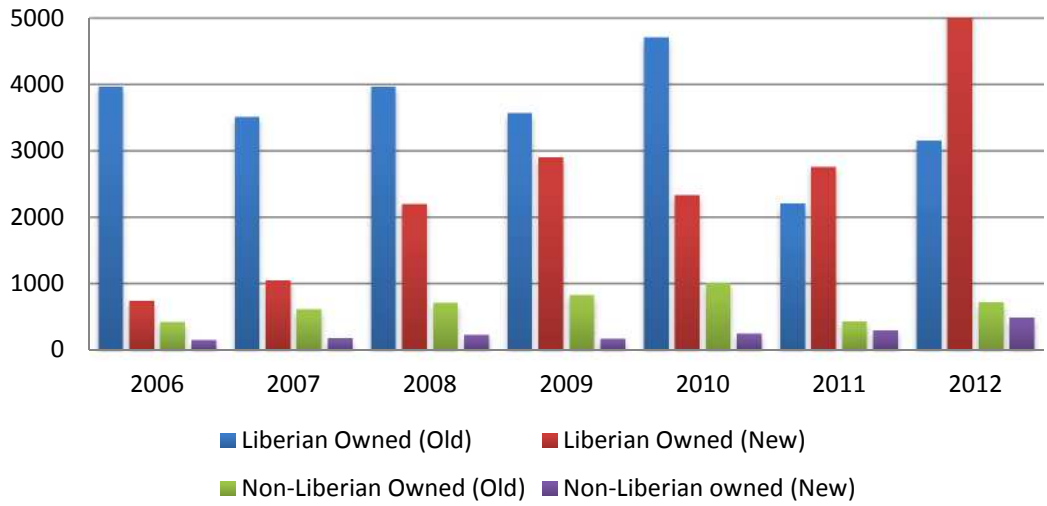


Figure 2.7: Business Registration Trends, number of businesses, 2006-2012
Source: Liberia Business Registry, 2013

From 2006 to 2010 we see a steady growth in the number of foreign owned enterprises. Following a downturn in 2011, which could perhaps be attributed to the Global Financial Crisis; estimates for 2013 point back to a net increase in the number of foreign owned registered businesses[9]. The graph also shows a year on year increase in number of registered Liberian-owned businesses. It does not however show the survival rate of the businesses. Deducing from the trend, it is clear that the survival rate is quite low. For example, in 2010, there were about 4,800 Liberian owned businesses, with 2,400 newly registered businesses. Compared to 2011 a total of 7,200 businesses should have been observed on the registry but only 2,200 instead. These trends appear to suggest a high failure rate for Liberian-owned SMEs.

[9] Current 2013 data from the LBR shows 12% increase in the number foreign companies registered compared to same period in 2012.

More anecdotal evidence shows that majority of enterprises owned by Liberians tend to be more visible in the SMEs sector and the informal economy, particularly comprising petty trade and subsistence agriculture.

Such data however cannot be interpreted literally - the LBR requires businesses to renew their registration annually for a fee. The low survival rate seen could merely represent businesses not returning to the LBR for renewal; the LBR does not have a follow-up program to track businesses that do not renew their business registration, therefore firms could opt not to renew. A more plausible explanation is that most start-ups register a business as a legal requirement but never actually start operation. The issuance of a business registration is a process to create a legal entity, but does not necessarily mean that a firm is operational.

The LBR further shows that 83% of all businesses in the economy were Liberian owned compared to 17% foreign owned enterprises in 2012. Sole proprietorship businesses largely owned by Liberians make up more than half of the total number enterprises recorded over this period. Economic activities in Liberia are centralized in and around Monrovia as evidenced by the number of companies based in Montserrado County compared to the rest of the country. Montserrado County accounts for 81% of all enterprises, followed by Margibi (5%), Bong and Grand Bassa Counties (3%).

By sector, enterprises are largely registered in the wholesale, trade and repairs segmentation; this segment accounts for more than 50% of the total number of businesses registered in the country. Agriculture, the largest contributor to GDP comprises only 3% of registered companies combined with forestry and fishery. This could strengthen the argument that most people in agriculture do not consider their activities as commercial as the sector is largely informal and characterized by subsistence farming.

FOREIGN DIRECT INVESTMENT

FDI flows should provide financing for recipient firms and companies, enabling them to thrive and provide opportunities that can be leveraged by non-enclave sectors, such as manufacturing or services. However, historically, this has not happened in Liberia.

Figure 2.8 depicts FDI inflows over the past five decades and as hinted above, Liberia outperforms comparators for much of the entire period.

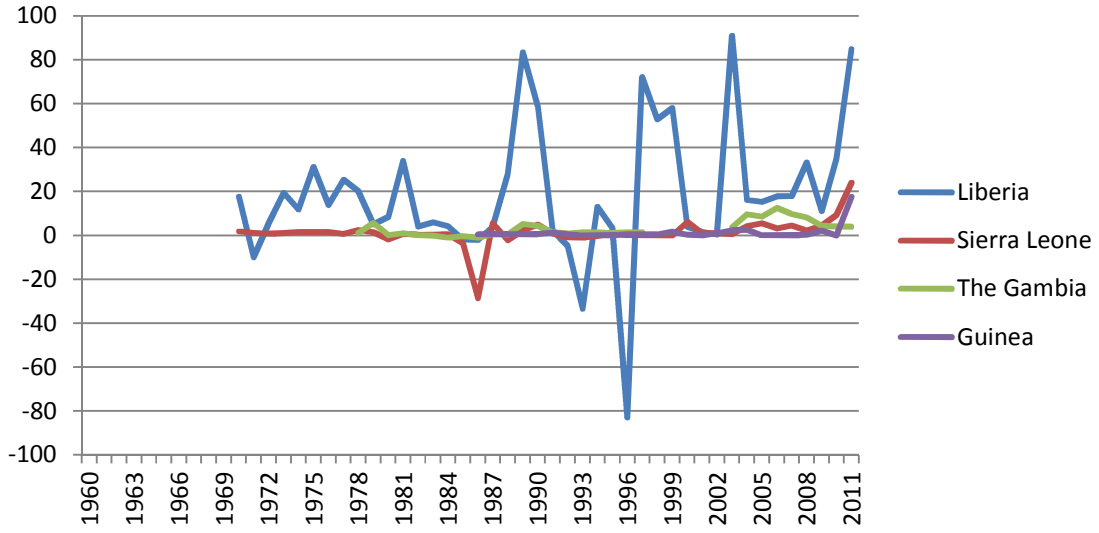


Figure 2.8: FDI Inflow as a Percent of GDP, 1960-2010

Source: World Bank, WDI

Investment performance may also be analyzed by considering the share of national income that is invested versus the share that is consumed. Countries exhibiting larger investment shares tend to value future consumption over present consumption, and are expected to grow much faster since they consume a smaller fraction of their current income. Using data from Penn World Table, Figure 2.9 tracks

Purchasing Power Parity (PPP) converted per capita investment share among comparators, given in constant 2005 US$. Liberia appears competitive prior to the onset of conflict but as of 2006 now appears to be lagging behind comparators. This may indicate that comparator countries are investing a larger share of their income than Liberia.

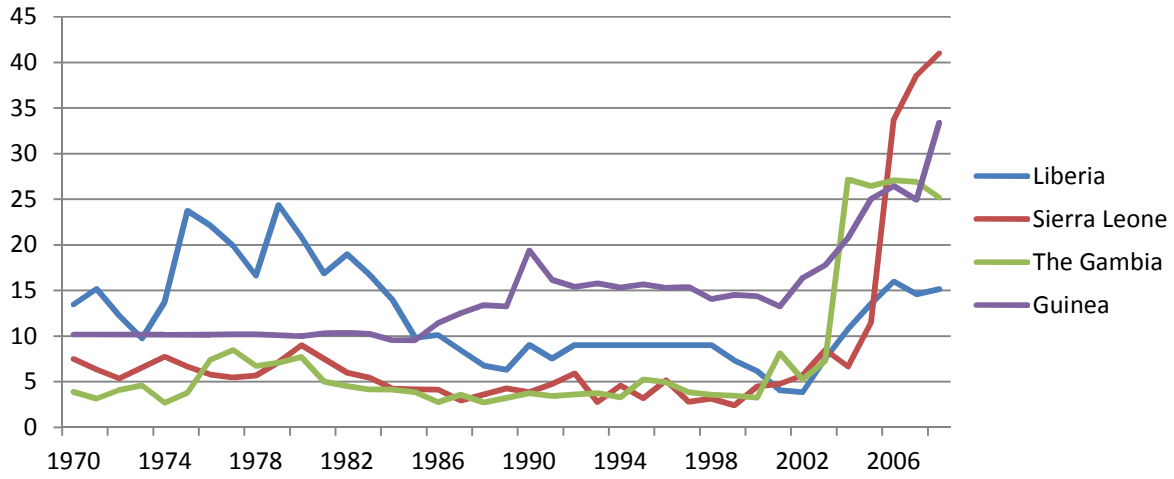


Figure 2.9: Regional Comparison of Investment Shares in Per Capita Income (Constant 2005 US$)
Source: Penn World Tables

EXPORT PERFORMANCE

The export of primary commodities- rubber, ore and timber- from the natural resource sector has been the mainstay of Liberia's export over the past five decades and continues to remain the country's major source of foreign exchange earnings.

Figure 2.10 shows Liberia's strong extractive-led export performance, relative to comparators. But performance has been more muted in the post-conflict environment due largely in part to inactivity in the iron ore sector. The export of iron ore resumed in 2011 and the IMF's November 2012 "Article IV Consultation" projects that ore exports will constitute as much as 15% of GDP.

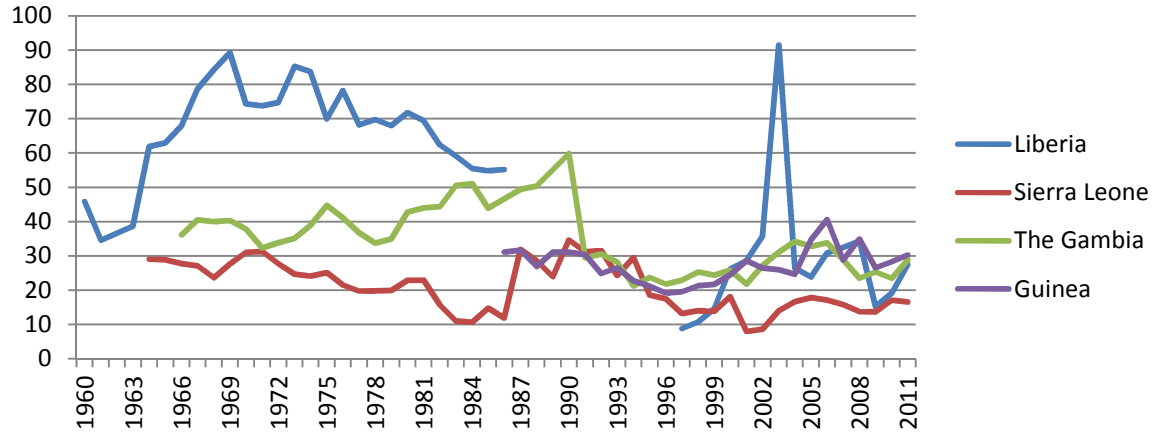


Figure 2.10: Regional Comparison of Exports as a Percent of GDP, 1960-2011
Source: World Bank, WDI

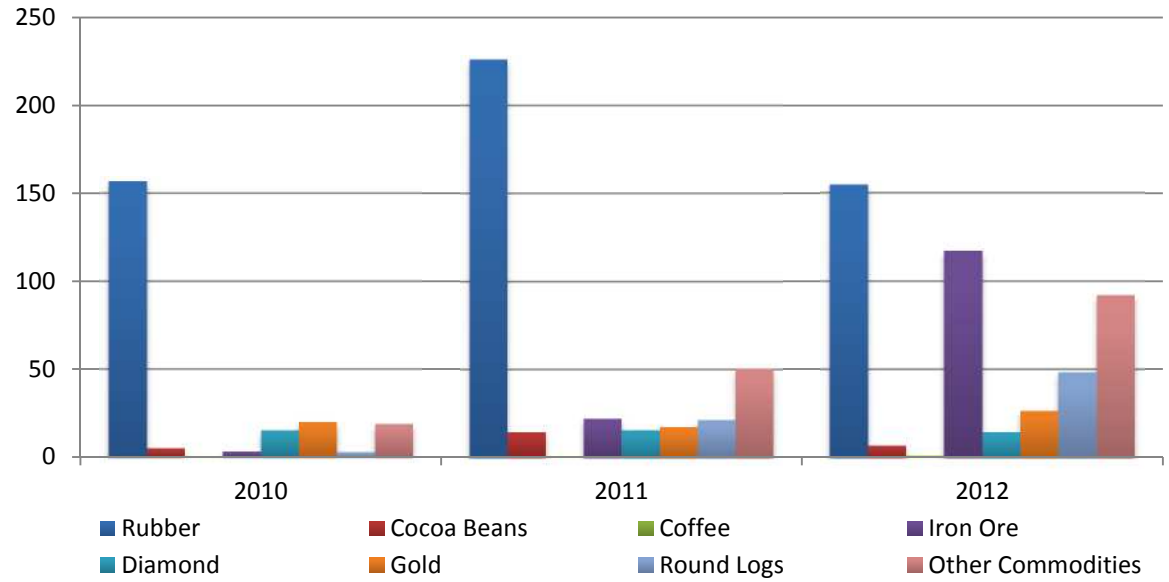


Figure 2.11: Composition of Commodity Exports, in Millions of US$

Source: World Bank, WDI

Figure 2.11 shows the composition of commodity exports in millions of US$. The figure shows that both rubber and iron are the major commodity exports, with iron ore showing strong performance due to the commencement of ore export in 2011. Though far below prewar levels, cocoa exports are also showing strong performance. Cocoa production provided employment for many agricultural laborers prior to the war.

EMPLOYMENT, PRODUCTIVITY, AND WAGES

Employment data is difficult to access in Liberia and cross country comparison of employment trends in the West African region is equally inaccessible. Given data limitation, we survey the employment situation in comparator countries using relevant employment reports. The 2010 Liberia Labor Force Survey puts unemployment rate at 3.7% but argues that this indicator may not be interesting since the majority of those 'employed' are in 'own-account workers' in the informal sector. The report also discusses vulnerable employment and argues this is a better indicator of the employment story, since the vulnerable employment rate is 77.9%, with the informal employment rate being 68% (Liberia Labor Force Survey 2010). Previously, the 2007 Core Welfare Indicator Questionnaire (CWIQ) put the unemployment rate in Liberia at 5.5%.

The Sierra Leone's Poverty Reduction Strategy Paper (PRSP) put unemployment rate in Sierra Leone at about 6.5%. The 2007 CWIQ put unemployment rate in Sierra Leone at 5.9%. As is the case with Liberia, these numbers reflect vulnerable employment, defined by the ILO as workers who are self-employed without employees or unpaid family workers.

YOUTH UNEMPLOYMENT

Youth unemployment is a serious challenge across comparators. According to Liberia's 2010 Labor Force Survey, about 46% of persons aged 15-34 are employed. When taken with the fact that the 46% employment is largely 'vulnerable employment', youths in Liberia face a serious employment crisis. The IMF has raised the concern over unfavorable demographics trends in which about 50,000 youths are entering the job market each year compared to only 100,000 direct jobs that all concessions signed are expected to create.

Table 2.2 shows results from an International Labor Organization (ILO) survey conducted among Multinational Enterprises (MNEs) in the agriculture/agro-forestry sectors, mining and banking sectors in Liberia and Sierra Leone.

Table 2.1: ILO Youth Employment Survey in Liberia and Sierra Leone

Source: ILO Employment Sector Reports, Numbers 7 and 8 (2010)

Country	Sector	# of Full Time Emps.	# of Emps. < 35 years of age	# of Fem. Emp.	# of Foreign Emps.	# of Youths Employed in the Past Year	# of MNEs Identified	% of MNEs Interviewed
Liberia	Agriculture						9	78%
	Rubber	8451[10]	1,336	253	19	100		
	Palm & Timber	180	51	18	3	0		
	Mining	641	322	14	29	28	10	60%
	Banking	751	542	245	21	134	5	80%
Sierra Leone	Agriculture	475	287	42	33	11	9	54%
	Mining	844	519	12	53	1	10	30%
	Banking	544	379	272	12	83	5	80%

Among MNEs surveyed, youth unemployment appears to be more of a problem in Liberia than in Sierra Leone. Of the total number of employees in the MNEs surveyed in the agriculture sector, only 15% of them are below the age of 35. This may be related to the strenuous nature of rubber tapping work but it may also involve the absence of skills, as even unskilled labor requires a certain level of skills. About 60% of employees at agriculture MNEs in Sierra Leone are less than 35 years. Sierra Leone shows higher percentages of under-35 employment in other sectors, with the exception of the banking sector where about 72% of banking employees interviewed at MNEs in Liberia are below 35, the corresponding percentage for Sierra Leone being nearly 70%. When viewed through the lens of female employees, 32% of those interviewed in the banking MNEs in Liberia are women, which is less than the corresponding percentage (50%) for Sierra Leone.

The table is also important in terms of gauging the number of jobs agriculture and mining concessions are expected to provide as part of concession contracts. Figure 2.12 shows the distribution of jobs that signed agriculture and mining contracts are expected to generate in Liberia. Most of the new jobs in the agriculture sector are expected from oil palm production. More than 70% of these jobs are yet to be generated due to a range of constraints which the CA explores in subsequent chapters.

[10] The majority of these are employed by the Firestone Rubber Company, which is the biggest rubber exporter in Liberia.

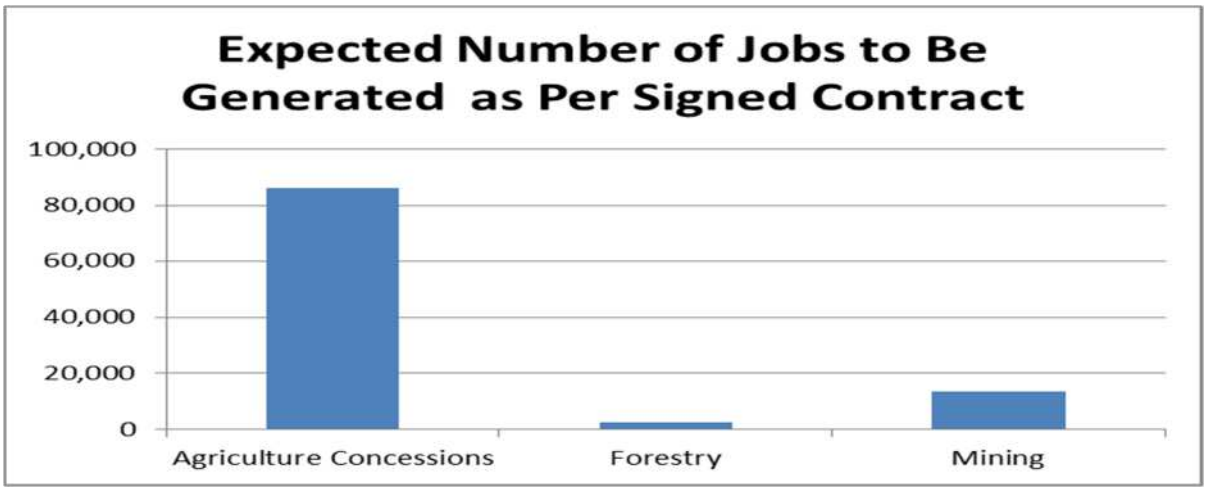


Figure 2.12: Expected Number of Jobs Generated through Concessionaires

Source: Liberian National Investment Commission

PRODUCTIVITY

Data on the general labor productivity is inaccessible across comparators. However, to the extent that agriculture productivity is a general indicator of labor productivity, we use the Food and Agriculture Organization's (FAO's) database to compare Liberia, Sierra Leone and Guinea on paddy rice production in tons, yields in hectogram per hectare (hg/ha) and area harvested in hectares. Rice is a staple food in all three countries, and may be more of an important staple in Liberia since rice has been linked to political violence.[11]

As figures 2.13, 2.14 and 2.15 demonstrate, Liberia lags considerably behind comparators. Rice production has historically struggled with annual production generally falling under 200,000 tons. Liberia also lags behind in yield and areas harvested. What constrains rice production in Liberia relative to comparators? The CA dives into the varied constraints on the smallholder agriculture sector, as these may prove potentially significant for poverty reduction, and as well as job creation and investment growth.

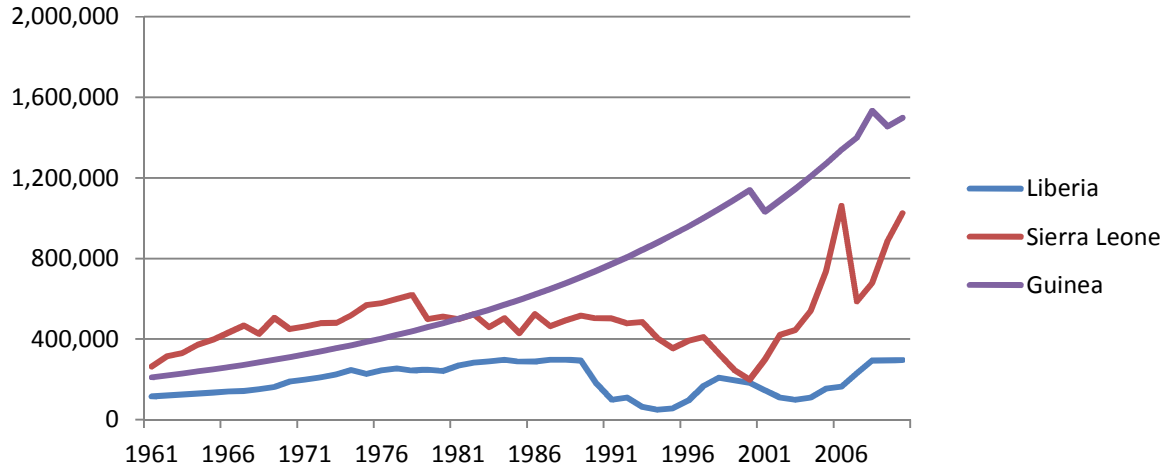


Figure 2.13: Regional Comparison of Rice Production, in Metric Tonnes

[11] The 1979 Rice Riot, which led to the maiming of hundreds and the involvement of Guinean troops to restore calm, was caused by hikes in the price of rice.

Source: United Nations, Food and Agriculture Organization

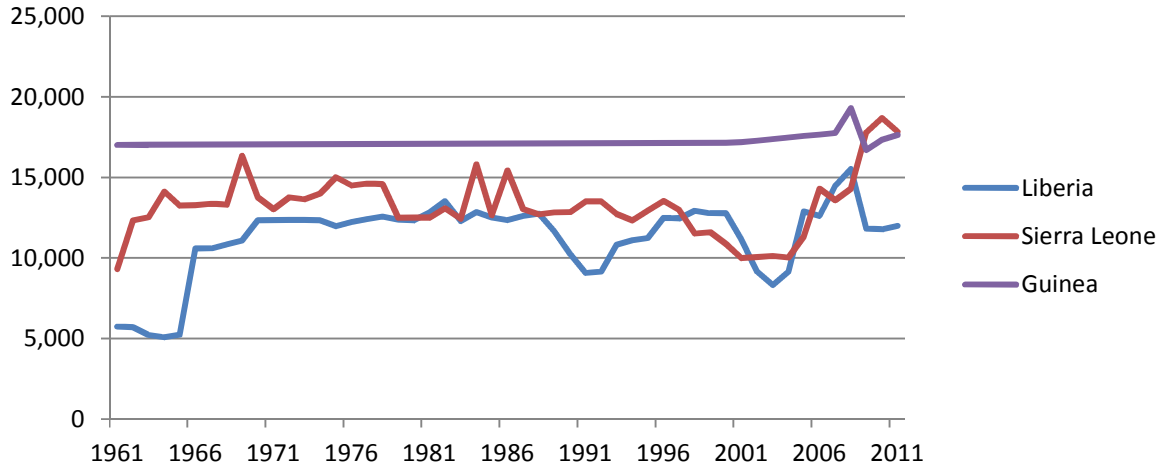


Figure 2.14: Regional Comparison of Paddy Rice Yields, per Hectare
Source: United Nations, Food and Agriculture Organization

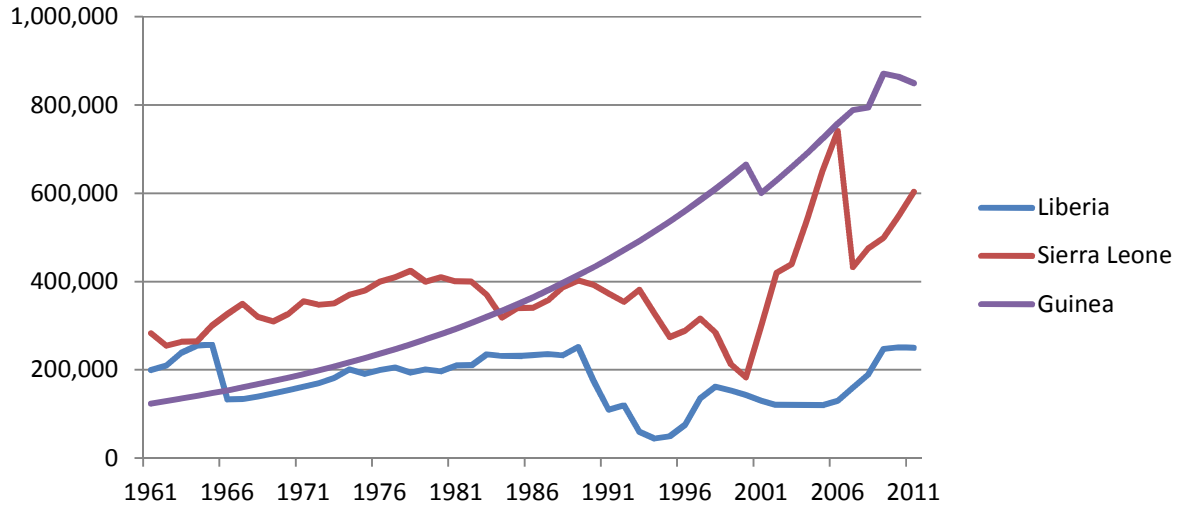


Figure 2.15: Regional Comparison of Area Harvested for Rice, in Hectares
Source: United Nations, Food and Agriculture Organization

IMPACT OF LOW AGRICULTURAL PRODUCTIVITY ON WOMEN

The largest category of employment for women is in agriculture. They comprise over half of the agriculture labor force and about two-thirds of the trade and commerce labor force in Liberia. They work mainly in food crops, where they are reported to produce over half of the output; their production of cash crops is limited (World Bank Gender and Agriculture, 2011). Statistics from UNDP (2006) indicate women are 53% of the agricultural labor force and produce 60 percent of agricultural output. With respect to food crops, women contribute approximately 42.5% of the labor compared to men's 35.3%, but with respect to (more profitable) cash crops, women do only 31.5% of the labor compared to men's 48.5% (UNDP 2006). It has also been found that twice as many women as men (50% versus 25%) diversity into agro-processing activities (Small Scale Gender and Agriculture Survey, 2006); women also carry out a higher proportion of trade in rural areas, utilizing women's associations and informal networks (World Bank 2007b). The provision of extension services to farmers is extremely limited and as of 2006, of 103 agriculture extension agents, only 18 were delegated to work specifically with women (UNDP, 2006).

The constraints faced by women engaged in agricultural production affect household food and nutrition security and their ability to generate income. Several constraints from the World Bank (2010) assessment of gender and agriculture are worth noting:

- Lack of access to agricultural production inputs and technology – processing, packing, storage and transport especially;
- Less access to land, control over it, and land tenure security than men;
- Lack of readily available household or farm labor which limits potential to expand;
- Limited provision of extension services to all, but women in particular have difficulty reaching them because they tend to be illiterate and/or have less access to non-written information than men (i.e. radio);
- Limited information about various market prices around the country because of lack of access to information (see above) limits their potential to compete;
- Very limited access to finance or lack of control over their finances;
- Lack of access to markets as a result of poor road infrastructure – less money to pay for transportation;
- Lack of marketing support services and business training.

There is a rigid gender-based division of labor in crop production which finds women specializing in and controlling food crops, while men control cash crops and specialize in specific field tasks. Women tend towards growing certain crops, such as rice, particularly if they are in female-headed households. The implication is that there is a **risk of women missing out on the economic benefits that come with agricultural improvements / implementation of projects, if their unique situation is overlooked**.

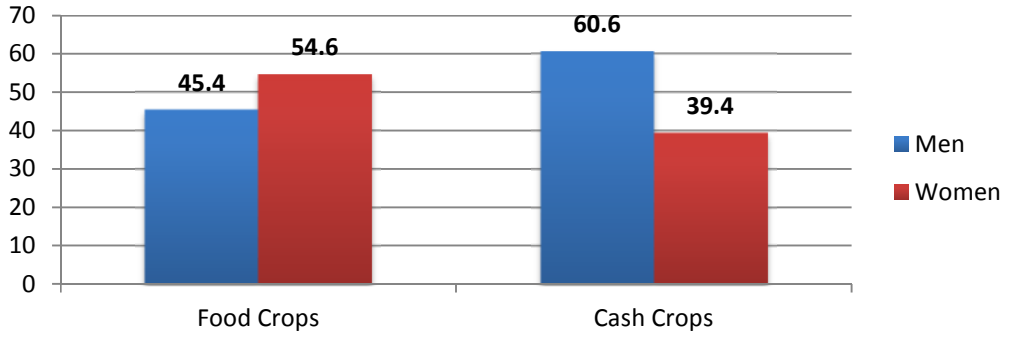


Figure 2.16 Division of Labor in Food and Cash Crops, by Gender (%)
Source: Comprehensive Food Security and Nutrition Survey, GOL (2006)

POVERTY AND INCOME INEQUALITY

According to the Human Development Index, (HDI), Liberia remains a poor country, despite an abundance of natural wealth and a history of strong economic growth. Although Liberia (.388) has an overall higher 2012 HDI index score than Sierra Leone (0.359) and Guinea (0.355), figure 2.17 shows that Liberia pales relative to comparators on the HDI's percentage of population living below US$1.25 PPP per day and struggles on the Multidimensional Poverty Index, which measures the multiple deprivation that a poor person faces with respect to health, education and living standard.

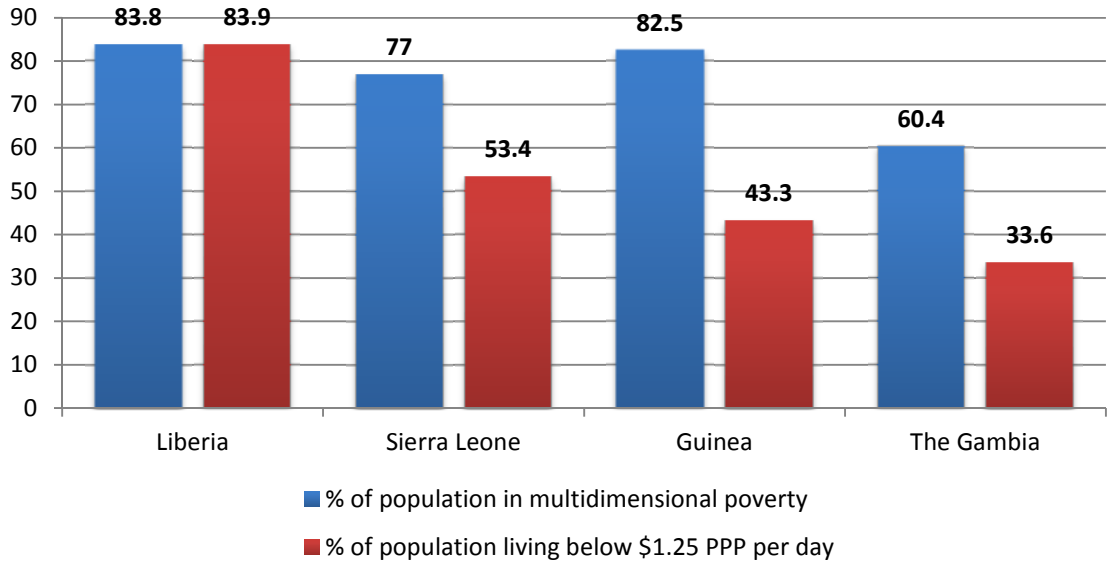


Figure 2.17: Regional Comparison of Multidimensional Poverty

Source: Human Development Index (HDI) Database, 2012

Figure 2.18 which shows the regional distribution of poverty largely confirms the poverty profile presented among comparators. A significant fraction of regional populations in Liberia are poor, with poverty more acute in rural versus urban areas. The variance in results between Figures 2.18 and 2.17 may be attributable to that fact that the CWIQ was done prior to the 2008 Census when demographic data was outdated (the last official census was done in 1984). A 2010 CWIQ is yet to be released.

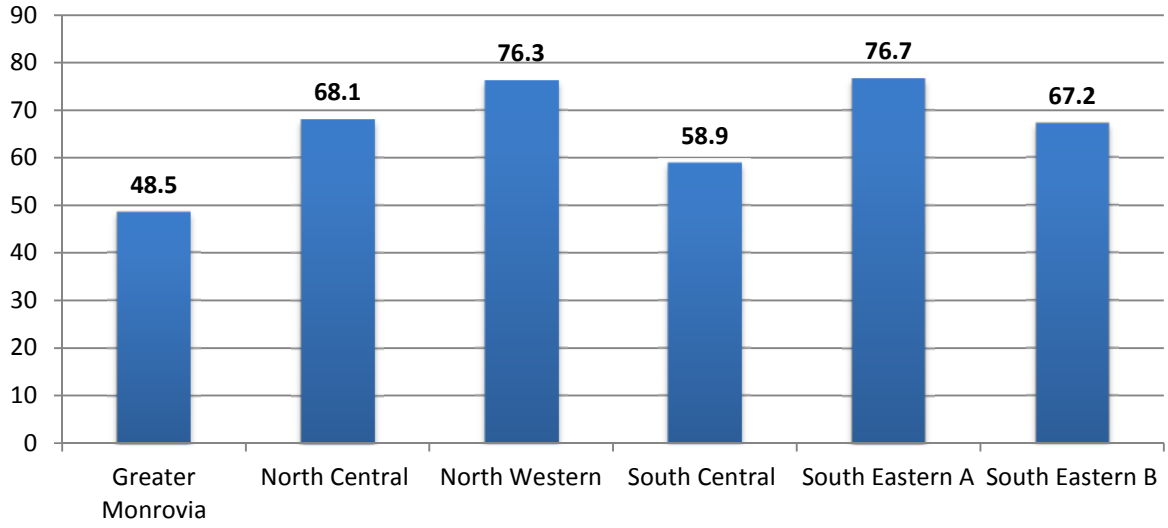


Figure 2.18 Regional Distribution of Poverty in Liberia

Source: 2007 Co-Welfare Indicator Questionnaire (CWIQ), LISGIS

INCOME INEQUALITY

As discussed earlier, the prevalence of income inequality and social inequities mars Liberia's growth performance and the country's natural endowment. Growth in Liberia has never been the 'rising tide that lifts all boats.'

Table 2.2 reveals trends in inequality dating back to the 70s. As the table shows, urban workers, who made up about 26% of the population in 1970, enjoyed an annual per capita income of US$603, while rural agricultural workers, 74% of the population, received a measly US$70 per capita.

Table 2.2: Liberia Income Distribution in 1970
Source: World Bank, Inclusive Growth Diagnostics, 1975

Work Categories, Rural and Urban	# of People in Thousands	% of Total Population	Income per capita US$/Year	Total Income US$/Year	% of Total Income
Rural	**1,123**	**73.70%**	**$70**	**$78,610**	**24.60%**
Agriculture	1,123	73.70%	$70	$78,610	24.60%
Urban	**400**	**26.30%**	**$603**	**$241,248**	**75.40%**
Managerial, professional, & others	59	3.90%	$3,272	$193,048	60.40%
Skilled	128	8.40%	$200	$25,600	8.00%
Concessions	109	7.20%	$100	$10,900	3.40%
Unskilled, job	52	3.40%	$150	$7,800	2.40%
Unskilled , no job	52	3.40%	$75	$3,900	1.20%
Total	**1523**	**100.00%**	**$210**	**$319,858**	**100%**

Similar analysis of today's economy will show these trends have largely persisted , in light of the rural poverty profile presented earlier and the fact that agriculture commands about 36% of current GDP while services, which are highly concentrated in urban settings, command nearly 50% of GDP (IMF Article Four Consultations, page 45).

Though Liberia has made significant gains since the end of the civil war, particularly in terms of economic growth, 83% of the population still remains below the poverty line, with an HDI ranking of 174 out of 186 (UNDP, 2013). The poorest of households (i) are headed by women; (ii) have family members who are less educated than the average Liberian and (iii) have a higher number of dependents.

GENDER DIMENSION: POVERTY AND INCOME

According to the 2013 United Nations Development Program (UNDP) Human Development Report, the country ranked very low on the gender inequality index (GII) – 143 out of 147 countries with a GII of 0.658 (UNDP, 2013). Among the extremely poor, 73% of these households are headed by women. Other indicators show women's unequal representation in public life, limited power in private life, and tendency to be less educated, less healthy and less wealthy. Since assuming leadership, President Sirleaf and her administration have made a strong commitment to gender equality articulated in Liberia's Poverty Reduction Strategy (PRS). A Gender-Based Violence Interagency Taskforce was established in 2006 and has over forty members including UN agencies, government ministries and Liberian CSOs. All government agencies are required to have a "desk" or "unit" designated specifically to deal with gender issues (overseen by the Ministry of Gender). The US Government (USG) often mainstream gender in projects and programs to support the achievement of these PRS goals. In FY 2010, the USG alone spent over $12 million on gender-related programming in Liberia through the security, governance, health, education, and economic growth sectors (USG Global Health Initiative Liberia Strategy, 2011). In addition to government and UN programs, there are dozens of international and local NGOs devoted specifically to women and girls issues. With all these initiatives, there still exist major challenges in achieving gender equity. However, these policies and initiatives are critical in working toward achieving gender equality since they never existed prior to the war. For example, the increased level of women's ascendency to political offices (i.e. legislature, ministries, public agencies and corporations) since the inception of President Sirleaf's administration in 2006 signals relative improvements in the gender power relations (MoGD, 2011).

THE INFORMAL SECTOR

Informal Sector activities are defined as economic activities with no regular stream of income or returns, i.e., salaries and wages. The informal sector activities in Liberia comprise mainly micro-enterprises, such as cook shops, petty trading in dry goods, used-clothing, and domestically consumed agricultural products. It is estimated that about 68% of the population are employed in this sector as shown below in Diagram 2.1.

The informal sector was relatively small before the war. The 14 year of civil war slowed down productive activities in agriculture, industry and manufacturing and unleashed mass migration of populations from rural to urban centers. Consequently, unemployment rose from 50% to between 80% and 90% in all sectors, except in public service.

The near collapse of the formal sector and the massive movement of displaced people into Monrovia and other urban centers during the period of the civil war gave reason for entry into the informal sector. The population of Monrovia, capital city of Liberia swelled from 450,000 in 1989 to 1.2 million in 2008. Majority of the Internally Displaced Persons (IDPs) that came to Monrovia lacks the skills needed for urban employment. The most attractive activities have therefore been those of the informal sector, which required little or no skill.

The following are the agreed definitions for use in Liberia:

Employment in the informal sector

Exclude persons employed in the agriculture sector (Section A in ISIC rev 4)
Exclude persons producing goods or services for household's own use (ISIC division code 98)
Exclude persons coded as professionals (ISCO-08 major group 2)
Exclude persons working in establishments registered with the Ministry of Commerce or the Ministry of Foreign Affairs
Exclude persons working in establishments with 5 or more persons

Informal employment

As above, but:
Include persons producing goods or services for household's own use (ISIC division 98)
Exclude any person who benefits from employer's contribution to pension/retirement fund or paid leave or where the employer deducts income tax from the salary/wage.

Diagram 2.1: Informal Sector and Informal Employment in Liberia

Source: Labor Force Survey, LISGIS, 2010

2.3 THE CONFLICT-GROWTH NEXUS

The 1990 civil war has had a profoundly deleterious impact on Liberia's economic growth and development. Conflict generally caused the growth collapse experienced in the 1990s, during which per capita income plunged to a nadir of about US$50. The impact of conflict has particularly been pronounced in critical infrastructure- power, roads and bridges--which were significantly damaged during more than 14 years of violence, as well as in human capacity development. Although the CA does not consider conflict as an economic constraint, it is important to keep conflict in context in any discussion of constraints.

The 2009 Eighteenth Progress Report of the Secretary-General on the United Nations Mission in Liberia cited by USAID/Liberia stated that the high number of unemployed or under-employed youth remains a particular challenge, since they constitute a volatile group that could be used by spoilers seeking to undermine stability.

Many of the youth became victims and perpetuators of violence during the civil war. As indicated by the United Nations Mission in Liberia state of affairs report on Liberia in 2010, it is mentioned that when the national disarmament, demobilization and reintegration program officially closed in April, 2009, all

101,495 demobilized former combatants were offered the opportunity to participate in a formal reintegration project. However, some 5,000 ex-combatants didn't come forward to participate in the reintegration program. UNDP-Liberia had indicated that its sponsored ongoing community reintegration programs were available to absorb those remaining ex-combatants.

According to the 2010 US Government Interagency Conflict Assessment Framework report, unmet expectations from the "peace dividend" and persistent social tensions can lead to renewed instability and conflict. Cross-cutting issues underlying the fragility of peace include land conflict, slow pace of infrastructure reconstruction and economic development, and access to socio-economic opportunities.

Conflict will remain an important backdrop throughout the constraints analysis.

WHY DID LIBERIA HAVE GROWTH WITHOUT DEVELOPMENT?

Robert Clower et al in 'Growth without Development" posit that rent-seeking on the part of the governing elites partly explains the absence of development in Liberia, despite a history of impressive growth during the 1950s and 60s. Other authors appear to share this perspective. Dr. Amos Sawyer's "The Rise of Autocracy in Liberia" and his more recent "Beyond Plunder" lend centrality to the role of corruption and rent-seeking in undercutting development outcomes. The main arguments is that corruption deprives the government of vital resources that could be directed to providing inputs, such as critical infrastructure and human capital, that are vital for investment growth.

While the above arguments are potent, they also do not tell the whole story. A large part of the absence of inclusive growth over the past five decades may be explained in terms of the structure of Liberia's dependence on the extractive sector. Such dependence has inherent distortions that must be effectively managed and addressed at the outset by any resource rich country evidencing the dependence. The evidence surveyed suggests that Liberia did poorly in managing these distortions. Most concessions contracts were entered with very little thought given to value addition, the need to link the enclave and non-enclave economies and the priority of promoting more sustainable forms of employment, since enclave employment is generally transient in character. The initial impetus of Tubman's Open Door Policy was to invite foreign capital in the cash-strapped and undeveloped economy of the 1940s. This remains a laudable aim that should have been complemented with aims of domesticating the sources of productivity and growth. One means might have been via a deepening of Liberian skillsets through concessions contracts. Another means might have been through an emphasis on growth in the non-enclave sector, particularly growth in manufacturing and smallholder agriculture, where the potential for value addition is large. The movement of Liberian public policy toward the attainment of these development outcomes has been historically and painfully weak and remains a nagging challenge.

2.4 KEY QUESTION FOR CONSTRAINTS ANALYSIS: WHAT CONSTRAINS PRIVATE INVESTMENT IN LIBERIA?

Because economic outcomes – job creation, poverty reduction, higher income and a higher standard of living—are largely a function of investment growth, constraints to investment in Liberia are the core of this analysis. The analysis poses the fundamental question: what constrains private sector growth in Liberia? This question does not presume an absence of investment in Liberia. Quite to the contrary, the previous sections have discussed investment and flows of FDIs into Liberia. But as these sections have also noted, these investments have been generally confined to the extractive sector, where growth has not historically translated into a greater number of jobs or higher incomes for the broadest base of the working population.

In real terms, constraints to growth largely manifest through channels of employment. These constraints appear to limit the potential for employment growth across multiple sectors. In smallholder food crop agriculture, the persistence of road and electricity constraints tend to dampen employment growth, since farmers facing post-harvest losses arising from inability to access markets or to store perishable produce are unlikely to hire additional labor to increase production in subsequent planting seasons. Among services firms such as hotels and restaurants, the cost of electricity self-generation appears to

hinder investment in additional facilities or prevent additional hiring, as reported by participants in mini-constraint analysis surveys and during consultations. The World Bank Enterprise Surveys depict the Liberian manufacturing sector as shedding jobs, which is not unrelated to the range of constraints affecting that sector.

All of these seem to suggest some correlation between investment and employment, which has to be tested as a way of showing that relaxing binding and major constraints leads to growth in investment and consequently in employment. However, data on employment across sectors is difficult to access in Liberia. Liberia's ILO employment database has data for only the year 1984. Multiple years of labor force survey do not exist as only one such survey has been conducted in 2010. The Ministry of Labor (MoL) has conducted what it calls Quarterly Establishment Surveys for about one year but advises against use of the data to extrapolate national employment trends, since sample sizes are very small and coverage is limited. Trade and Tax data generally tend to be available at the Ministry of Finance (MoF) but employment extrapolations based on these data are unreliable. Basing employment analysis on individual tax withholdings, for example, will seriously understate employment trends since a significant fraction of medium and small firms do not file tax returns or may not be accurately reporting the number of employed persons. The MoF also collects data on employment disaggregated by sector and firm size but use of these data were prevented by paucity and reliability issues, as revealed by preliminary analysis. Also, employment trends in the informal sector are unknown as formal studies of the informal sector has not been undertaken in Liberia. Such a study may provide meaningful data since the majority of Liberians work in the informal sector.

Despite these data limitations, discussion and analysis of constraints and jobs in the concessions and Liberian business sectors provide important clues about the potential for job creation. Clearly, analysis of Liberian Business Registry data shows that Liberian businesses appear to be dying out, implying negative employment growth in that sector. On the other hand, oil palm concessions do present strong employment possibilities, provided land access, infrastructure and other constraints are relaxed. Golden Veroleum alone projects it will employ about 40,000 persons over the lifespan of its contract.

Also, where it is not possible to use specific employment data directly in Test 2, which aims to show the link between relaxing constraints and spurring investment, and by extension creating jobs, the analysis employs other data to show this relationship.

3 DOES COSTLY FINANCE PRESENT A BINDING CONSTRAINT TO LIBERIA'S GROWTH?

The rental price of capital, the real rate of interest, has been documented in the economics literature to impact investment demand. As Hausmann et al observe in ***Doing Growth Diagnostic in Practice: A 'Mindbook',*** "Countries might not be growing either because the expected private return of asset accumulation is low or because the cost of funds is high". High cost of funds might be a signal that firms are constrained in their access to finance and as the 'Mindbook' puts it, "there may be plenty of privately profitable investment opportunities but few financial resources to carry them out."

This chapter investigates whether firms in Liberia are constrained in their access to credit due to the high cost of finance. Many studies and reports have reviewed the credit constraint firms in Liberia face. The IMF's November 2012 Article IV Consultations observes that "despite rapid monetization and growth in private sector credit, access to credit remains weak and limited to few burrowers. SMEs—and rural borrowers in particular--have difficulties accessing credit." The World Bank's Inclusive Growth Diagnostics notes that "an almost complete lack of credit for SMEs and individual entrepreneurs severely limits the possibility of many low income Liberians undertaking potentially profitable economic activities."

The conclusion of this chapter concurs with the consensus on the severity of the problem of access to credit for SMEs and medium firms. However, the evidence reviewed suggests that access to finance is not a binding constraint to investment growth, though it remains a significant challenge. It does appear that finance challenges are amplified through other micro distortions and risks, such as insecurity of land tenure, weak contract enforcement, the inability of banks to adequately price risk due to the lack of credit reference systems and some form of credit rationing. Resolving these distortions might lessen the severity of the credit constraint on SMEs and other firms.

The rest of the chapter is organized as follows: we present an overview of Liberia's financial sector, consider the soundness of the sector, the volume of private sector lending generated as well as issues of financial intermediation. We then proceed to apply the four principles of the growth diagnostic framework.

3.1 OVERVIEW OF THE FINANCIAL SECTOR

Liberia's financial sector is bank-based, with underdeveloped money market and non-existent capital market. The recent introduction of the GoL's T-Bill Program is a promising start to money market development. With an insurance sector yet to fully develop in terms of market-microstructure and outreach, financial intermediation is primarily through the banking system.

The domestic financial sector continues to attract foreign financial institutions, mainly commercial banks. Between 2006 and 2011, the number of licensed commercial banks increased from five to nine, with non-bank financial institutions also growing. Figure 3.1 shows the evolution of banking sector assets in Liberia over the past five years. Total banking sector assets have been increasing overtime, moving from US$182.2 million at end-May 2007 to US$ 828.8 million at end-May 2013.

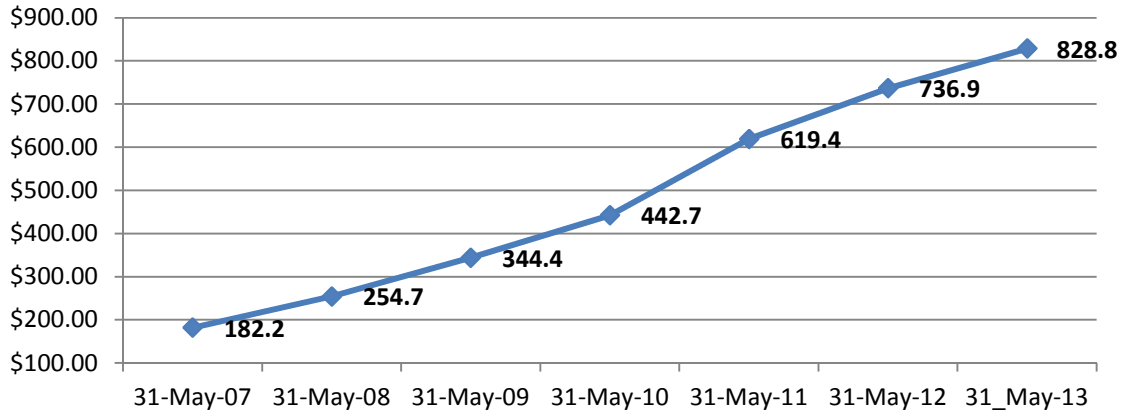


Figure 3.1: Total Banking Sector Assets in US$ Million
Source: Central Bank of Liberia, per Respective Balance Sheets

Figure 3.2 plots the above evolution as a percent of GDP.

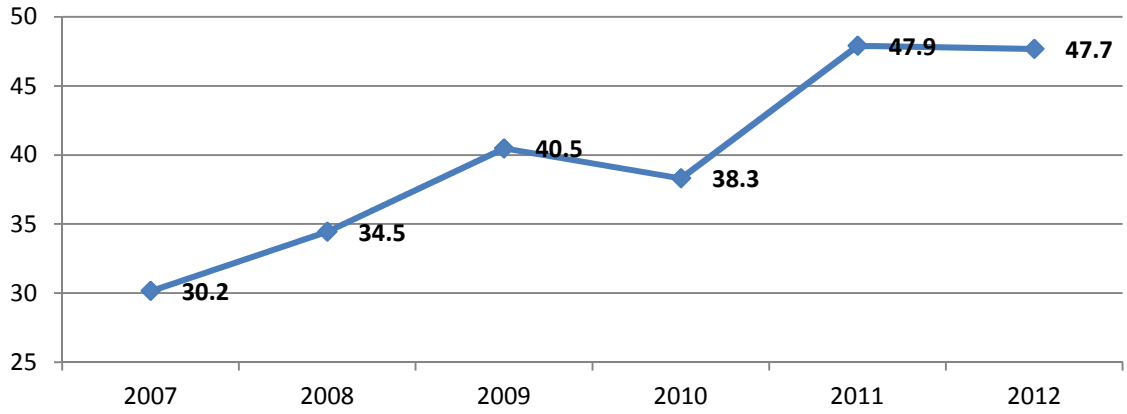


Figure 3.2: Total Banking Assets as a Percentage of GDP
Source: Central Bank of Liberia

Over the period, banking asset increased from 30.2 percent of GDP in 2007 to 47.7 percent of GDP by end-2012. The number of bank branches has also seen an increase over time, as shown by Figure 3.3. Table 3.0 displays the number of banks per county. Five counties, Bomi, Gbarpolu, Grand Kru, Rivercess and River Gee have no bank branches. This may be a function of low level of economic activities in these counties, whose financial activities are covered by nearby counties with banks.

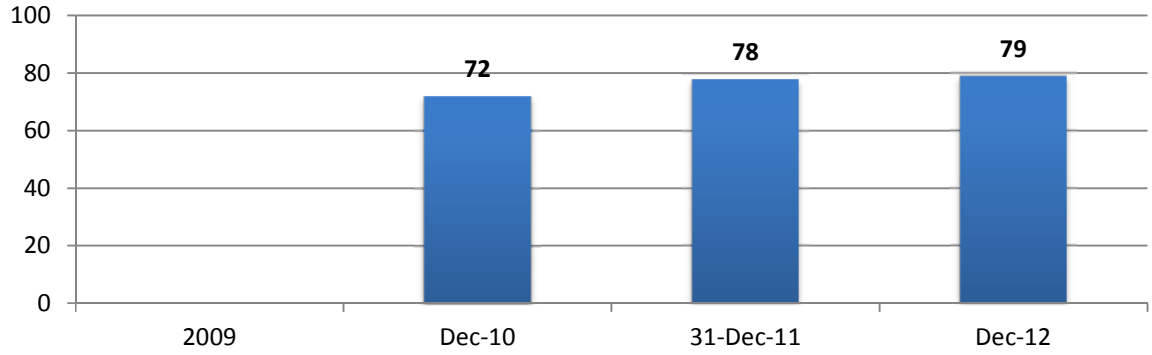


Figure 3.3: Growth of Commercial Bank Branches (Number)
Source: 2012 Annual Report, Central Bank of Liberia

Table 3.1: Distribution of Bank Branches across Counties

Source: 2012 Annual Report, Central Bank of Liberia

County	# of Branches
Bong	2
Grand Bassa	5
Grand Cape Mount	1
Grand Gedeh	1
Lofa	2
Margibi	9
Maryland	4
Montserrado	46
Nimba	7
Sinoe	1
Total	**78**

Despite growth in bank assets and rural penetration, access to credit for SMEs remains difficult. Figure 3.4 displays the proportion of firms among comparators who consider access to finance as a major constraint in their response to the World Bank Enterprise Surveys. About 35% of firms surveyed in Liberia view access to finance as a major constraint.

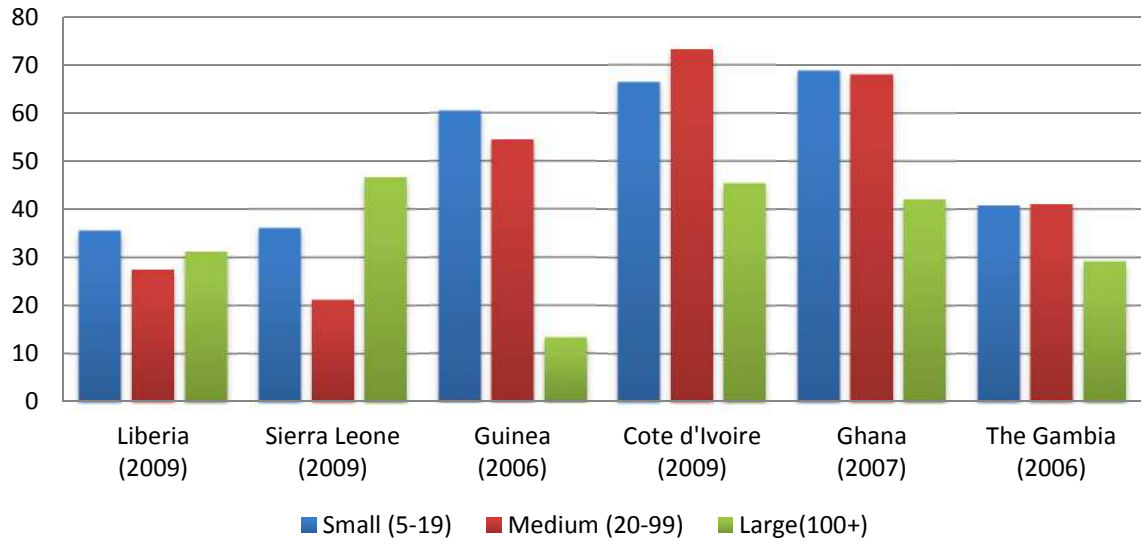


Figure 3.4: Regional Comparison of Perceived Constraint from Access to Finance (%)

Source: World Bank, Enterprise Surveys

3.2 RISKS AND WEAKNESSES OF THE LIBERIAN FINANCIAL SECTOR

Although the banking sector has experienced growth, it remains exposed to a series of risks. Non-performing loans (NPLs) as a proportion of total gross loans are trending upward in Liberia, as shown in figure 3.5. NPLs do not seem to be significantly different across comparators around 2011, though Sierra Leone has trended downward from highs of about 25% in 2005.

Risk factors and weaknesses have depressed bank profitability. Figure 3.6 shows that banking sector profitability is recovering from a negative growth that began in 2009 and ended in 2011. These losses have largely been due to the persistence of non-performing loans, especially public sector loans

renegotiated at less than face value and increased competition due to the entry of new banks. High operating costs, of which fuel cost to operate generators is a huge component, have also contributed to bank loses.

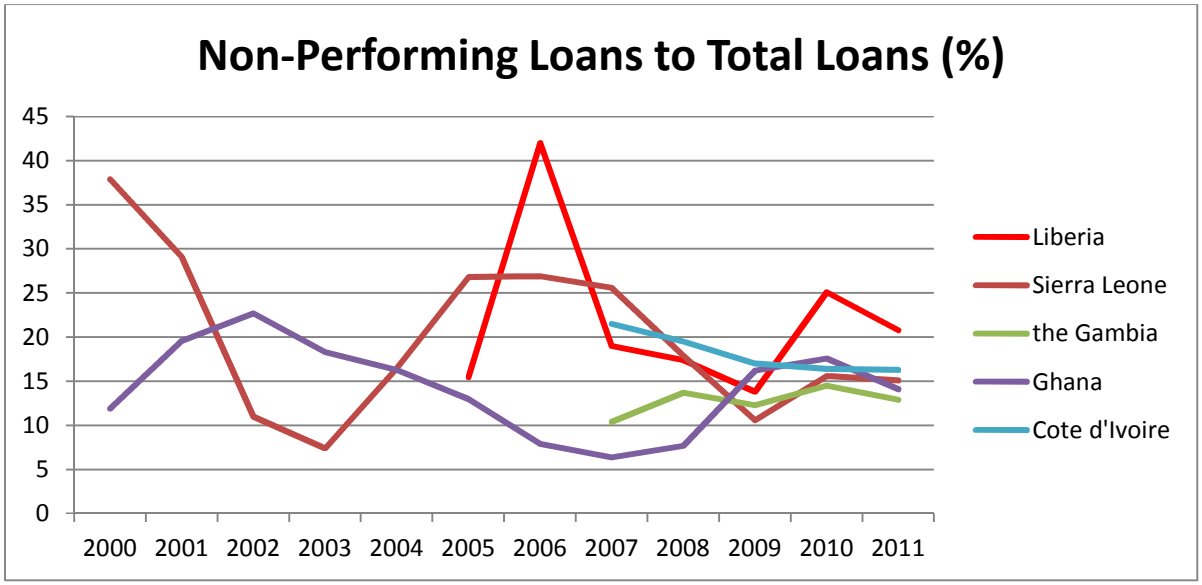


Figure 3.5: Regional Comparison of Non-Performing Loans as a Percentage of Total Loans

Source: World Bank, WDI and Central Bank of Liberia

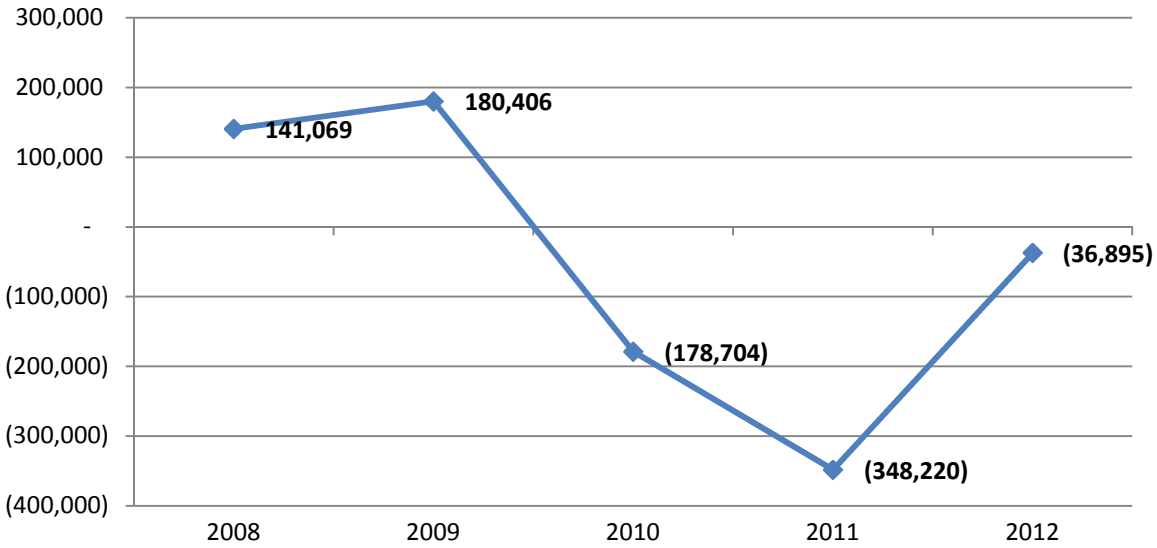


Figure 3.6: Domestic Banking Sector Profitability ('000 LD)

Source: Central Bank of Liberia

3.3 SOUNDNESS OF THE FINANCIAL SECTOR

Despite the profile of risk and weaknesses presented above, the Liberian financial sector remains sound. Figure 3.7 shows that banks in Liberia are well capitalized to absorb any shocks emanating from NPLs and other distresses to the financial system.

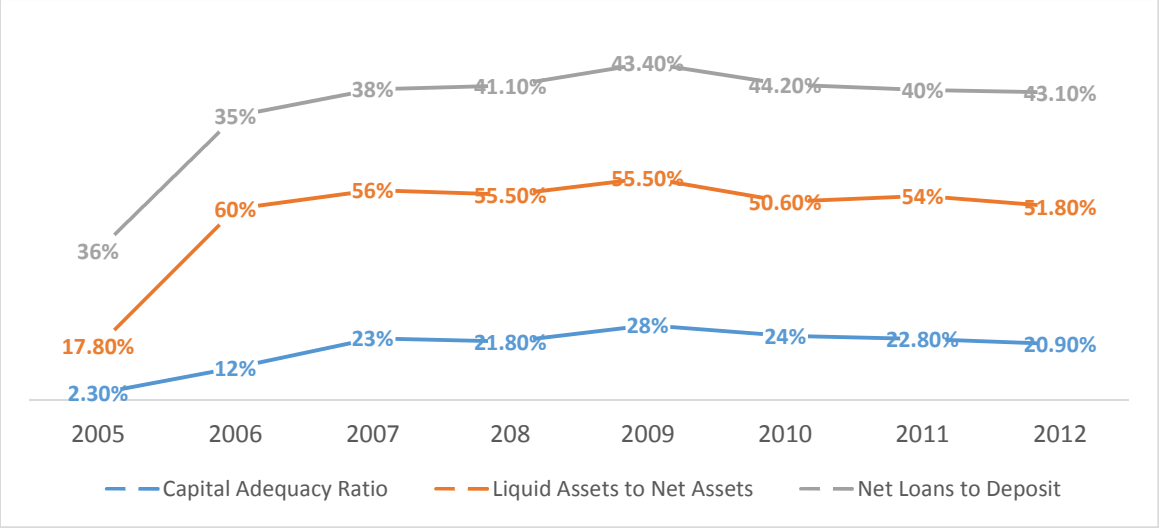


Figure 3.7: Liquidity, Loan to Deposit and Capital Adequacy Ratios
Source: Central Bank Annual Reports 2005- 2012

FINANCIAL INTERMEDIATION

Financial intermediaries, such as banks, coordinate the savings/investment process to generation credit that is important for economic growth and development. This function places intermediaries at the hub of capitalist economies. The allocation of credit and financing through intermediation process in Liberia is subject to many risks, some of which have already been covered in previous sections. The lack of standard credit reference sources and the absence of credit risk assessment mechanisms impede the degree of effectiveness and efficiency of intermediation.

An indicator of intermediation inefficiency is the large spread between lending and deposit rates.

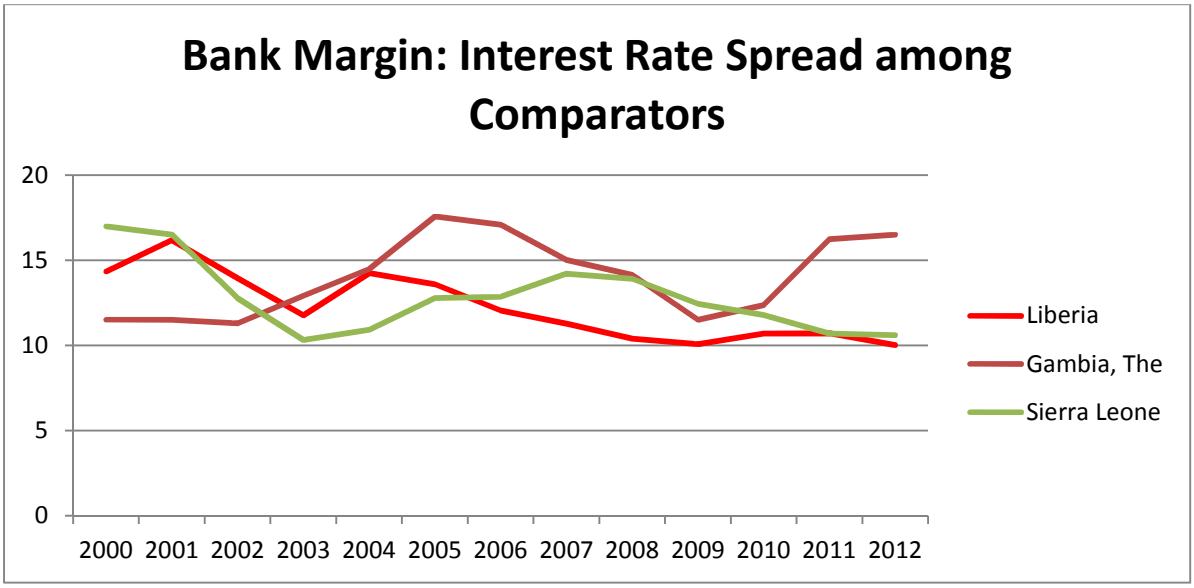


Figure 3.8: Regional Comparison of Bank Margin / Interest Rate Spread (%)
Source: World Bank, WDI

Figure 3.8 shows that bank margins are not particularly high in Liberia relative to comparators. Margins have trended downward over the last decade. This is consistent with the fact that many new banks have entered the sector as illustrated earlier. Both Sierra Leone and Liberia have about the same margin while the Gambia hovers near 17%. This is an indication that the banking sector in Liberia is competitive and that financial intermediation is improving.

Table 3.2: Level of Financial Intermediation in Liberia

Source: MSME Division, Ministry of Commerce of Liberia

Financial Institution	Products	Amount	Annual Interest	Maturity	Targets	Collateral Requirement
ACCESS BANK	Micro Loans and SME	$100-$7000 for Micro, $15000 for SMEs	66-72% on NB (micro), 18% for SME	6-15 months	Persons doing business	Yes, + personal guarantee from a 3rd person
AFRILAND BANK	Commercial and Personal	$1000 - $1.5m	10-15% (commercial) 12 – 15% (personal)	Up to 24 months	Registered businesses and employees	Yes, up to 1.5 times value of loan amount. Personal – if above $5000
BRAC MICROFINANCE	Microfinance and small enterprise	Small business: LD$7500-50k, LD$75,000 to 500,000 Microloan: LD$10,000	Small business: 13% flat for 6 months, Microloan: 25% flat for 6 months	Up to 12 months	Women only for microfinance, men and women in small enterprise	No for micro-finance, Yes for small enterprise projects, property mortgage, land deed (formal)
ECOBANK	Consumer loan, import/export financing, contract financing, inventory distributorship financing	Consumer (33.33% of annual salary), Import/export (up to 500k), Contracts (up to 70% of value), Inventory (up to 250k)	12 – 13.5%	Consumer (1-5 years), Import/export (12 months max), Contract (up to lifespan of contract), Inventory (1 year)	Employees, registered businesses	Yes, 1.5 times the value
FIRST INTERNATIONAL BANK	Personal, business, Contract financing, micro-finance, CBL special scheme,	Personal (33.33% of salary), business (10k -1m), Contract (40-90% of value), CBL ($200 – 10k)	11-13.25%, CBL scheme- 6%	3 months – 3 years depending on product	Employees, registered businesses, Liberian-owned businesses-(CBL)	Yes, not required for corporate employees guaranteed by employer
GLOBAL BANK	Consumers, Import financing, contract financing	Consumer ($200 – 35k), Import (up to $1.5m), contract (up to 70% of value)	10% - 15%	Up to 1 year	Employees and registered business	Yes

Financial Institution	Products	Amount	Annual Interest	Maturity	Targets	Collateral Requirement
GUARANTEE TRUST BANK	Commercial, Salary Advance, SMEs	Commercial ($10k minimum), Salary (33.33% of annual salary), SME (n/a)	Commercial (12 -14%), Salary (14%), SME CBL (8%)	Commercial (1 month -2 years), Salary (6 months -2 years), SME (1 month – 2 years)	Registered businesses, Employees, SMEs	Yes, 1.5 times value of amount, No for employee guaranteed by employer
INTERNATIONAL BANK	Commercial, Overdraft, Employees, Auto Loans	Commercial & Overdraft ($1000 - $2,241,000), Employees & Auto (60% of annual salary)	12%, except Auto Loans (15%)	Commercial (1 year), Overdraft (6 months - 1 year), Employees (6-12 months), Auto Loans (1-3 years)	Employees and registered business	Yes, 125% of value of amount
LBDI	Personal, Commercial, Contract Financing, Young Entrepreneur Program, Women Empowerment Program	Personal (33.33% of salary), Commercial ($1000 and above), Contract Financing (80% value of contract), Young Entrepreneur Program ($5k-$50k), Women Empowerment Program ($1k – 5k)	14.25%, in LD 14%	Personal, Commercial (12 months), Contract (duration of contract), Young Entrepreneur Program (1 year), Women Empowerment Program (3 months)	Employees, Registered businesses, Individual Liberian citizens	Yes
LEDFC	Short Term & Medium Term Loan	$10,000 - $1,000,000	12% - 15%	Short (6 months to 2 years), Medium (2-5 years)	SMEs	Yes
LIBERTY FINANCE	Solidarity Group Lending	L$5000 – L$45,000	44.04% per annual NB	4-12 months	Individuals and Business people	No, but will save 10% of loan
UNITED BANK OF AFRICA	Commercial, Personal	$10,000 - $50,000	12% - 15%	Up to 12 months	Employees, Registered businesses	Yes, 1.5 times the value of loan

ACCESS TO DOMESTIC SAVINGS

Gross Domestic Savings in Liberia has trended downward in the post-war era. Domestic savings plays a marginal role as an investment source. The country has shown marked dependence on international financial inflows--Official Development Assistance (ODA) and FDI-- which partly explain the negative performance of savings. As figure 3.9 demonstrates, Liberia performs worst among comparators on the savings metric. Liberia's low rate of savings is the mirror image of large foreign investment, since the excess of gross domestic investment over gross domestic savings equals net inflows of foreign investment[12].

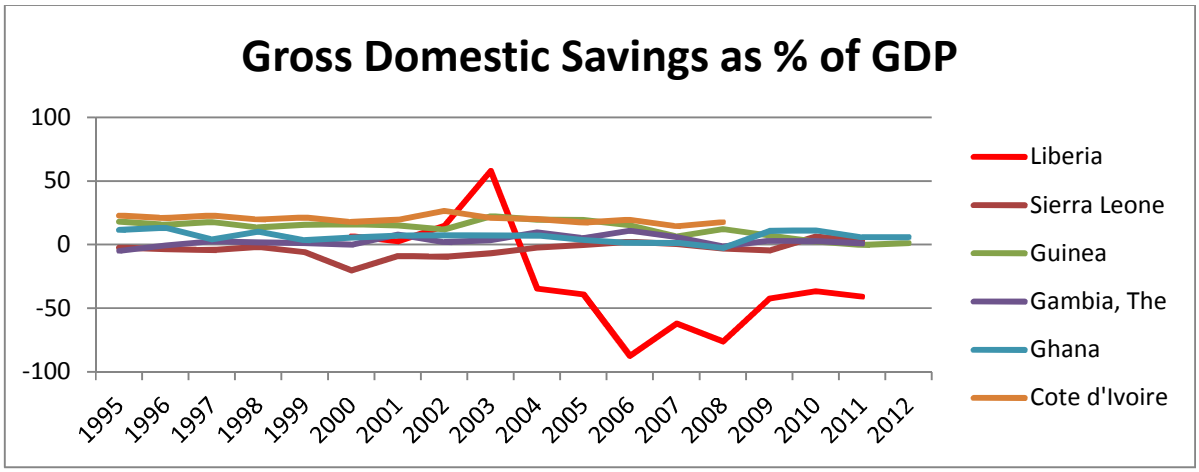


Figure 3.9: Regional Comparison of Gross Domestic Savings, 1998 - 2011
Source: World Bank, WDI

The deposit interest that governs the savings-investment dynamic is about the lowest among comparators as shown in Figure 3.10. The declining deposit interesting rate, the negative savings observed in the previous figure and the large inflows of foreign direct investment do highlight the fact that domestic savings may be playing a negligible role in investment financing in Liberia.

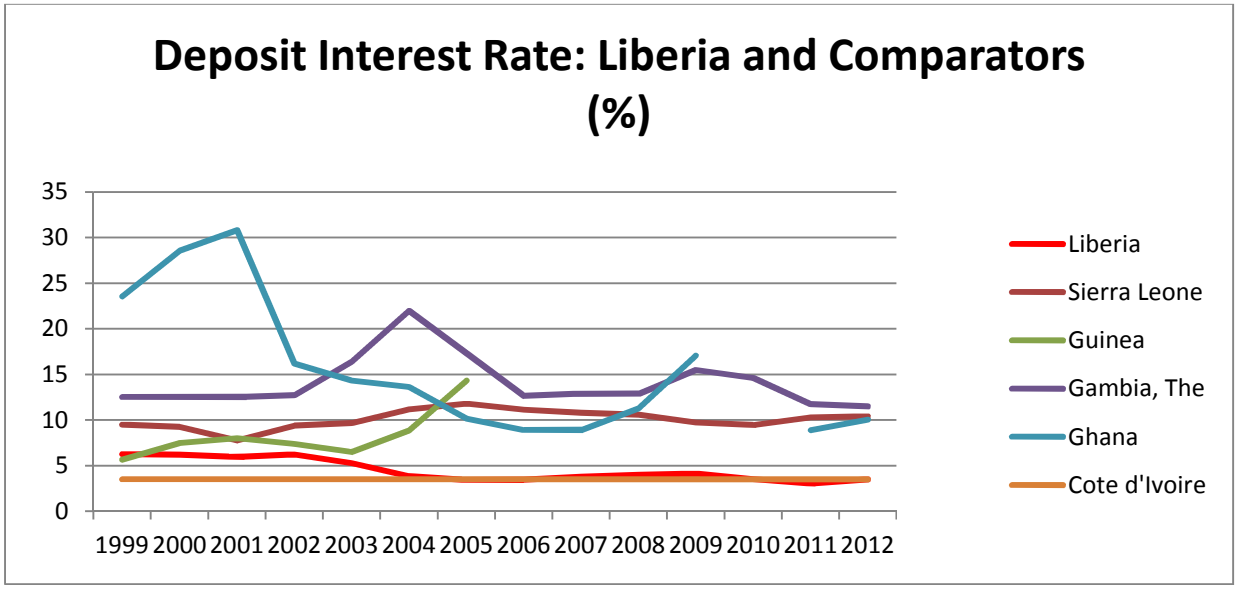


Figure 3.10: Regional Comparison of Deposit Interest Rate, 1999 - 2012
Source: World Bank, WDI

[12] This follows from the National Income Identity. Y=C+I+G+CA, where CA =Current Account or the difference between Exports and Imports. But Savings, S, is the national income that is not consumed: S=Y-C-G. Reorganizing and eliminating C and G gives: S-I=CA.

ACCESS TO INTERNATIONAL FINANCE

To bridge the investment funding gap posed by low domestic savings, countries benefit from external financial sources, both private and official public sources. On the private front, the inflows of foreign direct and portfolio investments enable a country to finance investments, which cannot be funded though domestic markets. Bilateral grants and loans are among sources of funding for countries constrained by low domestic savings. As the previous sections have demonstrated, access to international finance is not a problem in Liberia. Foreign firms have received a marginal 25% of the net total volume of lending as of March 2013. This implies foreign firms rely on international sources, such as Foreign Direct Investment (FDI) or other forms of foreign borrowing.

Figure 3.11 shows that comparatively Liberia has higher net FDI as percentage of GDP, especially after 2002. FDI inflows in Liberia are mainly directed to the extractive sector as was shown in the background chapter. However, in absolute rather than percentage terms, Liberia's net FDI inflows falls below that of Ghana's.

Figure 3.11: FDI as Percentage of GDP: Liberia and Comparators

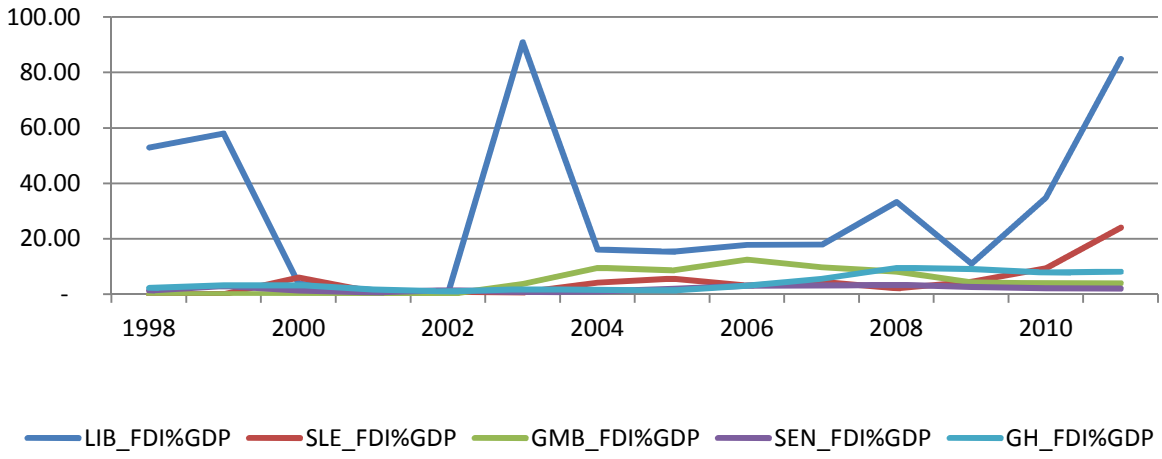


Figure 3.11: Regional Comparison of FDI as a Percentage of GDP, 1998 - 2011
Source: World Bank, WDI

The central conundrum of the Liberia growth story is that flows of FDIs, as impressive as they are, have meant little for non-enclave private investment.

