COUNTRY PRIVATE SECTOR DIAGNOSTIC

CREATING MARKETS IN HAITI

Leveraging Private Investment for Inclusive Growth

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EXECUTIVE SUMMARY

Haiti remains locked in a cycle of low growth and limited poverty reduction caused by frequent economic contractions explained by political instability, institutional fragility, and an extreme vulnerability to natural hazard shocks. Gross domestic product (GDP) is expected to have contracted by 3.4 percent in the Haitian fiscal year 2020, with growth close to zero on average since 2017 (World Bank 2020). Structural transformation has been minimal since early 2000, with labor shifting from low-productivity agriculture to low-productivity informal services. An estimated 60 percent of GDP is generated by the informal sector, which employs 86 percent of the labor force. Haiti remains the poorest and most unequal country in the Latin America and Caribbean region. Poverty increased sharply, with the poverty rate growing from an estimated 46.7 percent to 51.0 percent between 2017 and 2020. The welfare gap between urban and rural areas is an enduring feature of the country. Moreover, Haiti is among the world's most disaster-exposed countries, with more than 70 percent of households living in vulnerable dwellings, leaving them highly exposed to adverse effects of shocks, and with 96 percent of the population at risk from one or more types of natural hazard (World Bank and ONPES 2014). The persistent legacy of political and economic elite capture, compounded by the absence of institutional mechanisms and policy fundamentals essential to inclusive development, have resulted in extreme welfare inequality and socioeconomic exclusion of the vast majority of Haitian people, which may partly explain the grievances, cyclical unrest, and violence of recent years.

Firms in Haiti are relatively young, with a high share of women entrepreneurs, and have low productivity. They are likely to remain small owing to deficient managerial and technical capabilities; exposure to episodes of violence and insecurity; and lack of access to energy, water, and finance. Haitian formal establishments are relatively younger compared to those in other fragile and conflict-affected states (FCS).[1] Even long-established formal firms with more than 20 years of operation tend to be smaller in terms of the number of employees in Port-au-Prince relative to other FCS capitals, suggesting that firms grew less. Approximately 95 percent of the formal private sector is composed of microenterprises, and half of formal firms are less than six years old, suggesting that there are relatively low barriers to entry into formality compared to obstacles to growth. Firms are not only small but their productivity level is low, partly because of factors internal to the firm, such as limited entrepreneurship experience (approximated by the age of the entrepreneur) or a low education level, and partly because of external factors related to political instability and limited access to electricity, water, and finance. Women entrepreneurs may face gender-biased constraints to growing their businesses and thus generating jobs. Women entrepreneurs seem to play a greater role in Haiti compared to other FCSs. However, these women-owned firms tend to be smaller and grow less in terms of number of employees than men-owned ones. Enterprises (including informal ones) operated by men also tend to have higher labor productivity relative to those operated by women. Since 2020, the recognition of spouses as independent economic actors was strengthened by a presidential decree, which might improve women's willingness to take risks.

In the past two years, the private sector has been hit by a major sociopolitical crisis, including the assassination of Haiti's President, Jovenel Moise, on July 7, 2021. The crisis started in July 2018 with massive and violent demonstrations against the shortage and increased cost of fuel, the high cost of living, corruption allegations, and political instability. These demonstrations culminated in 2019 with several episodes of complete paralysis of the economy (peyi lòk). Haiti's President, Jovenel Moise, was assassinated on July 7, 2021. Kidnapping activities and gang-related violence also have increased dramatically since 2020, posing a continuous threat to local communities and disrupting domestic supply chains, including fuel and food distribution. This crisis hindered firms' activity and led to a recession in the tourism sector. Around 57 percent of formal Haitian firms, which generated 6.3 billion Haitian gourde (G) in revenues in 2018 (equivalent to 0.6 percent of GDP), were locally exposed to violence in 2019. Nearly 85 percent of formal firms in Port-au-Prince with more than four employees considered political instability the biggest obstacle to operation, significantly above levels in capitals of other fragile countries. This deleterious business climate induced significant losses, especially for credit-constrained firms that might not have been able to adapt their business processes to the consequences of instability.

This challenging business environment has worsened with the COVID-19 pandemic. The pandemic is harming the private sector through four channels: (a) falling demand, (b) disrupted input supply, (c) tightening of credit conditions, and (d) rising uncertainty. These conditions are leading to an economic contraction and massive layoffs, which could trigger a new wave of social unrest and lock Haiti into a vicious cycle of repeated crises. Over 46 percent of formal firms operate in sectors that are the most affected by restrictions on mobility. As a result, around 22 percent of firms in the West region laid off employees in May 2020. Apparel exports, which were already severely hit by the episodes of social unrest in 2018–19, have been further affected. As of June 2020, 80 percent of garment exporters expected their revenues to drop by at least 30 percent in 2020. Nearly two-thirds of them had already laid off between 20 and 50 percent of their workforces. This deteriorated performance is adding pressure to the financial system, where nonperforming loans had already gone up from 2.55 percent of loans in September 2018 to 5.05 percent in September 2020. After four years of double-digit inflation, the inflation rate ended 2020 at 22.2 percent on average, eroding households' purchasing power.

In addition to the socio-political crisis and the COVID-19 pandemic, a magnitude 7.2 earthquake struck the southern coast on August 14, 2021 and further hampered the already fragile business environment. A preliminary assessment estimates economic damages in the South, Nippes and Grand'Anse departments surmounting to 7.8 percent of Haiti 2019 GDP (WBG 2021). The city of Les Cayes, which has the largest concentration of firms in the Southwestern part of Haiti, has been particularly affected, with an estimated 30 percent of buildings destroyed or largely damaged. Post-harvest infrastructure has also been damaged, impacting producers, already severely impacted by the 2016 hurricane Matthew, capacity to export. Businesses in impacted areas were already affected by episodes of insecurity and violence along the key access road to Port-au-Prince.

However, the export-oriented apparel sector, the main formal employer, could continue to attract private investment and create jobs if firms manage to adjust to the changes in market demand brought by the COVID-19 pandemic. Haiti's duty-free quota access to the United States, the relatively low cost of labor, and speed to the US market provide a competitive advantage in such a cost-sensitive industry. Such conditions were attracting private investors in the apparel industry before the 2018 political crisis. Between 2012 and 2017, goods exports increased by 3.9 percent per year, with garments accounting for more than 95 percent of such exports (for example, knit T-shirts and sweaters represented 37 and 22 percent, respectively).[2] Sourcing executives are increasingly looking at nearshoring supplies due to supply chain disruptions, increased lead times (especially from China), and changing consumption habits, such as digital trade and ethical business practices (Berg and others 2020).

Recent trends in private investment in energy, water and digital financial services bode well for the future. Rapid urbanization and mobile uptake have attracted private investment in digital financial services (for example, e-wallets), renewable energy (for example, minigrids and pay-as-you-go [PayGo] systems), and water supply (for example, affermage contracts) in Haiti.[3] The country has untapped opportunities to foster the development of the digital economy, as 86 percent of firms in Haiti use a telephone to conduct business and 21 percent use e-mobile payments (CFI 2018). The ongoing decentralization process combined with technological innovations that reduce fixed costs of entry creates opportunities for tailoring smaller-scale market solutions in energy and water supply while strengthening municipalities' institutional capabilities.

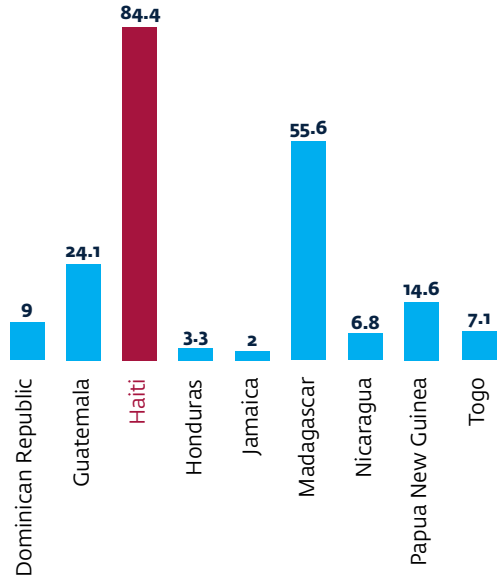
The Country Private Sector Diagnostic (CPSD)—a joint World Bank/IFC tool—aims to provide concrete recommendations for crowding-in private investment. The Haiti CPSD identifies sectors that have potential for growth over the short-to-medium-term if key constraints are reduced. The timing of the CPSD is opportune, as the economy continues to grapple with an ongoing economic crisis, amplified by the COVID-19 impact on key industries like tourism and apparel. Decision makers are seeking workable entry points to reform the system to create more and better economic opportunities at a time of mounting socioeconomic frustration. The CPSD's recommendations aim to inform the government's response to support firm resilience and recovery (as described in Haiti's Plan de Relance Economique Post-Covid-19 2020–2022), the Systematic Country Diagnostic, the IFC Country Strategy for Haiti, and the World Bank Country Partnership Framework.[4] The assessment examines cross-cutting constraints that affect the development of the private sector, takes into account reform feasibility, and provides an in-depth analysis of four sectors where private investment could generate welfare gains in favor of the bottom 40 percent of the population.[5] Financial services for small and medium enterprises (SMEs) and digital financial services (DFS), renewable energy, water supply, and the apparel industry were selected on the basis of expected inclusive gains from further private investment, reform feasibility, and World Bank Group success in supporting the sector in other countries that share characteristics similar to Haiti.

ES.1 CROSS-CUTTING CONSTRAINTS

First and foremost, political instability and vested interests are the main impediments to private sector growth. As illustrated in figure ES.1, firms in Haiti are disproportionately affected by political instability compared to firms in other countries affected by fragility, conflict, and violence (FCV). Continued lack of transparency at all levels is undermining trust in institutions, and high levels of perception of corruption have fueled continued social and political unrest with repercussions for the private sector. The vicious circle in which unemployment and inequality feed into violence makes it difficult for the economy to grow. Moreover, Haiti's fundamental conditions for supporting a market-based economy are perceived to be below the average of low-income countries, fragile countries, and regional peers (figure ES.2). This includes extremely high degrees of concentration in formal industries and lack of competition legislation. These market structures facilitate tacit agreements among families and groups to allocate markets among themselves, which harms productivity and limits the incentive to innovate.

FIGURE ES.1 POLITICAL INSTABILITY AS AN OBSTACLE

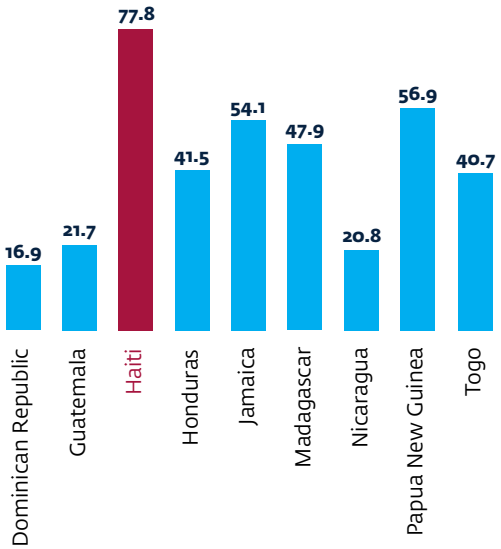
Political instability stated as biggest obstacle (% of firms)



Source: World Bank Enterprise Surveys 2019.
Note: Comparison based on data for capitals only.

FIGURE ES.2 ACCESS TO CREDIT AS A CONSTRAINT

% of firms partially/fully credit-consumed



Source: World Bank Enterprise Surveys 2019.
Note: Comparison based on data for capitals only.

Deficiencies in transport as well as in digital infrastructure and service quality also impede the growth of industries in areas where Haiti has a latent comparative advantage. The development of tourism, the apparel industry, agriculture, and business process outsourcing services, where Haiti has a comparative advantage, the development is constrained by deficiencies in transport and telecommunications. Despite investments over the past decade, 50 percent of Haiti's territory remains poorly connected, with less than a quarter of roads being paved and only 39 percent of households in rural areas living within 2 kilometers of an all-weather road. Road infrastructure deficiencies lead to high road freight costs relative to competitors, which combined with high fuel prices and a highly informal and fragmented trucking industry, limits cross-border trade with the Dominican Republic. Moreover, Haiti is one of the smallest air transport markets in the Caribbean region despite having a larger population relative to peers. Haiti has two international airports that suffer from lack of infrastructure investment both on airside and landside facilities. Poor integration into the global liner shipping network, combined with the fact that vessels serving Haitian ports are small because of the low trade volume (partly because of the fact that large exporters from the North region use Dominican Republic ports), lead to high maritime freight rates relative to competitors. Deficient telecommunications infrastructure, lack of competition in service provision, and limited regulation have led to low penetration, high prices, and limited quality of internet and mobile services (IFC 2018). Haiti has the lowest penetration rate in terms of mobile (63 percent), fixed internet (1 percent), third-generation cellular network technology (3G; 31 percent), fourth-generation cellular network technology (4G; 0 percent), and smartphones (30 percent) relative to other Caribbean and Central American countries.[6] Because of years of underinvestment and several natural disasters, backbone infrastructure is also scarce and concentrated in Port-au-Prince. The absence of an effective wholesale broadband regime and the lack of any incentives to share infrastructure represent entry barriers into the market.

Haiti's labor and land market inefficiencies significantly hinder private investment and competitiveness in time-sensitive and labor-intensive industries. Labor market regulation in Haiti does not provide enough predictability for entrepreneurs and grants a low level of protection to workers. Low minimum wages become less competitive once labor productivity is accounted for, highlighting the shortage of skilled workers and ultimately of productive firms in the country. An estimated 46 percent of the adult population (60.5 percent of household heads) had never attended school or had not completed primary education in 2012 (Singh and Barton-Dock 2015). Furthermore, the regulatory framework for land tenure and land rights is complex, fragmented, outdated, and politically sensitive. This tends to fuel land tenure insecurity and tilt the system in favor of those who are more affluent and politically well-connected. Outside of special economic zones, the absence of a real property cadastre and land registry system is one of the major constraints to the development of the private sector. Less than 5 percent of Haiti's land has been surveyed, and more than 75 percent of rural land contracts are drawn up according to traditional procedures and are not officially registered.

ES.2 SECTOR ASSESSMENTS

Financial Services for Small and Medium Enterprises as well as Digital Financial Services

Haitian firms are significantly credit constrained, and DFS are underused by the population, curtailing the positive impact of secure, contact-less DFS tools. Domestic credit to the private sector by banks represented 10.4 percent of GDP in 2019, significantly below the 55.7 and 44.1 percent averages in Latin America and the Caribbean as well as in Caribbean small states, respectively. By 2019, 78 percent of firms in Port-au-Prince were partially or fully credit-constrained (relative to 23 percent on average in other FCSs, according to the 2019 World Bank Enterprise Survey).[7] The COVID-19, on top of the sociopolitical crisis, poses a particularly high risk to microentrepreneurs, with financial cooperatives experiencing a significant drop in deposits, threatening liquidity. The pandemic emphasized the benefits of providing secure, low-cost, and contactless DFS tools, but these services are underused in Haiti. Only 5 percent of the population holds e-money accounts even though 60 percent of adults use a mobile phone. Haiti makes less use of DFS than the average low-income country.

New opportunities to support private sector development in SME finance are emerging. One of the main reasons for low firm access to finance is the highly concentrated nature of the banking sector. A high share of credit goes to parties related to the lender, and while that makes the banking sector more resilient to crisis, it also makes it less apt to innovate and serve the SME segment (despite funding from bank-affiliated microfinance institutions [MFIs]). Authorizing stand-alone licenses for nonbank electronic money issuers could foster competition in the sector. A second reason for low firm access to finance is that nondeposit-taking MFIs face chronic funding issues. However, the recent microfinance presidential decree allowing the Central Bank of the Republic of Haiti (BRH) to regulate and supervise microfinance institutions could unleash their growth by allowing them to become deposit takers. A third reason is the weak financial infrastructure with an underdeveloped credit information system, poor protection of creditors rights, and difficulty using movable assets as collateral. Well-designed tools, such as partial credit guarantees, could partially compensate for an inefficient judiciary system. Finally, the successful development of leasing in recent years provides an encouraging precedent on how to diversify financial services even when the appropriate legal framework is not in place.

Digital financial solutions could provide a technological leap in access to finance, especially for hard-to-reach firms and individuals (for example, micro firms and rural households). New products, such as nano and digital loans, digital repayment of microloans, or e-payment of salaries could be a commercial success in a context of high unmet financial demand. However, DFS innovation and expansion could be hindered by the limited legal framework and the fact that only two companies compete to offer e-wallet accounts, which might enable noncompetitive practices.

Renewable Energy and Water Supply

Haiti suffers from an acute shortage of electricity and water services that increases frustration from the population, raises firm operating costs, and prevents the emergence of job opportunities (in particular in the poorest regions). The energy sector is a key enabling sector for the development of the country, directly affecting the quality of life, and weighs heavily on firms' operating costs (for example, as a critical input to export-oriented and service industries). However, less than 40 percent of Haitians have access to electricity, with a large rural-urban gap. Around 93 percent of firms in Port-au-Prince rely on generators, compared to 29 percent in peer FCS capitals.[8] In addition, average end-user tariffs in Haiti are among the highest in Latin America and the Caribbean. Further constraining private sector growth is access to water, which is very poor in most areas, including in Port-au-Prince, with limited infrastructure coverage and service delivery generally limited to a few hours during some days per week. Therefore, businesses must pay a premium to purchase water containers by truck to guarantee supply.

Private sector engagement in renewable energy (RE) and off-grid electrification could contribute to delivering on the government of Haiti's priority to expand electricity access while the commercial and financial viability of the state-owned monopoly electricity operator is addressed. RE solutions are feasible in the short term because they do not rely on the main electricity grid. As state and municipal budgets are already stretched, the role of the private sector in boosting Haiti's installed capacity is essential. Given the limited capacity of the Haiti Electricity Utility Company (EDH) and the absence of a national grid, the authorities have initiated a rapid expansion of the energy mix, in addition to unbundling the electricity market on the distribution segment. Opportunities for private-led minigrid development in Haiti emerged following the 2006 Decentralization Law and a significant decrease in technology costs as well as the emergence of digital payment solutions. The private-led and joint public-private investments that materialized are providing electricity to rural communities and commercial and industrial customers. However, pioneer minigrid operators face several challenges related to perceived lack of contractual clarity and visibility regarding regulations on tariff setting, interaction with the local grid, availability of market information, oversizing of the systems, foreign exchange risks, land access, and municipalities' limited institutional capacity. Private-led pilot programs based on PayGo and sales of solar home systems are also emerging in Haiti. The pilots' scale-up is constrained by the limited reach of distribution networks in rural areas, lack of long-term finance, and limited managerial capabilities of operators.

As investment in water infrastructure expands, private provision of water could contribute to meeting Haitian demand in terms of service quality. The metropolitan water market in Port-au-Prince was estimated at $66.3 million in 2016 for residential and commercial consumers (World Bank 2018). Forty-seven percent of this value came from sales of untreated water delivered by truck, 30 percent from sales of bagged water, 13 percent from sales from private kiosks, and just 10 percent from sales by the water utility. Water services in Haiti were decentralized in 2009, and since then, private provision in Saint Marc through an affermage contract has succeeded in providing better service to the population. The private sector has also accompanied the operation of public systems through technical assistance and management contracts. Ongoing public investment in water infrastructure creates potential for leveraging private participation in the operation of small water systems, especially by local entrepreneurs. The newly build infrastructure, combined with innovations in mobile solutions and off-grid solar pumps, could attract private participation in operation by facilitating the increase in operational and commercial efficiency of water systems. However, private participation is affected by several cross-cutting constraints, including uncertain land access that constrains the construction of piped water systems; poor contract enforcement; weak institutional capabilities at the national and municipal level; and low social acceptance of tariffs, metering, and private operators in utility services despite high out-of-pocket payments for alternative commercial water solutions.

The Apparel Sector

Finally, the apparel sector, the main formal employer in Haiti, could offer a few quick wins if key constraints were removed in the short to medium term. Structural transformation and formal job creation could be triggered by the expansion of the apparel sector. Apparel employed nearly 53,000 people in 2019 and accounted for 82 percent of Haiti's goods' exports and 6.8 percent of Haiti's GDP.[9] Haiti could substantially increase jobs within the sector provided there is sustained political stability, improved security, and renewal of the expiring trade preference programs with the United States or adoption of new trading programs (for example, with the European Union). Even in an unstable context, the sector could add more domestic value if energy costs were reduced, for example in the production of textile fabrics. The unused duty-free quotas to the United States and available industrial space could be maximized with better basic infrastructure and services in industrial parks and free zones, for which the government could consider ceding the operation role to the private sector. More effective investment promotion and retention is also needed, including through uniformity in incentives granted to investors. Measures to improve labor productivity, including by clarifying the implementation of labor regulations, are also required. The development of the apparel sector could serve as a stepping-stone to the development of higher-value industries. However, the most pressing challenge for the sector is to navigate the consequences of the COVID-19 pandemic, which has destroyed a significant number of jobs owing to a combination of limited production capacity following containment measures and a decline in global demand. In the short term, the sector should seek opportunities to attract investors interested in nearshoring to the United States.

RECOMMENDATIONS

Table ES.1 outlines 40 recommendations for addressing cross-cutting constraints and the four sectors where private investment could generate welfare gains in favor of the bottom 40 percent of the population.