3.4 APPLICATION OF THE PRINCIPLES OF GROWTH DIAGNOSTIC: THE FOUR TESTS

In this section we investigate whether the high cost of finance represents a binding constraint to growth in Liberia. If access to finance is a binding constraint we expect i) the real rate of interest to be comparatively high; ii) reductions in real interest rates to correlate with investment growth, or vice versa; iii) that agents will try to bypass the constraint and iv) firms or sectors less intensive in the finance constraint to thrive relative to firms more intensive.

Test 1: Are the Real Interest Rates Comparatively Higher in Liberia?

The evidence in Figure 3.12 shows that price of capital in Liberia is extremely low relative to low income and lower middle income comparators. This is a signal that the cost of finance may not be a binding constraint. However, the Liberian financial system warrants the examination of other forms of shadow costs in view of the co-existence of low real lending rates and the persistence of the credit constraint.

Economic theory suggests that low real lending rates should be accompanied by high demand for loan. Several factors may affect the demand for loan. One key factor is the term structure of loans. Most firms demand loans beyond five years, since it may take an average of more than three years for many firms

to become profitable. Short term loan are not optimal for business investment and these appear to be the norm in Liberian banking.

The IMF Article IV Consultations has noted that “the supply of time and savings deposits to meet the high demand for long-term financing from sectors such as agriculture, construction, and manufacturing is limited in the current term structure. Most commercial bank deposits are demand deposits, and most of the loans are short-term or overdraft” (IMF Article IV Consultations November 2012).

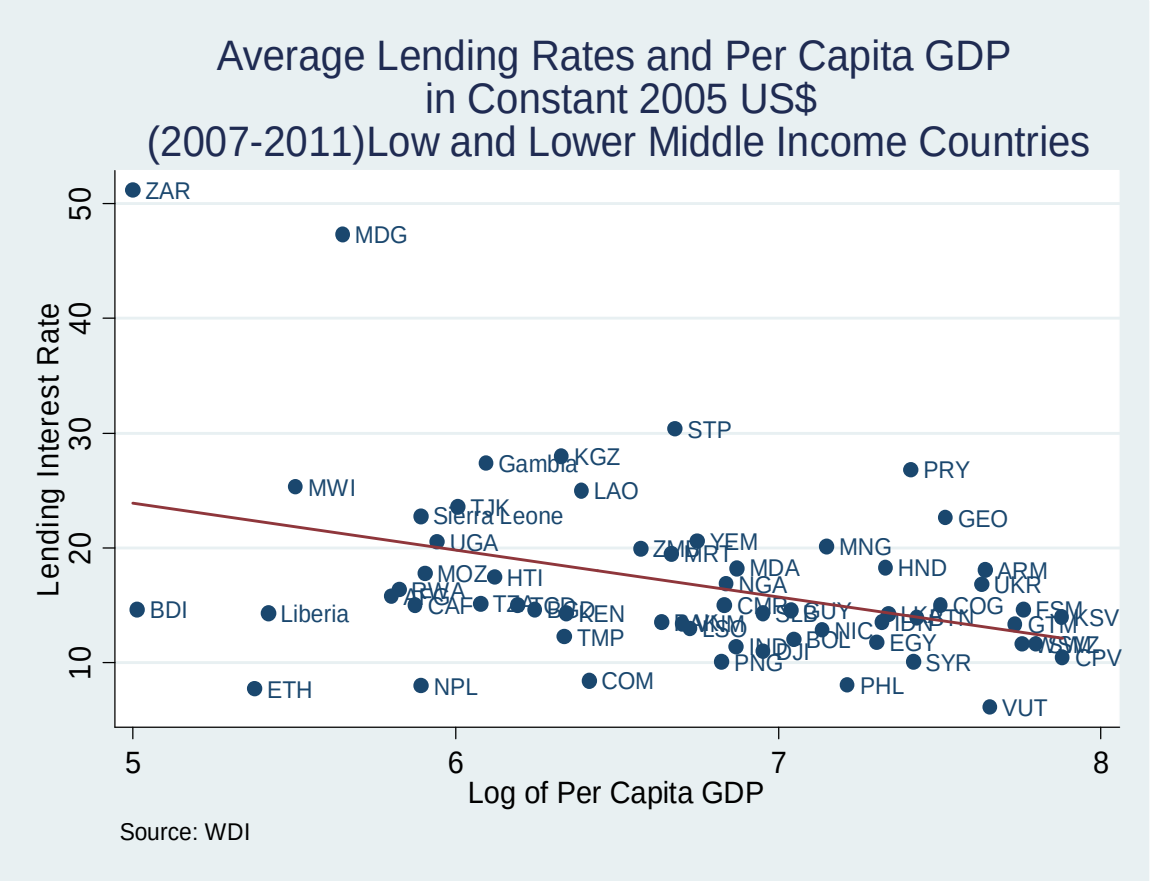


Figure 3.12: Examining the Shadow Cost of Finance
Source: World Bank, WDI

Figure 3.13 illustrates the short term structure of loans in Liberia. The data in the figure represents about 3,758 loans provided by three major banks in the country. The mean nominal lending interest rate is about 12%. As the figure demonstrates, most of the loans in the sample are extremely short term loan, with mean maturity of a little over 2 years. An interesting story emerging from the data is that maturity seems to negatively correlate with lending rates, as longer-term loans-- which are very few in Liberia as shown by Figure 3.13 -- on average seem to have lower nominal interest rates.

The short term structure of loans in Liberia as well as banks’ overall aversion to lending may be related to micro distortions that manifest through risks associated with insecurity of land tenure, contract enforcement and property rights issues. Collateral is a requirement for loan approval and to the extent that land tenure and contract enforcement issues affect the legality and enforceability of collateral, banks may be even less reliant on collateral.

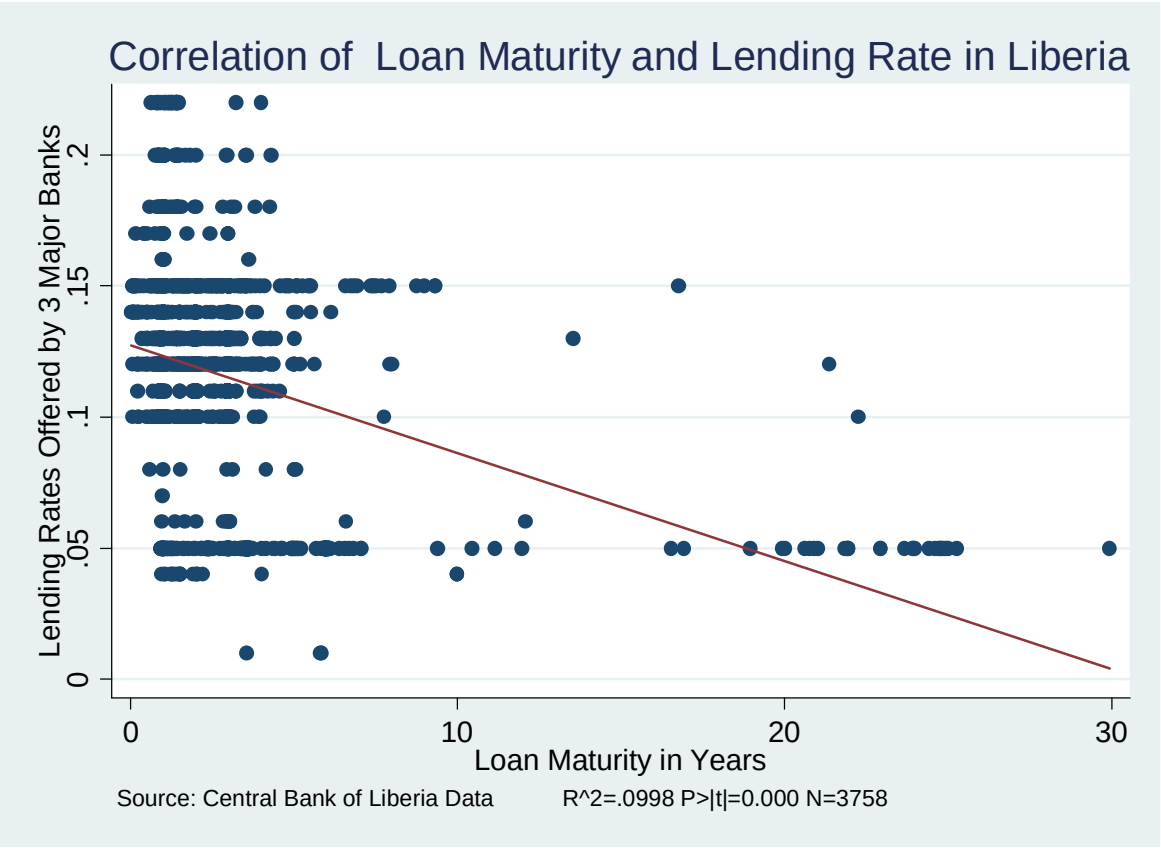


Figure 3.13: Loan Maturity and Nominal Lending Interest Rate in Liberia
Source: Central Bank of Liberia

Some SMEs participating in the roundtable held to inform this analysis reported that they were denied loans even though they submitted collateral (banks are very selective about what collateral they accept). These SMEs identified the high cost of finance as a significant constraint. This cost manifested itself in a number of ways. First, they reported paying high interest rates, which included rates from 12-14% plus upfront loan fees of about 7%. Microenterprises may pay even higher rates at microfinance institutions. Second, they reported that loan tenures are too short, often 12 months or less which imposes a considerable cost in terms of the amount of the loan they must repay in each installment. Finally, SMEs also reported that getting approved for a loan is a very lengthy process, sometimes extending for up to six months, which then prevents them from quickly accessing capital for immediate business opportunities and needs.

It is worth noting that complaints about the cost of finance, which are comparatively low, may be related to firm profitability. If SMEs are not generally profitable, they may view even lower rates as costly. Another view is that SMEs perceive interest rates as high because monthly payments are very high, which is more a factor of tenure than the interest rate.

Test 2: Do Increases in the Availability of Finance through reductions in Real Lending rates lead to Investment Growth?

The evidence presented in Figure 3.14 shows a correlation of reduction in the real interest rate with expansion of private sector credit.

The points on the curve represent equilibrium positions between the demand and the supply of credit. Increases in the domestic supply of credit correlate with reductions in interest rates. This suggests we are experiencing shocks to the supply of credit with the negative relationship indicating a movement along the demand curve. Further reductions in rates do not appear possible. Given that the supply of

credit in Liberia has increased over the period, the story in Liberia may not be the scarcity of credit in which case we should observe a high interest rate.

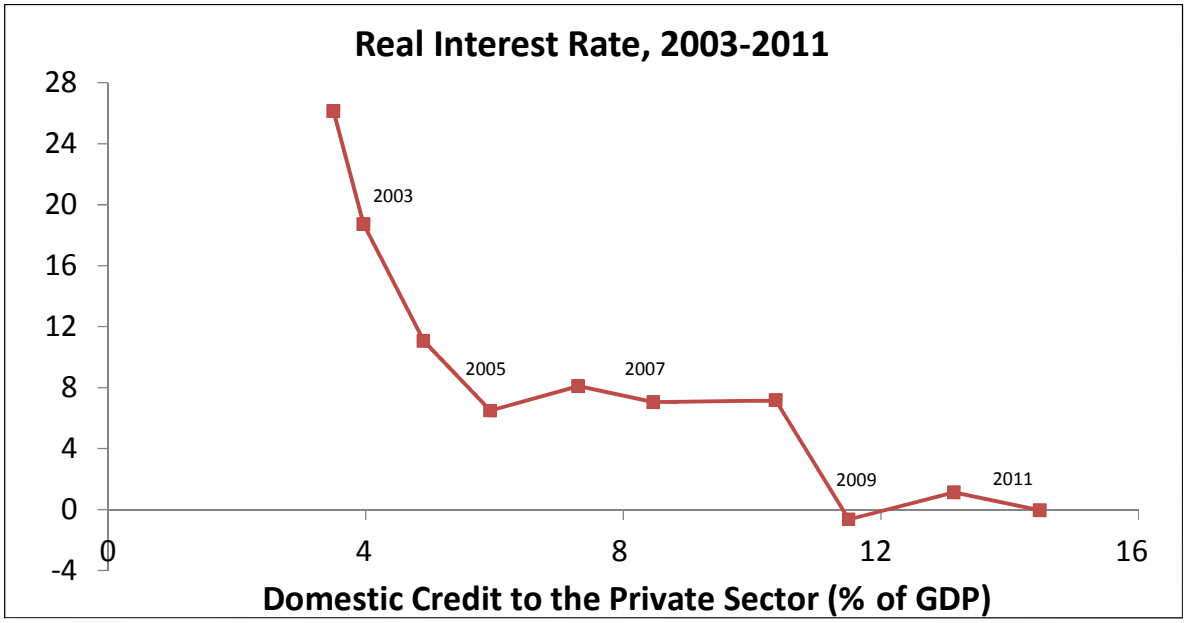


Figure 3.14: Correlation of Reduction in Interest Rate with Credit Expansion

Source: WDI

Volume of Lending

This section demonstrates that the reductions in interest rates observed in Figure 3.14 are largely due to the volume of lending, which has trended upwards over the past several years. Figure 3.15 shows Liberia and comparators on the metric of credit to the private sector as a percentage of GDP. Liberia is generally below all comparators except Sierra Leone and Guinea and by 2011 appears to have caught up with The Gambia. Credit appears to be trending downward by 2012, indicating the severity of micro distortions that will be more fully discussed during the four tests.

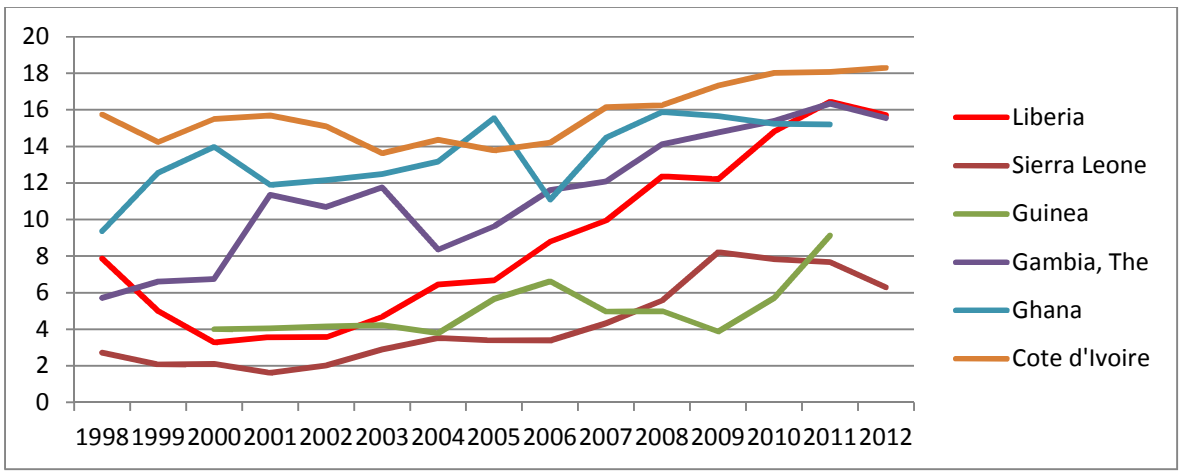


Figure 3.15: Regional Comparison of Credit to Private Sector as % of GDP

Source: World Bank, WDI

Figure 3.16 shows Liberia's credit performance in relation to low income and lower middle income country benchmarks. The figure shows that Liberia is below the average benchmark performance of low income countries but is recording strong performance against the low income average around 2012.

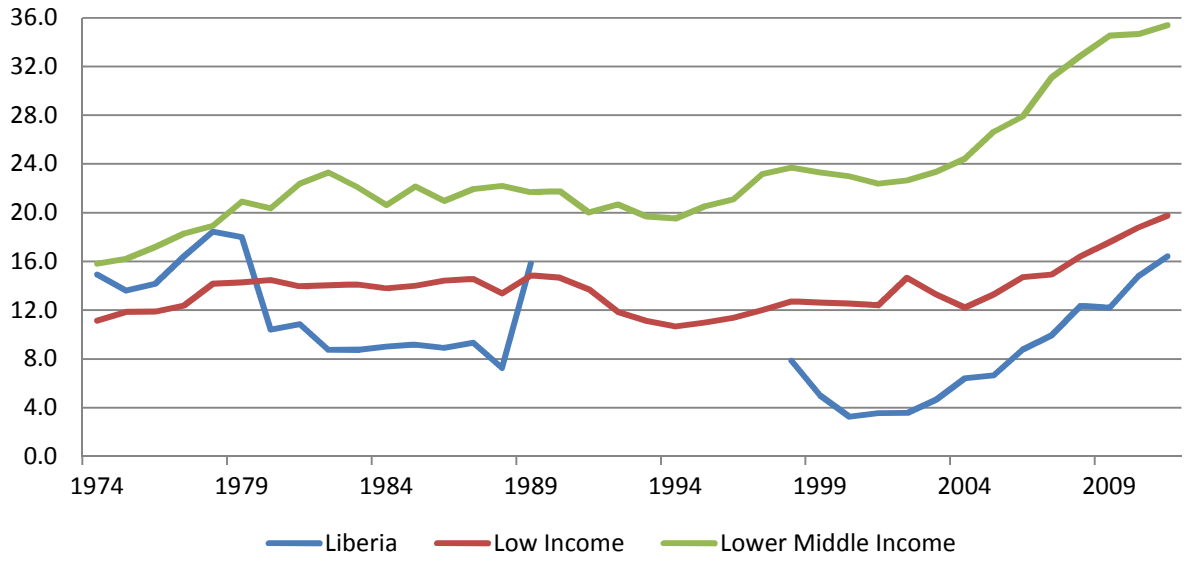


Figure 3.16: Global Comparison of Credit to Private Sector as % of GDP
Source: World Bank, WDI

Figure 3.17 presents a breakdown of total volume of lending by type and size of firm. The figure shows that the expansion of private sector lending has benefited domestic firms disproportionately. Small and medium firms are even at about 30% in their share of total volume of lending as of March 2013.

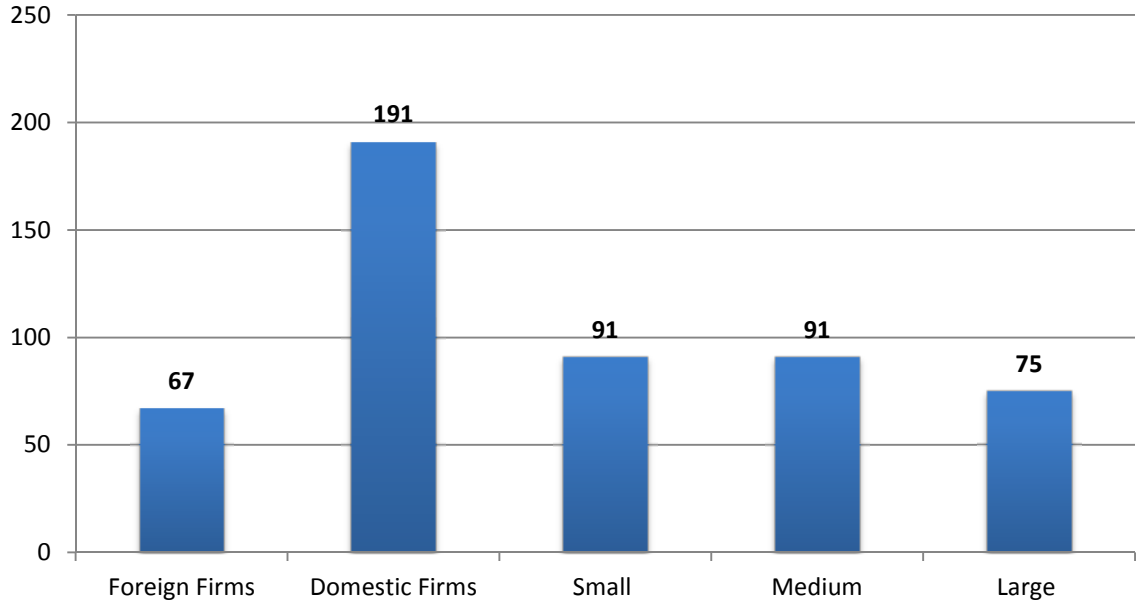


Figure 3.17: Loans as of March 2013, by Type and Size of Firms, in US$ Million
Source: Central Bank of Liberia

Although volume has grown, Liberia's credit performance could be much better, enabling the country to close the volume gap observed relative to comparators, increase private sector investment even further and generate more private sector jobs. What constrains the emergence of these outcomes?

The IMF November 2012 Consultations have noted that " CBL moral suasion, absence of a money market, and banks' capacity constraints in analyzing market liquidity and credit demand all serve to contain lending rates."

CBL moral suasion, which aims to limit the interest rate at which banks may lend, tends to act as a credit rationing device, though not rationing in the sense of Stieglitz and Weiss (1981), in which the interest rate at which credit is rationed is that which maximizes expected returns to banks. This would mean that interest rate that maximizes expected returns for banks in Liberia is somewhere north of the 12% observed in figure 3.13, but is being kept lower by the CBL suasion.

The theoretical credit rationing story essentially suggests there is high demand for loans, but that banks are not willing to lend at higher interest rates borrowers are willing to pay because banks perceive borrowers taking loans at such levels to be risky. This risk perception is particularly true for SME lending. According to banks participating in the private sector roundtables, SMEs are among the riskiest borrowers since they are often new businesses with less experience and may not have a credit history. This issue is exacerbated by the fact that Liberia does not have well established collateral registry, credit rating system or debt enforcement mechanisms and that banks already have a high rate of non-performing loans. A related issue brought up by the domestic SMEs is that corruption in the banks requires either side payments or personal connections to receive loans, further restricting their access to loans.

Credit constraints facing SMEs are exacerbated by the fact the options for collateral are too few in Liberia, forcing a general reliance on land and property collateral. Amid issues and challenges with land governance and property rights, land and property collateral may prove problematic. Banks in Liberia also used inventory of goods as a form of collateral. The president of a major bank in a private conversation noted that his bank prefers property collateral to inventory, though inventory of goods has is also used as collateral. Many SMEs would also not meet the inventory requirement since a buildup of inventory often follows the acquisition of financing. This raises the chicken and the egg dilemma for SMEs in this category

Text Box 3.1: Access to Finance for Smallholders

Access to finance for smallholders constituting majority of rural women remains a major challenge. For example, Access Bank Liberia considers agriculture to be too risky to work with in selecting beneficiaries since crop failure is generally associated with uncertainties about soil and weather condition, which are beyond the control of subsistence farmers, thereby eliminating much of the rural Liberian workforce. For microfinance, they have loaned money to 7,333 women and 4517 men who live in the city (Monrovia) and are engaged in trading. The average loan size is 950 USD at an interest rate of 72% per year or 6% per month. Acceptable collateral for any loan is something worth at least 100% of that loan (i.e. personal item, guarantor, or land deed, for example). The bank works primarily with Monrovia-based businesses and people, marketing itself as the 'micro-finance' bank and indicates that they provide both SME and micro-loans. They have loaned to 132 SMEs with a nearly equal share of women-owned businesses (62 women versus 58 men average loan of 19,000 USD at an interest rate of 18% per year or 1.5% per month.

However, there are lending programs for micro and small enterprises with less stringent rules on borrowing as compared to larger banks who specifically avoid lending to such people. BRAC, an international NGO has two finance programs: one microfinance program that lends to women engaged in micro-businesses only, and requires no collateral in order to be approved. However, the process for BRAC is such that they select a community, and women within it form a group; loans are given in waves to certain women and then they work together to make sure that one another can pay it off in time. BRAC has shown excellent returns on this process, and continue to lend. Another program lends to small businesses that are formally registered, and requires that the owner can at a minimum produce a land title that shows his/her ownership of the area on which the business operates. Without this, BRAC will lend nothing; they only accept formal deeds issued by government. This, they explain, is one of the biggest constraints to lending to small businesses – though there are many who have evidence of a business and property, they will not lend without a deed

While collateral is important the bank president referenced above noted that his bank generally views collateral as a 'backup' but tends to focus more on cash-flows. According to him, firms with strong cash flow performance have tended to acquire loans from this bank. Again, this brings up the chicken and the egg issue. However, the implication is that amid challenges in land and property rights enforcement, banks may aim to bypass collateral complications in favor of indications that a firm is creditworthy. This means that developing adequate credit reference systems, establishing a credit bureau may even go a

longer way to improving access to finance for small firms. The Central Bank maintains a database of delinquent borrowers that ought to be referenced by banks prior to making decisions on loan applications. The extent to banks access this database is unclear.

The reality is that further expansion of credit to the private sector predicates upon the above considerations.

The conclusion of test two is that credit constraint is largely a demand side story but this is NOT because SMEs and many other firms are not demanding loans. We have presented evidence of the high demand for loan for small and medium firms and anecdotes from roundtables suggest a story of high demand. Our conclusion is that this high demand is not being matched because of many micro distortions already mentioned, including but not limited to moral suasion, weak contract enforcement, and the lack of credit reference and collateral registry systems. The expansion of credit in Liberia does appear to depend on a broad relaxation of these interacting constraints.

The IMF notes that some of these changes are happening. The November Article IV consultations notes that "the recent formulation of Liberia's Commercial Code and the establishment of a commercial court were moves championed by the Central Bank towards improving banking sector loan recovery and overall business contract enforcement. To improve access to credit, especially for small borrowers, the Central Bank of Liberia is strengthening the commercial court, expanding the credit reference system and establishing a collateral registry (IMF Consultations November 2012)."

Test 3: Are firms Bypassing Access to Finance Constraints

We use supplier credit to assess the degree to which firms constrained by access to finance would bypass the constraint. Supplier credit is common in the importing/exporting business. Importers who cannot obtain financing from banks may opt instead to receive credit from an exporter with a promise to pay or by collateralizing the imported good. The exporter extending the credit generally charges a fee that is competitive with lending rates. Supplier finance may also be viewed in the context of agriculture, where retailers constrained in access to finance, and whose products – fertilizers, seeds, cassava -- cannot be collateralized under existing prudential rules governing credit, may benefit from trade credit of some sort to finance their business.

Table 3.3: Proportion of Investment Finance by Supplier Credit

Source: World Bank, Enterprise Surveys

	Firm Size		
	Small (5 –19)	Medium (20 – 99)	Large (100+)
Liberia	**0.7**	**1.8**	**0.7**
Sub-Saharan Africa	3.3	4.3	5.3
World	4.4	5.3	4.6

Use of supplier credit is lower among businesses in Liberia, though it is also generally low in Sub-Saharan Africa. One caveat in using this test is that the mechanism of supplier credit may not be as developed in Africa and Liberia as it is in other regions. This may explain the low level of reliance on supplier credit as an alternative source of financing, undermining the strength of the evidence presented in test three. Another reason why supplier credit may be low in Liberia is that key sectors such as agro-processing where the mechanism is commonly used are not as developed in Liberia. A third factor may be due to the profitability of firms and sectors. Those extending the supplier credit usually have an expectation that the borrowing firms will succeed. Where perception of this probability of success is negative and risky, creditors may be wary of venturing along the supplier credit route. A fourth factor may be that firms may not be accessing alternative sources of finance because of the fear of rejection and the lack of information about alternative sources.

We do note however that some framework of supplier credit exists in Liberia as evidenced by the few firms who are using it to bypass the finance constraint, which is shown in Table 3.3. We expect to see firms constrained in their access to finance explore alternative means to financing investment. That we do not observe a significant effort overall is revealing.

However, some evidence of bypassing by micro enterprises exists and tend to predominantly be in the informal sector. One way they bypass is through what are called *susu*s, which are savings and loan clubs, in which entrepreneurs pool savings and loan them out to members of the group. Other strategies mentioned in the roundtables were using income from a second job to fund the business and going to MFIs, which in some cases offer loans that are too small and/or considerably more expensive than commercial loans. During the roundtable consultations, a number of SMEs indicated that they just don't use external finance or even apply for loans because they don't think they will be approved since finance is perceived as being very difficult to access.

We do not find compelling evidence to conclude that firms in Liberia are bypassing the constraint, and therefore based on available evidence presented above, we conclude that firms do not seem to be bypassing the access to finance constraint.

Test 4: Are firms least intensive Thriving Relative to Firms Most Intensive in the Credit Constraint?

The final test is intended to determine whether firms less intensive in the constraint are thriving relative to firms more constrained. It can easily be argued that large firms, who report in the Enterprise survey, are less constrained by finance as demonstrated in the human capital chapter, are generally more profitable than small firms who view access to finance as a major constraint.

According to Figure 3.18 the two sectors that received the least share of commercial loans were agriculture and manufacturing, while services such as trade, hospitality, construction, and transportation accounts the largest share of commercial loans. Figure 3.19 shows that the highest growth rate is among the same sectors that accessed the largest share of loans, namely the service sector. On the other hand, the agriculture and manufacturing sectors which accessed the smallest share of commercial loans showed the lowest growth rate.

This test suggests that firms less constrained in access to finance appear to be thriving relative to firms more constrained.

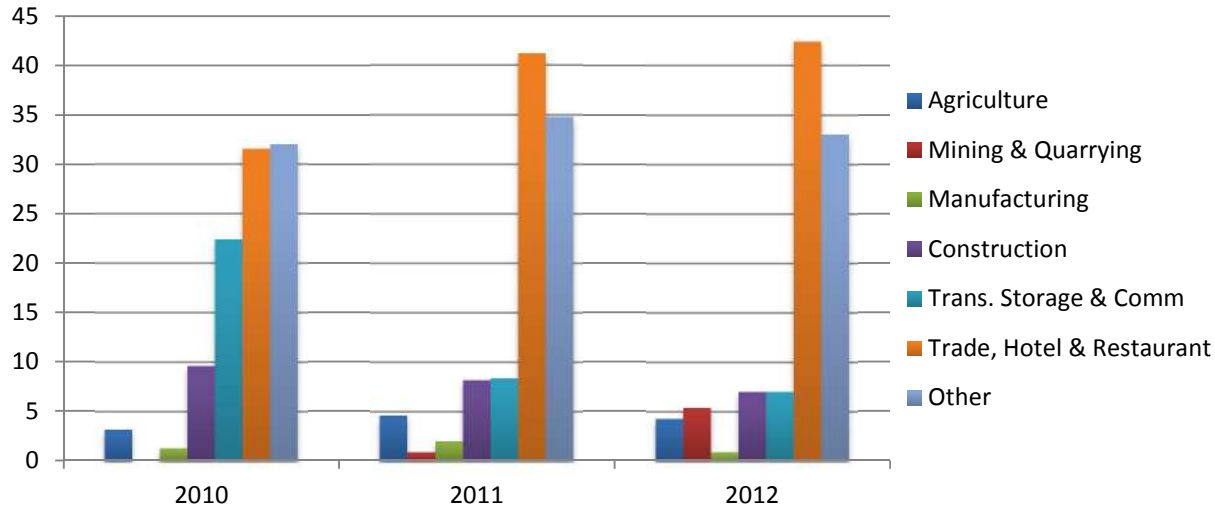


Figure 3.18: Share of Commercial Loans by Economic Sector, 2010 – 2012
Source: Central Bank of Liberia

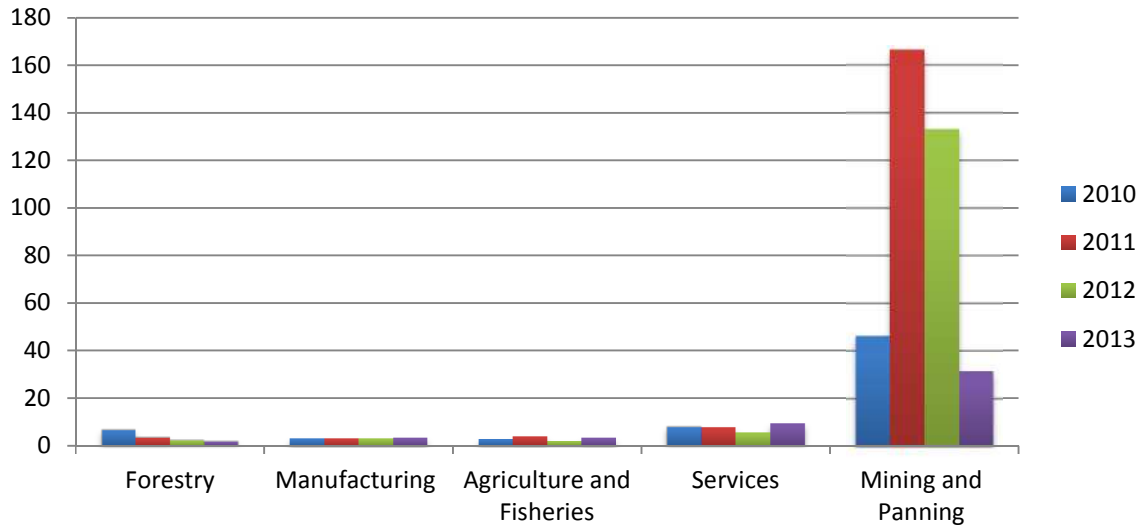


Figure 3.19: Growth Rate of Sectorial GDP, 2010 – 2013
Source: IMF 2012 Article IV Consultations Paper and previous IMF Papers

3.5 CONCLUSION

The evidence considered in this section leads to a conclusion that the high cost of finance is not a binding constraint to investment growth in Liberia. However, while it does not rise to the level of "binding," it does appear to be a major constraint to growth, especially for SMEs.

From the evidence reviewed, it is clear that Liberia has an underdeveloped financial system in which commercial banks must mitigate high risks by limiting their lending activities to mainly short-term trade credit. These risks include poor contract enforcement, insecurity of land tenure as it affects quality of property-based collateral, lack of credit references, and the lack of established borrower-lender relations. These risks mostly manifest themselves in the inability of borrowers to provide collateral for loans and the inability of lenders to foreclose on borrowers in default.

While we argue that effects of finance appear to be magnified through micro distortions in contract enforcement, insecurity of land tenure, and the lack of a credit reference system, all of these factors and constraints interact to amplify the effect credit constraints have on small and medium firms. Strengthening the commercial court, for example, so that it hears more cases than it currently does, resolving the ambiguities and irregularities in the country's land tenure system, improving the overall quality of regulatory governance and/or improving the quality of infrastructure may reveal the true constraints that hamper small and medium firms.

4 DO MACROECONOMIC RISKS AND DISTORTIONS POSE A BINDING CONSTRAINT TO GROWTH IN LIBERIA?

Liberia has witnessed an impressive period of post-conflict macroeconomic stabilization, but significant risks remain and are likely to continue to develop, particularly as the economy expands through the export of natural resource-based commodities (IMF 2012, World Bank 2012).

Macroeconomic distortions can constrain growth through two broad channels: either by reducing the profitability of investment projects and/ or by reducing the appropriability of returns (Hausmann et al. 2008, Tunisia MCC constraints analysis 2013).

The profitability of an investment project can be affected by a characteristic of macroeconomic policy or the broader macroeconomic environment. For example, excessive budget deficits can lead to domestic borrowing by the government which pushes up interest rates and increases the cost of finance. Similarly overvalued real exchange rates can make exports and import-substitution uncompetitive, and sustained inflation can increase the costs of doing business.

The perception of the appropriability of returns from an investment project can be affected by the likelihood investors or entrepreneurs attach to the risk of a macroeconomic crisis. Such crises might be in the form of a burst of rapid inflation, sudden devaluation of the currency, or financial sector distress, any of which could reduce the returns to an investment that can be recouped – and therefore expected ex ante – by an entrepreneur or investor.

This chapter asks whether the hard-won macroeconomic stability that Liberia is experiencing is expected to continue, what risks are on the horizon and whether any of them are sufficient to warrant being considered a binding constraint to growth.

4.1 GROWTH TRENDS

Liberia's recent growth performance has been on par with West African comparator countries and is expected to stay close to the regional average over the coming three years, with growth between 5 and 8 per cent.

GDP growth has been driven by the expansion of agriculture, services and, particularly from 2011 with the recommencement of iron ore exports, mining and panning. Manufacturing still makes up a small proportion of the Liberian economy and is unlikely to contribute significantly to output growth in the near future.

Table 4.1: Real GDP Growth Rate Comparison, by Percent, Year on Year

Source: World Economic Outlook and IMF ECF First Review

	2010	2011	2012	2013*	2014*	2015*	2016*
Côte d'Ivoire	2.4	-4.7	8.1	7.0	7.3	7.5	7.6
Gambia	6.5	-4.3	3.9	8.9	8.5	6.5	5.9
Ghana	8.0	14.4	8.2	7.8	8.1	7.4	7.5
Guinea	1.9	3.9	3.9	4.5	5.2	5.4	5.8
Liberia	6.1	8.2	8.3	7.5	5.3	7.5	5.3
Sierra Leone	5.3	6.0	8.3	7.5	13.0	4.9	4.9
SSA average	5.4	5.3	4.8	5.6	6.1	5.9	5.7

4.2 FISCAL BALANCE AND PUBLIC DEBT

Following the end of the civil conflict, the newly elected government pursued debt relief through the Heavily Indebted Poor Countries (HIPC) initiative. Crucially this meant running a cash-based balanced budget right up until HIPC completion point in 2010. Debt forgiveness and restructurings, including 100% debt forgiveness from the Paris Club members, saw the external debt stock fall from US$4.9 billion in 2007 (424% of GDP) to US$290 million at end-June 2013 (15% of GDP).

From 2010 Liberia was in a position to borrow again. In fiscal year (FY) 2011/12 the government ran a fiscal deficit of US$73.3 million (4.5% of GDP). The deficit for FY2012/13 is expected to moderate to US$40 million (2.2% of GDP). As access to financing increases, larger deficits are anticipated. The draft budget for FY2013/14 includes financing in FY2013/14 and again in FY2014/15 of US$150 million (7.1% and 6.2% of GDP respectively). This will be used to finance increases in capital spending and reflects the implementation of the government's poverty reduction strategy.

Deficits of this size are not out of sync with recent experience in Ghana or Sierra Leone, where cash deficits were 7.2 per cent and 5.1 per cent of GDP in 2010 respectively, and will also abide by the governments own fiscal rules governing borrowing (including that the debt to GDP ratio remain below 60%) and the agreement with the IMF under the Extended Credit Facility. The IMF Article IV published in November 2012 concluded that "Liberia continues to have a low risk of debt distress" (IMF 2012).

Post-HIPC central government has borrowed only a limited amount via domestic financial markets. In May 2013 Liberia issued its first Treasury bills, L$149 million (US$2 million) at a sub-Saharan Africa record low of 2.22% for 3-month notes, followed by a further US$3 million in Treasury bills and US$10 million in syndicated loans from domestic commercial banks in June 2013. The limited size of domestic debt issuance against the available liquidity in the market suggests there will be minimal impact on domestic interest rates and therefore little risk of crowding out at this time.

Revenue growth remains strong, if lumpy, due to one-off concession revenue related to iron ore extraction and oil exploration. The FY2013/14 draft budget expects core revenue to grow by 7.1% in FY2013/14 and is assuming zero contingent revenue in order to minimize uncertainty in the resource envelope. Particular risks lie around budget execution, including the ability of the government to deliver on planned capital expenditure; slow procurement and the risk of fraud during the procurement process continue to provide challenges. Strengthening the public investment cycle therefore remains a priority to ensure public spending is converted into productive capital. This has been recognized by the government; the establishment of the Project Management Office within the Ministry of Finance and launch of the Liberian Development Alliance offers opportunities to coordinate around key infrastructure projects and support line ministries and agencies more directly.

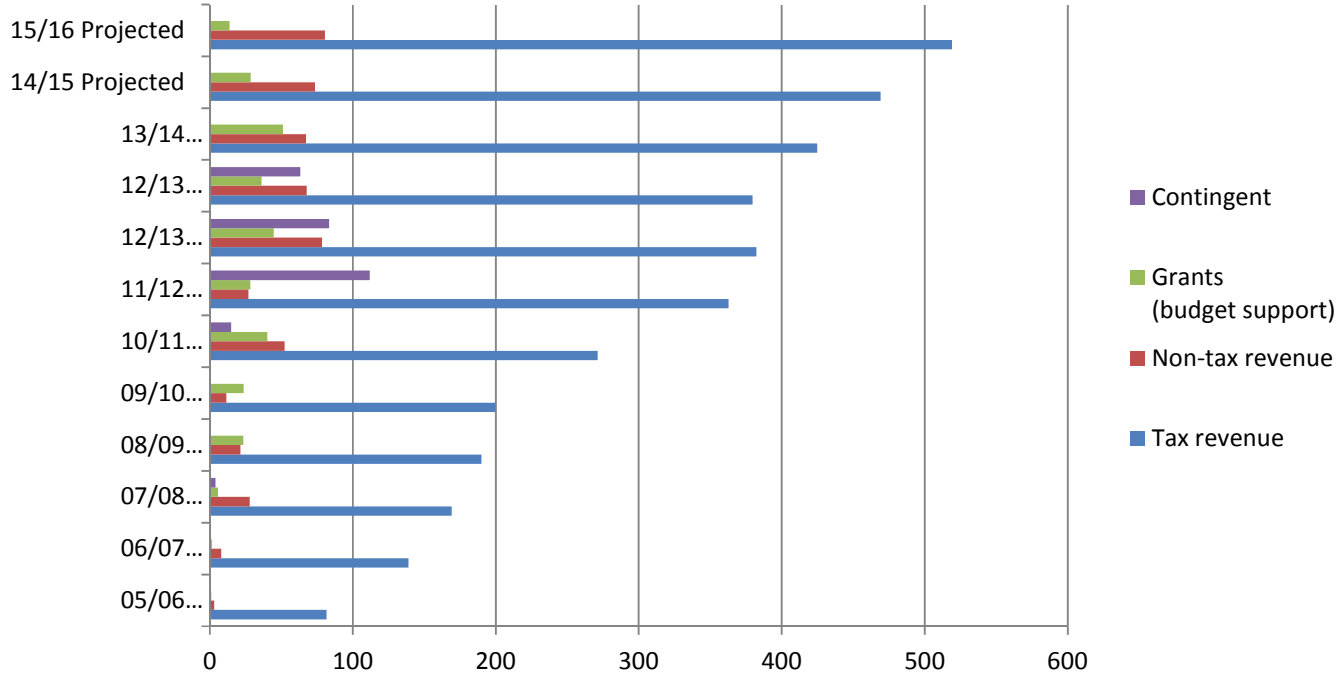


Figure 4.1: Core and Contingent Revenue FY 2005/06 – 2015/16, in US$ Million

Source: Fiscal Outturns and FY13/14 Draft Budget, Ministry of Finance

4.3 MONETARY DEVELOPMENTS: INFLATION AND EXCHANGE RATE

Faced with limited monetary policy tools and a heavily dollarized economy (73.5 per cent of broad money is US$ denominated as of end-March 2013), the Central Bank of Liberia has pursued a policy of price and exchange rate stability, targeting the exchange rate and maintaining a managed float. This has been broadly successful.

Inflation in Liberia has been volatile in the past, but this is in large part a reflection of the fact that inflation is largely driven by imported goods, particularly food and fuel. Over the last three to four years consumer price inflation has moderated, with end-of-period averages in the single digits and close to the average for a sample of West African countries.

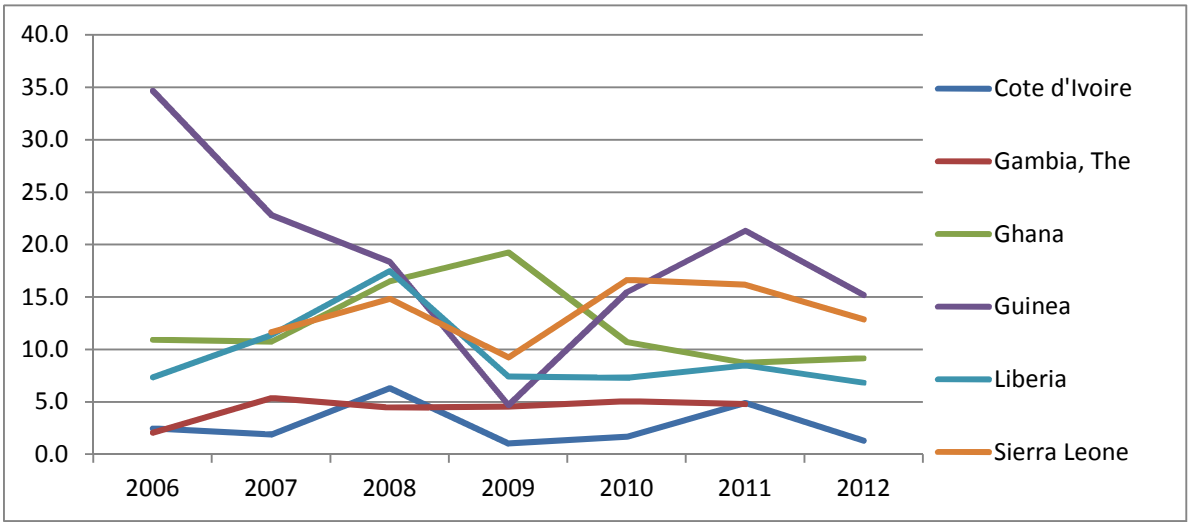


Figure 4.2 Consumer Price Inflation (annual percent)

Source: World Development Indicators

The nominal exchange rate has remained stable, particularly in comparison to a sample of West African countries, reaching L$75.6 to US$1 (monthly average) as at end-May 2013 and averaging depreciation of less than 5% per year over the last three years, though it has come under increased pressure more recently. However, the real effective exchange rate has appreciated close to 25 percent since mid-2008 reflecting higher domestic inflation, particularly food and fuel prices. The negative consequences and risks associated with this are discussed below, with reference to *Dutch disease.*

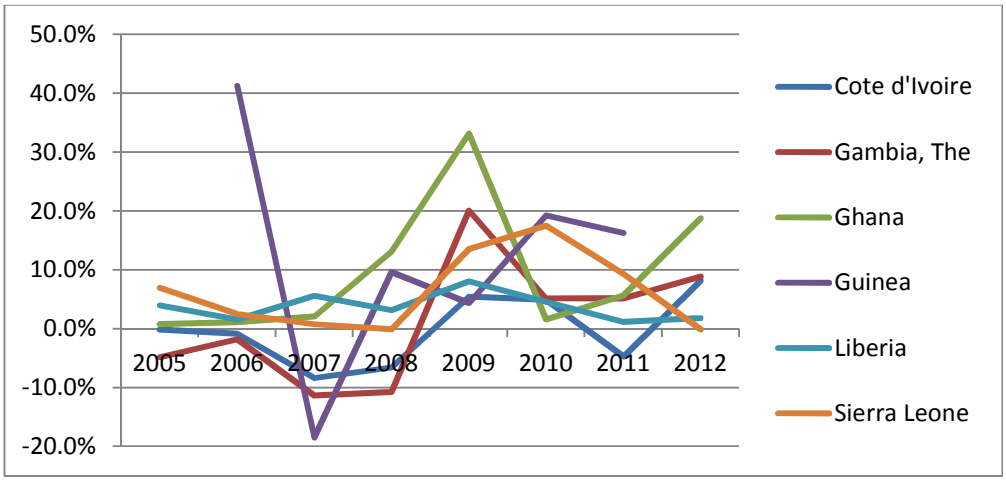


Figure 4.3 Annual Change in Nominal Exchange Rates (%, year on year)

Source: World Development Indicators

EXTERNAL SECTOR DEVELOPMENTS: BALANCE OF PAYMENTS, SHOCKS AND INTER-INDUSTRY DISTORTIONS

The external current account deficit relative to GDP is large in Liberia, even compared to most other West African countries. But this is driven largely by capital inflows related to aid, UNMIL, remittances and foreign direct investment (FDI), rather than by unsustainable domestic consumption. There is therefore no immediate concern about the build-up of external private debt.

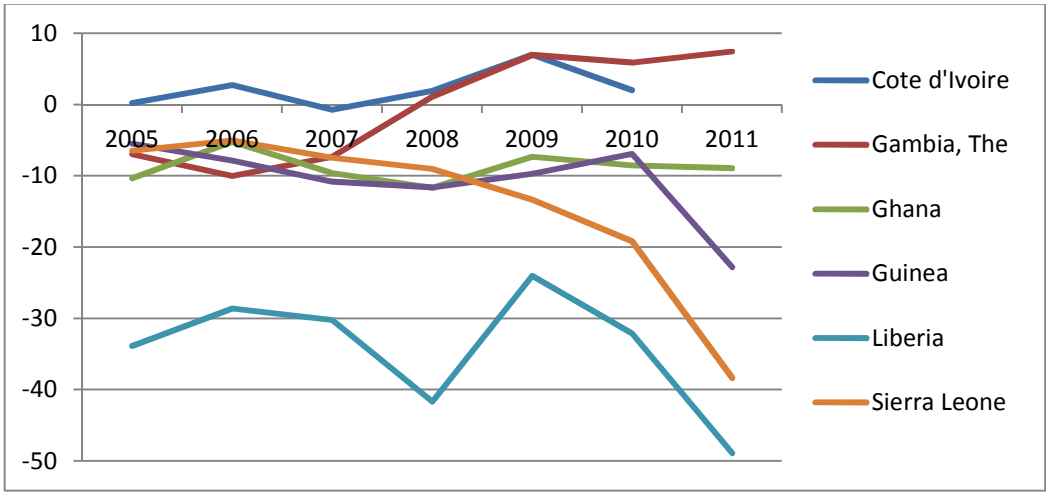


Figure 4.4 Current Account Balance (percent of GDP)

Source: World Bank, World Development Indicators

The current account deficit is expected to widen further in 2013 and 2014 owing to investment-related imports, and then narrow over the medium term as these imports unwind and exports rise. Reserve coverage by the CBL is expected to remain stable—albeit low—at about 2½ to 3 months of imports.

The external sector remains a particular cause for concern, however, due to the risk of spillovers from the rest of the world and due to the medium-term effects of large capital inflows and natural resource rents, often termed 'Dutch-disease'.

Liberia is heavily dependent on imports, particularly for food and fuel. At the same time, the export base, while growing, is undiversified and with little or no value addition, confined to a small number of commodities: iron ore, rubber, palm oil, logs, gold and diamonds.

This makes Liberia susceptible to both aggregate demand shocks via the export market and aggregate supply shocks via changes in price of key imports. While the perception that these shocks may reduce profitability in the future could deter investment, they are really a symptom of wider weaknesses in the Liberian economy – limited export diversification and reliance on imported essential goods.

Of greater concern is the likelihood of reduced profitability of certain domestic firms and distortion in the Liberian economy as a result of a *Dutch disease*-type effect. Earnings from natural resources, plus significant capital inflows from aid, UNMIL, remittances & FDI result in additional spending on local non-tradables, even in the presence of partial dollarization. This then pushes up domestic prices, evidenced in part by the real exchange rate appreciation, which affects input costs for domestic businesses, and encourages a shift into non-tradable production. Over the medium-term, this could have the effect of discouraging growth in import-substituting and export industries.

The underlying issue is one of competitiveness of local firms in the international market and as such, to address the causes of Dutch disease (and counteract any real exchange rate overvaluation), improvements to cost competitiveness are needed. However, due to the high degree of dollarization, which limits the impact exchange rate devaluation can have, this will need to come through increased productivity and lower domestic costs, perhaps by addressing structural bottlenecks such as energy and transport costs (IMF 2012).

4.4 CONCLUSION

Liberia currently has a stable macroeconomic environment that has been hard-won through government discipline and sound oversight by the Central Bank. A number of risks are appearing on the horizon, but based on this analysis they do not yet pose the most binding constraint to either the profitability or appropriability of private investment.

The fiscal deficit is expected to grow larger as more sources of funding become available, but this expenditure will be focused on public capital accumulation and, even where domestic borrowing takes place, this is not expected to crowd-out private investment by forcing up interest rates. The threat of a debt related crisis remains small, with the government's debt management strategy in place and IMF analysis (IMF 2012) stating that debt levels remain sustainable.

The current account deficit may also continue to widen, but this is not in and of itself a negative phenomenon and, particularly where related to FDI, will help enhance the capital base of the country, rather than contribute to unsustainable current consumption.

In the medium term, significant risks are likely to stem from distortions to the economy from the *Dutch-disease*-type effect (inadequate import substitution and slow development of export industries). However, poor competitiveness is in large part a consequence of broader structural weaknesses in the economy which are not a macroeconomic issue, per se, but related to high production costs in Liberia. Part of the solution therefore points towards addressing these other weaknesses first, in order to boost the competitiveness of Liberian businesses, suggesting that other factors are likely to be more binding constraints to investment and growth.

5 DO MICRO RISKS POSE BINDING CONSTRAINT TO LIBERIA'S GROWTH?

As explained by Hausmann et al in the Growth Diagnostic Mindbook, investment may be constrained through two broad paths: the path through which the high cost of funds discourages investment and that through which the expected returns to private investment are low. The conclusion of chapter three is that the cost of finance is not a binding constraint to growth in Liberia and that credit constraints are primarily affected by micro risks such as land access, weak contract enforcement, poorly defined property rights, corruption and the quality of governance. These micro risks affect the ability of firms to appropriate private returns, for which there may be low return on investment.

Corruption underpins many of these micro risks and has been shown to affect growth and economic outcomes in myriad ways. Maura (1998) finds a negative correlation between corruption and government spending on education as a ratio of GDP. Lui (1999) presents a theoretical model in which corruption, specifically rent-seeking activity, diverts resources away from other growth activities such as production and investment in human capital.[13]

Such findings have resonance for Liberia where corruption of the public education payroll is reportedly priced at above US$ 15 million per annum, a vast opportunity cost in terms of upgrading of school facilities or the quality of instructional staff. Such a price tag may be high in light of Liberia's significant human capacity challenge.

The persistence of micro distortions in Liberia partly anchors in the country's history of autocratic governance. The decades prior to conflict were ones of weak institutional governance that witnessed the formative stages of predatory exploitation of business. Robert Clower et al describe in "Growth without Development" the impact of this predation on smallholder agriculture during the 1960s. The authors report that swarms of government officials would wade into the hinterland and expropriate farm produce from locals on account of their status and power. Generally dreading the influence of these officials, locals normally cooperated and brought rice, cassava, plantain and hunted meat in abundant supply. These predatory practices may have derived from the fact much earlier locals had to pay their 'hut taxes' in kind: rice, coffee, cane juice, palm oil or other products (Van der Kraaij, the Open Door Policy of Liberia, 1983 page 300).

What becomes clear is that for much of Liberia's history a symbiotic relationship appears to have developed between business and rent-seeking political elites, with the former dumping largesse on the latter in exchange for business favors and protection. Van der Kraaij records that in 1976 the Justice Minister described as 'bona fide error' a diamond mining company's illegal occupation of more than 4,000 acres of land belonging to another company, which was made possible by the connivance of a government official (Van der Kraaij, page 148). Dr. Amos Sawyer in "Beyond Plunder: Toward Democratic Governance in Liberia" notes that during the late 1990s, "[m]onopolies dominated the economic strategies of the Liberian government under [President Charles] Taylor and the personal stakes of the president and his circle of friends and advisers were indistinguishable from those of the state. Fuel and rice import was controlled by Lebanese associates of Taylor (Sawyer, 2005). William Reno, in "Anti-corruption Efforts in Liberia: Are They Aimed at the Right Targets?" writes that "[a]s the organization of corruption in Liberia shows, the relationship of the networks of patronage, personal trust and insider commercial collusion with the state and the world economy can shape actual policy outcomes."

The cessation of conflict in 2003 appears to have turned a corner in Liberian governance. A new emphasis on good governance and institution building became the norm at both the urging and insistence of the international community which played a vital role in brokering and funding Liberia's peace. This thrust on governance is in recognition of the role the absence of institutions and the lack of transparency may have played in plunging the country into war. A series of anti-corruption public

[13]Referenced through Canfield, Katherine 2011: "Estimating the Effects of Corruption on Educational Outcomes in the Indian Public Schooling System"

finance legislations has emerged in the span of the last 10 years since the end of conflict. These include the PPCC Law, which aims to level the playing field among businesses competing for government contracts; the Public Financial Management (PFM) law, which looks to restrain fiscal recklessness and sustain macro-economic fundamentalism; the Anti-Corruption Law, which brought the LACC into existence; and the Commercial Code that created the first Commercial Court looking to improve and expedite debt litigation, among many other impressive pieces of reforms. Additionally, the GoL passed a FOI legislation and is looking to pass the Whistle Blower Act, which will protect individuals who report corruption.

What have all these reforms meant for business investment in Liberia? Have they reduced the impact of micro distortions or do we see a persistence of micro risks?

The conclusion of this chapter generally leans toward the latter. The chapter finds access to land--acting through insecurity of land tenure-- and weak contract enforcement to be binding constraints to investment growth. It finds corruption to be a major risk for business investment that cuts across and undergirds the binding micro constraints. The logic of this treatment makes a distinction between concrete inputs into the production process and the institutional and environing contexts of output generation. Firms need land, capital or infrastructure as direct input into production. Firms pay taxes and highly distorting taxes may discourage firms from doing business in a particular country. Firms have to operate in a predictable environment in which rules mean the same thing to everybody. We apply the growth diagnostic framework on these productive inputs.

The rest of the chapter is organized as follows. We survey the institutional contexts in which firms in Liberia have to operate. These include the level of political stability, without which businesses would shut down, the rule of law, which if weak or lopsided, might lead to political instability, the effectiveness of government in lowering disincentives or distortions to business through quality regulation and the government's ability to control corruption. We then discuss and four-test the more direct inputs into production: contract enforcement, access to land and taxation. We consider concessions management and the risks these pose to growth and revenue generation, which has implication for public infrastructure financing, a major concern for firms. We then consider market access, barriers to trade and examine other risks to businesses such as unionization and wage rates.

5.1 POLITICAL STABILITY

Political Stability, measured as low prevalence of political violence or terrorism, is critical for investment and growth. A stable political environment with minimum disruptions to business activities is a necessary condition for economic development and growth. Copious references have been made throughout this analysis to the impact the lack of stability, via Liberia's violent civil war, has had on business. Critical electricity infrastructure, such as transmission and distribution lines, were destroyed and looted during the war. Bridges, roads and water and sanitation infrastructure were also seriously affected. The absence or dilapidation of many of these infrastructures has imposed a staggering cost on firms operating in post-conflict Liberia, in many cases limiting their ability to expand and hamstringing employment possibilities. Continued postwar investments in Liberia depend on maintaining a stable political environment.

Figure 5.1 shows Liberia and comparators along the World Governance Indicators (WGI) tracking on political stability and the absence of Violence /Terrorism (PV).[14]

[14] According to the WGI methodology document, "the WGI consist of six composite indicators of broad dimensions of governance covering over 200 countries since 1996: Voice and Accountability, Political Stability and Absence of Violence/Terrorism, Government Effectiveness, Regulatory Quality, Rule of Law, and Control of Corruption. These indicators are based on several hundred variables obtained from 31 different data sources, capturing governance perceptions as reported by survey respondents, nongovernmental organizations, commercial business information providers, and public sector organizations worldwide." Because the WGI aggregates overs scores of many other indicators, we employ it as a standard measure to compare countries along the above six dimensions.

The WGI PV indicator captures perceptions of the likelihood that comparators profiled will be destabilized or overthrown by unconstitutional or violent means, including politically-motivated violence and terrorism.

The PV score estimates, as do estimates for the other five dimensions, range from -2.5 to 2.5, with 2.5 being the highest score attainable.

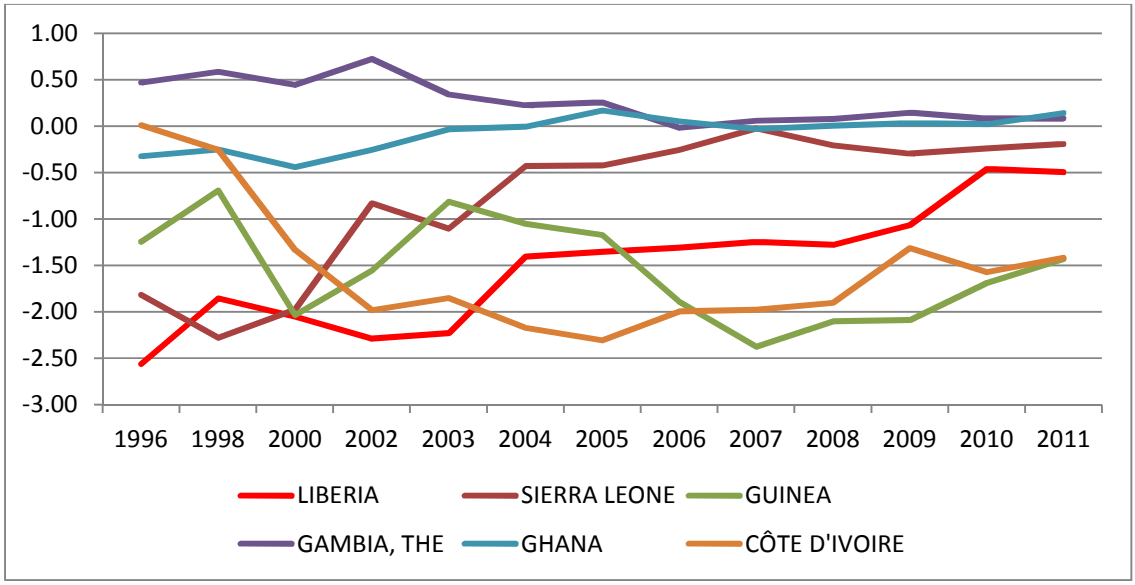


Figure 5.1: Regional Comparison of Political Stability and Absence of Violence/Terrorism Index, 1996 - 2011

Source: World Bank, World Governance Index (WGI)

As expected, perceptions of Liberia's performance on this indicator have negatively correlated with flare-ups and declines in political violence over the period, with perceptions significantly improving since the signing of the CPA in 2003, which ended Liberia's conflict. As of 2005, the year of watershed general elections, Liberia's performance is stronger than that of Guinea and Cote d'Ivoire, which have had flare-ups in political conflict since then. Liberia has generally trended below Sierra Leone, Leone but the gap between the two countries has narrowed significantly, reflecting the absence of violence over the past ten years, which was the hallmark of recent celebration in Liberia.

Liberia's performance appears to correlate with sustained GDP growth since 2003 and with net flows of FDI, an indication of investor confidence in the current level of political stability, though challenges remain. The current drawdown of the peacekeeping troops of the UNMIL, which has managed Liberia's peace since the cessation of hostilities, may be a cause for concern. However, national efforts to strengthen the capacity and capability of the national police and other security structures to fill the UNMIL gap are proceeding apace. The AfT projects an investment north of US$316 million in the security sector over the 2012-2017 fiscal cycles.

Figure 5.2 shows Liberia and comparators along relevant crime and security indicators. Liberia is about the same level as Sierra Leone on proportion of firms paying for security and is below the Gambia, which shows more than 70% of firms paying for security. On the important indicator of security costs as a percent of annual sales, no significant difference appear to exist between all comparators. About 26.8 % of firms in Liberia perceive crime, theft and disorder as a major constraint, which is lower than Guinea's 30.4% and significantly below the Cote d'Ivoire's 53.8%.

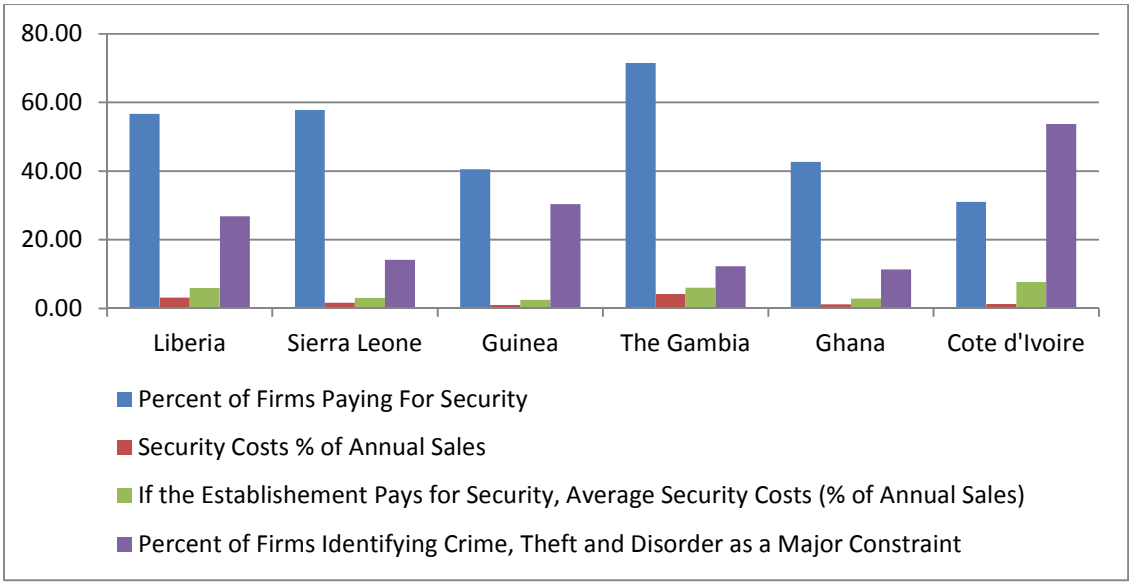


Figure 5.2: Firm Perception of Crime and Security in Comparators (%)

Source: World Bank, World Enterprise Surveys

These numbers support the conclusion that political stability does not pose a binding constraint to investment growth in Liberia.

5.2 THE RULE OF LAW

The rule of law affects businesses in multiple ways. The existence of well-defined rules and laws that govern complex business transactions in predictable ways is important for investment growth. Investors count on predictability and aim to minimize uncertainty. The rule of law appears to relate to firms mainly though the nexus of contract enforcement. Businesses engage in a complex array of contracts on a daily basis and the ability to enforce these contracts efficiently has cost implications and may affect rates of return. In the CA private sector roundtable, many small and medium businesses complained about the immense cost in time to litigate contract disputes and several expressed doubt about the extent to which they can expect justice.

Figure 5.3 examines Liberia against comparators on the WGI's rule of law index, which captures perceptions of the extent to which 'agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence'.

It shows that Liberia has shown marked improvement in perceptions of its rule of law performance over time. The Commercial Court, which was set up to expedite litigation in debt and contract enforcement cases appears to be having some impact. The rule of law is not tested as a constraint, but perception of the rule of law will be used as a proxy in testing contract enforcement.

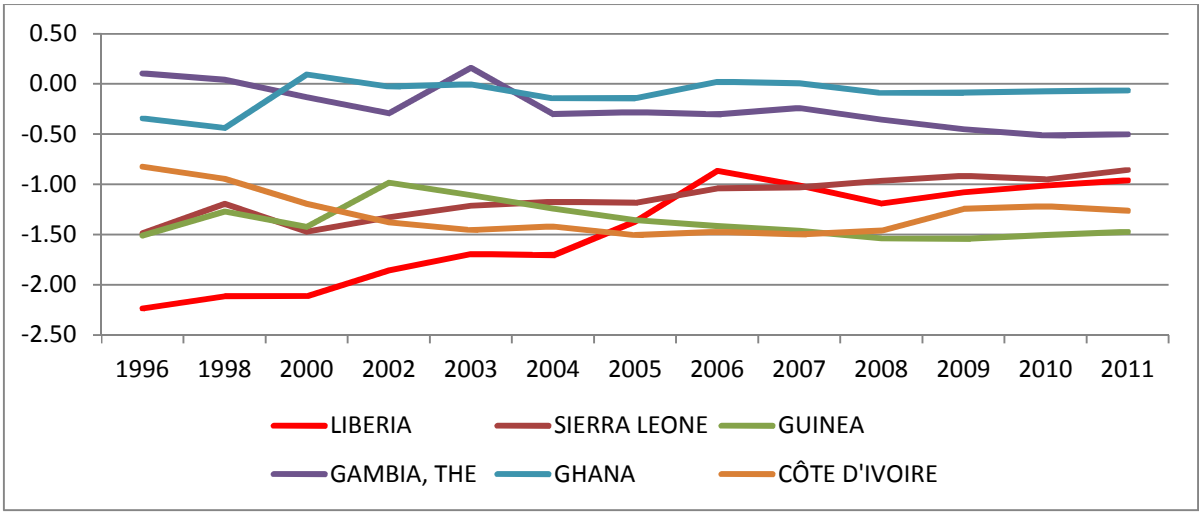


Figure 5.3: Regional Comparison of Rule of Law Index, 1996 - 2011
Source: World Bank, WGI

5.3 GOVERNMENT EFFECTIVENESS AND REGULATORY QUALITY

The WGI government effectiveness index captures 'perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies'. The quality of policy formulation and implementation is important to investment. Existing policies and regulations that impose additional burden on businesses have to be repealed and actions or practices that hinder the growth of business and investment need to be brought under effective regulation. In Liberia red tape on clearing customs and penalties and interest on taxes appear to be distorting. Businesses complain that corruption at major checkpoints is becoming a big cost to businesses that have to frequent major road corridors and others engaged in cross border trade. The multiplicity of taxes and the overall uncertainty in the aggregate tax burden due to apparently random imposition of taxes by cities and municipalities are becoming major issues of concern for businesses in Liberia.

Figure 5.4 shows Liberia and comparators on perceptions of government effectiveness. Perception of the quality of government effectiveness appears to have improved prior to 2006 but has subsequently flattened out over the past five years, moving Liberia toward the bottom among comparators.

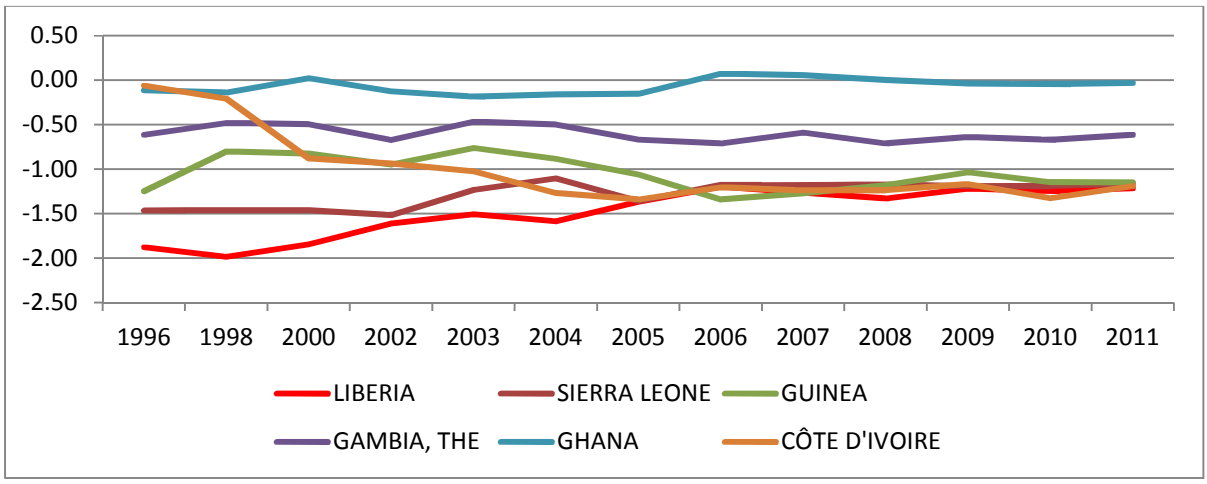


Figure 5.4: Regional Comparison of Perceived Government Effectiveness Index, 1996 - 2011
Source: World Bank, WGI

Figure 5.5 shows the related index of regulatory quality, capturing 'perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development.' Liberia is again at the bottom among comparators, suggesting that policy and regulatory reforms that affect businesses appears to have stalled. On both government effectiveness and regulatory quality, Liberia has shown improvements over time, but these do not appear significant to place it ahead of comparators.

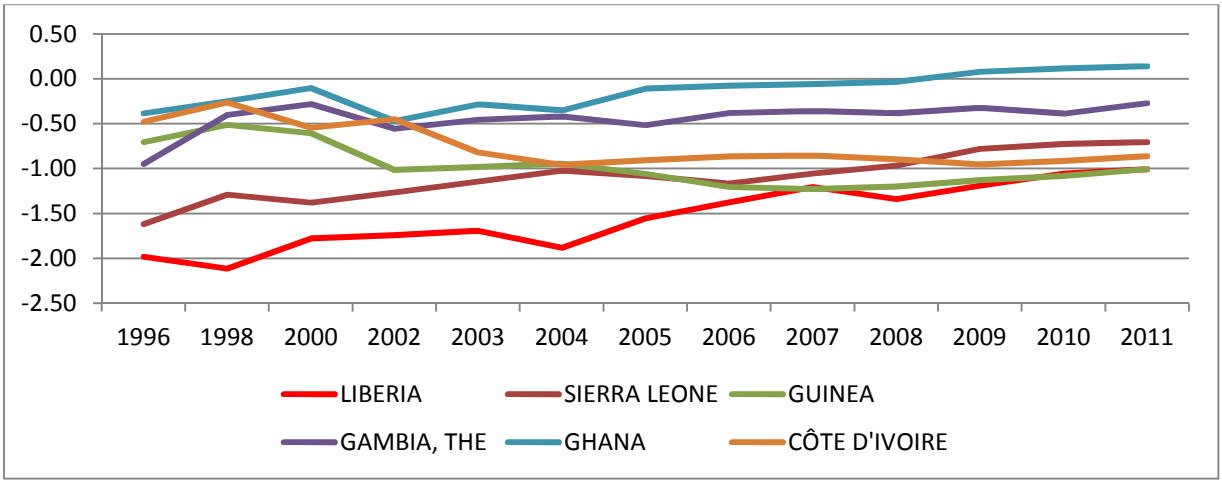


Figure 5.5: Regional Comparison of Perceived Regulatory Quality Index, 1996 - 2011

Source: World Bank, WGI

This is important because the GoL, as submitted in the introduction to this chapter, has passed some important legislations over the period under review. One implication may be that higher priority appears to be accorded legislative policy over regulations that do not rise to such policy levels. Regulations governing the payment of taxes and issues such as permitting, for example, do affect firms in significant ways and must be accorded serious policy attention.

Figure 5.6 shows perceptions on the requirement for licensing permits and Figure 5.7 depicts the time spent dealing with government officials over regulation matters. The time spent dealing with government regulation is highest in Liberia relative to comparators and to the extent that this includes time spent dealing with licensing and permitting issues, firms in Liberia do not generally find this to be as constraining as firms in Sierra Leone and Guinea. This may be because firms in Liberia take for granted the persistence of these challenges and may have difficultly quantifying the magnitude of the constraint.

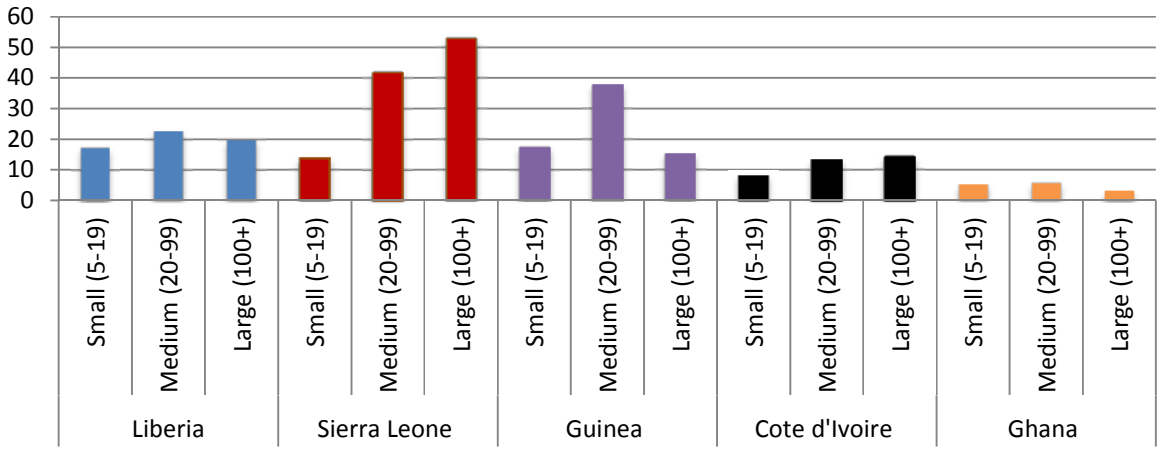


Figure 5.6: Regional Comparison of Percentage of Firms Identifying Business Licensing and Permits as a Major Constraint

Source: World Bank, Enterprise Surveys

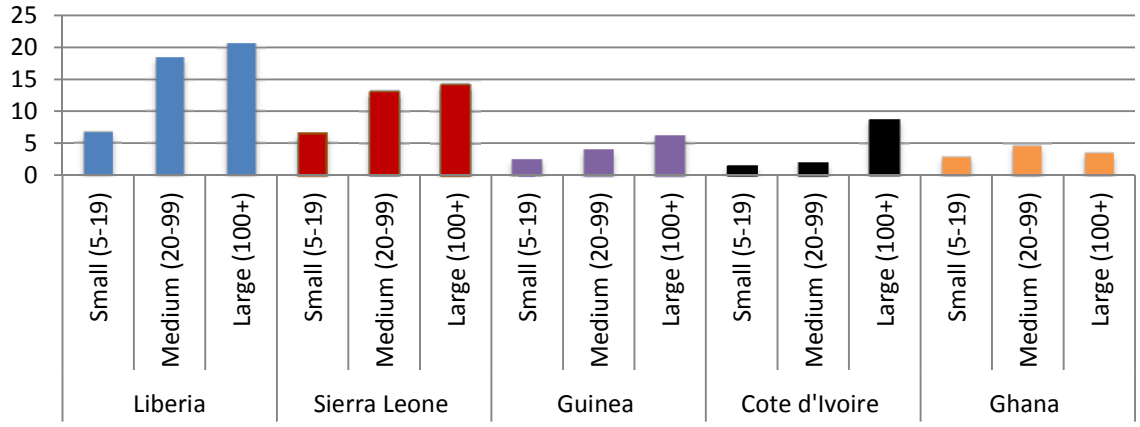


Figure 5.7: Regional Comparison of Percentage of Senior Management Time Spent on Government Regulations and Requirements

Source: World Bank, Enterprise Surveys

5.4 CORRUPTION AND TRANSPARENCY

In their joint publication, "Clean Business is Good Business", the International Chamber of Commerce, Transparency International, the United Nations Global Compact and the World Economic Forum Partnering Against Corruption Initiative (PACI), recognized corruption as the single greatest obstacle to economic and social development around the world. The same report also states that:

- The cost of corruption may equal as much as 5% of GDP with over US$1 trillion paid in bribes each year.
- That corruption adds about 10% of the total cost of doing business globally and up to 25% to the cost of procurement contract in developing countries.
- Moving business from a country with low level of corruption to a country with medium or high level of corruption is found to be equivalent to a 20% tax on foreign business. [15]

This section assesses the impact of corruption on business in Liberia. As was submitted earlier, predation by governing rent-seeking elites has over the years affected business in many different ways, with the latter sometimes forging alliances with elites to stay afloat.