TABLE ES.1 SUMMARY OF HIGH PRIORITY RECOMMENDATIONS

	Recommendation	Objective	Priority
Cross-Cutting Constraints			
1	Reform policy and the institutional framework to clarify the tax incentive structure and its implementation (governance, project selection criteria, monitoring, and evaluation systems).	Level the playing field, improve predictability, and optimize use of public resources.	High
2	Streamline and harmonize customs procedures through electronic processing, render procedures, and publicly available formalities.	Reduce import and export time and uncertainty and facilitate procompetition market behavior.	High
3	Develop rule-based decision making and transparency in business regulation (construction permit regulation, appeal mechanisms, tax inspections, and publication of regulations).	Level the playing field and improve the investment climate.	High
4	Better inform entrepreneurs outside Port-au-Prince about administrative processes and promote their participation in public and donor-funded programs. Incentivize the improvement of corporate governance in large firms.	Improve economic inclusion.	Quick win
5	Update and simplify the land tenure regulatory framework, create a property cadastre and land registry system, develop a database on available public land, define a transparent process for public land allocation (including through an automated land allocation process).	Promote the private sector outside SEZs.	High
6	Enact maritime law covering the responsibilities and limitations of public versus private commercial ports.	Level the playing field to attract private investment.	High
7	Create a national broadband plan to coordinate initiatives and revamp outdated telecom regulations in the wholesale broadband regime, infrastructure sharing, mobile virtual network operators, spectrum allocation, and number portability system.	Boost digital infrastructure.	Quick win

	Recommendation	Objective	Priority
Financial Sector			
8	Tighten supervision and increase penalties for noncompliance, in particular foreign exchange prudential regulations.	Promote stability in the financial sector.	High
9	Expedite the development and passage of the implementing regulatory framework for recently enacted decrees on microfinance, secured transactions, and leasing. Continue improving the legal framework on DFS, credit reporting, financial consumer protection, insolvency, bond issuance, and insurance. Strengthen corporate governance in the banking sector through further regulations on norms of internal control and on independent monitoring.		High
10	Strengthen the monitoring of the financial situation and lending portfolio of financial cooperatives and other microfinance institutions.		High
11	Continue addressing anti-money-laundering issues by implementing the Financial Action Task Force recommendations.		High
12	Establish risk-sharing mechanisms, such as partial credit guarantees, to support the sector after the COVID-19 emergency phase. Help improve credit risk assessment in the sector, reworking credit policies and training staff. Focus on cash-flow–based lending in MFIs. Promote institutional transformation of public financial institutions, especially in the areas of governance, transparency, accountability, credit decisions, and environmental and social management to improve the efficiency of the allocation of MSMEs' finance funds.	Relaunch economic activity.	High
13	Support the entry of new risk capital providers and help channel resources to growing products, such as leasing, by providing refinancing to operators, mixing public and private as well as domestic and international sources.		Quick win
14	Assess the development and impact of DFS by studying the effect of digital lending both as a business facilitator and as a risk for ill-informed borrowers, as well as pricing structures, transaction ceilings, and incentives to use DFS.	Create a holistic DFS ecosystem.	Quick win
15	Use existing forums (such as the Haitian Alliance for Financial Inclusion) to accelerate the modernization of the sector, particularly focusing on the DFS regulatory framework and determining the core features and standards for developing a common platform, promoting interoperability and new partnerships.		Quick win
16	Improve access to financial service points, enhance liquidity management of agent networks, and increase the agent network in areas with limited financial service coverage.		High
17	Authorize stand-alone licenses for nonbank EMIs.		High
18	Extend pilot initiatives experimenting with e-payment solutions for salaries of the apparel industry workers and government employees.		Quick win
19	Strengthen Credit Bureau functionalities and the Movable Collateral Registry and include all nonbanking financial institutions.	Improve the financial infrastructure framework.	High

	Recommendation	Objective	Priority
Energy Sector			
20	Review the draft National Energy Plan to align targets with public and private implementation capacity and include a minigrid development objective.	Lower uncertainty for potential investors.	High
21	Review regulations and implementation mechanisms of custom duties, VAT, and tax exemptions for renewable energy equipment.	Reduce capital expenditure and limit the exposure of tariffs to changes in fuel prices.	Quick win
22	Strengthen ANARSE's regulator role and limit its involvement in other aspects of the procurement process that could create a conflict of interest.	Build reputation as an independent and effective regulator.	High
23	Increase financial support for winning bidders to reach financial closure (for example, an umbrella program offering risk mitigation solutions).	Have a demonstration effect.	Quick win
24	Strengthen outreach of the financial fund OGEF with potential investors early on.	Attract firms with experience in fragile environments.	High
25	Estimate the potential for solar and hybrid applications in the commercial and industrial sector, starting with industrial parks and free zones.	Reduce market risk for private investors.	High
26	Develop financial solutions (that is, affordable long-term debt, partial credit guarantees) to be deployed with grant funding, to enable pico solutions and solar home systems distributors, PayGo firms, and MFIs to extend payment terms.	Scale up successful pilots.	High
Water Sector			
27	Consider relevant PPP models for new and renovated piped water systems (for example, a feasibility study could cover a locality or a cluster of localities).	Determine the most feasible PPP model.	High
28	Engage in social communication campaigns to make citizens and municipalities aware of the cost of water provision.	Improve willingness to pay for water and decrease fraud and vandalism.	High
29	Share international experience on PPPs in similar FCSs.	Raise awareness among stakeholders about PPPs.	High
30	Focus DINEPA on its central regulatory function while regional OREPAs focus on asset management and operations.	Improve performance and accountability.	High
31	Leverage adoption and use of off-grid solar pumps and mobile payments.	Reduce operating costs.	Quick win
32	Develop a local fund to improve access to finance of private operators.	Foster local ownership.	High

	Recommendation	Objective	Priority
Apparel Sector			
33	Conduct a PPE demand analysis and develop tools to facilitate growth of made-in-Haiti products.	Adapt to COVID-19 market changes.	Quick win
34	Establish a strategy to implement policy levers and actions to allocate resources, collect data, and foster stakeholder coordination.	Develop a sector continuity plan for post-COVID-19 recovery.	Quick win
35	Commit to obtaining C-TPAT certification, by US Homeland Security, for the Cap- Haïtien port to facilitate exports in the North.	Facilitate exports to the United States.	Quick win
36	Encourage better coordination between government agencies, the private sector, unions, and the development community.	Align toward common goals.	Quick win
37	Enhance workforce and skills development for operators and middle managers; implement productivity-enhancing programs.	Improve labor productivity.	High
38	Encourage more rapid build-out, enhance physical infrastructure and service provision, improve management of public industrial parks, and promote fairer competition between public and private industrial spaces. Promote resource efficiency (energy, water, and waste) in industrial parks and special economic zones.	Attract investors and increase interest from new buyers.	High
39	Improve the predictability of the implementation of the labor code (for example, minimum-wage-setting methodology, night-shift wages, worker-employee relationship).	Reduce uncertainty costs for firms and workers.	High
40	Develop a financial guarantee facility to ease the restrictive letter of credit requirements for local producers.	Increase access to finance.	Quick win

Note: ANARSE = National Regulatory Authority of the Energy Sector; C-TPAT = Custom-Trade Partnership against Terrorism; DFS = digital financial services; DINEPA = National Directorate for Drinking Water and Sanitation; EMI = electronic money issuer; FCS = fragile and conflict-affected state; MFI = microfinance institution; MSMEs = micro, small, and medium enterprises; OGEF = Off-Grid Energy Access Fund; OREPA = Regional Office of Drinking Water and Sanitation; PayGo = pay as you go; PPE = personal protective equipment; PPP = public-private partnership; SEZ = special economic zone; telecom = telecommunications; VAT = value added tax.

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ABBREVIATIONS AND ACRONYMS

3G	third-generation cellular network technology
4G	fourth-generation cellular network technology
ADIH	Association of Industries of Haiti
AECID	Spanish Agency for International Development Cooperation
ANARSE	National Regulatory Authority of the Energy Sector
AT2ER	Togo Rural Electricity and Renewable Energy Agency
BCEAO	Central Bank of West African States
BNEF	Bloomberg New Energy Finance
BRH	Central Bank of the Republic of Haiti
C&I	commercial and industrial
CARICOM	Caribbean Community and Common Market
CASF	Central Africa SME Fund
CBTPA	Caribbean Basin Trade Partnership Act
CCEP	Caracol Community Electrification Program
CDB	Caribbean Development Bank
CFI	Center for Facilitation of Investments
CGAP	Consultative Group to Assist the Poor
CII	Inter-Ministerial Investment Commission
CMT	cut-make-trim
CODEVI	Company for Industrial Development
CPSD	Country Private Sector Diagnostic
CTE	Technical Operation Centre
C-TPAT	Custom-Trade Partnership Against Terrorism
DAI	Development Alternatives Incorporated
DFS	digital financial services
DGI	Tax Authority of Haiti
DINEPA	National Directorate for Drinking Water and Sanitation
ECOWAS	Economic Community of West African States
ECVMAS	Survey on the Living Conditions of Households after the Earthquake
EDH	Haiti Electricity Utility Company
EHS	environmental health and safety
EIA	Energy Information Administration

EIU	Economist Intelligence Unit
EMI	electronic money issuers
EPA	economic partnership agreement
EPARD	Sustainable Rural and Small Towns Water and Sanitation Project
ESMAP	Energy Sector Management Assistance Program
EU	European Union
FCS	fragile and conflict-affected state
FCV	fragility, conflict and violence
FDI	foreign direct investment
FOMIN	IDB Multilateral Investment Fund
FSAP	Financial Sector Assessment Program
GDP	gross domestic product
GIS	geographic information system
GIZ	German Corporation for International Cooperation
GNI	gross national income
GOGLA	Global Association for the Off-grid Solar Energy Industry
GSMA	Global System for Mobile Communications Association
HDI	Human Development Index
HELP	Haiti Economic Lift Program
HHI	Herfindahl-Hirschman Index
HHTARG	Haitian Hometown Resource Group
HOMER	Hybrid Optimization Model for Electric Renewables
HOPE	Haitian Hemispheric Opportunity through Partnership Encouragement Act
HP	high priority
HTG	Haitian gourde
IBRD	International Bank for Reconstruction and Development
IDA	International Development Association
IDB	Inter-American Development Bank
IEA	International Energy Agency
IFRS	International Financial Reporting Standards
ILO	International Labour Organization
IMF	International Monetary Fund
IPP	independent power producer
IRENA	International Renewable Energy Agency
IRR	internal rate of return
ISIC	International Standard Industrial Classification

ITU	International Telecommunication Union
kV	kilovolt
KYC	know-your-customer
LCOE	levelized cost of energy
LED	light-emitting diode
LIC	low-income country
m3	cubic meter
MEF	Ministry of Economy and Finance
MFI	microfinance institution
MNO	mobile network operator
MP	medium priority
MSMEs	micro, small, and medium enterprises
MTPTC	Ministry of Public Works, Transport and Communications
NGO	nongovernmental organization
NPL	nonperforming loan
OGEF	Off-Grid Energy Access Fund
ONPES	National Observatory of Poverty and Social Exclusion
OPEC	Organization of the Petroleum Exporting Countries
OREPA	Regional Office of Drinking Water and Sanitation
OTEXA	The Office of Textiles and Apparel
P2P	peer to peer
PaCT	Advisory Partnership for Cleaner Textile
PayGo	pay as you go
PCF	politically connected firms
PCG	partial credit guarantee
PIC	Caracol Industrial Park
PPA	power purchase agreements
PPE	personal protective equipment
PPP	public-private partnership

PREPOC	Post-Covid Economic Recovery Plan
PV	photovoltaic
QW	quick win
RE	renewable energy
RFP	request for proposal
RISE	Regulatory Indicators for Sustainable Energy
RMPP	The water services of the metropolitan region of Port-au-Prince
SEZ	special economic zone
SHS	solar home system
SMEs	small and medium enterprises
SOE	state-owned enterprise
SONAPI	National Company of Industrial Parks
SPEN	Niger Waters Heritage Company
SREP	Scaling Up Renewable Energy in Low Income Countries Program
telecom	telecommunications
UN	United Nations
UNDP	United Nations Development Programme
UNIDO	United Nations Industrial Development Organization
UNOPS	United Nations Office for Project Services
USAID	US Agency for International Development
USB	universal serial bus
VAT	value-added tax
WBG	World Bank Group
WEF	World Economic Forum
WWI	Worldwatch Institute

Note: All dollar amounts are US dollars unless otherwise indicated.

01. INTRODUCTION AND COUNTRY CONTEXT

1.1 LOW ECONOMIC GROWTH, POLITICAL INSTABILITY, AND EXTREME VULNERABILITY

In the poorest country in the Latin American region, Haiti's low economic growth punctuated by frequent contractions is explained by a long history of political instability, repeated fiscal crises, and extreme vulnerability to a wide range of shocks. In 2012, 24.5 percent of Haitian households lived under the international poverty line ($1.90 per day in 2011, purchasing power parity), while 50.3 percent lived under the lower-middle-income poverty line ($3.20 per day in 2011, purchasing power parity), and poverty rates have been increasing (ECVMAS 2012 and World Bank 2020).[10] Poverty rates are higher in rural areas, and recent gains in poverty reduction have been heavily concentrated in urban centers. Haiti also remains the most unequal country in the Latin America and the Caribbean region, with a Gini coefficient of 41.1. Despite progress in education and life expectancy, the country ranks 169 out of 189 countries in the Human Development Indicators, next to Afghanistan.[11] Private consumption has been mostly fueled by rising remittances that represented 23.2 percent of gross domestic product (GDP) in 2019, the fifth-highest ratio worldwide. With an estimated 96 percent of the population at risk from one or more types of natural hazard, Haiti is among the world's most disaster-exposed countries (World Bank and ONPES 2014).[12] The annual average economic losses from hydrometeorological events alone were estimated at almost 2 percent of annual GDP between 1961 and 2012 (World Bank 2020). The 2010 earthquake resulted in the death of about 220,000 people and destroyed the equivalent of 120 percent of GDP (figures previous to the GDP rebasing).[13] In 2016, Hurricane Matthew affected over 2 million people, resulted in over 500 deaths, displaced 175,000 people, and caused damages and losses equivalent to around 32 percent of GDP (figures previous to the GDP rebasing). A preliminary assessment (WBG, 2021) of the August 14, 2021 earthquake indicates 632,000 directly affected people, over 2,207 deaths and 12,268 injured. Estimates of direct physical/infrastructure damages in the South, Nippes and Grand'Anse departments surmounted to 7.8 percent of Haiti 2019 GDP.

The country registers high levels of investment relative to the size of its economy, mainly fueled by official development assistance. Gross capital formation reached 16.3 percent of GDP on average between 2010 and 2019, above the average levels observed in fragile and conflict-affected states (FCSs) and lowest-income countries. However, on average over that period, 66 percent of this investment was financed by official development assistance (excluding Petrocaribe funds).[14] Such dependency on donor assistance is significantly higher than the average for low-income countries (LICs) and

those affected by fragility, conflict, and violence (FCV). In response to COVID-19 needs, the international community provided financing of about $364 million in fiscal year 2020 (less than half of it in the form of budget support), including a $111.6 million disbursement from the International Monetary Fund (IMF) under the Rapid Credit Facility for balance of payments needs.

Haiti was emerging from an unresolved political crisis when hit by the COVID-19 pandemic. A failed attempt to eliminate fossil fuel subsidies in July 2018 sparked social unrest with unprecedented damage to businesses. Haiti went on lockdown (peyi lòk) between October and December 2019, behind the backdrop of social discontent and protests about poor governance and corruption after the release of a Court of Audits probe on the use of the Petrocaribe fund. Parliamentary elections scheduled to take place in October 2019 were scrapped, prompting President Jovenel Moïse to declare on January 13, 2020, that Parliament had lapsed, ushering in another episode of institutional vacuum. The country remained engulfed in a political crisis throughout 2019, taking a severe toll on the economy, with GDP estimated to have contracted by 1.7 percent. This is reminiscent of the protracted political crisis of 2004, which, apart from the 2010 earthquake, was the last time the GDP contracted. The country was recovering from the peyi lòk when the first cases of COVID-19 were reported on March 19, 2020. The assassination of Haiti's President, Jovenel Moise, on July 7, 2021, plunged the country further into uncertainty.

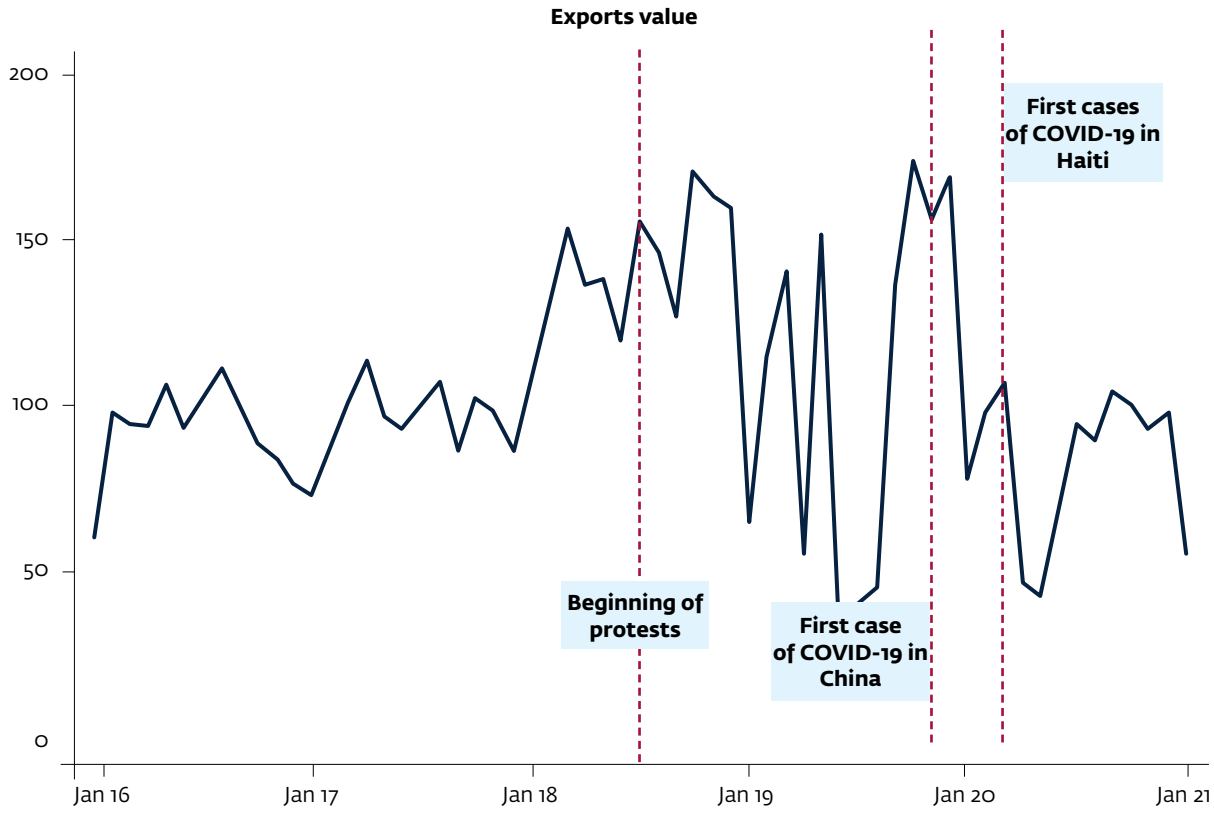
The political crisis and subsequent economic contraction, together with the decrease in alternative sources of finance, have led to increasing fiscal imbalances and inflation. The political crisis reduced domestic revenue collection. The fiscal deficit in 2020 is estimated at 4.1 percent of GDP, up from 2.2 percent of GDP in 2019. The widening of the fiscal deficit was largely due to higher health-related expenditures, government support programs to help households weather the COVID-19 pandemic, and subsidies to the energy sector that ballooned to 6.5 percent of GDP in 2019 (from 4.4 percent of GDP in 2018). The debt-over-GDP ratio increased substantially over the past three years, from 23.2 percent in 2018 to 28.8 percent in 2020, reflecting the deterioration of the fiscal accounts. With limited sources of alternate financing, the government has had recourse to Central Bank of the Republic of Haiti (BRH) financing, prompting a depreciation of the currency, which lost more than 22 percent over 2019 with respect to the US dollar. This lasted until aggressive intervention by the BRH in the foreign exchange market in early September 2020 and the decision of the fiscal authorities to suspend all discretionary expenses before the end of the fiscal year and to boost the gourde, which appreciated by 13.6 percent against the US dollar over the fiscal year. Given the high exchange rate pass-through until mid-2020 and domestic food supply shortages, inflation remained in double digits for more than 46 months, closing at over 22.8 percent in 2020.

1.2 COVID-19 IMPACT

Haiti faced a major economic shock in 2020, triggered by the COVID-19 global pandemic. COVID-19 delivered a global demand and supply shock, triggering a global recession projected to be the deepest since the end of World War II. On the supply side, commerce and services, which represent nearly half of employment in Haiti, have been hit hard. Google data show that mobility trends to retail and recreation places decreased by 31 percent in the second quarter of 2020 compared to usual levels.[15] Tourist receipts that declined as diaspora visits and cruises were suspended along with lower international demand for garments have prompted a decline in overall exports. On the upside, tropical fruits, essential oils, cocoa, and seafood exports, which represented 17.3 percent of net exports in 2017, are in high demand. From the household income side, the pandemic has reduced the attendance at workplaces. Meanwhile, remittances that represent a source of livelihood for many Haitian households have not declined despite the global recession. Given these developments, GDP is estimated to have contracted by 3.4 percent in 2020.

In the medium term, exports could fall further as the apparel industry continues to be at risk. The value of monthly exports fell from around $100 million in 2016–18 to below $50 million owing to social disturbances and low demand due to the COVID-19-triggered global crisis (figure 1.1). The apparel export-oriented sector, which provides the country's greatest number of formal jobs and is the main source of exports, was the only bright spot in the economy before the pandemic, thanks to stronger US import demand.[16] The pandemic has weakened this sector's prospects. From the supply side, disruptions in the supply chains from China and the Dominican Republic (where inputs are sourced) led factories to function below capacity in the first place and then shut down entirely for several weeks after the first cases of COVID-19 were declared in Haiti. From the demand side, since the US economy, which absorbs approximately 88 percent of Haiti's apparel exports, went into recession in 2020 with the rest of the world, demand for Haitian products has been constrained by labor market scarring, with US long-term unemployment rising at a faster rate than during the global financial crisis. Since the outbreak of the pandemic, this sector has lost about one-third of its jobs, and the factories that remain open are working at only a fraction of their capacity and have been reoriented to the production of personal protective equipment (PPE) for the local and export markets. However, there are signs of recovery, with garment exports reaching similar levels to 2016–17.

FIGURE 1.1 VALUE OF EXPORTS 2016-2021



Source: UN Comtrade, International Trade Statistics Database, https://comtrade.un.org/.