Firms react to corruption differently in Liberia as indicated by figure 5.6, which depicts perceptions of corruption among different firms in comparator countries.

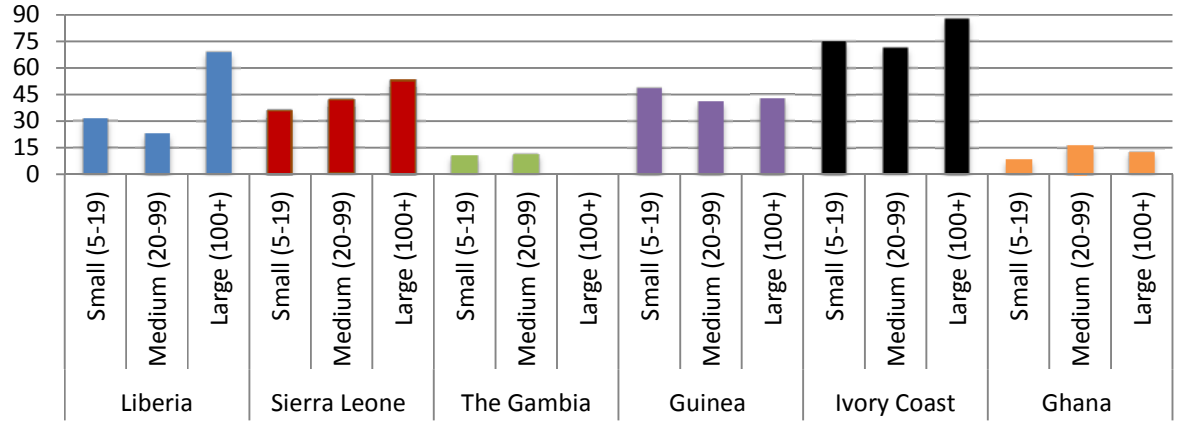


Figure 5.8: Regional Comparison of Percentage of Firms Identifying Corruption as a Major Constraint

Source: World Bank, Enterprise Surveys

[15] Clean Business is Good Business. http://www.weforum.org/pdf/paci/BusinessCaseAgainstCorruption.pdf

On average, a higher proportion (around 70%) of large firms in Liberia view corruption as a major constraint than the proportion of firms in all comparator countries, except in Cote d'Ivoire. When viewed from the backdrop of the dominant role large firms play in the Liberian economy, this may be significant. A smaller proportion of small and medium firms view corruption as a major constraint in Liberia than the proportions of similar-sized firms in Sierra Leone and Guinea. However, this performance would have to be placed in context, as what firms consider corruption may vary across countries. Figure 5.9, which shows the proportion of firms expected to comply with a number of corrupt business transactions or practices, illustrates the degree of nuance inherent in interpreting corruption perception data.

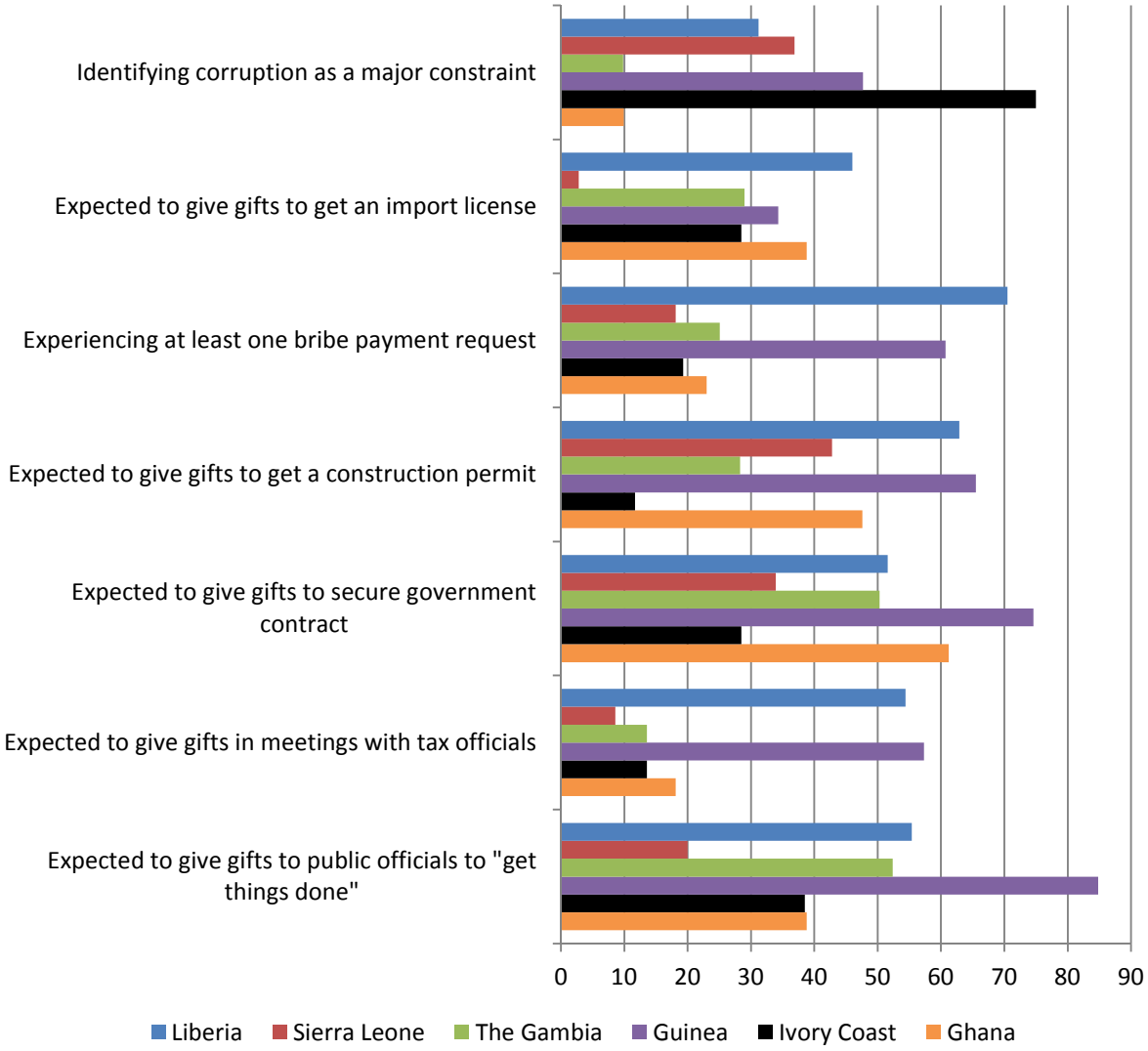


Figure 5.9: Regional Comparison of Percentage of Firms Expected to Comply with Corrupt Practices

Source: World Bank, Enterprise Surveys

While the percentage of firms asked for bribes to access various services fluctuates among comparators, it is almost consistently above the 50 percent threshold in Liberia. This is the case even though a smaller proportion of firms in Liberia view corruption as a major constraint than the proportions of firms in Cote d'Ivoire, Guinea and Sierra Leone. More firms in Liberia are expected to receive at least one bribe payment request than firms in all comparator countries and Liberia has the second highest proportion of firms who are expected to give gifts to receive construction permits. Corruption in import licensing is a major problem in Liberia relative to comparators so is giving gifts in meetings with tax officials. Further, small firms report more requests for bribes than large or medium firms, suggesting

small firms could be disproportionately affected by petty corruption and bribery. For instance, small firms report requests for gifts or informal payments for over 56% of public transactions, versus 44% and 27% for medium and large firms, respectively (World Bank, Enterprise Surveys). Small firms may be particularly vulnerable to these requests due to lack of information or access to justice.

Test 1: Is the Shadow Cost of Corruption High in Liberia?

Liberian firms appear to face higher levels of corruption than in comparator countries in terms of instances of corruption, but does that translate to a high shadow price of corruption? Figure 5.10 pits Liberia against comparators on perceptions of the value of gifts expected to secure a government contract, which can be construed as a shadow price of corruption for firms.

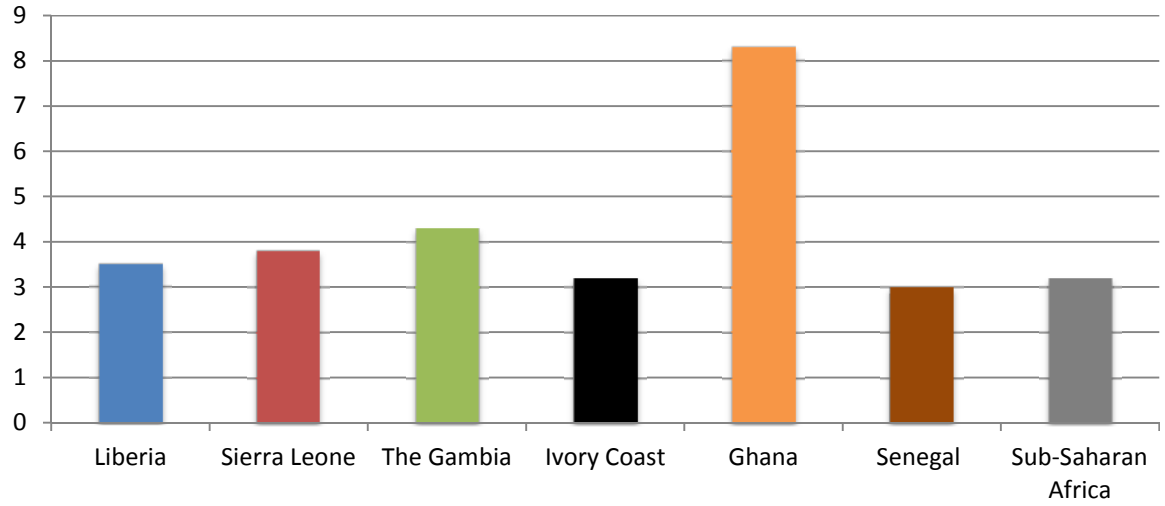


Figure 5.10: Comparison of Value of Gift Expected to Secure a Government Contract, as a Percentage of the Contract Value

Source: World Bank, Enterprise Surveys

The figure shows that Liberian firms do not pay a significantly higher fraction of contract value as a price for corruption, suggesting that this measure of the shadow price of corruption is not high. Liberia is at the level of the sub-Saharan African average, below Sierra Leone, the Gambia and Ghana and does not show any significant difference with the average in Cote d'Ivoire and Senegal. The comparatively low price may partly explain why about 69% of firms in Liberia do not view corruption as a major constraint as shown in figure 5.9, which shows 31% viewing corruption as a major constraint.

Size of gift for government contracts are not the only potential shadow price of corruption. It may be more useful to examine the specific areas in which the impact of corruption is pronounced. Data from the World Bank Enterprise Survey and Doing Business rankings and the Constraints Analysis business roundtables held in Liberia point to the following critical areas: Licensing and permitting processes; payment of taxes; cross border trade; enforcement of regulations and public procurement.

Figure 5.10 shows some of the more common forms of corruption and their real impact on business and the Liberian economy. Corruption in public procurement, for example, is particularly noteworthy, since the country is engaged with significant road infrastructure development. Corrupt road contracting may engender low quality roads, as construction companies seek to recover resources spent to win contracts. The rapid deterioration of such contracting-induced low quality roads impacts firms intensive in road infrastructure, affecting both firm costs and productivity. Given that more than 700 km of roads are either currently under development or are expected to be developed over the next five years as part of the Agenda for Transformation, any significant corruption in these road contracts might have implications for quality.

Corruption in cross border trade is becoming a major issue in Liberia. During the private sector roundtables, a few firms engaged in cross border trade complained about corruption during border

customs clearance and along major transportation routes. The frequency of checkpoints and the hassling of businesses at these checkpoints add up to the overall cost of doing business. Corruption at these checkpoints may be impacting unit freight transport costs, which are higher in Liberia than in most sub-Saharan African countries as submitted in the Infrastructure Chapter. Also, leakages in the flow of taxes due to corruption generate a vicious cycle that affects firms. These leakages impact the rate of public infrastructure financing by reducing the amount of fiscal revenue investible in roads and power, for example, which in turn adversely affects firms through the conduit of low supply of public infrastructure.

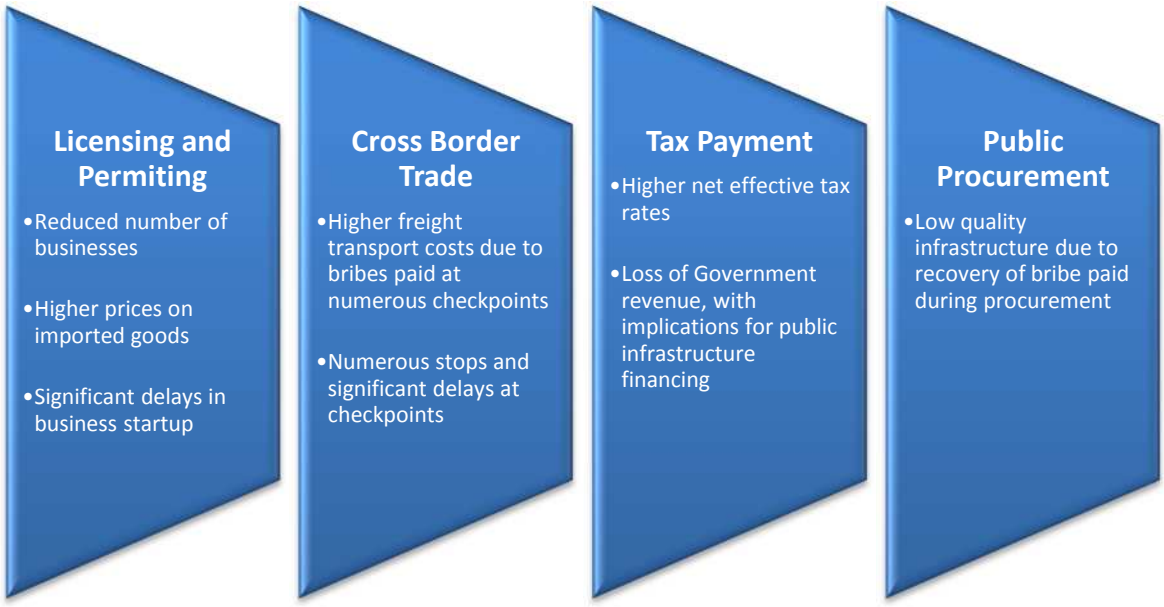


Figure 5.10: Forms of Corruption and Their Impact on the Economy

Unfortunately, figures of the size or cost of corruption along these axes are not readily available, so we cannot tell whether they are higher or lower than in neighboring countries.

Test 2: Do improvements in corruption correlate with investment growth?

Scores on the Control of Corruption indicator have improved significantly over time, as seen in Figure 5.11 indicates, though Liberia's overall score is still negative. Further, despite the overall strong performance, perception of the control of corruption appears to be flattening out and is currently below the high observed in 2007.

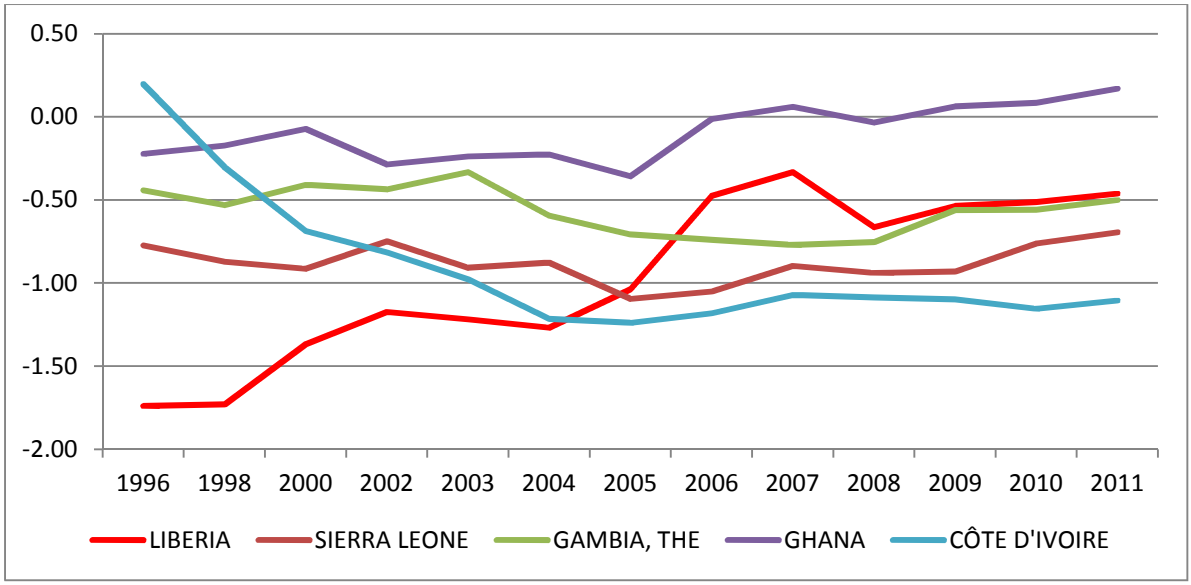


Figure 5.11: Regional Comparison of Control of Corruption Index, 1996 - 2011
Source: World Bank, WGI and Transparency International

Figure 5.12 shows a positive correlation of investment growth with perception of improvements in the control of corruption in Liberia. The figure correlates Liberia's World Governance Indicator (WGI) control of corruption scores with the rate of growth of gross capital formation over the period 2000-2011. As indicated earlier, WGI scores range from -2.5 to 2.5 so that countries strive to move toward positive scores. The figure suggests that as Liberia's scores have improved over the period, so has the rate of private sector investment, which is a positive Test 2.

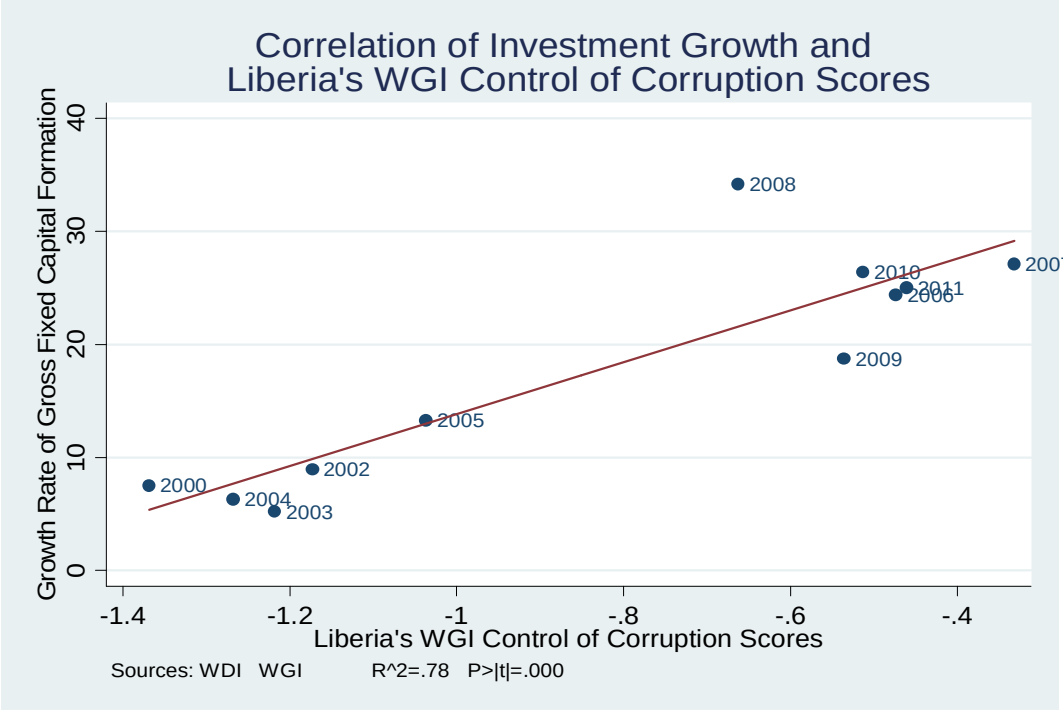


Figure 5.12: Correlation of Investment Growth in Liberia with Improvements in Liberia's Control of Corruption Scores
Source: World Bank, WDI/WGI

We do not have relevant data for tests 3 and 4 and thus do not complete those tests. It is hard to identify how firms might get around corruption, other than not directly engaging with public services, or which firms might be considered "corruption intensive." One might think that small firms are more vulnerable to corruption, since they may be less likely to know the laws or have access to justice, but at the same time they are probably less likely than medium or large firms to apply for government contracts. However small firms generally have smaller profit margins, so corruption, even small-scale, petty corruption, may hit them harder.

5.5 CONTRACT ENFORCEMENT

What firms do consider as critical is their ability to enforce the numerous contracts they enter. Contract enforcement has been noted to exert some impact on investment. Diego Aboal, Nelson Noya and Andres Rius, in their literature review of about 23 studies looking into impact of contract enforcement on investment, comment that:

> The main non-trivial mechanisms found in the studies are: weak enforcement encourages hold-up strategies that affect investments through impact on cash flows and indirectly through greater downward uncertainty of returns; enhanced legal enforcement in transition economies with financial repression may limit capital available to the private sector, and thus depress private investment; weak third party enforcement involves higher costs to firms related to the need to get settlement through alternative mechanisms, affecting investment; and better contract enforcement facilitates the processes through which efficient-investing industries receive capital, and favors, in particular, 'contract-intensive' industries (The Evidence of the Impact on Investment Rates of Changes in the Enforcement of Contracts, Aboal, et al, 2012).

The common types of contracts observed in Liberia include: i) employment contracts; ii) lease agreements; iii) debt contracts; iv) supplier contracts; and v) construction and other contracts. The inability to enforce any of these contracts generally undermines investment and growth.

The significance of contract enforcement as a major constraint in Liberia appears to consist in its triangulation with access to credit and weak land governance. Many banks are generally reluctant to expand credit to SMEs on account of weak contract enforcement. Delays and complications in the enforcement of collateral on bad loans generally undermine the value of collateral as a guarantor in future lending. In much the same way, collateral complications may derive from insecurity of land tenure and weak land governance. Litigation over property held in collateral may be avoided with improved land tenure and effective land governance. This triangulation, in tandem with the critical role of banks in economy wide credit expansion, elevates the importance of contract enforcement.

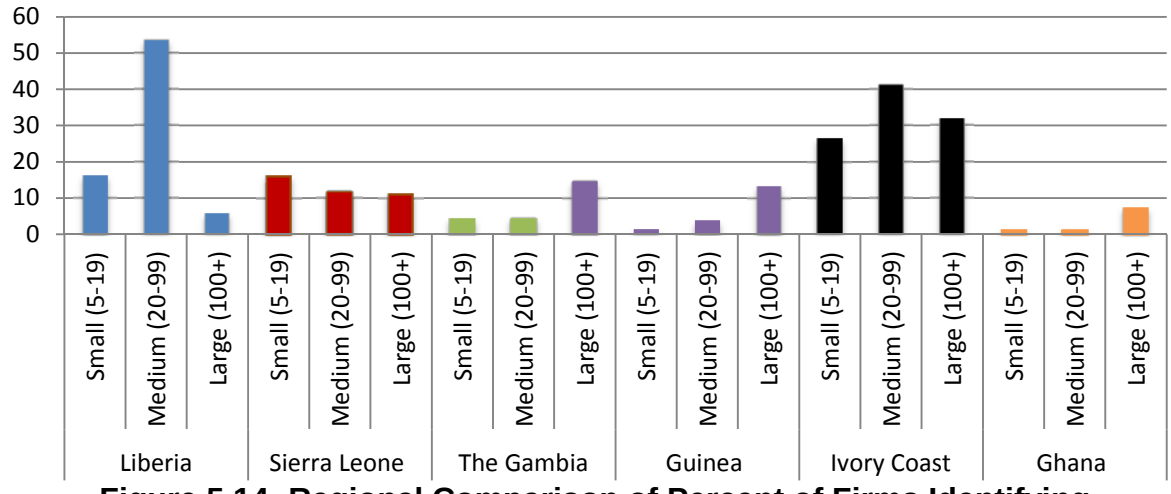


Figure 5.14: Regional Comparison of Percent of Firms Identifying

Court System as a Major Constraint

Source: World Bank, Enterprise Surveys

Contract enforcement difficulties in Liberia may be due to a combination of capacity constraints and judicial corruption. A United States Department of States document observes that "[t]he judicial system suffers from inadequately trained and poorly compensated judges and other judicial officers, often leading to faulty proceedings and corruption. Many observers believe that judgments can be purchased, and foreign firms tend to be at a disadvantage. Obtaining hearing dates may take a long time because of inadequate resources and case backlogs."

During private sector consultations, many SMEs and medium businesses regarded contract enforcement as a major constraint. Figure 5.14 benchmarks firms' perceptions of the court system as a major constraint. About 55% of medium firms view the court system as a major constraint in Liberia. This is the highest among comparators. Only a little over 10% of medium firms in Sierra Leone view courts as a major constraint, whereas in Guinea the number is around 5%. Small firms in Liberia typically have less to do with courts while big firms may tend to leave all legal matters to be handled by large corporate law firms they hire. It is medium firms that appear largely affected by weaknesses in the court system. To the extent that these weaknesses are a major driver of constraints in contract enforcement, the constraint may bind for medium firms than for small and large firms.

To resolve challenges with contract enforcement, a Commercial Code was developed in 2009 and from it emerged the Commercial Court of Liberia, whose aim, among other things, is to fast-track contract enforcement cases. Figure 5.15 shows the type of contract enforcement cases heard at the end of June 2013 term of the Commercial Court. A majority of the cases involves debt recovery, either in the form of bank loans, mortgage foreclosure or payment for services delivered. The Commercial court generally hears cases with monetary value in excess of US$15,000.00. The total monetary value of cases heard during the end-June 2013 term is US$ 26.9 million. About US$33 million is the value of cases heard in the month ending May 2013, 22% of which is owed to banking institutions. This indicates banks that are heavily intense in contract enforcement. Also, legal restrictions limit the transferring of cases from the Civil Law Court or the Probate Court to the Commercial Court, implying that cases heard by the latter are essentially new.

Civil Law Court officials noted that about 85% of the cases that come before the Civil Law Court are land disputes. Due to the lack of an adequate data management system at the court, it was difficult to fact check the claim. However, a rough count of land dispute cases stored in files in the record room shows a huge backlog of cases dating back to 2008, totaling about 635 unresolved cases.

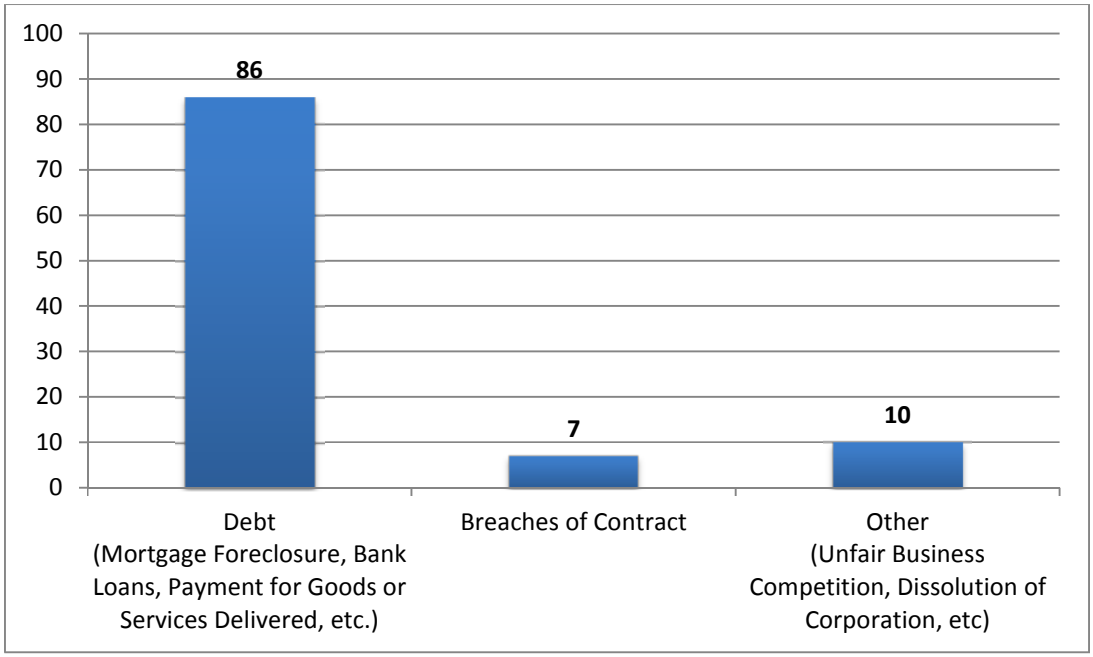


Figure 5.15: Number and Type of Contract Enforcement Cases Heard at Commercial Court for Month Ending June 2013
Source: Commercial Court of Liberia

5.6 APPLICATION OF THE PRINCIPLES OF GROWTH DIAGNOSTICS: THE FOUR TESTS

Because many microeconomic risks act through contract enforcement, we apply the four tests used throughout this analysis on the constraint. If contract enforcement is a binding constraint, we expect to see i) a high shadow cost ii) positive correlation of improvements in contract enforcement with investment growth; iii) businesses and firms bypassing the constraint and iv) firms less intensive in the constraint thriving relative to firms more intensive.

Test 1: Is the Shadow Cost of Contract Enforcement High in Liberia?

The shadow cost of contract enforcement may be construed in terms of both time and dollar costs businesses incur in enforcing contracts. Table 5.1 shows that the shadow cost in terms of time is extraordinarily high in Liberia. It takes more than 3.5 years to resolve legal disputes in Liberia, compared to just over a year in Sierra Leone and under a year in Guinea. On the other hand, cost as a percentage of the value of claims is relatively low or equal compared to neighbors, and about the same for other comparator countries.

Table 5.1: Comparison of Shadow Cost of Contract Enforcement
Source: World Bank, Doing Business Surveys

	Enforcing Contract Ranking	Time (Days)	Cost (% of Claims)	Procedures (Number)
Liberia	**169**	**1,280**	**35**	**40**
Sierra Leone	147	515	149	39
Guinea	131	276	45	49
Cote d'Ivoire	127	770	41.7	33
Ghana	48	487	23	36
SSA	**-**	**649**	**50**	**39**

Test 2: Do Improvements in Contract Enforcement Correlate with Investment Growth?

Figure 5.16 presents some evidence of the correlation between improvements in the rule of law, used here as a proxy for contract enforcement, and gross fixed capital formation as a percent of GDP. The use of rule of law as a proxy follows Banerjee (2006) and Clark (2001). Figure 5.17 shows rule of law against investment share of per capita GDP in 2005 constant prices. The two figures show a positive correlation of investment growth with changes in Liberia's rule of law scores as provided by the World Governance indicators.

However use of perception indices in regress analysis or scatter plots, though common in the literature, is not without controversy.

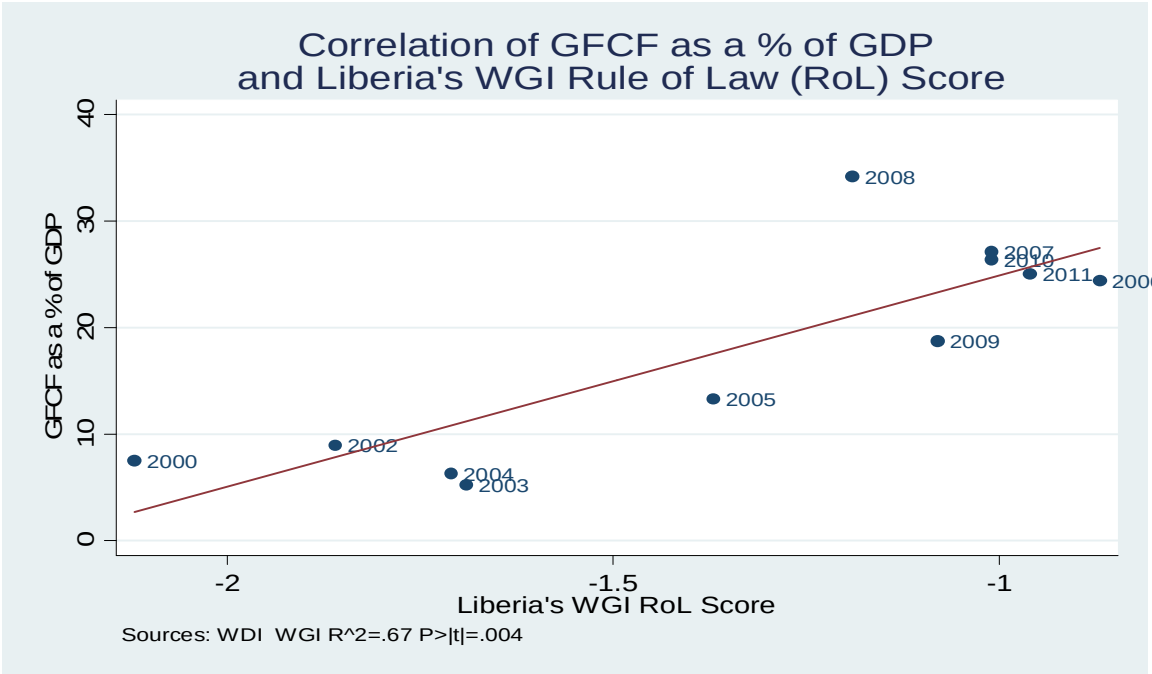


Figure 5.16: Evidence that Rule of Law Correlates with Investment Growth

Source: World Bank, WDI

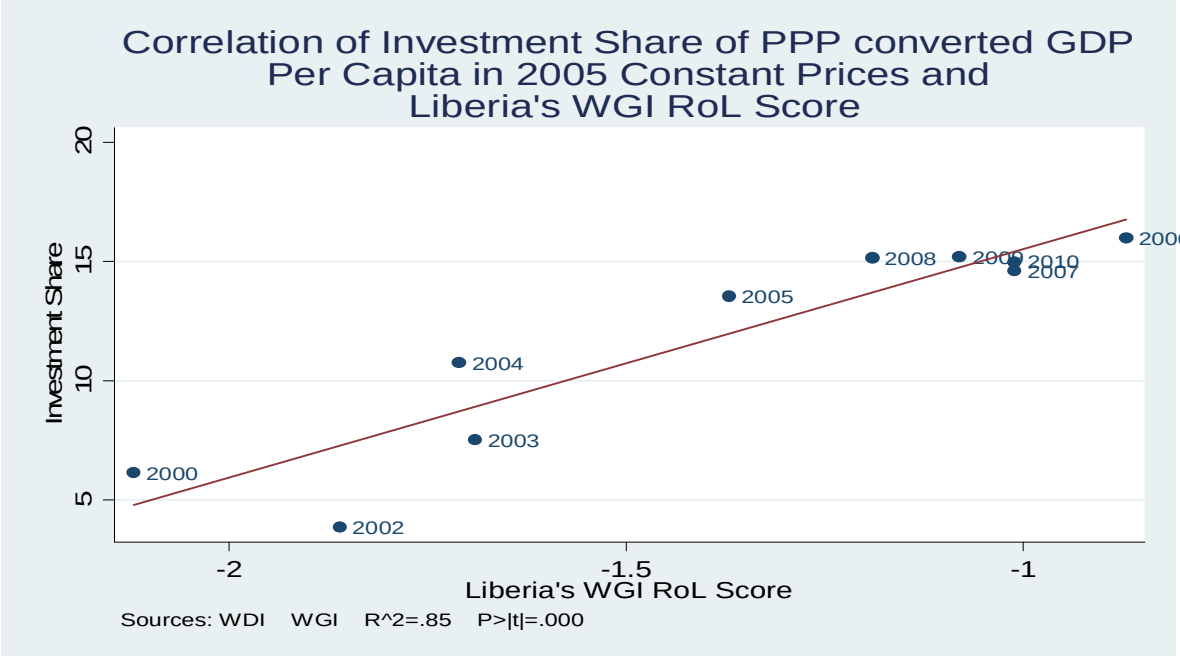


Figure 5.17: Further Evidence that Rule of Law Correlates with Investment Growth

Source: World Bank, WDI

Aboal et al commenting in their literature review on the validity or strength of the evidence used to assess the impact of contract enforcement on investment growth note:

> Overall, the evidence gathered through this systematic review provides some support for the claim that more effective contract enforcement promotes higher levels of investment, but it is weak. First, there is only one study that unambiguously links an intervention or reform to enhance contract enforcement to changes in investment patterns. Second, few of the studies go beyond a generic discussion of direct and indirect effects to actually test the plausible indirect causal channels. Third, a majority of studies do very little or nothing in terms of robustness checks, or the strenuous but necessary attempts to rule out alternative explanations for the empirical findings. Almost all the studies implicitly or explicitly adhere to a basic story stating that effective third-party enforcement enables more complex contracting and that contract uncertainty will tend to depress investment by affecting expected returns, increasing investment costs, restricting access to key resources or making some complex transactions unfeasible (The Evidence of the Impact on Investment Rates of Changes in the Enforcement of Contracts, Aboal, et al, 2012).

No attempt has been made to prove causality in the application of Test 2 throughout this analysis. While a more robust association is possible given additional quality data, the results above nevertheless do suggest that Test 2 may be positive.

Table 5.2 shows the impact that investment in the Commercial Court has had on contract enforcement. Clearly, the box demonstrates faster resolution rates compared to rates at the Civil Law Court where cases on average remain on the docket for years.

An interesting aspect of the Commercial Court's success is that many cases are being resolved at pre-trial conferences and a good number of cases are being withdrawn.[16] This may be an indication that cases may be crowding the dockets of the Civil Law and Probate courts because litigants do not believe these cases will be heard. Administrators at the Commercial Court believe that perception of the certainty of hearing a case sooner rather than later, which implies a faster rate of resolution, appears to be correlated with the rate at which cases are withdrawn, which is in effect a form of resolution.

Table 5.2: Sequence and Rate of Commercial Case Resolution

Source: Commercial Court of Liberia

Resolved at Pre-Trial Conference Level	Resolved at Trial level	Retired from docket due to inactivity	Cases ongoing	Cases Closed due to withdrawal motion	Resolution within 30-60 days	Resolution within 60-90 days	Resolution within 90+ days
26%	**0%**	**10%**	**42%**	**22%**	**58%**	**0%**	**0%**

[16] Withdrawal typically takes the form of defendants agreeing to reach settlement or some form of agreement with plaintiff for payment in debt cases, which are the most frequent types of cases seen at the Commercial Court.

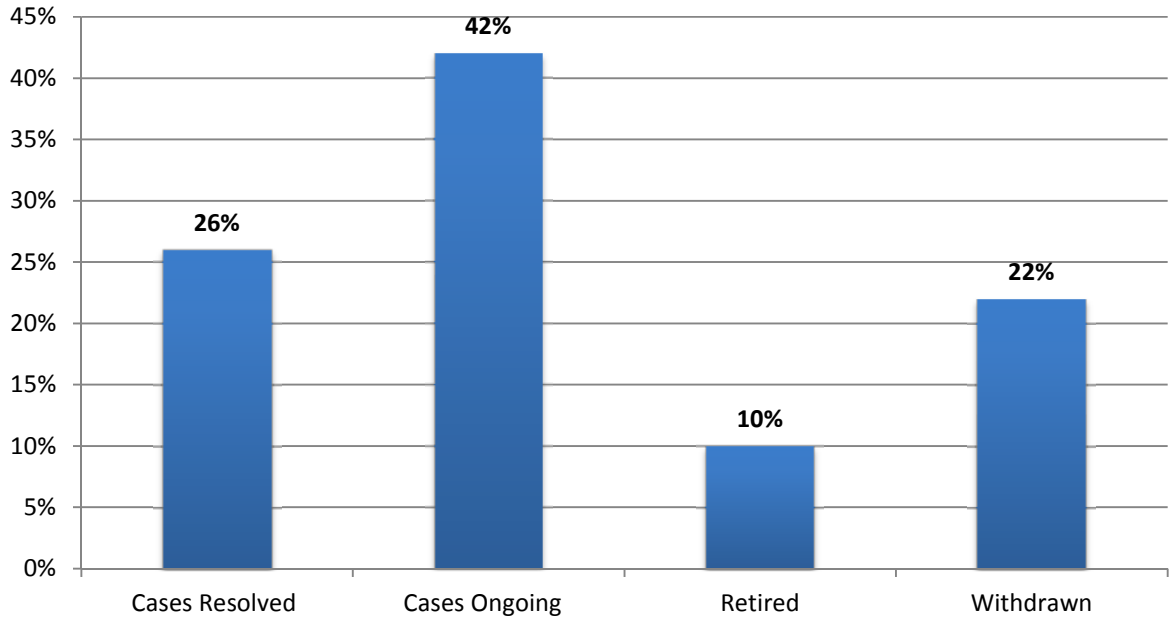


Figure 5.18: Rate of Resolution for 31 Cases between 02/21 – 04/30/2013
Source: Commercial Court of Liberia

Test 3: Are firms bypassing the constraint of Weak Contract Enforcement?

Figure 5.19 presents some evidence that banks, which are heavily intense in the contract enforcement constraint, may be bypassing the constraint. At a roundtable with firms, the president of a major bank observed that contract enforcement costs to banks is a major factor for the observed reluctance to extend credit to many SMEs and medium businesses that are demanding credit. The figure indicates that demand for loans among small and medium firms in Liberia appears to be slightly lower than demand in comparators; demand among small firms in Liberia is about the same as the SSA average.

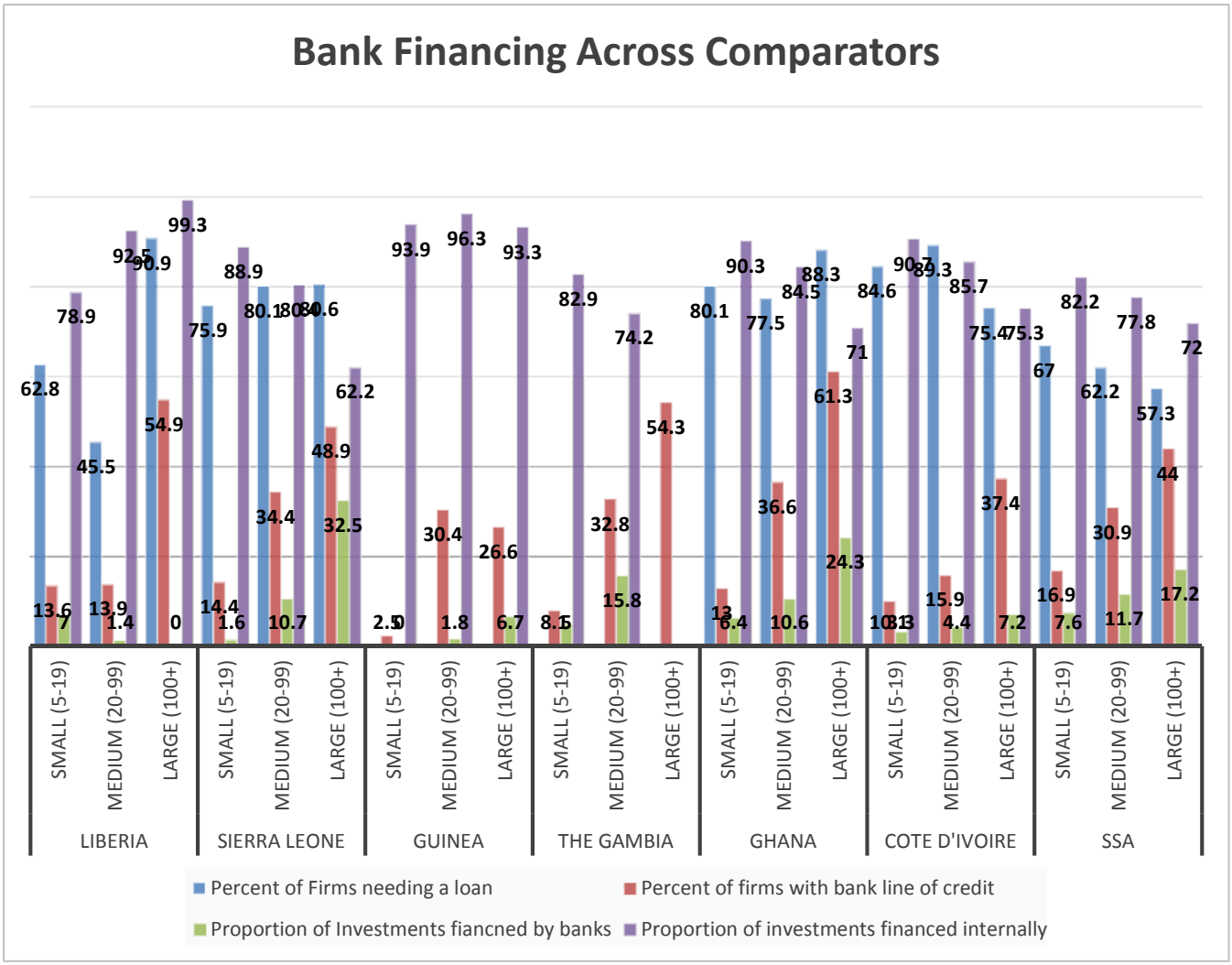


Figure 5.19: Evidence that Banks May Be Bypassing the Contract Enforcement Constraint

Source: World Bank, Enterprise Surveys

Percent of small firms with bank line of credit in Liberia does not appear to be different in comparators, though it is slightly lower than the SSA average. The story is significantly different for medium firms with line of credit. Sierra Leone does significantly better than Liberia, as do all other comparators, except Cote d'Ivoire. Liberia is less than the SSA average on line of credit. On proportion of investments financed by banks, small firms in Liberia appear to generally do better than firms in comparators and Liberia's performance is similar to the SSA average. For medium firms, the opposite is true. While Liberia and Guinea perform similarly, Liberia is below all other comparators and is below the SSA average. The takeaway is that medium firms in Liberia appear to be more affected by low bank financing relative to comparators, though this may be due to other factors such as a higher proportion of and other risk factors. The proportion of NPLs in Liberia is generally higher as was submitted in the Finance Chapter. That medium firms generally receive a smaller share of investment financed by banks (Fig. 5.19) provides some evidence that banks may be bypassing the contract enforcement constraint.

Figure 5.20, which presents evidence of banks' reliance on non-interest income, appears to support the bank bypass argument. If interest income is risky due to contract enforcement difficulties, banks may avoid contracting new loans. Figure 5.20 demonstrates that banks' reliance on non-interest income in Liberia has trended downward from as high as 70% in 2006, the highest among all comparators. The

IMF's November 2012 Article Four Consultations observes that "the low net interest margins by regional comparison lead banks to rely on noninterest income, which accounts for nearly 60 percent of revenue."

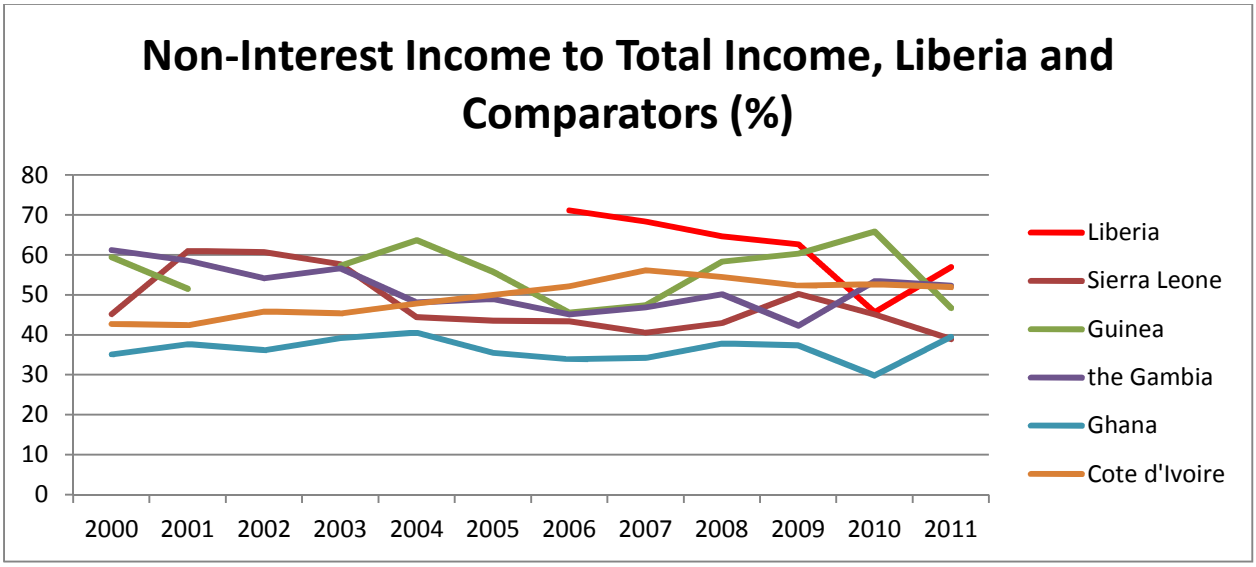


Figure 5.20: Further Evidence of Bank Bypass
Source: World Bank

It must be noted that reliance on non-interest income may be fueled by factors that are not generally related to contract enforcement. Banks may be charging higher fees to cover for losses from non-performing loans.

Evidence of Firms Other than Bank Bypassing the Contract Enforcement Constraint

Evidence that firms other than banks are bypassing contract enforcement is difficult to access. An indication of such a bypass may be reductions in formal contracting. An analysis of the type of debt cases heard at the Commercial Court, presented earlier in Figure 5.16, does not appear to support such a bypass story. The data generally shows that transactions involving banks make up about 22% of cases, which leaves a whopping 78% for many different kinds of contracts. The majority of the cases involve attempts to enforce payments from firms or the GoL for services delivered. If the Commercial Court data is seen as a random draw from the population of formal contracting, the argument that non-bank firms are bypassing the contract enforcement constraint may be difficult to prove.

This means that the evidence from Test 3 is mixed. Banks appear to be bypassing, but factors other than contract enforcement may explain such a bypass. Evidence for non-bank bypass is difficult to adduce and preliminary evidence from the Commercial Court does not support a bypass story for firms other than banks.

In the absence of evidence of contract enforcement bypassing by firms other than banks, the conclusion of this test would suggest that it is generally negative.

Test 4: Are Firms Least Intensive in the Constraint Thriving Relative to Other Firms?

The evidence appears to suggest that banks, which are heavily intense in contract enforcement, are struggling on the profitability front as was noted in the Finance Chapter. Low bank profitability is due to many different risk factors, including contract enforcement. As such the evidence considered in this section for banks does not support a conclusion that banks are not thriving due to contract enforcement. Also banks may be thriving less than other firms, such as cell phone companies, but these may not be less intense in contract enforcement, but may merely be involved in different forms of contracting than banks. Many Global System Mobile (GSM) service providers sell their products through dealer contracts, service provision contracts with the government or with large organizations such as the United Nations. Additionally, these companies enter into lease agreements for construction of cell sites

(Some of them have over 100 cell sites around the country leased from various property owners). One operator provided service to the UNMIL through a formal contracting process. While telecom service providers may face less probability of default than do banks, they are no less involved in formal contracting. This is consistent with the discussion that non-bank firms may not be any less reliant on formal contracting.

Based on the strength of the available data, it may be concluded that Test 4 is either inconclusive or negative.

5.7 CONCLUSION

The conclusion is that contract enforcement appears to be a major constraint since the evidence presented does not seem to support a binding constraint story. The opportunity cost of contract enforcement, in terms of litigation time, is high in Liberia relative to comparators. However, despite this high cost, formal contracting among firms does not appear to be scarce, in which case the shadow price, extending beyond litigation time, is expected to be high. Although adequate data to assess a wider indication of shadow price is not available, the benchmarking of firm perceptions of the judicial system shows that small and medium firms in Liberia do not find the court system to be any worse than do firms in comparator countries.

Moreover, evidence that formal contracting is scarce cannot be easily accessed and data from the Commercial Court does not appear to suggest that firms are moving away from contracting. Banks may be less willing to enter into loan contracts, but other factors, such as the high proportion of non-performing loans, also explain this bypass. In terms of bank financing where this bypass may be affecting firms, the impact may be mainly on medium firms, since small firms in Liberia appear to be doing relatively well relative to comparators and even to the entire SSA. Therefore, considering these complex interrelations, it is difficult to argue that an improvement in contract enforcement would significantly improve bank profitability.

However, contract enforcement remains a major constraint since improvements therein may reduce the prevalence of risks banks face, contributing to a favorable lending climate. Banks have featured prominently in the discussion of contract enforcement because they generally provide the financing for investment, constraint to which is the focus of this analysis. Improvements in contract enforcement will equally generate big impacts in the broader economy, reducing enforcement time and instilling greater confidence that contracts will be honored. Probably one of the biggest impacts may be the ability of improved contract enforcement to reduce the pool of risky firms and/or individuals, who exploit weaknesses in the judicial system and increase the overall riskiness of the business and contract enforcement environment in Liberia.

5.8 ACCESS TO LAND

Land is a fundamental input in economic production and constraints affecting this input are bound to affect the production process. Every economic unit is arguably intense in the use of land, whether land is construed as the physical expanse of space measured in acres; as the property situated on such a space, such as buildings and other fixed assets; as legal claims to such properties or as natural resource endowments buried beneath vast bodies of land and water.

Liberia has a total land area of 111,370 square kilometers, including 96,320 square kilometers of land (9.63 million hectares) and 15,050 square kilometers of water. About 4.6% of the land is arable[17], and

[17] Agricultural land is defined as land suitable for the production of either crops or livestock. According to the standard classification used by the Food and Agriculture Organization of the United Nations (FAO) agricultural land is divided into the following components: arable land (land under annual crops,

1.98% is in permanent crops (2005). About 30 square kilometers are irrigated (2003). Liberia's terrain comprises mangrove swamps and beaches along the coast, wooded hills and semi-deciduous shrub lands along the immediate interior, and dense tropical forests and plateaus in the interior. The inland grassy plateau and swamplands support agriculture. Forests cover about 45% of the total land area (CIA 2009; USDOS 2009; GOL 2006, through USAID document "Liberia: Land Tenure and Property Rights Profile").

Given the extent of postwar economic hardship, one of the biggest prospects for poverty reduction and investment growth might happen on agriculture lands, the vast expanse of which remains uncultivated. Agriculture lands are about 27% of total land area but only about 4.6% of the land mass is currently under annual cultivation. The Food and Agriculture Strategy document notes that as much as 72% of economically active Liberians work in the agriculture sector, which is the mainstay of the rural economy, where about 52% of Liberians reside. Considering the low level of agriculture production relative to regional comparators reviewed in the Overview Chapter, the agriculture sector presents one of the strongest possibilities for rural income growth and poverty reduction. Similar opportunities lie in the forestry sector, where rural communities and individuals with land holding rights stand a great chance of increasing incomes through legitimate exploitation of Private Use Permits (PUPs).

Land Governance and Land Disputes

These opportunities for growth may be hindered by weak land governance, which has emerged as a flashpoint of community level crises, violence and conflict. The World Bank's *Liberia: Insecurity of Land Tenure, Land Law and Land Registration in Liberia* observes that "rights of access to and use of natural resources, including land, minerals, forests and water are shrouded in a state of tenure insecurity, vague and ambiguous legislation and conflicting and competing tenure arrangements and constant and persistent clashes of customary and statutory rights over the management, authority and control of these resources."

Land disputes, symptoms of weak land governance, have become common in post-war Liberia. The GoL in July of 2013 disbursed about US$1.2 million to Nimba County communities and residents who adjudicated their land disputes through a government appointed commission. Figure 5.21 displays information on the prevalence of land disputes throughout Liberia, culled from a study conducted by the Law School of the University of California–Berkeley, *Talking Peace.* These disputes anchor in Liberia's dual land tenure systems – formal and customary land laws—which remains a vortex of contention.

such as cereals and cotton, and technical crops, such as potatoes, vegetables, melons, etc.); orchards and vineyards (land under permanent crops (such as fruit plantations and other tree crops); and meadows and pastures (areas for natural grasses and grazing of livestock). The amount of agricultural land is relatively smaller in Liberia than elsewhere in Sub-Saharan Africa due to the relatively high fraction of forests (areas with high density in trees), which gives the country its high potential for forestry products (From World Bank's Growth Diagnostics).

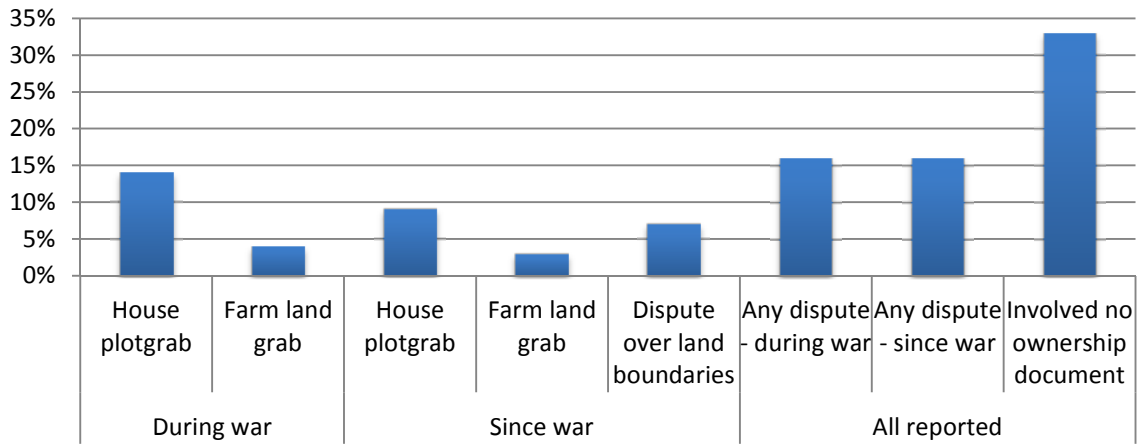


Figure 5.21: Prevalence of Land Disputes

Source: Berkeley HRC, 2011

The Land Commission, established in 2009, has aimed to resolve these intractable land issues. It has now developed a land policy and plans to harmonize formal and customary laws under new land legislation, but considerable work remains to do be done on these contentious issues.

LAND ACCESS AND SMALL HOLDER AGRICULTURE

The economics literature has established the link between effective regime of property rights, such as secure land tenure, and economic growth and development. Economist Hernando De Soto, has argued that secure and well-defined property rights transform assets from "dead capital" into resources that can generate additional capital and fill in as collateral for bank credit. Land-collateral may play a huge role in gaining access to finance for agriculture producers, but this may be hindered by i) frequency of land related violence or disputes and ii) and weak enforcement of land tenure rights that diminish the value of land as a collateral for banks.

Access to land is important for smallholder agriculture, which has been flagged as an important route for poverty reduction. Many smallholders are engaged in the rubber sector. Firestone Liberia, Liberia's largest rubber producer, reports that about 60% of its rubber exports come from smallholders, significantly up from the 25% mark seen prior to the war. This large difference is due to lack of replanting of rubber trees by Firestone due to the civil war. These smallholders would be significantly affected by increased prevalence of land governance issues. The same is true for smallholders in food crop and animal production. The World Bank Inclusive Growth Diagnostic documents the importance of improved land governance for food and animal producing smallholders. The report states:

> *Smallholder farmers, require access and security of tenure to move beyond subsistence farming into more profitable and sustainable livelihoods that will achieve food security and increase export crop production. More than 60 percent of the working rural population (close to 50 percent of the total, urban and rural) claim that primary activities□crop farming, livestock/poultry raising, forestry/ logging, and fishing□constitute their main source of income (World Bank 2010d), which clearly requires having access to land, forests, and coastal waters. Nearly all of these workers are in the informal sector. Based on data from the Comprehensive Food Security and Nutrition Survey (2006), as quoted by (World Bank, 2010d), 66 percent of the sample reported having access to land, but 41 percent of those respondents "reported that farm sizes were smaller than what they had prior to the war. In terms of security of tenure, the majority of households (67 percent) did not have deeds for the land to which they currently have access. The majority of Agriculture households have reported lack of seeds and financial capital in general as the main constraints to undertaking or scaling up their activities. In turn, the inability to finance the acquisition of inputs directly relates, in many cases, precisely to not having property rights (which can be used as collateral for loans) over the land they work.*

Data presented in the road section of the Infrastructure Chapter confirms the above findings, noting that rice production is just about catching up with prewar levels. Cassava production has now surpassed prewar production but this may be related to the fact that a new emphasis has been placed on cassava than existed prior to the war. The 2009 Food and Animal Production survey conducted by the Ministry of Agriculture (MoA), LISGIS and the FAO also finds that only 2.8[18] percent of rural agriculture households viewed access to land as their most prevalent constraint. But as the World Bank study emphasized, the biggest challenge for smallholders may not be accessing agriculture lands but using land as collateral to finance purchases of farming tools, seeds or chemicals to control pests. Lack of tools and seeds and inability to control pests emerged as the top three constraints for the majority of respondents in LISGIS' 2009 food and animal production survey. Such use of collateral is undermined by weak land governance.

Land access also has strong gender dimensions. The World Bank study notes that "[a]ccording to the PRS 'the existing systems of land acquisition favor the wealthy and the elite.' Women, in particular, have had limited land and resource rights--16 percent of women compared to 33 percent of men own land." This is particularly alarming given that females now make up the majority in food crop production in Liberia. Weak land governance and the ensuing symptoms of land disputes are more likely to disproportionately affect females in agriculture production.

While the preceding has aimed to situate smallholder production in the context of weak land governance, other constraints, as has already been mentioned, also affect smallholders. Figure 5.22 shows that Liberia has the smallest proportions of agriculture and arable lands among comparators. Low proportion of agriculture and arable lands is an indication of low land utilization. The World Bank has noted that Liberia's low agriculture output is due to low utilization of agriculture land *(Liberia's Infrastructure: Prioritizing Investments for Diversification*). It is worth noting that both Guinea and Sierra Leone, which have higher levels of paddy rice production, also have higher proportions of agriculture and arable lands. Sierra Leone has more than three times Liberia's share of arable land. Liberia appears more forests relative to comparators but its low land utilization makes difficult any arguments that forest lands might be limiting smallholder agriculture output.

Is Liberia's low land utilization a function of land governance issues? Land utilization has never been high in Liberia and it dropped significantly during the war. Since the war ended it has been increasing again. However land utilization still lags somewhat behind pre-war highs. Other factors come into play in land utilization as well, such as whether farmers can acquire the resources, workers, and equipment to clear the land. That said, overall land utilization is extremely low in Liberia with respect to comparators.

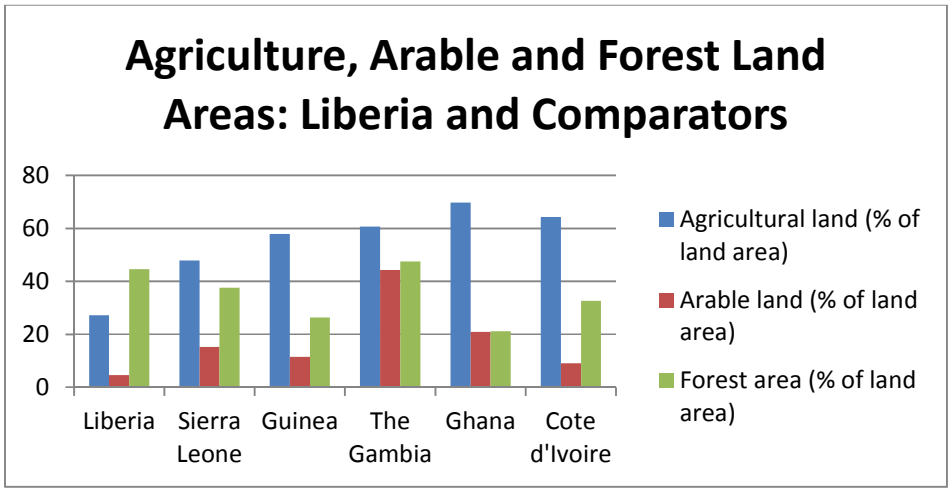


Figure 5.22: Key Agriculture Land Statistics, Liberia and Comparators

Source: World Bank, WDI

[18] Survey covered more than 4,500 rural areas.

ACCESS TO LAND FOR CONCESSIONAIRES

The land access constraint appears to particularly affect oil palm concessions and new agriculture concessions. The constraint essentially involves concessions' inability to access lands granted under agreements due to competing ownership claims emanating from agriculture communities around the country. Such claims generally anchor in customary law. Due to the constraint, several agriculture concessions have yet to commence operations, costing the economy in lost government revenue and employment. These disputes may also damage investor confidence in Liberia and hold the potential for widespread community unrest.

As an example, in the three years since Golden Veroleum signed a concession agreement, the company has managed to acquire just 3,000 hectares[19] compared to the expected acquisition of over 19,000 hectares. The company as a result stands to lose up to 700,000 seedlings planted in its nursery. The upshot is that the company has had to lay off about 500 employees and push back planned investment on a US$30 million palm oil mill planned for Sinoe County. The company reports that acquiring land remains its biggest constraint. Other oil palm concessions regale the public media with similar stories.

CONCESSIONS AND WEAK LAND GOVERNANCE

Tension between concessions and communities appears to be the symptoms of weak land governance, which encompasses the jagged interface of customary and statutory land rights. Below are land use rights and property rights categories identified in the Land Commission's *Land Rights, Private Use Permits and Forest Communities.*[20]

Land use rights

1. Agricultural, forest (Forest Management Contracts – FMC, and Timber Sales Contracts – TSC) and mining concessions;
2. Private Use Permits (PUP);
3. Community Forests Management Agreements (CFMA);
4. Existing and Proposed Protected Areas.

Property rights

5. Aborigine Land Grants and Collective Public Land Grants;
6. Collective Public Land Sales;
7. Large-sized individual Public Land Sales (in excess of 1.000 acres).

Table 5.3 shows that the first four land use rights categories represent in excess of 50% of the total land area of Liberia.

Table 5.3: Land Use Right and Area in Hectares

Source: "Land Rights, Private Use Permits and Forest Communities", Land Commission (LC) 2012

Land Use Right	Area (hectares)
Agricultural concessions	1.140408
Forest Management Contracts – FMC	1.007.259
Timber Sales Contracts – TSC	45.000
Mining concessions production areas	113.256

[19] USE ONE UNIT

[20] "Land Rights, Private Use Permits and Forest Communities," Land Commission of Liberia, April 2012. Prepared with the support of the European Commission Project FED/2011/270957.

(Mining concessions exploration areas)	(890.856)
Private Use Permits – PUP	2.239.630
Community Forest Management Agreements –CFMA	?
Existing and proposed Protected Areas –PA	1.037.000
TOTAL	**5.582.553 or 57.5% of Liberia´s land area**

The study notes that "there is however already evidence that collective property rights, in fact deeded community land rights (categories 5 and 6), cover at least one third of the total land mass[21]."

Of particular importance is the observation made in the study that:

> Land use and property rights categories are not mutually exclusive, on the contrary; specific land use rights are issued or cannot be issued over different property rights. For instance, FMCs and TSCs can only be established by law on land that does not include private land. The Government of Liberia (GoL) warrants in contractual agreements with agricultural concession holders (Sime Darby, Golden Veroleum) that the granted concession area is free and clear of all encumbrances including rights over land, leases, titles, claims, rights of way.
>
> Practice shows however that it is extremely difficult for the GoL to exercise these warrants, in the absence of inventories, updated cadastral information and registers of formal rights, let alone by ignoring a rich bundle of legitimate customary rights and informal claims. Overlaps between different rights and claims become of course a major source of conflict.

These overlaps have resulted in the current moratorium on the forestry sector, which, as presented in the evidence sections, has cost the GoL as much as 2.5% in revenue. The economic impact on forest communities brandishing statutory claims to forest lands may even be larger, in terms of income lost due to moratorium.

The persistence of these issues becomes a constant source of land conflict which may have wider repercussions for the rest of the economy.

LAND ACCESS FOR THE SME, SERVICES AND THE MANUFACTURING SECTORS

Land governance and access constraints are also pertinent for SMEs, a good proportion of whom reports access to finance as their major constraint. SMEs, like agriculture smallholders, are most likely intense in land governance because valuable land can be used as collateral to secure credit. Insecurity of land tenure, the lack of effective land administration systems may, in the estimation of banks, diminish the value of land as collateral. The USAID Land portal notes that as much as 90% cases in the Civil Law Court involve disputes over land deeds and titles, hardly an impressive land profile for banks.

Land access is also important for the manufacturing and services sectors. The AfT has an intervention in its macroeconomic section that calls for establishing a Special Economic Zone (SEZ) fitted with relevant infrastructure and populated by companies. Some of these may involve rival claims of land ownership, especially in areas where communities have already developed. The Civil Law court has on a number of occasions issued a stay order on real estate construction due to land dispute litigation.

[21] This estimate is based on (i) 2007-FDA inventory work on collective aborigine land grant deeds and collective public lands sales (published by Liz Wiley), and (ii) information generated from a set of 25 PUP files (out of a total of some 62) analyzed by the LC. Ongoing research in CNDRA and the Ministry of Foreign Affairs, as well as field work indicate that more of these collective entitlements have been issued. The present estimate is thus conservative.

Services and manufacturing entrepreneurs with vast land holdings that are mired in land dispute litigation may not be able use these holdings as collateral to access credit.

Table 5.4 presents evidence of land access challenges in Liberia[22], especially in the rural areas. Scores range from 1 to 6, with 6 being the highest. Liberia is ranked among comparators on access to land using data from the International Fund for Agriculture Development (IFAD). An IFAD document notes that "ensuring secure access to land and other natural resources is often central to improving rural livelihoods and reducing poverty. Both the rules of land tenure and the system of access rights can be critical."

While Table 5.4 shows that Liberia ranks higher than only Guinea and Cote d'Ivoire in 2011, Liberia shows the biggest improvement over comparators, registering a growth of 47% between 2008 and 2011. In fact, other than Sierra Leone, which shows a mere 4.3% improvement, Liberia is the only country showing any improvement, with all other comparators declining or showing no improvements. However, Liberia is still the second worst performing, with Cote d'Ivoire and Guinea tying for worst on this indicator.

Table 5.4: Access to Land, Liberia and Comparators
Source: IFAD

	Access to land 2008	Access to land 2011
Liberia	2.00	2.94
Sierra Leone	3.00	3.13
Guinea	3.75	2.75
Gambia, The	3.95	3.88
Ghana	3.63	3.50
Côte d'Ivoire	2.75	2.75

5.9 Application of the Principles of Growth Diagnostics: The Four Tests

In this section, we apply the four tests to measure the impact of weak land governance.

TEST 1: IS THE SHADOW PRICE OF LAND GOVERNANCE HIGH IN LIBERIA?

One indicator of shadow price of land access may be the time it takes to access private and public lands. We saw above that Liberia performs relatively poorly on access to land as measured by IFAD. As gauged by the World Bank's Ease of Accessing Industrial Land index, which is part of its Investing Across Borders Index, Liberia does somewhat better. Figure 5.23 shows the four land access indices: strength of lease rights; strength of ownership rights; access to land information; availability of land information; and time to lease private and public lands[23]. Time to lease lands is measured in days and all other indicators range from 0 to 100, with 100 being the best score.

[22] The principal indicator assesses the existence of an institutional, legal and market framework for secure land tenure. The secondary indicator assesses the procedure for land acquisition and accessibility to all, for both individually held and common property resources, and assesses whether the rural poor are able to benefit from these to have secure access to land. This indicator also assesses the existence of legal/institutional framework or practical instruments to promote equal access of men and women to natural resources.

[23] The strength of lease rights index compares economies on the security of legal rights they offer to investors interested in leasing industrial land -- whether or not foreign and domestic companies are treated differently and whether the land can be

On the time to lease public land, Liberia does better than all comparators, though it is worse than the IAB regional and global averages. On time to lease private lands, Liberia does significantly better than Sierra Leone and is appreciably better than the other comparators and IAB regional and global averages on time to lease private lands. Liberia performs worst among comparators on the strength of lease rights indicator, however, faring only slightly better than Sierra Leone.

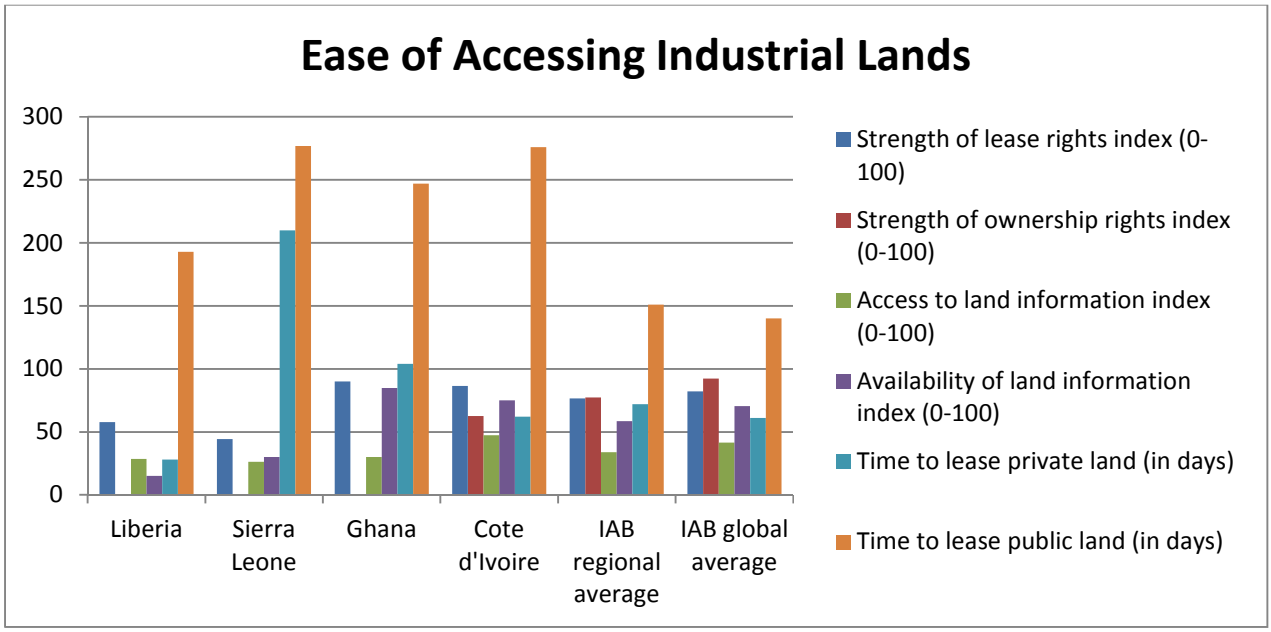


Figure 5.23: Accessing Industrial Land
Source: World Bank Investing Across Borders

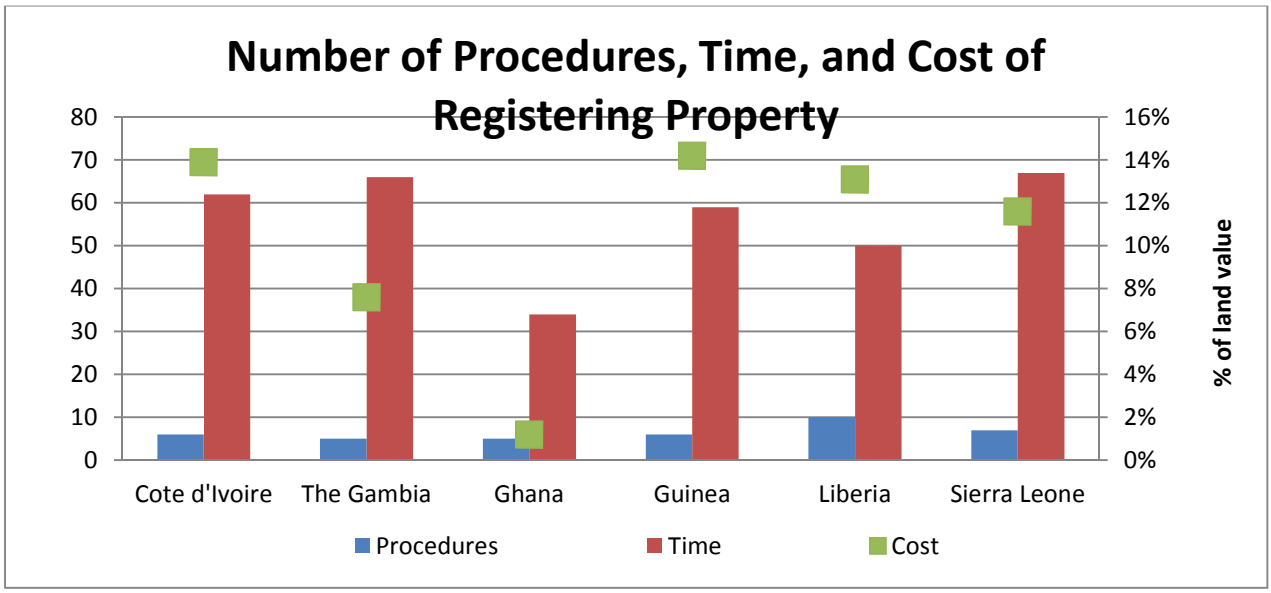


Figure 5.24: Time and cost of registering land
Source: World Bank Doing Business Indicators, 2013

subleased, subdivided, mortgaged, or used as collateral. The Access to land information index compares economies on the ease of access to land-related information through land administration systems -- land registries, cadasters and land information systems. The index also evaluates the modernity of those systems. The Availability of land information index compares economies on the availability of key land-related information to interested private parties through the countries' public land administration institutions. Again, the index does not measure an often even more critical factor related to land information - the quality of land information provided by public institutions.

Another dimension of access to land is land tenure security. Liberia ranks the worst among comparators in the Doing Business rankings on registering property, indicating that it is more difficult to register property in Liberia than comparator countries: Liberia ranks 178, compared with Sierra Leone at 167, Cote d'Ivoire at 159, Guinea at 151, The Gambia at 120, and Ghana at 45.

On the measure of time and cost of registering property, as shown in figure 5.24, which might be used as a shadow price of land tenure security, Liberia is at the high end of cost, thought relatively similar to comparators (with only Cote d'Ivoire and Guinea having higher costs of registration). The number of transactions in order to register property is nearly twice as many as the majority of comparators (among whom the average number of procedures is 5.8), suggesting a large administrative burden associated with registering property. These data indicate that while simple *access* to land might not be an issue, securing the legal status of that land may be more costly.

One of the outcomes of poor land tenure security is that there can be a proliferation of disputes over land use that prevent it from being used for productive means, either being used as collateral in banking transactions or directly by investing in higher value crops, irrigation systems, or other fixed capital. Thus, another indication of shadow price of weak land governance is the prevalence of conflict due to land disputes. Prolonged land disputes reduce the economic value of land both as means of agriculture production or as collateral.

Table 5.6 Pre-War and Postwar Prevalence of Land Disputes

Source: Talking Peace, U.C. Berkeley Study

Disputes	Bomi	Bong	Gbarpolu	Grand Bassa	Grand Cape MT	Grand Gedeh	Grand Kru	Lofa	Margibi	Maryland	Greater Monrovia	Nimba	River Gee	Rivercess	Rural Montserrado	Sinoe	TOTAL
Land -during the war	9%	11%	11%	8%	9%	24%	18%	13%	10%	15%	19%	20%	20%	17%	24%	19%	16%
Land-after the war	8%	11%	7%	7%	11%	25%	13%	15%	12%	16%	20%	20%	18%	15%	16%	10%	16%
Land (before or after the war)	13%	17%	14%	11%	14%	33%	22%	19%	17%	22%	28%	28%	28%	26%	30%	22%	23%
Other- after the war	12%	6%	8%	6%	13%	8%	7%	8%	7%	9%	15%	10%	7%	11%	15%	5%	10%
Any- after the war	18%	15%	14%	12%	21%	32%	19%	19%	16%	22%	32%	26%	25%	23%	28%	15%	23%
Any-before or after the war	22%	20%	20%	16%	24%	38%	27%	23%	22%	28%	39%	33%	33%	33%	41%	26%	30%
Access to land (% yes)	50%	73%	55%	61%	58%	83%	82%	74%	55%	79%	65%	82%	78%	83%	59%	82%	69%
Land ownership																	
Given by town chief	23%	22%	42%	11%	19%	27%	35%	15%	10%	18%	1%	13%	26%	46%	11%	28%	14%
Own (simple fee)	31%	40%	33%	53%	37%	28%	29%	39%	61%	31%	68%	53%	30%	13%	55%	23%	49%
Rent	3%	5%	2%	6%	4%	2%	1%	2%	10%	18%	18%	5%	6%	2%	13%	5%	9%
Borrowed	25%	13%	15%	11%	32%	25%	23%	22%	12%	23%	8%	14%	23%	20%	16%	26%	15%
Just using it	1%	1%	3%	0%	0%	3%	5%	2%	2%	1%	0%	2%	4%	6%	0%	6%	2%
Inherited/family land	12%	16%	4%	13%	8%	12%	7%	18%	4%	9%	3%	11%	8%	9%	3%	11%	9%
Other	5%	3%	0%	6%	1%	3%	1%	3%	3%	2%	2%	2%	4%	4%	3%	1%	2%
No owneership document	53%	50%	61%	31%	54%	57%	57%	51%	26%	37%	5%	27%	54%	76%	14%	68%	33%
House plot land- grabbing during the war	5%	9%	10%	8%	6%	20%	17%	11%	9%	14%	18%	18%	17%	11%	23%	16%	14%
Farm land grabbing during the war	6%	4%	5%	2%	5%	11%	2%	6%	2%	5%	1%	8%	8%	9%	6%	6%	4%
House plot land grabbing since end of war	4%	6%	4%	4%	4%	15%	8%	8%	8%	9%	10%	11%	9%	6%	11%	5%	9%
Farm land grabbing since end of war	2%	4%	3%	0%	3%	5%	1%	6%	2%	2%	1%	5%	3%	4%	2%	2%	3%
Dispute over land boundaries since end of war	4%	5%	3%	4%	4%	9%	4%	8%	7%	5%	11%	8%	7%	4%	6%	3%	7%
Other land disputes since end of war	5%	5%	3%	1%	2%	7%	3%	6%	5%	7%	5%	7%	6%	4%	4%	2%	5%
Payment of rental fee	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	1%	1%	0%	0%	1%	0%	1%
Inheritance dispute	1%	3%	1%	0%	1%	3%	2%	4%	3%	3%	2%	3%	3%	2%	2%	0%	2%
Accused in dispute	2%	1%	1%	1%	1%	2%	0%	1%	0%	1%	1%	3%	3%	1%	1%	0%	1%
Other	1%	1%	0%	1%	0%	2%	1%	1%	0%	1%	2%	2%	1%	1%	1%	1%	1%

Table 5.6 above presents information on land disputes across all 15 counties in Liberia. The third row shows land disputes after the war, which averages to around 16% for all counties. The table also shows that farmland grabbing during the war, and farmland grabbing since the end of the war are respectively 4% and 3%. Disputes overland boundaries and other land disputes are under 10%. These provide evidence that shadow price in terms of land disputes may be relatively low in Liberia.

A Yale University study, *Patterns of Conflict and Cooperation in Liberia,* in three counties of Liberia-- Nimba, Lofa and Grand Gedeh-- puts the prevalence rate of any land dispute in the three counties at

25%, with prevalence each county being 36%, 15% and 22% respectively, as shown in Figure 5.25. The Yale study further puts the higher prevalence observed in the three counties in context by noting that:

> The 247 communities that we survey *do not constitute a random sample of towns and villages in rural Liberia*. In each county, political and traditional leaders were asked to nominate —conflict-prone communities as potential targets for the CEP. Our sample is not nationally representative, and we expect that levels of conflict in these communities may be higher—and levels of cooperation lower—than in the average Liberian community.

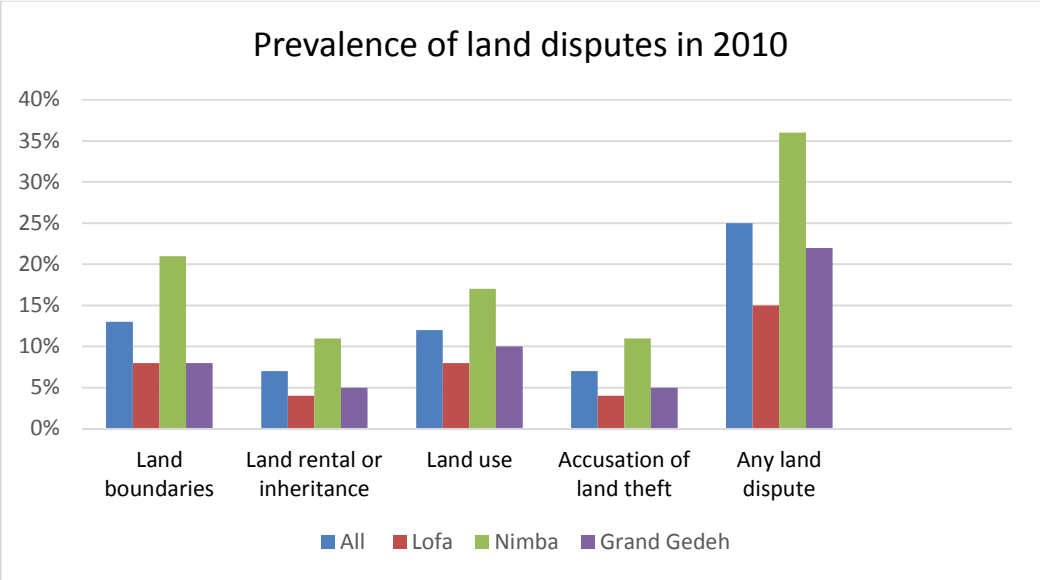


Figure 5.25: Prevalence of Land Disputes

Source: Patterns of Conflict and Cooperation in Liberia, Yale University 2010

The higher prevalence of disputes observed in Nimba has ethnic dimensions and may be atypical of land issues that anchor in weak land governance, such as insecurity of land tenure. A high proportion of these conflicts involves the more peculiar problem of war-induced vacation of lands or properties by one ethnic group fleeing the ravages of war and the subsequent resettlement of vacated lands or properties by other ethnic groups. While these disputes predate the war, many did not involve issues of tenure insecurity as noted by *Talking Peace*, which writes that "[h]aving a tangible proof of ownership did not seem to guarantee fewer disputes. In fact, 29% of those who had a document to prove ownership or access to land experienced land disputes during or after the war, compared to 21% of those who had no or only oral proofs of ownership/access." The general character of Nimba post war conflict may largely be characterized both in terms of resettlement opportunism availed by war and a perceived need for intra-ethnic recalibration of land-conferring economic power and leverage in the county. Given the almost unique nature of this problem in Nimba, the GoL in 2006 set up a commission that provided some solution through Alternative Dispute Resolution (ADR). As will be subsequently discussed under Test 3, the committee has resolved a significant proportion of these disputes, with the GoL paying in July of 2013 over US$1.2 million as settlement cash to various disputants. One implication is that as a consequence of this settlement, the high prevalence of land conflict in Nimba seen in the Yale study (36%) may trend downward below the 20% prevalence observed in *Talking Peace*, implying that the shadow price of land governance in Nimba may have reduced.

For agriculture concessions which are heavily intense in land access, shadow price considerations may be viewed in terms of the inability of the public sector to provide the desired governance in which private sector resource allocation may improve social welfare.

Table 5.7 presents four concessions-- three oil palm and one mining--that have been seriously affected by weak land governance. These concessions have experienced land-dispute related delays since contract signing, raising the opportunity cost of the respective investments.

High opportunity costs in these contexts may be glimpsed severally: i) via the value of these investments which might have earned returns elsewhere; ii) through forgone revenue to the government, which might have been used to provide other public inputs, such as road infrastructure; iii) through the number of jobs in the oil palm sector that might have been generated to date; and iv) via the local economies that these investment might have generated.

Table 5.7: Shadow Cost of Land Access by Some Concessions

Source: National Investment Commission

Shadow Cost: Concessions Land Access							
	Investment Costs	Date of Contract Signing	Contract Years	Contract Cycle Number of Jobs	Average Expected Number of Jobs Per Year	Number of Years Delay Since Contract Signing	Opportunity Cost of Jobs
Sime Darby Gurthrie Plantation	$800,000,000	30-Apr-09	63	30,000	500	3	1,500
Golden Veroleum[24]	$1,600,000,000	8-Aug-10	24	40,000	1,667	2	3,334
Maryland Oil Palm Plantation	$64,000,000	2011	33	1,000	30	1	30
Western Cluster Ltd	$2,600,000,000	22-Aug-11	25	2,500	100	1	100
Total	$5,864,000,000				2,297		4,964

Some of these costs are harder to gauge and given the time limitation of this analysis, no attempt has been made to calculate them. However, Table 5.7 does provide a snapshot of shadow costs in terms of investment costs and number of jobs. Opportunity cost of jobs is calculated by annually averaging over the number of jobs expected to be produced in a given contract cycle.

The conclusion is that the opportunity costs of weak governance and concessions land access are high when relevant costs are imputed.

Given the tight timeline of this analysis and the stringent limitation of data, measures of shadow price other than land disputes have not been explored. It is probable that these data might have presented a stronger case for an overall high shadow price of land governance across economic sectors.

Test 2: DO Improvements in Land Governance Correlate with Investment Growth?

It is almost a truism that economic activities in communities embroiled in land related disputes are significantly hindered. Since land governance reforms are very recent and ongoing, it is difficult to find reliable time series data to assess the general impact of improved land governance on investment or GDP growth in Liberia. What is possible is an assessment of the impact of weak land governance on key sectors that may be intense in the constraint. It is also possible to assess the impact of land conflict on agriculture output. If conflict is prevalent in the smallholder sector, we expect output to be depressed in higher conflict areas. We examine both of these kinds of evidence below.

[24] In our case, over the next 24 years, we propose planting 500,000 acres of oil palm and to support the development of a further 100,000 acres to be set-aside for local Liberian farmers. This has the potential to directly employ 40,000 citizens whilst developing infrastructure, furthering healthcare and improving education in our areas of operation.

Weak land Governance of Private Use Permits (PUPs) has Affected Government Revenue and GDP

The GoL has estimated that it lost about US$15 million in revenue due to the moratorium it placed on the export of timber because of abuses in the use of PUPs in the forestry sector. The moratorium has also meant the loss of jobs, since PUPs were concentrated around more than 2.5 million hectares of land, about 23% of the land area of Liberia (Report on the Issuance of Private Use Permits by the Special Independent Investigating Body, 2013),and a consequent fall in GDP by about 0.6%. The IMF Article IV Consultations puts the share of forestry GDP in 2011 at 8.5% and projects a fall in 2012 to about 7.5%, most likely due to the moratorium. In a footnote elsewhere in its 2012 report, the IMF notes that "[o]utside of iron ore, palm oil and forestry have significant potential to boost exports, revenue, and growth although land disputes and capacity constraints are slowing implementation."

PUPs are a Means of Income Generation for Poor Rural Communities:

A Land Commission Document providing background on PUPs states:

> *There is indeed some common agreement that PUPs were created to allow smaller scale extraction of commercial timber standing on private, individual land. In fact the first few Issued PUPs respond to this objective. (*Land Rights, Private Use Permits and Forest Communities, 2012).

The document goes on to say:

> *None of the landowners have, so far, considered logging themselves; all activities are contracted out. The establishment of these contractual partnerships between land/forest owners and commercial companies is in fact a sound principle, and sought after in different countries. It unlocks natural resources capital on collective and individually held land of people who lack skill, technology and (often) means to exploit these, and brings in technology, capital and knowledge of commercial operators. A third benefitting party is the state who receives certain tax revenues of logging activities*.

Governance Failures in PUPs limit the Opportunities for Income Growth and Poverty Reduction

Findings of the Special Independent Investigating Body, which looked into the PUP crisis, point to deep property rights challenges: The report reads:

> *Reviews of the underlying land deeds used in the issuance of PUP licenses revealed major in-consistencies and further abuses perpetrated by FDA management. There were fundamental flaws in the Ministry of Lands, Mines and Energy's (MLME's) validation process for the deeds. An assessment completed by the Land Commission indicated that that of the fifty-nine (59) land deeds reviewed, fifty-seven (57) are not eligible for the PUP license because the deeds presented evidence of collective ownership and therefore must operate under the requirements of the Community Rights Law (CRL).*

The above suggests that improvement in land governance may positively affect growth in the forestry and concessions sector, create additional jobs, reduce poverty and boost overall GDP. Resolution of these land conflicts will reduce the time land owners spend in resolving this conflict, enable land owners to invest in these lands, exchange land with others who may be able to make better use of it and generally exploit the resources situated on these lands in any economic way feasible. These outcomes may raise incomes, reduce poverty and contribute to growth.

Have Land Conflicts Adversely Impacted Agriculture Output?

If weak land administration, gauged through insecurity of land tenure or the prevalence of land conflict, is a binding constraint to agriculture development, we expect to see strong impacts of land conflict or changes in tenure insecurity on the sector.

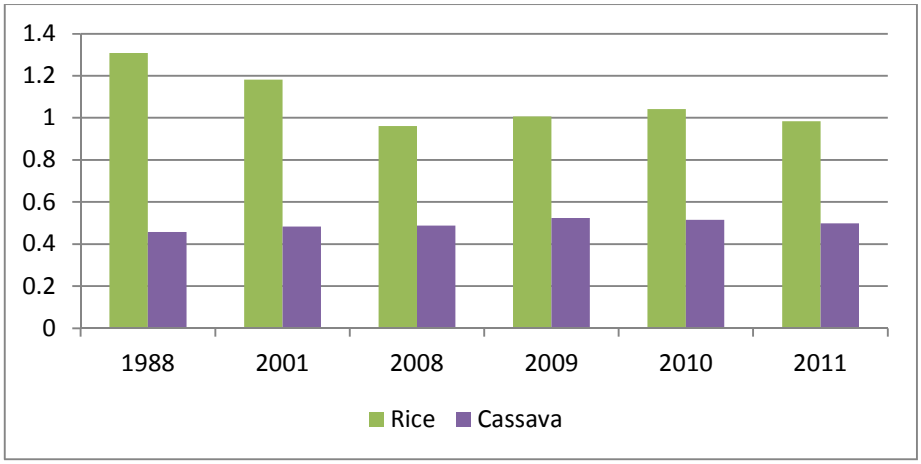


Figure 5.26: Farm Sizes Before and after the War, Hectares per Farm

Source: LISGIS, FAO and MOA Agriculture Survey

Land conflicts, tenure insecurity and land governance issues may impact agriculture output by, for example, reducing farm sizes. Land conflict would outright reduce the ability to farm, but further, simple land tenure insecurity could also decrease the size of the farms that people are willing to expend effort to manage. Insecurity of tenure may undermine farm effort, since farmers have less certainty of keeping the land in dispute. The net effect may be reduced farm size and or reduced output. Figure 5.26 presents data to tease out any possible effect of land conflict or tenure insecurity on the agriculture sector. The Figure shows that farm sizes relative to 1988[25] are generally lower. In 1988, number of hectares per rice farm averaged 1.3 while in 2011, the average is 0.98. On the other hand, sizes of cassava farms have stayed roughly the same even rising very slightly from 0.45 hectare per farm in 1988 to 0.49 hectare per farm in 2011. It may make sense, however, that rice farms are more affected by tenure insecurity, as they require more intensive investment in the land and thus is more heavily dependent on land tenure security. That said, the majority of rice cultivation in Liberia currently is low-productivity, low-input upland rice production, rather than the more intensive lowland paddy rice cultivation that requires more active investment in the land (FAO, 2010)[26].

Figure 5.27 presents the results of the LISGIS and FAO agriculture surveys conducted in 2009 to 2011. The figure lists the most prevalent constraints to farmers along with the constraint of land access, which ranks toward the bottom of the list of constraints. Land access, however, is not the same as land tenure security; land tenure security may have more to do with attaining loans and willingness to invest in land, rather than simple access, which does not appear to be a problem in Liberia.

[25] This is compared to only one year prior to the war as opposed to several years.
[26] FAO, "Focus on lowland farming yields multiple benefits in Liberia." 26 August 2010, URL: http://www.fao.org/news/story/en/item/44545/icode/

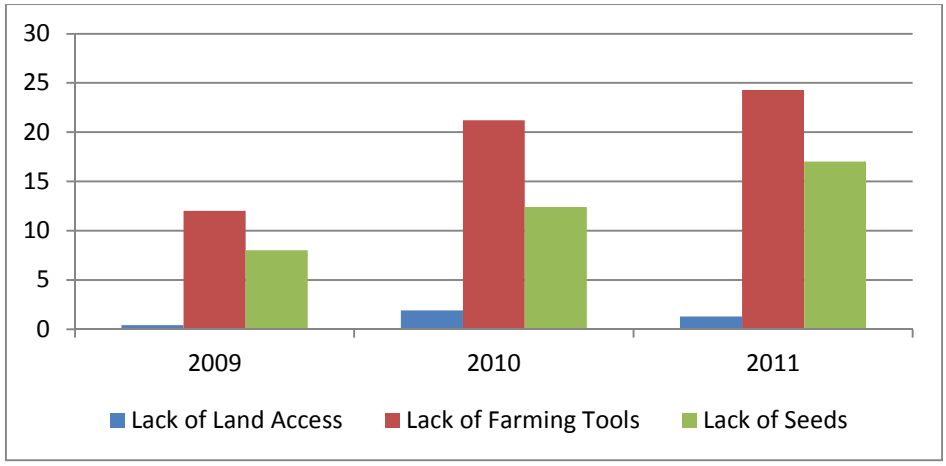


Figure 5.27: Some Constraints to Agriculture Output (%)

Source: LISGIS, FAO and MOA Agriculture Survey

While lack of seeds and farming tools rank as higher constraints than access to land, access to secure title of land may actively impede attainment of expensive inputs such as improved seeds and farming tools, as well as making people less likely to invest in costly inputs like permanent tree crops or irrigation.

Where weak land governance affects farmers' willingness to put in effort and financial resources, the expectation is generally reduced output. If land disputes have an impact on productivity of rice more so than cassava, that would suggest that land tenure security as measured by land conflict is constraining agricultural productivity. Comparing conflict and land productivity by county shows no significant trends, nor differences in the trends between rice and cassava, though cassava productivity trends slightly upward. The same holds true if we restrict land conflicts to farm land grabs, specifically.

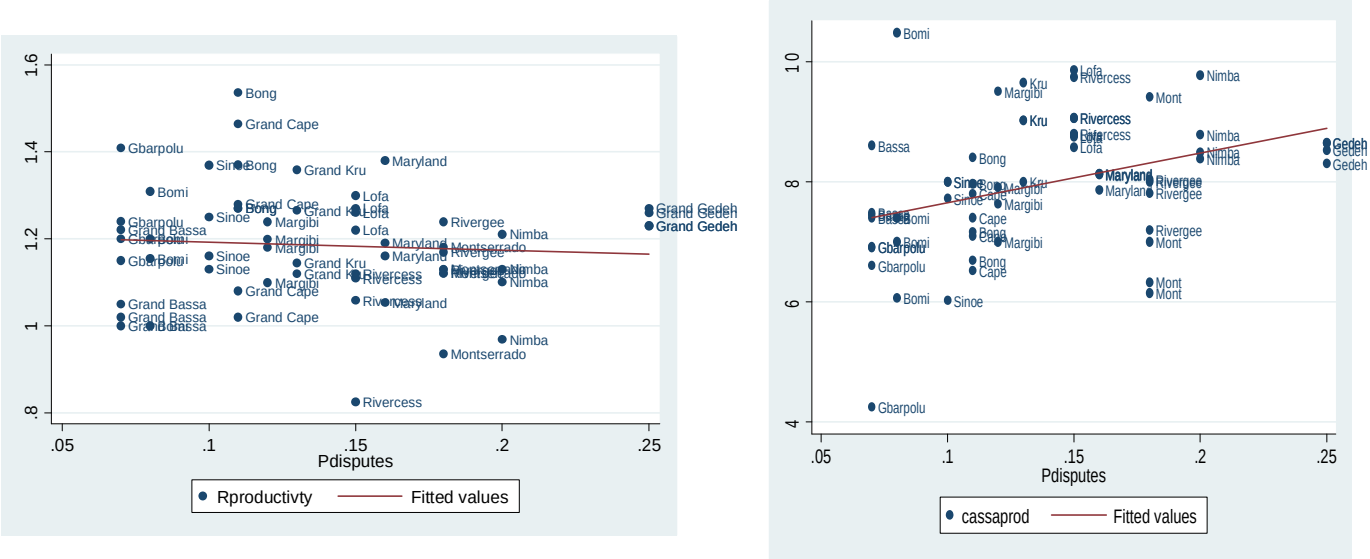


Figure 5.28: Change in rice and cassava productivity vs. Percent of population involved in land dispute

Source: Special Presidential Nimba Land Dispute Commission Report, GOL (2010)

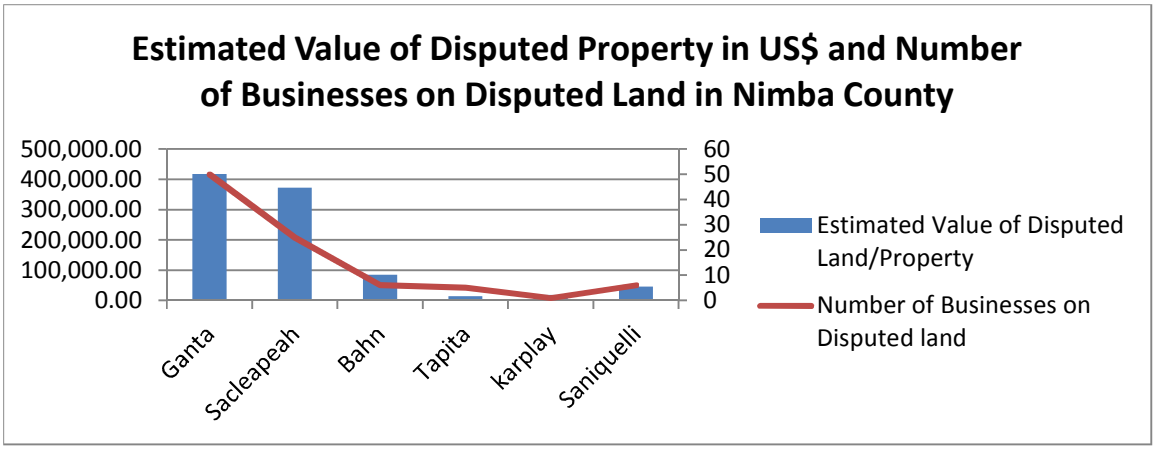
This evidence suggests that land tenure security, as measured by land conflict, does not have a strong impact on productivity. If the data were available, we would prefer to look at whether having formalized land rights is correlated in Liberia with greater investment in cash crops or forest crops over staple crops. Since forest crops can be thought of as fixed capital (they continue to be productive even if the farmer who planted the crops moves away), they would be more likely to be affected by lack of tenure security.

TEST 3: ARE FIRMS BYPASSING THE CONSTRAINT OF WEAK LAND GOVERNANCE?

Test 3 shows that firms constrained in weak land governance should bypass the constraint. Where resolution of land issues through formal institutions proves difficult, do firms and individuals find alternative mechanisms to resolve land issues? We do observe some evidence of bypassing as discussed in Figure 5.31.

EVIDENCE OF NON-CONCESSION BYPASS

Many businesses are bypassing perceived land dispute entanglement. During consultation with several surveyors and businesses, it was learnt that many businesses and individuals are making double and sometimes triple payments to individuals claiming legal ownership of disputed lands. These businesses reckon that it may be effectively less costly to make these payments than get bogged down in lengthy court proceedings. Figure 5.31 presents some evidence of non-concession bypass.



Cities and Communities in Nimba County Opt for Out-of-Court Resolution of Land Dispute

The above figure shows estimated value of land and property that the Government of Liberia expects to pay claimants to resolve land disputes that threaten peace in six cities /communities in Nimba County. The resolution comes through the Special Presidential Nimba Land Dispute Commission appointed by President Ellen Johnson Sirleaf in 2006 as a way of avoiding adjudication through the court system which is time consuming and complicated. Disputing parties agreed to use the Commission in lieu of courts. About 28 disputants rejected the Commission, opting instead to use the courts. The Committee in its 2010 noted that many of those who rejected the Commission "find the court as safe haven, due to the long time it takes for courts to adjudicate matters." This implies that those who rejected the Commission wanted to buy time and would rather have cases languish in the court system due to weak claims.

The Government of Liberia in July of 2013 paid the sum of US$1.2 million to claimants who adjudicated through the Commission. Although the majority of disputes involved residential property, businesses were also at the center of disputes as shown by the above figure. Ganta has the highest number of small businesses involved in the disputes (50), followed by Sacleapeah (25).

The biggest impact of this resolution on business is the avoided conflict which might have impacted businesses that are even not involved in these disputes.

Although this evidenced is only for Nimba County, the Land Commission has commenced pilot training for alternative land dispute resolution in five of Liberia's 15 counties. In 2012, the Ministry of Justice and the Judiciary indicated a willingness to consider legally enforcing agreements reached via alternative dispute resolution mechanisms (Liberia: Investment Climate Statement 2013).

Figure 5.31: Evidence of Non-Concession Bypass
Source: Special Presidential Nimba Land Dispute Commission Report, GOL (2010)

The above discussion presents some evidence of bypass regarding concessions and businesses in conflict affected areas. In terms of the wider economy, evidence of bypass is difficult to access. That about 90% of cases at the civil law court still involve disputes in land titles, as indicated by the USAID land Portal, does not seem to support economy-wide bypassing. It is also an indication of the severity of the land access problems.

The conclusion is that some form of bypassing is happening in sectors that are intense in the land governance constraint. However, economy wide bypassing is more difficult to establish given that land cases at the civil law court do not appear to be declining. The evidence for test three appears mixed.

Test 4: Are Firms Least intense in the Land Governance Doing Relatively Better than Firms more Intense?

Several firms relatively least intense in the land governance constraint appear to be thriving relative to firms most intense. Firestone appears to be less intense in land governance. The company does not list land access as a major constraint in the NBC report, citing rubber theft as a major concern. Firestone employs more than 6,000 workers and has spent more than $158 million in buying rubber from smallholders. The company is currently engaged in significant replanting, forcing it to increase its purchases from smallholders. Salala Rubber, another rubber concessionaire least intense in land governance, also appears to be thriving. Salala Rubber enlists more than 1,800 smallholders in its supply chain to support 4,000 workers, meeting about 70 to 80 percent of its raw rubber demand through procurement from smallholders.

Other examples may be further adduced but data needed to assess firm profitability over time are generally not available. The reality is that test four is generally difficult to apply since firm growth may be explained by many covariates other than non-intensity in a constraining factor. In fact it is generally difficult to show that non-intensity in a constraint causes or explains firm growth.

However the evidence presented for Firestone and Salala rubber at least shows that these firms are operating, a requirement to recoup investment costs, while firms such as Western Cluster, Sime Darby and Maryland Oil Palm are still in negotiations to bypass the constraint that is hindering production.

The evidence presented above would support a positive result for test four, but the conclusions cannot be definitive due to many other factors that may account for growth. Further, it would be better to look at the difference between the land-intensive agriculture sector and something non-intensive like services, however there are a lot of intervening factors – especially human capital and access to finance - that make it difficult to interpret the fact that the services sector has grown quickly compared to the stagnating agriculture sector.

5.10 Conclusion

The preceding sections have closely examined available evidence regarding the impact of weak land governance on different sectors. The shadow price of land governance, assessed in terms of prevalence of land conflict and its impact on the entire economy, does not appear to be high relative to comparators. This section has also found a high shadow price of governance for the oil palm and forestry sectors, where land access issues have affected production. The impact of land administration on smallholder food crop production does not also appear to be strong. However, the conclusion reached in this section may not reflect other forms of shadow price which have not been explored due to data and time limitation.

The evidence presented in this section appears mixed, making weak land governance a major constraint, leaning binding. More study is necessary into the data and mechanisms of how the cost of

weak land governance in the Liberian economy manifests for firms. The benchmarking under Test 1 shows that that prevalence of land disputes in Liberia is not higher than in Sierra Leone or Ghana. This is striking since Ghana is not a post-conflict country. However, according to the Berkeley study, one in four adults in Liberia has been involved in a land dispute since the start of the war, and land disputes are far less likely to be resolved in a timely manner than are other disputes. The specific time and cost involved in resolving land disputes –which could provide more information on the true economy wide shadow price of the constraint and its impact on firms–is however unclear. This may result in underestimating the shadow price.

On the other hand, in the context of oil palm concessions, the shadow price appears high. Land governance appears to bind for the oil palm sector and for new agriculture concessions that may get caught up in land governance issues.

Land, however, does not bind for existing rubber agriculture concessions such as Firestone Liberia or Liberia Agriculture Company (LAC) because low land utilization observed in these cases may not be related to land governance issues. Table 5.7, culled from the National Bureau of Concession's (NBC's) report, shows low utilization of contracted hectares for listed agriculture companies. Among companies listed, only Sime Darby is unable to access contracted lands due to land governance issues.

On the other hand, land property rights issues in the form of PUPs have affected growth and jobs in the forestry sector, raising the shadow price of the constraint for this sector.

Table 5.7 Agricultural Land Take Up By Selected Agricultural Concessionaires

Source: National Bureau of Concession

Agricultural Land Take Up By Selected Agricultural Concessionaires				
Company	**Date Signed**	**Life of Concession (years)**	**Concession Area (Acres)**	**Area Planted or Developed (Acres)**
LAC	23rd March 1959	70	600,000	81,350
Sime Darby	30th April 2009	63	767,631	30,909
Cavalla Rubber Corporation	17th August 2011	50	74,100	20,000
Salala Rubber Corporation	1st August 1959	70	100,000	23,000
Liberia Co.	17th December 1949	80	150,000	25,000
Total			**1,691,731**	**180,259**

Although the evidence on land access is mixed, the constraint has strong impacts in all sectors. The persistence of land governance and land access issues will impact rubber and food crop smallholders, reducing the ability of the former to meet supply needs of rubber companies while undermining the

income of the latter. SMEs who are heavily constrained in access to credit would equally be impacted as would real estate firms facing stalled property development due to court stays.

Land issues will also affect females, who now make up the majority of food crop growers, denying them of incomes and putting at risk the development of children who are mainly dependent on these incomes.

5.11 GOVERNMENT CAPACITY AND CONCESSIONS MANAGEMENT

Since 2005, the Government of Liberia has taken important steps to structure the governance of concessions and has moved to address coordination failures in monitoring and regulating concession contracts. One major achievement is the formalization of the concession management process through the Public Procurement and Concessions Act (PPCA), which was passed in 2005 and amended in 2010. A second achievement is the establishment of the National Bureau of Concessions (NBC), in response to the 2010 World Bank institutional assessment that 'no one government entity is responsible for monitoring and reporting the technical performance and social and developmental impact of concessions'. Similarly, the establishment of an Inter-Ministerial Concessions Committee (IMCC), chaired by the National Investment Commission (NIC) and comprising the Environmental Protection Agency (EPA), the NBC and other relevant sector ministries, has strengthened capacity to conduct formal due diligence. The IMCC effectively serves as a domestic hub of concession knowledge[27]. A technical working group, which reports directly to the IMCC, is tasked with providing the proper due diligence on concession bids[28]. Key measures have also been taken to address acute capacity shortfalls through the provision of foreign technical expertise.

Despite these improvements, critical challenges remain. First, the lack of a clear delineation of roles among key government entities appears to bottleneck cooperation and information sharing, undermining concessions management. For example, while the NBC serves as the coordination body, it is individual line ministries and agencies that in practice take responsibility for the day-to-day monitoring of concession issues relating to their own sector. The NBC's 2013 report, *Liberia's Concession Sector: Issues, Challenges and Prospects*, clearly articulates many of these constraints. The document notably highlights the lack of formal inclusion of the NBC in government concession committees and the absence of a long-term strategy for developing skills and competencies in concessions management.

Second, capacity gaps in concessions issues manifest themselves in varied forms, as shown by Box. 5.3. Capacity to negotiate concessions has been found wanting and has led to confusion, overlapping promises and foregone opportunities to attract investment[29]. Specific issues have been raised on a lack of knowledge regarding the nation's mineral wealth and insufficient information on the area of concession agreements already granted. In these two areas, improvements have been made through the introduction of a Mining Cadastral system in 2010[30] and the creation of a National Cadastral Road Map for Liberia that will track, store and be a central repository of geo-spatial and cartographic information on concessions rights in the country[31]. However, regulations allow for overlap between iron ore and other minerals and data entry errors are said to be widespread[32].

A related capacity concern is that poor government oversight has resulted in major environmental damage and lost revenue. This is highlighted by the Global Witness 2012 report looking into the issuance by the Forestry Development Authority (FDA) of PUPs for logging. The report finds that about

[27] Lanier, Mukpo and Wilhelmsen (2011)
[28] Successful bids are considered on the basis of feasibility, environmental impact, employment potential, and financial benefits to the state.
[29] GIZ(2013)
[30] NBC(2013)
[31] NBC(2013)
[32] GIZ(2013)

26,000 sq. km of logging area, a quarter of the country's total land area, was subject to no sustainability requirements. The report also finds evidence of permits awarded "in violation of the community rights law and suspects the use of forged documents and systematic neglect for due process in the allocation of PUP.[33]

Text Box 5.1: Liberia's renegotiation of Firestone and ArcelorMittal Concession Agreements, 2006 - 2008

Adapted from Kaul, Heuty and Norman (2009)

In undertaking the election promise of President Ellen Johnson Sirleaf, in 2006, the government of Liberia entered into renegotiations with the two largest concession contracts, Firestone Natural Rubber Company and Mittal Steel Holdings N.V. In reviewing previous agreements, signed in 2005 by the National Transitional Government of Liberia, it was established that the agreements were biased in favor of the two investors.

In the case of ArcelorMittal, the original agreement transferred the port of Buchanan and Yekepa railroad to the concession, established a renewable tax holiday, and allowed the company to assess the price of iron ore for taxation purposes based on company invoices.

In the case of the Firestone, the original agreement allowed Firestone to assess the export price based on transactions with affiliates, base the price paid for out grower's rubber on Firestone's export sales price not on an international standard, did not formalize preference for procurement of locally sourced staff and goods, did not reference local environmental legislation, and provided limited provision for workers' education and housing.

As a result of engaged leadership from President Sirleaf, collaborative teamwork among the government of Liberia's negotiation team and technical assistance from two American law firms the agreements were renegotiated to reclaim many provisions for the government of Liberia. Notably in the renegotiation with ArcelorMittal, the port of Buchanan and Yekapa railroad were taken back by the government, the tax holiday was removed from the agreement, and the price of iron ore was to be based on international fair market values.

In the Firestone agreement, the price of rubber was tied to the Singapore Commodity Exchange, strict provisions were incorporated for public health and safety and the preference for local procurement of staff, goods and services, the land rental fee was raised from US$0.50 to US$2.00 per acre, and Firestone was bound by Liberia's environmental laws and was instructed to report on their environmental impact annually.

The newly negotiated agreements are celebrated as internationally competitive and as a result of greater investor confidence, led to ArcelorMittal increasing investment from US$1 billion to US$1.5 billion.

Another example of weak capacity is the Liberian government's delay in concluding a Memorandum of Understanding with an agriculture company to address environmental pollution from rubber processing waste[34]. In 2008, the Kpanyah Town Community in Margibi complained about pollution of creeks and streams by that company.

A Moore Stevens-LEITI audit of 68 concession agreements has found that about 51% of these agreements are in violation of the PPCC law. These non-compliance issues may not be intentional but may reflect the lager capacity and institutional weaknesses referenced above.

[33] Global Witness (2012)
[34] NBC (2013)

5.11.1 Corruption and Weak Financial Management

Despite improvement in public financial management, corruption and weak financial management continue to limit the economy-wide benefits of concession investments. Poor monitoring of concessions has in some instances reduced the collection of taxes. Corruption may also be limiting the effectiveness of County Social Development Funds (CSDF), a mechanism developed to ensure counties and communities in concession areas benefit from the exploitation of natural resources. The CSDF are paid by concessionaires to the Ministry of Finance, who in turn deposit them in an account at the Central Bank of Liberia. The funds are then administered, coordinated and regulated by the Dedicated Funds Committee (DFC), which is responsible for approving projects. The County Development Management Committees (CDMC) oversees the local management of the Fund. Individual Project management teams take charge of project related operations[35]. The first CSDF, established in 2007, required ArcelorMittal to pay US$73 million over 25 years or roughly US$3.0 million each year to three rural counties. The Fund has equal oversight from the Government of Liberia and ArcelorMittal[36].

Unfortunately, CSDFs have been riddled with accusations of corruption and lack of capacity in project implementation, resulting in relatively small amounts of money getting to the intended beneficiaries. For instance, between April and September 2009 in Nimba County, administrators spent US$120,386.00 solely on administrative costs, while a balance of US$1.38 million remained unspent. Bidding processes for development projects contracted to private companies have reportedly also been uncompetitive and non-transparent. For instance, a firm in Grand Bassa County was paid US$55,000 for a non-existent road rehabilitation project and in Nimba County the Auditor General's report reveals large payments being made to bogus firms[37].

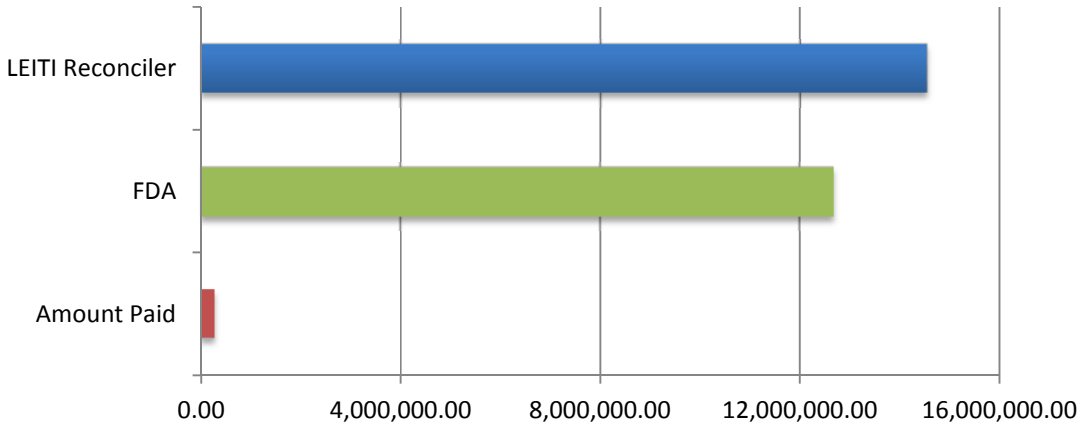


Figure 5.34: Revenue Due According to LEITI and FDA versus Actual Amount Paid for 14 Forestry Sector Companies

Source: LEITI, 2013

An audit commissioned by LEITI of 14 forestry sector firms finds that weak capacity to enforce contracts may be affecting government revenue generation, as shown by Figure 5.34, culled from Liberia Extractive Industry Transparency Initiative (LEITI) May 2013 report. While consolidated data on all

[35] GIZ (2013)
[36] Article 12 of the amended Mineral Development Agreement between the Government of Liberia and ArcelorMittal. CHECK
[37] GIZ (2012)

sectors remains limited, the figure shows that the amount paid by 14 forestry firms to the Forestry Development Authority (FDA) pales in comparison to expected payment[38]. As shown in Figure 5.34, companies paid between 1.8 to 2.1 percent of the amount owed.

5.11.2 Concessions Management, employment, Environment and growth

The preceding discussions are placed into broader relief when viewed in terms of the impact of concessions and financial management on employment, growth and the environment. As structured, policy making and regulation of concessions retain their pre-war character in terms of the lack of emphasis on inclusive growth and the need to link the enclave and non-enclave sectors. The biggest impact of concessions on the Liberia economy may consist in their ability to affect employment and growth outside the domains of the extractive sector. This is particularly relevant to mining, which is entirely export oriented with almost no linkages with sectors such as agriculture or manufacturing.

It is worth noting that some footprints in this direction are being recorded. The NIC and the Ministry of Commerce and Industry (MoCI) are working to develop the local value-chain for key concessions through encouraging interactions between SMEs and logistic units of major concessions. This is intended to provide an opportunity for the transfer of knowledge, technology and managerial practice between domestic and foreign firms[39].

The government has also sought to encourage new types of FDI in sectors which will have a longer-lasting impact on the economy. A law has been drafted to establish industrial centres which will help to reduce the constraints of poor infrastructure, land issues and burdensome administrative policies. It is envisioned that this will attract FDI into new sectors such as services and manufacturing[40]. The NIC has identified three sectors to target for investment promotion based on sectorial opportunities, impact, capabilities and readiness. The sectors chosen were tree crops, fruit and vegetable manufacturing, transportation and fisheries[41].

Finally, the environmental impact of concessions management is equally important. Environmental protection remains a vital and somewhat overlooked issue in ensuring that Liberian concession management leads to sustainable development. The fact that the EPA is currently involved in concession negotiations right from the outset is positive. Nevertheless, the agency's monitoring and regulations capabilities remain lacking. To some extent, international NGOs have stepped in to fill this void. However, the full effects of deforestation and pollution of land are still unclear.[42]

The remaining revenue from concession agreements is allocated to the Consolidated Fund for allocation in the government's annual budget. The government budget process has made progress in recent years through the Public Financial Management (PFM) Reform and movement to a medium term expenditure framework (MTEF). The government has sought to create greater transparency in the budgeting process through the Open Budget Initiative (OBI) and through aligning project budgets with the poverty reduction

5.11.3 Conclusion

The GoL has taken many important steps in addressing gaps in concession management. In the tradition of the framework developed by Alba (2009), this section has identified key areas that deserve serious policy attention. While these remain pressing concerns, they are, for the most part, beginning to be addressed by the Government through arbitration, capacity development and community engagement. Foreign investment in Liberia remains substantial and is helping to open up development opportunities for all regions of the economy. But the concentration of FDI in the extractive sector and its minimal impact on the broader economy remains rich areas for policy exploration. The use of natural resource rents to spur private sector through appropriate infrastructure investment remain priority areas of focus. Failure to address these issues largely perpetuates the growth without development story.

[38] The FDA are reported to have received assistance from SGS in establishing their figure.
[39] NIC (2012), Business linkages report
[40] Werker (2012)
[41] Dalberg, IFC, Liberia Sector Prioritization (2013)
[42] SOURCE: Lanier, Mukpo and Wilhelmsen (2011)

These issues and challenges render concession management a critical risk, though not a binding constraint to investment growth.

5.12 TAXATION

Taxes are inherently distorting and a complicated tax structure may serve as a disincentive for business. In 2010 the government amended the Revenue Code and reduced corporate income tax from 35% to 25%.

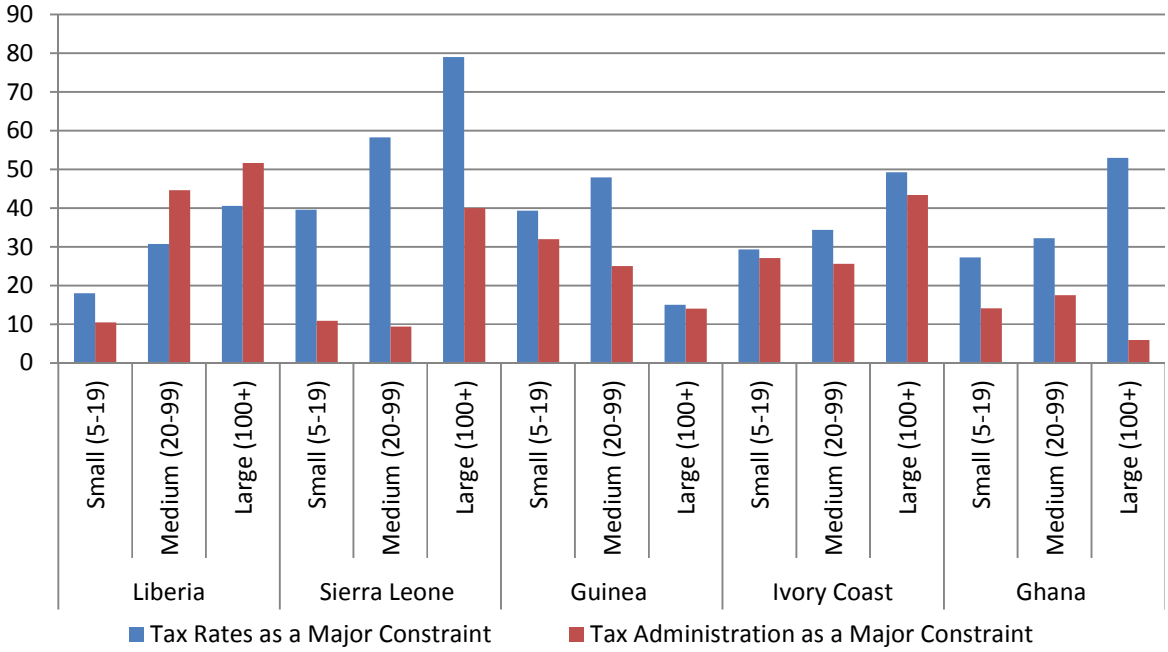


Figure 5.35: Regional Comparison of Tax Rates and Tax Administration as Major Constraints

Source: World Bank, Enterprise Surveys

Taxation as discussed in this section incorporates issues of tax administration. Businesses in Liberia appear to view tax administration as a major problem as shown by 5.35. More than 40% of medium businesses in Liberia view tax administration as a major constraint. Issues of corruption and transparency show up commonly in tax administration. It may be that agents in government complicate the administration process to extort bribe. Administration concerns may also link with information and education about the tax process in Liberia, which many small business owners seem to lack. A small business owner at one CA private sector roundtable said that a tax representative informed him 'not to worry about filing a tax return.'

5.13 APPLICATION OF THE PRINCIPLES OF GROWTH DIAGNOSTICS: THE FOUR TESTS

We apply the four tests on taxation to determine whether it is a binding constraint to firms. If taxes are a binding constraint to growth in Liberia, we expect at least to see a disproportionately higher tax burden relative to comparators.

TEST 1: Is the Shadow Price of Taxes High in Liberia?

Table 5.8 presents evidence using 2013 World Bank Doing Business data. The table shows the proportion of commercial profits paid in taxes. Rates in Liberia are comparatively lower, indicating that taxes may not be any more distortionary than in comparators.

Table 5.8: Comparison of Commercial Profit Paid as Taxes

Source: World Bank, Doing Business 2013

	Profit Tax (%)	Labor Tax and Contributions (%)	Other Taxes (?)	Total Tax Rate (% Profit)
Liberia	**18.3**	**5.4**	**3.7**	**27.4**
Sierra Leone	17.6	11.3	3.3	32.1
Guinea	23.5	9.6	40.1	73.2
Cote d'Ivoire	18.5	14.7	0.4	33.5
Ghana	9.8	20.1	9.6	39.5
SSA	**19**	**13.3**	**25.5**	**57.8**

Test 2: Do Reductions in Corporate Income Tax Rate Correlate with Economic Growth in Liberia?

It would be difficult to reliably establish such an argument given the paucity of data. Tax rates were changed only in 2010, and therefore there are not sufficient data points to study the impact. However, using the IMF's revised GDP growth rates, we plot GDP growth along with the tax rates over the period to observe some correlation, as shown in Figure 5.36. We do observe the expected negative relationship but would not go so far as to say the influence of the tax reduction explains this relationship. It is possible that any tax impact would be lagged. We don't have enough data to reach a firm conclusion on the impact.

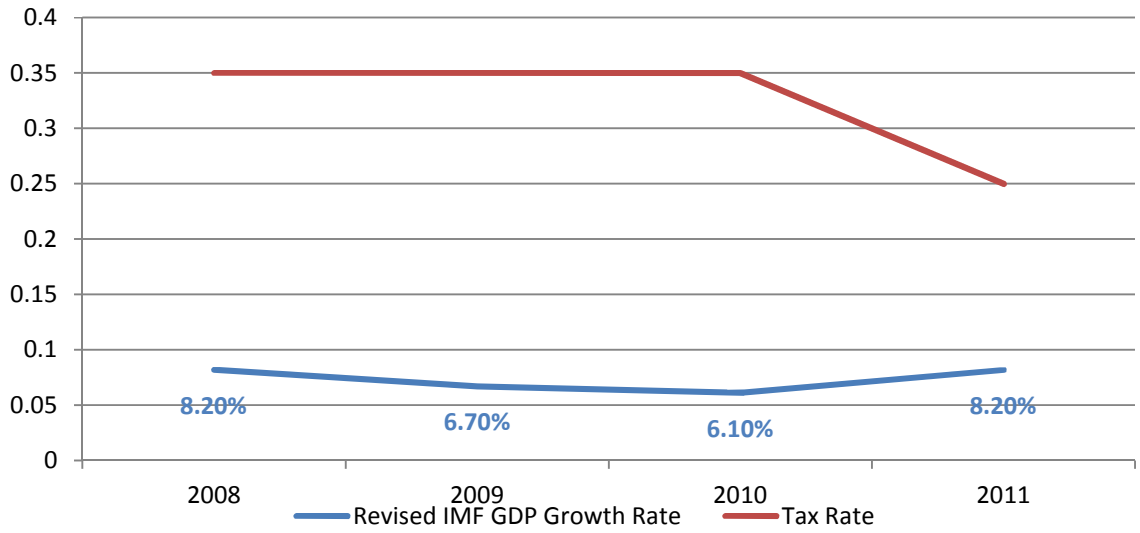


Figure 5.36: Rate of Economic Growth and Tax Rate in Liberia, 2008 – 2011

Source: IMF & Ministry of Finance

Test 3: Are Firms in Liberia Bypassing Taxes?

Tables 5.9 and 5.10 present some evidence that shows a good number of small and medium firms may be bypassing taxes in Liberia. The report of the Tax Revenue Harmonization Committee (TRHC) made on November 2, 2012 reveals an alarming discrepancy between the population on the BIR Tax roll and that on the LBR database, as shown in Table 5.9. The 2012 Micro Small and Medium Enterprises (MSME) survey, Table 5.10, reveals that up to 40% of surveyed businesses are not registered with the Department of Revenue at the MOF and about 37% do not have Tax Identification Numbers (TIN).

This is rather surprising since taxes are comparatively low in Liberia. One answer is that the explanation may lie in lower rates of profitability among firms, not in the tax rates. The apparent lack of profitability links many different constraints such as the capacity and entrepreneurial capability or inadequate access to finance. Additionally, the observed discrepancy may be due to the fact that many businesses do not have adequate information about tax compliance procedures and processes. Greater information and education about the process may improve compliance levels, which is consistent with the fact that many firms view tax administration as a major constraint. Also, the government's requirement for small firms to pay taxes in advance on a presumptive basis (4% every quarter on gross turnover) has proven highly burdensome. The conclusion of Test 3 is that bypassing does not seem to be due to tax rates but may anchor in other factors. This test is generally negative.

Table 5.9: Discrepancy in the Number of Registered Business at Ministry of Finance Tax Roll and Liberian Business Registry

Source: International Finance Company, MoF

	MoF	LBR
Large Tax	553	
Medium Tax	1,418	5,841
Small Tax	3,329	23,164
Rural Tax	1,924	8,125
Total	**7,224**	**38,290**

Table 5.10: TRHC Findings of Non-Filers

Source: International Finance Company, MoF

	Large Tax Division	Medium Tax Division
Total Tax Roll	556	1420
Inactive Taxpayers	115	131
Taxpayers Not Required to File	-	333
Total Taxpayers Expected to File	**441**	**956**
Filed on Time	143 (32%)	170 (18%)
Late Filers	21 (5%)	20 (2%)
Total Filed as at April 15,2013	164 (37%)	190
Non-Filers, as of April 15, 2013	**277 (63%)**	**766 (80%)**

Test 4: Are Firms Less Intensive in the Tax Constraint Doing Relatively Better Than Firms More Intensive?

Firms in the informal sector are less intensive in the tax constraint since these do not pay taxes, and are most often characterized as being highly vulnerable. There is no reason or evidence that suggests

these firms are any more profitable than formal sector firms. Firms that are avoiding paying taxes, though least intensive in the constraint, may not be any more profitable than firms that pay taxes. For reasons discussed above, it may be that profitability is linked to tax compliance in Liberia. Firms in the informal sector generally tend to thrive less relative to formal sector firms, but the absence of data limits the extent of concluding that Test 4 is negative.

5.13.1 CONCLUSION

On the basis of the evidence reviewed in this section, we conclude that taxation is not a binding constraint to growth and investment in Liberia. The burden of taxes does not appear to be high in Liberia relative to regional comparators. However several issues remain to be resolved. The high discrepancy between registered businesses and those on the MoF payroll may either suggest a lack of comprehensive tax effort over time on the part of revenue authorities or it may signal the sophistication of small and medium businesses to remain undetected. Or it may just be due to education and information dysfunctions. These discrepancies may also be due to corruption. Also, though taxes are not a binding constraint, tax administration has been flagged as a major issue by businesses. Simplifying administrative procedures or cutting bureaucratic red tape may be important.

It will be important for the new revenue authority to take up these issues in the years ahead.

5.14 MARKET ACCESS AND BARRIERS TO TRADE

Liberia's recent trade policy has focused on the dual policy goals of poverty reduction and economic recovery and is characterized by recent executive order import tariff waivers on a number of key inputs for production. On the export side, a very small number of firms are large or efficient enough to begin exporting, indicating that other more pressing constraints may be the reason for the limited number of exporting firms. Liberia's future development goals may be at risk from a deterioration of the trade policy environment as a result of increased tariffs following migration to the ECOWAS Common External Tariff (CET). In terms of domestic market access, road and electricity infrastructure are a concern for local farmers who are not able to transport their goods around the country.

5.14.1 LIBERIA'S CURRENT FOREIGN TRADE

Exports from Liberia are primarily produced by a small number of large concession firms trading natural resources of rubber, palm oil, timber and more recently iron ore. Figure 5.37 displays the composition of exports by sector from 2010-2015. Over this period, exports are forecast to grow substantially with iron ore overtaking rubber as the most important export commodity in 2015. Major oil palm concessions are expected to begin exporting in 2015[43], with substantial expansions in subsequent years. Commercial gold mining is expected to begin in 2014[44], while tentative predictions of offshore oil represent a longer term prospect for export.

[43] Discussions with Golden Veroleum Liberia suggest first exports will begin in 2015 with substantial expansions in subsequent years

[44] S. Sahla, 'The Extractive Industries Value Chain: Challenges for Concession Management in Liberia', GIZ, 2013

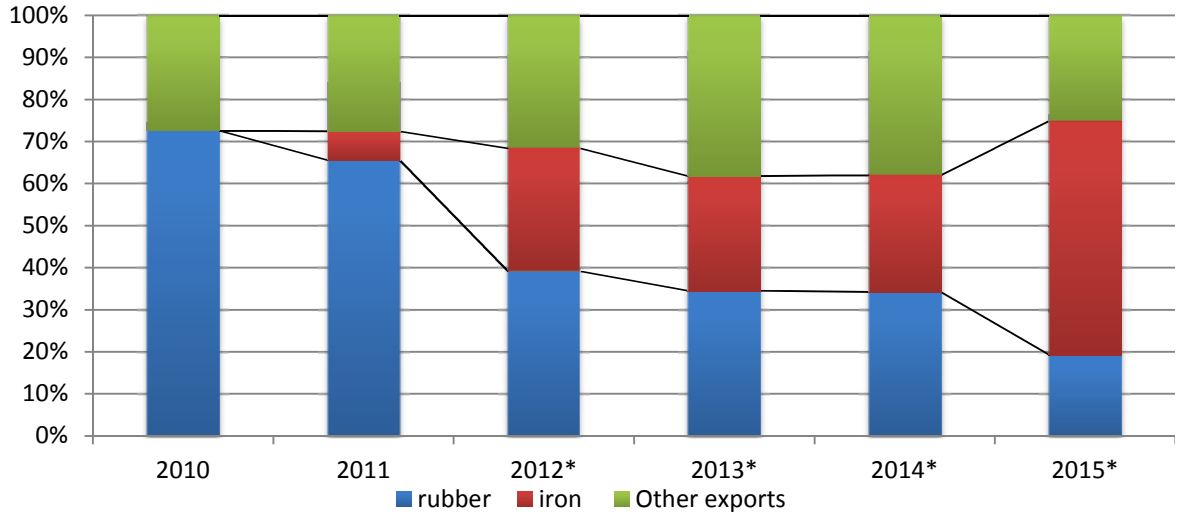


Figure 5.37: Composition of Exports by Sector, 2010 - 2015

Source: IMF 2012 Article IV Staff Report Consultation and Request

Non-concessionary exports are extremely limited. Figure 5.37 displays the percentage of firms exporting at least 1% of sales directly or indirectly as reported in the World Bank Enterprise Survey (2009). Just 1 percent of firms are currently exporting, the lowest percentage in the sub region. Domestic firms that are currently exporting are predominately in the artisanal gold and diamond mining sector[45], utilizing out-grower schemes especially in the rubber sector, or forestry.

On the import side, Liberia's recent import basket is primarily made up of domestic consumables, machinery, construction material and vehicles. The country remains dependent on imported food with imported rice remaining an extremely sensitive commodity.

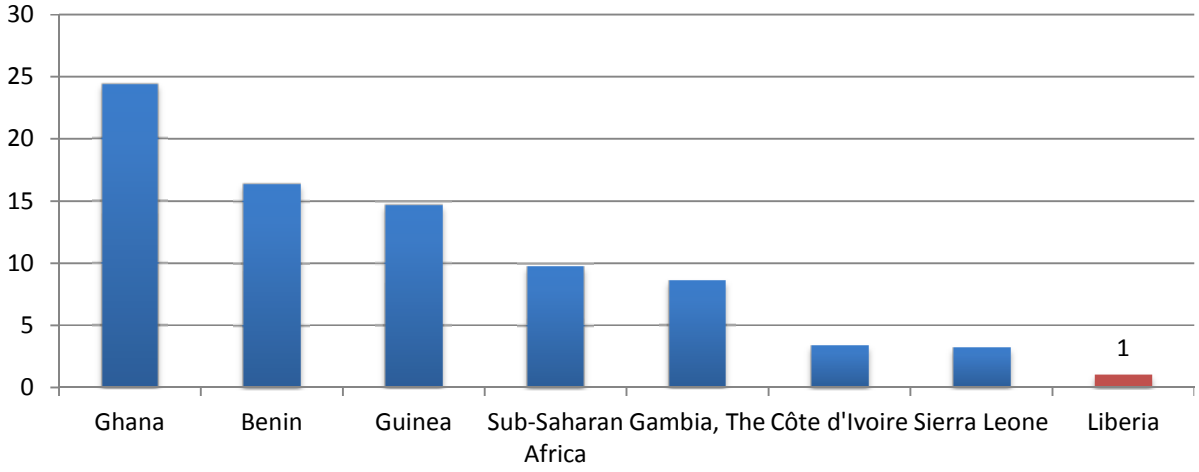


Figure 5.38: Comparison of Percent of Firms Exporting, Directly or Indirectly, at least 1% of Sales

Source: World Bank, Enterprise Survey 2009

[45] USAID, 'Recommendations for Class C Mining regulations and their Implementation and future Amendments to the Mining and Minerals Act in Liberia – USAID Governance and Economic Assistance Program (GEMAP)', USAID, 2010, vii.; USAID, Property Rights and Artisanal Diamond Development (PRADD) – Liberia: A Review of the Legal, Regulatory and Policy Framework Governing Artisanal Diamond Mining in Liberia, USAID, 2011, 1

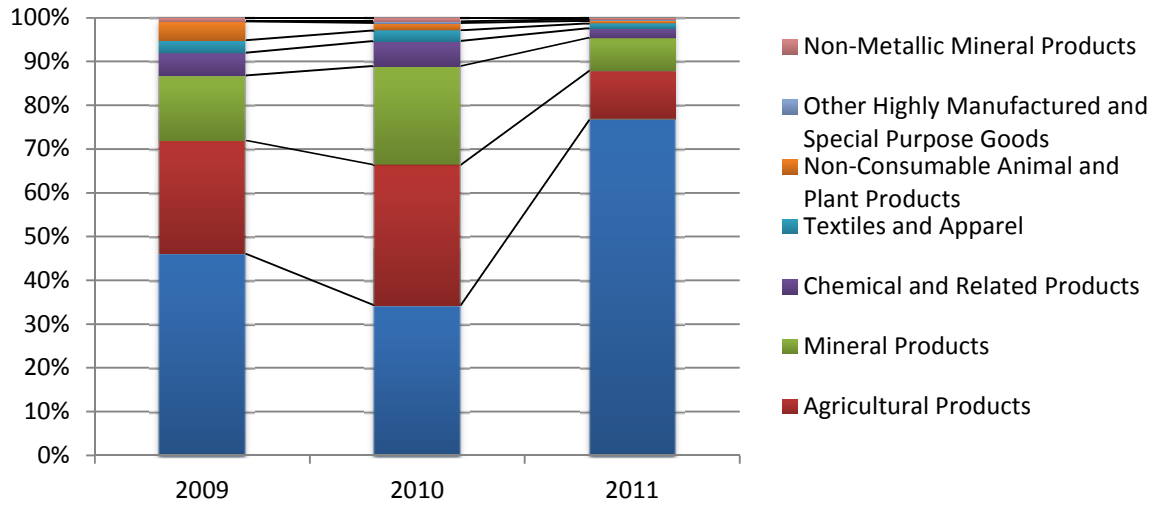


Figure 5.39: Composition of Imports, 2009 - 2011

Source: Central Bank of Liberia, 2013

5.14.2 LIBERIA'S CURRENT DOMESTIC TRADE

Liberian domestic trade is characterized by the small-scale, domestically produced, agricultural goods. Paddy rice is the most important crop with 72 percent of total agricultural households undertaking rice farming. Other important contributions include cassava, livestock and poultry produced by 40 percent, 21 percent and 45 percent of total agricultural households respectively[46].

The MoCI estimates the total number of manufacturing companies in Liberia to be 160. Of these, the largest proportion are producing purified water, woodwork, printed goods, and baked goods, blocks, beverages, metal products, while others are engaged in food processing[47].

5.14.3 BARRIERS TO FOREIGN TRADE

According to the Heritage Foundation, Liberia has relatively liberal trade-weighted average import tariff rate of 11.8%. In actual fact, the trade-weighted applied average tariff rate is likely to be lower than the figure recorded by the Heritage Foundation when Liberia's recent tariff waivers[48] are taken into account. Calculations conducted for the forthcoming DTIS update put the simple average applied tariff, including tariff waivers, at 10.2% for all commodities, 9.8% for agricultural goods and 10.2% for non-agricultural goods[49].

[46] LISGIS and Ministry of Agriculture, Liberia Agricultural Survey, 2011
[47] Ministry of Commerce and Industry, Manufacturing Companies, 2011
[48] Executive Order tariff waivers are implemented by the Ministry of State and do not require approval from the Legislature. They have been applied on goods which make up a substantial amount of the export basic such as rice, building materials and capital equipment.
[49] World Bank, DTIS Update, forthcoming

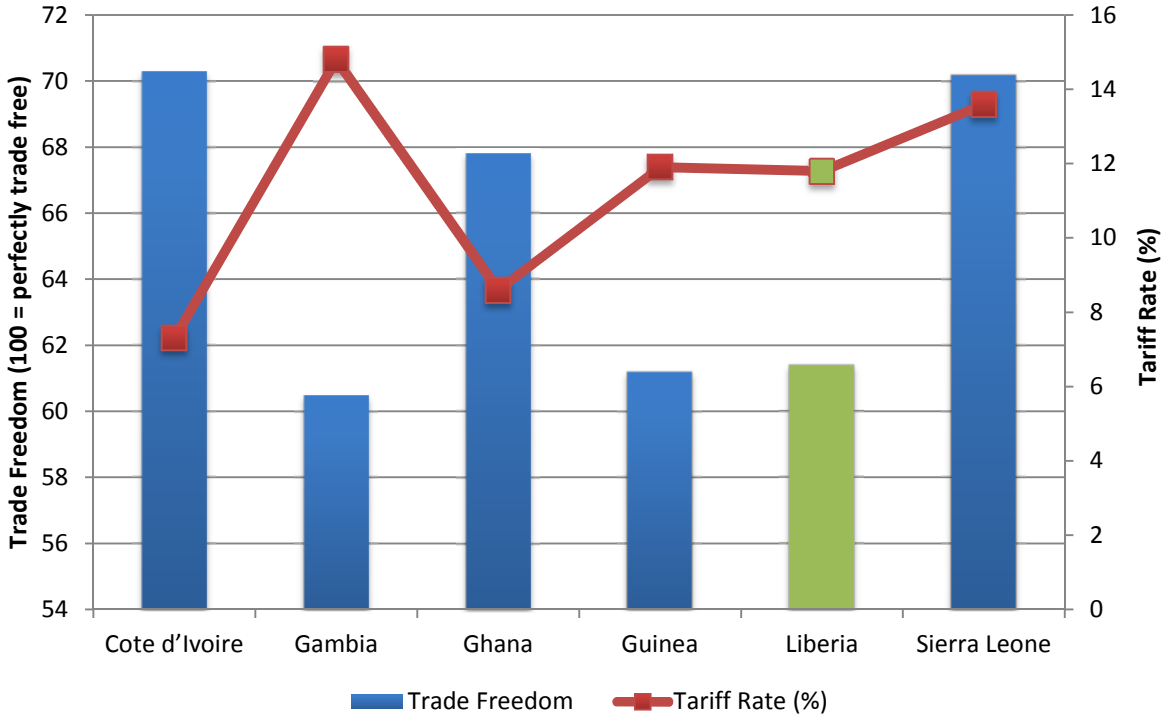


Figure 5.40: Regional Comparison of Trade Freedom and Tariff Rates

Source: Heritage Foundation 2013

During the period 2008-2012, the GoL implemented tariff waivers on more than 8 percent of import product lines. The choice of products to receive tariff waivers appears to be in line with the country's economic goals of poverty reduction and economic reconstruction. For instance, the removal of the import tariff on rice, Liberia's main staple, suggests a desire to reduce poverty and avoid political fallout from hikes or volatility in the price of rice. Rice is a politically sensitive commodity that led to violence and political instability in the late 1970s. Import tariff waivers on agricultural inputs, capital equipment, and construction materials are consistent with the goals of economic development and reconstruction[50].

While tariffs are on average low, Liberia does not perform too well on overall trade freedom, as a result of pervasive non-tariff barriers.[51] For instance, exporting requires 10 documents obtained from at least three different institutions, the highest in the sub-region. Despite the large number of documents required to export, the cost and time to export are low relative to Liberia's comparators.

[50] World Bank (forthcoming)
[51] The Heritage Foundation deducts 0-20 points from the index depending on the extent of NTBs – Liberia received a 15 point reduction pushing the score from 76.4 to 61.4.

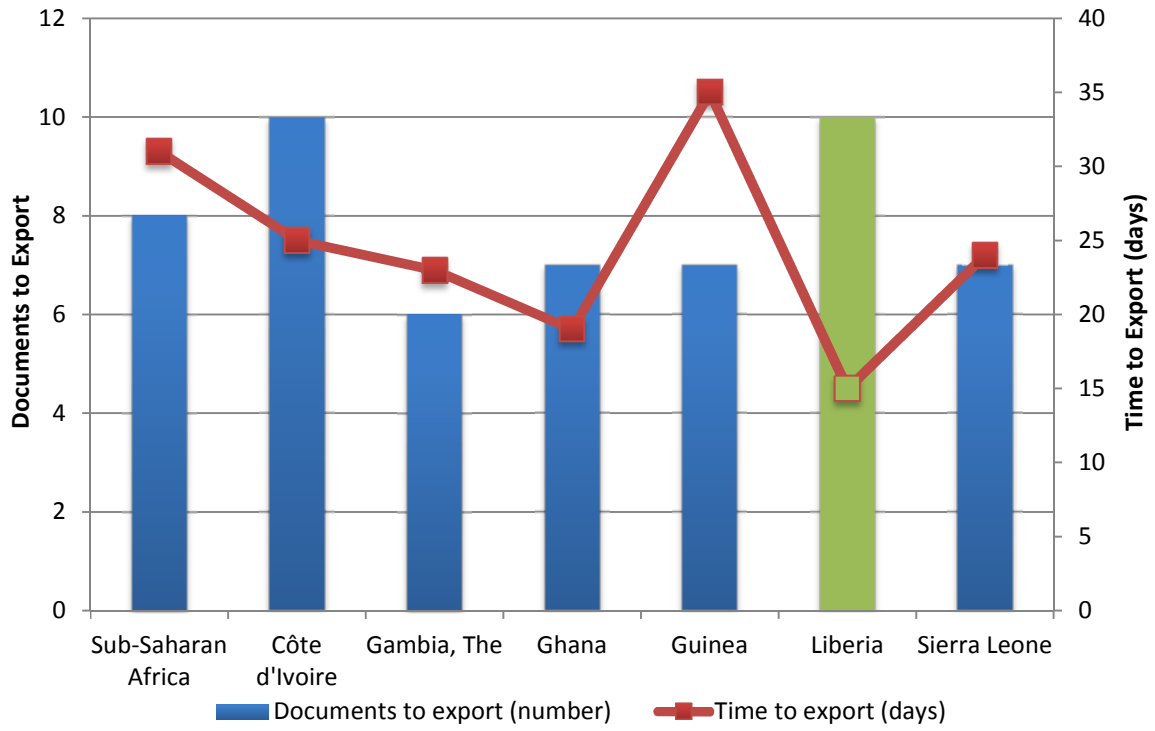


Figure 5.41: Regional Comparison of Documents and Time needed to Export

Source: World Bank, Doing Business 2013

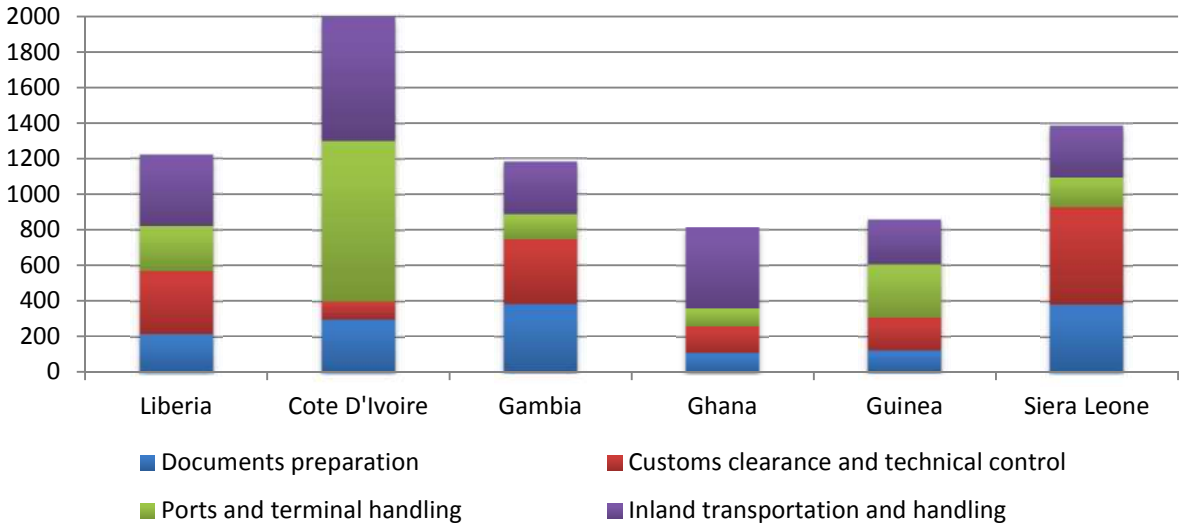


Figure 5.42: Regional Comparison of Cost Breakdown to Export 20' Container

Source: World Bank, Doing Business 2013

As Liberia is not yet a member of the World Trade Organization (WTO[52]), external tariffs rates applied on Liberian exports are not guaranteed at Most Favored Nation (MFN) rates. Similarly, Liberia cannot appeal to the WTO's Dispute Settlement Understanding to arbitrate a hypothetical trading-partner's unfair trade policy, which may be damaging one or more of Liberia's exporting industries[53].

[52]Liberia is currently a WTO observer having completed its first working party meeting last year. The government aims to table its initial goods and services offer by December 2013.

[53] The effects of not being a member of WTO on import tariffs applied to Liberian exports is difficult to ascertain as most countries do not widely publish their non-MFN tariff rates. However, anecdotal evidence suggests in most instances countries apply the same tariff on Liberian goods as on WTO members goods.

As a Least Developed Country (LDC), the adverse effects of the possibility of higher tariffs due to non-membership of the WTO are mitigated by access to several preferential market access treaties. Table 5.11 shows the current preferential market access treaties that Liberia qualifies for, the date that Liberia qualified, the requirements for firms' registration and the number of Liberian firms currently registered to export under each treaty. Each treaty entitles Liberian firms to a competitive advantage over other nations which are not members of the treaty. This has helped several countries similar to Liberia to develop domestic industries in sectors receiving preferential treatment. For instance, Kenya, Lesotho, Namibia, Madagascar, South Africa, and Swaziland experienced a pronounced rise in apparel exports as a result of organizing their textile industries to benefit from African Growth and Opportunity Act (AGOA[54]).

However, as shown in Table 5.11, Liberia is yet to benefit from these preferential treaties. In the case of AGOA, Liberia has established an AGOA Resource Center in Monrovia. AGOA requirements and provisions are advertised by the Ministry of Commerce and Industry and by the Liberia Chamber of Commerce (LCC). However, firms lack the capacity to meet export standards, such as efficient SPS requirements, adherence to the requirements of certification boards, and export boards[55].

Discussions with firms also revealed that rule of origin procedures are too complex to justify the time taken to meet the requirements, firms remain unaware of opportunities or they are simply too small to begin exporting under preferential treatment or not. In the case of the EU's Everything but Arms agreement, the Ministry of Commerce and Industry only became capable of issuing rule of origin certificates in 2013 after taking 7 years to procure the requisite stamp.

Table 5.11: Preferential Market Access Treaties and Liberian Firm's Utilization

Source: Ministry of Commerce and Industry, Mano River Union Office (2013)

Treaty	Preferential Treatment	Available Since	Requirements for Registry	Registered Firms (#)
Everything but Arms	Duty free and quota free access to the EU for all goods except munitions	2001 (However, certificate of origin in place in Liberia only in 2013)	Goods must originate in a beneficiary country in accordance with the EU GSP RoO and the goods must not be altered, transformed or subjected to operations other than operations performed in order to preserve them in good condition; and valid proof of origin must be submitted	0
African Growth and Opportunities Act	Duty free and quota free access to USA for substantial number of goods	2006	Must be in compliance with United States RoO and a minimum of 35 percent of value added in African region	0
China Duty Free Treatment for LDCs	Duty Free access on 60 percent of all tariff lines	2010	Must be in compliance with Chinese rules of origin and a minimum of 40 percent of value added must be added in the exporting country	0
ECOWAS Trade Liberalization Scheme	Duty free access to ECOWAS region	1979	Registration through a complex two stage (national and regional) process to guarantee certification of origin	0

[54] UNCTAD, 'What does it take to implement duty-free and quota-free market access for least developed countries?', United Nations Publication, 2013

[55] Discussions with Anthony Flahn, coordinator of Liberia's AGOA Resource Center

Treaty	Preferential Treatment	Available Since	Requirements for Registry	Registered Firms (#)
Mano River Union	Duty Free access for Guinea, Cote d'Ivoire, and Sierra Leone for locally produced goods	1973	Requires certification of goods origin within member country	4
African Growth and Opportunities Act	Duty free and quota free access to USA for substantial number of goods	2006	Must be in compliance with United States RoO and a minimum of 35 percent of value added in African region	0

5.14.4 RISK FROM PROPOSED FUTURE TRADE POLICY

While Liberia's current trade policy appears consistent with the country's development goals of poverty reduction and encouraging economic growth, Liberia's upcoming migration to the ECOWAS CET poses a risk of increased barriers to trade and deterioration in Liberia's trade policy[56].

Table 5.12 compares Liberia's current applied tariff with those proposed for after migration to the CET. Simple applied tariffs are scheduled to rise from an average of 9.8% to 12.9%, with almost 50% of applied tariffs increasing. The biggest increases are for agricultural goods, which pose a risk of increasing prices on imported food, which in turn may have potentially adverse effects on poverty. The number of products for which applied rates are zero is also set to drop after migration to the CET. Table 5.13 shows the change in tariff rates for three essential imports which were previously subject to tariff waivers.