02. STATE OF THE PRIVATE SECTOR

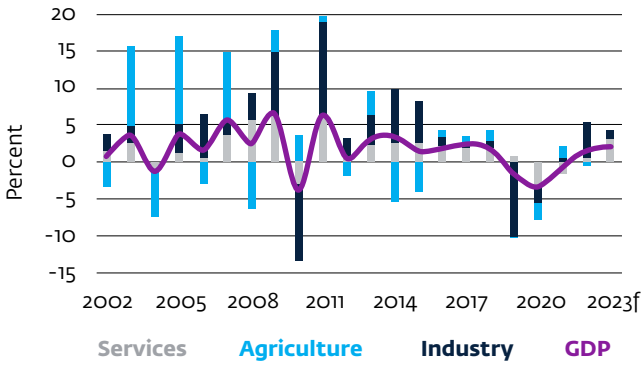
2.1. PREDOMINANCE OF YOUNG FIRMS AND THE INFORMAL SECTOR

The formal sector represents only 39 percent of GDP, and formal firms employ 8 percent of the labor force. Services and commerce (retail, wholesale, and trade) generate the most tax revenues in the formal sector (figure 2.1). The amount of output generated by the informal sector (output informality) reaches 61 percent of GDP in Haiti, significantly above the average for the Latin America and the Caribbean region of 37 percent (World Bank 2020). Structural transformation has been minimal, and while the relative size of the agricultural sector has diminished, labor and other productive factors have largely reallocated themselves to the informal services sector, which, like agriculture, suffers from low productivity and low levels of capital investment. The economy has contracted since 2018 because of the negative performance in the agricultural and service sectors (figure 2.1). Haiti's population reached 10.7 million in 2020 with more than 5 million people in the labor force. Nearly 23 percent of men and 44 percent of women had not worked in 2015.[17] The most recent analysis at the household level in 2012 suggests that the formal private sector employs less than 8 percent of the labor force and that the agriculture and urban informal sectors still provide most of the employment, with about 40 and 47 percent of the labor market, respectively (figure 2.2). Indeed, self-employment in low-productivity sectors such as commerce and construction remain the norm outside the farm sector (Scott and Rodella 2016). According to the 2016/17 Demographic and Health Survey, men are primarily employed in agriculture (42 percent), while most women (71 percent) work in sales and services and are self-employed (82 percent).[18] Moreover, in 2012, 70 percent of workers still earned less than the minimum wage. Women face greater barriers in accessing high-quality jobs, in terms of formality, security, and decent wage levels. In 2012, 86.3 percent of working women worked under conditions that did not comply with International Labour Organization (ILO) standards. Women face precarious working conditions and multiple constraints, such as sexual harassment, nonremunerated work, and low pay. Gender-based violence continues to be a major challenge to gender equality in Haiti, with equal vulnerability across educational and income divides.

Firms in Haiti are relatively young, have low productivity, and are likely to remain small in terms of the number of employees because of deficient managerial and technical capabilities; exposure to episodes of violence and insecurity; and lack of access to energy, water, and finance.[19] Haitian formal establishments are relatively younger compared to those in other FCSs.[20] Even long-established formal firms with more than 20 years of operation tend to be smaller in terms of the number of employees in Port-au-Prince relative to other FCS capitals, suggesting that firms grew less. According to 2013–18 tax data, 95 percent of the formal private sector is composed of microenterprises and half of formal firms have existed for less than six years, suggesting that there are relatively low barriers to entry into formality relative to obstacles to growth.[21] Firms are not only small but their productivity level is low, partly owing to factors internal to the firm, such as limited entrepreneurship experience (approximated by the age of the entrepreneur) or a low education level, and partly owing to external factors related to political instability and access to electricity, water, and finance.[22]

Women entrepreneurs might be facing gender-biased constraints to grow their businesses and, thus, generate jobs. Women entrepreneurs seem to play a greater role in Haiti than in other FCSs. Female ownership is the highest in Port-au-Prince, with around 54 percent of formal firms with more than four employees having a woman among their owners, while in comparison this share is only around 27 percent in Lomé, Togo. However, these women-owned firms tend to be smaller in terms of number of employees than men-owned ones. They also have on average a lower annual labor demand relative to firms without a woman among their owners (2 percent versus 8 percent for firms without woman ownership). The 2012 household survey data also reveal that enterprises (including informal ones) operated by men have higher labor productivity relative to those operated by women. Until early 2020, spouses were not fully recognized as independent economic actors, potentially limiting women's willingness to take risks.[23]

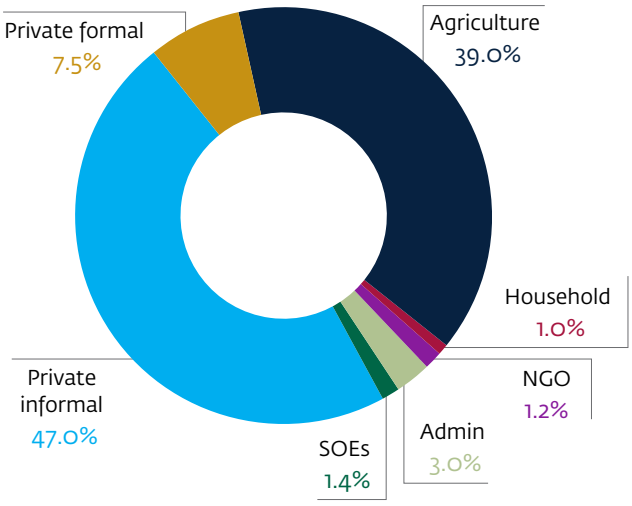
FIGURE 2.1 SECTORAL CONTRIBUTION TO GDP



Source: World Bank Macro-Poverty Outlook Data, 2021.
Note: f following year = forecast;
GDP = gross domestic product.

FIGURE 2.2 FORMALITY AND EMPLOYMENT

Percent of Haitian employees



Source: ECVMAS 2012.
Note: NGO = nongovernmental organization; SOE = state-owned enterprise.

Export performance before the sociopolitical crisis was improving because of supply-side factors. With 22 percent of firms of more than four employees from manufacturing and services sectors being direct exporters in Port-au-Prince, Haiti has the second-highest share of direct exporters relative to FCS peers' capitals after Togo (31 percent), three times more than other capitals. Export performance due to supply-side factors (adjusted export market shares) improved between 2006 and 2016. The country exports 60 products with revealed comparative advantage, but its high reliance on a few products that suffered from waves of negative global demand as well as by heavy dependence on demand from the United States affected its overall export performance. Indeed, the United States accounted for 82 percent of goods exported in 2016, followed by the European Union and the Dominican Republic. Haiti faces no major barrier in accessing the US or European Union (EU) markets thanks to the Caribbean Basin Trade Partnership Act (CBTPA), Hemispheric Opportunity through Partnership Encouragement Act (HOPE II), the Haiti Economic Lift Program (HELP), and the Everything But Arms agreements.[24] However, the country's quota utilization has not been maximized (for example, the maximum rate achieved in 2016 under HOPE was 45 percent), suggesting that major challenges lie on the supply side. The high concentration of export of a few low-value apparel products (for example, T-shirts) suggests that Haiti has not been able to use preferential agreements to diversify its export basket.

Haiti was gaining world market shares in the apparel, hospitality, and tourism industries. Haiti's strategic location near high-income markets in North America, preferential trade agreements, a growing multilingual population, and relatively low labor costs were attracting private investors in light manufacturing and tourism. Between 2016 and 2019, annual apparel exports value reached $1 billion on average, accounting for more than 95 percent of goods exported (knit T-shirts and sweaters represented 37 and 22 percent, respectively). Vetiver essential oil accounted for 4 percent of exports ($46 million), followed by fish and crustaceans ($27 million); copper or ferrous waste and scraps ($25 million); tropical fruits ($12 million, mostly mangoes); cocoa ($9 million); furnishing articles ($7 million); footwear and headgear ($6 million); and toys, games, and sport requisites ($3 million). The demand for tourism services was growing in Haiti, especially for accommodations. International arrivals had been increasing at an annual average rate of over 6 percent since 2012 with visitor arrivals reaching over 1.2 million. International investors and global tourism agencies were expressing interest in Haiti, and a network of guesthouses had emerged during the post-earthquake reconstruction phase to respond to the increasing demand for accommodations.[25] Also, the rapid urbanization rate has been fueling economies of scale and creating opportunities in the provision of goods and services. Furthermore, the ongoing decentralization process combined with technological innovations that reduce fixed costs of entry is also creating opportunities for tailoring smaller-scale market solutions outside of the capital city in renewable energy and water supply (World Bank 2020, box 2.1).

Foreign direct investment (FDI) is increasing but remains below that of other FCV countries. Although FDI flows have strengthened since 2010, Haiti received annually just above 1 percent of GDP on average over 2010–19, below the average performance of FCSs and other peers.[26] Haiti's FDI stock has increased 10-fold since 2000, from 1 percent to 13 percent of GDP in 2019; but it remained below the performance of the Dominican Republic and the average for least-developed countries. Foreign investors are permitted to own 100 percent of a company or subsidiary, with conditions in certain sectors.[27] In terms of legal security, Haiti signed investment agreements with France, Germany, the United Kingdom, Mexico, the United States, Caribbean Community and Common Market (CARICOM) states, and the Convention on the Settlement of Investment Disputes between States and Nationals of Other States. Major foreign investments have been made in the apparel industry (following the opening of special economic zones [SEZs] and the HOPE preferential market access), tourism (with two large hotel chains), and the beverages industry. However, only 5.3 percent of formal firms with more than four employees in manufacturing and services sectors in Port-au-Prince declare having more than 10 percent of their capital owned by foreigners, one-third to half of the share in FCS peers' capitals. This suggests that Haitian firms benefit less from foreign capital and the managerial and innovation spillovers brought by foreign investment.

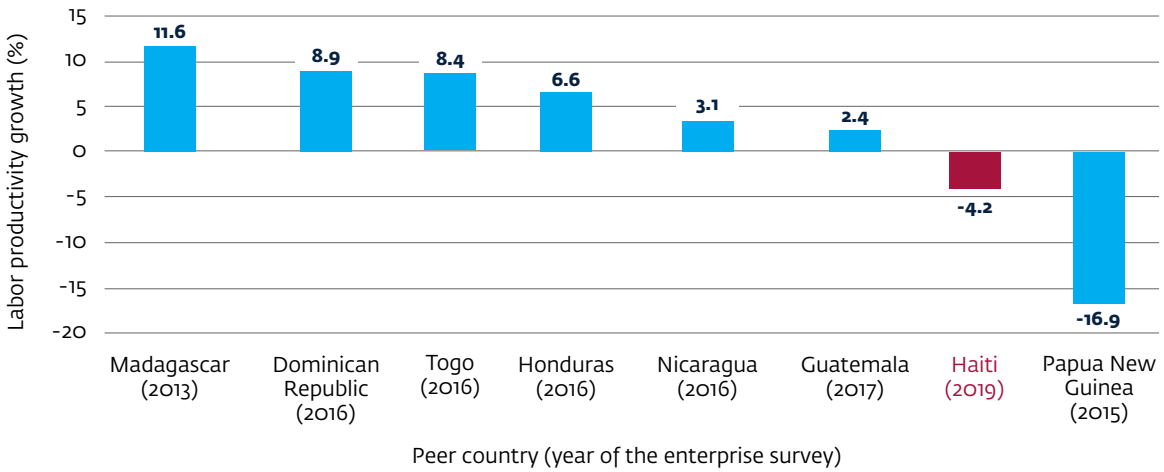
Besides a dedicated public-private partnership (PPP) unit at the Ministry of Finance, Haiti has an almost nonexistent PPP policy and no institutional architecture. PPPs in transport and tourism (seaport), electricity generation, and the water utility (production and distribution) have been made in Haiti. However, the country does not operate with a PPP law. The PPP unit established in the Finance Ministry in 2012 has no guiding policy, thus the role and mandate of this unit remains somewhat unclear. There is general interest among many government parties in exploring the use of PPPs, but mixed opinions across the government and limited capacity to identify and move projects forward remain a constraint.

03. CROSS-CUTTING CONSTRAINTS IN THE HAITIAN ECONOMY

3.1 POLITICAL INSTABILITY AND WEAK INSTITUTIONS REINFORCE VESTED INTERESTS AND ECONOMIC INSECURITY

Political instability was cited by over 80 percent of firms surveyed as the top constraint, according to a recent enterprise survey undertaken during 2019; and the politically triggered security challenges weigh heavily on firms' operating costs. Firms in Haiti are disproportionately affected by political instability compared to firms in other FCSs. Nearly 90 percent of firms in Port-au-Prince consider political instability a very severe obstacle to running their business compared to 9 and 16 percent of firms in Lomé, Togo, and Tananarive, Madagascar, respectively.[28] As politically triggered security challenges rose in 2019, firms in Port-au-Prince experienced a drop of over 4 percent in labor productivity (figure 3.1) and increasingly reallocated financial resources from productive use to protection. Security expenses of firms in Port-au-Prince reached 12 percent of sales in 2019, far above the average 4 percent in peer countries. Medium firms suffered larger losses due to theft or vandalism (36.5 percent of sales) than small firms (25.5 percent), above the average 10 percent in other FCV-affected countries such as Togo,

FIGURE 3.1 LABOR PRODUCTIVITY VARIATIONS



Source: World Bank Enterprise Surveys.
Note: Annualized labor productivity growth rate from three fiscal years before the survey to the fiscal year prior to the survey. Because of the safety situation, the sample of the enterprise survey in Haiti is composed of four communes in Port-au-Prince (Port-au-Prince, Delmas, Petion-Ville, Tabarre).

Madagascar, and Papua New Guinea. The political situation in Haiti has fueled economic uncertainty and reinforced a business environment that favors incumbents and reinforces distortionary incentives. There is a lack of transparency and a weak competition framework that is generating distrust and that reinforces vested interests and elite capture.

Lack of Transparency and Corruption

Haiti has failed to develop the impartial and effective institutions necessary to establish and maintain popular legitimacy. Continued lack of transparency at all levels has undermined trust in institutions. High levels of perception of corruption have fueled continued social and political unrest with repercussions for the private sector and the wider economy, hampering investment and job creation and reinforcing the cycle of unemployment, inequality, and violence (Dollar 2000). According to the Global Indicators of Regulatory Governance,[29] which explores how governments interact with the public when shaping regulations that affect their business community, Haiti performs poorly relative to many of its peers, demonstrating a limited capacity to implement regulatory practices that follow a consultative and participatory approach as part of their design process. The World Economic Forum (WEF) Global Competitiveness Indicator ranks Haiti below the regional average on transparency of government policymaking,[30] which is how easy it is for businesses to obtain information about changes in government policies and regulations affecting their activities. Equally, Haiti ranks significantly below the region and low-income countries in control of corruption.

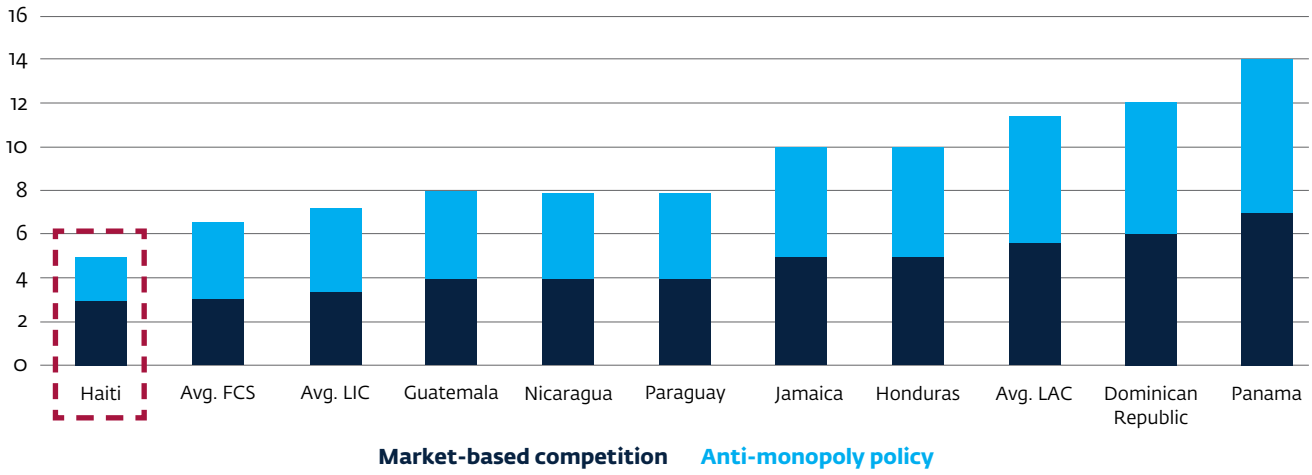
Current conflicts are deeply rooted in the country's history of resource distribution, which has favored a small percentage of the population, inhibiting the development of social capital and hampering the building of trust and social cohesion. Disenfranchised citizens often take to the streets in protest, sometimes violently, in the absence of effective channels to voice needs and demands. The recent outbreaks of violent demonstrations reflect deep-seated social frustration toward successive administrations that have achieved limited success in providing economic prospects for the poor, basic public goods, and accountable governance. The government of Haiti has been unable to make progress on the needed fiscal reforms to stabilize the macroeconomic situation and contain the ever-increasing cost of living of the population, as well as to create fiscal space to improve services, including security. The vicious circle in which unemployment and inequality feed into violence makes it difficult for the economy to grow.

Weak Competitive Dynamic

Weak competitive conditions contribute to a high degree of operational business risk for firms in Haiti. Haiti's fundamental conditions for supporting a market-based economy are perceived to be below average for low-income countries, fragile countries, and regional peers. According to the Bertelsmann Stiftung's (2016) Transformation Index, no laws regulate competition in Haiti, and the strong institutions required to implement such laws are missing (figure 3.2). Executives surveyed as part of the 2019 WEF Competitiveness report (Schwab 2019) assess domestic competition in Haiti as the weakest among the 141 countries studied. The extent of market dominance and the distortive effect of taxes and subsidies on competition are the two most limiting factors in Haiti. For instance, subsidized rental prices in public industrial parks reduce private free zones' competitiveness. Competition in professional and network services also is below the average level of competition in low-income and fragile countries. (figure 3.3). This suggests that in Haiti, prices, availability, and quality of goods and services are

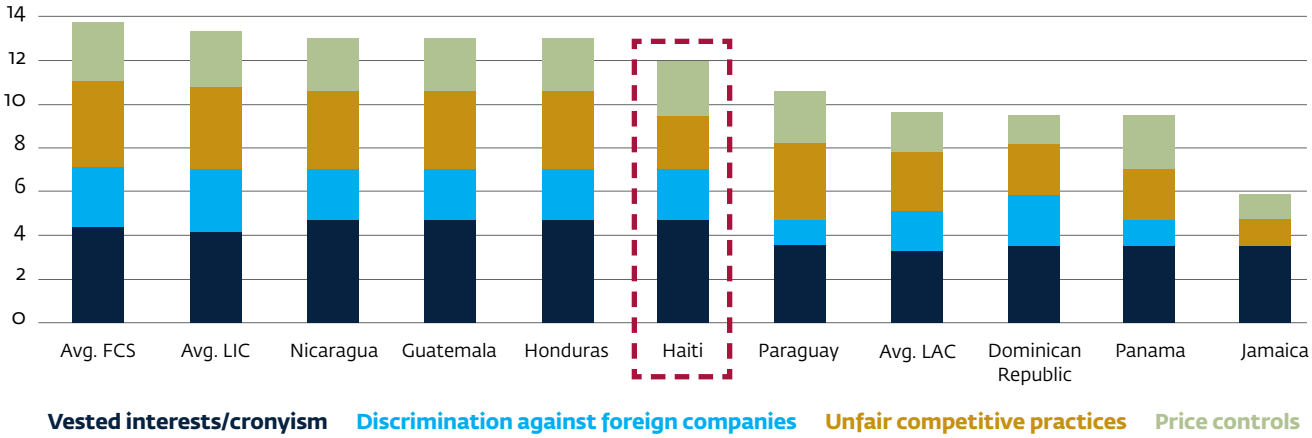
perceived to be determined by a small number of firms rather than by market mechanisms and that incumbent firms face little competitive pressure from new entrants. The risk perceived by potential new entrants in Haiti seems much higher owing to vested interests relative to other drivers such as discrimination against foreign companies, price controls, and unfair competitive practices (figure 3.4).[31] In this context, firms are less likely to innovate, increase productivity, and generate employment (Pop 2016).

FIGURE 3.2 COMPETITION INDICATORS OF THE BERTELSMANN STIFTUNG'S TRANSFORMATION INDEX, 2018



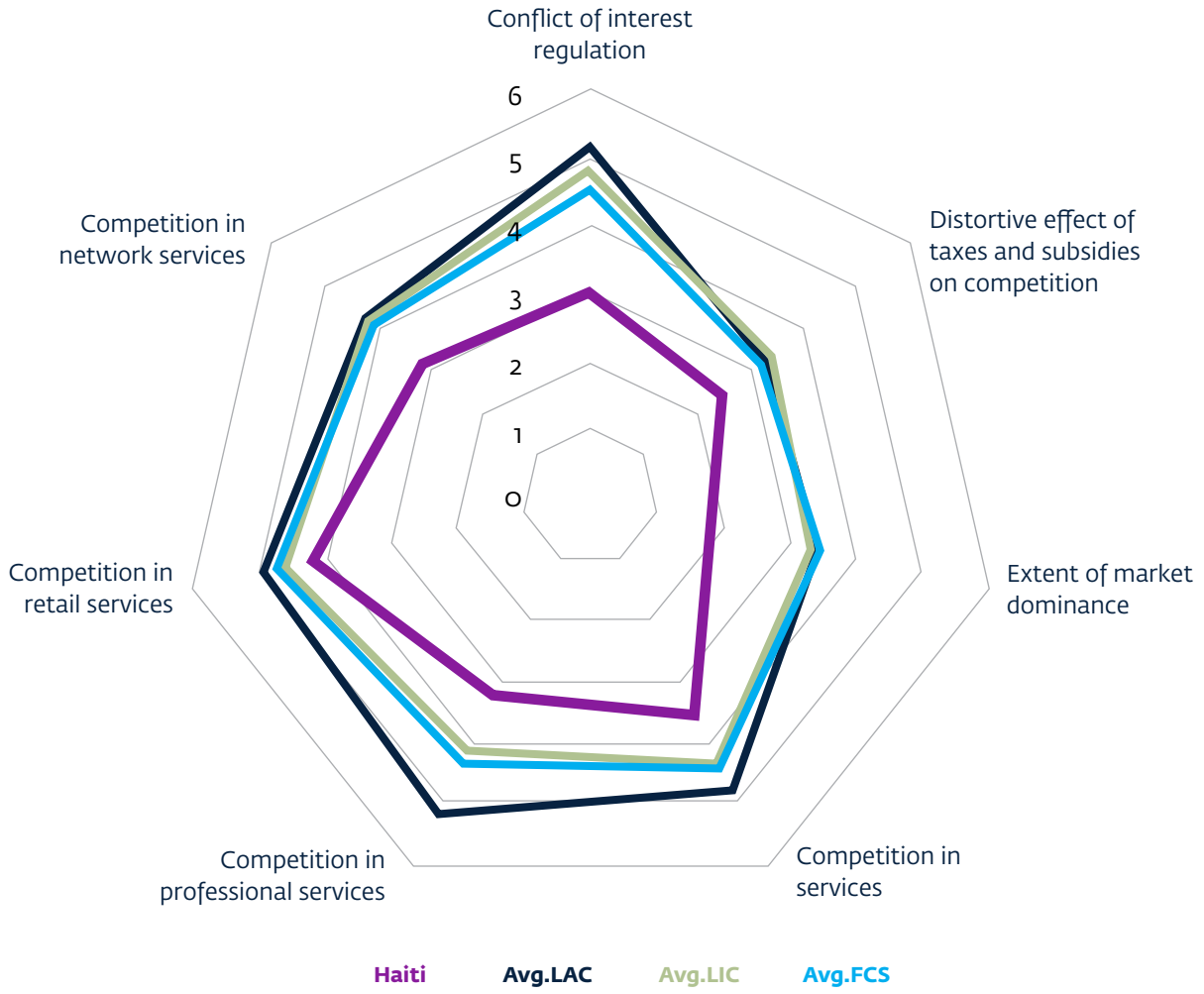
Source: Bertelsmann Stiftung, Transformation Index data, 2016.
Note: Higher values reflect better competition. FCS = fragile and conflict-affected state; LAC = Latin America and the Caribbean; LIC = low-income country.