Table 5.12: Comparison of Liberia's Applied Import Tariffs and ECOWAS' CET, in Percentages

Source: World Bank, DTIS Update

	Simple Average Applied rate, including waivers	Simple Average ECOWAS rate	Share of tariff lines requiring increases	Share of tariff lines requiring decreases	Share of tariff lines with applied duty-free, including waivers	Share of product lines with ECOWAS duty-free
Agriculture	9.8	17.9	65.1	27.3	6.9	0
Non-Agriculture	9.8	12.1	44.0	21.8	5.1	1.8
Overall	**9.8**	**12.9**	**47.1**	**22.6**	**5.3**	**1.5**

[56] Joining the CET requires Liberia to first ratify the ECOWAS Trade Liberalization Scheme (ETLS) which creates a free trade area among the ECOWAS region. Liberia is the last country in the region to pass Legislation establishing the ETLS. Government discussions suggest that this is due to revenue concerns and that the legislation will only be passed in a joint bill including the CET.

Table 5.13: Comparison of Liberia's Applied Import Tariffs and ECOWAS' CET for Specific Products, in Percentages
Source: World Bank, DTIS Update

	Applied Tariff	ECOWAS CET Tariff	Share of Total Annual Imports
Rice	0.00	10.00	8.00
Fuel Oil	0.00	5.00 – 10.00	20.00
Portland Cement	0.00	35.00	2.00

We would expect the ECOWAS CET to lead to increased trade diversion away from areas outside of the ECOWAS region. However, Liberia's export basket of natural resources destined for major European, North American and Asian markets is unlikely to lead to a substantial increase in regional trade in the short/medium term. Liberia may see some trade diversion on the import side as cheaper imports are substituted for more expensive goods produced inside the ECOWAS region.

5.14.5 BARRIERS TO DOMESTIC MARKET ACCESS

According to surveys conducted to inform the recent AfT, 'lack of access to markets' is the main constraint cited by Liberian farmers.[57] As discussed in the Infrastructure Chapter, the poor quality of road transport conditions is pushing up the cost of goods and making local goods uncompetitive relative to cheaper imported goods. For instance, Liberia's main food corridor on the Monrovia-Ganta highway remains in an advanced state of disrepair. Similarly, while efforts have been made to reconstruct some major highways, feeder roads are yet to be restored after the war.[58]

In addition to poor road condition, missing inputs is resulting in spoiled goods and missing markets. For instance, Liberia currently has no cold storage trucking company. This limits the type and quality of agricultural goods that can be transported around the country. It is likely that the high cost of power would restrict a potential investor from entering the cold storage market.[59]

5.15 APPLICATION OF THE PRINCIPLES OF GROWTH DIAGNOSTICS: THE FOUR TESTS

Test 1: Is the Shadow Price of Market Access High?

As discussed throughout this section, the cost to export is currently competitive regionally, Liberia's tariffs are liberal, and Liberia has (in principle) preferential market access to all major likely trading partners. Liberia does have a substantial number of non-tariff barriers, although for the most part his has not pushed up the cost, or the time taken, to export.

The GoL's decision to migrate to the ECOWAS CET poses a risk of increased barriers to trade as higher tariffs on key production inputs such as cement, fuel oil and agricultural inputs damage production and increase prices. Also, the ECOWAS free trade agreement may offer Liberian firms limited opportunities for increased regional market access.

Among domestic barriers to trade the very high cost of roads has already been shown to limit firms' market access.

[57] MoPEA Development Corridors (2012)
[58] MoPEA Development Corridors (2012)
[59] NIC, Sector Prioritization Scan, 2013

Test 2: Do Improvements in Market Access Correlate with Investment Growth?

Table 5.14: Percentage Change in Sectors under Migration to the ECOWAS CET

Source: World Bank, DTIS Update

	Export	Import	Income	Labor	Price	Output	Demand
Annual Crops	-	1.65	-2.61	0.43	2.77	-0.04	0.52
Tree Crops	-0.9	-	-4.79	-0.79	-	-0.49	3.16
Livestock	-	-31.41	-1.19	11.49	11.18	3.5	-5.55
Forestry	-	-	-3.58	-1.41	-	-0.58	1.99
Mining	-1.64	-	-4.1	-1.55	-	-1.2	2.76
Food	-	-12.96	2.13	10.97	8.43	9.58	-4.61
Other Manufacturing	-	-0.99	-2.79	2.62	2.13	2.29	-0.58
Utilities	-	-	-3.75	-1.95	-0.14	-1.16	-1.16
Construction	-	-	-3.41	-0.07	1.42	-0.34	-0.34
Trade	-	-	-3.69	-3.14	-	-2.42	2.53
Transportation	-	-	-4.25	-3.87	-	-3.67	2.26
Traded Services	-	-	-3.92	-4.57	-	-4.07	0.17
Services & Public	-	-	-3.45	-0.49	1.11	-0.52	-0.52
Telecommunications	-	-	-3.47	-0.14	1.29	-0.35	-0.35

While the conclusions of the model are compelling, the authors advise against using the absolute values in the table and instead considering the sign and relative size of each effect. Importantly, a movement in the constraint is directly impacting firms' production decisions. However, as with any Computable General Equilibrium (CGE) -type model, the outcome is dependent on the underlying assumptions, and the quality of the data used to calibrate the model.

Other examples of movements in the constraint come from the observation that just four firms are currently accessing preferential market access treaties despite duty free and quota free access to most of Liberia's major trading partners becoming available over the last 30 years. Similarly the ECOWAS Trade Liberalization Scheme was intended to foster inter-regional trade but only 7.6% of exports and 18.7% of imports were with the ECOWAS region in 2011[60].

Among domestic barriers, it has already been shown that improved road networks would lower transport costs to firms and increase their access to market.

Test 4: Are Firms Less intense sectors more likely to thrive?

If the constraint was to bind we might expect that firms operating in sectors with more access to preferential market access treaties (such as textile exports under AGOA) would be more likely to thrive than firms in sectors with limited market access (e.g. processed agricultural exports require burdensome SPS requirements). However, in most cases the number of firms exporting in each sector is either very small, or zero. The fact that so few export sectors exists is perhaps indicative that other more pressing constraints are constraining firms before they grow to a size big enough to export.

[60] Mirror data using UN COMTRADE

5.15.1 CONCLUSION

Evidence from this section indicates that access to foreign markets is not constrained for the small number of foreign firms already exporting in Liberia. This can be observed from the impressive export figures displayed for concessionaires and the competitive cost to export goods from Liberia displayed in the World Bank Doing Business Indicators.

Among local firms, very few have grown to a size to export competitively. This is consistent with the conclusions of the market failures section of this report and indicates that other factors such as infrastructure costs, underlying factor endowments or a lack of human capital are binding domestic firms' development before they can contemplate exporting.

Domestic firms should be concerned that the migration to the ECOWAS CET could push up the cost of key production inputs. This will negatively influence the country's GDP growth and inflation although it may present options for a larger regional market.

Domestic barriers to trade are a concern inasmuch as poor quality infrastructure has already been shown to increase costs for firms.

6 MARKET FAILURES

6.1 INFORMATION AND COORDINATION EXTERNALITIES

This chapter examines the impact of specific types of market failures in Liberia's economy. These failures can take various forms but share the characteristic of reducing the incentive for a firm or individual to invest in new economic activities that diversify economic production in Liberia. Self-discovery and information externalities are a prominent type of this kind of market failure. Firms, entrepreneurs, and individuals need information on which sectors, products, or activities can be success fully developed. This information is a public good that is created through a process called "self-discovery" that may be under-incentivized within an economy. Alternatively, returns to an individual investment may be low because they are dependent on the existence of coordinated investments by other actors, including government.

While these market failures are difficult to identify directly, we observe in Liberia that there has been historically low diversification resulting in an export basket of low complexity and few clear opportunities for diversification. . Furthermore, local production is often so low that it cannot fully satisfy local demand, leading to a dependence on imported goods in sectors that Liberia is ideally suited to exploit. Yet, the types of market failures examined in this chapter are not the only challenges preventing economic diversification in Liberia. Diversification is also constrained by other factors like infrastructure and business environment issues. Addressing these factors (which are further identified in other chapters) appears to be a necessary first condition for diversification of Liberia's economy.

As constraints are relaxed, it may become necessary to promote diversification more actively. After all, Liberia has had better infrastructure in the past with still limited economic diversification. Yet any current efforts to promote diversification should remain focused on improving the productivity of new industries through provision of complementary public goods like infrastructure. Given binding constraints in areas like electricity, any attempt to support nascent industries through subsidies have little chance of success.

6.2 ARE EXPORT DIVERSITY AND PRODUCT COMPLEXITY IN LIBERIA LOW?

Economic diversification has been shown in various literatures to be an important if not fundamental aspect of economic growth and development.[61] The level of diversity among the products a country exports reflects the underlying capabilities present in an economy and the ability to discover new products. Exports of goods provides a window into economic diversity through the availability of data from sources like the United Nations Commodity Trade Statistics (UN Comtrade). Unfortunately, in the data for Liberia, re-exports of crude oil and yachts/ships appear in the data and do not represent products actually produced in Liberia or reflect economic diversity within the country. Therefore, when examining Liberia's export basket these products need to be ignored.

Liberia's export basket is highly concentrated and undiversified. Out of 171 countries measured by the World Bank in 2006, Liberia ranked 151st in the Herfindahl–Hirschman Index of export concentration. Liberia's exports have remained relatively stable since 2003, with rubber, petroleum, and wood supplies being the greatest contributors.

Beyond just diversity, or number of products, Hausmann, Hwang, and Rodrik (2006) suggest that "What You Export Matters". They point out that discovery of some sectors and products, rather than others, provides more benefit to economic growth. This is captured in various measures of economic "complexity" or "sophistication". A complex export basket implies underlying capabilities that are of high economic value and can produce higher value added goods.

[61] e.g. Hausmann, Hwang, Rodrik, (2006)

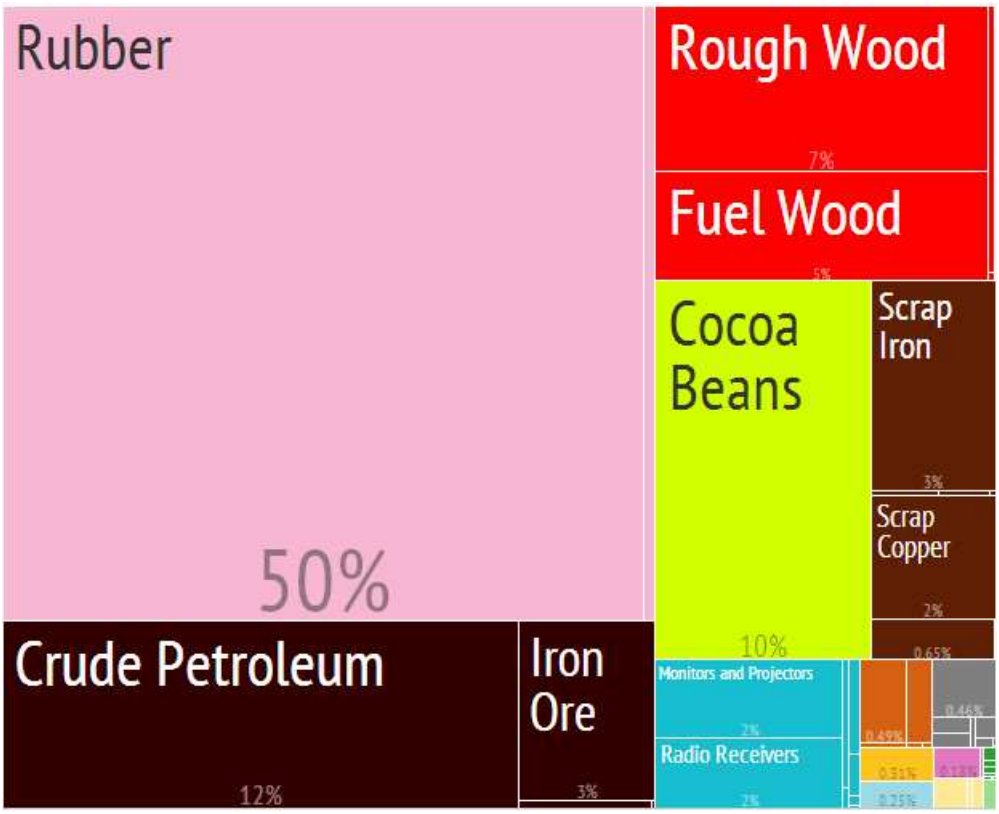


Figure 6.1: Liberia's Net Exports in 2011[62]
Source: Atlas of Economic Complexity

The "Method of Reflections[63]" proposed by Hausmann and Hidalgo (2009) is the most recent effort at measuring economic complexity and the metric has shown a strong connection with economic growth. Liberia ranks 112 out of 128 countries in this measure of economic complexity which, while low, is average for comparator countries in the region.

Table 6.1: Comparison of Economic Complexity
Source: Comtrade, 2010

	Economic Complexity Rating
Liberia	**112**
Guinea	123
Cote d'Ivoire	99
Ghana	100
Senegal	74

[62] Organized by HS4 code; total exports of $283M USD; crude petroleum is not produced domestically
[63] The method begins by calculating a measure of "diversity", or the number of different products a country exports. Higher diversity implies more sophistication. For each product in a country's export basket, the method then counts the number of other countries that also export that product. This measure is called a product's "ubiquity". Products that are exported by many countries have high ubiquity, which implies that the set of capabilities required for production of the product are more easily attainable. Therefore, the higher the diversity of products a country exports, and the lower the ubiquity of those product, the more sophisticated are the economy's capabilities. The method of reflections combines diversity and ubiquity to create a measure of a country's economic sophistication.

6.3 INFORMATION EXTERNALITIES AND 'SELF-DISCOVERY'

The self-discovery process is an important part of developing the capabilities to produce more complex products, and a low level of economic sophistication may result from poor self-discovery. In this section, we examine whether a lack of information on profitable opportunities constrains diversity and investment in Liberia.

Hausmann and Rodrik (2002) present the "self-discovery" model of investment in new economic activities. The model suggests that successful investments in a new sector provide a demonstration effect that benefits new entrants into the sector. While the original investor bore the risk of investing in a new sector, subsequent entrants benefit from the demonstrated profitability of the sector. Therefore, incentives for discovery of new sectors may be underprovided and the number of potential opportunities that investors explore is lower than socially optimal.

Investment in new sectors may also be constrained by a lack of complementary inputs necessary for production. Firms pioneering new products and sectors may bear additional costs of developing logistics and supplier networks that further benefit new entrants. Firestone Liberia's attempt to pioneer developments in the wood sector provides an example. Firestone Liberia, a rubber and wood producer in Liberia, sought to lower costs and increase demand by attracting rubber wood furniture producers to Liberia, citing the advantages to furniture producers of operating so close to the primary material needed in production. However furniture producers chose not to relocate to Liberia due to the low levels of economic complexity in country. As all other inputs needed in furniture production were unavailable in country, the costs of importing the necessary inputs would outweigh any benefits of working within Liberia[64].

Undertaking self-discovery requires entrepreneurs to make initial investments. Therefore, it is possible that relaxing binding constraints to investment within other branches of the diagnostic tree will promote tinkering more than attempting to directly compensate for externality issues[65]. While providing subsidies and tax incentives may promote export diversity a relaxation of current material constraints in infrastructure may have the same effect by lowering input costs for potential investors.

In Liberia, investments that would provide self-discovery and diversification may be unprofitable due to the high cost of complementary inputs like electricity rather than due solely to market failure issues. However, in pre-war Liberia many of these factors of production were relatively well provided and yet little economic diversification occurred, with iron and timber composing over two thirds of exports in the pre-civil war era. This suggests that other issues may have constrained diversification during that time period. In particular, issues such as Dutch Disease that affect resource rich countries like Liberia can be particularly constraining to diversification: High levels of natural resources can lead to labor demand boom for extractive industries.

Current businesses and entrepreneurs in the manufacturing and agricultural sector therefore find that they cannot effectively compete with high demand for labor and inputs from the (relatively) profitable extractive industries. This is a major issue as extractive industries are primarily international and, apart from local wages, do not significantly contribute to infrastructure and long-term growth[66]. Given the sequential relaxation of constraints, such issues are flagged here as important future constraints once the current critical constraints are relaxed. In addition, Liberia's poor position in the Product Space, as discussed below, likely creates additional impediments to self-discovery.

6.4 PRODUCT SPACE ANALYSIS

The lack of diversity in Liberia's export basket is reflected in its limited position in the "product space". The product space provides an approach to examining Liberia's potential for diversification. Hausmann and Klinger (2006) and Hidalgo et al (2007) develop the product space by organizing all of the products

[64] Based on in country interviews and site visits to Firestone.
[65] This contributes to a view that self-discovery is a "residual" constraint that arises when other binding constraints are not apparent.
[66] Examples of extractive industries with relatively few local impacts would be LAMCO, Bong Mines.

traded in the world by their implied association. The authors theorize that a specific set of capabilities must be available within an economy for each product to be exported with comparative advantage. These capabilities are wide and varied but include supplier networks, human capital, and connections to external markets. Therefore, a firm will find it easier to produce a new product if the necessary capabilities already exist within the local economy. The production of products "similar[67]" to the new product implies the existence of similar capabilities and thus predicts the new product will be discovered. The Product Space network organizes products traded in the world economy by how similar they are (Hidalgo et al. 2007, Hidalgo & Hausmann 2009).Thus products close together in the network imply an overlapping set of capabilities. Therefore, it is easier for a firm to successfully export a new product if other products "nearby" are already being produced.

The products that Liberia currently exports are not "close" to other products in the product space. Agricultural and extractive industries, which are Liberia's main exports, tend to be in the periphery of the product space where there are few other "nearby" product to move to. This is illustrated in Figure 6.2, which shows the products Liberia exports[68].

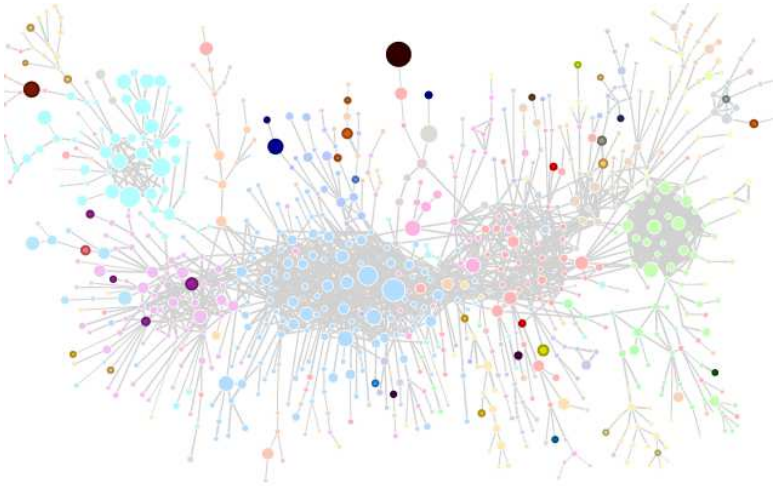


Figure 6.2: Liberia's Export Product Space, 2010
Source: Atlas of Economic Complexity; www.atlas.cid.harvard.edu

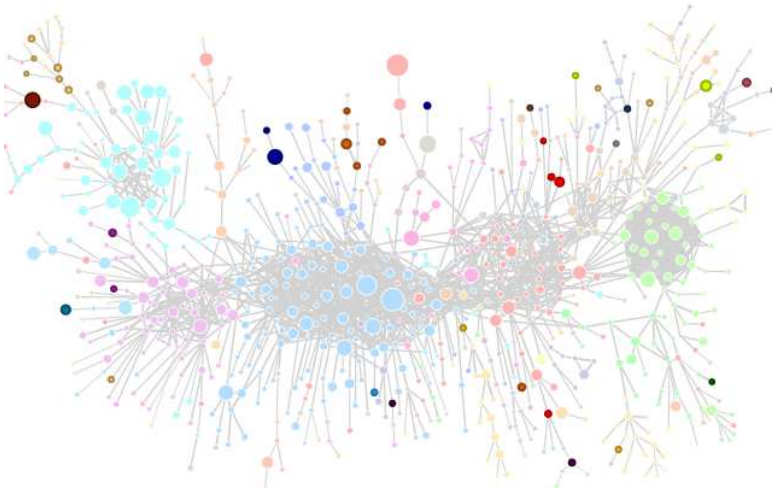


Figure 6.3: Liberia's Export Product Space, 1986

[67]To determine whether two products share capabilities, Hidalgo et al calculated the probability that a country produced a certain product given that it already produced a second. The higher this probability, the more similar are the products, and by extension, the more overlapping are the required set of capabilities.
[68] Each dot in the figure represents a product that is traded in the world economy (by SITC 4 code). The size of the dot represents the value of the product that is traded in world markets. For example, oil has a big dot while manganese is much smaller. The closeness of any two products in the chart represents their similarity- the closer together the higher the probability a country produces both of the products. Dots that are "filled-in" or highlighted represent products that are exported by Liberia with sufficient quantity that they can be considered successfully discovered activities

Source: Atlas of Economic Complexity; www.atlas.cid.harvard.edu

In Figure 6.2 above, we see that Liberia's position in the product space has not changed significantly since 1986. This lack of dynamism may be the result of Liberia's position on the periphery of the product space. A measure called *open forest* quantifies the quality of nearby opportunities. Poorer economies tend to have lower export expansion opportunities as measured by open forest, and Liberia is no exception, as shown in Figure 6.4.

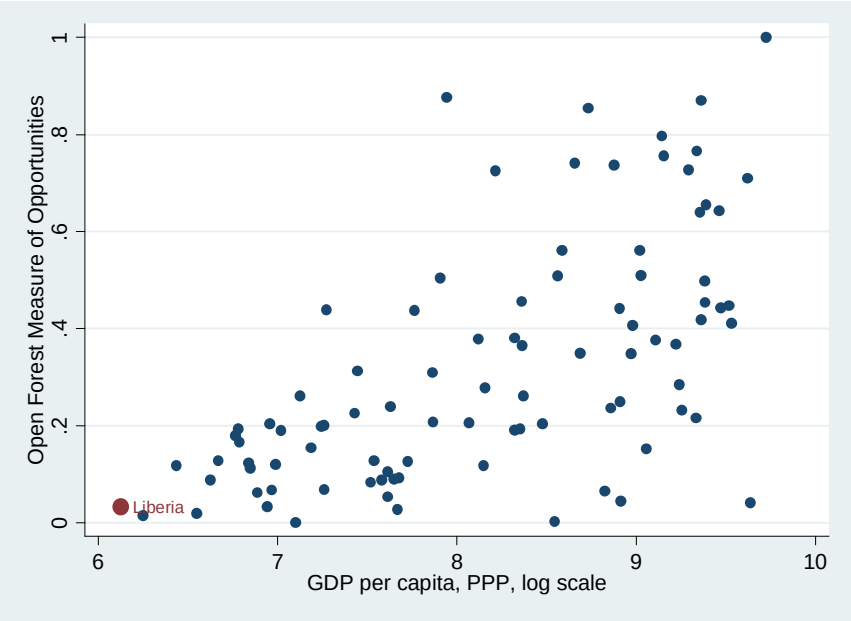


Figure 6.4: Open Forest
Source: Felipe et al 2010

6.5 INFORMATION EXTERNALITIES IN AGRICULTURE

While economic diversity most often measures the ability of new entrepreneur's/investments to enter the market, it can also include improving currently active sectors. In this respect the agricultural sector in Liberia is a key example of coordination/market failure. While Liberia has one of the highest rainfall rates in the region agricultural productivity per hectare and arable land rates are both significantly below comparator countries, as shown in the introduction.

While the agricultural sector has seen some success in foreign investment and export production, as shown by the growth in palm oil extraction, rubber wood production, and cocoa extraction, the success of basic food crops (primarily rice) have been relatively low. Household farmers in Liberia generally do not use agro-chemicals, have difficulty acquiring agricultural tools, and have little training in agricultural production.[69] While irrigation infrastructure and finance both play a role in limiting agricultural production, it is clear that lack of coordination between small farmers and the inputs needed (seeds, fertilizer, tools, etc.) play some role in the low level of productivity in the post-war era.

The Private Sector Roundtable discussions and consultations explored this issue further; some of the challenges identified by participants included:

- Limited access to credit or relevant financial products
- Poor state of infrastructure – particularly roads and power
- High risks and transaction costs of distant markets
- Weak purchasing power
- Lack of storage facilities
- Lack of farming inputs

[69] This analysis is largely based on: USAID Food and Enterprise Development (FED) value chain analysis of food crops; Global Food Security Response, 2010; Ministry of Agriculture Cassava Report, 2010.

The USAID Food and Enterprise Development (FED) project further recognizes significant constraints along Liberia's entire food crop value chain, which has the potential to spur agriculture productivity.

FED identified some of the overarching challenges along the value chain in respect of market failure as insufficient investment in agricultural R&D (no breakthrough on yield improvement), informal and poorly organized input supply networks, low level of knowledge among farmers about modern agriculture along with low returns on extension services, lack of access to capital/loans and assets (i.e., irrigation, storage), and high exposure by farmers to uninsured risks (weather, natural disasters).

Furthermore, few farmers are organized under cooperatives or associations thus reducing their collective potential to address the issues of price bargaining, acquisition of physical installations and logistics to directly access retailers. Table 6.2 below reviews the constraints to value chain development in Liberia.

Table 6.2: Food Crops Value Chain Analysis[70]

Source: FED, FAO, Ministry of Agriculture, LISGIS

Chain	Issues	Descriptions
Farming Inputs	**Availability of suitable seed and farming tools**	There is a limited supply of good quality and affordable seeds to smallholders. To bypass this constraint, most smallholders produce their own seeds which are usually of poor quality. Most farmers referred to the lack of farming tools as the most prevalent constraint (Production Estimate of Major Crops and Animals, 2009, MOA, FAO, LISGIS).
	Soil Testing	An FAO study found that It is likely that there already is a range of nutrient deficiencies in crops in Liberia partially masked by the general range of other stresses on plant growth so that the application and correction of macronutrients is likely to run up against other nutritional limiting factors. Training should be provided to fertilizer suppliers in how to market their product based on crop nutrient requirements and perhaps on some basic analysis to ensure that they are maximizing their outputs.[71]
	Agro chemicals	There is a general lack of knowledge on the proper use of agro chemicals.
	Affordable irrigation	Smallholders lack access to affordable irrigation which limits their opportunities to access high value markets in the dry season.
	Technical knowledge	The basic knowledge of crop management is not well understood in the agriculture sector.
	Access to finance	Access to finance remains a major constraint in agriculture value chain development. Women tend to have less control over household finances that could be used to expand farming.

[70] This analysis is largely based on: USAID Food and Enterprise Development (FED) value chain analysis of food crops; Global Food Security Response, 2010; Ministry of Agriculture Cassava Report, 2010.

[71] The FAO, in its agriculture inputs analysis recommended that fertilizer suppliers could perhaps be persuaded to be more sophisticated in the range of products they provide including micronutrient 'straights' such as zinc, and boron and soil amendments such as gypsum. Given the unsophisticated nature of the Liberian horticulture sector this may remain aspirational at the moment. There are examples of more sophisticated fertilizer input providers in Kenya and Tanzania, and pre 2000 in Zimbabwe, where, however, the main driver may be the commercial farming sectors.

Chain	Issues	Descriptions
	Availability of suitable seed and farming tools	There is a limited supply of good quality and affordable seeds to smallholders. To bypass this constraint, most smallholders produce their own seeds which are usually of poor quality. Most farmers referred to the lack of farming tools as the most prevalent constraint (Production Estimate of Major Crops and Animals, 2009, MOA, FAO, LISGIS).
Producers	**Information educational materials**	Most growers have arrived at their current state of knowledge through trial and error. In many cases this has led to fairly sustainable practices such as a reasonable working relationship to pest and disease management. However intensification of crop production needs to be accompanied by a carefully considered application of additional inputs. Women tend to miss out on existing support (because they have domestic obligations and cannot attend courses, or they do not hear about them in the first place)
	Information – pests and diseases and soil analysis	A pest and disease list for horticultural crops in Liberia does not exist. A major initial activity will be the collection and identification of pest species and beneficial organisms in Liberia to inform the development of integrated Pest Management systems.
	Access to inputs that can be applied on-farm	Growers are largely unaware of the potential for producing their own inputs.
	Production planning	This is a significant gap. Essentially production planning is a market driven exercise that moves quickly from identifying production / marketing periods and moves to ensuring they are accomplished.
	Storage	The general lack of appropriate storage facilities which tend to be capital intensive.
	Processing	There a general lack of efficient agro processing capabilities/methods and technologies. Also, issue surrounding long-term maintenance of processing technology in communities.
Wholesale and Logistics Services		Lack of adequate wholesale and logistics services.

The challenges posed by these constraints to value chain development can only be effectively addressed through proper coordination between key agriculture stakeholders that effectively leverage agricultural resources against productivity and market opportunities.

Changes in social and economic environment tend to have implication for agricultural development. Government and aid agencies support in agriculture and rural areas needs to be coordinated. This will improve aspects such as the effects of (and opportunities linked to) market liberalization and integration and the rise of the retail sector along the value chain. To further enhance this, more emphasis needs to be placed on developing productive and other private-sector industries that can add value and create wealth. During the roundtable discussions for example, companies decried the tendency of donors and the government to continuously send distorting signals either directly through their actions (i.e., free inputs, purchasing output, investing in government rice mills, higher price for services and transportation, etc.) or indirectly through the proposed setting of a price range for seed rice, setting the margins on imported rice, and pushing specific organizational structures such as cooperatives to access public goods services. Such signals crowd out the private sector, and foster continued dependency on

unsustainable intermediation. This excerpt from the World Bank Inclusive Growth Diagnostic highlights Liberia coordination problems[72]:

> *"From the practical point of view, the depth of coordination failures in an economy can be ascertained when different stakeholders, including government officials, would-be private entrepreneurs, bankers, and the public express their disappointment about "things that fail to happen" or about "lack of coordination" to undertake an activity which, in their view, has strong potential to help improve the standard of living of a nation over the long term. In the case of Liberia, lack of coordination is an ubiquitous phenomenon—one that has been identified in the interaction (or lack thereof) between government and the private sector, within government, within the private sector, between government officials and development partners, and even among development partners."*

6.6 CONCLUSION

Economic diversification is low in Liberia. Discovering new sectors and increasing economic complexity and sophistication will be especially important for Liberia's future. Very little diversification has occurred in Liberia's history and this may have undermined the development of a solid domestically driven economic foundation. Critical to promoting diversity is improving public provision of needed inputs like infrastructure. However, this may not be sufficient. The lack of linkages between Liberia's current products and potential new investment fields mean entrepreneurs will face significant up front 'learning' costs in diversifying the product space in Liberia. The government will need to be aware and cautious of Dutch Disease issues. It will also be important to maintain a strong dialogue with private sector actors willing to innovate in order to understand the constraints they face. A more fully developed industrial policy that focuses on provision of needed government inputs for diversifying sectors (and limits the use of government subsidies) may be a useful complement to the current study that identifies immediate constraints to economic growth and diversification in Liberia.

To improve value chain development in the agriculture sector, government interventions in the form of subsidy provision remains important. However, such interventions must assess likely distortions to private sector and have a clear time-bound exit strategy. Public Private Partnerships are great examples of such schemes; these prove particularly enticing to entrepreneurs, to help offset risks of high up front learning and other costs.

Sporadic civil society interventions can equally be counter-productive. What is needed are reliable and equitable funding mechanisms that aim to foster long-term sustainable market results. One such intermediary identified during consultations was Building Markets. Partly funded by USAID, Building Market's sustainable marketplace initiative helps encourage companies and organizations to use locally available goods and services to carry out their projects by filling the information gap and acting as the point of connection between the buyer and seller without distorting the market. Building Markets also provides procurement training. These services could be complemented by innovations such as Goldman Sachs' women program, which trains and develops about 10,000 female entrepreneurs. These interventions may moderate some of the key value chain challenges discussed above.

Market failures is not a binding constraint, but has the predisposition to slow and weaken private sector investment in the long-term. Actions need gear toward formulating solutions that create enabling environments that spur private investments in Liberia's product space.

[72] Liberia Inclusive Growth Diagnostics, 2012

7 DOES HUMAN CAPITAL PRESENT A BINDING CONSTRAINT TO LIBERIA'S GROWTH?

As the Growth Diagnostic framework articulates, constraints to investment and growth may present themselves through low social returns which may be because of low human capital. Firms are likely to face productivity shocks if human capital becomes a binding constraint, which can happen through two broad channels: schooling and health.

The schooling channel manifests itself through deficient education outcomes. Since labor builds on the skills workers acquire through primary, secondary and tertiary education, deficiencies in these skills present a problem for firms. They would have to make do with less productive workers who lack rudimentary or fundamental skills needed in the work environment. If firms cannot meet their skills requirement, production slows down, imposing staggering costs on businesses, affecting the rate of recovery of investment costs.

Firms may also be constrained in human capital if the majority of workers in a country face higher than average rates of disease morbidity and mortality. Frequently ill workers—skilled and non-skilled— cost firms dearly in production hours lost to frequent hospital visits. The cost is even higher if workers are dying at an alarming rate of particular diseases or pandemics. Thus the quality, affordability and accessibility of healthcare in a given country may equally have implications for investment and productivity growth.

Liberia does face a significant human capital challenge in view of its history of violent conflict. That conflict, which lasted for more than 14 years, reportedly destroyed more than 200,000[73] lives, occasioned a mass exodus of citizens, among them the highly skilled, and destroyed the infrastructure of education delivery. Many highly skilled teachers and professors fled into neighboring countries and students lost several years of schooling on account of the frequency of displacement and the severity of violence.

Since the cessation of conflict in 2003, the country is yet to experience a reverse migration of highly skilled Liberians anywhere near the level of the exodus, as tertiary education institutions, the mainstay for providing advanced skills, continue to struggle.

The magnitude and scale of these effects have been amply documented. A 2007 assessment of human capital indicates that the baseline stock of the resource is far below the national requirement (Liberia's National Capacity Development Strategies, LNCDS, 2007).

Despite such acknowledgements, the analysis in this chapter finds that human capital is not currently a binding constraint to investment and growth, though it is a serious constraint that needs priority policy attention. This finding may not be significantly different from that contained in the World Bank's "Inclusive Growth Diagnostic" study, which finds human capital is not a binding constraint in the *traditional sector*, but binds in the *non-traditional* sectors.

The chapter considers the demographic structure of the Liberian population, health dynamics, and the interplay of schooling, training and employment. The final section applied the growth diagnostic methodology which derived the conclusion that human capital is not a binding constraint.

7.1 DEMOGRAPHIC STRUCTURE

Population growth is projected to remain at about 4.2 percent over the next decade (GoL/LISGIS, 2010). Figure 7.1 displays trends in population growth and international migration. During the 1960s and 70s, population growth averaged 3.3 percent, remaining relatively stagnant for much of this period, declining in the 80s and recording a negative growth rate of 1.5 percent by 1990. Growth however recovered after the 1990s and peaked at 5.6 percent in 2000 before declining to around 4 percent in 2010. Figure 7.1 also shows that international migration has largely trended downward since the mid-nineties.

[73] Estimates of total deaths from the Liberian civil war can range from 150,000 to 300,000.

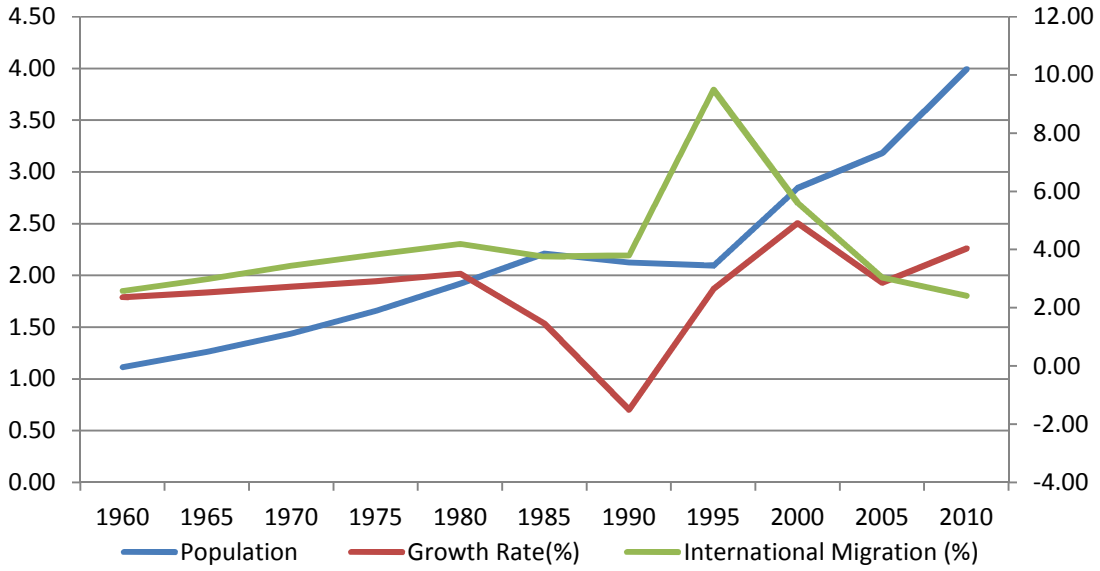


Figure 7.1: Population, Migration, and Growth Trend, 1960-2011
Source: World Bank, WDI

Figure 7.2 shows that the Liberian population appears to exhibit relatively high early fertility and birth rates compared to the regional comparators, evidencing a relatively high dependency ratio, which is expected to continue for decades. With about 70 percent of the population below the age of 30, Liberia is expected to experience an increasing labor force in the short-to-medium term. However, a large fragment of this group, which is between 15 and 30 years, grew up during the years of civil conflict with either limited or practically no formal education. Furthermore, it is estimated that of the total labor force, less than 13 percent has some vocational training, while 60 percent has not attended school (GOL/LISGIS, 2008). Also, while Liberia's demographic indicators show birth and fertility rates above the regional average, life expectancy is slightly below the regional average, but slightly higher than life expectancy among many comparators. With respect to human capital accumulation, the high birth and fertility rates coupled with low life expectancy mean more investment is needed to raise the quality of the existing and future stock of human capital.

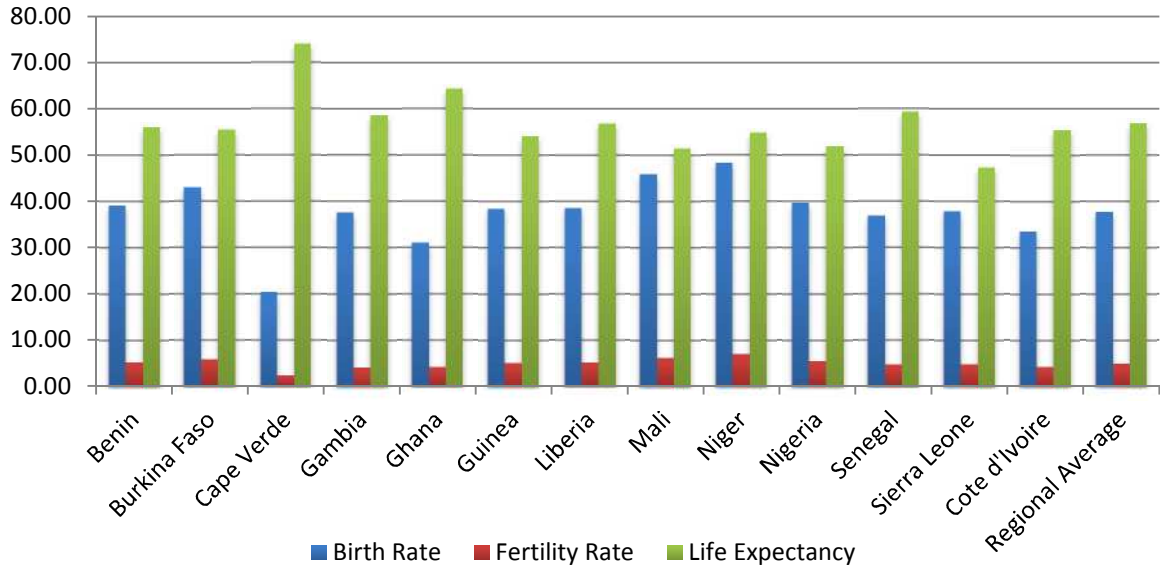


Figure 7.2: Regional Comparison of Demographic Indicators, 2011
Source: World Bank, WDI

7.2 HEALTH

The burden of diseases affecting a country may carry serious consequences for the generation of economic output. The link between the health of a population and its economics is being increasingly made both in academic, policy and development circles. The World Health Organization (WHO) notes that "better health is central to human happiness and well-being. It also makes an important contribution to economic progress, as healthy populations live longer, are more productive, and save more."

Factors such as access to safe drinking water, the level of pollution, the accessibility of healthcare and the amount of national resources directed to healthcare may affect the incidences of diseases such as malaria, diarrhea and HIV/AIDS, which are generally among the top killers. The biggest risk factors for the burden of disease are childhood underweight, suboptimal breastfeeding, and household air pollution from solid fuels (IHME, 2013).[74]

The WHO notes that about 1.8 million people die every year from diarrheal diseases (including cholera) and 90% of them are children under 5, mostly in developing countries. WHO also states that about 88% of diarrheal disease is attributed to unsafe water supply, inadequate sanitation and hygiene, noting that improved water supply reduces diarrhea morbidity by about 21%, with improved sanitation reducing diarrhea morbidity by about 37.5%[75].

According to the 2007 Demographic Health Survey only about 2.9% of the Liberian population has access to water from a private tap, down from 14.6% prior to the war. About 68.4 percent of the population has access to improved water, up from 56.1% in 1986. [76] On the sanitation front, about 55.5% of Liberians still practice open defecation, with only 15.5% having access to improved latrines. However, diarrheal disease was the only contributor to disability-adjusted life years that decreased between 1990 and 2010, with HIV/AIDS, Malaria, Maternal Disorders, and Diabetes as the most increased contributors over that time (IHME, 2013).

The opportunity cost or water and sanitation challenges may even be higher for women and girls who generally fetch water and deal with issues of solid human waste. Time spent fetching water is time spent away from productive economic activities, such as farming, where the majority of women tend to make a living. These challenges may also affect women in terms of the time spent caring for the children affected with water and sanitation related diseases, such as diarrhea, which is the third leading factor[77] of under-five mortality in Liberia.

A key indicator of crisis in a country's healthcare system is the rate at which children under-five are dying of preventable causes, such as water and sanitation related diseases. A very high rate of under-five mortality may affect the quantity and quality of the future labor force. Figure 7.3 depicts Liberia and comparators along under-five mortality trends. As the figure demonstrates, among comparators, Liberia shows about the fastest rate of reduction in under-five mortality.

[74] http://www.healthmetricsandevaluation.org/sites/default/files/country-profiles/GBD%20Country%20Report%20-%20Liberia.pdf
[75] http://www.who.int/water_sanitation_health/publications/factsfigures04/en/
[76] Demographic and Health Surveys, 2007 and 1986.
[77] Presentation by Ministry of Health and Social Welfare's Bureau of Preventive Health Service

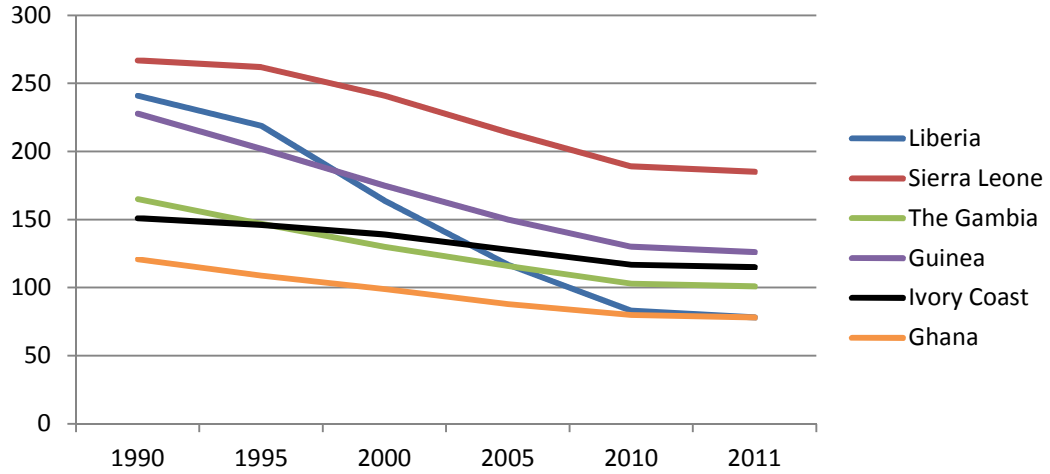


Figure 7.3: Regional Trends in Under-Five Mortality per 1,000 live births, 1990-2011

Source: WHO

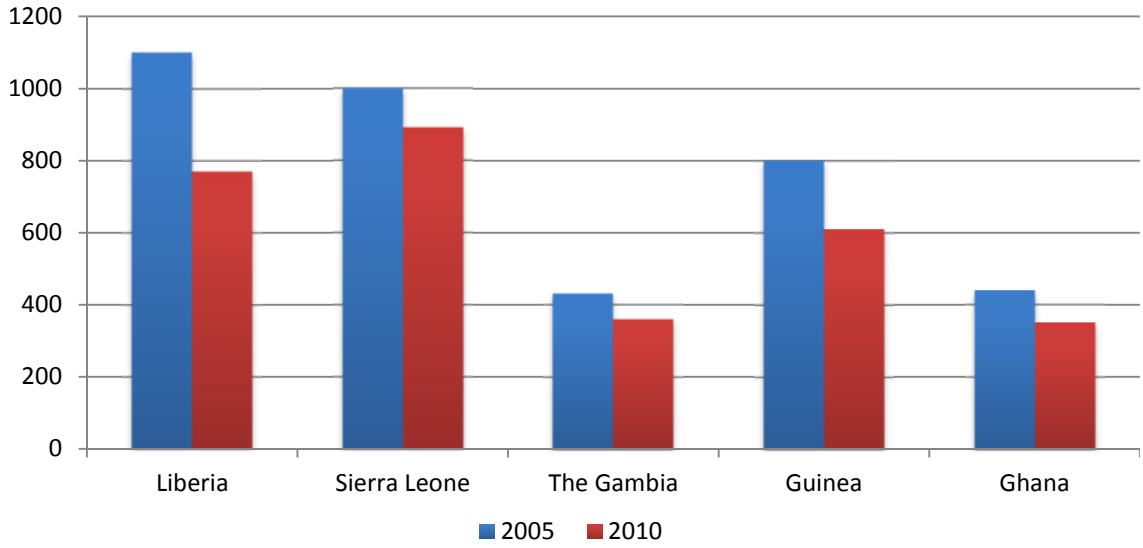


Figure 7.4: Regional Trends in Maternal Mortality, per 100,000 Live Births

Source: WHO

Liberia's performance in reducing maternal mortality between 2005 and 2010, depicted in figure 7.4, is strong relative to comparators, although it has the second highest maternal mortality rate after Sierra Leone.

The most common disease affecting workers in Liberia is malaria, as shown in figure 7.4, which shows that malaria prevalence in Liberia is by far the highest among comparators and increasing dramatically over time.

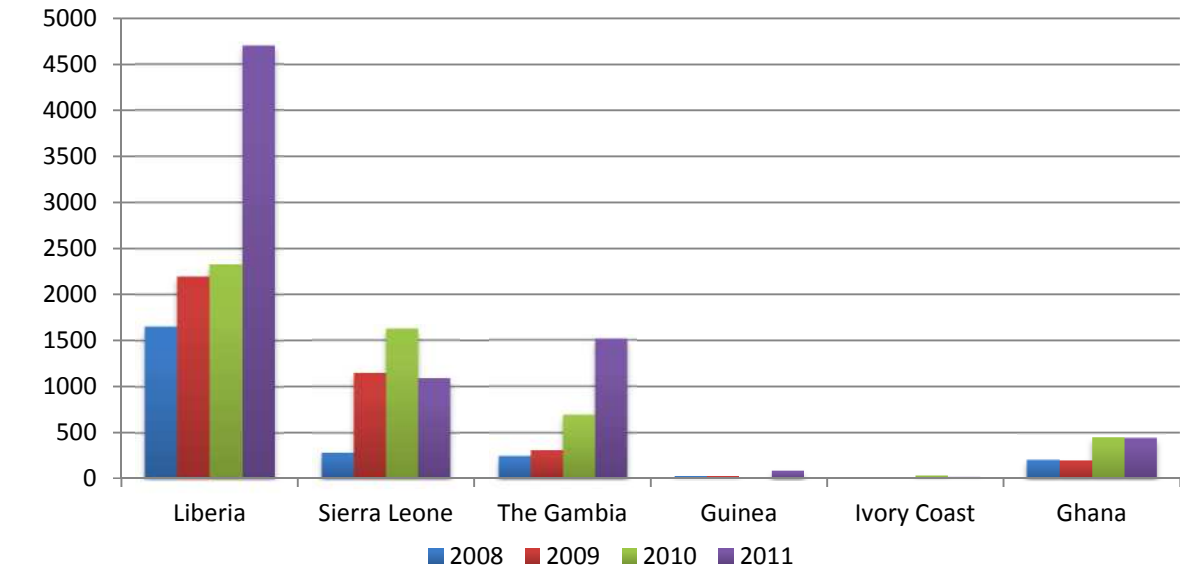


Figure 7.5: Regional Trends in Reported Malaria Cases, per 100,000 Persons
Source: WHO

The above figure may also be an indication that the probability that a worker falls ill due to malaria is higher in Liberia relative to comparators. Malaria is ranked as the top contributor to DALYs for all comparator countries, but DALYs per capita for Malaria suggest that Liberia's situation is not particularly worse: 11.4 in Cote d'Ivoire, 9.99 in the Gambia, 6.2 in Ghana, 14.2 in Guinea, 13.04 in Liberia, and 11.3 in Sierra Leone (IHME, 2013). So, despite significantly higher rates of malaria infection, Liberia does not seem to experience more morbidity than comparators with lower incidences, though more recent data than the 2010 data above may show a different trend, given the recent spike in mortality.

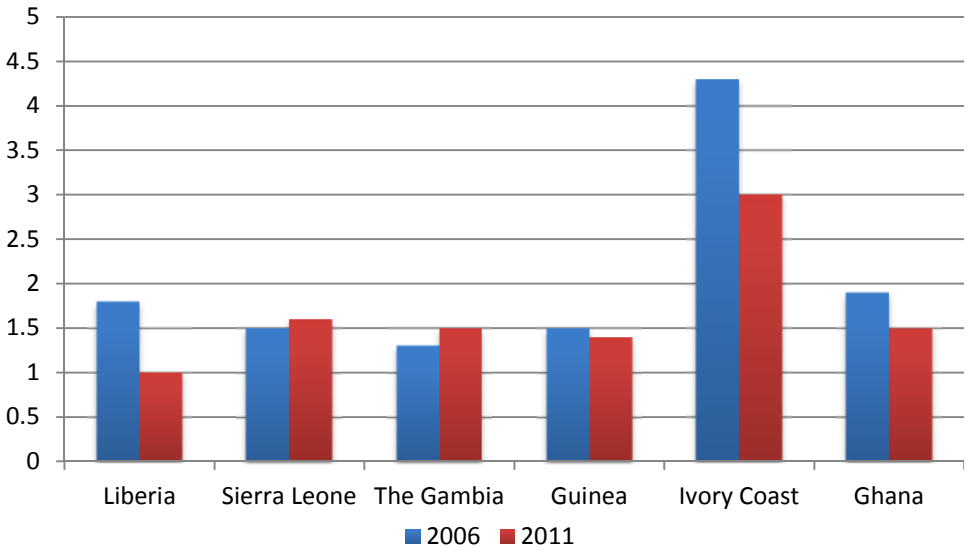


Figure 7.6: Regional Trends in HIV/AIDS Prevalence, among Adults Aged 15-49
Source: WHO

Figure 7.6 shows that HIV/AIDS prevalence in Liberia dropped significantly between 2006 and 2011, with prevalence rate being lowest in 2011 among all comparators. For HIV/AIDS, DALYs per capita in 2010 for Liberia and it's comparators – 2.73 in Cote d'Ivoire, 2.64 in The Gambia, 3.55 in Ghana, 1.98 in Guinea, 2.82 in Liberia, and 2.15 in Sierra Leone[78] - show that morbidity for Liberians is actually

[78] IHME, 2010 - http://www.healthmetricsandevaluation.org/gbd/visualizations/gbd-heatmap

somewhat worse than in Cote d'Ivoire, which has much higher prevalence, suggesting perhaps that Liberians may have lower access to HIV medication or health facilities than Ivoirians. In fact, morbidity due to HIV/AIDS is the highest among comparators, aside from Ghana, though not by a great distance.

7.3 APPLICATION OF THE PRINCIPLES OF GROWTH DIAGNOSTICS: THE FOUR TESTS

This section applies the four tests of the Growth Diagnostic methodology to answer the above question. If health presents a binding constraint, we should see evidence 1) that the shadow price of the health constraint is high; 2) that improvements in the healthcare condition correlate with investment and growth ; 3) that agents are bypassing the constraint; and 4) that those less intense in the healthcare constraint are thriving relative to those most intense in the constraint.

Test 1: Is the Shadow Cost of Health High in Liberia?

We measure the shadow price in terms of out of pocket expenditure healthcare, which the WHO describes as 'catastrophic and impoverishing' if high. High out of pocket as a proportion of private spending might be an indication that poor workers who are not covered by private insurance or who do not have easy access to government provided healthcare may be spending limited resources on care. Another indicator of shadow cost is per capita total health expenditure (public and private). Comparatively high per capita total spending may be an indicator of high shadow cost to society. We also view physical access to care in terms of the distance people have to walk to access care. A high proportion of the population trekking long mileage to access care is regarded as a high shadow cost. Finally, we view shadow cost in terms of the number of deaths and level of morbidity from diseases such as Malaria and HIV/AIDS. High mortality or morbidity should indicate a high shadow price, since labor productivity and the generation of output are being undercut by mortality.

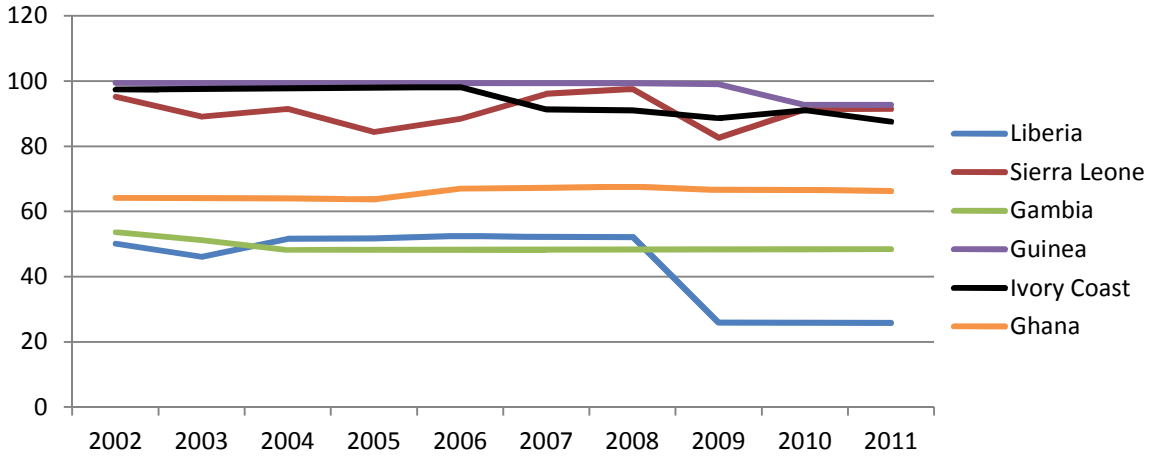


Figure 7.7: Out of Pocket Expenditure as a Proportion of Private Sector Spending on Health

Source: WHO Global Health Observatory

As Figure 7.7 shows, out of pocket spending is lower in Liberia relative to comparators. This indicator shows direct payment by households in total health expenditure. High out of pocket spending is associated with catastrophic and impoverishing spending, imposing additional burden on poor households. The figure suggests that Liberian workers may on average be spending less from their pockets than workers in comparator countries. This may be an indication that 'catastrophic and impoverishing spending' is lower in Liberia. However, it appears in Liberia that out of pocket or private spending may not be the best indicator of shadow price. As out of pocket costs go dramatically down, total health care spending, as illustrated in figure 7.8, goes dramatically up, suggesting that private expenditures on health may be substituted with public or donor expenditures on health.

Figure 7.8 displays per capital total expenditure on health in relation to comparators. It shows that Liberia has been on a generally upward trend since the early 2000s and as of 2011, only Sierra Leone

and Cote d'Ivoire are ahead in per capita total health spending. While towards the top of the pack in terms of healthcare spending, it is not out of the ordinary among comparators and far less than in Sierra Leone which is clearly an outlier among comparators.

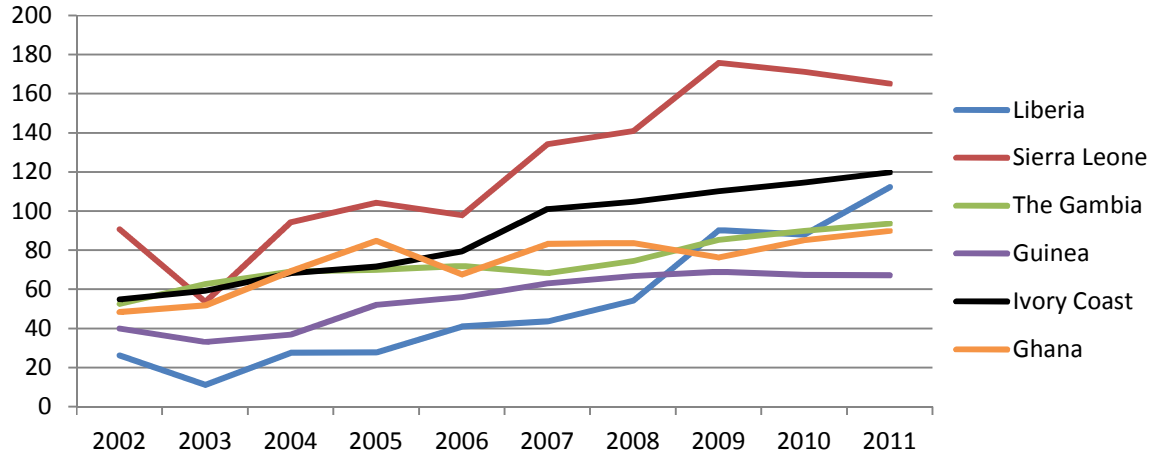


Figure 7.8: Regional Comparison of Total per Capita Health Expenditure
Source: WHO

In terms of physical access to care, Table 7.1 reveals the proportion of the population within a walking distance to a health facility of one hour as trended upward over the past 5 years. As of 2012, about 72% of the Liberian population may now walk one hour to access to health facility. Table 7.2 shows that the population to health facility ratio has also been declining, indicating increased effort to provide care.

Table7.1: Percentage of Population with Access to a Health Facility, within an hour walk
Source: Ministry of Health

	NHPC 2008	HSCP 2010	HSCP 2012
Population with Access to Health Facility	**41%**	**69%**	**72%**

Table 7.2: Ratio of Number of Persons to a Health Facility
Source: Ministry of Health

	2006	2010	2011	2012
Number of Persons to a Health Facility	**10,500**	**10,000**	**9,500**	**9000**

Figure 7.9 presents the number of deaths per 10,000 populations due to malaria, HIV/AIDs and stroke comparators as reported by the Institute of Health Metric and Evaluation (IHME). Reported number of deaths due to malaria is not significantly different than reported deaths in comparators Guinea and Cote d'Ivoire, while relative to Sierra Leone and The Gambia and especially Ghana, it is generally toward the high end.

The number of HIV/AIDS deaths in Liberia is slightly higher than that in Sierra Leone and Guinea, while both Liberia and Sierra Leone have about the same and lowest number of deaths due to stroke among comparators.

Figure 7.9 shows that that mortality from all causes in Liberia is on par with comparators. Figure 7.10 breaks this mortality down further to show from specific causes of Malaria, HIV/AIDS, and Stroke. This figure shows that Liberia has the highest mortality rate from Malaria of comparators, though not significantly so. Mortality from other causes also does not appear high.

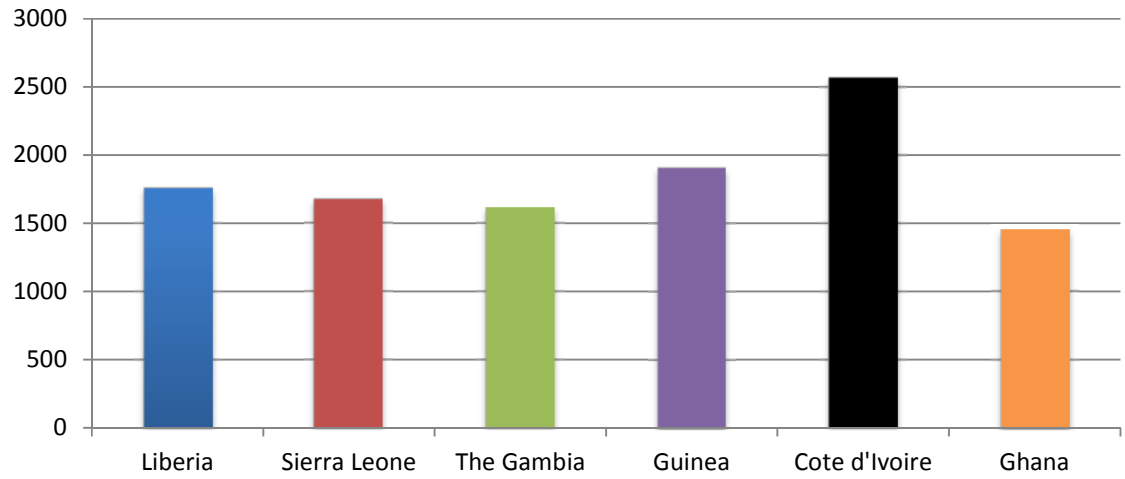


Figure 7.9: Mortality Rates by All Causes of People Age 30 - 70 in 2008, per 100,000

Source: WHO Global Health Observatory

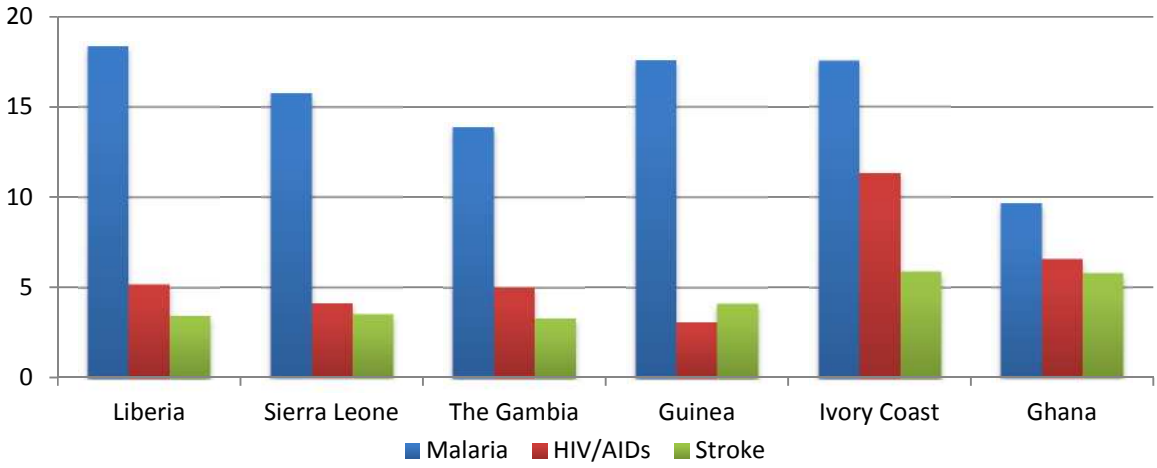


Figure 7.10: Regional Comparison of Deaths from Malaria, HIV/AIDS, and Stroke in 2010, per 10,000

Source: Calculation of IHME Data

However, morbidity may be more relevant to the day-to-day operations of businesses, so it is relevant to observe how Liberia compares on morbidity. As discussed in the background section, Morbidity due to Malaria and HIV/AIDS is actually on the high end compared to other countries, but not significantly out of range.

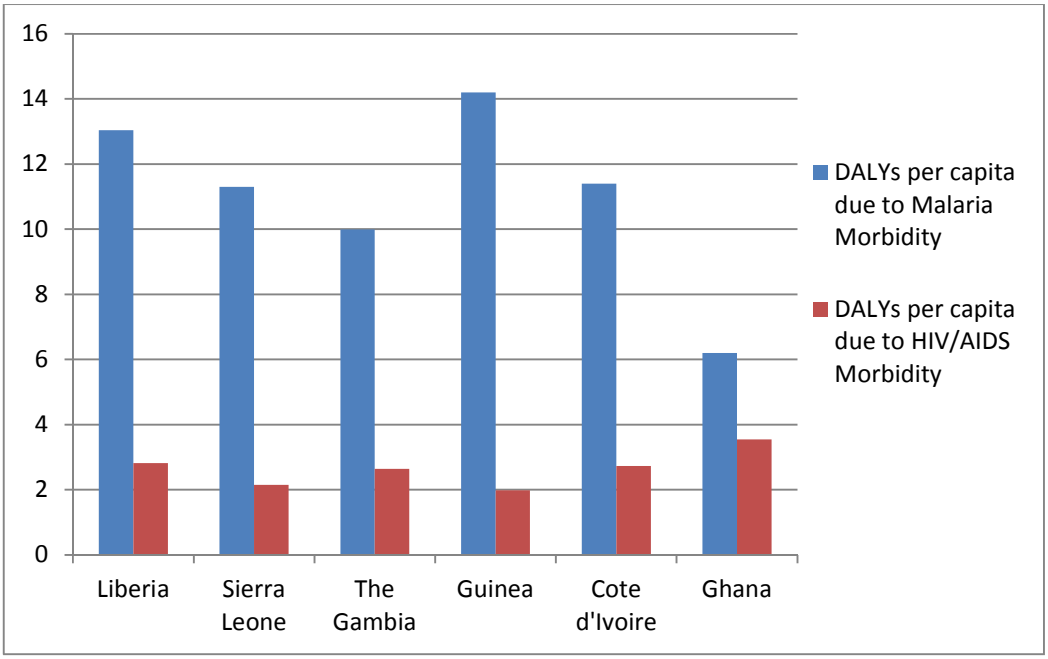


Figure 7.11: Regional Comparison of Contribution to DALYs per Capita from Malaria and HIV/AIDS 2010

Source: Calculation of IHME Data

Overall, it does not seem that firms in Liberia are losing workers at a rate that compromises productivity. These figures appear to suggest that the shadow cost of healthcare is not particularly high in Liberia relative to comparators. Although about 28% of the population still has to walk more than one hour to access care, overall health trends in Liberia point toward a reduction in the shadow cost of care as defined in this section. On the basis of this, we believe the evidence suggest shadow price of care in Liberia is low, rendering test one negative

Test 2: Do investments in Health Correlate with Investment Growth?

Figure 7.11 shows a positive result for Test 2. Annual per capital health spending does appear to correlate with investment growth, although the trend is not strong and largely dominated by the outlier of 2004. Health spending affects economic production by enabling the expansion of access and improvements in the quality of care. Sick workers may return to the job faster because of the quality of care they receive in countries where spending is directed to addressing acute healthcare deficits. On the other hand, high morbidity and mortality, which affect production, may occur because of limited funding directed to the health sector.

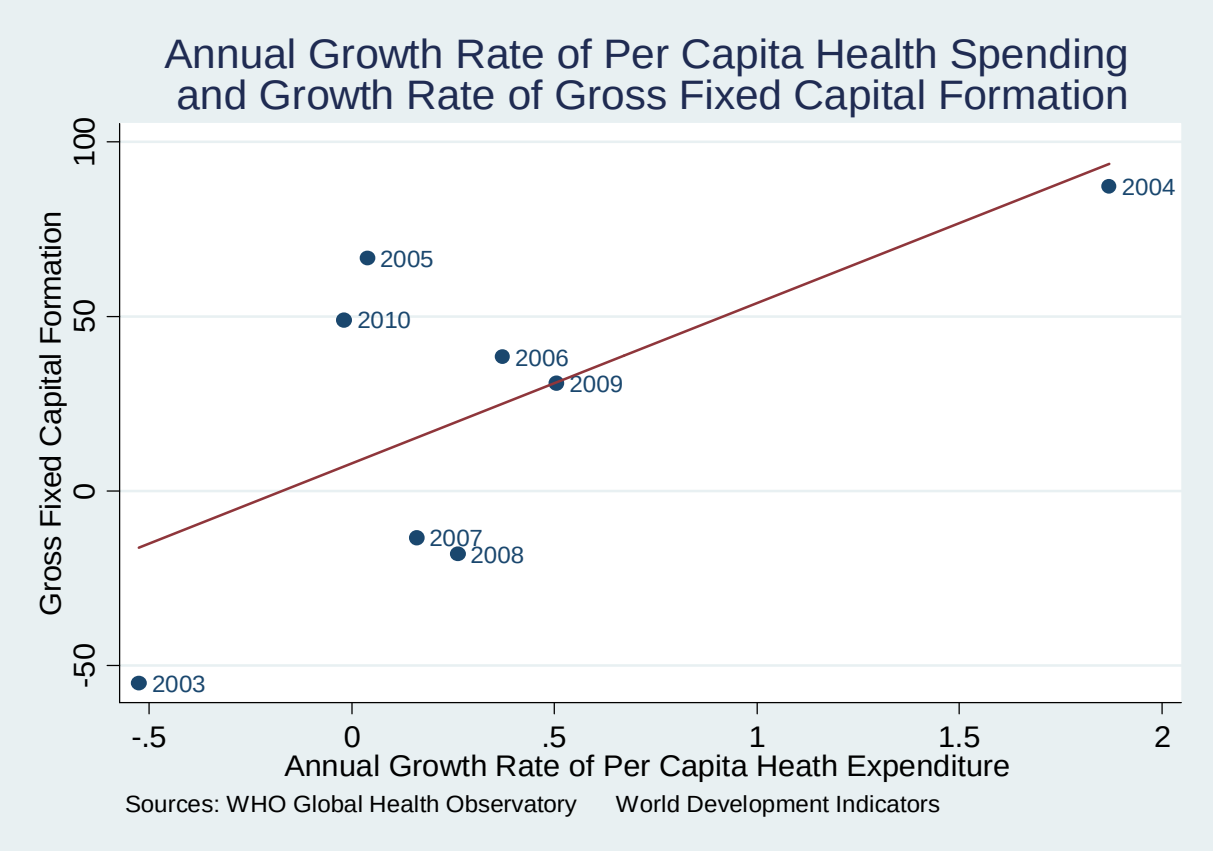


Figure 7.9: Annual Growth Rate of per capita Health Spending and Growth Rate of Gross Fixed Capital Formation

Source: WHO Global Health Observatory, WDI

Tests 3: Are Economic Actors Bypassing the Health Care Constraint?

For Test 3, we look for evidence that agents (either workers or businesses) are bypassing the constraint. This would be because the provision of care is relatively low. The evidence suggests that besides concessions and large companies, most firms do not offer insurance. If many firms did offer insurance or free healthcare at work, this would suggest that firms value employee health and that it is likely that health has an impact on worker productivity. The absence of employer healthcare suggests that they may not be greatly affected by worker absence. However, it may also be the case that small and medium enterprises simply don't have the funding or capacity to offer healthcare subsidization. In fact, employers in roundtable discussions mentioned frequently employee absences, as well as theft, as a detriment to their business, but it was mostly attributed to lack of work ethic rather than specifically health reasons.

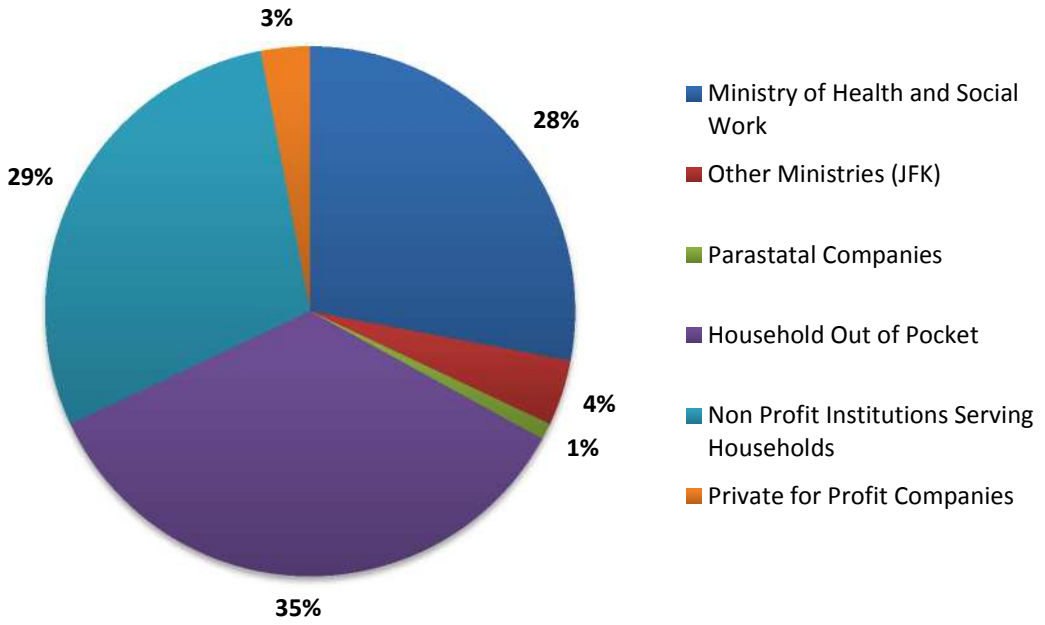


Figure 7.10: Breakdown of Health Expenditure by Financing Agent, 2007 - 2008
Source: National Health Accounts, 2009

Figure 7.12 suggests that about 35% of the population is engaged in some form of through healthcare constraint through out of pocket (OOP) spending. As the figure shows, about 35% of health financing comes from out of pocket, with financing from companies adding up to only about 4%, suggesting health insurance coverage is low in Liberia. High out of pocket spending may also be due to the inaccessibility of care. The 2009 National Health Accounts (NHA) shows that government owned hospitals consumed about 8% of OOP funds, with private hospitals and clinics taking about 53%. The fact that so much more OOP funds go to private clinics may suggest that government health clinics are seen as low-quality or free. About the rest goes to mobile vendors (13%), dispensing chemists (individual pharmacies, drug outlets) (9%), shops (6%) and traditional healers (4%). A significant number of people do not seem to be bypassing the health constraint. This suggest test three may be negative.

Test 4: Are Firms or Sectors Intense in the Constraint Thriving Relative to Firm Least Intense?

Intensity in the constraint of health may be construed in the sense of regular shocks to supply of labor for firms due to the disease morbidity and mortality. Large firms with many employees and economic sectors, such as agriculture, which is labor intensive, may experience productivity shocks if workers frequently report sick or are dying. Unfortunately, data on the impact of mortality and morbidity in the Liberia workforce is not available, so we cannot determine whether these labor intensive sectors are hindered more than those that are not. That said, given that most of the concessions are quite labor intensive and also offer free healthcare and are growing well, one might conclude that health is not a binding constraint. However, with no labor-non-intensive comparison, it is hard to make a judgment one way or the other. For these considerations, we believe test four is either negative or generally not feasible.

7.3.1 CONCLUSION

The conclusion of this section is that health is not a binding constraint for investment. The shadow cost of care does not seem to be particularly high relative to comparators and most firms and economic sectors do not seem to be losing workers in a manner that undercuts productivity. This conclusion does not suggest the healthcare situation in Liberia is optimal. Significant healthcare challenges remain. As referenced in the Infrastructure Chapter, rural access to care is still a problem. It is our conclusion however that these problems do not significantly impede economic production.

7.4 EDUCATION AND THE LABOR FORCE

As already discussed, Liberia experienced a mass exit of professionals during the years of political upheaval, pushing emigration rates toward the 50% mark as shown in figure 7.13. Liberia shows a marginal decline in emigration over the period while Sierra Leone shows a slight increase. Although on average, emigration rates appear high among comparators, the factors driving these trends might be very different across countries. Emigration in Liberia and Sierra Leone may be influenced by the incidence of conflict.

The exit of tertiary workers in Liberia has had implications for business, since such an outcome leaves employers to choose from a smaller pool of skilled individuals. The data presented in Figure 7.13 is a little dated and more recent data will be needed to assess whether the declining trend observed between 1990 and 2010 generally persists.

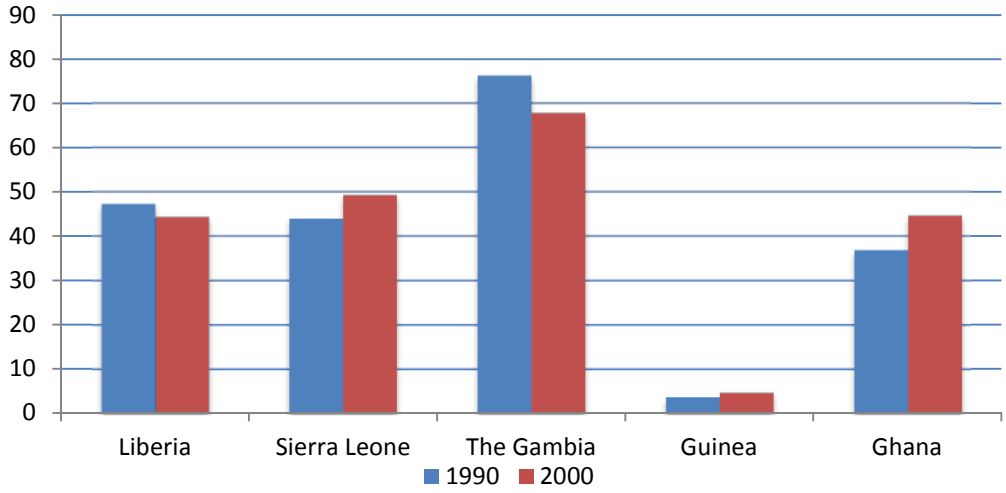


Figure 7.11: Regional Comparison of Emigration amongst Persons with Tertiary Education (%)

Source: World Bank, WDI

Figure 7.14 shows that net migration is expectedly positive in 2010. How much of this migration includes tertiary educated individuals cannot be gleaned from the data. This is important for the size of the skills pool employers have to choose from. A proportionally large share of tertiary educated individuals in the net migration number may minimize the skills deficit problem, which gets a lot of mention from employers.

Another indicator of the quality of the skills pool is the number of individuals receiving quality primary and secondary education. Many jobs may require basic numeracy and literacy skills and success in vocational and technical institutions, which provide some of the skills demanded by employers, depend on primary and secondary educational attainment. Figures 7.15 and 7.16 show respective gross primary and secondary enrollment across comparators.

Although gross primary enrolment in Liberia has declined since 2000, Liberia is competitive across comparators on this indicator, though it falls behind Sierra Leone in 2011. Secondary enrolment has seen an increase over the period and Liberia is ahead of Guinea and falls behind Ghana. Liberia does not appear to be out of the ordinary on overall school enrolment.

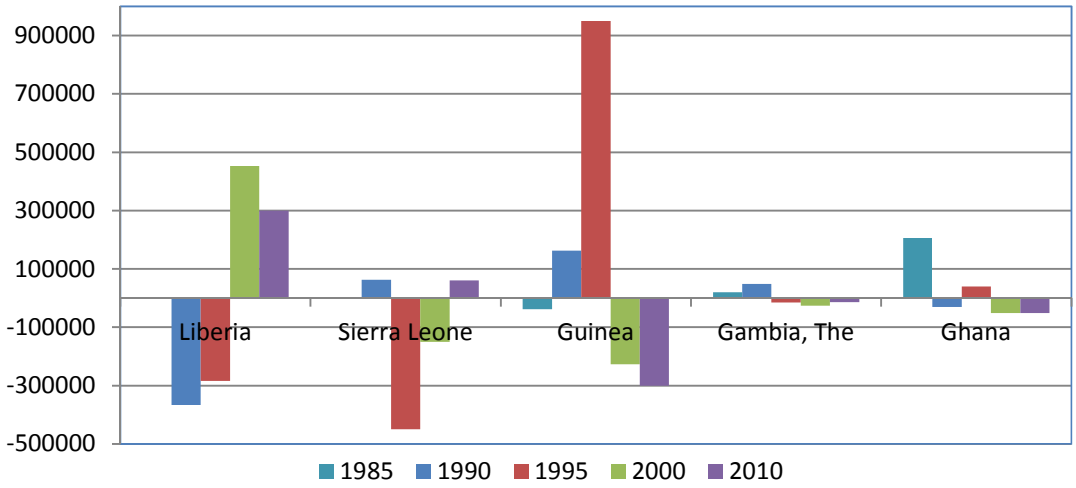


Figure 7.12: Regional Comparison of Net Migration

Source: World Bank, WDI

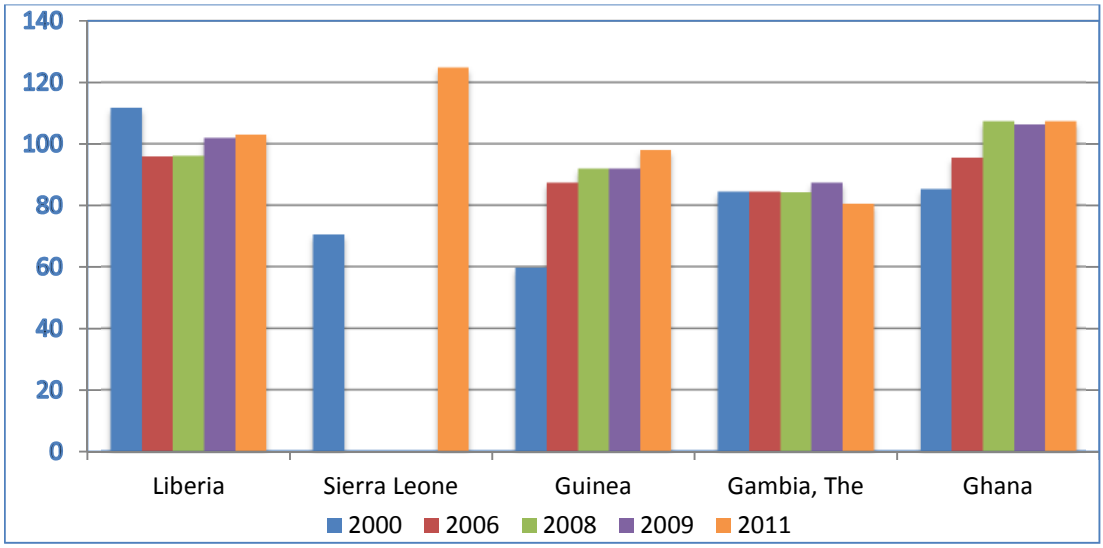


Figure 7.13: Regional Comparison of Primary Enrollment (%)

Source: World Bank, WDI

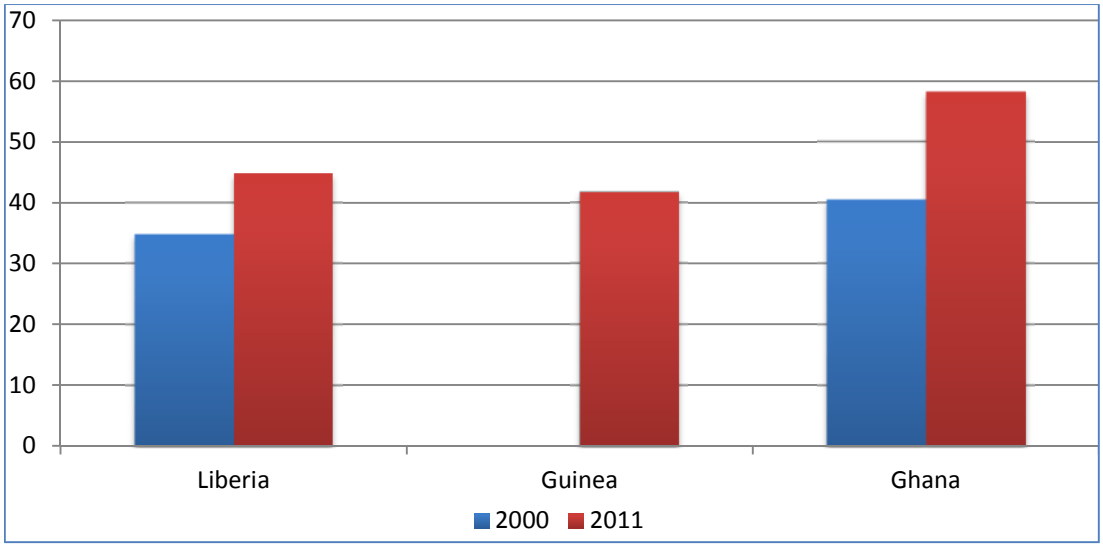


Figure 7.14: Regional Comparison of Secondary Enrollment (%)

Source: World Bank, WDI

Enrollment is only one facet of the problem; the other aspect is educational attainment. Figure 7.17 shows education attainment for population aged 15 and above in comparator countries. Liberia has stronger primary attainment than Sierra Leone and The Gambia but falls below Cote d'Ivoire and Ghana. Secondary attainment generally follows similar pattern but shows a much wider gap between Liberia and Sierra Leone. Liberia appears to have the highest level of tertiary attainment but this has to be put in context since both Cote d'Ivoire and Ghana have significantly greater population. The proportion of individuals educated at the college level may not easily follow primary and secondary attainment in countries with very high population due to a number of different factors and constraints, not limited to the number of supply of tertiary and the demand for tertiary education. On the tertiary front, it may be more useful to compare Liberia with Sierra Leone and the Gambia. In terms of average total years of schooling—or the number of years a random person is expected to stay in school across primary, secondary and tertiary levels—Liberia out performs all comparators except Ghana.

Figure 7.18 shows female attainment among comparators. Female enrolment trends appear to mirror overall trends in overall enrolment, except that Sierra Leone performs slightly better stronger than Liberia in female educational attainment at the primary level.

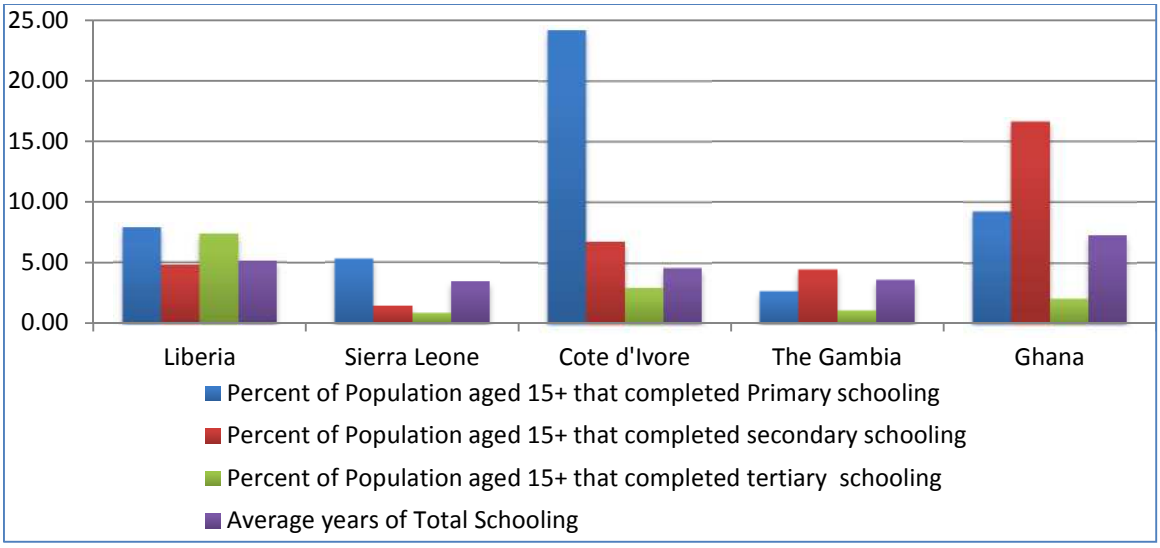


Figure 7.15: Regional Comparison of Education Attained by Persons 15+, 2010
Source: Barro and Lee, 2010

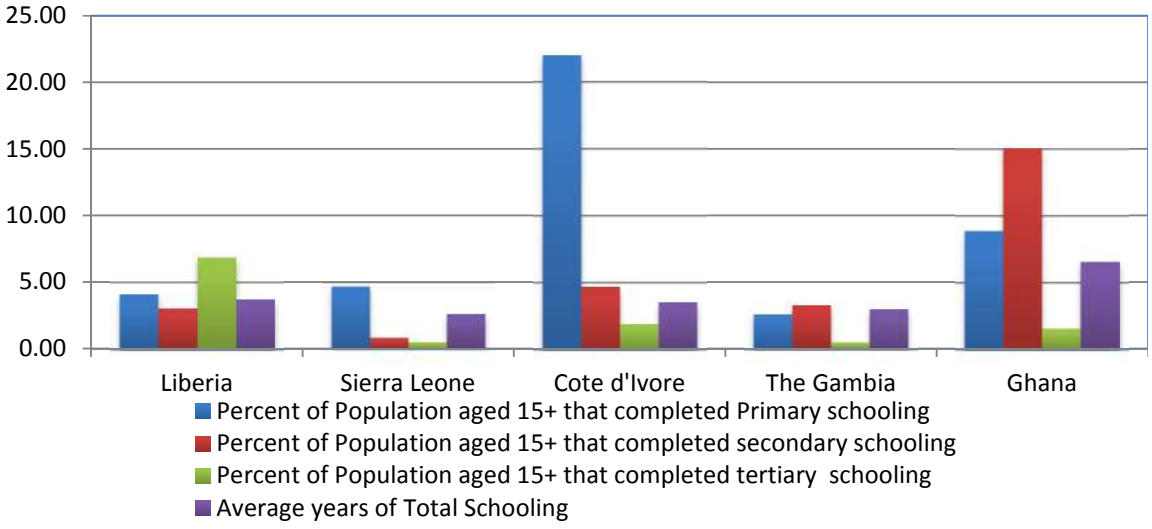


Figure 7.16: Regional Comparison of Education Attained by Females 15+, 2010
Source: Barro and Lee, 2010

Figure 7.19 shows the gender distribution of educational attainment in Liberia. As shown, the gender distribution of educational attainment exhibits progressive disparity moving from primary to secondary education. The gender gap is especially lowest at the primary level. This may be due in part to the Government of Liberia's initiation of a free and compulsory primary education policy in 2008, targeting girls enrolled in all public schools.

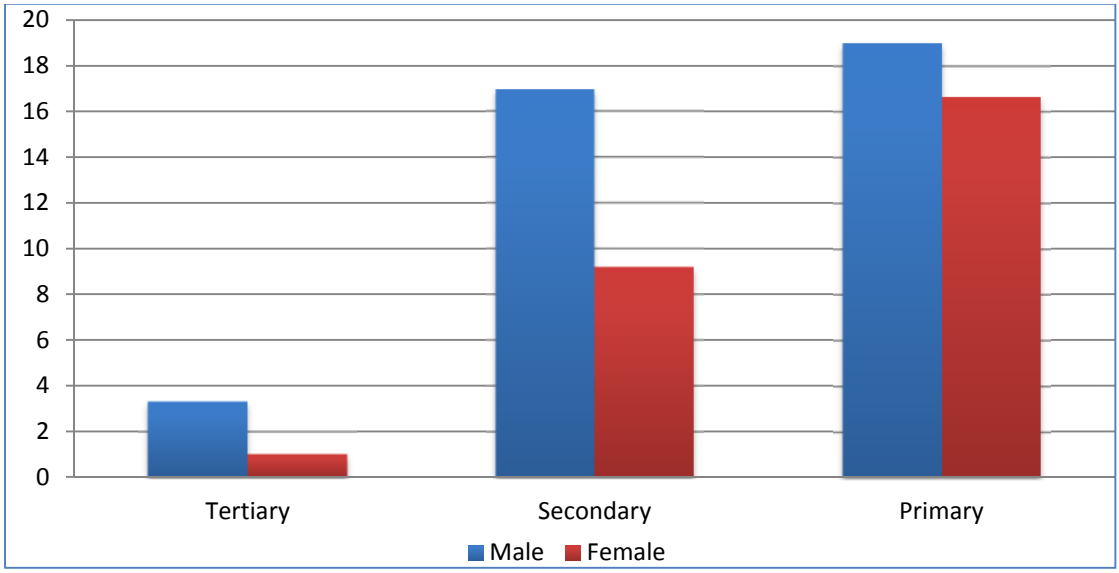


Figure 7.17: Gender Distribution of Educational Attainment (%)

Source: LISGIS/GOL, 2010

At the secondary level, the gap widens. Factors such as parental education, gender, orphan-hood, birth order, location, and exposure to conflict may explain much of the educational disparities (urban/rural, male/female) among Liberian children. The urban female child in a household where the head has at least primary education has the highest probability (74.8 percent) of accessing education, while the rural female child in a household where the head has no primary education has the lowest (53.8 percent) (Abras and Cuesta (2011)). However despite physical access to schools improving, as of 2010 Labor Force Survey, the cost of schooling was considered as second most important impediment for 23% of the youngest cohort of out-of-school children interviewed (ages 5-14).

Though overall school enrolment and educational attainment rates have seen improvements in recent years, it is also important to note that a large percentage of Liberia's current workforce is made up of unskilled labor, particularly in the rural areas and among women. Forty-five percent (45%) of Liberian males age 15 and over have no education or did not complete primary school, and 67 percent of females have no or did not complete primary school. The literacy rate is 57 percent, but it is much higher for males (66 %) than for females (49 %), and the urban rate (at 72 %) is 30 points higher than the rural rate (42 %), with a substantial urban-rural difference in rates even among the youngest age group (Labor Force Survey, 2010)[79].

The quality of education will also remain a major challenge in the medium term as participation in the system expands. Most educational institutions lack the necessary laboratory and training materials, and are in need of reconstruction. The student to teacher ratio was estimated as slightly higher than the recommended average of 40, at 47:1 (Government of Liberia, Ministry of Education 2010). Recent data suggest that only one-third of primary school teachers and 60 percent of junior secondary teachers in public school have had training (World Bank 2012b).

[79] Literacy rates are self-reported, based on questioning respondents as to whether they can read and write a simple sentence.

The performance of the students who have taken nationally administered secondary school examinations tend to be below standard, with slow gradual improvement. For example, of the 20,670 students sitting the Liberia Secondary High School Certificate Examination (LSHCSE) in 2009, only about 56.27 percent obtained passing marks. In 2011, 23,709 students took the LSHCHE with a passing rate of 57.8%, and in 2012, 25,000 students took the LSHCHE with a significant improvement of a passing rate of 73% (West African Examinations Council). This is an indication that high school institutions may be improving in delivering quality outcomes, although high schools are now beginning to experience a sharp increase in enrolments.

On the other hand, a large number of primary school students are considered inadequately prepared for school. For example, early grade reading results from the 2010 Early Grade Reading Assessment (EGRA) show an average score of 16.7/50 for all students, 13.7/50 at grade 2 and 20/50 at grade 3. This poor foundation makes it difficult for students that move on to junior and secondary high school and into the workplace.

The quality of technical/vocational training system also is extremely poor and limited in scope. A 2008 ILO Technical and Vocational Education and Training Tracer Study found that 93% of TVET institutions in Liberia had poor quality education; 69% provided training not relevant to marketplace; and only 19% of graduates were able to find full employment. As of 2010, approximately 15 percent of training institutes are government run, while the remaining 85 percent are managed by private individuals, religious missions, and NGOs. Among more than 500 teachers surveyed, almost 80 percent were untrained and held only trade certificates (no degrees). Small private providers have set up to respond to the mostly short-term demand for quick programs, without linkages to any type of qualification or articulation. Most of them are private, NGO, or church-owned operations without certification or accreditation (World Bank, 2012b).

With the focus on improving the quality of basic education and on expanding supply at the junior and senior secondary level, and the TVET system is just beginning to receive attention, a post-basic education strategy that would ensure youth gain the skills to be workforce-ready cannot be solidified. The extensive quality issues reinforces the notion that the supply of skilled workers in Liberia will remain very limited in the medium-term, and will likely affect Liberia's ability to sustain growth once other impediments to job creation and investment are removed.

7.5 LABOR MARKET OUTCOMES: LABOR FORCE PARTICIPATION

The Labor Force Participation rate (LFP) measures the proportion of the working age population (15-64) that is either employed or unemployed but looking for work. LFP may have particular relevance for economic growth and development. Higher participation rate may imply the working age population is more engaged in economic activities, which may have both national income and revenue and poverty reduction implications.

Figure 7.20 shows that Liberia is on the lower end of participation rate, among comparators, which may imply that people in comparator countries are more engaged in economic activities than people in Liberia. The observed low LFP do raise issues for manufacturing, which has struggled relative to other sectors. Enterprise Surveys perception data indicate that manufacturing has lost jobs in recent years relative to services. It is difficult to say whether the loss of jobs is due to lack of workforce skills, firms' profitability or to other constraints which are binding on the sector. More data is needed to reach firm conclusions on these questions.

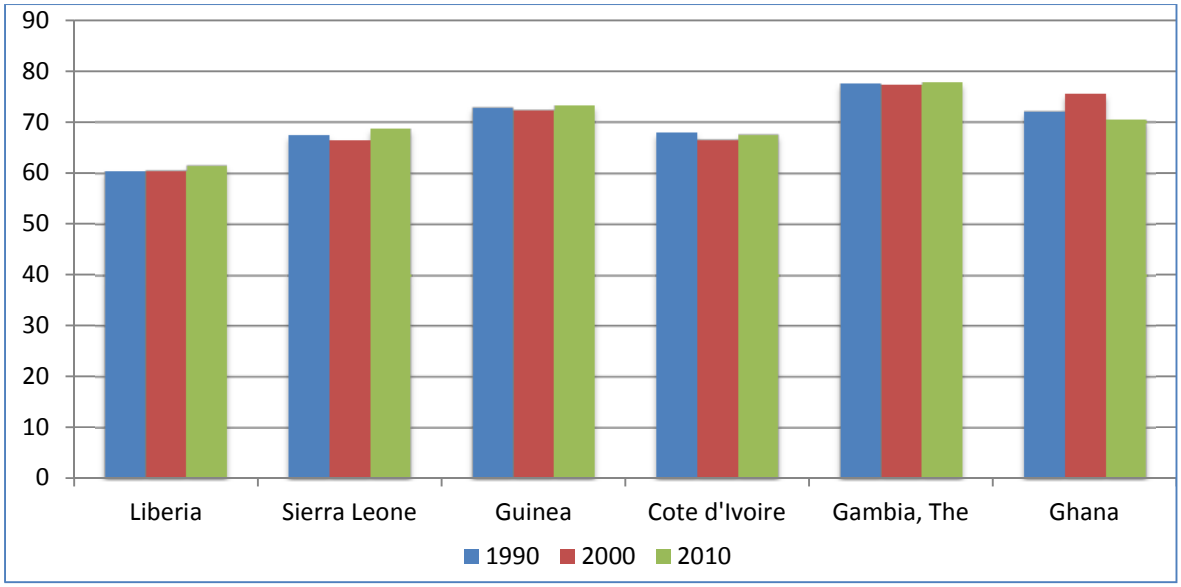


Figure 7.20: Regional Comparison of Labor Force Participation, aged 15-64 (%)

Source: World Bank, WDI

7.6 GENDER DIFFERENTIAL IN LABOR FORCE PARTICIPATION

Women participation in the labor force is essential for achieving poverty reduction, gender equality and sustainable growth. An especially large gender gap in LFP may suggest the existence of constraints that probably affect females more than males. Such a gap might point to factors that limit women engagement in economic activities, and given the importance of women in sectors such as agriculture, this may have important implications for poverty reduction. Figure 7.21 shows labor force participation rates for both male and female aged 15-64. Liberia shows no such large gender gap as observed in Cote d'Ivoire and to a lesser extent in Guinea and the Gambia. This data confirms the 50.1-49 percent male-female population split observed in agriculture production in Liberia (Production Estimates of Major Crops and Animals, 2009).

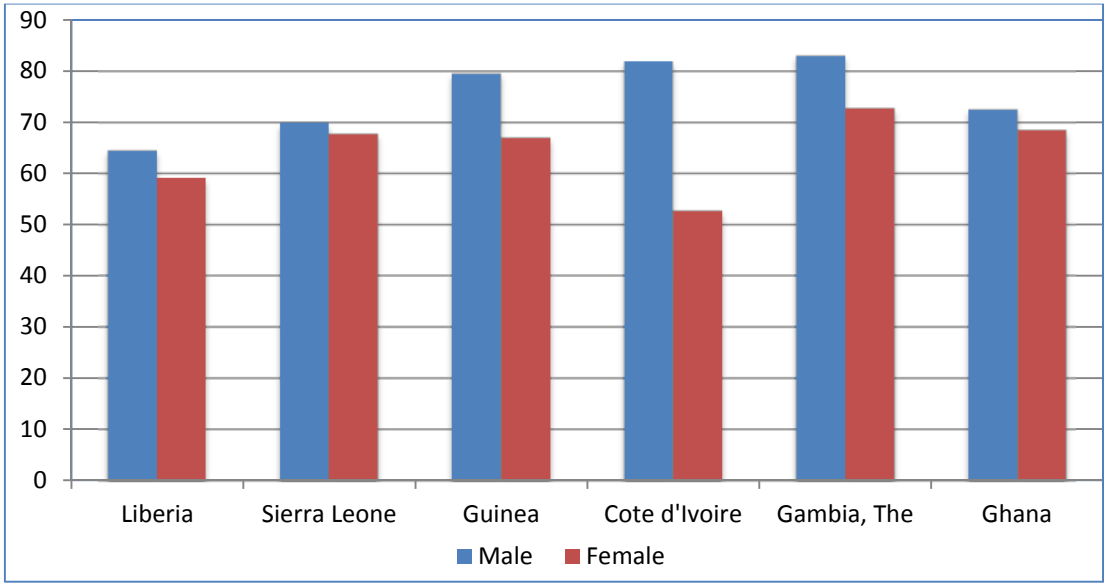


Figure 7.21: Regional Comparison of Gender Differential in Labor Force, 2011

Source: World Bank, WDI

7.7 APPLICATION OF THE PRINCIPLES OF GROWTH DIAGNOSTICS: THE FOUR TESTS

In this section we apply the principles of growth diagnostic to assess whether the lack of skilled labor, to the extent that firms cannot meet their skill demands, presents a binding constraint to investment growth. We use data form 2010 Labor Force Survey and the World Bank Enterprise Surveys, to make these assessment. These data are not of the highest quality but given significant data limitation, they are good proxies to aid the assessment.

Test 1: Is the Shadow Price of Education High in Liberia?

The *Growth Diagnostic Mindbook* suggests that an indicator of high shadow price might be high returns to education. Extraordinarily high returns to education may signal the problem of scarcity in the supply of labor. The canonical example would be too many firms competing for the low supply of labor and in the process artificially driving up labor's return to production (wages). Figure 7.23 presents results from a Mincerian wage regression performed using data from the 2010 labor force survey. Results are available for paid employees in the formal economy, self-employed persons in the formal economy and persons employed in the informal economy as well as those employed either on farms or who are general agriculture workers. The major distinction between the formal and informal sectors is the registration of business. Businesses that are not formally registered are considered to be in the informal economy.

The Mincer regression shows a return of about 8.6% for paid employees. This means an additional year of schooling increases wage income by about 8.6 % for these individuals. Returns for self-employed individuals in the formal economy are about 4.4%, whereas returns for informal workers are about 7.0%. Agriculture workers[80], as expected, have the lowest returns to education, 3.2%. The coefficient on education in all models is statistically significant.

VARIABLES	(1) Paid Employees Formal Economy	(2) Self-employed Persons Formal Economy	(3) Self-Employed Informal Economy	(4) Farm or Agriculture Workers
edu	0.0862***	0.0443**	0.0704***	0.0324***
	(0.0194)	(0.0189)	(0.00883)	(0.00748)
exp	0.0303	0.0384**	0.0244***	0.00310
	(0.0187)	(0.0194)	(0.00857)	(0.00746)
expsqrd	-0.000524	-0.000471	-0.000378**	-4.11e-05
	(0.000351)	(0.000355)	(0.000150)	(0.000130)
Constant	-1.538***	-1.491***	-2.157***	-1.331***
	(0.321)	(0.318)	(0.129)	(0.116)
Observations	331	253	1,470	1,313
R-squared	0.062	0.040	0.047	0.014

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Figure 7.23: Mincer Regression Results
Source: Liberia Labor Force Survey, 2010

[80] Results for self-employed persons in the informal economy are largely based on the single question: "how much did you earn in your business activity in cash and kind after deducting expenses?" This may underestimate incomes in this sector. However, the inclusion of all relevant questions and controls for seasonal variation in income cannot be expected to on average significantly raise rural incomes above incomes in the formal paid economy.

The returns reported above do not seem particularly high. David Card of Princeton University suggests that returns typically range from 7.5% to 15.5 % (Card, NBER working paper No. 4483, 1993). So that returns seen in Liberia may be at the lower end of the returns spectrum, though the returns on paid income are higher than those observed in Ghana (5.5%) (Ghana Constraints Analysis, 2011). More importantly, the Mincer regression shows that the returns for paid, formal employment and self-employed, informal activities are very close, which indicates that there may not be a strong incentive to pursue longer periods of education. This suggests that education supply is not a problem so much as firm demand for highly skilled labor. This is further reinforced by the rising levels of unemployment for increasing levels of educational attainment, with tertiary-educated workers seeing the highest levels of unemployment compared with primary-educated workers seeing the lowest. This may be in part due to the definition of unemployment (perhaps there are more discouraged workers at the primary-educated level), but it is at least indicative that this is more likely to be a demand problem rather than a supply problem.

These results could also be capturing the lack of quality of education, meaning that even when higher levels of education is attained, they are not employed by firms because they still do not have the skills demanded for the jobs. This possibility will be examined further in Test 3, since there is no existing indicator to measure "skills attainment" that is comparable across countries.

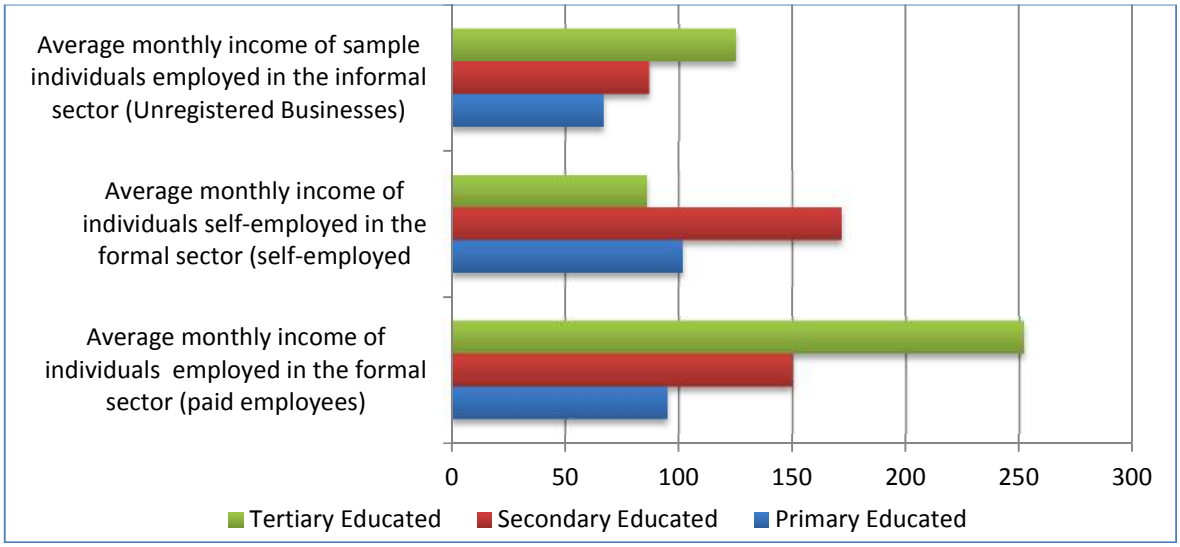


Figure 7.24: Monthly Income in Formal and Informal Sectors, by Level of Education

Source: Liberia Labor Force Survey, 2010

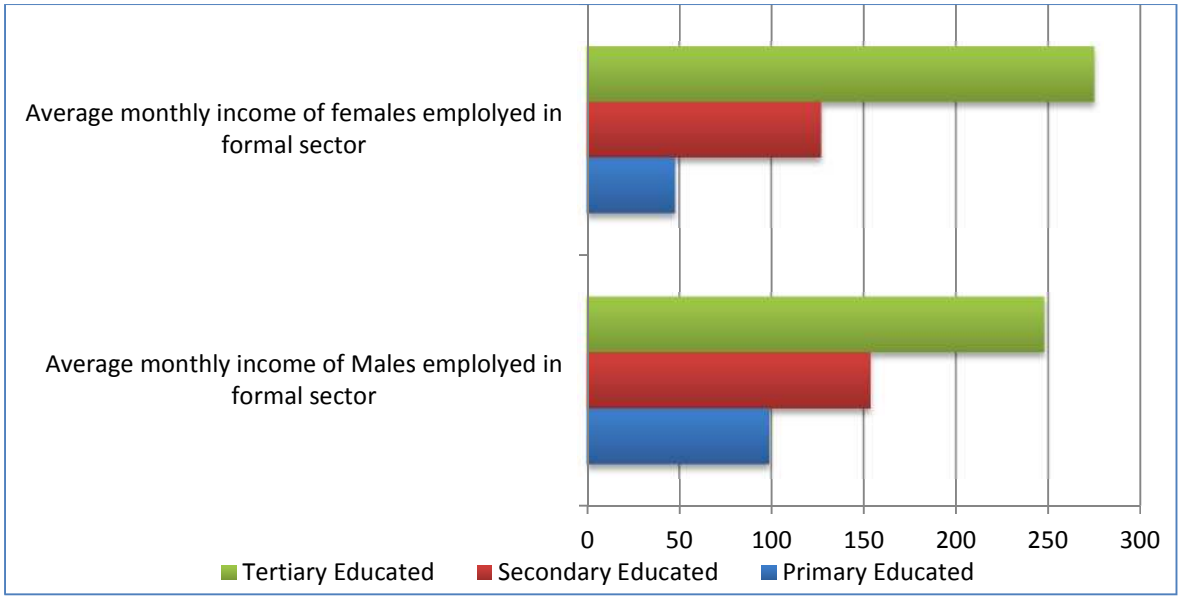


Figure 7.25: Gender-based Wage Differential in Formal Economy, by Level of Education

Source: Liberia Labor Force Survey, 2010

Figures 7.24 to 7.25 show education attainment and employment by level of education. These boxes place the Mincer regression in some context. Box 7.9 shows some association between level of education and income across economic sectors. Both in the informal sectors and among paid employees in the formal economy, higher educated individuals on average earn higher income. The one exception is tertiary educated self-employed individuals in the formal economy who are on average earning lower than secondary-educated persons. Given the small number of such individuals (12) in the sample, it is difficult to interpret such a finding.

Figures 7.26 and 7.27 show that males on average earn higher than females and earnings across the both sexes respond to level of education attained, with higher educated males and females generally getting higher wages, with the exception happening in tertiary educated self-employed persons.

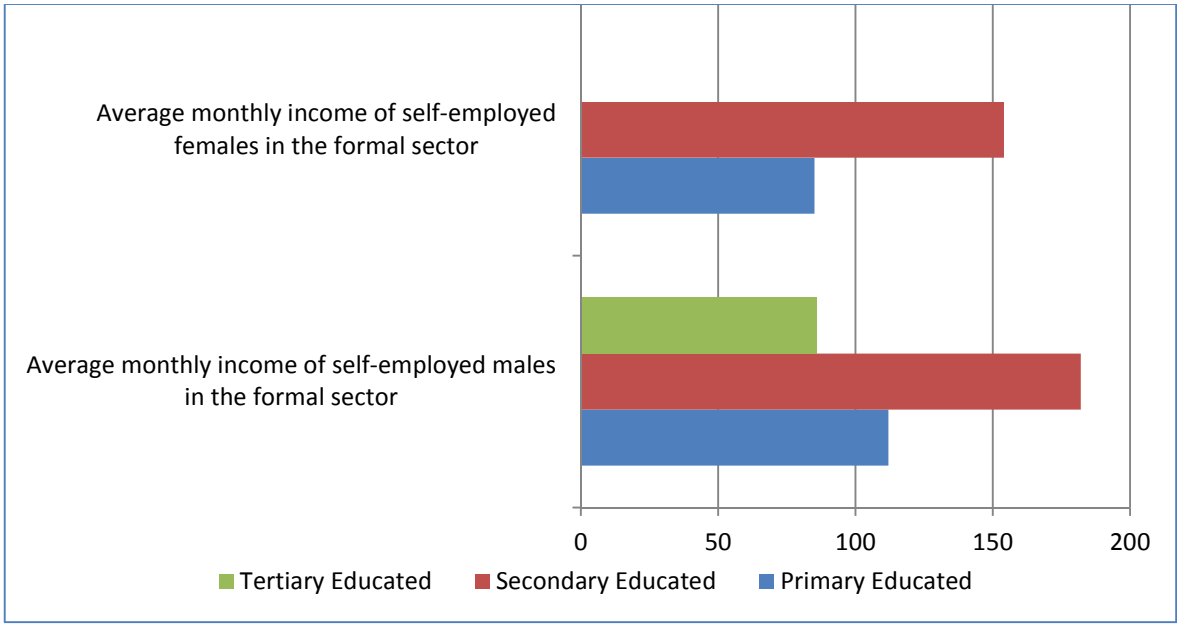


Figure 7.26: Gender-based Wage Differential in Formal Self-Employment, by Level of Education

Source: Liberia Labor Force Survey, 2010

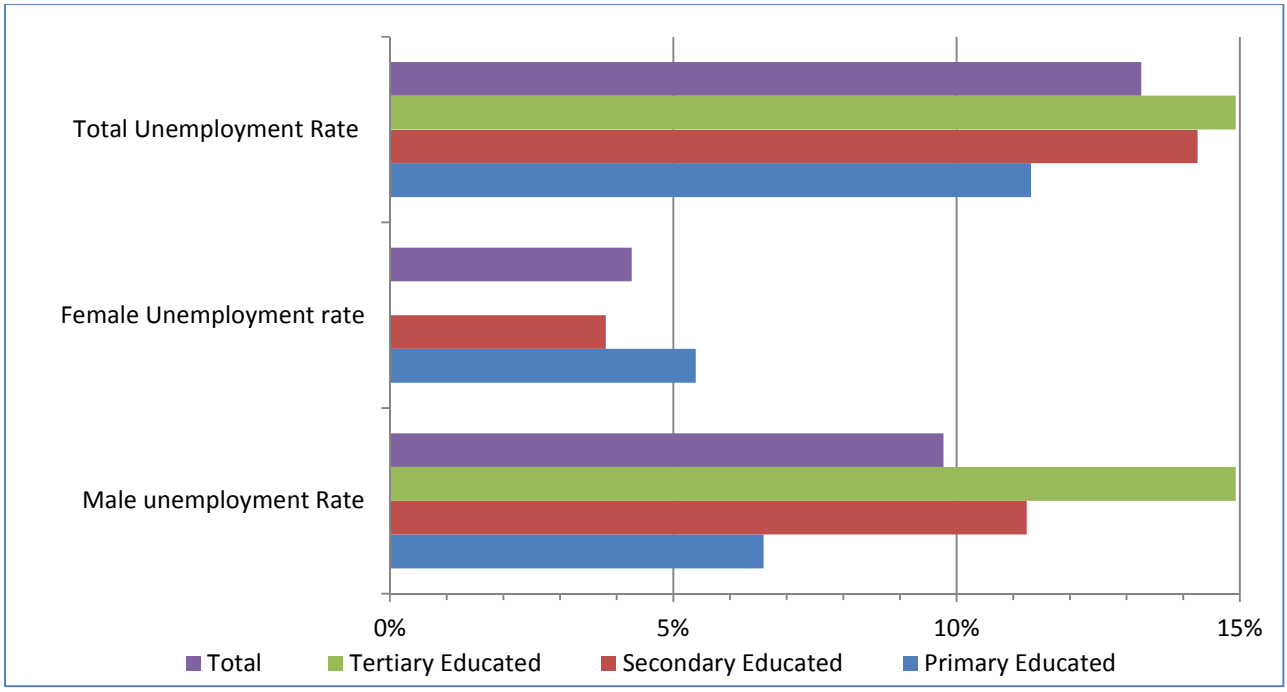


Figure 7.27: Unemployment Rates by Gender and Level of Education
Source: Liberia Labor Force Survey, 2010

Figure 7.27 shows unemployment rate by level of education. The figure shows that unemployment rises with level of education, backing up the story that the Mincer regression tells us about there being a demand, rather than a supply, problem. The unemployment rate is comparatively highest among tertiary educated persons, which may reflect the fact that higher-level education is not demanded. This finding support the view that skilled labor may not be as scarce as warranted by high wage premiums, suggesting that workforce skills do not appear to bind across all sectors or firms. It is interesting, however, to note that the trend is different for women, among who the tertiary educated both see higher wages than men in the formal sector and lower unemployment. This may denote a higher demand for tertiary educated women in particular. It is not clear if that is because women study more highly-demanded fields like medicine or science rather than law or public administration, for instance, or whether for instance the high number of NGOs and international aid agencies who might have preferences for staffing diversity are driving those figures. Considering the overall lower attainment of women in education, this is an anomaly which could warrant further study.

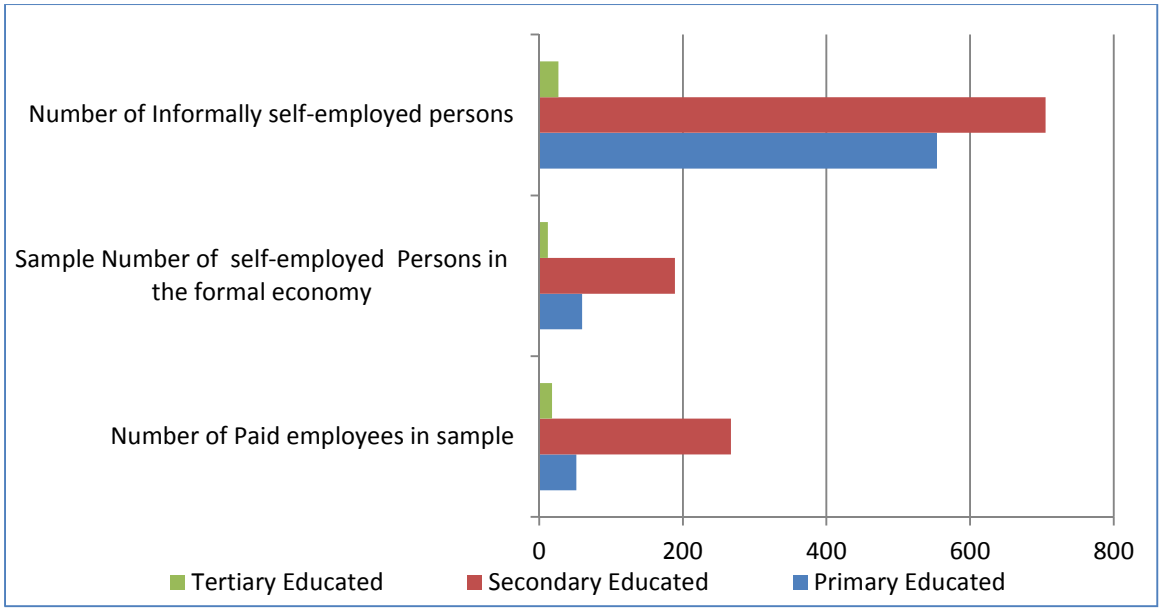


Figure 7.8: Employment Rates by Type and Level of Education
Source: Liberia Labor Force Survey, 2010

The information and analysis presented in this section suggest that the shadow cost of human capital may not be high, since the returns to education do not seem to be as high in the formal economy. Scarcity of skilled labor should be remunerated with high wages, and the average wages seen in the data under consideration do not seem to support a scarcity story. The low level of unemployment seen among tertiary-educated individuals suggest that firms are making do with the current skill levels, offering formal training where possible to make up for skills gaps.

Test 2: Do Investments in Education Correlate with Investment Growth?

Figure 7.29 below shows a positive correlation between spending on primary and secondary education as a percent of GDP and the investment share of per capita income. Figure 7.30 also shows a similar correlation between spending and the growth rate of agriculture value added. But this rate of investment comes with a caveat, in that while it will support improvement of basic skills in the medium term, the government is not in a position to provide for a skilled workforce in the short or medium term nor is the ability of families to fund education well-established.

Given the impact of conflict on Liberia's education systems, increased investment in raising the quality of education outcomes is generally expected. The degree of quality engendered in primary and secondary education outcomes may be related to the proportion of public and private investment in these sectors. As the figures illustrate, spending on education has important ramifications for the quality of the labor force. During private sector consultations, many firms complained that workers, especially young workers aged 18-34, lack basic numeracy and literacy skills which are obtained through primary levels.

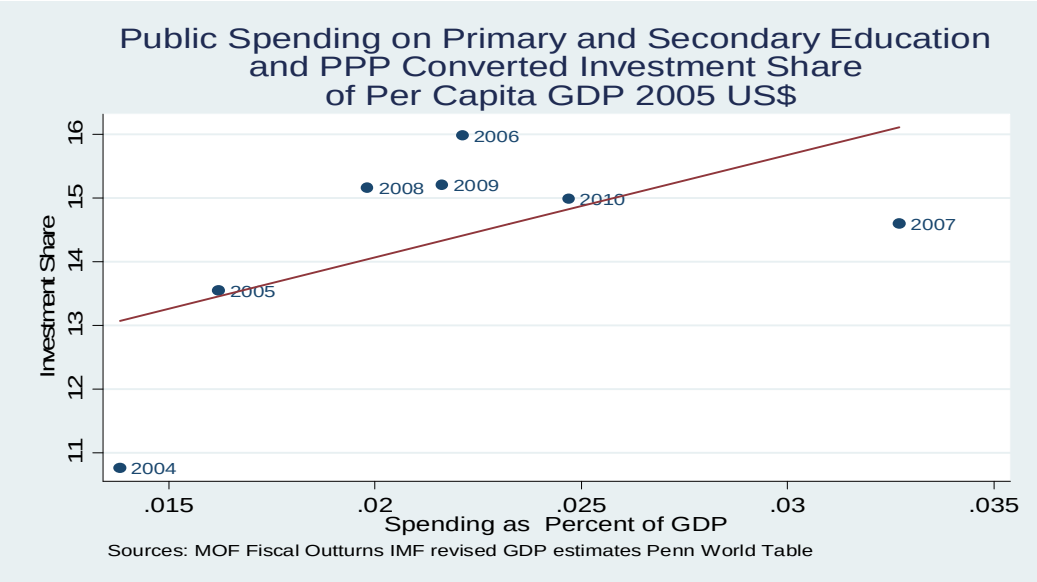


Figure 7.29 Correlation of Education Spending and Growth Per capita in GDP, in 2005 US$

Source: Liberia Labor Force Survey, 2010

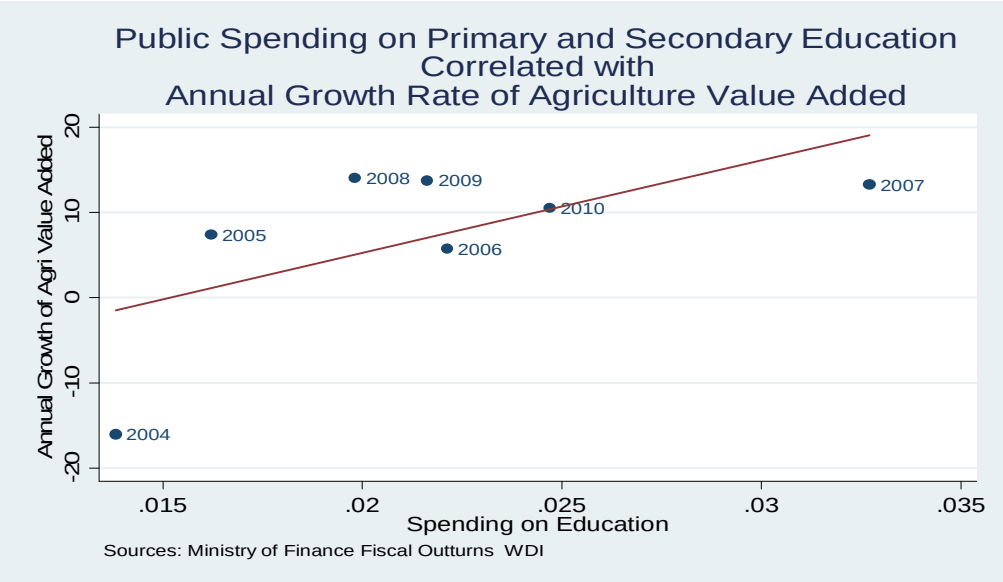


Figure 7.30 Correlation of Education Spending and Annual Growth Rate of Agriculture Value Added

Source: Ministry of Finance, Fiscal Outturns, WDI

While education spending may not be the sole answer to raising education quality, it is a necessary pre-condition. In the 2010-2010 Ministry of Education Sector Plan, in the medium-term a large share of development costs is allocated to primary education (41 percent on average) and of basic education as a whole (75 percent, which pre-primary, primary, junior high and non-formal literacy). This was deemed suitable and necessary to improve the quality of the supply of primary education.

Support to secondary schooling, tertiary and TVET is realistically modest, given other pressures in the sector. Due to its history, Liberia's secondary education sector is very small. In the medium term, the government plans to concentrate its funds on expanding the supply of secondary education to meet demand. However, in order to become competitive in more skill-intensive sectors, there is an acute

need to raise the quality of the labor force in the medium and long-term, and to significantly improve equity in access at these levels of education. (Global Partnership for Education, 2010).

While the Government increased its education budget from about 2.9 percent of GDP in 2007/08 to nearly 14 percent in 2011/12, and primary education is free and compulsory, households still bear a disproportionately large part of the burden of financing education (World Bank, 2012b). As mentioned above, this economic burden appears to impact female education attainment.

Test 3: Are Firms Bypassing the Workforce Skills Constraint?

This test examines the extent to which firms constrained in the lack of a skilled workforce are bypassing the constraint. Using the World Bank's Enterprise Surveys, we first present evidence that shows that human capital does not generally feature at the top of the list of constraints, though many firms continue to complain about the lack of skills among their workers. While some evidence of bypassing has been observed among firms in Liberia bypassing may not be a viable option for the majority of employers.

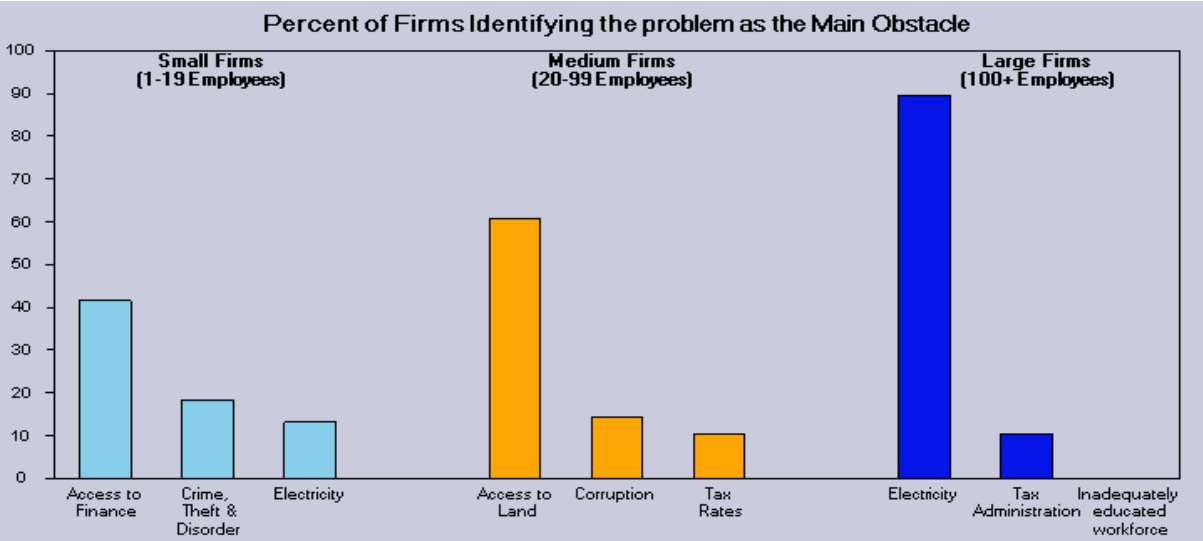


Figure 7.31: Perception of Major Constraints, by size of Firm

SOURCE: WORLD BANK ENTERPRISE SURVEY

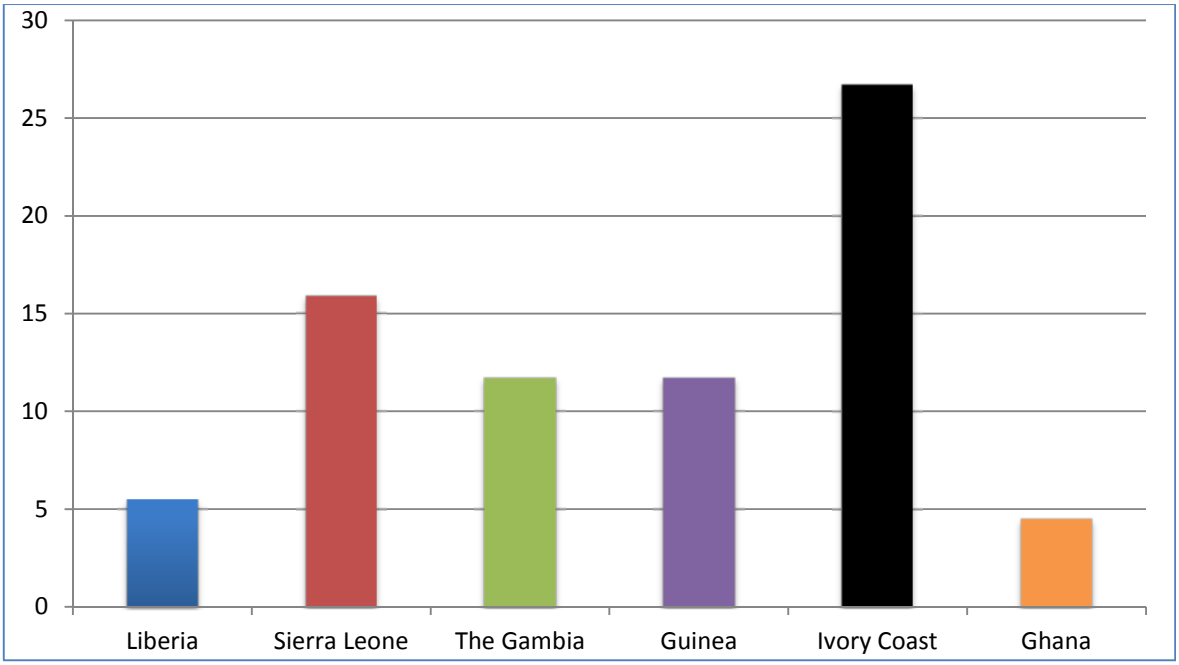


Figure 7.32: Regional Comparison of Perception on Inadequately Education Workforce as Major Obstacles (%)
Source: World Bank, Enterprise Surveys

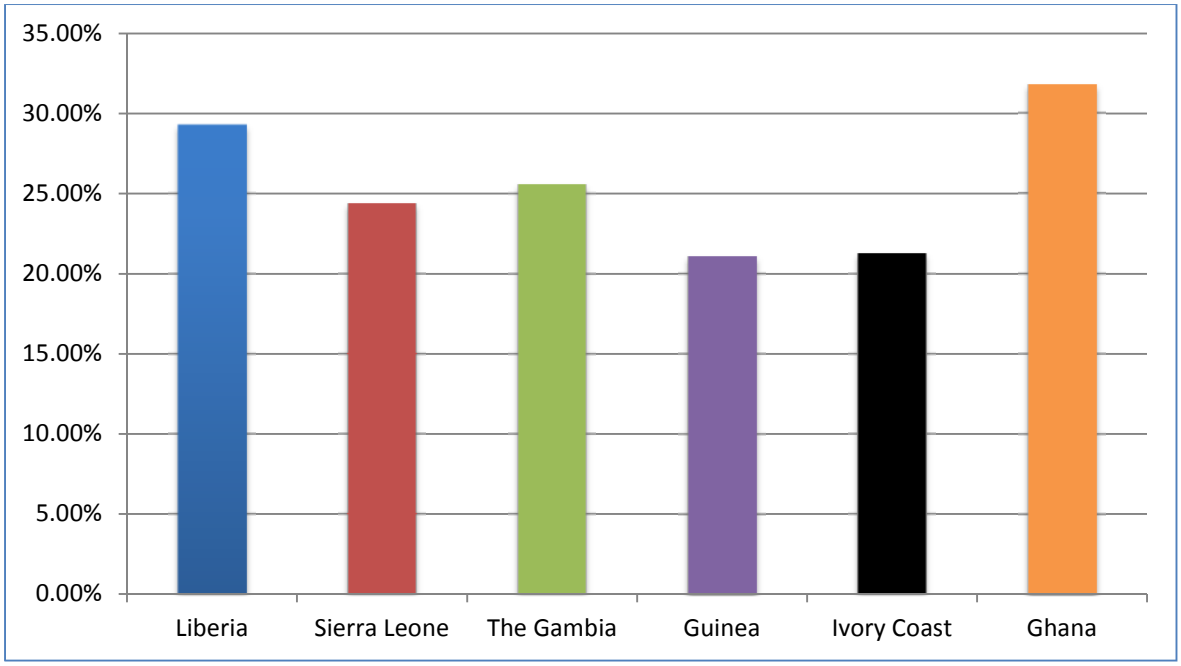


Figure 7.33: Regional Comparison of Firms Offering Formal Training (%)
Source: World Bank, Enterprise Surveys

Figure 7.31 shows that among small, medium firms, human capital does not register as a top constraint, though it shows up as a third major constraint for large firms. Nevertheless, Figure 7.33 shows that Liberian firms engage in more formal training than all comparator countries except for Ghana, all of whom ranked inadequately educated workforce as a significantly higher

constraint. This disparity between firms considering education as a constraint and those that offer training is interesting, and could warrant further investigation.

A slight nuance appears to be involved in what small or medium firms generally regard as a major constraint. During the Private Sector Roundtables held to inform this analysis, human capital did not generally emerge as the most critical constraint firms are facing but many went at great length to describe the severity of the challenge. Many banks, for example, noted that the typical owners of small businesses in Liberia generally manage through trial and error, lacking basic business skills such as business planning, financial management, human resource development and management, and competitive pricing of products and services. Asked how these constraints practically affect them, responses varied in accordance with the type of businesses. Construction companies highlighted the lack of engineers and well-trained carpenters, plumbers and electricians, while hospitality firms said customer service and management skills were more difficult to source. The nuance is that human capital effect may not be as tangibly felt as constraints such as bad roads. It may be that human capital constraints sometimes manifest themselves through other constraints. For example, the bankers who complained about the lack of adequate management skills and competencies are more likely to deny application for credit on such basis. To the firms denied credit access, finance, not human capital deficiencies, would be considered the major constraint. The implication here is that sometimes human capital may be misunderstood as a constraint.

Nevertheless, employee work ethic and skills were often mentioned as a constraint, in addition to worker theft. It may be that only the Concessionaires (mostly foreign-owned) tend to be more willing to develop their own facilities for training in skills close to the particular firm, e.g. specific technologies or processes. Larger companies still report that they need to provide training to lower skilled workers in basic office and technical skills (World Bank, 2012a). There are very few qualified training providers in Liberia, making outsourcing of training less accessible and potentially costly. The great majority of vocational education providers are located within Monrovia, meaning rural businesses have very limited access to quality training providers (World Bank, 2012a). The poor quality, relevance and limited scope of the training system have already been noted, but with the presence of other very costly constraints, firms are not likely to invest in training at this stage.

Firms may also bypass by importing foreign labor. There are legal restrictions on the number of foreign labor firms may import in Liberia, though enforcement of this regulation has not been particularly stringent. A 2010 ILO survey of MNEs--including banks—conducted in Liberia and Sierra Leone, finds that of the banking employees interviewed only 2.7% and 2.2% were foreign employees in Liberia and Sierra Leone, respectively. A major mining concession told the private sector roundtable, which was held to inform this analysis, that foreign workers make up only about 8-10 percent of its labor force. Concessionaires generally seem to be less intensive in local capacity since only a smaller fraction of high skilled individuals may be needed at the top level, which can be met by the legal quota on foreign labor input. Domestic firms, who lack the capacity to pay for foreign labor, which generally commands competitive wage rates, may be more constrained in finding and paying for foreign talent.

The information presented in this section suggests that it is difficult to conclude that bypassing is happening at a level that suggests human capital is a binding constraint. Foreign firms do import some labor and will tend to provide formal training, while domestic firms may not be able to pay wages demanded by foreign skilled labor and not to provide training. This inability does not seem to be the most critical factor affecting firm production, but the quality of firm output is not clear.

Test 4: Are firms less Intensive in the Constraint Thriving Relative to Firms more intensive?

This test examines whether firms less intensive in the constraint are thriving relative to other firms. We examine the services and manufacturing sectors – where manufacturing is labor intensive and services is less so - in Liberia and Sierra Leone to argue that work force skills alone do not seem to explain why firms are or are not thriving.

Figure 7.34 shows annual employment growth trends in the manufacturing and services sector in Liberia and Sierra Leone. Interestingly in Liberia, we see the services sector is growing more jobs while manufacturing is shedding jobs. Services now accounts for about half of Liberia's GDP and appears to have resumed its prewar growth trajectory. The services sector is thriving relative to manufacturing, but the difference in performance may not generally be due to issues of inadequately educated workforce, as firms in neither sector ranks this high on their respective lists of constraints.

An examination of the capacity utilization of the manufacturing sector in Liberia may put the issue into broader relief. Capacity utilization in small and medium firms in Liberia is about 70% and 73% respectively. Firms may be asserting that the current quality of skills is about adequate to take output past the 70% level given available resources. Alternately, the low capacity utilization may have more to do with other constraints such as reliable electricity access.

The information presented in Test 4 suggests that there may be firms that are particularly constrained in workforce skills or sectors that have not emerged due to this constraint. However, in the presence of many other constraints firms may rate deficiencies in workforce skills as less of a constraint.

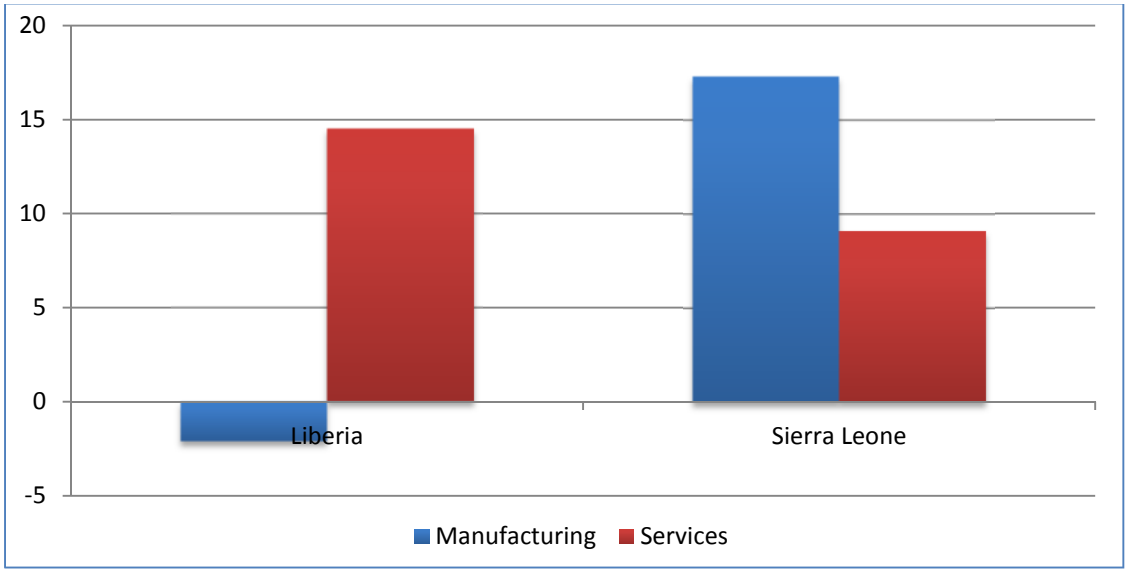


Figure 7.34: Comparison of Annual Employment Growth for Sector (%)

Source: World Bank, Enterprise Surveys

The Caveat of Human Capital

The conclusion that human capital is not a binding constraint to growth might stir some debate among practitioners who have studied the issue. As noted earlier the World Bank's Inclusive Growth Diagnostics study finds human capital to be a binding constraint in the *non-traditional sector* arguing that the,

> "Lack of education and skills, especially among the young adult and adult working---age population reduces their employability and opportunities to participate and benefit from the growth process... In natural resource-based economies such as Liberia's, human capital is a decisive factor for sustainable long-term growth, provided that human capital levels are above a minimum threshold. Where there is a serious mismatch between the supply of and demand for skills, however, this mismatch may lead to a decline in the growth rate. "

This viewpoint is echoed in 2010 ILO interviews of MNE's in the agriculture and mining sectors. While these enterprises are optimistic that they can expand their operations if other important constraints such as infrastructure and electricity are overcome, they are less optimistic about the possibility of creating any skilled work for Liberians because future opportunities will require practical experience and knowledge of the latest technologies and principles in these fields. In order for Liberia's agriculture, agro-forestry, raw mineral sectors to transform to value-added product development, intensive investments in education and training of youth will be required (International Labour Organisation, 2010).

The above argument presents human capital as a major constraint which does not currently bind since the issue does not appear to cut across all sectors of the economy, which is essentially the definition of a binding constraint. However, the severity of the challenge implies it may evolve as a binding constraint in the near future if not seriously addressed.

7.7.1 CONCLUSION

This chapter has documented the immense challenge of human capital development in post-war Liberia. Given the pressure to fund competing public sector priorities, the amount of resources directed to strengthening human capacity is not sufficient to overcome the challenge over the short term and even in the long run. Improvements to human capital in Liberia will have to be incremental and must be accorded the highest public sector priority. This means the challenge will co-exist with business investment.

Does the challenge represent the most binding constraint to business investment in Liberia? The evidence reviewed in this chapter does not support such an assertion. Some sectors have grown in spite of and despite the persistence of the human capital problem. The IMF estimates that the mining sector is expected to account for as much as 15% of Liberia's GDP by 2015. However, it is evident that Liberia cannot solve its human capital challenge by 2015. Mining is constrained by human capital but mining companies can provide training where necessary to ensure this goal is met. The agriculture concessions sector is expected to employ as much as 80,000 when it is fully operational. Do deficiencies in the skillset of the Liberian workforce bind in this sector? The answer is probably not, but human capital remains a challenge that has to be surmounted. It may be, as stated in the World Bank study, that human capital affects the smallest enterprises in the non-traditional sector the most; but the co-existence of many other constraints with the human capital constraint makes difficult the exercise of teasing out the magnitude of human capital constraint.

It is the conclusion of this chapter that human capital is not a binding constraint to investment growth in Liberia, though it remains a significant challenge. This challenge is even more critical in the need for the education system to be improved sufficiently so that it produces more relevant and quality skills output.

8 IS LACK OF ADEQUATE INFRASTRUCTURE A BINDING CONSTRAINT TO GROWTH IN LIBERIA?

The link between infrastructure development and investment, output or productivity growth has been fraught in the development literature. While a general consensus on the impact of public investment on economic growth appears to have emerged, considerable debate remains on the size and direction of the impact. In a latest review of this strand of the literature, Gianpiero Torrisi[81] (November 2009) concludes that "even with several points of caution, the general idea that infrastructures have an economic enhancing effect appears to be quite robust across studies belonging to different methodological approaches."

The World Bank's World Development Report 1994, 'Infrastructure for Development,' recognized that infrastructure can deliver critical benefits in economic development and poverty alleviation. Such an assertion has particular relevance Liberia, where infrastructure deficits have historically persisted despite an abundance of natural resources.

This section reviews the infrastructure landscape in Liberia and applies the constraints analysis methodology to determine whether infrastructure poses a binding constraint to Liberia's growth and development. The key infrastructure considered are transportation infrastructure – roads, ports and rail and utility infrastructure – power, telecommunications and water and sanitation.

The conclusion issuing from the analysis is that both roads and power are a binding constraint to private investment and growth. The shadow costs of the two constraints are high and their deficits cut across the agriculture, services and industrial sectors, depressing capital formation, job creation and productivity. Ports and seaports will require constant rehabilitation to keep pace with the demands of the growing economy and remain significant constraints. But we do not believe they are binding constraints.

8.1 OVERVIEW OF LIBERIA'S INFRASTRUCTURE LANDSCAPE

Liberian businesses and firms continue to rank infrastructure as a major constraint to their operations. As the World Bank's Enterprise Survey shows in figure 8.1, electricity and transportation feature prominently on the list of constraints firms face in Liberia. About 59% of small firms, 47% of medium firms and 82% of large firms consider electricity as a major constraint, while 40.3%, 28.3% and 11% of small, medium and large firms respectively, consider transportation a major constraint.

[81] In an MPRA paper, Torrisi reviewed the four approaches the literature has generally taken: the production function approach, the cost function approach, growth models and vector auto regression models. Most economists using the production function approach agree that public capital drives productivity and not the other way around. Economists employing the cost function approach generally reach the same conclusion through channels of infrastructure cost savings. Several economists using both the growth models and VAR auto regressions confirm the positive link between infrastructure and output growth. http://mpra.ub.uni-muenchen.de/25849/

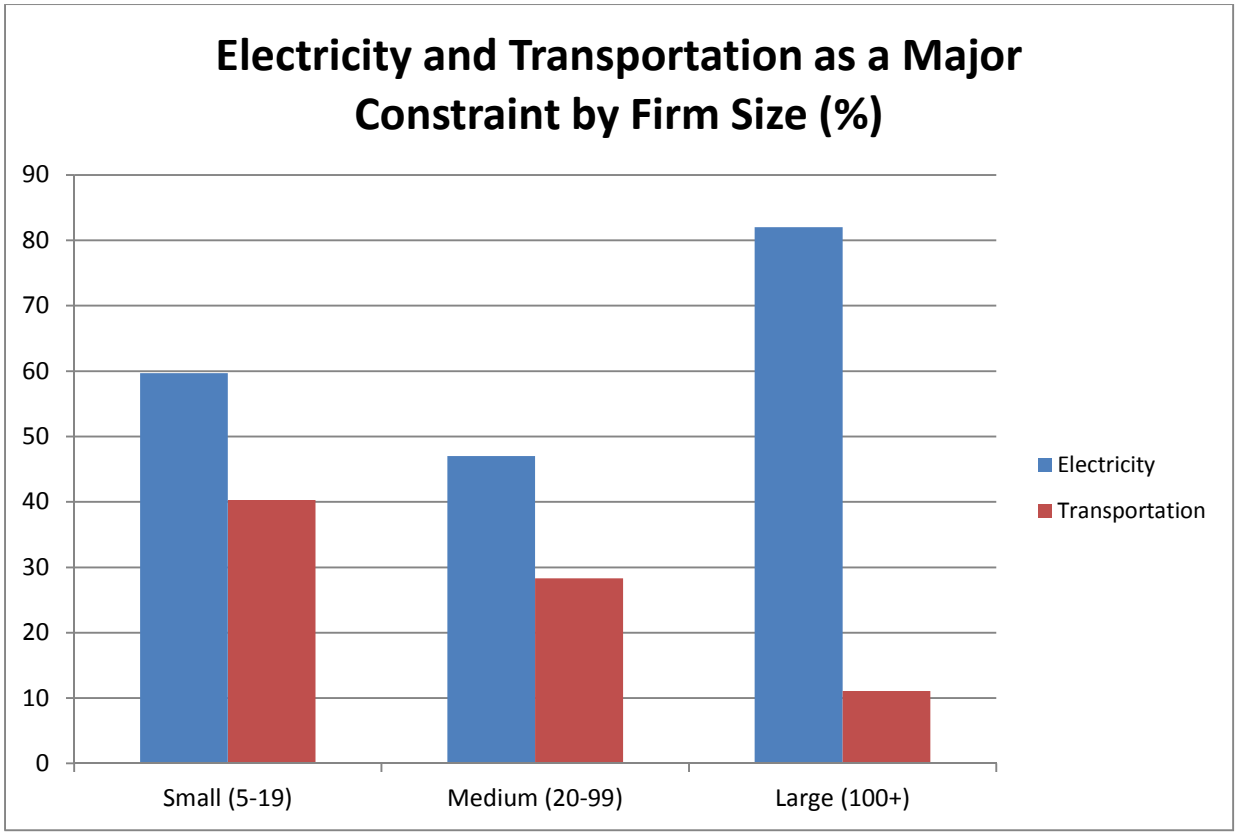


Figure 8.1 Firms' Perception of infrastructure Constraints in Liberia (%)
Source: World Bank Enterprise Surveys (2009)

These numbers are due largely to the destruction of Liberia's major pre-war source of electricity, the Mount Coffee Hydroelectric dam, to the lack of transmission and distribution networks throughout the country as well as the absence of alternative sources of power, such as mini-hydro, diesel plants or thermal power. Perception of transportation infrastructure constraints generally derives from the lack of adequate road infrastructure, such as good quality paved roads and bridges, many of which were destroyed during the war.

Figure 8.2 compares Liberia to 80 Low Income Countries (LICs), lower middle income countries (LMICs), and High Income non-OCED countries in terms of the Logistics Performance Index, (LPI) which tracks the quality of trade and transport related infrastructure through surveys and ranks countries on a scale of 1 (low) to 5 (high). With a 2010 logistics performance index score of 2, Liberia ranks just below the median score of 2.195 for the 80 countries considered. For countries lying closer to or along the regression line, logistics quality appears to correlate with per capita income. With LPI score of 2, Liberia shows a stronger than expected performance, but this may be due more to the trade component of the index, which tracks customs clearance, timeliness of shipments among other trade related indicators.

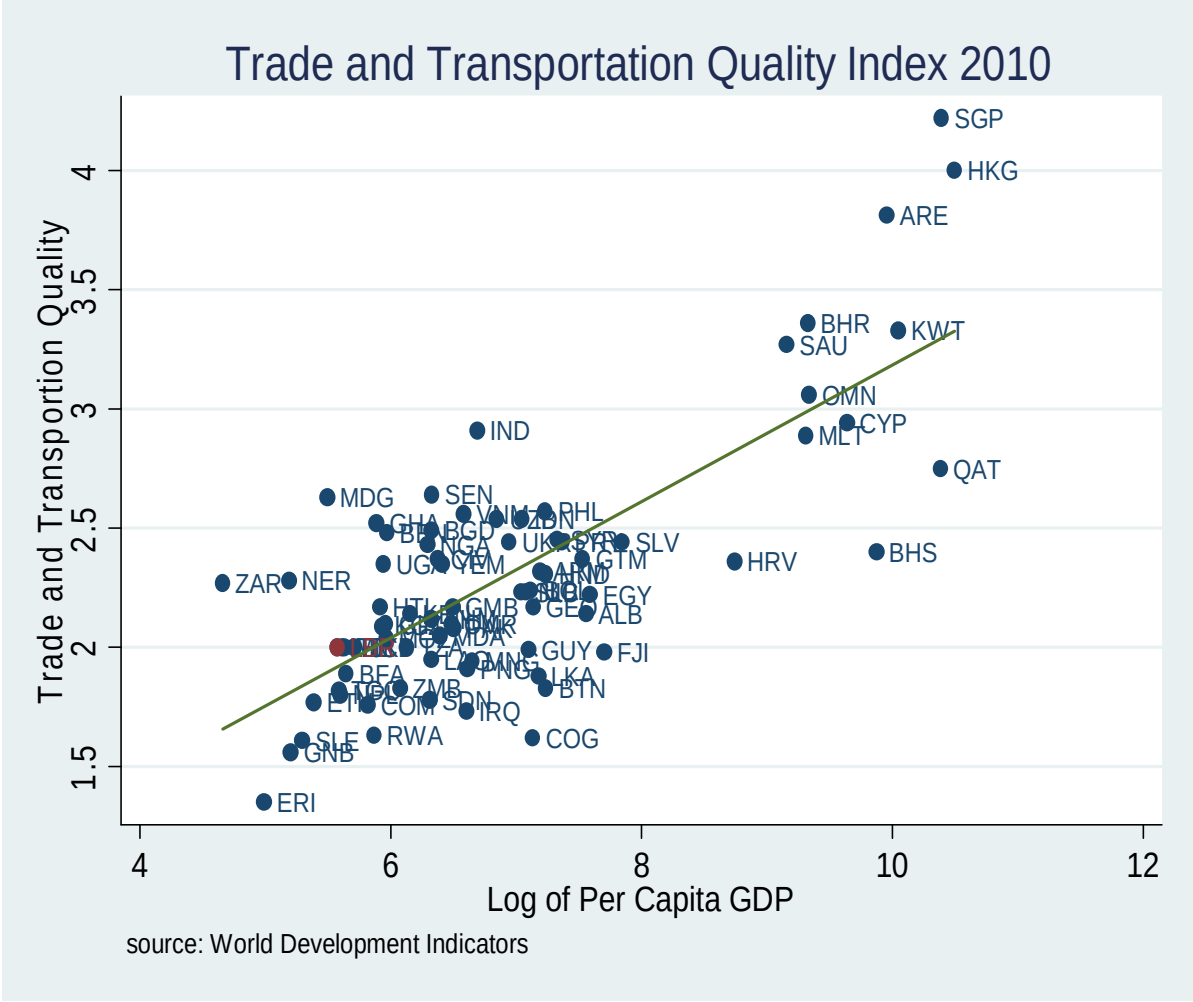


Figure 8.2 Trade and Transportation Infrastructure Quality
SOURCE: WORLD BANK, WDI

8.2 TRANSPORTATION INFRASTRUCTURE

This section reveals various transportation infrastructures in Liberia and their relevance as constraints to investment growth, job creation and economic development. Roads, ports, and rail are covered.

Figure 8.3 shows perceptions of transportation infrastructure constraints among firms in comparator countries, obtained from the World Bank's Enterprise Surveys. Liberia is above the SSA average and above Sierra Leone. Firms' perception of constraints in Cote d'Ivoire and Guinea, which show better pavement ratios than Liberia (Table 8.3), may be due to the fact that these countries have far larger absolute road kilometer lengths. These perceptions may also be due to non-road related constraints, since the survey considers constraints in the entire transportation sector, of which roads infrastructure is a subset.

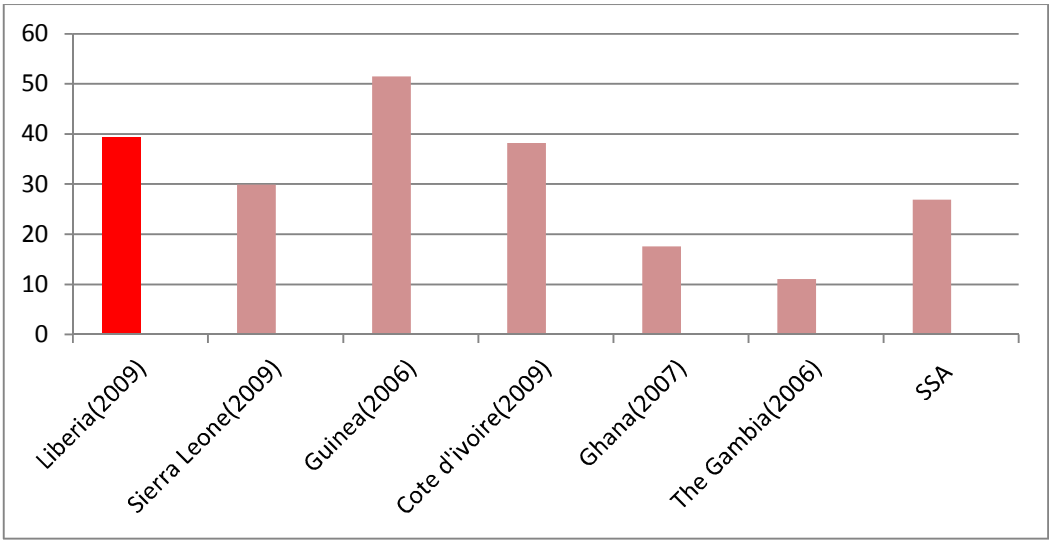


Figure 8.3 Perceptions of Transportation Infrastructure Constraints (%)
Source: WB Enterprise Surveys

8.3 ROADS

Liberia has about 10,600 km of primary, secondary and feeder road networks. Figure 8.4 depicts Liberia against comparators as well as SSA and non-fragile country benchmarks.