FIGURE 3.3 COMPETITION INDICATORS OF THE ECONOMIST INTELLIGENCE UNIT RISK TRACKER, MARCH 2020



Source: EIU Risk Tracker March 2020.
Note: Lower values reflect better competition. EIU = Economist Intelligence Unit; FCS = fragile and conflict-affected state; LAC = Latin America and the Caribbean; LIC = low-income country.

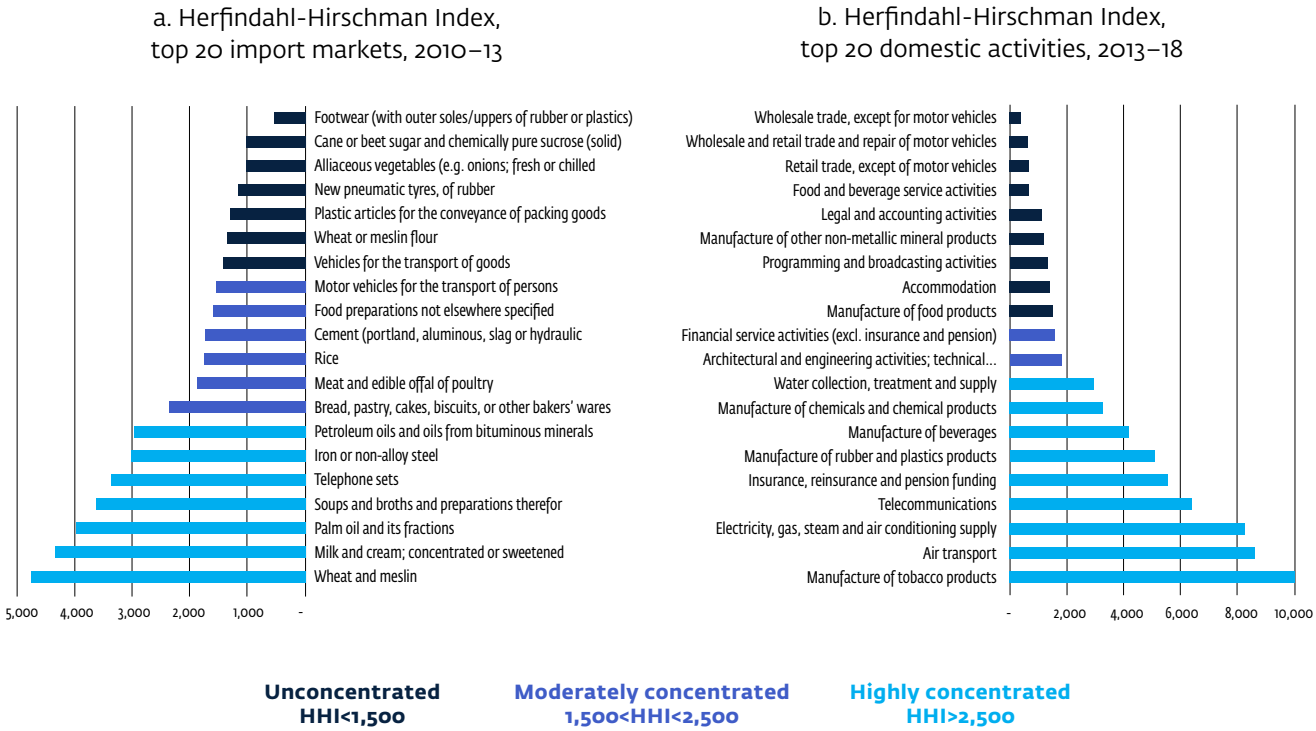
FIGURE 3.4 COMPETITION INDICATORS OF THE WORLD ECONOMIC FORUM COMPETITIVENESS REPORT 2019



Source: Schwab 2019.
Note: Higher values reflect better competition. FCS = fragile and conflict-affected state; LAC = Latin America and the Caribbean; LIC = low-income country.

Many markets show signs of high degrees of concentration. Nearly 40 percent of firms in Port-au-Prince compete against three or fewer firms in their markets.[32] A product market concentration analysis based on available import data from 2010 to 2013 and available sales data from 2015 to 2018 shows that about 67 percent of total imports in value and 57 percent of total sales by domestic firms are goods whose markets are either highly or moderately concentrated.[33] In addition to network industries such as water treatment, telecommunications, and energy, which are highly concentrated by nature, other highly concentrated sectors include insurance and the manufacture of tobacco, rubber and plastic products, beverages, and chemicals (figure 3.5). While the financial sector appears moderately concentrated, three banks command approximately 80 percent of the market share and assets together. Highly concentrated import markets include wheat and meslin, concentrated milk, palm oil, soups and broths, telephone sets, iron, and petroleum. While market concentration is not unusual given the size of the Haitian economy, high and stable market shares increase the risks of anticompetitive behavior by firms. This concentration could hamper the entry of new actors and negatively affect consumers, for example, leading to higher prices, and as such indirectly reducing businesses' competitiveness for those that use such products as inputs. An analysis over

FIGURE 3.5 MARKET CONCENTRATION LEVEL OF THE TOP 20 HAITIAN MARKETS IN TERMS OF IMPORT VALUE AND DOMESTIC SALES



Source: World Bank Group estimates based on tax and import data.
Note: Each product market is identified by a four-digit harmonized system for import data and the two-digit International Standard Industrial Classification (ISIC) rev. 4 for domestic activities.
HHI = Herfindahl-Hirschman Index. The HHI is a measure of market concentration. It is calculated by squaring the market share of each firm competing in a market and then summing the resulting numbers. It can range from close to zero to 10,000.

time of prices for several food products in highly concentrated markets suggests average prices in Haiti are approximately 35 to 77 percent higher than in other countries from the Latin America and the Caribbean region, when taking into account differences in income levels, the cost to import containers, and import tariff levels. Competition in upstream markets, such as transportation, financial services, energy, telecommunications, and construction services, is a key driver of efficiency and productivity growth in downstream sectors. The cost of electricity is among the highest in the region, and the costs of loading and unloading in Port-au-Prince are between three and five times higher than those for similar services in the Caribbean region (Pop 2016).

The open institutions needed to create a level playing field for economic actors and to underpin a rule of law based on impersonal exchanges have not emerged. The lack of competition legislation in Haiti implies that anticompetitive practices, such as abuse of dominance and cartels (price-fixing or market sharing among competitors) that undermine competition and can raise prices up to 49 percent on average, are not being detected, fined, and deterred (Connor 2014). In the telecommunications (telecom) sector, the acquisition of the number two player Voilà by the leader Digicel Group in 2011 and the collapse of the third operator left Digicel with a 70 percent market share of subscribers, according to the World Bank (2015); though more recently it is closer to 52 according to Telegeography (2019).

Important features of the policies and regulations that may reduce privilege-seeking, such as evidence-based policies, rule-based decision making, transparency, and grievance redress mechanisms, are lacking.[34] For instance, the lack of transparency in the issuance of construction permits in Haiti is counterproductive to an effective regulatory system, provides room for arbitrary decisions, and results in uncertainty for businesses. Informal requirements, fees, and procedures on top of the official rules are common, and government agencies are not required to provide a justification for a negative decision or a delay. Similarly, tax inspections can be decided arbitrarily, lack a strong judicial foundation, and do not follow a risk-based planning approach, both by regulation and in practice. Public land lease contract terms vary substantially from one enterprise to another depending on political affiliation and acquaintances.

Haiti's investment policy is mainly oriented toward generous tax and customs duty exemptions granted in a discretionary and opaque way. Tax exemptions are equivalent to 4 percent of GDP (Pop 2019; figures previous to the GDP rebasing). The institutional framework for investment attraction in Haiti is fragmented, with several overlapping agencies (Piernas Lopez 2017). A firm can accumulate benefits granted by different laws, such as the investment code and the special free zones legislation. The Inter-Ministerial Investment Commission (CII), composed of highly ranked and potentially nontechnical civil servants, examines investor eligibility for tax and customs duty exceptions under the 2002 investment code.[35] The investment code lacks precise criteria for granting tax exemptions and setting their duration, opening the door to discretionary and opaque application (Deloitte 2019). However, since 2020, durations of the incentives on corporate income taxes and import duty exemptions granted by the Investment Code are time-bound and are not renewable. There is also limited evidence regarding the achievement of employment or other public policy targets having motivated the exemptions. Additionally, a few state-owned enterprises (SOEs) are currently operating in a mostly opaque manner with no published financial statements, and they frequently hold substantial arrears with both government and private sector suppliers (IMF 2015).

Unregulated trade further undermines competition for Haitian enterprises. Haiti's import tariff rates are particularly low, but a knowledge gap remains about the extent of nontariff barriers, particularly taking the form of cumbersome procedures for licensing.[36] Customs processes and valuation assessments allow for considerable discretion and uneven enforcement by customs officers (IMF 2020a). Indeed, the Automated System for Customs Data (ASYCUDA) has not been implemented in all border posts nor for all its modules, partly because of telecommunications and energy constraints but also because of reluctance from customs agents to lose informal payments. In addition to the forgone public revenue, such practices increase informal operation costs and are likely to be detrimental to competition owing to contraband traffic. In 2017, over $700 million of imports from the Dominican Republic were not registered by Haiti while registered as exports from the Dominican Republic, resulting in a loss of public revenues and increased competition from products that did not face sanitary inspections. Articles of apparel, cotton, and plastics accounted for 19, 14, and 11 percent of the unregistered imports, respectively. Food and beverages items, such as products of the milling industry and edible preparations, accounted for 22 percent altogether.[37]

Regulatory measures are necessary to encourage procompetition market behavior (box 3.1). Beyond competition policies and private-led initiatives, strong corporate governance and increased transparency can be effective in promoting a thriving business culture. Improving data collection and digitizing institutional processes would facilitate the enforcement of such regulations.

BOX 3.1 EXAMPLES OF REGULATORY MEASURES TO IMPROVE COMPETITIVE OUTCOMES

Competition policy. Adopt a competition policy framework, including a competition law, and set up a competition authority. The draft competition law, developed with the support of the European Commission in 2015, has not been adopted. It includes the creation of a competition authority.

Banking sector. Develop a strong corporate governance framework through further regulations on norms of internal control and the independent monitoring of the effectiveness of the internal control system, the first step toward a healthy banking sector.

Business regulations. Develop rule-based decision making and transparency by (a) harmonizing the requirements, fees, and procedures for construction permits across communes (municipalities); (b) requiring inspectors to provide justification of negative decisions; (c) creating a clear appeal mechanism that involves an independent third party; (d) designing and implementing a risk-based approach regarding tax inspections; and (e) rendering all tax inspection regulations publicly available.

Tax incentives. Reform the incentive policy and the related institutional framework to clarify the tax incentives structure and its implementation by (a) clarifying governance and coordination between the Center for Facilitation of Investments (CFI), the Inter-Ministerial Investment Commission (CII), ministries, and free zones and reinforcing interinstitutional coordination; (b) redefining project selection criteria and introducing the principles of competition and project scoring on the basis of quantitative criteria; (c) ensuring that there is value in the exemptions granting; and (d) strengthening the monitoring and evaluation system and implementing penalties for noncompliance with predefined objectives.

Customs. Streamline and harmonize import and export procedures through the electronic processing of customs transactions to promote transparency and reduce arbitrariness. It is essential to establish a formal partnership between customs and the business community for the successful implementation of the ongoing efforts to digitalize and reform the institution.

Sources: World Bank Group 2019a.

Vested Interests and Elite Capture

Current market structures facilitate tacit agreements among families and groups to allocate markets among themselves, which may harm productivity and limit the incentive to innovate. According to the Economist Intelligence Unit's operational risk model as of March 2020,[38] investors in Haiti perceive that the risks in doing business related to competitive conditions are driven by vested interests. In the absence of effective contract enforcement, economic operators tend to remain within their family or social networks. A large segment of the Haitian economy continues to be dominated by a small number of families with holdings across multiple sectors, resulting in distorted competition and nontransparent business practices. Import data show that some families operate several groups and associated companies in highly concentrated markets and that there might be a tacit agreement among economic groups to allocate markets among themselves (Pop 2016).[39] These types of arrangements likely harm productivity and incentives to innovate.[40] For instance, few of Haiti's established private firms have modern capital and governance structures with professional management, limiting their access to long-term financing. The prevailing vulnerabilities in Haiti to common mechanisms of state and elite capture by connected firms are illustrated in table 3.1.

TABLE 3.1 COMMON ELITE AND STATE CAPTURES MECHANISMS ILLUSTRATED BY VULNERABILITIES IN HAITI

Capture type and mechanism	Potential vulnerabilities in Haiti	Potential impacts
Public lending (state capture): cheaper lending provided to PCFs	Ministries are directly involved in the selection of companies to be financed by the funds managed on their behalf by the public financial institution of the BRH.	• PCFs tend to have much higher borrowing and default rates, and distortion or noninvestment of these loans may cause additional economic costs. • Private banks prefer lending to PCFs, as political ties are seen as an implicit sovereign guarantee against failure. This can disadvantage non-PCFs.
Private lending (elite capture): excessive bank lending to related parties	Three out of four Haitian private banks hold significant loans to related parties, representing between 23 and 45 percent of their capital base (BRH 2020).[a]	Entrepreneurs may be disincentivized to request credit for a project that threatens the market of connected firms, resulting in lower competition and lower access to credit.
Restrictions on firm entry (for example, restrictions on foreign direct investment and exclusive licensing)	• In the telecom sector, the absence of an effective wholesale broadband regime that allows open access to backbone infrastructure represents entry barriers into the market. • The requirement for bank-led models in the provision of DFS limits the entry of players from other sectors.	Where incumbents are politically connected and can leverage their connections to maintain these restrictions, it is possible for them to have highly concentrated gains, with low pressure to innovate. This may result in increased prices for downstream producers and consumers.

Capture type and mechanism	Potential vulnerabilities in Haiti	Potential impacts
Public procurement: single-source contracting, restricted tendering methods, or nontransparent evaluation used to allocate contracts to PCFs	The presidential decree published on February 12, 2020, allows the government to circumvent existing public procurement standards.[b] The decree allows for public contracts for electricity or public buildings or contributions to "the nation's stability and development" to be processed under the rules related to defense and security, with a limited degree of transparency and competition.	These mechanisms may result in the following: • Potential inadequate sector and spatial allocation of government contracts • Substantial losses in the provision of public goods • Bid rigging
Taxation, including lower taxation or penalties, fewer audits, misclassification, and undervaluation of imported goods	A few established companies benefit from tax, customs, and duties advantages. Estimations based on import data show that five economic groups operating in highly concentrated markets benefited from 13 percent lower customs duties on average, with reductions ranging from 5 to 22 percent (Pop 2016). Tax exemptions may be applied in a discretionary way on the basis of achievements in terms of employment or other public policy objective: for example, a company investing $1.6 million and planning to create 43 jobs obtained nine years of exemptions, while a company that planned to invest $12.6 million and create 114 jobs achieved benefits for only three years (Deloitte 2019).	PCFs that are able to garner these benefits have a competitive advantage through lower or no taxation.
Access to public assets (for example, appropriation of land or SOEs below market prices or through biased auctions or procurement; nontransparent corporatization or bankruptcy processes)	Various laws and regulations include provisions to convert state land to private use. The Investment Code and other regulations have not established clear and transparent rules regarding allocation of state land for investment purposes, thereby leaving room for abuse (WBG 2019a). The terms of land lease contracts vary substantially from one enterprise to another depending on political affiliation and acquaintances (WBG 2019a).	Lack of standardization in the land lease contracts, whose terms vary substantially from one enterprise to another depending on political affiliation and acquaintances (WBG 2019a) can lead to (a) uncertainty for investors; (b) creation of oligarchic structures and concentration of wealth; and (c) lapses in environmental management with potential environmental damage.

Source: Fiebelkorn 2019, adapted to the Haitian case.
Note: BRH = Central Bank of the Republic of Haiti; DFS = digital financial services; PCF = politically connected firm; SOE = state-owned enterprise; telecom = telecommunications.
a. This might also be the result of the weak judiciary system, the resulting moral hazard, and the asymmetry of information.
b. IMF 2020b, 7–8.

Given Haiti's institutional weakness, private-led initiatives can encourage procompetition market behavior (box 3.2). In the context of renewed social tensions and a shrinking economy, there is momentum for incumbent businesses that might have benefited from the status quo to be receptive to reforms because only well-structured firms are likely to survive the current crisis. Business associations in Haiti have been developing a network of entrepreneurs who aim to provide tools to professionalize micro, small, and medium enterprises (MSMEs); disseminate market information; connect suppliers; voice their concerns; and develop cooperation and financing mechanisms all over the country. Strengthening the enabling conditions for MSME growth in Haiti has the potential to diversify and deepen the economy. These firms can find joint solutions for major challenges and partner to supply the market with enough scale in segments that are not distorted by vested interests. Entrepreneurs outside Port-au-Prince need to be better informed about how to manage administrative processes and participate in programs implemented by public institutions and donors.

In fragile states, risk capital investments can also have a significant catalytic impact as partnerships with foreign investors that follow international best practices have the potential to foster a healthier economic system. Supporting the entry of new risk capital providers can create the well-functioning financial intermediaries that are frequently absent from these markets. Such intermediaries are an effective tool to improve corporate governance, boosting productivity and growth. Additionally, the provision of increased risk capital spurs the development of the business ecosystem and an appropriate regulatory environment. Several investors have expressed interest in the private equity asset class in fragile states.

BOX 3.2 EXAMPLE OF PRIVATE-LED INITIATIVES TO IMPROVE COMPETITIVE OUTCOMES

Developing risk capital can improve corporate governance. Several investors have expressed interest in the private equity asset class in fragile states. IFC SME Ventures identifies three paths to attract them: (a) testing alternative models of financing; (b) creating comprehensive shared services and tailored toolboxes for managers; and (c) reducing the information gap by leveraging country or regional investment facilitation platforms. The success of the IFC-supported Central Africa SME Fund (CASF) highlights the potential investment opportunities in fragile states. CASF provided equity, long-term and management expertise to 28 small and medium enterprises (SMEs) in the Democratic Republic of Congo. Since the year of investment, 12 of them have increased their revenues and 8 have increased their profits, supporting a total of 1,000 direct jobs.[a]

Source: IFC SME Ventures.
a. Shara and Redqueen 2019.

Improving the capital and governance of public financial institutions is key to enhancing the efficiency of public lending to the private sector, especially in times of crisis, and to promoting firms' adaptation and resilience to climate change. Considering the critical role that development financial institutions can play to support the real sector in times of crisis, improve access to finance for MSMEs, and foster firms' transition toward climate-friendly solutions, it is key for such institutions to have adequate governance to leverage funding by creating partnerships with international financial institutions and international donors. Institutional transformation of public financial institutions in the areas of governance, transparency, investment and credit decisions, and environmental and social management, together with an improvement of the legal and regulatory environment, could be pursued following good international practices (WBG 2015).[41]

3.2 INADEQUATE INFRASTRUCTURE

Transport Infrastructure and Services

Despite investments over the past decade, 50 percent of Haiti's territory remains poorly connected. Less than 25 percent of roads are paved, as compared to over 70 percent in Jamaica and almost 50 percent in the Dominican Republic. In 2015, only 39 percent of households in rural areas were living within 2 kilometers of an all-weather road. Road infrastructure deficiencies lead to high road freight costs relative to competitors (up to $0.43 per ton-kilometer compared with $0.15 in the Dominican Republic). Such costs are also affected by high fuel prices and a highly informal and fragmented trucking industry that lacks professionalization and adoption of standards. Although the road infrastructure financing gap is likely to be filled by public expenditures, private investment opportunities exist in the Haitian trucking industry serving cross-border trade with the Dominican Republic. Currently, merchandise crossing the border in either direction is, with rare exceptions, transported by Dominican transport operators because of regulatory asymmetries, border post inefficiencies, and a Haitian informal and fragmented trucking industry structure.[42] Haiti is one of the smallest air transport markets in the Caribbean region despite having a larger population relative to peers. Haiti has two international airports that suffer from lack of infrastructure investment both on airside and landside facilities. The country also continually fails to comply with the International Civil Aviation Organization's safety standards, seriously compromising the operational safety of air transport service operators. Haiti has been experiencing a significant uptake in commercial flights, with international seats having increased annually by 4.3 percent during the period 2010 to 2016, above the Latin America and the Caribbean average (although starting from a low base). However, this performance deteriorated following the start of the COVID-19 pandemic and the United States' travel ban. Yet, firms have not sought to benefit from the uptake in commercial flights to export high-value and time-sensitive goods in the plane cargo hold. One reason for this failure may be the high costs of air transport.[43] Before COVID-19, opportunities for public-private partnership investments in airport infrastructure and airfreight-related services seemed constrained by limited political will and weak institutional capacity.