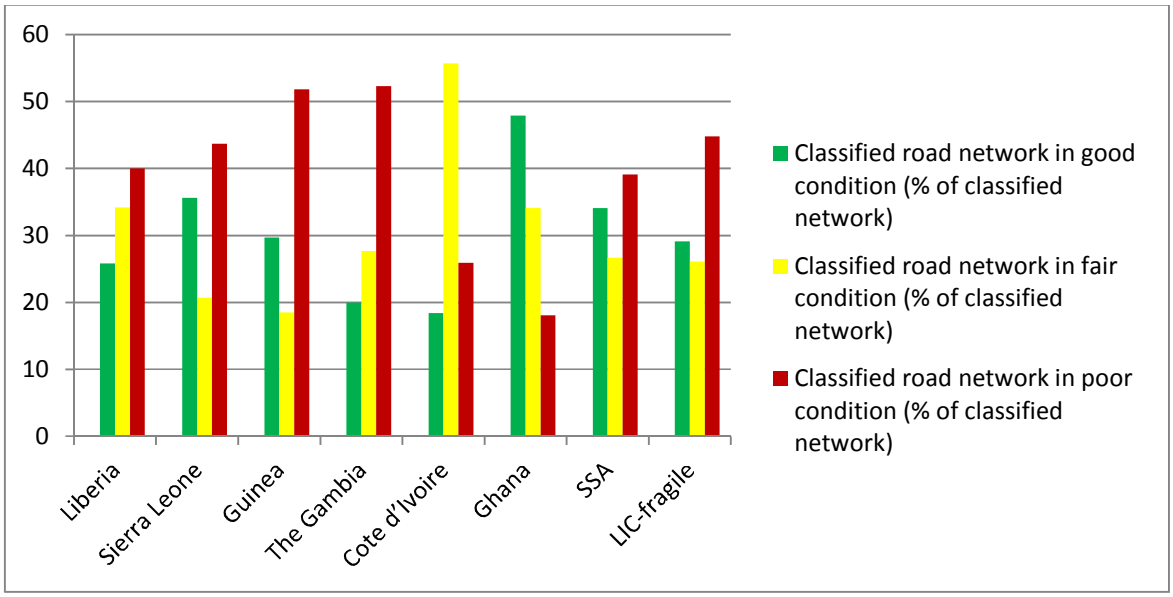


Figure 8.4: Distribution of Road Networks in Terms of Good, Fair and Poor
Source: Africa Infrastructure Country Diagnostic database (2008)

With about 25.8 % of classified network in good condition and 34.2% in fair condition, Liberia appears competitive among comparators and across SSA and LIC-fragile benchmarks. Viewed in terms of road density, this performance is not particularly strong. Road density in Liberia is about 0.11 while densities in Guinea and Cote d'Ivoire, for example, are about 0.18 and 0.25 respectively.

Bad Roads in Liberia

The Impact of Roads on Concessions and Small-Holder Agriculture

Almost 60% of Liberia's primary road networks – the highways straddling the key growth corridors-- are deemed poor. These include networks used primarily by the agriculture and the concession sectors. A World Bank document, *Infrastructure Policy Notes: Leveraging Natural Resource Concessions* estimates the length of concessions road network to be about 2,122 km-- Monrovia to Foya (706km), Monrovia to Lofa (349km), Buchanan to Nimba (665km), Greenville to Zwedru (376) and Harper to hinterland (26km). The study estimates that as of the close of Liberia's first Poverty Reduction Strategy (PRS1), only 3.9% of the current concessions network was in good condition. [82] About 1,000 km of Liberia's primary roads are contained within the concessions' network, with the remaining 1,100 being feeder roads. This implies that most of the primary concessions roads are both unpaved and in poor condition, significantly constraining the transport and export of agriculture freight, be they in logs, rubber, palm oil or cocoa.

Table 8.1: Actual Versus Potential Agriculture and Concessions Output

Source: World Bank, "Liberia Infrastructure Policy Notes: Leveraging Natural Resource Concessions, 2011

	Small Holder Agriculture				**Concessions**		
Metric Tones	Cassava	Rice	Cocoa	Coffee	Palm Oil	Rubber	Timber
Actual Production	560,000	295,150	3,000	3,000	183,000	81,000	25,000
Potential Production	22,896,632	5,167,807	1,073,419	1,416,212	3,966,528	126,775	540,239
Percentage of potential realized	2.5%	5.7%	0.28%	0.21%	4.6%	64%	4.6%

[82] Infrastructure Policy Notes: Leveraging Natural Resource Concessions (June 2011) p39 Table 8(a).

Does the lack or inaccessibility of roads significantly contribute to the observed low output as well? Table 8.1 shows that output in agriculture is far below potential, for cassava, rice, cocoa coffee and palm oil production. Several constraints underlie the low levels of production in smallholder agriculture and these tend to range from lack of seeds through lack of farming implements to lack of financing. During private sector consultations, many participants noted that impact of poor roads impinge upon production effort in subsequent years. Post-harvest losses induced by poor roads act as a disincentive for farmers to increase production amid other agriculture constraints, since farmers know they may not be able to market increases in food production over previous years.

The World Bank study referenced above notes that 'current concession network' [2,200 km] could provide access to about 25 percent of smallholder agricultural land, while the 'potential concession network' [3,300 km] would raise the share to 37 percent of smallholder. In order to provide 100 percent accessibility to smallholder agriculture land, a full 8,300 kilometers of roads are needed. These 8,300 kilometers constitute Liberia's eventual 'Agriculture Network'."

Roads and the Transport Sector

Similar arguments apply to the transport sector. Using 2007 and 2010 data, figure 8.5 shows total number of lorries/trucks and vans correlated against value added for the agriculture and industry sectors for 35 African countries. The visual imparts a sense of the transportation logistics requirement needed to transport agriculture and industry output to markets, ports and storage facilities. Figure 8.5 demonstrates that Liberia has a low number of trucks. Do bad roads explain the low demand for road transportation infrastructure or are they explained by other factors, such as access to finance? Following Hausmann et al, there appears to be a supply story. With paved road ratio of 6.9%, it may be argued that successive Liberian governments have not supplied quality infrastructure, which may be raising the shadow costs for road users, as will be shown in first diagnostic test on roads.

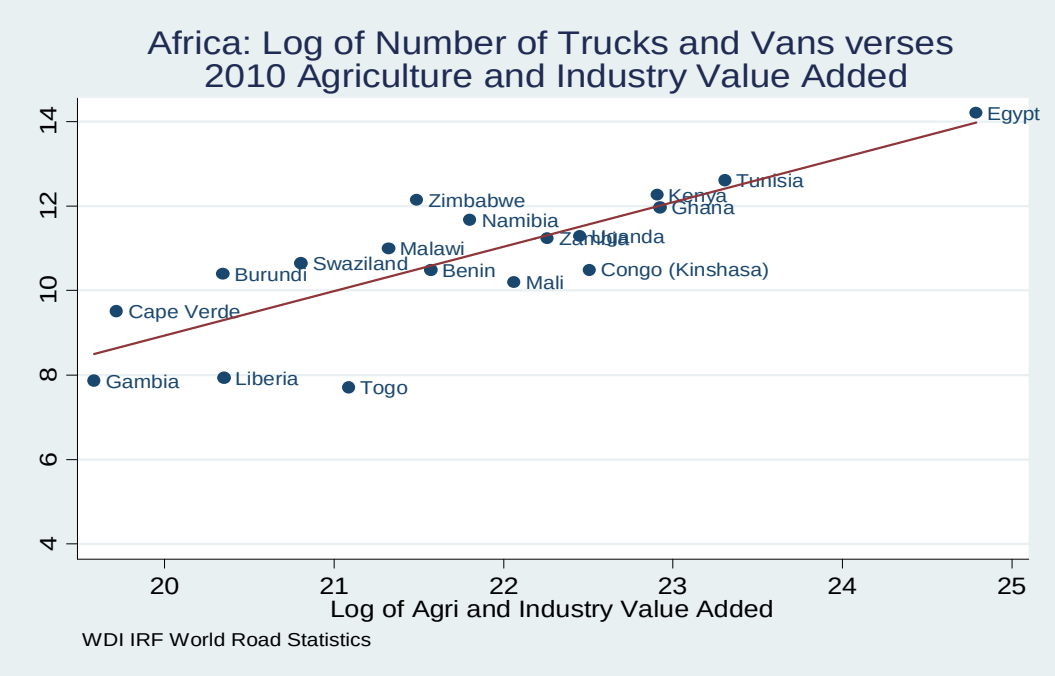


Figure 8.5 Number of Trucks and Vans versus Agriculture and Industry Value Added

Source: WDI IRF World Road Statistics

Table 8.4 largely tells the same story and shows Liberia and comparators along several transportation indicators. Although Liberia has the lowest road density among comparators, it also has the lowest

ratios of vehicles per kilometers of road and vehicles per 1,000 populations. While there may be other constraints affecting demand for transport, bad road quality appears to play a role.

Table 8.4: Liberia and Comparators along key Transportation Indicators

Source: African Development Indicators, IRF World Road Statistics, through Liberia National Transport Master Plan author's calculations.

	Road Density (KM/KM^2)	Paved Road Density (KM of paved road/ Km^2)	Total Motor Vehicles Per Km of Roads	Total Motor Vehicles per 1000 population	Total Km of Roads	Paved Roads (%)	Density/Arable Land
Liberia	0.11	0.00759	1	2.9	10,600	6.9	27.89
Sierra Leone	0.16	0.01436			11,555	8.9	21.12
Guinea	0.18	0.01805	2.6	12.4	44,348	10	27.71
Gambia	0.33	0.07110	3.3	7.3	3,742	19	
Cote d'Ivoire	0.25	0.02026			80,000	8	
Ghana	0.25	0.03774	13.4	33	57,612	15	

Vehicle traffic obviously presents opportunities for analysis of road constraints. Poor roads leads to i) a higher concentration of vehicles in areas where roads are relatively better; ii) significant seasonal variation in the flow of traffic along disparate road corridors, with poor road corridors experiencing significantly reduced traffic during rainy seasons when roads deteriorate; and iii) a higher rate of congestion in urban areas than would normally be the case if most roads in the country were paved. These dynamics are clearly evident in the Liberian road situation. Table 8.5 depicts average annual daily traffic estimates for Liberia.

Table 8.5: Average Annual Daily Traffic on Paved and Unpaved Roads; Liberia against Benchmarks

Source: G. Williams and others (2009 AICD Infrastructure documents on Liberia (2010), Sierra Leone (2011) Cote d'Ivoire (2010), Ghana (2011)

	Unit	Liberia	Sierra Leone	Cote d'Ivoire	Ghana	Senegal
Paved Road Traffic	Average Annual Daily Traffic (Vehicles per day)	573.9	1,150	843	1,314	944
Unpaved Road Traffic	Average Annual Daily Traffic (Vehicles per day)	17.1	33	47	40.4	30.8

The most glaring observation of table 8.5 is that demand for transport is extremely low relatively to demand in comparator countries. The AICD document, *Liberia: A Continental Perspective* explains the low traffic demand in the country in terms of post-conflict dynamics. This explanation may not suffice,

since demand in Senegal, which is not a post-conflict nation, is lower than demand in war-affected Sierra Leone.

The problem may still be analyzed as a low demand problem with feedback channels and linkages to other constraints on private sector growth. Low average daily traffic reflects the fact that fewer cars, trucks, vans, buses and jeeps are plying paved roads, which may in turn be related to other constraints. The above appears to suggest that other constraints affect Liberia far more than they affect Sierra Leone, although the broad range of economic and other indicators considered throughout this analysis suggests the two countries are far closer than the disparity in traffic data would warrant.

8.4 THE APPLICATION OF THE PRINCIPLES OF GROWTH DIAGNOSTICS: THE FOUR TESTS 3

If roads are a binding constraint to investment growth, we expect:

1) The shadow price of the constraint should be high;
2) Movements in the constraint should lead to movements in the objective function;
3) Agents in the economy should appear to bypass the constraint; and
4) Agents less intensive in the constraints should thrive relative to agents more intensive.

Test 1: Is the Shadow Price of Poor Road Infrastructure High in Liberia?

As Table 8.6 demonstrates, the shadow price of road infrastructure in Liberia, benchmarked against averages from SSA and those from other developing regions, is prohibitively high. As argued in *Transport Prices and Costs in Africa*, an AICD working paper, these high tariffs capture (i) the cost of reduced fuel efficiency; ii)cost of damaged vehicles, and higher maintenance and operating costs; iii) the cost of reduced vehicle utilization because of lower speeds; iv) and the cost of reduced life of transport vehicles.

Table 8.6: Shadow Price of Liberia's Road infrastructure

Sources: AICD: Overhauling the Engine of Growth: Infrastructure in Africa (2008); "Liberia Market Review, 2007.

Liberia's High Cost Road Infrastructure			
	Liberia	Sub-Saharan Africa	Other Developing Regions
Road Freight Tariffs(US$/MT/km)	0.46-0.56	0.04-0.14	0.01-0.04

Table 8.7 compares transport cost per kilometer[83] in Liberia and the West African regional route between Ghana and Burkina Faso. The figure below shows that average tariff in Liberia is almost three times as high as that along the West African corridor. Road freight data for regular comparators are not easily available and might have served to reinforce the argument for test one even further.

[83] This measure is different from cost per metric tonne

Table 8.7: US$/KM Transport Tariff: Liberia and West Africa

Source: (see footnotes)

Region/Country	Route Gateway Destination	Price US$/km
West Africa	Accra (Ghana)- Ouagadougou (Burkina Faso)	3.53[84]
Liberia	Nine destinations from Freeport of Monrovia to most regions of Liberia, including, Harper, Greenville, Voinjama, Buchanan, Tubman etc., spanning more than 2,900 km. Tariff on 40 foot containers.	12.11[85]

High tariff may also be seen through the effect bad roads have on transport costs, especially during the rainy season when roads deteriorate significantly. Figure 8.6 depicts the different transport costs that producers, wholesalers and retailers in smallholder agriculture have to pay during the rainy and dry seasons to transport goods from different parts of Liberia to Monrovia.

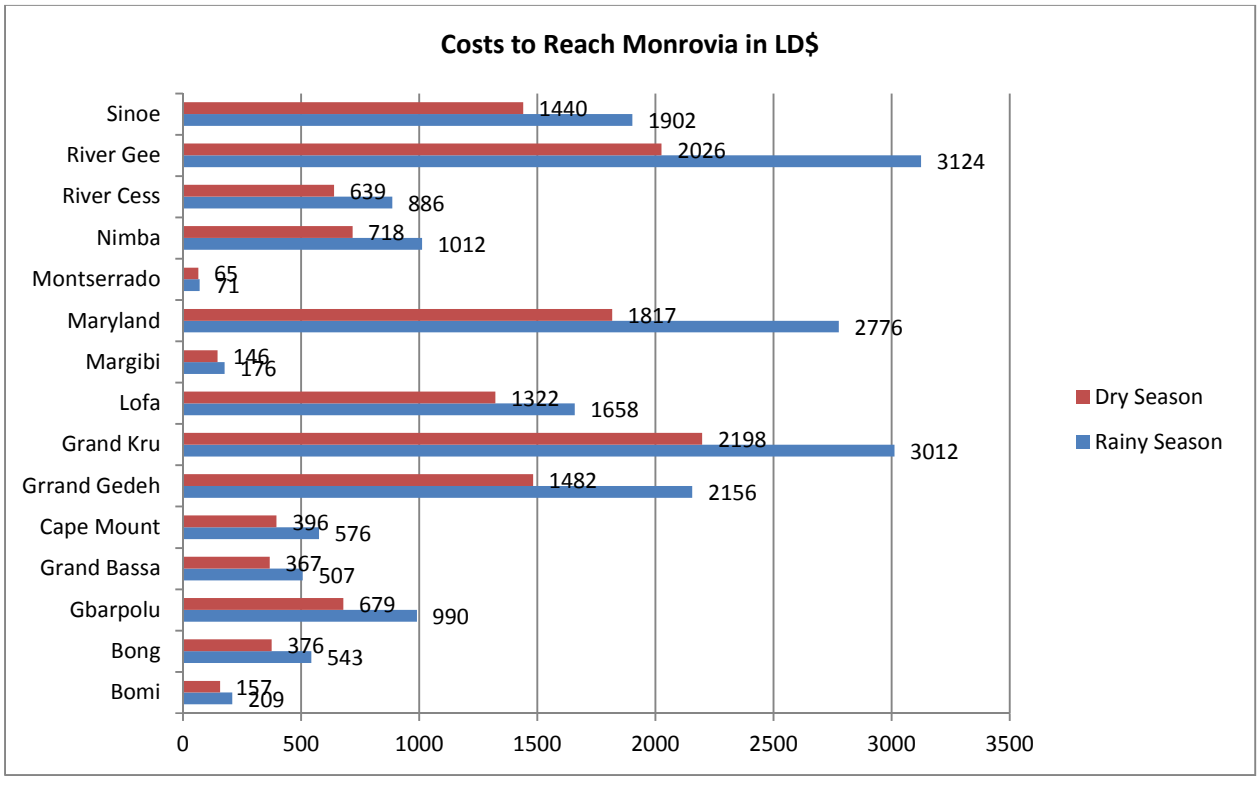


Figure 8.6: Transport Costs in Rainy and Dry Seasons

Source: Liberia Market Survey, 2007

Figure 8.6 shows significant price inflation between dry and rainy season for the remotest regions of the country where roads deteriorate the most during the rainy season. For example, Maryland and River Gee counties see an increase of about 53% in transport costs during the rainy season. It must be noted that road improvements since 2007 have brought down freight costs in some of these regions.

[84] World Bank, Transport Prices and Costs in Africa, Supee Teravaninthorn and Gaël Raballand
[85] Calculated from Tariff Schedule of Port Truckers Association

However costs generally remain high between seasons since a significant stretch of primary and secondary road corridors are still under development.

There are also gender dimensions of shadow costs due to roads. During the rainy season when roads deteriorate, accessing care may be difficult for pregnant women and those sick with malaria, typhoid or tuberculosis.

According to the African Development Banks' (AfDB's), *Agriculture and Agro-Industrial Development in a Post-Crisis Era: Case Studies of Liberia and Zimbabwe* (Volume 2), women constitute the majority of the labor force in food crop agriculture, and contribute 60% of such agricultural commodities. Some of them also operate as informal petty traders in the agricultural sector. Vertical linkages in value chains are very weak and lack of feeder roads inhibit flow of goods; in many rural areas, transport costs account for up to 70% of marketing cost because of the poor state of the feeder road network, and many farming centers have lost access to market. These traders in the informal sector lack consistent and affordable transportation for moving goods to markets.

The impact of roads on the volume of business transactions, such as reductions in the volume of traffic due to deterioration of roads in the rainy season, may also be imputed as a shadow price of road infrastructure. Poor roads generally impact business through the conduit of the rainy season, when a significant portion of the country's primary road network in rural areas become virtually impassable. It is also worth noting that reductions in traffic volumes may also be observed along relatively good roads during the rainy season, but effects on unpaved laterite roads are generally more pronounced as revealed by data from the National Transport Master Plan, shown in Table 8.8.

The table shows Average Annual Daily Traffic (AADT) on major primary road networks across the country for both dry and wet seasons. A key observation issuing from the table is that on primary asphalt paved roads in relatively good condition, traffic volumes between dry and wet seasons are generally not significantly different, while on laterite roads in poor conditions, traffic volumes tend to be significantly different in the direction of reduced volume in the wet season. The notable exception is seen along the Ganta- Saclepea segment, where volume appears to increase during the wet season by about 45%. One explanation for this discrepancy is the rainy season deterioration of the Ganta-Sanniquellie-Karnplay route, forcing those travelling to and from Sanniquellie and Karnplay to use the alternative Ganta-Saclepea-Sanniquellie-Karnplay corridor. The 7% discrepancy seen along the Schefflin-Harbel road segment lies within the margin of error to be statistically significant.

Thus Table 8.8 appears to confirm that poor roads have some impact on traffic volume. Reductions in traffic volume imply a corresponding loss of economic value in terms of freight not transported to market destinations as shown in Table 8.9. Column nine of Table 8.9 shows that wet season trip length is generally shorter than that for dry season, with wet season length as a percent of dry season length being about 57% for trailers, 51% for trucks and 47 for buses. Table 8.9 also shows a general reduction in loads carried across vehicles, as measured in tonnes.

Calculations based on data presented in both tables show that for the 265 km road corridors or segments considered, the average load carried by freight-carrying vehicles between dry and wet seasons reduces by about 3,375 tons. This is about 17% of total load for the dry season and about 19% for the wet season. This number is rather on the low end considering that only seven road segments are analyzed, as opposed to the 80 primary road segments generally listed in the Transport Master Plan. When the analysis is extrapolated to the entire country and when the value of economic services, which are not captured in the above data, is included, the net impact of bad road, conveyed through reductions in traffic volumes between dry and wet seasons, may add up to more than 1% of GDP.

Table 8.8: Impact of Bad Road on Traffic Volume during the Rainy Season

Source: Appendix D, National Transport Master Plan

Average Daily Traffic 2009 Dry Season 2010 Wet Season													
Segment	**Length**	***I=Dry Season, II= Wet Season***	***Trailer***	***Truck***	**Pick-up/Jeep**	**Bus**	**Mini-bus**	**Taxi**	**Car**	**Motorcycle**	**Total**	**Percentage Change**	**Road Type**
Monrovia - 15th Gate	43.5	**I**	53	198	407	95	242	732	535	304	**2564**	**2%**	Primary Asphalt Surface
		II	12	88	478	70	287	1004	362	212	**2512**		
Gbarnga - St John River	43.5	**I**	3	22	224	2	60	195	138	503	**1147**	**32%**	Primary Asphalt (Significantly damaged)
		II	5	21	72	1	12	157	104	408	**779**		
St John River- Ganta	27.4	**I**	7	107	150	2	28	98	119	1171	**1682**	**56%**	Primary Asphalt (Significantly damaged)
		II	13	29	50	2	7	45	66	535	**746**		
Ganta - Saclepea	38.6	**I**	1	146	151	5	74	99	50	978	**1502**	**-46%**	Primary Laterite
		II	91	154	247	17	78	225	93	1286	**2189**		
Pouh Town - Zwedru	38.6	**I**	4	17	54	2	13	22	6	795	**913**	**59%**	Primary Laterite
		II	0	4	15	0	4	5	6	338	**371**		
Schefflin to Harbel	22.5	**I**	0	60	315	47	82	440	796	651	2389	-7%	Primary Asphalt Surface
		II	40	48	377	20	269	819	401	575	2547		
Harbel to Farmington River	22.5	**I**	1	28	170	0	25	260	291	576	1350	51%	Primary Macadamized surface
		II	9	20	38	2	41	101	140	316	664		
Compound # to Buchanan	29	**I**	1	24	115	8	29	162	173	607	1118	37%	Primary Macadamized surface
		II	12	29	98	7	80	254	80	150	708		

As stated previously in the transport section, these high shadow costs may be more related to the low level of supply of quality road infrastructure as opposed to demand. The traffic volume reductions

observed in Table 8.8 do not seem to reflect a low demand for road infrastructure since these volumes are generally significantly higher during the dry season. A stronger argument can be made for low supply, which raises implications for scarcity as a factor in the observed high shadow price, signaling that roads may be a binding constraint.

Table 8.9: Assessing the Impact of Wet season on Transport Freight

Source: National Transport Master Plan

	Dry Season					Wet Season					
	Average Trip Time (mins)	Assumed Speed (km/hr.)	Average Trip Length (km)	Proportions of vehicles carrying freight (%)	Average load carried by vehicles carrying freight (tonnes)	Average Trip Time (mins)	Assumed Speed (km/hr.)	Average Trip Length (km)	Wet Season Length as a % of Dry Season	Proportions of vehicles carrying freight (%)	Average load carried by vehicles carrying freight (tonnes)
Motorcycles	94	79	123			65	74	80	65%		
Taxis	122	82	166	52%	1.7	124	77	159	95%	66%	1.4
Cars	130	82	177	38%	2.2	86	77	110	62%	51%	2.3
Pick-ups	229	83	316	58%	5.3	157	78	204	64%	73%	5.8
Mini-buses	230	77	295	78%	3.7	143	72	172	58%	76%	2.6
Buses	188	71	222	67%	5.3	96	66	106	47%	68%	4.9
Trucks	438	77	560	80%	14.1	240	72	288	51%	79%	11
Trailers	405	77		88%	25	245	72	294	57%	54%	23

Test 2: Do Road Developments Correlate with Investment Growth?

Figure 8.7 shows the correlation of public and private spending on road infrastructure and gross fixed capital formation (GFCF) as a percent of GDP. The lack of extended time series makes it harder to make a stronger case for the positive correlation observed in the figure.

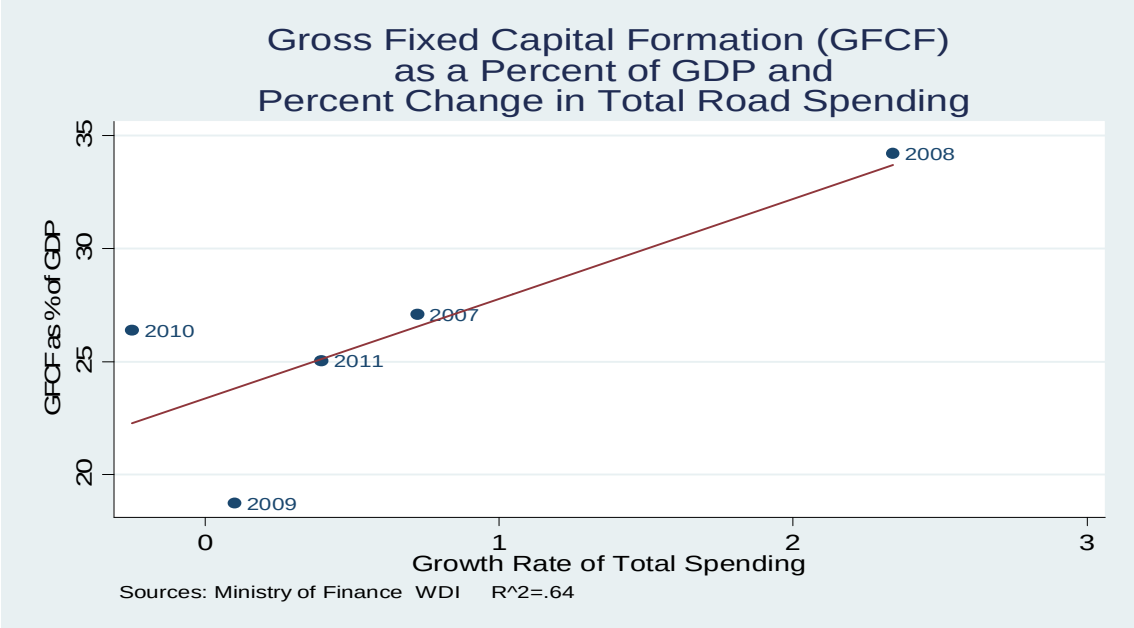


Figure 8.7: Correlation of GFCF and Private Investment

Source: Ministry of Finance, WDI

Analysis of the real impact of road development and investment on employment generation across economic sectors would be ideal but data limitation prevents such an analysis. The Cotton Tree-Buchanan road is one such corridor which has just been completed over the past year and a half. Performing employment analysis along this corridor has been difficult. Employment data from the agriculture sector around the corridor is inaccessible. Given such limitation, a mini-survey, captured in Figure 8.8, was conducted.

Evidence from the Buchanan Road Recently Developed from 2010-2013

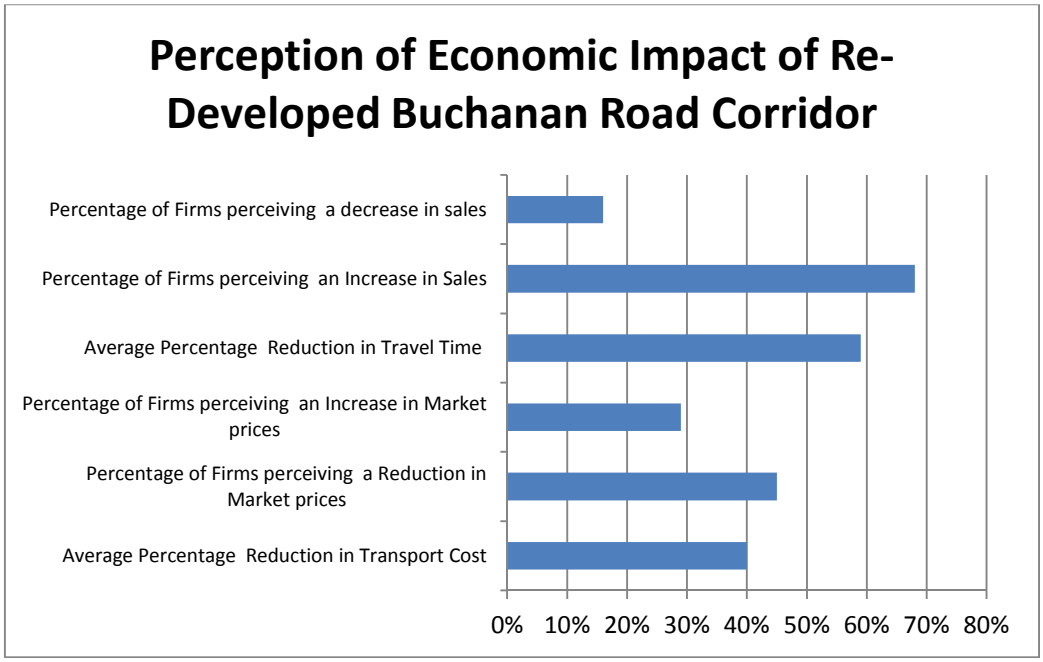


Figure 8.8: Results from Buchanan Corridor Road Survey

Source: MCC Core Team Data

Figure 8.8 summarizes data from a small survey conducted among 24 SMEs in Buchanan to assess the impact of the newly re-developed Buchanan Road corridor on investment and business activities. Results should be viewed and interpreted cautiously, since survey is merely intended to present a snapshot as opposed to assess the full impact across sectors.

Nearly 70% of firms surveyed reported an increase in sales since road completion, with about 16% reporting a decrease while the remaining observed no real change. Decreases in sales can be expected from firms that face increased competition due to the road accessibility. The businesses that recorded decreases in sales were generally spare parts and building materials outlets. An accounting firm representing about 98 businesses in Buchanan reported an increase in sales of about 30%. Participating firms on average reported a 40% reduction in transport costs and a 59% reduction in travel time. About 40% of firms surveyed believe that market price has trended downward, while about 29% perceive a general increase in prices.

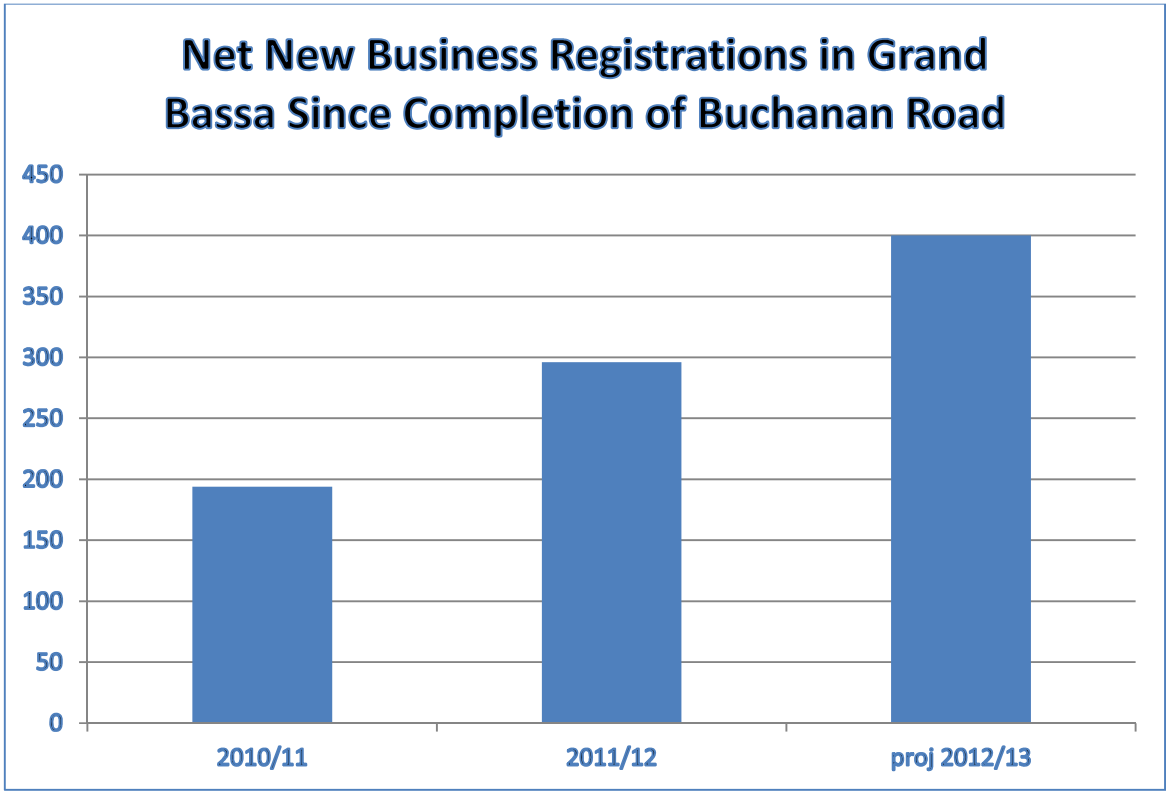


Figure 8.9: Indication of Investment Growth since Buchanan Road Completion

Source: Liberia Business Registry Satellite Office in Buchanan

Figure 8.9 displays trends in net new business registrations in Buchanan over the period. Net new 2012 registrations increased by about 52% over that for 2011. This may be an indication of the impact of roads. Officials of Access Bank (the largest microfinance institution in the country), informed the survey that the bank's decision to locate in Buchanan was predicated upon improvements in the Buchanan Road corridor. They disclosed that the bank had conducted several assessments in previous years but had decided against establishing a branch in Buchanan due to the deplorable condition of the road. Registry officials at the local office expect as many as 400 new businesses to register by end of 2012/13 fiscal year, with registrations to date sitting at 264.

Test 3: Are Firms in Liberia Bypassing the Constraint of Poor Roads?

Roads become impassable during the rainy season and impose constraints on businesses, as shown in Table 8.10. Many of these businesses have difficulty reaching markets and production sites due to bad roads but have to find a way around the constraint. Table 8.10 describes how those constrained in transport infrastructure are bypassing the constraint.

Table 8.10: Means of Bypassing Bad Roads Constraint: Agriculture Producers, Retailers and Wholesalers

Source: LMR 2007, page 41

	Transportation Constraint	Form of Bypass
Producers	• Bad road network • High transport costs	• Auction goods in neighboring villages instead of taking them to the market • Hauling goods on the back and head by contracted laborers or children • Reduce quantity
Retailers	• Difficult to access production sites due to bad road	• Travel well in advance of market day to production site • Hire casual laborers to take goods to accessible areas
Wholesalers	• High cost of Transportation • Difficult to access production sites.	• Contract people to haul goods

During the private sector consultations, a representative from the Liberia Bottling Company (Coca Cola), noted that where they could not transport products by truck due to bad roads, they subsidized motorized tricycles for distributors to take products around the country. However, only a limited number of products can be transported this way, resulting into generally lower sales during the rainy season.

A case study by the LMR 2007 also shows that marketers in the Bong Mines once used the Bong Mine railway as a means of bypass. The LMR writes:

> Before the introduction of the train services, the wholesalers transported their produce by an often impassable road through Kakata. Although this route is still being used, marketers are taking advantage of the train because it is cheaper, reliable, and safer. Most important, the carrying capacity for commodities and passengers of the train is significantly larger than that provided by road vehicles as a form of bypassing road conditions and saving on transport costs (LMR 2007 Annex 6 page 62).

The rail may no longer be in use for this purpose since a mining company has been awarded concessions rights over the Bong railway. However, this shows that roads do serve as a major constraint to businesses and individuals, and that businesses do find creative ways to bypass the constraint.

During the CA private roundtables, a major mining concession said it uses the rail system to transport fuel during the rainy season.

A former telecom executive indicated that his firm would buy bulk fuel close to the commencement of the rainy season and stockpile the fuel at their cell sites around the country to avoid road access problems in the rainy season.

The above pattern is reflected in traffic data presented in Table 8.10, which shows significant reduction of traffic during the rainy season. The table shows bypassing along the Ganta-Sanniquellie-Karnplay route during the rainy season, which is responsible for the growth in traffic along the Ganta-Saclepea corridor.

Another evidence of bypass can be observed in the data on the supply of cassava to Montserrado. The LMR 2007 notes that cassava is difficult to transport and is generally grown throughout the year, unlike rice which is mainly grown during the rainy season (May-October). Despite the fact that cassava is grown year round, its availability in the Greater Monrovia area is similar to that of rice. The LMR 2007 notes that:

> The supply of country rice in Montserrado is highest from February to May, which follows the harvest season with a time lag due to transport from other counties. Cassava follows a very similar pattern, as it is not grown much within the boundaries of Greater Monrovia. Availability corresponds with the dry season, when transport from other counties is easier. It is also an indication that households in Montserrado are more dependent on imported rice.

This raises the question why is cassava which is grown all year round, not available all year round in Greater Monrovia? One possible answer is bad roads limit the transport of cassava to markets in Greater Monrovia, implying that cassava which is normally sold in Greater Monrovia is either sold in counties where it is produced or it is consumed, since storage is generally a problem. Both local selling and consumption are indications of bypassing.

The LMR also notes that:

> Trade with Cote d'Ivoire appears to be very important in terms of food security for the south-eastern region. Because of the long distance and the poor condition of the road linking the south-east to Monrovia and the rest of the country, the south-eastern region depends primarily on informal trade with Cote d'Ivoire for their basic needs. The boundary between the two countries is a river. There are bridge crossings to Cote d'Ivoire at Logatuo in Nimba County and Toe Town in Grand Gedeh and a ferry crossing the Cavalla River, near Harper in Maryland County. Otherwise, crossing is by canoe.
>
> In Harper, Maryland County, most of the fresh produce and all of the rice found on the market were brought in from Cote d'Ivoire. While some rice is brought by boat from Monrovia, a significant quantity of the rice consumed in the south-east originates from Cote d'Ivoire. Consequently, the retail price for rice is the highest in the south-east. It appears that rice imported from Cote d'Ivoire is not subject to the Liberian government price regulations for that commodity.

Test 4: Are firms less intensive in the use of roads thriving relative to firms more intensive?

The evidence presented in this section implies that wholesalers and retailers in smallholder agriculture who are intense in road infrastructure might struggle more during the rainy season when roads deteriorate the most. Table 8.10 provides a list of some of the constraints producers, wholesalers and retailers face during the rainy season. Compared to firms relatively less intense in roads, such as firms in the services sector, these retailers and distributors in smallholder agriculture may not be doing as well as their services counterparts.

The impact of bad roads is not only limited to smallholder agriculture but to the entire agriculture and forestry sector, of which smallholder agriculture is a subset. Bad roads significantly delay the transport of logs to ports and logging trucks sometimes make roads even more impassable since they may remain stuck in the mud for days, generally limiting road access until such trucks are removed and roads are improved.

Figure 8.10 presents the growth rate of key economic sectors. As the figure shows, services sector, generally less intense in roads, has performed much better than agriculture and forestry, with the former averaging 7.87% in growth rate over the period while the latter averages about 4.71%. Although the mining sector has the highest growth rate, it is excluded from the below graph because the emphasis of this analysis is on the non-enclave sectors.

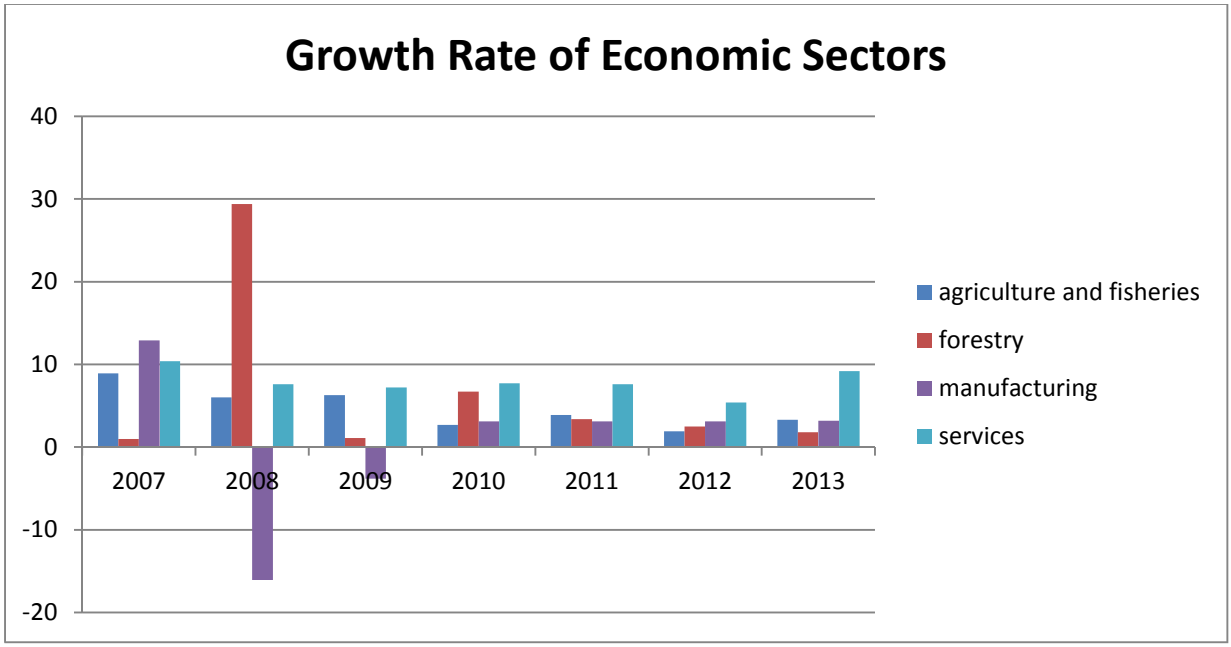


Figure 8.10: Growth Rate of Economic Sectors (%)

Source: IMF July 2013 and Previous IMF Reports

Despite the above information and the limited availability of other supporting data, the conclusiveness of test four is limited by the alternative explanations that can be proffered for growth in the services sector.

8.4.1 CONCLUSION

This section concludes, on the basis of the evidence presented in the four tests, that roads are a binding constraint to growth. However, a stronger case for roads could have been made with better data. For example, data on the rate of change of the stock of road infrastructure over time, which is used in many studies to gauge the economic impact of roads, is generally not available in Liberia. Data on rural road accessibility, the proportion of rural population living within 2 to 5 km of improved roads, is also not available. These data might have generally enabled the presentation of more compelling arguments that roads are a binding constraint to poverty reduction or investment growth in Liberia. Nevertheless, we do not have reason to believe that the presence of such data would undermine the conclusion reached in this section.

Although roads appear to bind investment growth, many other constraints seem to be equally important. Several producers and retailers pointed to the problem of low demand, which may not just be due to bad road infrastructure. The Food and Agriculture Policy and Strategy notes that the majority of rice production takes place on upland farms which do not offer comparative advantage given current technologies. The low demand for transport referenced above may also be linked to constraints in access to finance. It is important for policymakers to consider the full spectrum of interacting constraints and their influences on one another.

In the end, roads may go a long way toward linking people and markets and giving rural dwellers, usually more constrained in roads, a fairer and greater chance to access the gains from growth. The Food and

Agriculture Policy and Strategy also notes that the 'destruction of infrastructure [has] resulted in widespread market failures as reflected in high transportation and transaction costs, and low competition of the value chains." Road will generate impacts in smallholder agriculture, where the World Bank estimates that only about 25% of that critical sector is accessing current networks. Given that about 70% of Liberian workforce is engaged in agriculture, road development enables value chains to reach inaccessible farms, affecting both the incidence of poverty and rural income. Roads may have even bigger gains for females who make up about 49% of agriculture households (LISGIS, FAO 2009 Crop Assessment). Relaxing road constraints may also reduce the opportunity costs of access to health care for agriculture women, freeing up agricultural production time, and access to education for children.

8.5 PORTS

Liberia has four seaports: the Freeport of Monrovia and the ports of Buchanan, Greenville and Harper. Monrovia is the main international gateway, while the other ports have been critical to the mining, agriculture and forestry sectors.

Ports are important for the economy as a whole since they are the main access to importing and exporting commodities and goods. Inefficiencies in port operations, corruption during customs clearance and significant delays in shipping impose additional cost burdens on businesses in general. Of particular importance is the ability of concessionaires to access ports to export their commodities. It is projected that that agriculture concessions will generate at least 80,000 jobs over the long term when fully operational. Constraints to port development may hinder these advances.

Table 8.11 shows Liberia relative to comparators on the LPI, which is a weighted average of countries on six dimensions. Scores range from 1 to 5, with 1 being the lowest and 5 the highest.

Table 8.11: Logistics Performance Index

Source: World Bank, 2012

Country	LPI	Customs	International shipments	Logistics competence	Tracking & tracing	Timeliness
Liberia	2.38	2.28	2.33	2.16	2.38	3.08
Guinea	2.6	2.34	2.43	2.68	2.89	3.1
Cote d'Ivoire	2.53	2.16	2.44	2.57	2.95	2.73
Gambia, The	2.49	2.38	2.54	2.37	2.27	3.15
Ghana	2.47	2.35	2.38	2.42	2.51	2.67
Sierra Leone	1.97	2.17	2.33	1.53	1.73	2.33

As Table 8.11 shows, Liberia is competitive on all six dimensions. Scores across comparators do not seem to differ significantly, suggesting countries are generally closer on most dimensions.

The LPI's results are confirmed by Table 8.12 which pits the Port of Monrovia against other ports within the West African region. Container traffic is lowest among comparators but has been improving gradually.

Table 8.12: Port of Monrovia versus Regional Ports
Source: "Liberia: A Continental Perspective"

	Monrovia	Sierra Leone	Abidjan	Tema
Traffic				
Containers (TEU/yr.)	50,000	45,000	500,000	420,000
General cargo(mn tonnes/yr)	0.6		Na	7.9
Efficiency				
Container dwell time(days)	15	15	12	25
Truck processing time (hrs)	5.5	5	2.5	8
Vessel pre-berth waiting (hrs)	3	48	3	9.6
Vessel stay (hrs)	3	12	2	48
Container crane productivity (Container/ hr)			18	13
General cargo crane productivity (tonnes/hr.)	16	12	16	14
Charges				
Containers (US$/TEU)	200		260	168
General cargo (US$/tonne)	10.5		13.5	10

In March 2010, Liberia received the International Shipping Ports Standards (ISPS) certificate, the lack of which had made shipping through the port expensive in terms of the insurance premium charged due to perceived risk. According to the 2010 reporting, container traffic in 2010 stood at more than 53,000 TEU, with future improvements assured.

8.6 APPLICATION OF THE PRINCIPLES OF GROWTH DIAGNOSTICS: THE FOUR TESTS

We apply the growth diagnostics principles on ports in this section.

Test 1: Is the Shadow Price of Port Infrastructure High in Liberia?

Figures 8.11 and 8.12 respectively, show the cost to export and import across comparators and the length of time it takes. These costs describe the cost associated with all procedures to import goods, administrative fees for customs clearance and technical control, customs and terminal handling charges.

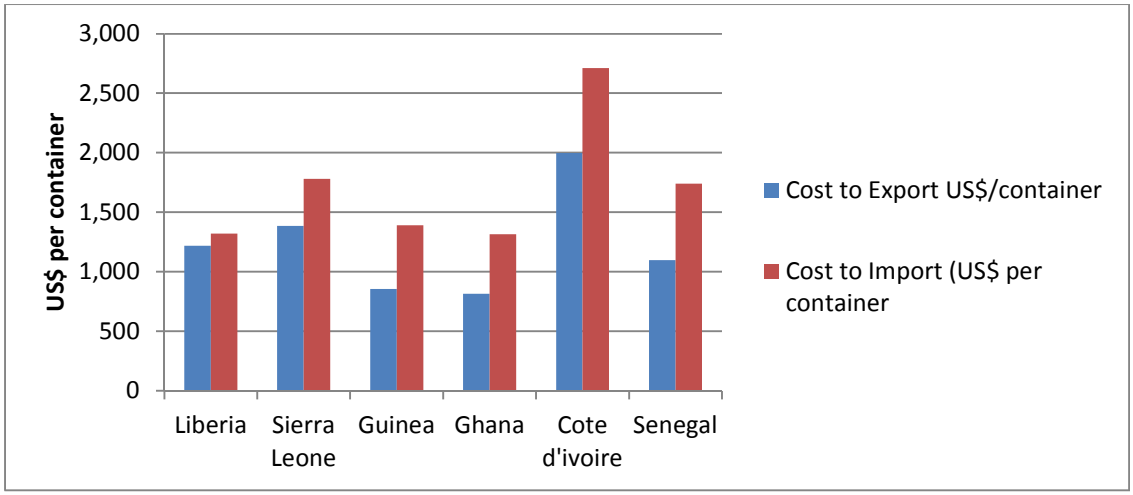


Figure 8.11: Export and Import Cost through Comparator Ports

Source: World Bank's Doing Business Surveys

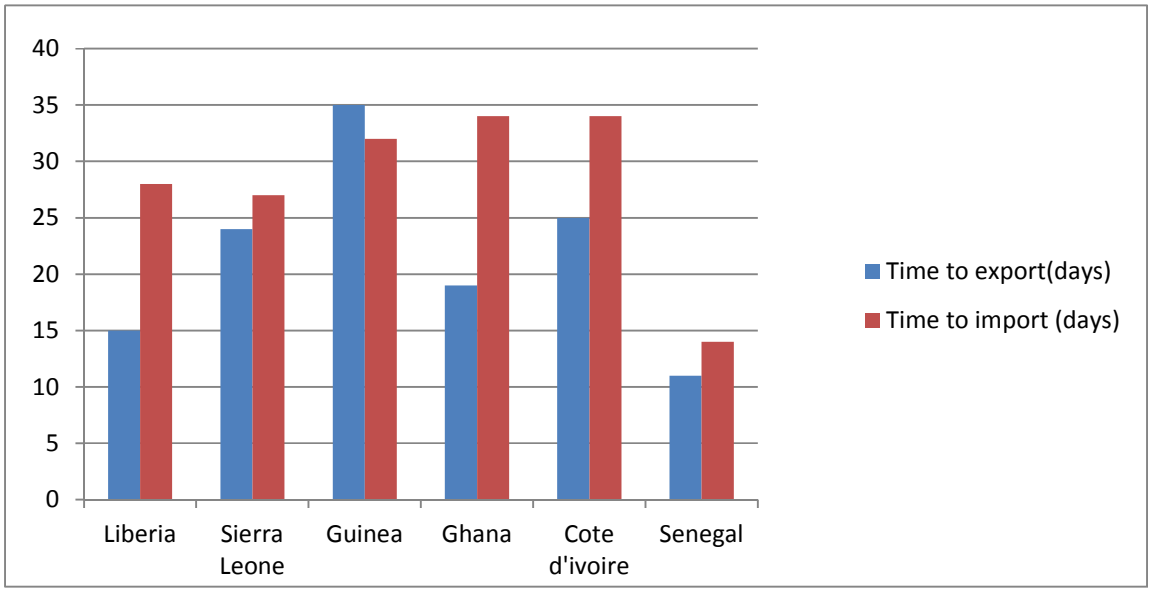


Figure 8.12: Time it takes to import and export at Comparator Ports

Source: World Bank, Doing Business Survey

The above graphs demonstrate that container export and import costs through the Port of Monrovia are not significantly higher than costs at ports in regional comparators. On the time front, Liberia beats most comparators, except Senegal.

These charges do not reference freight charges charged by shipping companies, and it was indicated by shipping companies during the private sector roundtable consultations that freight cost for a container to Liberia was around 20% more than neighboring countries. This additional cost was attributed to the fact that Liberian port authorities do not allow shipping companies to charge demurrage on containers kept beyond offloading time in the port. As a result, companies built demurrage charges into their freight costs.

CONCESSIONS AND PORT

If port constraints are to bind Liberia's growth, their effects would be channeled through impacts on the mining and concessions sectors, which are totally dependent on existing port facilities to export their commodities. For the iron ore concessions, as indicated by the World Bank policy notes, port infrastructure development or rehabilitation are generally contained within investment contracts which give mining concessions the responsibility to develop ports. The case for agriculture concessions is generally different as these rely on the National Port Authority (NPA) to undertake port rehabilitation and improvements. So from the vantage point of shadow price, this is not an issue for mining concessions as described above.

Because both port handling and shipping costs are largely fixed – there are limits to sizes of ships that can enter each port- costs can be spread over larger volumes to achieve economies of scale. The highest economies of scale can be achieved by Chinamax size vessels which can take up to 400,000 tonnes of bulk cargo. But of course, such vessels may not be able to berth at the Port of Buchanan or Greenville unless these are significantly expanded, which is not feasible, due to budget difficulties and cost-effectiveness considerations. The World Bank study notes that concessions in the eastern end of the country could likely be served by Panamax scale facilities, which can load up to 70,000 metric tonnes at unit cost of about US$50 per MT.

Figure 8.13 illustrates the impact of economies of scale on shipping costs.

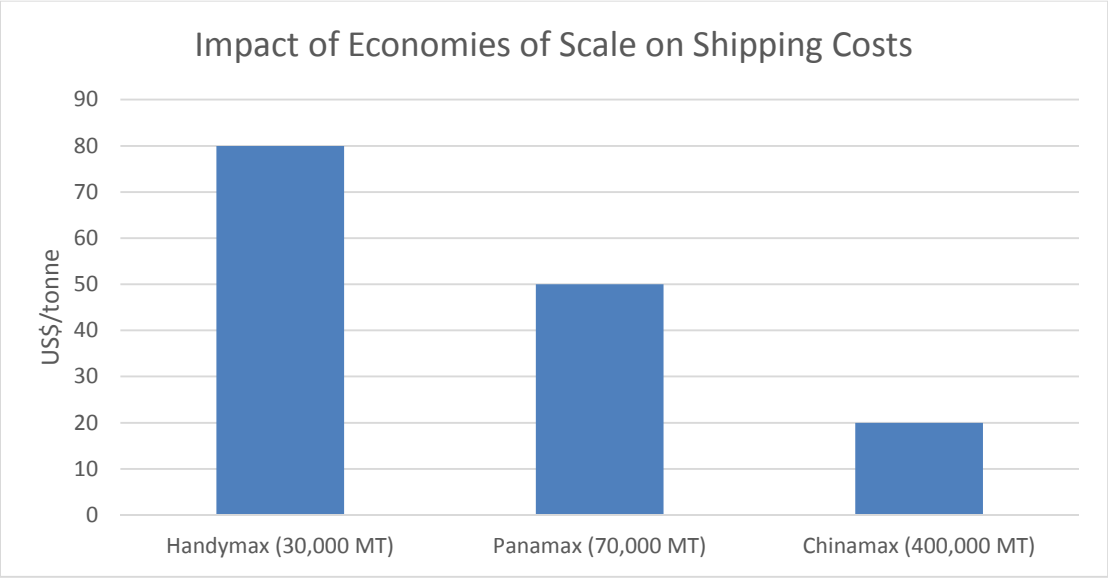


Figure 8.13 Economies of Scale in Shipping
Source: World Bank's "Policy Notes: Leveraging Natural Resource Concessions"

The implication for agriculture concessions is that if Greenville and Buchanan are not upgraded to Panamax levels, or if Greenfield port facilities are not developed to accommodate Panamax, concessions could be left in a difficult position with Handymax vessels, since the latter has a per unit cost of about US$80, increasing the shadow price of shipping for agriculture concessions.

Test 2: Do Investments in Port Infrastructure Correlate with Investment Growth?

The 2010 Annual Report of the NPA states that shipping costs at the Port of Monrovia dropped in 2010 due partly to ISPS certification. The lack of certification meant that shipping to Liberia was riskier, so shippers had to pay higher insurance premium. An investment of US$100 million in 2010 to privatize the Port of Monrovia appears to be paying dividends as shown by figure 8.14. Investment made by a mining company to rehabilitate the port of Buchanan may also be paying off. As the figure shows,

imports appear to be increasing relative to previous years. Increases in exports may be largely due to resumption of ore exports.

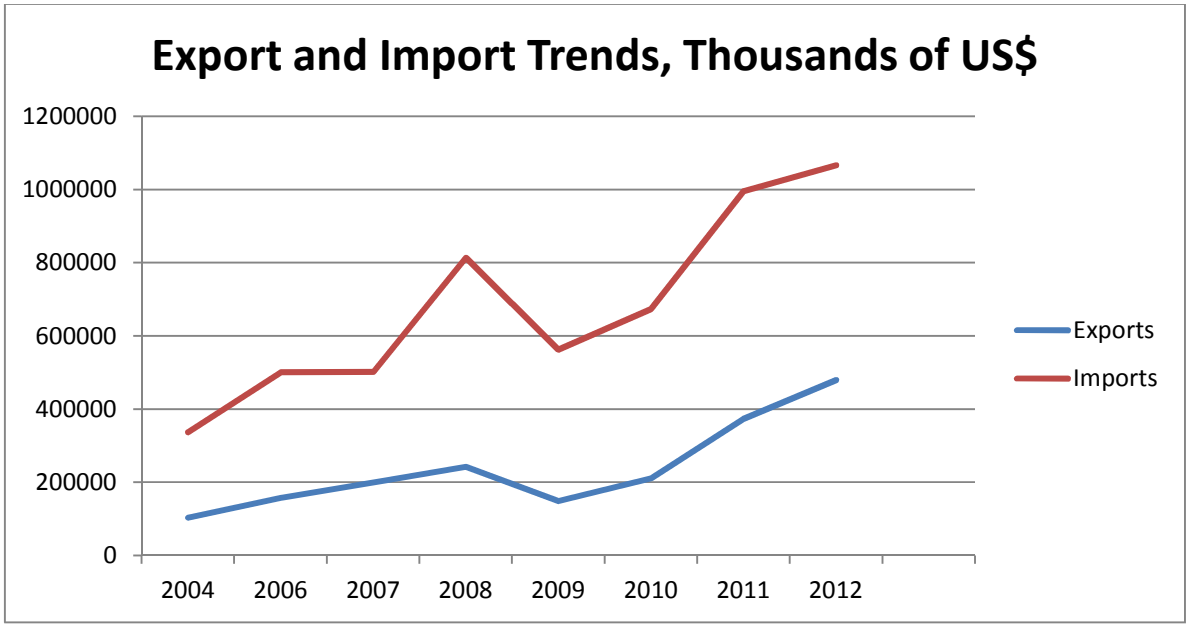


Figure 8.14: Trends in Exports and Import
Source: IMF Trade Data

Table 8.13 shows an increase in the number of vessels docking at the port over two years, as well as the increase in container traffic.

Table 8.13 Port of Monrovia Indicators
Source: National Port Authority 2010 Annual Report

Indicators	2009	2010	Unit	%Change
Number of Vessels Berthing	400	438	Vessels	9.50%
Total Net Registered Ton of berthing Vessels	1,729,626	1,896,534	NRT	9.65%
Insurance Cost due to Lack of ISPS				
Container	51,368	53,438	TEUs	4.03%

As has been noted by the World Bank study, additional investments in the ports of Harper and Greenville will allow Panamax size vessels to berth there, lowering shipping costs for concessions while contributing more to GDP, since larger volume shipments will mean more revenue to the government.

Test 3: Are Firms Bypassing the Port Infrastructure in Liberia?

Very little evidence of bypassing can be found. Examples of firms using other ports or bringing in goods by road may be found but these may be rare across sectors or firms. Trends in export and import over time as shown in figure 8.13 do not suggest that a significant number of firms are bypassing ports.

However, one area of concern is the lack of port infrastructure for the emerging oil and gas industries which are still at the exploration stage. There are no logistical shore base facilities at any of the Liberian ports, thus most logistical support to the oil and gas sector is provided from the Takarodi Port of Ghana. However, like other extractive industries, logistical challenges are factored in their development costs

and may therefore be addressed by the firms concerned. The Managing Director of the NPA did announce that the NPA has included the development of a logistical shore base in their strategic development plan.

Test 4: Are Firms Less Intensive in the Constraint Thriving Relative to firms?

Intensity in port infrastructure may be difficult to gauge or interpret. For example, firms which are not directly in the import or export business, such as banks or insurance companies, do significantly rely on imported goods like fuel to operate. Without imported fuel, these firms may generally not thrive with the prevailing power situation. As shown in the electricity section, about 67% of firms rely on generators as a source of power, and of these, 97% rely on generators exclusively. In this sense, it may be argued that non-import –export businesses are partly intensive in port infrastructure through critical commodities such as fuel. It is difficult to argue their profitability is independent of port infrastructure. Of course, in the absence of ports, fuel importers may use alternative routes such as roads or airport. But these may have significant volume implications, and with current road context may exact huge disruptions for firms across sectors. In this sense, most firms can be said to be either directly or indirectly intensive in the constraint of port infrastructure. Application of this test may not be feasible.

8.6.1 CONCLUSION

The information presented in this section suggests that port infrastructure is not a binding constraint to investment growth. However, critical investments needed to expand the ports of Greenville and Harper to enable oil palm concessions to export their commodities when these come on line are important and necessary for job creations, since these concessions are expected to generate thousands of jobs. Oil palm may emerge as a key driver of jobs in the Liberian economy with tremendous potential for value addition. Relaxing constraints to this sector, such as port infrastructure, may be important for undermining poverty and growing jobs in the long term. The emerging oil and gas sector promises major opportunities for supply chain development and thus job creation opportunities which would be dependent on port infrastructure since oil deposits may be offshore

8.7 AIRPORT

Liberia has two major airports: the Roberts International Airport (RIA) and the James Spriggs Payne Airport. Currently, RIA is the only functional international airport. Spriggs is managed and maintained by the United Nations Peace Mission in Liberia (UNMIL) and is used mainly for domestic flights. The proximity of Spriggs to RIA limits its commercial viability as an alternative to RIA. There are about 30 other domestic or rural/ air strips that are largely dysfunctional (National Transport Master Plan).

The RIA, damaged during the war, has undergone major rehabilitation, though a complete overhaul is planned under an Airport Master plan. Despite the limitations of RIA, the airport has remained competitive among regional comparator airports.

Table 8.14 illustrates this competiveness. A major downside from the table is that Liberia is noted for a striking lack of renewal of fleet along with Sierra Leone, with older aircrafts frequenting both airports. Benin, Ghana and Cote d'Ivoire serve more pairs of cities than Liberia, which serves a statically significant similar number of cities among comparators. Seats for international travel are about the same for Liberia and Sierra Leone, but counties lag behind their Mano River comparator Guinea on many indicators. This may be due to the persistence of the impact of conflict on aviation in both countries, with Liberia experiencing a larger impact due to the more destructive and protracted nature of its conflict.

Table 8.14 Liberia and Comparators on Aviation Indicators

Source: AICD Document: "Liberia, A Continental Perspective"

	Liberia	Sierra Leone	Guinea	Benin	Cote d'Ivoire	The Gambia	Ghana	Guinea-Bissau	Togo
Total Seats ('mns)	.16	0.23	0.32	0.42	1.15	.25	1.88	0.07	0.3
City Pairs Served	8	8	8	19	23	7	19	2	11
Percent of Seat KM in Older Aircraft	67	45	5	7	9	5	3	0	0
International Market Herfindahl Index	.2	0.2	0.2	0.1	.1	.1	0.1	0.5	0.2
Seats for International Travel within Africa (seats per year)	121,445	179,629	205,916		851,003				
Seats for International Travel (Seats per year)	40,040	48,893	111,462		297,891				

Test 1: Is the shadow price of airport infrastructure high?

Table 8.15 presents some evidence that shows air freight charges are not particularly high in Liberia relative to comparators. While we do not show the data for test two, we have reason to believe that investment in airport improvements have correlated with improvements in the economy. We do not apply the four tests to airport on the basis of the quality of comparable data. Test 3 and 4 are about the same for ports.

We conclude that airport infrastructure is not a binding constraint to growth in Liberia. However, planned investment at the RIA will have to keep pace with economic developments across sectors.

Table 8.15 Air Freight Costs, Liberia and Comparators
Source: World Bank, World Trade Indicators (2009, 2010)

Country	Air freight (million tons km)	Total Freight Costs to US (%of import value)	Air Freight Costs to US (% of import for consumption value)
Year	2006-09 Latest	2006-09 Latest	2006-09 Latest
Sierra Leone	9.59	22.47	0.70
Senegal	0.00	13.10	13.27
Gambia, The	..	5.98	6.68
Ghana	..	7.99	13.51
Guinea	..	32.07	2.21
Liberia	..	4.09	0.20

8.8 RAIL

Rail infrastructure has been a critical lynchpin for Liberia's development. As noted in the Background chapter, iron ore exports accounted for more than 40% of GDP during the 1970s and these had to first traverse an extensive network of railroads between Yekepa and the Port of Buchanan- the Nimba railway system; between Bong Mines and Monrovia- the Bong Mines Railway system and between Bomi Hills and Monrovia—the Mano Railway system.

These rail systems stretch some 490 km and were built in the 1960s by mining companies, which have since ceased operations. New mining companies have inherited these lines, undertaking major rehabilitations. New rail systems are being planned in the Eastern end of Liberia.

Historically, rails have generally not been used as a conduit for public transportation. LAMCO operated staff trains on the Nimba rail system, opening it up to local passengers. However there was very little passenger traffic and the service was abandoned in 1984 (National Transport Master Plan). As noted earlier, rail is now being used to transport goods in the Bong Mines area but this is on an abandoned rail path.

The World Bank's Infrastructure Policy Notes argues that mixed use of rail lines is hard to reconcile with the operational demands of the mining traffic, particularly in single track rail systems, recommending roads as the major conduit for non-mining traffic, such as logs and agriculture freight, considering their economic geography.

As noted earlier, mining contracts confer responsibilities on concessionaires to construct rail systems, absolving the government of public funding of rail infrastructure. However encroachment on rail by communities may be affecting the operation of some companies and if these problems persist might undermine job creation and delay production.

Nevertheless, rail infrastructure is a fundamentally different category from roads and ports, making them unlikely candidates for constraints analysis, since shadow price implications and funding streams are fully covered and rationalized under these contracts.

Rail infrastructure is not a binding constraint to Liberia's growth and development.

8.9 UTILITY INFRASTRUCTURE

This section considers utility infrastructure constraints-- electricity, water and sanitation and information, communication and technology (ICT). Together with transportation infrastructure, these are the key infrastructure constraints that have implications for, investment growth, job creation and poverty reduction.

8.10 ELECTRICITY

Electricity has featured prominently on the list of constraints firms in Liberia face. Figure 8.15- shows results from the World Bank's Enterprise Surveys of how firms in comparator countries perceive electricity as a constraint to business. In Liberia, a strong correlation appears to exist between the perception of electricity as a major constraint and the proportion of firms relying on generators as their source of power. The proportion of firms complaining about electricity is nearly matched by the proportion of firms using generators. That association breaks down as we move across comparators, with a higher proportion of firms complaining about electricity while a significantly smaller proportion are bypassing the constraint through generator usage. This may be an indication that firms in Liberia define or experience the electricity constraint differently than firms in comparator countries.

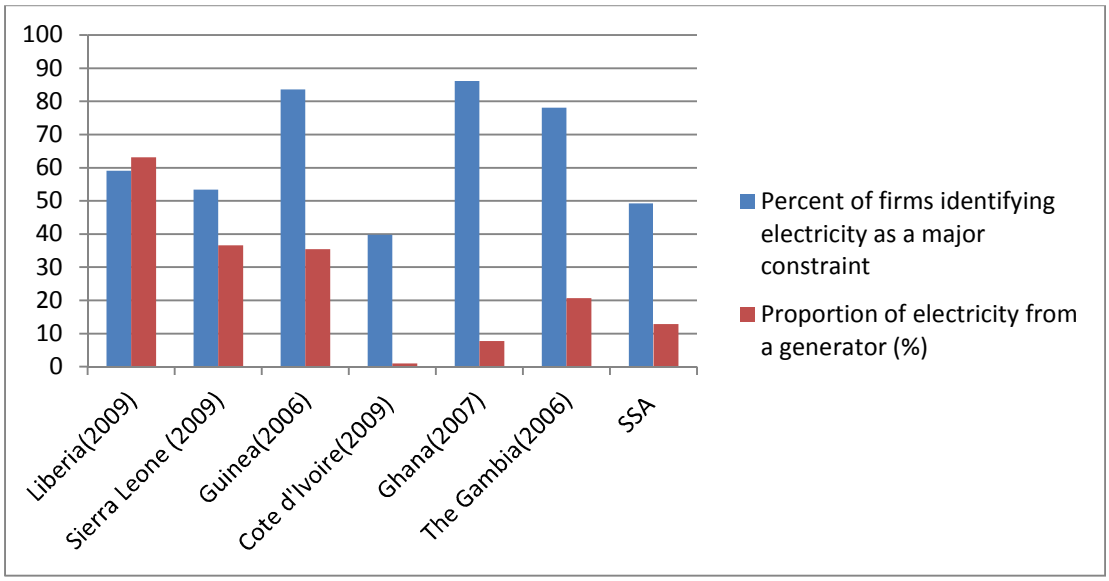


Figure 8.15: Firm Perception of Electricity as a Constraint

Source: World Bank's Enterprise Survey

Firms' reliance on generator use in Liberia is a function of the inadequate supply of power from the Liberia Electricity Corporation (LEC), the national utility statutorily charged with generating, transmitting and distributing electricity in Liberia. As stated early the 1990 civil war dealt a devastating blow to the power sector through the destruction of the Mount Coffee Hydroelectric dam and other thermal/diesel power plants owned by the government and private concessions. Prior to the war, Liberia generated about 412MW of electricity, with the LEC providing about 191MW (LEC Electricity Demand Analysis, 2013). Remaining generation came from mining concessions sector.

Mt. Coffee Hydro - Damaged during the Civil War

Postwar provision of power has struggled. To date the LEC provides about 22.64MW of power, up from its 2009 provision of 9.6MW but still a paltry 6.2% of prewar capacity, putting public access to electricity in Monrovia at 5.6% and national access at 1.7%, one of the lowest in the world (LEC Electricity Demand Analysis, 2013).

Figure 8.16 and 8.17 show electricity generation in both levels and per capita terms respectively. Figure 8.15 shows that net generation in Liberia virtually collapsed due to conflict from about 0.852 billion kilowatt hours in 1980. Despite this drop, Liberia remains generally ahead of Sierra Leone and the Gambia. In per capita terms, Liberia is ahead of only Sierra Leone.

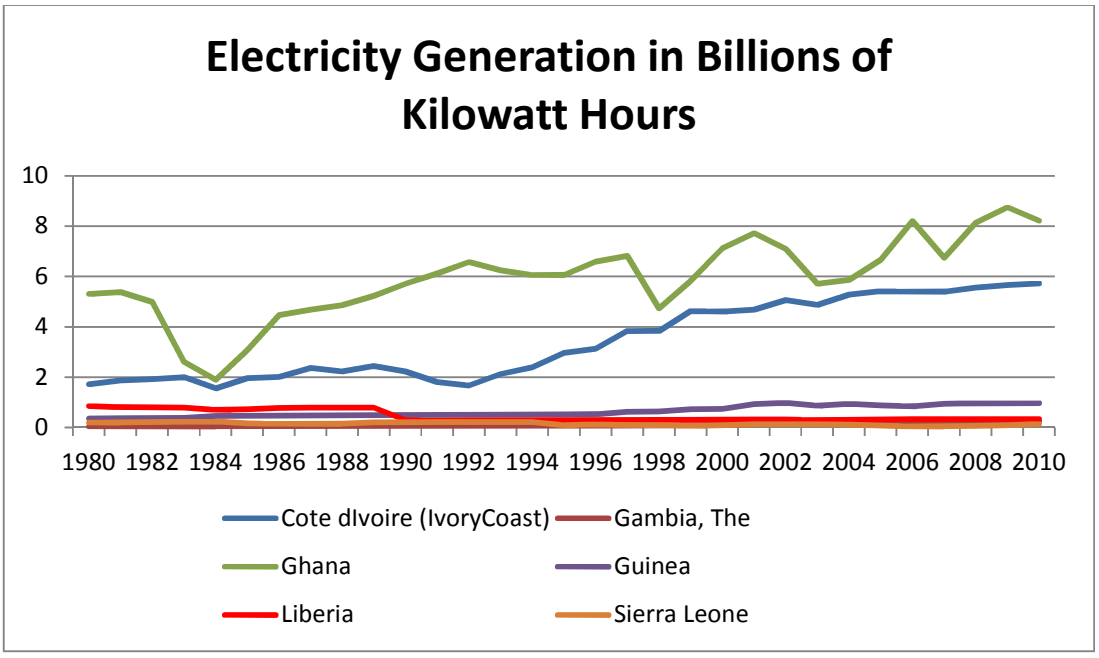


Figure 8.16: Electricity Generation among Comparators

Source: U.S. Energy Information Agency (EIA).

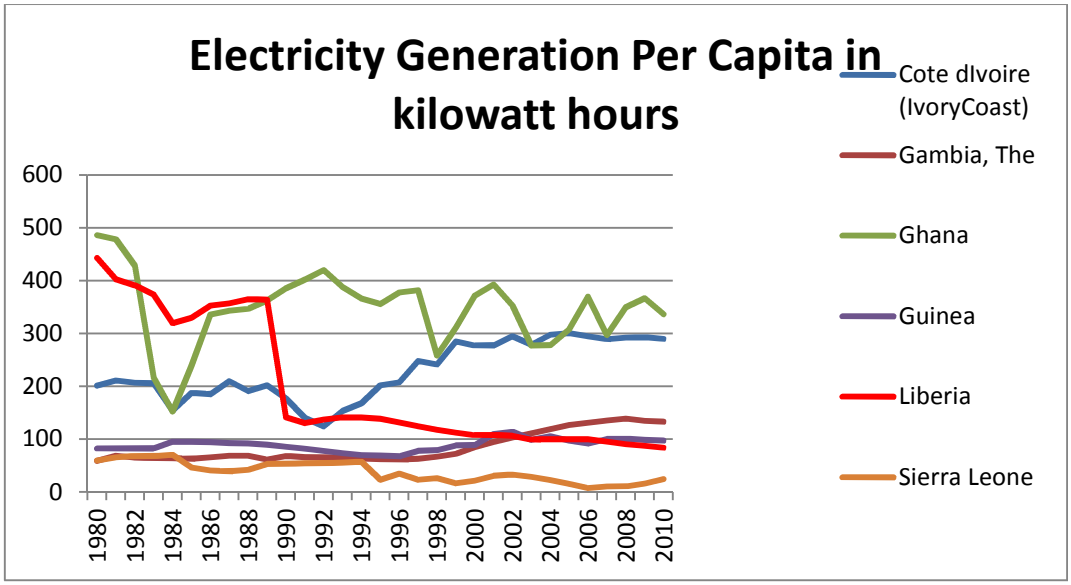


Figure 8.17: Total Net Electricity Generation

Source: U.S. Energy Information Agency (EIA).

The figures essentially show that conflict has had the most impact on Liberia's generation capacity.

This drop in generation has now resulted in a high reliance on generators. Results from a survey conducted for the LEC Electricity Demand Analysis show a high reliance on generators, which the World Bank's enterprise surveys also find. About 43 large institutions that were part of the electricity survey report that they primarily rely on their own generators. These large firms spend an average of US$10,374.00 monthly on fuel for generators, in addition to the US$1,647.00 spent monthly on maintenance. The capacity of generators used by these institutions ranges from 100kVA to 1,000 kVA, with large consumers netting about 11,029kVA, which translates into real power of 8,823 kW (LEC Demand Analysis, 2013).

As shown by figure 8.18, the majority of businesses in the survey report that they find electricity provided by the LEC at US$.57 per kWh, about the highest tariff rate in Africa, to be relatively cheaper than what it costs to operate their own generators. About 60% of large farms in the survey find LEC's electricity supply unreliable in terms of power outages.

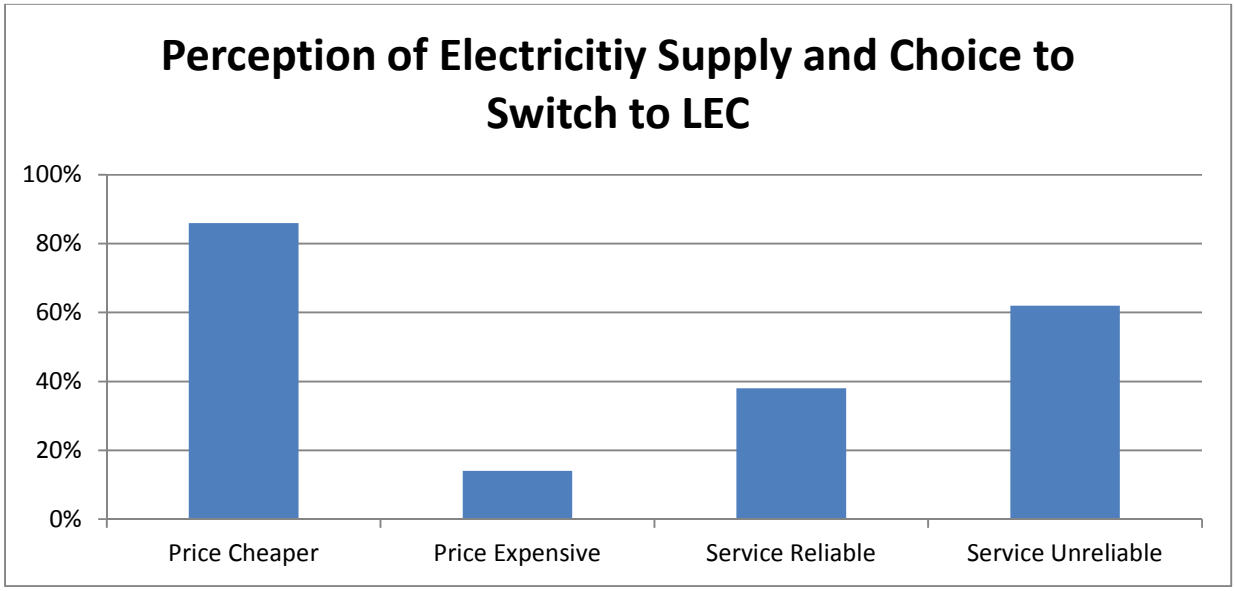


Figure 8.18: Perception of Electricity Supply

Source: LEC Demand Analysis

Table 8.16 presents benchmarks Liberia against comparators on key electricity indicators. Despite high tariffs, revenue collection ratios for Liberia's power utility are very high at 93 percent. The AICD document attributes this to the practice of charging for power up front, one month ahead of actual consumption. The document notes that by comparison, "the utility only collected 50 percent of billed revenues prior to the war." Liberia also appears to be performing relatively well in terms of distribution losses. System losses are reported to be close to 25 percent, well below benchmark levels. As the AICD document acknowledges, this may well be due to limited physical extension of the distribution network. Operational inefficiencies and underpricing take up about 158% of revenue, which is lower than in Sierra Leone, but significantly higher than in Ghana.