Private investment growth in port infrastructure and related services is constrained by the limited political will to level the playing field between public and private port operators and by weak institutional capacity. Haiti is poorly integrated into the global liner shipping network, with most of the lines being short-sea lines connecting either with the US East Coast and Gulf ports or a Caribbean hub. This, combined with the fact that vessels serving Haitian ports are small because of the low trade volume (as large exporters use neighbors' ports), leads to high maritime freight rates relative to competitors. There are two International Maritime Public ports in Haiti: one in Port-au-Prince and one in Cap-Haïtien. Port-au-Prince accounts for 90 percent of international trade, and more than 90 percent of the cargo tonnage is handled by public ports. The infrastructure of Cap-Haïtien is in poor condition, is not resistant to earthquakes, lacks modern and efficient equipment, and has inefficient space utilization. Port fees are the highest in the Caribbean region and twice those charged by the Dominican Republic's neighboring port. Eighty percent of the tariff goes to the Haitian government. Uncertainty about the political will to reduce such tariffs has hindered the attraction of private investment. The regulator (National Authority for Ports) handles port operations, potentially creating an uneven playing field through barriers to entry and discriminatory practices toward private operators. A port and maritime law covering the regulation of the maritime industry as well as the responsibilities and limitations of public versus private commercial ports is lacking. An intended reform to separate the port management from regulatory functions has also not materialized. A draft PPP law has been awaiting approval at the Parliament for four years.

Digital Infrastructure

Deficient telecommunications infrastructure, lack of competition in service provision, and limited regulation have led to low penetration, high prices, and limited quality of internet and mobile services. Haiti has the lowest penetration rate in terms of mobile (63 percent), fixed internet (1 percent), third-generation cellular network technology (3G; 31 percent), fourth-generation cellular network technology (4G; 0 percent), and smartphones (30 percent) relative to other Caribbean and Central American countries.[44] The country is served by only two submarine cables, each serving one of the two mobile operators, resulting in low competition and high prices. After years of underinvestment and several natural disasters, backbone infrastructure is also scarce and concentrated in Port-au-Prince. Consistent access to high-speed internet service is extremely uneven; businesses mostly rely on satellites and wireless technologies that proved to be more resilient in restoring connectivity after the earthquake. Competition in the fixed market is emerging from three licensed internet service providers, which serve only high-end customers because the services are not affordable to most Haitians (the cost of a fixed-broadband connection represented 155 percent of gross national income [GNI] per capita in 2017; ITU 2017). The towers, power, and buildings are owned individually by Digicel and Natcom, with no infrastructure sharing. Digicel has historically dominated the largely prepaid mobile market (the shares are now closer, with 52 and 48 percent for Digicel and Natcom, respectively; Telegeography 2019), creating room for discriminatory retail pricing for consumers and mobile finance applications. Both provide 3G services with around 8 percent population coverage, while 4G services have only recently been launched. Limited electricity coverage and lack of affordability of telecom devices impede massive adoption of internet services and consequently the expansion and quality upgrade of the network.

Revamping Haiti's outdated telecom laws and regulations is the priority in boosting digital infrastructure development through private sector solutions. Haiti needs a holistic national broadband plan that would coordinate all initiatives to develop digital infrastructure and include clear targets in terms of coverage, capacity, and competition. Improvements to the regulatory framework from the 1970s are stalling in draft legislation. The absence of an effective wholesale broadband regime that allows open access to both international and national backbone infrastructure and the lack of any incentives to share infrastructure represent entry barriers into the market. Establishing a framework for infrastructure sharing, including towers, would also promote a more efficient use of assets, reduce the cost of delivering services to rural areas, and foster competition in the market by lowering barriers to entry and expansion. Lack of regulation on mobile virtual network operators and the delayed implementation of a mobile number portability system can also limit competition between operators. Regulatory gaps on spectrum allocation also hinder the development of a more dynamic mobile telecom sector and technology adoption. For instance, restrictions on technologies, the lack of a clear process to allocate 4G licenses, and the delay in releasing additional 4G-suitable spectrum through digital broadcasting migration are limiting the rollout of 4G services. Finally, the lack of clarity and consistency on direct and indirect taxation applied to the different players in the market also creates an unlevel playing field.

3.3 BOTTLENECKS IN LAND AND LABOR MARKETS

Outdated and Weak Land Market Framework

The regulatory framework for land tenure and land rights is complex, fragmented, outdated, and politically sensitive; and the absence of a real property cadastre and land registry system is a major constraint to the development of the private sector outside of SEZs. The legal framework governing land transactions and ownership does not reflect modern land management practices. In addition, provisions covering land transactions and tenure are scattered across different legal instruments such as the Civil Code (1825), Rural Code (1836), Decree on Public Notary (1969), and Decree on Surveyors (February 1977) with contradictory and unclear language. Enforcement of existing regulations is critically lacking, which further adds to the confusion and broadens the gap between the legal framework and actual practice. Less than 5 percent of Haiti's land has been surveyed, and more than 75 percent of rural land contracts are drawn up according to traditional procedures and are not officially registered. The situation is also complex in urban areas, with courts clogged by numerous land disputes. This situation tends to fuel land tenure insecurity and tilt the system in favor of those who are more affluent and politically well-connected. A common practice throughout Haitian history has been pork-barreling (gifting) land to secure political loyalty and favor. As a result, efforts to reform the legal and institutional framework have been met with fierce resistance from political and economic interest groups (WBG 2019a). Several attempts have been made at the national level to develop a registry system, without success (Singh and Barton-Dock 2015). The lack of clarity regarding land titles and questions of ownership together with nonexistent legal structures has led to violent conflict. Fraudulent sale of land titles and claims to traditional ownership are among the most frequent sources of such conflicts (Bertelsmann Stiftung 2016). Moreover, uncertain land tenure deters investment by the diaspora in real estate (Porter 2017).

Ineffective Labor Code and Limited Worker Productivity

The lack of transparency and predictability of labor code implementation leads to uncertainty for firms and workers. The lack of clear implementing guidelines on the labor legislation limits transparency and predictability. For instance, regulatory instruments have not been issued to apply the current "3 shifts × 8 hours law," whose language on night-shift wages is unclear, and labor tax charges are reported to differ from time to time without explicit guidance from the government. Thus, the application of the labor law is uneven across firms. Although the law specifies that employees cannot be intimidated into joining labor unions, employees continue to be coerced into joining (Better Work 2018). Furthermore, the law says that the minimum wage must increase whenever the consumer price index increases by more than 10 percent in a year, but it does not specify the methodology to be applied, diminishing the ability of the private sector to plan. The inflation rate has been above 10 percent since 2016, and that has generated uncertainty about the outcome of each increase, leading to strikes, violent acts, and property damage.

Low minimum wages become even less competitive once labor productivity is accounted for, highlighting the shortage of skilled workers and ultimately of productive firms in the country. Despite Haiti's having a significantly lower minimum wage, the ratio of minimum wage to value added per worker is 1.5 in Haiti versus less than 1 for Central American countries (except for Honduras, where it is 1.6). Haiti is less competitive once labor productivity is accounted for, partly because of lower workforce education. Indeed, one major constraint faced by enterprises in Haiti is the difficulty in finding technicians who are well qualified, particularly in new technologies (Singh and Barton-Dock 2015). Lack of basic skills, such as literacy and numeracy, when starting work presents a major impediment for workers, hindering their ability to absorb postschool training either on or off the job and to adapt to changing job requirements. In 2012, an estimated 46 percent of the adult population (60.5 percent of heads of households) had never attended school or completed primary education (Singh and Barton-Dock 2015). Haiti's public education expenditures are low compared with those of other countries of the region. Only about 5 percent of GDP is allocated to education, health, and social protection (before the GDP rebasing).

04. IDENTIFICATION OF SECTOR OPPORTUNITIES

To identify short- to medium-term opportunities for leveraging private investment in selected sectors in Haiti, three criteria were considered: (a) the political economy; (b) potential inclusive gains from further private investment; and (c) the World Bank Group track record in supporting each sector in fragile environments. Haiti's private sector is characterized by highly concentrated markets operated by an economic elite that is likely to oppose meaningful economic reforms. Hence, consideration was given to the political economy by prioritizing sectors that benefit from low formal and informal barriers to entry and growth, as reforms and programs appear more feasible over the next three to five years. This criterion facilitates the selection of activities where the development of the private sector has not reached its potential owing to limited public and private sector technical capabilities instead of political will. When considering the second criterion related to inclusive gains for Haiti's population, sectors were selected on the basis of (a) potential welfare changes in favor of the bottom 40 percent of the population arising from private investment (in terms of quality of and access to goods and services, their affordability, and subsequent consumption effects, and in terms of income gains, including from employment) and (b) backward and forward linkages to the rest of the economy. Finally, a score based on development outcome ratings for World Bank and IFC projects by Independent Evaluation Group and IFC internal ratings was added to measure the World Bank Group's comparative advantage and track record in supporting each sector in Haiti and in peer countries with similar fragile environments. Each of these three criteria received a score, so all sectors could be ranked. A discussion with World Bank and IFC advisory and investment technical experts was subsequently held on the five highest-rated sectors to narrow down the list of sector assessments to four.[45]

As a result of this process, financial services for SMEs and DFS, renewable energy, water supply, and the apparel industry were selected for the sector assessments. Financial services for SMEs and DFS were selected because they contribute to employment creation by facilitating firm growth and have a direct impact on household income. DFS, in particular, were considered because they can provide a technological leap in access to finance, especially for micro firms and rural households. The barriers to entry were considered moderate because of the slow adoption of draft regulations, which has prevented the development of more diverse DFS models and product offerings. However, this sector ranked relatively high in terms of the World Bank Group (WBG) comparative advantage and track record in fragile environments. The renewable energy sector was selected because it directly affects Haitians' quality of life, especially for rural

households, and weighs heavily on firms' operating costs (for instance, it is a critical input to export-oriented and service industries). Moreover, renewable energy solutions are feasible within the current political environment because they do not rely on the main electricity grid. The WBG has also been developing innovative solutions in this sector in Haiti and in similar African countries. Water supply is also a critical enabler of poverty reduction and private sector development. The sector benefits from low barriers to entry, considering the ongoing investments in water infrastructure financed by donors in several cities in Haiti, which could incentivize private operators to enter the market through PPPs by lowering risks. This assessment was considered timely considering the ongoing preparation of a PPP framework for water services provision in rural areas and in medium-size cities in Haiti. The WBG has also contributed to similar experiences in Africa. Finally, regarding the apparel industry, considering its positive performance before COVID-19 and the unfilled quotas granted by the United States, it was seen to offer a few quick wins if key constraints were removed from the supply side. This sector is one of the main sources of formal employment in Haiti and has a high share of female labor force participation, bringing indirect gains in terms of health and education outcomes.

4.1 FINANCIAL SECTOR

Overview of the Financial Sector and Recent Developments in Haiti

Firms in Haiti are highly credit constrained relative to those in other fragile environments. Domestic credit to the private sector represented 10.9 percent of GDP in 2019, four times below the averages in Latin America and the Caribbean and in lower-middle-income countries (figure 4.1). Only 7 percent of entrepreneurs from the bottom 40 percent reported having borrowed to start or grow their business, below the average in low-income countries (World Bank 2017c). By 2019, 78 percent of formal firms with more than four employees in Port-au-Prince were partially or fully credit constrained (relative to 23 percent on average in capitals of other fragile countries[46]). According to a survey in 2015, 43 percent of the Haitian diaspora supports projects in Haiti, mostly through donations; and only 15 percent of the engagements include investments expecting a return, partly owing to the lack of reliable channels to reach productive investments (HHTARG 2015). Haiti also lacks an open stock exchange and bond market.

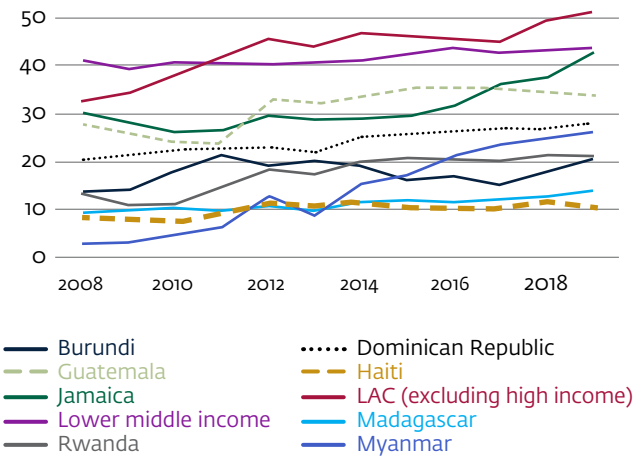
The financial sector is dominated by a few banks, with financial depth stagnating since 2012. The eight banks operating in Haiti make up nearly 90 percent of the financial system assets, and three of them command 80 percent of the banking market share. This dominance in the banking sector is also found in many lower-middle-income countries, which cannot rely on other sizable financial intermediaries. Bank lending is heavily concentrated in the service sectors (figure 4.2) and depends largely on deposits for funding, with one of the lowest ratios of loans to deposits among low-income countries (figure 4.3). Furthermore, most additional financial resources have been channeled to fund the government in detriment to the private sector (figure 4.4). The other key intermediary in the Haitian financial system is the microfinance sector (covering deposit-taking cooperatives and microfinance institutions) with nearly 13 percent of the country's total outstanding loans, but their assets represent 7.6 percent of the banking assets (USAID and DAI 2018). The leasing industry is nascent with one niche player emerging.

The political and macroeconomic environments have put extraordinary pressure on the financial sector. Following a period of slow growth, high inflation, public deficit, and commercial- and current-account deficits, the BRH opted for restrictive monetary policies in 2019, increasing deposits' minimum reserve requirements and interest rates. That squeezed liquidity from regulated financial institutions, further leading to a sudden halt in lending and an increase in interest rate charges for borrowers. Furthermore, because of the expansionary fiscal policy, the BRH's balance sheet has almost doubled since 2014 to roughly HTG 270 billion (Haitian gourde, or US$2.9 billion). The BRH lends an increasing share of its resources directly to the government or indirectly to state-owned financial institutions. Furthermore, the lack of adequate supervision and other anti-money-laundering and countering financing of terrorism measures increases the risk of Haiti's being included on the Financial Action Task Force's anti-money-laundering deficient list, and thus losing more correspondent banking relationships.

The COVID-19 crisis is expected to worsen loan performance and depress financial sector revenue. Beginning in March 2020, the transmission channels to the financial sector were reduced because of restrictive measures and difficulties in procuring supplies due to border closings. Although a moratorium on loan repayments could be hiding an increase in nonperforming loans (NPLs), which were already on the rise following the sociopolitical crisis, several sectors are likely to be affected either by defaults or restructurings (for example, commerce). The number of loans has drastically dropped because of the uncertainty regarding the duration and depth of the pandemic-related economic crisis. The COVID-19, on top of the sociopolitical crisis, pose a particularly high risk to financial cooperatives serving MSMEs. They face a risk of large-scale withdrawals of funds from lower-income clients, who are more likely to need the funds to cover gaps in income. The most promising sector in the short term is agriculture, because of the difficulty of importing, but most financial institutions still consider credit risks too high in this sector.[47]

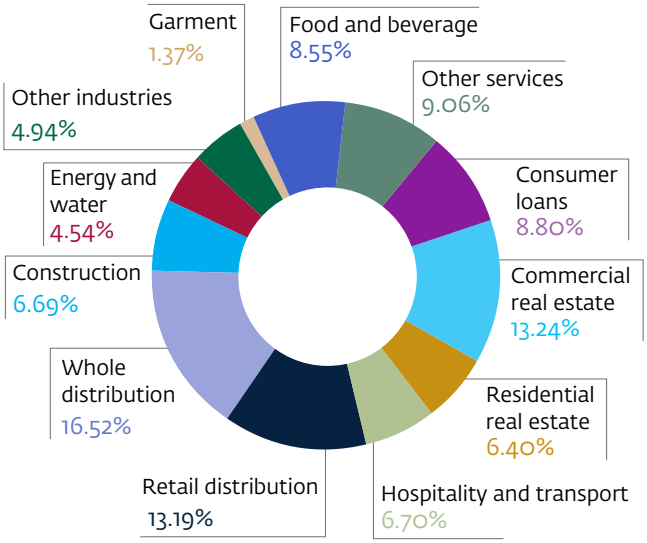
The COVID-19 crisis is also expected to increase liquidity and foreign exchange risks. First, foreign exchange risk does not seem to be under rigorous control.[48] Second, the foreign exchange risk carried by banks has been compounded during the COVID-19 crisis by HTG volatility. Many borrowers have asked to swap their US-dollar-denominated loans for HTG. The demand for US banknotes is also too high for many banks, including the largest, to fulfill the demand. While depositors can still change their HTG balances to US dollars, borrowers are refused if they ask to swap loans from US dollars to HTG. The risks associated with such a rapidly increasing currency mismatch with HTG-denominated assets and US-dollar liabilities could undermine the trust of depositors, especially if they cannot withdraw US-dollar banknotes.

FIGURE 4.1 DOMESTIC CREDIT TO THE PRIVATE SECTOR, HAITI AND PEER COUNTRIES (% OF GDP)



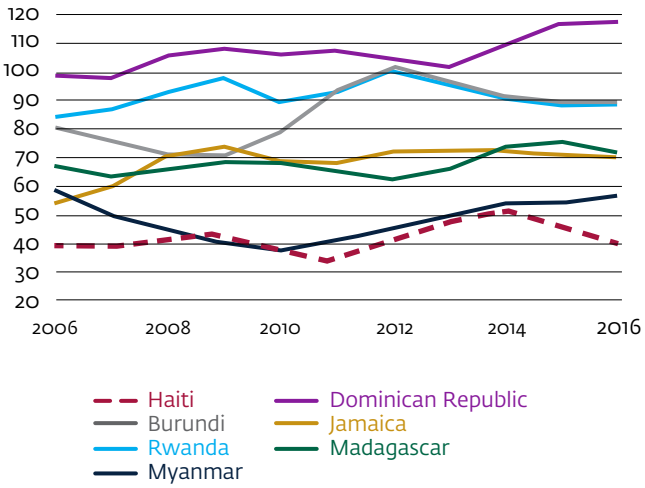
Source: World Bank Development Indicators.
Note: GDP = gross domestic product; LAC = Latin America and the Caribbean

FIGURE 4.2 SHARE OF LOANS OUTSTANDING BY DESTINATION, END OF JUNE 2019



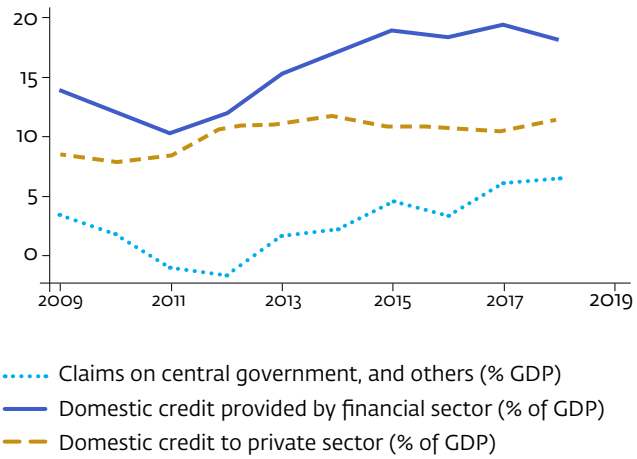
Source: BRH 2020.

FIGURE 4.3 BANK LOANS TO BANK DEPOSITS, 2006–16 HAITI AND PEER COUNTRIES (%)



Source: IMF International Financial Statistics.
Note: GDP = gross domestic product.

FIGURE 4.4 CREDIT TO GDP FOR THE PRIVATE SECTOR AND THE CENTRAL GOVERNMENT, HAITI (% OF GDP)



Source: BRH 2020.
Note: GDP = gross domestic product

The BRH has proactively taken measures to cushion the impact of COVID-19, with mixed results. Measures include a moratorium on loan repayment for banking clients, lower provision requirements for restructured NPLs, reduction of BRH and repo interest rates, lower minimum reserve requirements, raised limits for electronic account transactions, waiver of interbank transaction fees, and the temporary suspension of the submission of data to the Credit Bureau. Some measures, such as payment moratoria, might be helping borrowers in the short term but could aggravate maturity mismatches and pose liquidity problems for microfinance institutions. Other measures are having a limited impact, such as the increase of the ceiling for electronic transactions below the inflation-adjusted levels of 2014. The reduction of BRH-offered interest rates has not had a wide impact on interest charged to bank clients. Other measures, such as temporary suspension of Credit Bureau data publication, have had negative effects, by limiting a bank's ability to evaluate risks, which could restrict the future rebound of lending.

The relatively high level of concentration of banks may be supporting Haiti's financial stability but disincentivizing innovation and reach toward the SME segment. The banking sector is dominated by a few financial institutions that direct a substantial share of lending to prime companies in the formal market, some of which are related to those financial groups. Because of the prevalence of financing to related parties, until 2018 Haitian banks showed unusually high-quality loan portfolios compared with comparable countries. This may be explained by the tight relationships between borrowers and lenders. Noncontractual binds seem to be used by Haitian banks to balance the shortcomings of the judiciary system, the resulting moral hazard, and the asymmetry of information. Three out of four Haitian private banks hold significant loans to related-parties,[49] between 23 and 45 percent of their capital base (BRH 2020).[50] While this business model has allowed banks to be resilient to the multiple shocks experienced by the Haitian economy, it has been unable to create innovation and irrigate financial access to micro, small, and medium companies.

The ratios of total banks' capital to risk-weighted assets, a proxy for solvency, remain above the regulatory minimum of 12 percent at 23.9 percent but could soon be lowered by heavy provisions on nonperforming assets. The combination of a deteriorating economy since early 2019, higher interest rates, and nonrenewal of many credit lines has led to a rapid increase in NPLs: from 2.55 percent in September 2018 to 5.05 percent in September 2020.[51] The fact that several large banks have been allowed to let their provision coverage of NPLs drop by more than 50 percent in one year (during fiscal year 2019) suggests that the risk-based supervision is not fully operational. The coverage of NPLs, which was relatively stable around 90 percent in recent years, dove to 48 percent in September 2019 and bounced back to 62 percent in March 2020, with wide variations among large banks (from 24 to 276 percent). As of March 2020, the capital base seems barely affected, but this could be underestimated.

The trust of a generally resilient banking system is undermined by the lack of transparency, an incomplete regulatory and supervisory regime, untested compliance with international accounting practices since 2008 with a limited number of accounting firms,[52] and some degree of regulatory forbearance. First, the BRH has put in place a capital adequacy, asset quality, management, earnings, liquidity, and sensitivity risk-based supervision system but has published no reports on its performance. Although bank data are published quarterly on the BRH's website, data on all other regulated financial institutions (cooperative and development financial institutions) are not systematically published, and if they are, it is only because of their managements' initiative. Second, significant financial institutions such as noncooperative microfinance or leasing institutions are not yet regulated.[53] Besides minimal reserves for banks, current regulation

does not impose any type of liquidity ratios, either covering short-term (about 80 percent of all liabilities have maturities of less than three months) or long-term liabilities. Supervisors at the BRH do not collect and monitor data on asset and liability maturities, contributing to some institutions' exposure to potential liquidity shocks.[54] Third, only one reputable audit firm operates in the country. Some institutions, like the BRH itself, have their accounts certified by a local firm and a reputable international accounting firm. And fourth, regulatory forbearance appears particularly high for state-owned financial institutions. A state-owned bank has had negative equity since 2016. It holds 1.2 percent of all banks' deposits and 0.7 percent of loans but more than 8.0 percent of treasury bonds. It has been placed under a special administration regime by the BRH, in compliance with the 2012 banking law. The government, as controlling shareholder, is expected to provide additional equity while a new development plan and management team are approved. The resolution regime has been applied at a very slow pace, thus damaging both the bank and, potentially, trust in the financial system. Another state-owned bank has not yet published its 2019 certified accounts and no onsite supervisory mission has been carried out since NPLs skyrocketed in the first half of 2019.[55]

Creditors' rights remain weakly protected by the underdeveloped financial institution infrastructure. Most bankruptcy cases are settled between parties, mainly owing to the difficulty in applying the bankruptcy process through the judiciary as defined by the bankruptcy law that has not been modified since 1944. Lack of reliable land titling limits the use of collateral, and banks have been reluctant to accept movable assets as collateral, frequently requiring deposits in US dollars to secure loans (US State Department 2017). Single credit bureau covers all banks, only three subsidiary microfinance institutions, and a paper-based movable collateral registry imposing a high registration cost (0.2 percent of the loan size, resulting in a tax on credit). This system could still benefit from extending its reach beyond the formal banking system to include microfinance and other data providers such as utilities. The COVID-19-related decision to suspend filing to the Credit Bureau from March to June 2020 has forced banks to revert temporarily to the former credit information practice of calling around. An electronic movable collateral registry is also expected to be operational in 2021.[56]

MSME Finance

There is no generally accepted definition of MSMEs in Haiti shared across institutions, regulation, and data reporting, but the market is mostly segmented by level of formality.[57] The Ministry of Commerce and Industry has issued its own definition.[58] However, there appears to be little awareness and use of this definition in the market. The only market segmentation lies between formal MSMEs, which are catered to by commercial banks, while microfinance institutions (MFIs) cater to informal enterprises.

Demand issues

The demand for loans is relatively high but mostly fulfilled by informal means. The owners of small and micro enterprises, besides lacking information and training on how to manage a formal business, have little incentive to become formal. Nearly 40 percent of the Haitian adult population had a loan during 2016.[59] Borrowing is particularly prevalent in rural areas, where 64 percent of adults reported having a loan in place (compared with 28 percent in urban areas). With 17 percent of adults holding a debt exceeding 12 months of their income, and a quarter of borrowers with both a microcredit and a bank loan, there is a real risk of overindebtedness. However, access

to formal credit is low, with only 10 percent of Haitian adults having a loan from a financial institution. A tenth of borrowings of all kinds are used to start a business, a slightly higher proportion than the average low-income country (LIC) and the Dominican Republic. A survey in 2017 also pointed to overindebtedness issues, with roughly 25 percent of respondents from the lowest income quartile having accrued debt worth over 12 months of income and another 37 percent between 2 and 12 months of their income (World Bank 2019).

Weak managerial capacity in the MSME sector, legal and judiciary shortcomings, lack of collateral, and limited competition in the banking sector hinder access to finance. Financial institutions claimed several factors preventing MSME finance in Haiti: (a) lack of reliable information on creditworthiness, (b) lack of management capacity and formality of loan applicants, (c) high indebtedness levels of SMEs, and (d) lack of collateral. In the absence of a business angels community, some private initiatives try to create ecosystems, including incubators, to allow entrepreneurs to start from a low-cost base and exchange experiences.

Supply issues

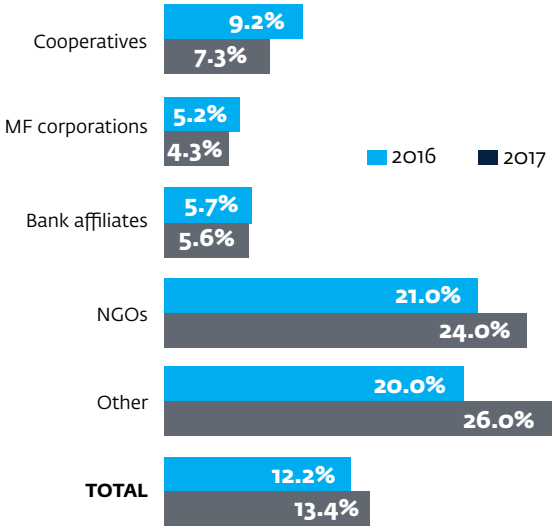
The MSME segment is mostly served by microfinance institutions. It is not a priority segment for commercial banks, which lend only very selectively to formal SMEs. With limited portfolios (less than 100,000 borrowers for a total adult population of around 7 million), many banks take an opportunistic view of serving the market. Most of them have not invested (nor have plans to invest) in necessary capacity and technology to manage MSME-specific risks and opportunities. Some have responded to the recent crises by shifting SME clients into the bank's affiliates for microloans, thus reducing regulatory oversight and applying higher loan rates. The microfinance sector, which has been growing steadily for 10 years and includes a range of different players (see figure 4.5), serves mostly informal MSMEs. It provides funding to more than 286,000 borrowers, mostly microentrepreneurs, and collects deposits from 1.2 million individuals and enterprises. Only cooperative financial institutions are currently regulated and supervised by the BRH. As member-based institutions, they also lend to formal and informal businesses. Their loans for productive purposes and trade accounted for 10 and 38 percent, respectively, of their loan portfolio in 2017. The other types of microfinance institutions were recently brought under the formal oversight of the BRH but are in transition to the new legal framework and therefore not yet formally allowed to collect deposits.[60] MFI affiliates of banks get most of their funding from their mother companies, while funding remains a bottleneck for the other types of microfinance institutions. Microfinance operations carry a much higher interest rate than traditional SME banking operations (more than 40 percent per annum versus 10 to 20 percent for SME loans in HTG), but also come with higher NPLs owing to the higher level of risk assumed. Overall, the size of MFI loans and deposits is still small compared to the volume of loans and deposits of banks (figure 4.6).

Alternative products have been met with strong demand, particularly leasing, but on a limited scale. Whereas capital markets (excluding rare instances of bond private placements) are nonexistent and private equity is in recovery,[61] leasing seems to have been welcomed by the market. A first lessor operating in Haiti has financed more than $9 million in leased assets, with 80 percent of its clients classified as MSMEs. Demand is strong for both automotive (46 percent of contracts) and industrial leasing (54 percent, mostly medical and construction equipment).

Despite their significant presence, state-owned financial institutions have been unable to fill the gap in MSME finance. The banking sector consists of six privately owned banks and two state financial institutions.[62] The latter accounted for 20 percent of financial system assets, which is above the median for the Latin America and the Caribbean region (Cull, Peria, and Verrier 2018). Conversely, the six private banks accounted for 73 percent of total intermediaries' assets. The BRH lends an increasing share of its resources directly to the government or indirectly to state-owned financial institutions. For instance, the FDI (a public financial institution of the BRH) is assumed to be managing approximately 15 percent of the government's yearly capital expenditure and represented 27 percent of the BRH's balance sheet in 2012 and 38 percent in 2018. Overall, public-supported MSME finance in Haiti has been ineffective owing to (a) the institutional overlap, ill-defined missions of agencies, and weak corporate governance and (b) the risk of political interference (technically, loans with low probability of repayment) and the complexity of applying for government programs, which prevent them from reaching unconnected entrepreneurs outside Port-au-Prince.

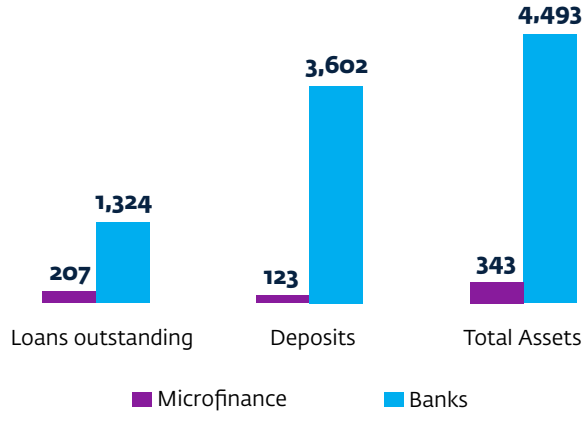
Instruments from international donors have had limited success in expanding MSME finance. All banks interviewed confirmed their lending to MSMEs would not rapidly increase if more concessional funding were available. However, some banks expressed that medium-term (24- to 60-months tenor) external funding would help them maintain existing business ties. The credit risks borne by lesser-known MSME borrowers would, in the banks' estimate, not be worth the additional income. When provided with partial credit guarantees, depending on their design, there is a risk that Haitian banks would tend to use it as coverage for their existing portfolios, including large corporations, rather than as risk mitigants for new MSME loans, with limited additionality for MSME borrowers (Office of the Inspector General, USAID 2013).

FIGURE 4.5 SHARE OF MFI LOANS UNPAID FOR MORE THAN 30 DAYS, UNPAID LOANS (%)



Source USAID and DAI 2018.
Note: MF = microfinance; MFI = microfinance institution; NGO = nongovernmental organization.

FIGURE 4.6 2018 MICROFINANCE AND BANKING PORTFOLIOS, US$, MILLIONS



Source: USAID and DAI 2018.
Note: Exchange rate of HTG 67.5997 per US$1 was used (2018).

Digital Financial Services

Haiti makes less use of DFS than the average LIC. In Haiti, only 5 percent of the population has an e-money account versus 11 percent on average for LICs. According to FinScope (USAID, BRH, and Finmark Trust 2018), 60 percent of adults use a mobile phone and 30 percent own a smartphone. With 23 percent of users having digital accounts, smartphone ownership does not seem to be a limiting factor. The COVID-19 crisis emphasized the benefits of providing secure, low-cost, and contactless DFS tools to the population and to enterprises.

Demand issues

The population in Haiti, including the MSME sector, lacks financial and digital training, which contributes to informality and restricts access to finance. Haitians have relatively good numeric skills (better than residents of some middle-income countries with far higher financial inclusion, such as South Africa), but the majority do not seem to understand the concept of simple interest, an impediment to comparing most financial products (World Bank 2019a). Owners of small businesses have very limited knowledge of their operations' profitability, the yield of an investment, customers' rights, and fees charged by agents (World Bank 2019e).

Demand for DFS is far higher than what current usage suggests, but it is not fulfilled because of lack of trust and limited system functionality. According to the FinCap Survey (World Bank 2019a), only 24 percent of remittance senders and 12 percent of remittance receivers use a formal account. Although the preference for cash should not be underestimated, this suggests that the potential demand for DFS, at least for peer to peer (P2P), is very large. While 73 percent of the population reports knowing about mobile money providers and their services (with a higher level of awareness in urban areas and among people with a higher income level), only 15 percent have so far used these types of services. Mobile wallets have experienced higher activity over the past few months. This is in part due to security considerations but also to limited availability of traditional financial services (for example, restricted opening hours, deficient ATM networks) and COVID-19. The latter has created momentum for reform.

From an MSME standpoint, the incentives to remain informal and to use cash mostly outweigh the benefits of formality. The main reasons include (a) cash is perceived as free, without minimum balance requirements, fees, or transaction limits; (b) past experiences with Ponzi schemes, which have eroded trust in financial institutions; (c) the application of taxes, customs and excise, and regulation in general is unpredictable for formal MSMEs; (d) DFS offer too little convenience compared to cash, including agent liquidity issues, limited P2P outlets, lack of interoperability between service providers, and unreliable connectivity, particularly in rural areas; and (e) DFS providers lack transparency (for example, fees, pricing) and customer protection.

Supply-side issues

The supply of DFS in Haiti is generally restricted in scale and scope and not able to compete with cash transactions. The main issues of supplying DFS relate to their lack of appropriate (that is, convenient and inexpensive) services, so that most people prefer using cash and use DFS only when there is no alternative, particularly when transferring money across the country. And even when in use, 90 percent of electronic wallet transactions are cashed out. All current mobile payment platforms are said to be burning cash because they have remained cash-in-cash-out operations, a slow-growth business with heavy ongoing costs and capital expenditure in running and supervising agent networks.

A limited legal framework for DFS hinders innovation, enables noncompetitive practices, and lacks transparency.[63] The only regulation of DFS in Haiti is the far-from-comprehensive Guidelines on Remote Banking Services issued by the BRH in 2010, completed with additional notes in 2011. The guidelines establish the requirement for bank-led models in the provision of DFS, so electronic money issuers (EMIs) can only be banks, which have fewer incentives and less capacity to disrupt the status quo than innovative tech companies. Banks cannot be the required game changers, as evidenced in Sub-Saharan Africa (Côte d'Ivoire—see box 4.1—and Ghana). In addition, the key missing points not defined in the guidelines include interoperability requirements, nonexclusivity of agent networks, the definition and responsibilities of agents and super-agents, and reporting and supervision of e-money operations. Furthermore, the BRH has issued important decisions through undisclosed no-objection letters, such as the exclusive authorization to provide "mini-wallet" mobile accounts to the second largest bank and the main telecom operator. Some other relevant laws have been voted on by Parliament but have not received an application decree, such as the law on electronic signatures or the Electronic Exchange Act.

Only two companies compete to offer accounts through mobile wallet services,[64] following different models that resulted in an unbalanced growth determined by the lack of competition in the telecom sector. Even if mobile wallets may be run by a telecommunication company, BRH rules demand that the DFS license be held by a partner bank. Since 2013, there have been only two mobile network operators (MNOs) in Haiti. The MNO with the greatest mobile market share (70 percent according to Singh and Barton-Dock 2015) relied heavily on its market dominance and network of agents (both MNO and bank partner) to grow its mobile wallet solution more rapidly:

BOX 4.1 HOW REGULATION CAN TRANSFORM DFS MARKET GROWTH: THE EXAMPLE OF CÔTE D'IVOIRE

Before 2015, subregional regulations applied in Côte d'Ivoire would, very much like in Haiti, allow only banks to be licensed e-money issuers. Mobile network operators (MNOs) needed their bank partners' approval to recruit new agents or to introduce new products and services.

In 2015, the central bank of the West African Economic and Monetary Union (Central Bank of West African States; BCEAO) issued new regulations that clarified the position of nonbanks and encouraged them to abandon partnerships with banks and begin issuing e-money themselves through subsidiaries under BCEAO supervision. All issuers (banks and nonbanks) are subject to the prudential supervision of the BCEAO, including related inspections and sanctions, and monthly reporting requirements. They are also required to ensure the security and reliability of e-money platforms, to guarantee the integrity and confidentiality of the information used in their services, and to set up satisfactory systems of internal control and risk management. Applying recommendations by the Consultative Group to Assist the Poor (CGAP), the new regulation also introduced the ability of nonbanks to recruit and manage their own agent networks and launch their own products. In addition, the regulation included measures to ensure price transparency, customer recourse mechanisms, and personal data protection.

MNOs, now autonomous and agile digital financial services (DFS) providers, quickly invested and successfully enhanced their market share and revenues. According to 2020 Global Findex, e-money ownership jumped from 24 to 34 percent of adults between 2014 and 2017. All secondary school fees, for example, are now paid electronically.

Source: CGAP publications, 2017–19.

from 45,000 to 1.5 million users in four years. It also offers a less stringent two-tier approach cleared by the BRH: a mini-wallet (up to 7,500 HTG with no identification verification required) and a regular wallet (up to 75,000 HTG, with a full know-your-customer [KYC] form). The other electronic wallet application has so far only 110,000 users. It uses encrypted phone calls to enable transactions (near sound data transfer) and thus does not require MNOs' agreements for their customers to use the system, potentially opening the system to users served by any MNO, but it has far fewer agents. It also requires customers to follow bank-type KYC procedures to open an electronic bank account. The second MNO in market share does not offer DFS yet but, because its bank partner has received a license, it is expecting to launch soon.

Because cashing out is the dominant use of mobile wallets currently, less innovative and closed-loop-based bank debit cards are fierce competitors of digital operators. The two largest banks offer debit cards to bank customers and to noncustomers, who can use the banks' agent networks, affiliated merchants, and ATMs. Both offer basic accounts for cash-in, cash-out but at a lower cost than traditional bank accounts and at low KYC (one piece of identification instead of two). Other companies offer electronic vouchers and a platform for merchants to receive payments from mobile wallets.

Agent networks are subject to noncompetitive practices and cannot support the much-needed further development of DFS. Agents of the two mobile wallet systems are bound by exclusivity, hampering interoperability. Currently agent networks are too few and too fragile, limiting competition. It appears that they lack attractiveness (for retailers to become agents), trust (from consumers), and liquidity. Agents often lack training, which also worsens the situation of financially illiterate consumers. Not only is the overall number of agents too low, it is also unevenly spread across the country, with certain areas near 1 agent per 10,000 residents and other areas more than 8 per 10,000 (figure 4.7). The case of the Republic of Yemen has shown that, even in the most fragile states, building new DFS, including a new agent network, is possible (box 4.2).

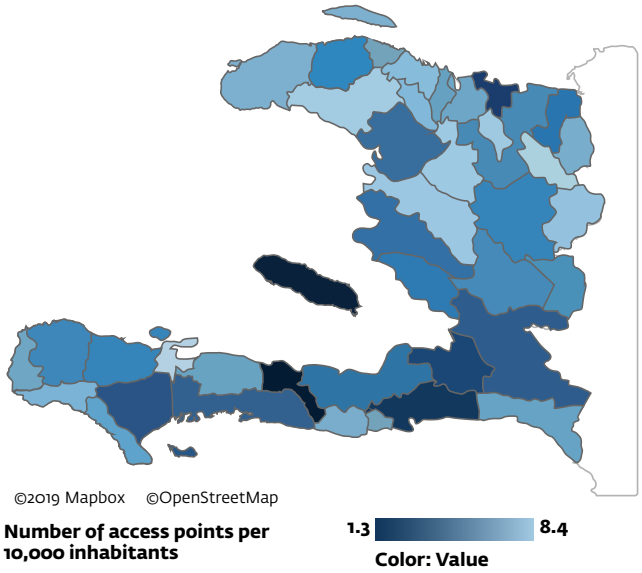
BOX 4.2 CASE STUDY: NEW DIGITAL FINANCIAL SERVICES IN THE REPUBLIC OF YEMEN

While many financial institutions in the Republic of Yemen reduced their activity during the civil war, Al Kuraimi Islamic Microfinance Bank, which has grown to become one of the country's largest banks, saw an opportunity to adopt an innovative solution to continue serving customers in need. With assistance from the World Bank Group and others at the regulatory level, Al Kuraimi piloted and launched a new mobile money service (mFloos) in 2016. At the start of the project, only 6 percent of the Republic of Yemen's adult population had access to formal financial services, according to 2014 World Bank Group Findex data. By the end of 2018, mFloos had already enrolled more than 450,000 customers. They represent 2.6 percent of the adult population of the country. The fact that new mobile financial services have been launched during a devastating civil war is a testament to the resilience of the financial sector and to the potential of digital financial services for consumers.

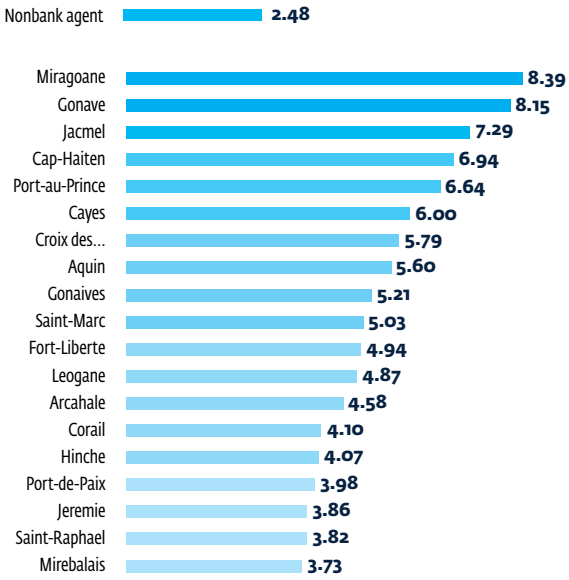
Source: CPSD team, based on consultation.

FIGURE 4.7 DIGITAL FINANCIAL SERVICES IN HAITI

a. Number of agents per 10,000 inhabitants by district



b. Access points per 10,000 inhabitants by type of recipient, district



Source: BRH website on FinScope Consumer Survey, Haiti 2018 (USAID, BRH, and FinMark Trust 2018), using 2019 Mapbox Open StreetMap.
Note: Agents may be part of a bank organization or operate independently.

Many national projects related to digital payments are overlapping: (a) the BRH started working on a national switch project named PRONAP in 2007, with limited traction among commercial banks and by now obsolete technology; (b) the largest banks have been developing proprietary platforms for their own debit cards and online banking, using a preferred DFS provider partner, their own agent network, and their MFI subsidiary; (c) the largest financial cooperative association is investing in an internal switch that would allow P2P transfers between members of different cooperatives and the opening of digital accounts; and (d) some larger MFIs are also developing their own partnership with a DFS provider and choosing their own information system that would presumably be incompatible with the other MFIs within the national association.

Private Sector Opportunities

Despite the weak regulatory framework in Haiti, new business opportunities can arise. The successful development of leasing in recent years provides an encouraging precedent on how to improve parts of the financial sector and operate thanks to BRH regulation, even when the legal framework is not fully in place yet. Besides, in May and August 2020 the government issued four presidential decrees on leasing, professional leasing, secured transactions, and microfinance, providing a stronger legal framework for the financial sector. Additionally, in September 2020 the BRH issued guidelines for financial institutions to prevent money laundering and the financing of terrorism.