Table 8.16: Key Electricity Indicators

SOURCES: AICD Infrastructure documents on Liberia (2010), Sierra Leone (2011) Cote d'Ivoire (2010), and Ghana (2011)

Indicators	Units	Liberia (2009)	Sierra Leone (2009)	Ghana (Mid 2000)	Cote d'Ivoire (2008)
Installed power generation Capacity	Mw/mil.People	2.7	13	131.7	58.3
Power consumption	Kwh/capita	87	14	293.4	240.5
Power outages	Day/year	12.7	46	116.6	46.5
Firm reliance on own generators	% Consumption	97.1		29.5	15.1
Firm value lost due to power outages	% sales	7	6.6	6	5
Access to electricity (from utility)	% Population	2.9	5	44.3	20
Urban access to electricity	% Population	5.6	35	77	
Rural access to electricity	% Population	0	3.5	20.9	
Growth in access to electricity				1.8	
Revenue collection	% billings	93	89	89.6	88
Distribution losses	% production	24.8	42	25.4	23.4
Cost Recovery	% total cost	55.8	100	80	80.6
Total hidden cost	% of revenue	158	451	37.3	136.5

8.11 APPLICATION OF THE PRINCIPLES OF GROWTH DIAGNOSTICS: THE FOUR TESTS

We apply the growth diagnostics principles in this section to determine whether the lack of reliable and affordable electricity is a binding constraint to Liberia's growth.

Test 1: Is the Shadow Cost of Electricity High in Liberia?

Figure 8.19 presents power tariff among comparators and shows that Liberia has one of the highest power tariffs in Africa and the world. The AICD Infrastructure study on Liberia notes that even these high tariffs are substantially lower than the true cost of power as a result of several factors, including

very small scale of production, the high cost of importing diesel fuel and the destruction of facilities for import of more cost effective heavy fuel oil (HFO) (Liberia's Infrastructure: A Continental Perspective). The study notes that the true cost of generating electricity in Liberia may stand at $.77 per kilowatt-hour, of which $.63 pertains to operating costs alone.

Firms may actually be paying a higher effective tariff through generator usage as indicated earlier. Many large and medium firms do not rely on LEC power and many complain that the cost of fuel to operate generators is consuming a big share of operating costs.

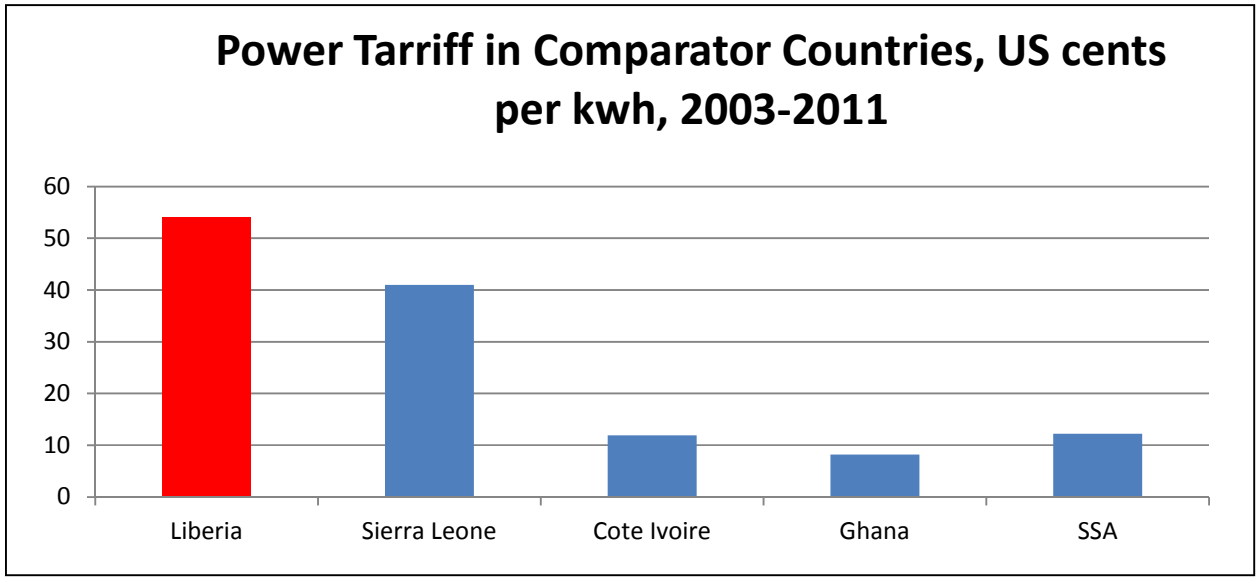


Figure 8.19 Power Tariff among Comparators
Source: LEC, Liberia: AICD, WB

Other measures of Shadow Price

The World Bank Document *Options for Development of Liberia's Energy Sector* estimates that tariff on generator usage is about US$3.96/kWh, which on average is about 14 times as high as he LEC tariff. The same document notes that thermal energy in the form of charcoal and firewood consumption is costing Liberia about 960,000 trees per year.

Test 2: Would Investment in Power Infrastructure Spur Investment Growth?

The lack of affordable and reliable electricity may be affecting firms and sectors in multiple ways. It may constrain or hindering the emergence of key sectors, such as processing or agro-processing in agriculture, which is heavily reliant on power infrastructure. Manufacturing may be taking a big hit as well. Power may also be a constraint to economic diversification, hindering the development of linkages between the enclave and non-enclave economies. Ultimately power appears to be a constraint to job creation. The major issue is whether investment in power would generate employment in Liberia.

Figure 8.20 shows the correlation of the annual rate of change of electricity generation and the rate of change of gross fixed capital formation. The relation in the figure is not causal but does show some association between energy generation and growth. The United States Energy Information Agency (EIA) electricity database was used to construct the correlation.

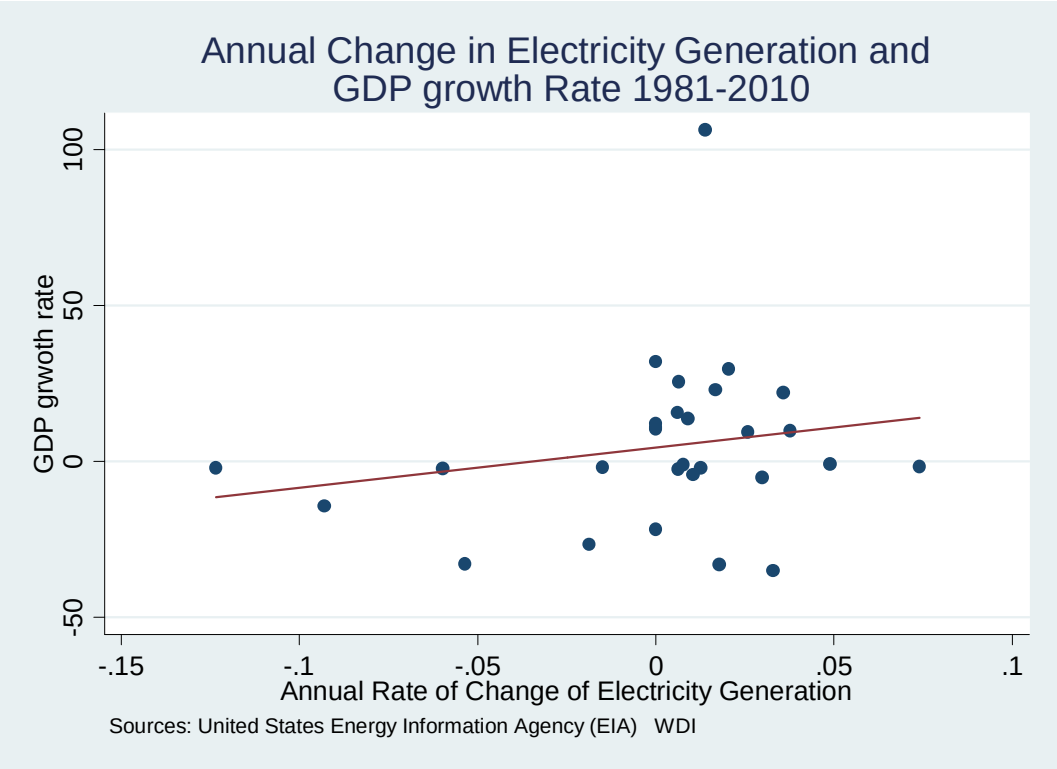


Figure 8.20: Energy Generation and GDP Growth Rate

Source: US Energy Information Agency

A mini survey of five services and manufacturing firms reveal that the costs of energy may be hurting firms. Electricity costs consumes the biggest share of firm budgets as shown in Table 8.17.

Table 8.17: Evidence of the Constraint of Power on Firms in Liberia

SOURCE: CORE TEAM INTERVIEWS

		Percent of Firm Budget			If Power Constraint were relaxed
	Sector	**Energy**	**Labor**	**Operations**	
PA's Rib House	Services	49%	25%	26%	Open more branches
CEMENCO	Manufacturing	38%	28%	34%	Export Cement and reduce price by up to 25%
International Aluminum Factory	Manufacturing	35%	30%	35%	Expand operations and reduce price
Royal Grand Hotel	Services	38%	35%	27%	Invest in newer ventures and drop prices
Palm Spring Hotel	Services	40%	38%	22%	Expand by investing in acquired property next door and reduce prices

While Table 8.17 may not be representative of all firms in Liberia, it does show the power is generally affecting firms in a variety of ways.

Reliance on Generators is Common

Battery Lanterns, Popular Source of Light

Test 3: Are firms bypassing the Constraint of Inadequate Supply of Power?

Figure presents evidence of bypass. Figure 8.22 indicates that firms in Liberia are bypassing the power constraint by using generators. It is worth noting that though Liberia does not have the highest rate of generator usage among comparators, the proportion of generator-using firms who rely almost exclusively on generators as a major source of power is significantly higher in Liberia (97%) than among comparators. One explanation for this may be that in comparator countries, generators are apparently being used as backups. In Liberia, generator on average appears to be the major source of electricity for the majority of firms.

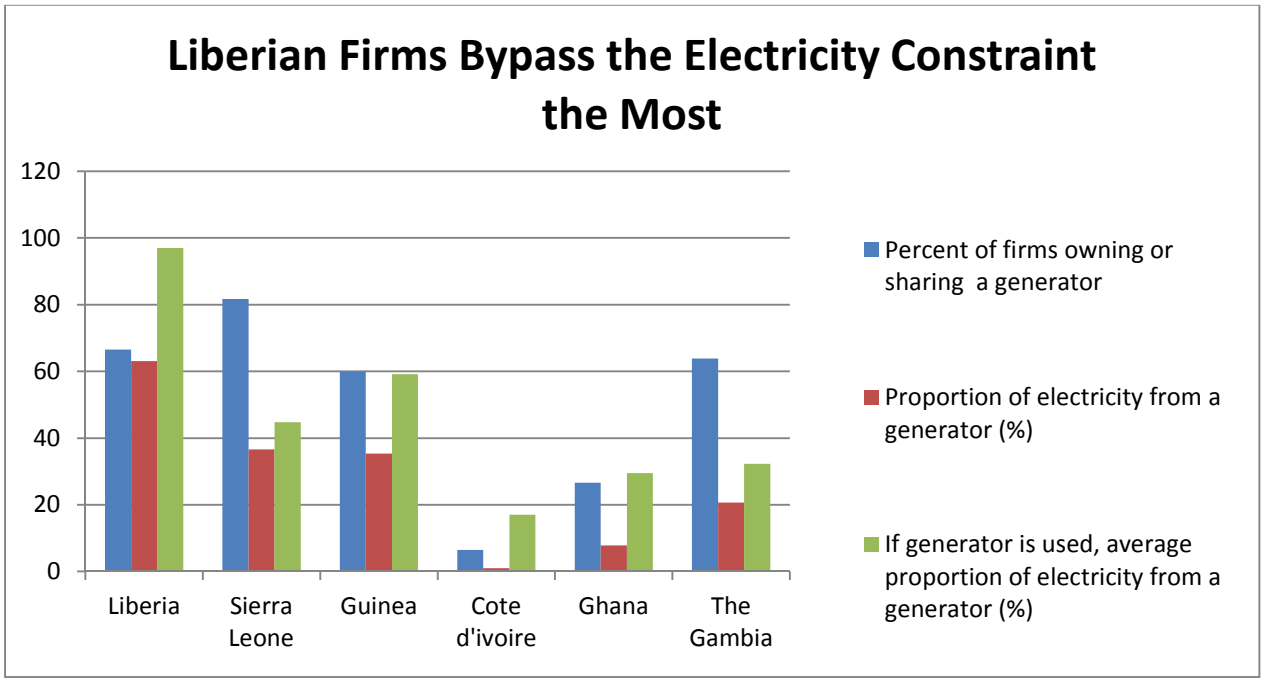


FIGURE 8.22: EVIDENCE THAT FIRMS ARE BYPASSING THE POWER CONSTRAINT IN LIBERIA

Source: World Bank Enterprise Surveys

Test 4: Are Firms Less Intense in the Power Constraint Thriving Relative to Firms More Intense?

Figure 8.23 and 8.24 compare Liberian services and manufacturing sectors with those in comparator countries. From the figure, it is clear that the performance of Liberian manufacturing is among the weakest, only ahead of Sierra Leone. The Liberian services sector appears to be doing better among comparators as shown in figure 8.24. The key takeaway from the two figures is that services are thriving relative to manufacturing, to the extent that sectorial value added as a percent of GDP can be a proxy for profitability.

What explains this divergence between services and manufacturing in Liberia? Power is certainly among the list of candidate factors. Evidence suggests that manufacturing is more intense in the use of power than services. Figure 8.25, taken from the LEC survey of firms, demonstrates that 13 manufacturing firms in Liberia, consume almost twice the generator power used by 19 services firms or institutions. In summary, the services sector, which is less intense in power, as shown in figure 8.24, is thriving relative to manufacturing, as captured in Figures 8.23 and 8.26.

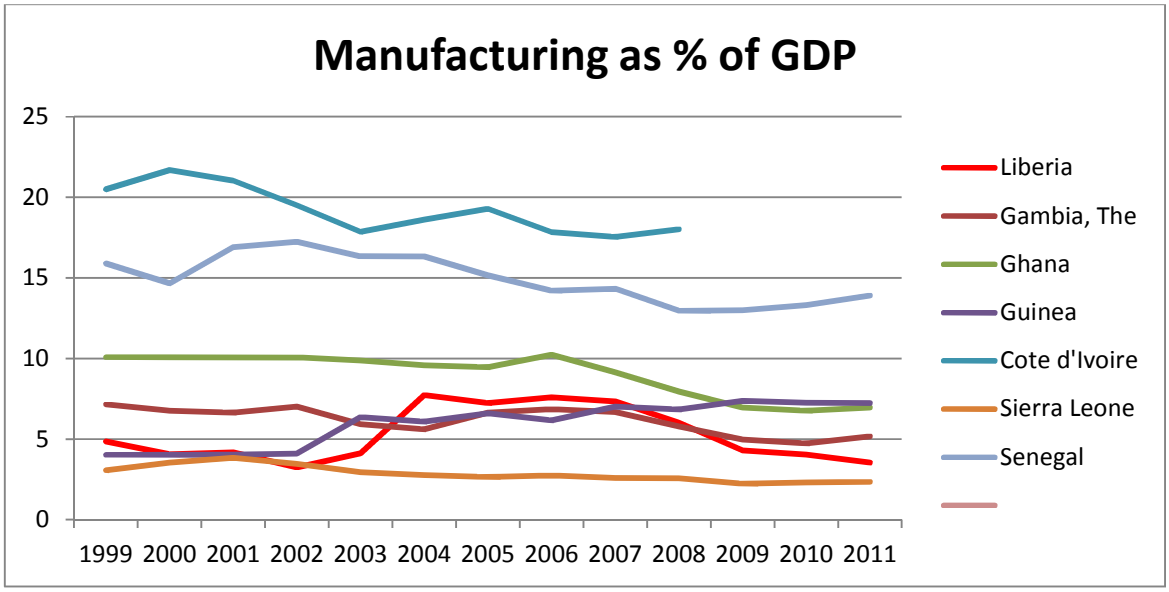


Figure 8.23: Manufacturing Value Added among Comparators
Source: World Bank, WDI

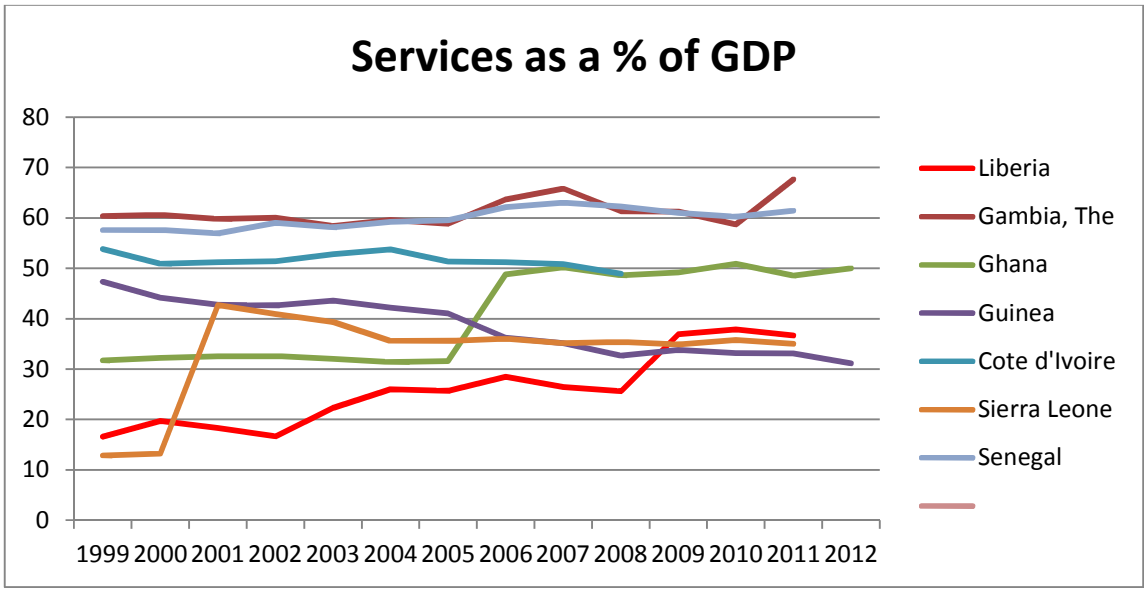


Figure 8.24: Services Sector Value Added: Liberia and Comparators
Source: World Bank, WDI

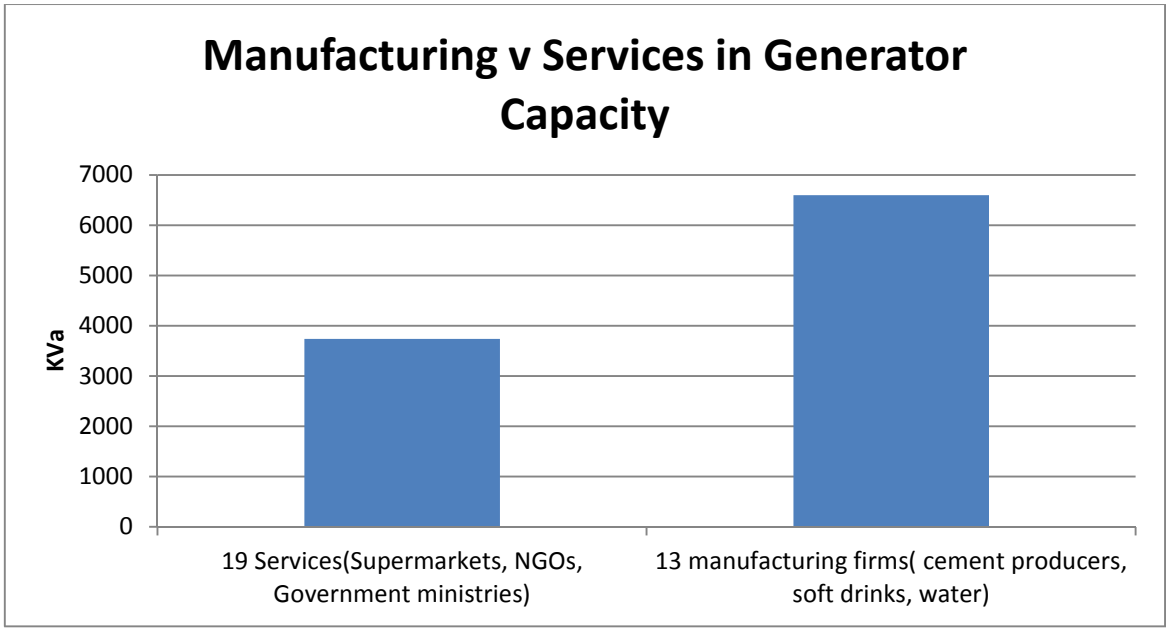


Figure 8.25: Manufacturing Versus Services: Generator Capacity
Source: LEC Energy Demand Analysis

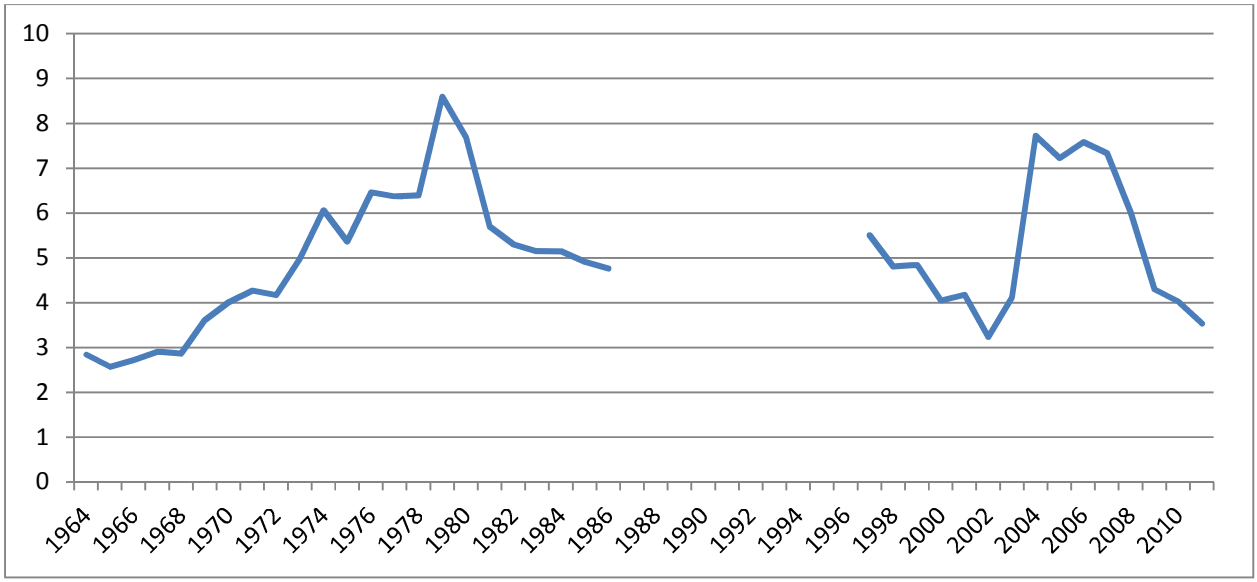


Figure 8.26: Trends in Manufacturing Value Added As a % of GDP Before and After the War
Source: WORLD BANK, WDI

Table 8.18: Manufactures Before and After the War

Sources: Ministry of Commerce & Industry; Lands, Mines & Energy; and Liberia Water & Sewer Corporation (LWSC)

Current Manufactures	Pre-war Manufactures that are now Missing or Just about Starting
Cement	Sugar
Beverages	Biscuits
Paints	Rubber ware
Candle	Car Batteries
Clorox	Nails for construction
Rubbing Alcohol	Animal feed
Mattresses	Eggs
Finished Water	Glass bottles
	Furniture (Industrial Level)
	Cartons/Cardboards
	Explosives
	Terrazzo tiles
	Footwear
	Juices
	Plywood
	Chicken bouillons
	Soaps
	Fisheries
	Confectionaries

Figure 8.26 and Table 8.18 largely tell the story of manufacturing decline. The figure shows that prior to the 80s, manufacturing generally experienced an upward trend, declining in the 80s, most likely due to constraints in governance as was noted in the Overview Chapter. While this shows that other constraints do affect manufacturing, the supply and cost of power, which the World Bank's *Options for the Development of Liberia's Power Sector* puts at about US$.055 kWh, are relevant factors in the decline of postwar manufacturing. Table 8.15 shows manufactures that existed prior to the war but no longer exist. Egg production is presently in the pipeline, but this begs the question of the length of time it took to resume production. A participant at a consultation roundtable attributed the disappearance of the egg industry to the lack of electricity, since production is reportedly intense in electricity.

The evidence presented in test four does show that the manufacturing is struggling relative to services and that the former is more intense in electricity than the latter. While it may be difficult to definitely prove that power caused the decline of manufacturing, the supply and cost of power are clear factors in this decline. The above pieces of evidence appear to suggest that test four may be positive.

8.11.1 CONCLUSION

The evidence presented in this section appears to support the conclusion that power is a binding constraint to investment growth. While a stronger case for power might be made with better data, it is inconceivable that such additional evidence would overturn this conclusion.

Power may just be more than a constraint. It is a fundamental necessity for economic production. The attainment of a minimum efficient scale in production or manufacturing, commonly observed in advanced economies, takes as a given the adequacy of the supply of electrical power. Where such

supply is inadequate or is unaffordable for the broad majority of firms, concepts of minimum efficient scale lose their economic meaning. That Liberia had relatively adequate electricity supply prior to the war but experienced a sustained decline in manufacturing is a different question. The existence of pre-war electricity met the necessary requirement for firm production. The lack of electricity in the post-war context fails to meet this requirement, though some firms are significantly able to bypass the constraint. In the pre-war context, sustained investment growth may be expected and growth in manufacturing prior to the 80s has been recorded. In the post-war context, investment growth outside sectors that can bypass the constraint, such as the dominant enclave sector, need not be expected.

This is true for the take-off of agro-processing value adding sector in commercial agriculture, which would face prohibitive cost and operational constraints in the absence of reliable power. Manufacturing firms looking to leverage the existence of the mining enclave, for example, face similar operational constraints amid the inadequacy of power supply.

Power equally exacts huge opportunity costs for healthcare and imposes steep burdens on living standards. Hospitals are spending vast sums on fuel that could be directed to developing or training health workers or procuring medicines. Would the availability of power affect educational outcomes, by incentivizing longer study hours, especially in rural areas? While data would be needed to answer this question, the impact of electricity on the livelihood of rural women, for example, cannot be doubted. The 2007 Liberia Marketing Survey, recorded many retailers and wholesalers as mentioning the lack of storage as a major constraint. Women trading in perishable goods, who lose incomes due to the spoilage of goods, may benefit from greater access to electricity.

The reality is that net impact of electricity both for business investment and improvements in living standard are difficult to quantify.

8.12 WATER AND SANITATION

As related in the Human Capital chapter, water and sanitation may impact investment growth through mortality and morbidity shocks to production, however industries also utilize water directly in production processes. In this section, we examine the supply of water and sanitation infrastructure (though mostly just water infrastructure) for industrial uses, as opposed to household uses which was discussed earlier. Access to water is important for many firms such as hospitality beverage manufacturers, water bagging and bottling companies, restaurants, hotels, textile manufacturers, mining, value-added agriculture such as canning and juice-making are among the few firms intense in water access.

As Table 8.19 depicts, Liberia does not seem to be significantly worse off on many indicators, except for non-residential tariff, which is twice as high as that in comparators. This higher cost may reflect low supply of water infrastructure relative to comparators. Many water intensive firms may be bypassing the water supply constraint by relying on water trucking companies to deliver water. Only about 2.9% of the population has access to piped borne water, an indication that supply is a problem. Overall, the conclusion of this section is that water and sanitation is not a binding constraint to firms in Liberia.

Table 8.19: Water Indicators for Firms

SOURCE: AICD Infrastructure documents on Liberia (2010), Sierra Leone (2011) Cote d'Ivoire (2010), Ghana (2011)

		Liberia	Sierra Leone 2008	Cote d'Ivoire 2006	Ghana (2008)
			2007	2008	
Domestic Water Consumption	liter/capita/day	55.7	40		
Revenue collection	% Sales	75	77	100	95
Distribution losses	% production	28.8	40	22.5	50.8
Cost Recovery	% of Total Cost	100	61.4	76.1	61.8
Total hidden costs as % of revenue	% Revenue	123	297	112	128.9
Average effective tariff	US cents /m^3	44.5	22	6.4	41.7
Non-residential Tariff	US cents /m^3	221.3		107.2	142

8.13 ICT INFRASTRUCTURE

The ICT sector in Liberia has grown remarkably over the past decade. The cost of SIM card fell from a high of US$65 - $85 in 2001 to US$ 5 today. This has been due in large part to the entry of new mobile carriers. One mobile carrier dominated the cell phone market back in 2001. Today there are four mobile carriers and the market appears competitive. The biggest mobile carrier now has about 49% of market share, representing a drop from its near monopoly power, with the second carrier commanding about 41% market share (2012 Liberia Telecommunications Report).

Figure 8.28 shows mobile subscription rates among comparators. Subscription is about the same in Sierra Leone and Guinea and is far less than other comparators.

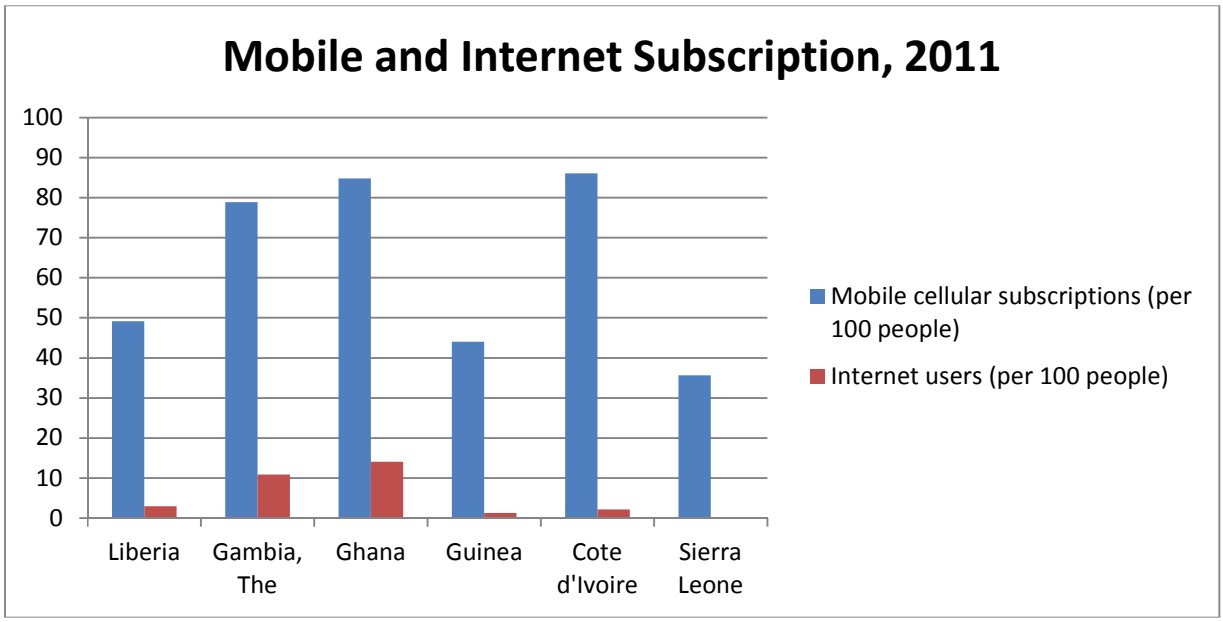


Figure 8.28: Mobile Subscription among Comparators

Source: World Development Indicators

Table 8.20: ICT INDICATORS AMONG COMPARATORS

SOURCE: AICD Infrastructure documents on Liberia (2010), Sierra Leone (2011) Cote d'Ivoire (2010), and Ghana (2011)

Indicators	Unit	Liberia	Cote d'Ivoire (2008)	Ghana (2009)	Sierra Leone (2009)
GSM coverage	% population	32	54	82	76
International Bandwidth	Mbps/capita	0.1	40	86	
Internet penetration	subscribers/100people	1	3	4	3.5
Landline penetration	subscribers/100people	0.1		1	
Mobile penetration	subscribers/100people	42	51	67	24.6
Prices					
Mobile basket	US$/month	5.2	15	6	7.3
Fix line basket	US$/month		25	5	
20-hour Internet package	US$/20hours		47	12	240
3-min call to US	US$/3min		0.9	0.33	0.3
Inter-Africa Tel. calls	US$, mean price			0.32	0.3

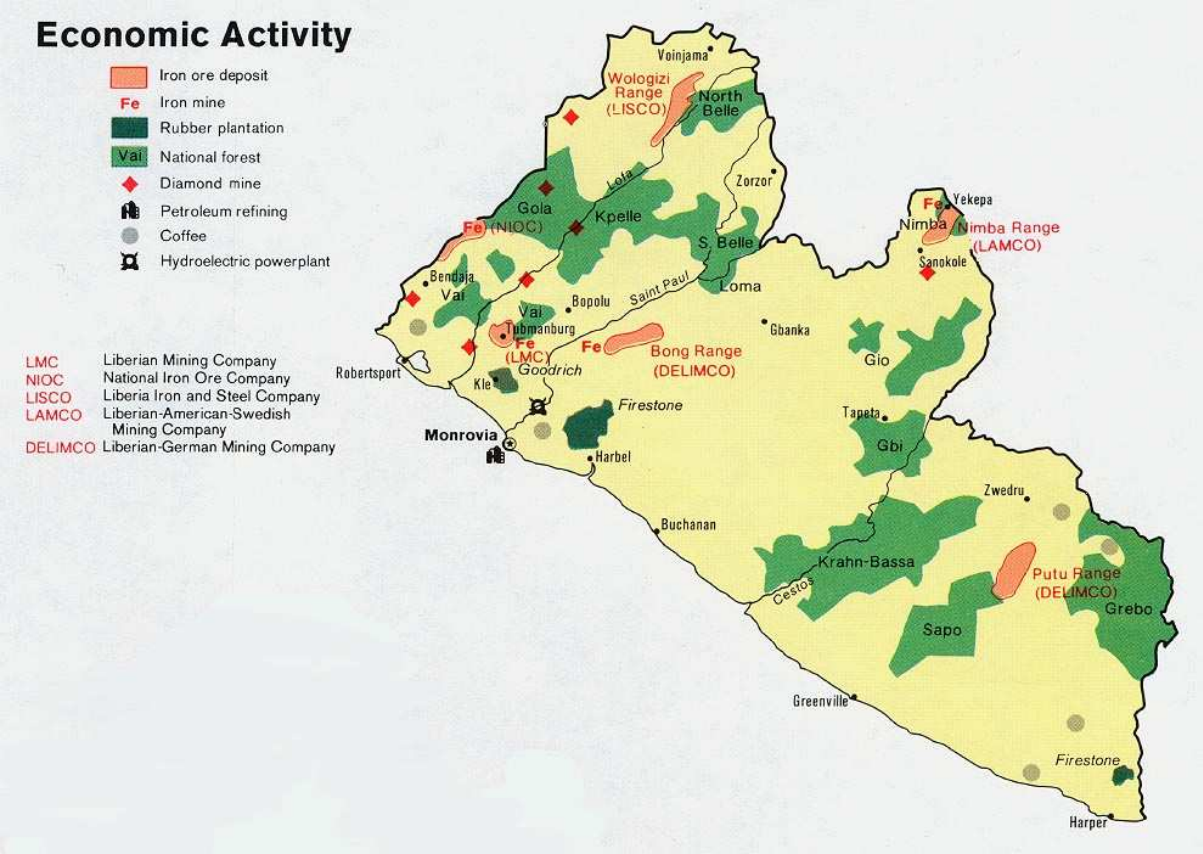
Liberia has invested in fiber optics which is expected to impact the sector significantly and depress prices further. Table 8.20 shows that the cost of mobile basket in Liberia is generally lower than that in comparator countries. Liberia has the lowest GSM coverage among comparators. Liberia's mobile penetration is competitive.

The evidence suggests that ICT is not a binding constraint to investment.

ACE Submarine fiber optic cable lands in Liberia

9 NATURAL CAPITAL

Liberia's natural capital endowment is well established and known. It provides opportunity for agriculture, forestry, fishing, mining, energy, tourism, transportation, among others. While a major focus of growth for Liberia has been the extractive industries, especially iron ore mining, Liberia has many renewable resources that can contribute to sustainable growth. The below map of Liberia in the 1970s shows the natural resource base of most of Liberia's economic activities.



Map of Liberia's Economic Activity in the 1970s

For the obvious reason that Liberia's natural capital is not considered a binding constraint, we share in the conclusions of the World Bank's Liberia: Inclusive Growth Diagnostics.

"*Geographic features are not binding constraints in Liberia. The country is well endowed with natural resources, renewable and non-renewable. Its climate is ideally suitable for agricultural activities, with fertile land and sufficient water resources for irrigation and consumption. The amount of agricultural land is relatively smaller in Liberia than elsewhere in Sub-Saharan Africa (Table 3.1) due to the relatively high fraction of forests (areas with high density in trees), but this gives the country a high potential for forestry products. The country faces the Atlantic Ocean and has four ports—Monrovia, Buchanan, Greenville and Harper—of which only the first two are operational and connected by land to the country's main activity centers, Monrovia and Buchanan. The terrain is mostly flat, with coastal plains rising to rolling plateaus and low mountains in the northeast. Land availability, defined as the existence of that resource for primary activities, is not an issue in Liberia. But defined as the ability of the people to have access to such resource for production under conditions of well-defined property rights, land availability does constitute a serious problem in Liberia. This issue will be analyzed as part of assessment of appropriability of social returns*."

"Liberia has a vast amount of exploitable natural resources available to support growth. The

Government's Development Corridor Desk Study (2011) provides an excellent overview of such, and attempts to provide insights for a strategy of diversified development "along clearly identified corridors and around growth poles," with the aim of overcoming major constraints to investment. In addition, the World Bank's (2008) comprehensive diagnostic trade integration study for Liberia analyzes potential returns from scaling up commercial exploitation of key resources, such as tree crops and other agricultural products, mining and petroleum, wood and fisheries, as well as from their value chains. In sum, resources are plentiful. However, there are concerns about the availability of infrastructure and of an adequate, skilled labor force to exploit such resources; about political and economic stability and the risk that conflict will reemerge; about potential downturns in international prices for key commodities such as rubber, palm oil, wood, iron ore, etc.; and about the inclusiveness of the growth process. But the point remains that growth in Liberia is not constrained by the availability of resources or by geographical conditions."

Indicators of Arable[86] and Agricultural Land

	Liberia	LICs avg	SSA
Arable land (% of land area)	3.97	8.51	8.04
Arable land (hectares per person)	0.11	0.17	0.25
Agricultural land (% of land area)	27.0	37.4	44.0
Agricultural land per capita (sq. km/pop)	7.6	12.7	13.6
Population density (people/sq. km.)	35.9	58.5	32.3

Source: World Bank, WDI

[86] According to the Food and Agriculture Organization (FAO) standard classification, arable land is defined as land under annual crops, such as cereals and cotton, and technical crops, such as potatoes, vegetables, melons, etc.

10 CONCLUSION

What is the impact of	High Cost of Finance			Low returns to economic activity											
	Weakness of International Finance	Weakness of Local Finance System		Low appropriability											
		Weakness of internal savings	Financial intermediation	Market Failures		Inefficient administration									
				Coordination Failures	Information Failures	Micro Risks					Macro Risks				
						Property Rights	Contract enforcement	Concession Mgt.	Corruption	Taxes	Political economy	Political and budgetary management	Fiscal policy	Monetary policy	Exchange rate
Overall Binding?	No	No	No	Not binding, but potential underlying	Not binding, but potential underlying	Leaning Binding but lack of strong data to conclude	Not Binding but potential underlying	No, but underlying risks	No	No	No	No	No	No	No
Agriculture															
Manufacturing															
Transport and trade															
Services															
Concessionaires															
SMEs															
Liberian firms															
Rural Communities															
Women															
Total high impact:	1	0	6	6	3	4	4	3	0	0	0	0	0	2	5

Weak or no impact
Medium impact
High impact

What is the impact of	Low returns to economic activity									
	Low social returns									
	Low human capital		Lack of infrastructure							
	Education	Health	ICT	Transport				Electric energy	Water and Sanitation	Irrigation
				Roads	Rail	Air	Sea			
Overall Binding?	Not Binding, but potential underlying	No	No	Binding	No	No	No, but concern for future	Binding	No	No
Agriculture										
Manufacturing										
Transport and trade										
Services										
Concessionaires										
SMEs										
Liberian firms										
Rural Communities										
Women										
Total high impact:	1	0	0	5	0	0	5	5	2	2

Weak or no impact

Medium impact

High impact

CONCLUSION

This section provides a summary and analysis of the key findings of the constraints analysis, with emphasis on the impact of constraints on sectors and the economies, and opportunities that emerge in the event these constraints are addressed. While retaining a semblance of the focus on constraints, the narrative here is more forward looking, aiming to tease out the issues, contexts, economies, possibilities and investment opportunities for policy makers and others concerned with addressing constraints to growth in Liberia. The direction of the narrative is almost similar to that of the 'summary of evidence' presented in the Executive Summary, except that here the focus is on the impact of constraints on sectors, firms, regions or particular groups of people.

High Cost of Finance

As was established, constraints to investment growth in Liberia may not be explained through the high cost of finance. Although high cost of finance does not appear to explain the level of investment and employment growth, access to finance remains an important constraint for businesses and economic sectors.

Finance issues for firms and sectors do not pertain to international finance, since financing is predominantly sourced domestically, except for concessions. As was noted in the Finance Chapter, the cost of finance may not be explained by low level of saving. The main driver of access to finance issues may lie in the structure of financial intermediation and the risks that determine such structure. All sectors – agriculture, manufacturing, transport and trade, services – as well as SMEs and Liberian firms populating these sectors are variously impacted. Financial intermediation is the predominant route for accessing finance in Liberia. Capital markets, where individuals and firms buy securities, obviate the need for financial intermediaries such as banks, but capital markets are non-existent in Liberia.

The major intermediation issue affecting sectors and firms surrounds the 'hidden costs' associated with loan acquisition. While the lending rates in Liberia may not be as high as in Sierra Leone or the Gambia, these rates do not appear to capture hidden costs that affect SMEs in all sectors. Evidence suggests that even for SMEs who secure finance, administrative requirements and the time it takes to acquire the loans can be punishing. Women surveyed in the World Bank 2009 Enterprise Survey said that it takes them longer to get necessary finance, and they also face rent seeking. The short term structure of loans also affects the ability of SMEs to access finance. Maturity on loans to SMEs in Liberia typically ranges from one to two years, making the financing of investment effectively difficult. The upshot is that short term maturity deters many SMEs from even accessing loans. SMEs are also constrained by collateral requirements in contexts where the value of collateral exceeds the value of cash flow streams over the life of loans.

These issues may even be more pronounced in the agriculture sector where credit access is important for spurring growth. Liberia currently produces far below its agriculture potential and this may not be unrelated to finance issues, given that the farmers in numerous surveys and consultations report the lack of funds for getting equipment, tools, seeds and labor as significant constraints. The hidden costs and complicated requirements for accessing loans may be inhibiting farmers from seeking loans, contributing to the cycle of low production. In consultations related to this analysis, farmers emphasized the need for financial services, and referred to the defunct Agriculture Cooperative and Development Bank – designed for this purpose. Consumption patterns are also a major issue in diversification of agriculture and the related value chain, as the majority do not have a habit of consuming vegetables and legumes.

Impacts on manufacturing and transport and trade are also strong. Manufacturing has about the lowest share of commercial loans to economic sectors, and the World Bank enterprise surveys shows that the sector has been shedding jobs. While many other constraints act on the sector, the ability of manufacturing firms to secure financing remains critical. The observed low number of trucks in Liberia may be related to the ability of trucking companies to secure financing, though the problem may also have links with the low supply of road infrastructure.

Rural communities tend to face more difficulty in accessing finance given the generally lower level of intermediation and the probably stronger perception of risks associated with lending in rural areas.

Women have had relatively more success in accessing micro-finance, as suggested by data from Access Bank, where lending to women in agriculture has been strong. Microfinance schemes under the Central Bank of Liberia also appear to be impacting rural market women. However, it is difficult to assess the overall impact of access to finance on women due to the lack of data. BRAC and international micro-finance institutions are also providing micro-credits to women farmers groups, however, they require a land title for SMEs loans.

It is obvious that addressing finance issues have ramifications for employment, since such an access may enable increased production, expansion of firm activities and new investments, all of which may mean increased employment.

Market Failure

Market failure manifests strongly in the agriculture sector through channels of coordination failure, missing market and information externalities. Value chains in agriculture are missing important links and are either non-existent or deficient. The supply of equipment, seeds, fertilizers, irrigation, pest control, storage facilities and transport services may be a problem, since farmers report these as a major constraint. But this may also be a problem because farmers do not have the means to procure them, which is a finance issue. Missing links on chains are a problem of market failure. Why can the private sector not coordinate to deliver storage facilities along agriculture value chains if these are expected to be profitable? The answer may lie in poor electricity infrastructure. Local food consumption patterns and lack of market information on potential exports also have a negative effect on agriculture initiative. The effect is that weak value chains appear to affect the spoilage of agriculture produce. Expectations that produce will spoil increase uncertainty in pricing, since producers or suppliers expect to drop prices to minimize losses from spoilage. While all of these are symptoms of market failure, electricity and road infrastructure appear to be the more underlying constraints.

Coordination failures are also key in agriculture. NGOs appear to have a strong presence in the sector, where widespread belief abounds that the persistence of NGO involvement provides disincentives for farmers and hinders the private sector from playing a stronger role. The Ministry of Agriculture lacks capacity to adequately coordinate and monitor government, NGO, and donor activities and impacts in this sector. The key question becomes why does the NGO, the government and the private sector not coordinate to deliver expected agriculture outcomes?

The lack of infrastructure appears to limit manufacturing, even where market failure issues abound. The mining sector imports vast quantities of supplies and goods needed for rail maintenance, some of which could be manufactured locally. A major constraint in leveraging such concession demand may be the low supply of reliable and affordable electricity and the skills and knowhow needed in such manufacturing. This provides an example of infrastructure and skills constraints underpinning coordination failure between the mining and manufacturing sector. It is clear that any surge in manufacturing which is struggling in Liberia would depend on relaxing infrastructure constraints.

Concessions are less intense in market failures since they traditionally export raw materials and import intermediate goods.

Micro Risks: Property Rights

The impact of property rights, such as access to land and security of land tenure, are pronounced in the agriculture sector, since the sector is heavily intense in land. Farmers in Liberia are generally able to access land for production but the ability to leverage land as collateral to finance production is less clear, as most farmers do not have title. Many of them also lease land from owners and can work only in annual grains, not tree crops, which is more profitable. Farm sizes are generally smaller and farmers complain about the lack of tools, the lack of seeds and about pests. Using land titles to secure financing would help pay for costly labor, seeds and farm tools and may increase trends in production. It must

however be noted that the inability to use land title to secure financing may not necessarily be related to issues of weak land governance but may also be a function of the low level of commercial agriculture.

Property rights also impact manufacturing, transport and trade. Firms in all these sectors may use property titles to secure financing. For services such as banks, property rights have strong links and may influence the willingness and ability of banks to accept land property as collateral.

SMEs which generally complain about the lack of access to finance are more likely to use property titles to secure financing. Also, the fact that many SMEs complain about collateral issues suggests their inability to secure financing may be related to the collateral implications of weak land governance, though other factors are possible.

Concessions, rural communities and women are heavily intense in property rights. The inability of palm oil concessions to access lands granted under concessions contract has generated serious problems for employment and revenue for the Liberian economy and government. Rural communities translate land and forests rights to economic value, as is shown by the use of Private Use Permits by communities to benefit from the exploitation of logs sewn from forest lands owned by communities. Women may use lands to raise income and some reports show that customary land tenure system and traditional land practices favor men over women, though women's rights are protected to a certain degree, especially in their natal communities (Women and Customary Land Tenure in Liberia, April 2012).

Contract Enforcement

Contract enforcement appears to vary in accordance with sectors. In the smallholder food crop sector, formal contracting between growers and supermarket chains does not appear to be common. This may be due to both the low state of development of commercial agriculture and weak agriculture value chains. Significant developments in infrastructure and agriculture may have to obtain to observe large scale contracts between agriculture growers, the private sector and government.

In manufacturing, greater chance of prosecuting breaches to contract exists since many bottling, water and other manufacturers supply products to individuals, businesses and the government on a regular basis. As observed in Commercial Court data, contract enforcement in a lot of these settings have involved enforcement on debt obligations. In majority of the cases, manufacturers or vendors pursuing litigation because they cannot receive payment for goods delivered.

In the Services sector, contract enforcement is even more pronounced. The majority of commercial court cases involves firms in the services sector. About 22% of cases reviewed in the Commercial Court have involved banks. Prolonged litigation by banks to enforce their contracts does appear to affect the volume of credit banks commit to the private sector. Given the court's relatively higher rate of success – 26% of cases for term of court reviewed were resolved at pre-trial conference-- further improvements in contract enforcement may lie in an expansion of the Commercial Court. During private sector consultations, participants in a few counties called for decentralizing the Commercial Court.

Concessions and SMEs are also heavily impacted by contract enforcement. Many concessions are not able to enforce concession rights in courts because of the political nature of government contracting and are bypassing formal enforcement in preference for settlement with communities. A significant fraction of the Commercial Court cases examined involves SMEs, suggesting they may be intense in contract enforcement.

Concessions Management

Concessions management tends to impact agriculture, the concession sector and rural communities the most. Impacts in agriculture revolve around leveraging concession agreements to affect outcomes in the agriculture sector. Already, many smallholder rubber growers are benefiting from large scale purchases from rubber companies. On the other hand, the link between concessions and smallholder food crop growers is very weak. The possibilities for concessions sector to support developments in smallholder agriculture and other supply chains are huge but very little appears to be happening to further this end.

Coordination between the government and the concessions sector would have to improve to minimize distortions within the sector. Many concessions complain about the lack of effective coordination and the absence of counterpart presence locally at the level of ministries to deal with a complex array of issues. The persistence of land access issues for oil palm concessions implies that concessions management remains a major issue. The result of the Moore Stevens-LEITI audit, which found that about half of all 68 concession agreements are in violation of the laws, appears to highlight the risks and vulnerabilities within the sector, although many of these concessions never became operational.

In the end, major opportunities remain open to leverage the concessions sector as a beachhead for inclusive growth and development in Liberia, to maximize the use of natural resource rents for infrastructure and human development and to avoid the pitfalls of natural resource curse as much as possible.

Rural communities in concession areas ought to feel the impact of concession activities but this does not appear to be happening at the pace expected. The use of Social Development Funds, which are contributions from concessions to communities in concession areas, has been fraught with controversies. Some communities feel these funds are expended on the wrong priorities, are subject to the vagaries of politicians who control them and have not generally benefited rural communities. Rural women, especially those in agriculture, could benefit substantially from increased concessions support to smallholder food producers.

Corruption

Corruption cuts across most sectors. In agriculture, transport and cross-border trade, corruption acts as a burden for individuals and businesses transporting freight. Private sector participants informed consultations that corruption or extortions happening at many checkpoints along major routes is a serious problem for business. The net effect is to increase transport tariff and the price of commodities, since businesses seek to recover these payments.

Consultations have also revealed that corruption may even be affecting the supply of electricity in the Monrovia area. Though electricity supply issues involve broader administrative, resource and capacity constraints, corruption appears to undergird delays in supplying electricity to some areas, households or firms, especially when supply is already available in these areas. This is corroborated by results from World Bank Enterprise Surveys, which show that about 51.9% of firms are expected to give gifts to get an electrical connection.

Corruption also impacts revenue generation, reducing public funding needed to address various constraints. In World Bank Enterprise surveys, more than half of firms report that they are expected to give gifts in meetings with tax officials. Contracting and procurement also impacted, where more than half of firms also report they are expected to gives to secure government contracts. The impact of corrupt contracting is to reduce the quality of services supplied.

Contract enforcement litigation may also be affected by corruption. Prolonged litigation time may be due to the inability of litigants to meet request for gifts. Some participants at consultations have even observed that banks' risk aversion, due to the growing proportion of NPLs, is partly affected by corruption in the form of collusion between bank loan officers and credit applicants.

Taxes

Taxes are generally lower in Liberia relative to comparators and generally does not appear to be a major problem for the majority of firms across sectors. In agriculture, high informality, may limit the amount of taxes collected, effectively implying a generally low tax burden on farmers and agriculture workers. Tax burden on manufacturing tends to be higher given that these are in the mainstay in the economy and are generally few and far between. For manufacturing, transport, trade and services, the issue may be more of tax administration.

Despite low tax rates, tax evasion appears to be widespread among firms. This may suggest issues of profitability: if firms are not profitable or do not believe they will be profitable, the likelihood they will avoid paying taxes is generally higher. Evasion may also be driven by the structure of tax administration. At consultations, many business persons have called for the decentralization of tax administration.

Macro Risks

The impact of macro risks on all sectors and firms has generally been moderate. Land access issues have involved some political economy challenges; political authorities have been unable to move fast enough to resolve land access constraints. Political and budgetary management has been generally effective. The country has seen vast improvements in budget execution and transparency, though perennial delays in the passage of the national budget act as a drag on the economy and for firms that deal with the government. Fiscal policy is currently more robust than in previous decades, driven in large part by the enactment of the Public Financial Management law.

Monetary policy has also seen vast improvements. Inflation and exchange rate have been relatively stable in recent years, with exchange rate only deviating from its general equilibrium over the past six months. Exchange rate volatility affects the import sector which has strong demands for foreign exchange but it appears that difficulties in managing, controlling and coordinating demand for foreign exchange drive volatility.

Sectors such as manufacturing and services are strongly impacted. Exchange rate volatility particularly affects rural communities where poverty is more endemic. Impacts are channeled through the erosion of the value of the Liberian dollar and the higher prices that result from volatility. SMEs in rural areas also complain about similar impacts.

Education

The education of the labor force has been and remains a major concern for business in Liberia. The quality of education and skills possessed by the labor force does affect business outcomes, though education has not been found to be a binding constraint to growth.

In agriculture, skills are generally on the lower end. According to the 2009 LISGIS report, a total of 76,730 (26.5 %) heads of agricultural households had no formal education, 103,370 (35.7 %) heads completed elementary education, 75,280 (26.0 %) heads completed Junior High, 29,530 (10.2 %) heads completed Senior High, 2,610 (0.9 %) heads obtained Tertiary Education and 2,030 (0.7 %) heads had university education. The acquisition of higher level skills impacts agriculture by enabling farmers to gain a better appreciation of the need for training, by enabling more strategic thinking and planning in agriculture production and by availing skillsets that facilitates easier access to finance. Consultations reveal that pre-war agriculture training and development programs conducted by European Economic Community (EEC) in Lofa, Bong and Nimba counties aided food crop productions in these counties. While several different constraints are acting on the sector, improvements in level of skills will undoubtedly redound to better outcomes.

In manufacturing, specialized knowledge and skills-sets will remain important to assure growth and profitability within this sector. Mastery of capabilities and technology that enable the addition of value to timber, fruits, oil palm and other natural resources must spread to considerable segments of the workforce in these sectors. These skill-sets are not home-grown and would have to be imported or transferred from economies with more comparative advantage in advanced manufacturing knowledge and technologies.

For SMEs, enhanced workforce skills and capabilities are critical, since these may impact upon their ability to secure financing, to market products effectively and to leverage existing opportunities for growth.

Concessions incessantly complain about their inability to find the skills they require and bypass this constraint by importing skilled labor. These concessions might have to take invest more in the development of such skills. Government-concession coordination may ensure that capabilities at institutions providing vocational and technical education are strengthened and tailored to demands and

needs of concessions and large companies. The Ministries of Finance and Youth and Sports have explored these ideas; stronger outcomes require implementation and enforcement on larger scales.

Education has stronger impacts for women across sectors. In agriculture where skills are generally lower, they tend to be even lower among females, reflecting lower levels of education at the primary and secondary levels of education among females. As shown in the Human Capital Chapter, female enrollment at secondary levels drops precipitously. Special training targeting women in agriculture may be important in raising rural income for agriculture women.

Better education for women may affect outcomes in health, such as the quality of care children receive from more educated mothers as well as in female labor force participation rates and the quality of female entrepreneurship.

Health

Health impacts on the agriculture sector may be more pronounced given the general difficulty to access care in rural areas, where agriculture is the main occupation. More than 28% of the Liberian population have to walk more than 2 hours to access care, and this percentage may pertains mainly to rural areas, where morbidity and mortality of agriculture workers would deliver massive poverty reduction impacts. Maternal mortality remains a more serious challenge in Liberia, and given that 25 percent of agriculture households are headed by females, mortality impacts in rural settings can be disruptive for children in these households. The time spent accessing care imposes steep opportunity cost for rural farmers, especially for women farmers who need longer time to care for sick children.

Manufacturing generally tends to be in urban areas where healthcare is more easily accessible, though affordability remains a major issue given the lack of insurance for most workers in the sector. Workers at concessions and large companies tend to have access to care though concession hospitals or clinics, enabling them to better deal with morbidity impacts.

Information Communications and Technology (ICT)

ICT continues to impact all sectors and with the deployment of fiber optics infrastructure, the impact is expected to be more profound. As mobile penetration rates increase due to intense competition in the sector, the possibility for mobile phones to affect outcomes in agriculture remains large, though mobile banking and mobile money transfer are generally in the early stages of their evolution. These technologies would reduce the transaction costs and time for many rural farmers and may provide paths to more easily access financing.

ICT also affects outcomes in manufacturing, where the impact of the fiber optics infrastructure is expected to be even larger given the sector's intensity in technology. Stronger and faster internet connectivity may enable the sharing of technologies between home-based and foreign manufacturing entities possessing comparative advantage in specific forms of technology. The same is true for services sector, where banks tend to rely on technology to facilitate transactions. Transactions times at several banks have been observed to be painstakingly long and system outages are frequent. Automated Teller Machines (ATM) are not effective due to a weak ICT backbone. Advances in ICT may reverse these trends.

Roads

Roads emerged as a binding constraint to growth and cut across sectors in decisive ways. Participants in consultations in all rural counties have ranked poor roads as the most significant constraint, particularly due to their impact on agriculture. In agriculture, poor road infrastructure appears to affect farming effort, reducing production because farmers know they may face difficulties marketing any production increase over the previous year. Roads tends to affect spoilage of particular products, such as fruits and vegetables, forcing farmers to sell at lower prices. The net effect is to increase the number of jobs in smallholder food crop production. Farmers facing the prospect of reduced transaction costs and faster or wider access to markets afforded by better roads are more likely to increase farm size, which may imply the addition of workers or laborers to generate higher production.

Poor roads also affect the transport and trade sector by providing disincentives for investment in the sector. Data analyzed suggest that Liberia has the lowest level of trucks relative to its GDP among comparators. While constraints such as access to finance may affect investment in the trucking industry, the poor quality of rural primary roads may be another answer to the low number of trucks available to transport agriculture freight. Increases in the number of trucks and trailers may mean more jobs for commercial truck drivers and potentially more business for guest houses, given that with improved roads truck drivers may tend to drive longer hours and may need rest along the way.

Many firms in the services sector, such as fuel distributors, who have to serve rural counties are seriously affected by poor roads. Service trucks and trailers undergo significant delays and wear and tear when roads deteriorate, especially during the wet season. Forestry concessions usually have to transport tonnes of logs though almost impassable roads. Road development would seriously undercut the transaction time and costs of these businesses, greatly reducing road freight tariffs, which are among the highest in Sub-Sahara Africa.

Road is perceived as a major constraint by rural dwellers because of its livelihood dimensions. Rural residents have to trek long hours to school and health facilities due to lack of transport vehicles, which may be related to the lack of good quality roads. This imposes significant strain on living standards. Road impacts also involve increases in the prices of basic commodities, which obtain because wholesalers and retailers seek to recover high road-induced freight tariff by passing the cost onto consumers.

These impacts are also especially acute on women, about 26 percent of whom are heads of agriculture households (LISGIS 2011 Production Estimates). Road impact on women health is among the strongest. Inability to access care due to poor road and lack of transport may lead to a preference for delivery by mid-wives, which carries high risks if mid-wives are not adequately trained. Generally increased time spent accessing care raises the opportunity cost in terms of time lost on farm production, effectively lowering the income of rural women.

Rail

Rail mainly pertains to mining concessions who build and maintain them to transport iron ore from the mines to seaports. Historically rail has not been used as a transport route in Liberia and studies indicate this is more likely to be so for the foreseeable future. Rail has been intermittently used as transport in Nimba and Bong counties but the practice did not gain much traction.

Air

Air transport is not the predominant mode for importing goods into Liberia but remains the most important gateway for international travel. As such air transport cuts across all sectors, with manufacturing, services and concessions most likely using air transport the most.

The current state of the Roberts International Airport appears to suffice under current economic constraints, but improvements at the airport would have to commensurate with growth in the Liberian economy. The implementation of the National Aviation Master Plan may accomplish this.

Sea

Seaports are the major import and export gateways of Liberia, critically impacting all sectors. The export of cocoa, coffee and palm oil happens through ports, which may have to undergo frequent rehabilitation to accommodate increased production in these sectors. The export of food crop such as rice, is not likely in the near future given the current condition of rice production in Liberia. However, in the event of agriculture transformation, ports would become important in exporting to the wider West African sub-region. In terms of export to regional neighbors, Guinea, Ivory Cost and Sierra Leone, roads might be preferred provided these are in good condition.

The development of internal transport by sea would redound significantly to the expansion of trade between counties and may provide alternative routes for transporting freight when roads are impassable. Due to bad roads in the South Eastern part of Liberia, SMEs, wholesalers and business people increase their transactions with Cote d'Ivoire which borders Liberia. Prices tend to be higher in the region as a consequence of this outcome, which can be avoided through developing an effective internal sea transport system, utilizing the existing ports of Greenville and Harper. Ports may become

a binding constraint for concessions if their development does not keep pace with developments in the oil palm and forestry sector and the potential demand of the emerging hydrocarbon sector.

Electricity

Electricity is a binding constraint to investment growth and employment in Liberia and, like roads, cuts across sectors. Impacts in smallholder food crop agriculture may consist in strengthening agriculture value chains and in value addition. The lack of storage facilities has been cited as a major challenge for producers in agro-processing.

The absence of paddy rice mills in Liberia is as much a function of the lack of adequate power infrastructure as it is of weak development of commercial agriculture. Evidence suggests that power rice mills consume significant quantities of fuel and electricity, which is the main source of power for these mills (Energy Efficiency opportunities in Rice Mills, March 2009). In Liberia, the absence of rice mills has generally led to the production of low quality rice, which may actually be affecting demand for rice. With reliable supply of electricity in rural areas, a whole economy can develop around rice mills, providing as much as 5,000 to 10,000 jobs[87].

The supply of affordable and reliable electricity may spur investment in the tree crop sector by improving the cost competitiveness of agro-processing, which is presently and generally non-existent. The net effect of these developments is to make the tree crop sector a major grower of job.

In manufacturing, electricity may contribute to the resumption of pattern of pre-war manufacturing by improving cost-competitiveness and may facilitate manufacturing integration with the enclave economy, where strong possibilities for value addition and job creation exist.

In the services sector the impact of reliable and affordable power may be huge. Hospitality firms such as hotels will also see cost reductions and the availability of electricity in rural areas may catalyze an increase in the number of hotels in the capitals of rural counties and along major primary routes, especially with the simultaneous development of road infrastructure. Opportunities for tourism remains strong. It is true that road and electricity infrastructure are huge constraints on tourism, since tourists may not savor the prospect of being stuck on impassable roads for days or of sleeping in rural hotels or guest houses silhouetted in pitch darkness.

Concessions would welcome the prospect of joining a national grid since this occasions significant cost reduction. Improvements in rural electricity infrastructure may enable better power-sharing coordination and collaboration among the government, concessions and the private sector, leading to the development of economic zones in rural areas with strong possibility for Independent Power Producers (IPPs) to leverage demand for power in such zones. The net impact lies in the provision of more jobs and a higher standard of living for rural inhabitants.

In rural communities, cheap and reliable power may generate huge annual savings that can be diverted to increasing the quality of access and care for rural dwellers. Impacts in education are also possible, with the availability of electricity providing an incentive for students to increase their study time. Electricity also imparts a sense of security and may contribute to a reduction in rural crime and theft, which are more costly in such settings given the prevalence of poverty.

Water and Sanitation

Improvements in water and sanitation will seriously affect the morbidity of workers, especially agriculture workers, where the impact of morbidity can be more biting. The absence of improved sources of drinking water for persons in agriculture contributes immensely to the onset of diarrheal and waterborne diseases, leading to morbidity that takes workers away from farm, reducing incomes and contributing to the persistence of poverty.

In manufacturing, availability of water is important for firms intense in the use of water, such as bottling companies in general. Improvements in pipe-borne water supply infrastructure may either affect cost of water processing or even the location of manufacturing plants. Locating plants in rural areas, under contexts of improved roads and electricity infrastructure, may mean more jobs for rural dwellers.

Services such as hotels and restaurants which also have a huge demand for water would seriously benefit from improvements in water infrastructure.

The biggest impact on rural communities and women lie in the source of drinking water. Improving these sources will affect disease incidence and contribute to better livelihood.

Irrigation

Rice is the main irrigated crop in Liberia. The irrigation potential in Liberia is estimated at 600,000 hectares, consisting mainly of freshwater swamps (Aquastat, FAO). The equipped area for irrigation is 2,100 ha but the area actually under irrigation is 300 ha, with an average of 237 hectares farmed at any one time (Water for Agriculture and Energy in Africa: the Challenges of Climate Change, 2008).

Irrigation may now be more important due to climate change. During consultations, agriculture workers and farmers confirmed that climate change contributes to low rice yields. Many complain that they do not have information about climate change or do not know the optimal time to plant.

With climate change having impacts on rainfall patterns, increased reliance on irrigation may now be important. This remains an important area for private sector investment.

The Nexus of Constraints and Sectors: A Summary

Agriculture

The agricultural sector in Liberia has experienced only moderate growth in recent years, but has significant growth potential. The factors signaling this potential include the fact that Liberia currently imports most food products; farming productivity is low with most farming conducted at a subsistence level with little to no value added; and Liberia is underutilizing its natural resources, with only 4 percent of arable land currently cultivated despite having one of the highest rates of rainfall in the region. This sector is also particularly important for employment and poverty reduction in Liberia as it accounts for 47 percent of the employed labor force, with higher proportions in rural areas, according to the 2010 National Labor Force Survey.

Low productivity and growth in the agriculture sector is related to both the physical inaccessibility of rural areas due to lack of roads as well as coordination failures in the sector to provide the necessary inputs. The lack of and poor quality of roads prevents farmers from accessing markets which discourages production and reduces farm income. Even when markets can be accessed, the time to access is often lengthy which can lead to spoilage of produce.

In addition and partly related to inaccessibility and access to finance, farmers also do not have access to agricultural tools, seeds, fertilizer or other inputs as well as training which could increase their productivity. The application of relevant knowledge and technology to control pests, apply the appropriate method of farming and manage fertilizers remains key. Even mastery of the knowledge that lowland farming in Liberia has twice the yields of upland farming, which is more common among farmers in Liberia, requires further training. During consultations, participants noted that EEC agriculture training and programs in Lofa, Bong and Nimba contributed to the higher food crop production observed in these countries relative to other counties. The lack of support for farmers is also related to limited capacity in the GoL to provide, coordinate and fund these types of interventions.

Poor access to finance prevents farmers from paying for agricultural inputs and labor. This challenge is likely related to several factors, including inability to secure land titles for collateral as well as the perception of banks that the commercial viability of the sector is not assured. Farmers in Lofa informed consultations that the commercial viability of cocoa farms was critical in using cocoa production to finance or provide collateral for rice production. Finally, the tenure of loans in Liberia is often too short for agricultural crop cycles.

Finally, while most farmers are primarily subsistence farmers, the lack of electricity in the rural areas does impact the sector by preventing the use of cold-storage in market centers and along transportation routes to avoid spoilage as well as making any agro-processing, such as rice mills which are power-intensive, very expensive. Such agro-processing facilities would also create additional jobs; about 400

rice mills in India have reportedly provided 20,000 skilled and unskilled jobs and as many as 10,000 indirect jobs.

Women face greater challenges in agriculture, in accessing agricultural production inputs, technology, finance, and extension services. As of 2006, according to the Ministry of Agriculture and World Food Program, they made up 53 percent of the agricultural labor force but only 18 or 103 extension agents targeted women. Women also face great challenges with land tenure; under statutory law, they are given equal rights to property, however, many rural people are married in accordance with customary law, which does not allow women any rights to property and children in the event of divorce or death of her husband.

Manufacturing

The manufacturing sector in Liberia currently makes up only 7 percent of GDP, although it accounted for nearly 20 percent of GDP before the civil war. Manufacturing was dominated by iron-ore production and rubber processing, but domestic and industrial consumption goods were also produced, particularly for goods related to key agricultural outputs including rubber, palm oil and lumber. This link between agriculture and manufacturing is a particular opportunity for further investment in Liberia.

The lack of growth in the manufacturing sector is largely related to the lack of affordable and reliable electricity in Liberia. Manufacturing tends to be intense in the use of electricity and utilization of economies of scale is severely limited without reliable and affordable power. The high power tariff consumes a major share of the operating budget for key manufacturers, constraining other choices such as expansion or even hiring additional labor. This prevents further investment and job creation in the sector.

Human capital and access to finance are also priority issues in the sector. Even with the provision of power, manufacturers would also require both unskilled and skilled labor such as welders, woodworkers, heavy equipment operators and plant managers. Many skilled laborers are in short supply and even unskilled labor lacks basic literacy and numeracy skills due to poor basic education in Liberia.

Access to finance in Liberia for manufacturing is also limited, for a number of reasons. One is related to human capital and the lack of skilled managers making banks unwilling to lend to unproven entrepreneurs and managers without a solid credit history. Second, the short tenure of many loans in Liberia may make entrepreneurs unlikely to borrow. Finally, the need for collateral as well as the challenges with land tenure in Liberia may inhibit lending.

Roads were not considered a major constraint for many manufacturers overall, but it was more important for agro-processing, which may take place in more rural areas closer to farms. The lack of roads was also mentioned to be a factor inhibiting distribution of goods around Liberia, thereby limiting the potential domestic market for products.

Men and women are roughly equally represented in terms of ownership in the manufacturing sector. 53.9% of manufacturing firms in Liberia have female ownership, which is higher than then 33.1% average in sub-Saharan Africa overall, according to the 2009 World Bank Enterprise surveys.

Services

The services sector in Liberia makes up the largest portion of the economy, totaling 47 percent in 2013 and grew between 5 and 9 percent from 2011-2013 according to the IMF. The key services sub-sectors include financial services, wholesale and retail distribution, transport, telecommunications and hospitality. It is the second highest sectoral employer in the economy next to agriculture and has strong potential for growth, with Liberia experiencing a construction boom, high demand in hospitality and growing needs in the financial services and telecommunications/ICT industries.

The most significant constraints identified by this sector were electricity and human capital. With regards to electricity, banks, hotels and restaurants suffer acutely from the cost of self-generation due

to the lack of affordable and reliable power. Hotels and restaurants participating in a mini-survey report that the cost of self-generation chokes up as much as about 35 to 40 percent of operating budget. For many of these firms, the cost of self-generation prevents additional hiring or expansion.

These high costs are more likely passed on to consumers, weakening demand for products and in turn affecting the profitability of businesses. In a mini-survey, services firms noted that reductions in their energy budgets may lead to reduction in prices. The president of a major bank noted in consultations that the high cost of fuel is a major driver of bank operating costs. Reliability of electricity is a very important factor for these businesses. In an electricity demand survey, services businesses report that even though power through the national utility LEC is cheaper at US 57 cents per kilowatt hour than the cost of self-generation, they are less likely to switch to LEC power because of reliability issues.

Human capital is the second major challenge for the services sector. The challenges with human capital range from poor basic skills such as reading and writing to shortages of technical skills in areas such as engineering, electricians, plumbers, etc. Reliability of workers was also mentioned as a challenge in consultations with services companies.

In addition to electricity and human capital, services companies are also affected to a lesser extent by a variety of constraints, including rule of law issues such as contract enforcement and employee theft, as well as infrastructure challenges, such as poor roads.

Poor contract enforcement has a particular impact on the financial services sector. Commercial court data for one term of court show that about 22 percent of the cases involve banks seeking to recover debt. In the Civil Law Court, where litigation can take up to 3.5 years, that percentage is expected to be far higher since current law restricts the transference of cases between the commercial and civil court. Poor contract enforcement may also be linked to land and property rights, in some cases, since land and property are primary forms of collateral. The result is that banks are more likely to devalue collateral due to weaknesses in land governance, affecting the ability of services firm to access credit through property titles. Contract enforcement is also problematic for retail and other non-bank medium services firms, which are also involved in contract enforcement cases at the Commercial Court.

For services in the transport sector, roads are a major constraint, leading to high transport tariffs and significant vehicle wear and tear. The poor quality of rural roads may be related to the low number of trucks and trailers to transport agriculture freight, though this may also be related to the inability to access finance or other inefficiencies in the transport market. Poor roads also disrupt patterns of service delivery, raising prices. For example, gasoline supplies to the southeast may not be possible for considerable periods due to bad road, leading to a scarcity of fuel, which may lead to hikes in prices of commodity since services now have to pay more for fuel to run generators. The net effect is to reduce the income of the rural poor and amplify the effects of the lack of electricity in rural areas.

SMEs

SMEs, defined by the Liberian Ministry of Commerce and Industry as businesses with less than 50 employees, make up the majority of businesses in the domestic private sector. There is no comprehensive data on the contribution of SMEs to the economy, but information from the Liberian Business Registry (LBR) indicates that the majority of these businesses are in the services and trade sector, where less start-up capital may be required. Growth in the number of Liberian-owned businesses in the LBR also suggests that the SME sector in Liberia is growing.

SMEs identified a range of constraints, including access to finance, human capital, corruption, roads and electricity. One important point to note here is that while these constraints affect both urban and rural firms, the constraints tend to be much more severe for rural firms due to the fact that they are in inaccessible areas.

Access to finance is one of the more frequently identified challenges. However, given the low number of employees and the small scale of their operations, profitability appears to be a major issue for many SMEs and this raises the importance of, and need for, early financing. In the absence of financing, cash flow is constrained to merely keeping the business afloat. Many SMEs believe their inability to access finance is tied to the value and type of collateral banks are demanding. As discussed extensively in this document, the reality may be far more complex since the factors that affect the ability of banks to lend

range from NPLs, weak contract enforcement to the lack of credit reference systems. In addition, even where loans can be provided, their short-term tenure or the long lead times required for approval discourage some SMEs from accessing them.

Human capital also a major constraint facing SMEs. Basic business management, accounting and reporting skills have implications for both the growth of the business as well as accessing finance. The absence of a highly technical workforce also limits the ability of young enterprising individuals to specialize in provision of services in technical areas, such as generator management and maintenance, construction or electrification. These difficulties tend to force SMEs into restaurants and other services where skills are not a major issues but where returns tend to be lower.

Corruption was also identified by a number of SMEs. Challenges with corruption included the need to pay bribes as well as corruption and favoritism in government procurements, customs and the bank loan process. This increases the cost of doing business, which is particularly challenging for very small enterprises.

Roads and electricity affect many SMEs in trade and agriculture in ways already described. Roads are generally identified by SMEs outside of Monrovia in order to increase market access. The lack of electricity is generally an important constraint for SMEs. Many could function in agriculture value chains, providing storage facilities for example or developing specialties around rice mills and other power-reliant technologies and capabilities, but are hindered by the low supply of power.

Women are strongly represented in the SME sector. According to the 2009 World Bank Enterprise Survey, among small enterprises (0-20 employees), over 60% have female participation in ownership and 32 percent have a female top manager. As a comparison, Ghana has 40 percent female participation in ownership. Women are less represented in the ownership and management of medium-sized firms (20-99 employees). Among the medium enterprises, Liberia has only 5.5% women owned and 22% women managed firms. As a comparison, in Ghana approximately 54% of medium firms are owned by women.

Despite their strong representation in the SME sector, the revenues of women-managed firms tend to be lower than those of firms managed by men according to the 2010 Labor Force Survey. In addition, according to USAID, 37 percent of women, compared to only 16 percent of men report that they cannot meet all the requirements for formalization of their business. Women also have less access to business associations than men and also tend to have lower levels of literacy and basic skills due to lower levels of education.

Concessions

As noted earlier in this document, agricultural and mining concessions are important contributors to government revenue and economic growth in Liberia. Mining, in particular, has been growing quickly with a contribution to GDP of about 10 percent in 2013, up from 2 percent in 2010. This will continue to increase, particularly as mines begin exporting iron ore. All currently signed concessions are expect to generate 100,000 jobs over their term, which is not insignificant, but is far less than necessary for the 50,000 youth entering the labor force each year. In addition to the direct economic impacts, concessions also provide a major opportunity for Liberian businesses to supply goods and services such as catering, security, construction, materials for camps and other supplies.

Although there are some differences in the constraints faced by different types of concessions overall, agricultural forestry and mining concessions tend to identify both land access and concessions management as the most significant constraints.

Land issues have been a challenge for a number of reasons. For example, many concessions encounter differences between customary and statutory laws or may have difficulty verifying title claims on their concession area, which takes time to resolve. Forestry concessions are seriously affected by land governance issues and the current moratorium on the forestry sector speaks to the magnitude of this impact.

In addition to land issues, capacity in the government to negotiate and manage concessions, as well as the government's ability to meet its commitments in the concessions agreement, is a challenge.

In addition to land and concessions management, concessionaires also noted challenges with the lack of electricity and roads. Electricity is a challenge for all concessions and particularly the mining companies, which have significant energy needs. Concessionaires must provide their own power, such as Firestone Liberia, which runs its own mini-hydro facility. The lack of roads also makes it challenging to bring agricultural produce and mined materials to the port for export. Many concessions have been able to develop portions of private road networks, called the 'concession network,' but remain constrained by poor quality road networks throughout the country.

A final issue mentioned by some concessions is human capital. For example, oil palm concessions report that they must import labor for technical roles. Other concessionaires noted that they had to do a lot more training in Liberia than in other countries and some are working with local universities to develop programs to provide the technical skills they need.

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