In this context of high unmet financial demand, it is likely that new products such as nano or digital loans could be a commercial success, combined with greater DFS interoperability (box 4.3). Given the importance of traders in the portfolio of banks (13 percent retailers and 14 percent wholesalers) and in the portfolio of MFIs (52 percent retailers and wholesalers combined), it is likely that digital intraday loans would be in high demand, especially in rural areas. Emerging countries such as Uganda have experienced significant and value-adding uptake of digital microloans. Ugandan retail traders had an untapped need for very-short-term loans (borrowing from rural suppliers early in the mornings with repayments at the close of markets in the early afternoons). In Madagascar, digital nano loans provided small entrepreneurs with their first access to finance (IFC and Mastercard Foundation 2018). In the long run, though, the success of these initiatives is contingent on robust regulatory safeguards with an emphasis on protecting consumers and measures to prevent overindebtedness and delinquency.

BOX 4.3 DIGITAL FINANCIAL SERVICES INTEROPERABILITY: THE TANZANIA EXAMPLE

In 2012, the Bank of Tanzania was working on a new mobile payment law. It was becoming apparent that without interoperability, the emerging digital financial services (DFS) market was likely to stagnate and the recent expansion in financial inclusion risked tapering off. An industry-led consultative process was launched to create a set of interoperability standards and rules for a DFS plan, covering at least four transaction sets. The initiative subsequently included a nationwide marketing campaign targeting 1 million people, as well as the development of a generic set of standards for DFS interoperability for application in any market. In 2014, Tanzania became the first country to introduce an industry-designed interoperability plan between mobile money wallets for peer-to-peer (P2P) domestic remittances. Consumers can now transfer money between the leading mobile wallets (P2P) at no extra charge. The project was supported by the Bill & Melinda Gates Foundation, the Financial Sector Deepening Trust, the Bank of Tanzania, and IFC.

Source: IFC and Mastercard Foundation 2018.

Partial credit guarantees (PCGs), adapted to lessons learned from previous initiatives in Haiti, could be tested. When provided with PCGs, Haitian banks tend to use it as coverage for their existing portfolio, including large corporations, rather than as risk mitigants for new MSME loans, and thus limited additionality was demonstrated for MSME borrowers (Office of the Inspector General, USAID 2013). Evidence from Madagascar (box 4.4) shows that in LICs with adverse environments for business, well-designed programs with targeted interventions can, to a certain extent, compensate for the lack of regulation or an inefficient judiciary system.

The repayment of MFI loans and digital payrolls is one of the most promising uses of digital accounts (and debit cards). Instead of going every month or week to the MFI counter or one of its agents, MFI borrowers gain significant convenience and savings (for example, cost of transport, not having to close the business) by using mobile accounts. Several pilot projects are targeting groups of formal workers in the apparel industry, but they are struggling to scale up. International financial institutions and international donors such as IFC, Inter-American Development Bank (IDB), and US Agency for International Development (USAID) are sponsoring separate payroll projects whereby up to 10,000 workers are paid through mobile accounts that allow for withdrawal and that facilitate usage at nearby merchants. The objective is to create an ecosystem where mobile payments have enough local critical mass to emulate other sectors and areas. To alleviate the impact of COVID 19, the government of Haiti is also conducting electronic transfers channeled through mobile wallets.

BOX 4.4 MADAGASCAR PARTIAL GUARANTEE FUND FOR SMALL AND MEDIUM ENTERPRISES

In Madagascar, a partial portfolio guarantee project for loans granted by banks and microfinance institutions to micro, small, and medium enterprises (MSMEs) was initiated in 2014 through financing of the World Bank with an initial capital of $4 million. The guarantee covers 50 percent of the credit that meets well-defined eligibility criteria, reducing discretional biases when selecting recipients. The guarantee fund is managed locally by a Malagasy private company under central bank supervision. Each participating financial institution benefits from the presence of a resident technical adviser whose mandate is to improve internal procedures, assist in risk analysis, develop MSME clients, and train staff. This fund has grown rapidly. In 2017, $24.5 million was recorded in credit, six times higher than in the previous two years, while the number of borrowers increased sevenfold to 1,731 borrowers. Eight financial institutions participated, including six banks and two microfinance institutions. In September 2017, the nonperforming loan ratio was at 1.7 percent, well below the average level in banks and microfinance institutions. Sixty percent of the value and 75 percent of the number of loans under the guarantee are new, with the majority being small (72 percent of them are below $13,000).

Source: CPSD team.

RECOMMENDATIONS

Table 4.1 outlines four sets of recommendations to promote MSME finance and DFS. The first is related to the need to reassess the financial sector gaps and build consensus on the reform road map for the financial sector. The other three focus on the enabling environment by improving financial consumer protection, strengthening the sector supervision and regulatory framework, and boosting the use of tools to increase MSME finance and provide an ecosystem for DFS. The recommendations aim to encourage private sector investments by prioritizing quick wins, as well as medium priorities and high priorities, depending on their potential impact and feasibility.

TABLE 4.1 SUMMARY OF POLICY RECOMMENDATIONS, FINANCIAL SECTOR

	Recommendation	Objective	Priority
Reassess the financial sector gaps and build consensus on financial sector reform			
1	Leverage policy dialogue to agree on a reform road map.	Use existing forums (such as the Haitian Alliance for Financial Inclusion) to accelerate the modernization of the sector. Particularly focus on DFS to progress on the regulatory framework and determine the core features and standards for developing a common platform, promoting interoperability and new partnerships.	Quick win
2	Update the FSAP Assessment.	Plan an FSAP mission in Haiti. FSAP is a comprehensive and in-depth analysis on financial stability and its contribution to development.	Medium
Improve financial consumer protection, education, and the corporate governance of the banking sector			
3	Enhance transparency and capacity of financial consumer protection.	Enhance information transparency of financial services, costs, and applicable consumer protection frameworks (for instance, identity theft, fraud, and unfair or opaque practices). Make dispute mechanisms more transparent (such as with ombudsmen) and strengthen internal processes to take complaints. Implement the National Financial Education Strategy, include consumer digital literacy and financial education in school curricula and in professional training programs for entrepreneurs, and train nonbank agents to improve transparency and quality of service.	Medium
4	Improve corporate governance in the banking sector.	Strengthen further regulations on internal control and the independent monitoring of the effectiveness of such control.	Medium
Strengthen financial supervision and the regulatory framework for MSME finance and DFS			
5	Improve the financial infrastructure framework.	Strengthen Credit Bureau functionality, and include all nonbanking financial institutions. Strengthen the Movable Collateral Registry, launch a digital application, and make registration compulsory while reducing the registration costs.	Quick win
6	Strengthen supervision of the financial sector.	Tighten supervision and increase penalties for noncompliance, for instance with foreign exchange prudential regulation. The BRH could proactively monitor the financial situation and lending portfolio of financial cooperatives and other microfinance institutions, and include cooperatives in the BRH liquidity facility.	High

	Recommendation	Objective	Priority
7	Enact critical legal and regulatory tools.	In the short term, expedite the development and passage of the implementing regulatory framework for recently enacted decrees on microfinance, secured transactions, and leasing. Additionally, continue improving the legal framework on DFS, credit reporting, financial consumer protection, insolvency, bond issuance, and insurance. Introduce prudential norms on foreign currency holdings where missing.	High
8	Authorize stand-alone licenses for nonbank EMIs.	Allow nonbanking EMIs to be regulated and supervised by the BRH. Policies could also define more clearly the supervision, roles, and responsibilities of agents and subagents. Memorandums of understanding could be short-term solutions.	High
9	Continue addressing anti-money-laundering issues.	Follow the Financial Action Task Force recommendations from the July 2019 assessment.	High
Implement tools to develop MSME finance and improve the ecosystem for DFS			
10	Encourage the use of nascent financial products.	In the short term, explore supporting the entry of new risk-capital providers or channeling resources to growing products, such as leasing, by providing refinancing to operators. Drawing from recent experiences of MFIs with mobile wallets, additional initiatives could be launched to link microfinance clients with e-wallets to repay loans, potentially at no additional cost to the borrower.	Quick win
11	Apply risk-sharing mechanisms, improve credit risk management, and promote transformation of public financial institutions.	Help the sector with risk-sharing mechanisms, such as PCGs, after the COVID-19 emergency phase. Improving credit risk assessment in the sector, reworking credit policies, and training staff are also priorities. Cash-flow-based lending in MFIs could be a focus. Promoting institutional transformation of public financial institutions, especially in the areas of governance, transparency, accountability, credit decisions, and environmental and social management, is key to enabling the efficient channeling of MSMEs' finance funds.	High
12	Assess the development and impact of DFS.	Launch a study on the impact of digital lending both as a business facilitator (especially for rural traders) and as a risk for ill-informed borrowers (overindebtedness, gambling); assess pricing structures, transaction ceilings, and incentives to use DFS.	Quick win
13	Enhance payment services and system interoperability.	Improve access to financial service points, enhance liquidity management of agent networks, and increase the agent network in areas with limited financial service coverage. Support the installation of (ideally interoperable) point-of-sale machines and the training of merchants as agents. Determine whether PRONAP (national electronic payment services platform) can provide a platform for a broad range of DFS, considering its outdated technological architecture, or if another platform, supervised by the BRH, could be a more efficient solution.	High
14	Actively promote the extension of DFS.	Extend the programs experimenting with e-payments to apparel industry workers to government employees (making all inward and outward government payments digital would be a key driver of financial services digitalization).	Quick win

Note: BRH = Central Bank of the Republic of Haiti; DFS = digital financial services EMIs = electronic money issuers; FSAP = Financial Sector Assessment Program; MSMEs = micro, small and medium enterprises; PCG = partial credit guarantee.

4.2 ENERGY SECTOR

Sector Overview and Organization

The electricity network in Haiti is underdeveloped and not financially sustainable, resulting in very low access, a large urban-rural gap, unreliable service, and high tariffs. The market is dominated by Électricité d'Haïti (EDH), a bundled national utility with embedded generation, operating 10 independent distribution systems. EDH is a vertically integrated SOE which had a monopoly over generation,[65] transmission, distribution, and commercialization until 2016. Most of the power (52.3 percent) is provided by EDH and thermal generation units owned by the Tripartite Corporation Mechanism,[66] with the remainder coming from independent power producers (IPPs). EDH operates one centralized grid in Port-au-Prince and nine independent regional distribution systems with aging and inefficient transmission and distribution networks.[67] This model is combined with about 30 isolated diesel-powered minigrids owned by municipalities (communes). EDH's installed capacity of 337 megawatts (252 megawatts for Port-au-Prince and 85 megawatts for the provinces) and available capacity, estimated at 145 megawatts (105 megawatts for Port-au-Prince and 40 megawatts

for the provinces), are insufficient to meet peak load demand, estimated at 500 megawatts.[68] Table 4.2 provides a summary of the market structure, including smaller private operators. Three IPPs had power purchase agreements (PPAs) with EDH that included take-or-pay clauses; only one was awarded competitively. The IPPs have faced challenges working with the government that include lack of transparency, timely payment, and contract renewal and enforcement. In November 2019, the Haitian government filed criminal fraud charges against one of the IPPs and then seized its plant, with operations being overseen by EDH.[69]

Haiti has the lowest electrification rate in Latin America and the Caribbean, and the government of Haiti committed to achieving universal access to electricity as well as to liberalizing the energy sector in 2016. Only a third of the population has access to electricity (38 percent in 2016).[70] Haiti is also ranked 33th out of 54 countries for which data are available in the Regulatory Indicators for Sustainable Energy (RISE) 2019 assessment for electricity access.[71] Low access compounded with low income levels and supply constraints result in a per capita electricity consumption rate of 38.9 kilowatt hours per capita—the average for Latin America and the Caribbean is 50 times higher. Moreover, access and quality in rural areas has worsened over the past 15 years. According to World Bank data for 2017, 78 percent of the urban and only 3 percent of rural populations have electricity access. Rural households mainly use kerosene lamps and candles for lighting and rely heavily on biomass (over 75 percent of total primary energy consumption in 2017).[72]

Demand has been growing rapidly, while on-grid generation capacity has remained stagnant over a decade, with the consequent deterioration of reliability and increasing reliance on informal self-generation. Electricity in Port-au-Prince, the best-served area, is available for only 13 to 16 hours a day on average. As a result, unreliable electricity (load shedding, frequent interruptions) is consistently highlighted as one of the most binding constraints to doing business in Haiti. Results from the Enterprise Survey show that 40 percent of firms in the capital consider electricity a major or severe obstacle to their operation (versus only 27.7 percent in Tegucigalpa, Honduras). This has had a significant negative impact on the competitiveness of critical sectors such as apparel and tourism. Lack of reliability has pushed households and businesses in urban areas to self-generate, as a back-up solution, and at higher costs than on-grid tariffs and not through renewable energy. Around 92 percent of firms in Port-au-Prince rely on generators, compared to 26 percent in peer FCS capitals. The generators supply less than 70 percent of these firms' energy needs.[73] The estimated installed capacity of small and medium diesel generators is more than 200 megawatts (Stuebi and Hatch 2018), exceeding total EDH on-grid available capacity and operating without a formal framework or monitoring.

TABLE 4.2 SUMMARY OF THE ELECTRICITY SECTOR IN HAITI

Port-au-Prince area

Ownership

- Generation: EDH (52.3%); 3 IPPs (47.7%)
- Transmission: EDH
- Distribution and retail: EDH

Technical

- Production capacity: 252 MW
- Delivery capacity: 105 MW
- Transmission: 69kV; and 115 kV to Peligre
- Manual dispatch

Regional grids

Ownership

- Generation: EDH (25 MW) and IPPs (55 MW)
- EDH operated (8 grids)
- Distribution and retail: EDH
- CCEP: operated by firm C; currently part of the North East Network

Technical

- Total capacity: EDH: 80 MW; CCEP: 10 MW

Minigrids

- Operated by municipalities or EDH (30)
- Privately operated:
  - Firm A (4 sites)
  - Firm B (2 sites)
  - Firm C–NGO cooperative (1 site)

Embedded (self) generation

- IPP#3 (not available)
- Firm D (10 MW)
- A telecom operator (50 MW)

Technical

- Total embedded capacity estimated at 400–500 MW in total; primarily in the commercial and industrial segment.

Solar Home Systems and Pico Solar Solutions[b]

- Multiple low-quality imports, lanterns, self-assembly systems
- Pay-as-you-go pico solar: two actors (a partnership between one of the IPPs and a telecom operator, 600 kits, pending phase 2; and Firm E in partnership with a telecom operator, 7,000 customers)
- Development program linked to direct sales: 2 actors (firm F; and a money transfer and payment services company that leveraged remittances)
- Loans for generators and large solar systems: Two firms (a microfinance institution and a financial cooperative institution)

Source: Interviews during CPSD technical mission.
Note: CCEP = Caracol Community Electrification Program; EDH = Haiti Electricity Utility Company; IPP = independent power producer; kV = kilovolt; MW = megawatt; NGO = nongovernmental organization; SHS = solar home systems; Wp = watt-peak. a. Map of network: http://anarse.gouv.ht/wp-content/uploads/2018/05/Reseaux_Nord-est.pdf. b. According to the Off-Grid Solar Market Trends Report (Lighting Global, GOGLA, and ESMAP 2020), pico products include small, portable solar lanterns, flashlights, or lanterns designed to meet basic lighting needs as a replacement for kerosene lamps in a small household. Packaged either as a simple, one-light system with one LED light, an embedded 0.5–3.0 Wp solar panel, and an internal rechargeable lithium-ion battery or as multilight systems of up to four LED lights with a standalone solar panel (up to 10 Wp) and a rechargeable battery. Some include USB charging for mobile phones. SHS has a solar panel (11 Wp and higher); they include home lighting systems and large systems that can power appliances. SHS can be component-based or plug-and-play systems (kit, with LED lights for multiple rooms, a solar panel with power rating up to 100 Wp for small SHS and higher for large SHS, and a rechargeable battery; they may include assorted energy-efficient appliances).

Average end-user tariffs in Haiti are among the highest in Latin America and the Caribbean (figure 4.8), driven by EDH's operational inefficiency, outdated transmission and distribution networks, and heavy reliance on self-generation (and imported fuel). The tariff structure for EDH has the commercial and industrial sectors subsidizing the household sector (table 4.3), but this is insufficient for cost recovery by EDH, which increases the burden on the national budget. High tariffs are due to several factors, including system losses (technical and nontechnical), estimated at 65 percent of total electricity production and significantly above the Latin America and the Caribbean region's average of 15.5 percent (IEA 2019). Losses are mainly a consequence of inefficient and overburdened networks, weak commercial management and customer service, widespread theft, and a low payment collection rate,[74] all of which affect the financial sustainability of the sector. High tariffs are also driven by the large share of thermal generation (80 percent), that makes Haiti vulnerable to oil prices and foreign exchange risks. EDH's average cost of thermal generation is around $0.30 per kilowatt-hour and even higher on the smaller isolated grids that run on diesel.[75] The situation is worsened by the dependency on fuel oil, which is purchased in US dollars while revenues are collected in Haitian gourdes, because there are limitations to passing on currency fluctuations to consumer prices.

Private sector engagement in renewable energy (RE) and off-grid electrification can contribute to access expansion while the need to work on the poor commercial and financial viability of EDH is addressed. Expanding access is a priority for the government of Haiti. Delivering on this agenda requires increased private sector engagement in RE and off-grid electrification. Because state and municipal budgets are already stretched to serve pressing needs, the role of the private sector in boosting Haiti's installed capacity is essential. Reforms have been pursued to restore the financial sustainability of the sector, to strengthen the institutional capacity of the Ministry of Public Works, Transport and Communications (MTPTC), and to improve transparency and accountability of public finance, all essential to attract private sector participation.[76] However, progress in

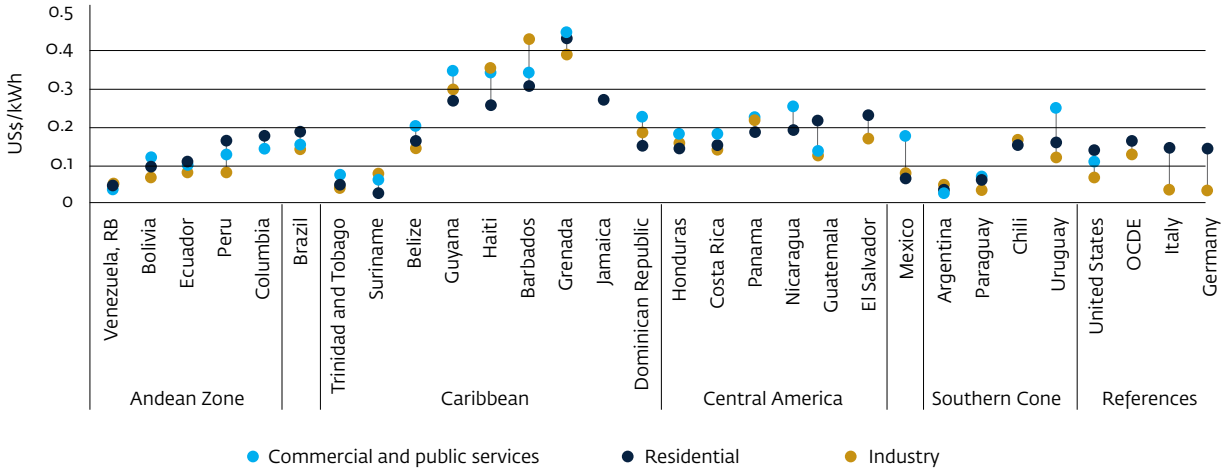
TABLE 4.3 ELECTRICITY PRICES VERSUS PRODUCTION COSTS

Electricity prices	Cost of production ($/kWh)
• Household: $0.16/kWh • Commercial: $0.35/kWh • Industrial: $0.36/kWh (EU 2018)	**EDH:** • $0.32–0.39/kWh (Stuebi and Hatch 2018)[a] **IPPs:** • IPP #1: $0.149/kWh • IPP #2: $0.19/kWh • IPP #3: $0.30/kWh

Source: Interviews during CPSD technical mission.
Note: Sources are indicated inline in the table. EDH = Haiti Electricity Utility Company; kWh = kilowatt hour. a. Interviews suggested the generation cost of EDH varies significantly between the rainy season ($0.30 per kWh) and the dry season ($0.50–$0.60 per kWh), depending on the availability of water at the Peligre hydroelectric dam.

sector reform has been slow despite intense policy dialogue over the past decade. As a complement to this agenda, to expand access through on-grid RE and off-grid distributed RE (minigrids, solar home systems)[77] with private sector investment, the government is implementing two projects with the financial support of the World Bank. The first project, Modern Energy Services for All, funded by the Clean Technology Fund (World Bank 2017b), works on relieving constraints to off-grid electrification with RE by supporting the government of Haiti in establishing the Off-Grid Electricity Fund (OGEF), which invests equity and provides loans to Haitian off-grid electricity businesses with commercially viable and scalable business plans.[78] The second project, Renewable Energy for All, funded by the Scaling-up Renewable Energy Program (SREP), concentrates on an already existing private sector interest in off-grid electrification through minigrids and individual off-grid systems for households and productive uses—for example, ovens and mills (World Bank 2019b). Fifty percent of the connection cost is paid to the operator. The project also aims to pilot RE in small and medium EDH grids. The approach contributes to realizing Haiti's important solar energy potential.

FIGURE 4.8 ELECTRICITY TARIFFS IN SELECTED LATIN AMERICA AND CARIBBEAN COUNTRIES, 2015



Sources: Elizondo-Azuela and others 2017.
Notes: kWh = kilowatt hour; OECD = Organization for Economic Co-operation and Development).

Constraints to Private Sector Investment in Renewable Energy

The absence of sector policy and regulatory frameworks, weak institutional capacity, and challenges in adopting new legislation are major impediments to power sector reform and limit private investment in RE. In the absence of legislation, the power sector in Haiti has essentially been governed by three decrees since 2016 (EU 2018): one governing the sector; a second creating the National Regulatory Authority of the Energy Sector (ANARSE); and a third decree reinstating EDH without major changes. There are gaps in energy legislation, with laws for PPP and energy theft that have been proposed but not yet enacted. Moreover, there is no energy policy or strategy to steer reform or plan for the expansion of RE. The Energy Sector Development Plan (2006) expired in 2017 (Government of Haiti 2006). Despite these constraints, Haiti has adopted some reform measures, including introducing RE (although without a formal national energy strategy) under the leadership of the Energy Cell (within the Ministry of Public Works, Transport and Communications), created in 2013 to support sector development and project implementation, and ANARSE. The government intends to maintain a resilient, redundant system, with multiple regional grid operators, and to scale up investments through a strong engagement with the private sector. The objective is to address the management inefficiencies of EDH and the dependency on imported oil. To accomplish this, the government has decided to pursue the transfer of seven of EDH's regional grids to the private sector and implement projects that promote private investment in off-grid RE solutions. The decentralized nature of the system, with independent regional grids complemented by minigrids, creates redundancies and cost-inefficiencies. It is challenging in terms of regulation, procurement, production costs, and monitoring operations. The plan for reform requires high technical skills, currently not in place, from the regulator leading the process.

In particular, the weak regulatory framework for RE is the main challenge for private investment growth in the sector. Despite recent improvements, a benchmarking exercise using RISE RE scores to compare Haiti against four peer countries in the region (Dominican Republic, Honduras, Jamaica, and Nicaragua) and two structural peers (Burkina Faso and Togo) ranks Haiti last in terms of the functioning of the RE ecosystem (ESMAP 2018).[79] Because of the high risk in planning and operations that the weak regulatory framework presents, investments are made based on PPPs without an overarching strategy. RE expansion is conducted through procurement processes (that is, management by contract through PPPs for minigrids), which requires strong contract enforceability, a critical constraint frequently cited by stakeholders. The decentralized nature of Haiti's power system, which no other country in the benchmark has (see appendix B), adds complexity to the regulatory challenge.

Like benchmark countries, Haiti faces challenges to improving the design of regulatory frameworks in support of RE and the attributes of financial and regulatory incentives. These include the ability to run auctions for large-scale generation projects and have fixed tariffs for small producers. Current regulations disadvantage both on-grid and off-grid renewables against their fossil fuel alternatives. Fossil fuels enjoy subsidies. RE equipment and batteries are subject to the value added tax and, while the equipment is exempt from import duties (except for batteries), such exemption is not consistently applied (clarity about additional fees applied to imports is also needed). In addition, except for Haiti, all countries in the benchmark have improved on counterparty risk mitigation.[80] Togo stands out in the analysis as an example that could be followed. Although not having the best overall score, the country shows a consistent improvement in its enabling environment for expansion of RE (compare Togo's experience in planning for minigrids in appendix C).

Institutions require significant capacity building for project implementation. The Energy Cell needs to be sufficiently staffed to take on increasing responsibilities stemming from new efforts to increase private participation. The structuring and execution of PPPs require significantly more technical capacity from the Energy Cell, EDH, and the Ministry of Economy and Finance (where the PPP unit is housed) to establish procurement processes, contractual modalities, and monitoring and verification processes. ANARSE is a relatively young regulatory agency that has yet to build a reputation as an independent and effective regulator. Although the agency seems comfortable with regulation by contract, in the longer term ANARSE will need to develop a light-handed regulatory framework for minigrids that builds on the concession and the initial tripartite agreement.

Haiti has a nascent regulatory and institutional PPP framework that, despite progress in implementation, struggles with limited technical capacity and lack of cooperation among public sector agencies. While ANARSE should be focusing on its regulator role, it is managing the procurement process for minigrids (and for regional grids),[81] while the PPP unit should be working with municipalities and minigrid developers. Stronger capacity in terms of skills is needed from procurement institutions that are involved in the approval of PPP transaction agreements, such as the Superior Court of Accounts and Administrative Litigation or the Haitian Public Procurement Commission. According to the World Bank (2018b) regarding practices for procuring infrastructure with PPPs, Haiti scores slightly below the Latin America and the Caribbean regional average in PPP procurement and PPP contract management and is particularly weak in managing unsolicited proposals.

Lack of transparency in procurement has undermined the confidence and enthusiasm of investors. Stakeholders lack trust in the technical capacity of the regulator, more so than in the Energy Cell, and remain concerned regarding the potential conflict of interest as ANARSE is responsible for both regulation and management of the procurement processes. Stakeholders also cite the use of nonstandard PPP contracts (although for the first request for proposal [RFP], contracts were standardized), limited availability of information about consumer demand, and lack of clarity about how tariffs are set as barriers to investment.

Moreover, Haiti faces a lack of access to long-term domestic finance, which makes it difficult to advance the PPP agenda. The capacity of the sector to participate in major infrastructure lending is not in place. As of June 2019, energy and water represented 4.5 percent of loans outstanding, evidence that there is limited appetite from the domestic banks to lend to the sector. In addition, there is no sizeable set of institutional investors to tap into.

The activities of development finance institutions lack coordination, leading to suboptimal resource allocation, an undermining of private sector efforts, and limited impact. Several donors, including the Caribbean Development Bank (CDB), European Union, IDB, USAID, United Nations Office for Project Services (UNOPS), and the World Bank are working on different on-grid and off-grid projects. The variety of projects appears limited and diffused in scope. Technical assistance is being provided piecemeal, and studies are not conducted through a national strategic lens; rather, they are project based and narrow in scope. However, recently the World Bank, IDB, and CDB started cooperating to support minigrids by pooling resources for a second RFP process.

Opportunities for Expanding Access: Renewable Energy and PPPs

Haiti has significant untapped potential in expanding RE solutions. The changes in the international oil supply market, the frequent shortages of supply in the domestic market, and high prices incurred due to gourde depreciation increase the need to initiate the energy transition away from oil. Moreover, Haiti offers potential private investment opportunities in biomass, solar photovoltaic (PV), wind, and hydropower generation. Only the latter has been partially exploited (WEF 2011).[82] Given EDH's limited capacity and financial sustainability, and without a national grid and with several nonperforming regional grids, the approach taken by the authorities consists of initiating a rapid transition of the energy mix and unbundling the electricity market on the distribution segment, as a complement to the generation segment. Because the state is not in the position to invest in new infrastructure, recourse to private investment is a priority. This creates an opportunity for foreign investors to invest in minigrids to address the deficit in access and the large urban-rural gap.

Opportunities for solar minigrid expansion have emerged following significant decreases in technology costs. According to the International Renewable Energy Agency (IRENA), the levelized cost of an autonomous minigrid using only RE ranged between $0.47 per kilowatt-hour and $0.92 per kilowatt-hour in 2016; and is expected to fall to $0.30 per kilowatt-hour to $0.57 per kilowatt-hour by 2025 and to $0.19 per kilowatt- hour to $0.35 per kilowatt-hour by 2035. Lower storage costs and more intelligent controls are foreseen as the primary drivers for a lower levelized cost of solar minigrids and for integrating renewables in hybrid minigrids (IRENA 2016a). According to Energy Sector Management Assistance Program (ESMAP) estimates in 2019, the levelized cost of energy (LCOE) for solar hybrid minigrids is expected to decrease from $0.55 per kilowatt-hour to $0.22 per kilowatt-hour by 2030 (IFC 2019b). Despite the rapid decline in battery costs, the LCOE of PV and battery-only solutions is today still higher than for a hybrid solution, because systems are usually oversized to ensure enough level of service even in periods of high demand.

New technologies being deployed in Haiti are also contributing to increased access through off-grid RE solutions by lowering fixed and variable operating costs and by offering alternative payment solutions for consumers who do not have the capacity to pay their monthly fee up front. This is the case for smart metering of minigrids and pay-as-you-go (PayGo) platforms used, for instance, by some operators mentioned in table 4.4, that make it easier for customers to regulate their consumption and for operators or solar home system (SHS) distributors to collect payment.[83]

The government commitment at the presidential level to prioritize the expansion of electricity access in Haiti, followed by donor support to this agenda, are the two additional market drivers that reveal an ongoing momentum for leveraging private investment in the sector. A recent analysis by IFC (2019b) of the state of the minigrid market underscores the opportunities for expanding access in Haiti through RE and via minigrids. It identifies four market drivers: (a) government commitment through comprehensive medium- and long-term electrification planning and conducive regulatory reforms; (b) improvements in technology that have driven down its cost; (c) private sector engagement through the emergence of international and local sponsors

driven by profit potential; and (d) increased development of financial institutions financing (for example, the World Bank has minigrid projects, approved or in pipeline, in 42 countries). The next sections discuss opportunities and challenges presented by the current context focusing on three market segments: (a) minigrids for rural electrification, (b) minigrids for commercial and industrial users, and (c) solar home systems and small solar solutions.

Minigrids for rural areas and remote communities

Opportunities for private-led minigrid development in Haiti were initially created by the 2006 Decentralization Law, which allows minigrids to be owned and operated by municipal authorities (communes), and for private developers to engage with municipalities to build and operate them. Minigrids fill the gap between national grid extension and solar home systems/pico solar solutions to expand access to electricity in rural areas and remote communities (IFC 2019b). They start in the most densely populated areas and expand outward.[84] The expectation is that access to electricity will bring greater economic activity to these locations, which will in turn generate higher demand, and that expansion will ensue. By 2020, Haiti had 30 village grids operated by municipalities with the support of EDH; their capacity ranges between 60 to 240 kilowatts (table 4.4). These grids run on diesel, have not been designed based on load projections, are oversized, and have low fuel efficiency. Privately operated minigrids—solar PV hybrids—are already operating in five sites.[85] Two firms in particular have enough experience in the country to help uncover the opportunities for investment that minigrids can provide.

TABLE 4.4 OPERATING MINIGRIDS AND PROJECTS IN DEVELOPMENT IN HAITI

Site	Size PV (and batteries/diesel)	Owner/operator	Connections
Les Anglais	100 kW (and batteries)	Firm B (appendix D)	420 connections, grant funded
Tiburon	95kW	Firm B	500 connections (approved in December 2019)
Mole-St-Nicolas	200 kW (and diesel)	Firm A	1,100 connections
Jean Rabel	660 kW (and diesel)	Firm A	700 connections, expanding
Presqu'il	2.7 kW (and batteries)	Firm A	50 connections
Bombardopolis	n/a	Firm A	Under construction (as of September 2019)
Coteaux, Roche-à- Bateaux, Port-à- Piment	140 kW (and batteries combined with diesel)	Firm G	1,500 connections (500 to be connected)

Source: CPSD team, based on consultations.
Note: kW = kilowatt; PV = photovoltaic.

As cases of profitable ventures from private operators managing solar minigrids in Haiti are starting to emerge, the risks associated for new players to invest in the sector are decreasing. Experience has shown that having a clear identification of productive users' locations can help overcome initial up-front risk due to low levels of initial consumption in the sites (for example, large businesses like a hotel or a restaurant, a large diaspora community) by providing a minimum consumption per month to make it financially viable to start operations. Clustering minigrids can also be used by project developers to reduce overhead costs. They are also adopting batteries to reduce the reliance on diesel. Operators can now also obtain estimates of savings achieved by rural communities. ANARSE, as a nascent regulator, can learn from the existing private operators' experiences to build a regulatory framework that is grounded in market reality. As first movers, operators can share their real business costs, identify challenges, and propose practical solutions to the regulator and donors.

Pioneer minigrid operators face several challenges related to availability of market information, perceived lack of contractual clarity, and visibility regarding the alignment of future ANARSE regulations with their planned business model. Information about demand is critical to assess the potential for minigrid expansion and for setting tariffs. However, it is not readily available, and the absence of it can delay review and licensing processes. The lack of clarity regarding the rights and obligations of the minigrid tripartite agreements increases transaction costs and adds to the effort project developers need to make to set up the minigrids. For example, tripartite contracts do not specify how land will be allocated. Yet, in the absence of long-term land lease contracts, or where public land is not made available, short-term land lease contracts increase uncertainty and transaction costs (lengthy discussions with authorities) that could be passed on to consumers. ANARSE's capacity to analyze different minigrid business models might be slowing down the speed at which minigrids can expand access. Moreover, having different tariffs for regional, municipal, and local minigrids may generate social friction and subsequently affect communities' willingness to pay and the municipalities' licensing of operators (although having cost-reflective tariffs is key). Additionally, focusing on the quality of service is important from the start to convince anchor customers to switch from self-generation to the minigrid.

Lessons learned from the first tender process for minigrid investment by ANARSE suggest that market information availability, balancing service continuity with initial size of the systems, addressing foreign exchange risks, securing land access, and strengthening municipalities' institutional capacity are key to attracting private operators. A tender process was set up by ANARSE in early 2019 with support from the Energy Cell and the World Bank, to accelerate the development of minigrids and expand access at scale in rural areas of Haiti. The first RFP resulted in two projects being awarded, for a total of 7 out of 51 sites (the first one for 8,600 connections in three towns and the second for 9,500 in four towns).[86] The concession awards are the first in a series of tenders for minigrids with private sector participation; thus, they provide an opportunity to learn for all parties involved.[87] A second tendering process is ongoing with World Bank support and cofinancing from IDB and CBD (pending owing to COVID-19) that is integrating some lessons learned from the first RFP: (a) household surveys to assess demand elasticity, which are beyond the capability of individual potential developers, are needed to prevent demand assessments conducted with limited information and in a short period of time that might result in proposed tariffs not being grounded in local conditions; (b) technical requirements defined for around-the-clock service might lead to oversized systems;[88] (c) foreign exchange risk can only be passed on to end-users as a short-term strategy because it will affect uptake; (d) given the

country risk and lack of long-term funding, providing longer financial closure times is key to getting projects going; (e) ensuring public land is available to private developers is paramount to reducing uncertainty during implementation; (f) municipalities need support (the Ministry of Economy and Finance's PPP unit does not currently have the technical capacity to assist them in negotiations with operators); and (g) pricing must take into account the social dimension of rural electrification.

As various minigrid business models are being tested, addressing equity concerns through the right balance between affordability and financial sustainability remains a key issue. Addressing pricing issues requires regulatory capacity and oversight, as tariffs carry a social dimension. According to ESMAP, the global average LCOE for minigrids is $0.55 to $0.85 per kilowatt-hour; with a median cost of $0.66 per kilowatt-hour (using a 22 percent load factor).[89] The LCOE of a PV-diesel hybrid system serving around 100 consumers (which is much smaller than those planned for Haiti) varies between $0.46 per kilowatt-hour and $0.714 per kilowatt-hour in Sub-Saharan Africa (Norplan 2013). If the LCOE in Haiti is within these ranges, the tariffs charged by the new operators, which will need to factor in the demand risk, the high costs of reaching rural areas due to high logistics costs, and other risks related to the fragility of the country, will most likely be in a range similar to those minigrids in Africa. While the tariffs will reflect the contribution of the donor (for example, grant funding to cover about 50 percent of the project cost on a per-connection basis), whether the tariff would increase access in the poorest rural areas remains an open question.[90] Governments and development finance institutions struggle to find the right balance between access and affordability (that is, provide electricity to as many households as possible by granting a lower subsidy level and therefore a higher tariff for end-users) versus reaching a more affordable tariff (that is, provide electricity to fewer households).

Several risks make it challenging to achieve financial closure for awarded bidders in Haiti. These include (a) high political and civil unrest uncertainty; (b) insufficient information about local demand and potential anchor clients; (c) risk of limited collection given that some communities are not used to paying for electricity; (d) lack of local currency loans and thus, the accompanying currency risk; and (e) regulatory risk given the nascent stage of ANARSE (although regulation by contract reduces this risk, the regulator's understanding of the contract is also important). Efforts from sector stakeholders to put in place resources, available information regarding financing options (for example, patient equity, concessional finance), and risk-mitigating mechanisms are required.

Minigrids for commercial and industrial users

Large commercial and industrial (C&I) consumers are traditionally a main source of income for electricity distribution and retail concessionaires. Commercial and industrial users have a predictable, steady demand and generate revenues. Collecting revenues from these customers involves less transaction cost than the household segment, which makes them more profitable in situations where revenue collection from households is a challenge, and electricity theft is a recurring practice. The lack of reliable grid-supplied power in the country has driven the development of self-generation for C&I customers and creates challenges for the operation of EDH's regional distribution systems, as this self-generation removes a profitable consumer segment from the grid. Self-generation is estimated at up to 500 megawatts or more than the current installed capacity of EDH. The Port-au-Prince region alone would be served by 50,000 diesel generators. These customers mostly use self-generation based on diesel, but a few are moving into hybrid systems with solar. The fact that self-generation is not regulated reinforces the trend of relying on off-grid solutions.[91]

The development of hybrid minigrid systems (solar with diesel-based generation) for C&I customers, especially those located in industrial parks, could bring significant gains in terms of access to electricity for households and businesses if the tariff setting and interaction with the local grid were well regulated in Haiti. Electricity costs in industrial parks and free zones, averaging $0.30 to $0.35 per kilowatt-hour, are high relative to other apparel-producing countries (rates are approximately $0.18 per kilowatt-hour in Kenya, $0.14 per kilowatt-hour in Honduras, and $0.03 per kilowatt-hour in Ethiopia). Given that energy costs represent approximately 10 to 15 percent of an average garment company's operating costs, high energy costs are a drag on profits for this sector in Haiti. Moreover, the sporadic and unreliable supply of electricity due to power outages has created operating inefficiencies for the industry, with many days of lost productivity. The inability to maintain steady voltage levels also results in damage to equipment. In several African countries, the falling solar module price is already increasing the attractiveness of solar solutions for C&I customers (solar electricity can be generated for $0.10–$0.14 per kilowatt-hour in Ghana, Kenya, and Nigeria).[92] The market potential for solar hybrid minigrids targeting C&I activities is yet to be estimated for Haiti, but projects are starting to emerge (see box 4.5 on Caracol Industrial Park). Injecting excess power to the grid can significantly decrease the cost of electricity production but requires regulation of the mechanisms for such distribution as well as of the electricity price. For instance, the Company for Industrial Development (CODEVI) industrial park is close to the Dominican Republic, where regulations allow excess power (currently based on fuel-based production) to be injected to the grid, which is fully interconnected, and where prices are regulated (RINA 2018). In Haiti, proper regulation on how to determine industrial and residential consumer tariffs is needed, including on how to limit their exposure to foreign exchange risk. The dramatic social consequences of the increase in tariffs as donor subsidies phased out from the minigrid project serving the Caracol Industrial Park and surrounding communities illustrates this issue (box 4.5).[93]

Rooftop solar solutions for the C&I segment could also be further developed. Haiti already has experience with rooftop solar for hospitals and health centers, and several firms in industrial parks are expressing interest in adopting such technology.[94] These solutions would be feasible for large industrial customers if they could rely, for example, on leasing of solar PV equipment, an instrument already used by distributors of thermal equipment in the country. Private industrial parks have plans to become energy self-sufficient using RE solutions, but they have not been able to reach the scale in demand required for such investment to become viable (for example, CODEVI), partly because they attract fewer tenants relative to public industrial parks that provide subsidized rental prices.[95]

BOX 4.5 ANCHOR-BUSINESSES-CONSUMERS MINIGRID MODEL: CARACOL INDUSTRIAL PARK

A 10-megawatt diesel-based power plant financed by the US Agency for International Development (USAID) and operated by an international enterprise (firm C) was installed to supply electricity to the Caracol industrial park and residential and commercial customers in neighboring communities (Caracol, Limonade, Terrier-Rouge, Trou du Nord, and Quartier Morin). Electricity consumption from the park tenants is highest five-and-a-half days a week during daytime. The peak demand increased over the past two years from 3–4 megawatts to 5–6 megawatts. The collection rate reached 95 percent. Revenues are partly protected from currency risk as park industrial customers are billed in dollars. The economic activity in neighboring communities improved as electricity was also provided outside the park, with three additional gas stations, several hotels, a university, and service businesses developing.

However, USAID was covering the gap between operation costs and revenues. As the donor financing to cover operational losses ended, a dramatic increase in tariffs triggered violent social unrest. Initially, industrial park tenants were charged $0.16 per kilowatt-hour while households and businesses outside the park were charged the utility, EDH, tariffs ($0.08 per kilowatt-hour and $0.12 per kilowatt-hour for household and commercial customers, respectively). In 2016, USAID in agreement with the government of Haiti, initiated a transition to charge cost-reflective tariffs, and the tariff rose to $0.30 per kilowatt-hour for all consumers in two years. The average electricity bill went from $5–$6 to $30–$35 per month (approximately 30 percent of a worker's monthly income). Because the population had become accustomed to using electricity, paying the electricity bill was a priority for them.

Today, the Inter-American Development Bank and USAID will invest in 8 megawatt and 4 megawatt solar photovoltaic (PV) plants, respectively. The project includes 2–3-megawatt battery storage to bridge power fluctuations. The 4-megawatt USAID-financed solar plant will be connected to the regional grid and will supply electricity to local communities outside the industrial park, operated by an independent concessionaire that will be selected in a competitive process led by Haiti's national energy regulator, ANARSE, with support from USAID. The objective is to bring the tariff for industrial tenants in Caracol down to $0.16 per kilowatt-hour during daytime and for nonindustrial park consumers to $0.19–$0.30 per kilowatt-hour (depending on consumption). The assets of the diesel-based power plant together with the USAID-financed solar PV plant are supposed to be handed over to the regional grid operator that wins the future tender.

Source: CPSD team based on consultations.

The political instability that slowed down new private investment in the apparel sector, the uncertainty in regulations to set tariffs and to sell excess power to the grid, as well as subsidies distorting rental prices between public and private industrial parks might be slowing down the uptake of RE solutions in the C&I segment in Haiti. Challenges that make it difficult for private investors to enter into the C&I solar business in Sub-Saharan Africa, the Arab Republic of Egypt, and India (on rooftop solar[96]) also highlight the additional constraints potentially relevant for Haiti: (a) low availability of local, international, or concessional debt finance (cited by developers in Sub-Saharan Africa as the main hurdle to growth); (b) low access to information for users about the quality and technical expertise of suppliers; (c) poor quality of installations by suppliers; (d) complicated acquisition processes for the power generation license;[97] and (e) limitations on the ability to sell electricity, irrespective of whether it is produced on-site or sold via the distribution grid, if an asset is located at the customer's site but owned by a separate electricity service company billing for electricity.

Solar home systems and small (pico) solar solutions

Private-led pilot projects based on PayGo and the "sales" solar home systems (SHS) models are emerging in Haiti.[98] Three products are classified in the standalone solar systems category: (a) low-cost, high-quality lanterns offering tier 1 energy provision (approximate cost $10–$25); (b) tier 2 access via solar home systems with lights and mobile phone charging with a financing solution (cost around $150); and (c) tier 3 larger systems offering TVs and additional power (estimated at $500 and up). The PayGo business model combines low-cost, high-quality solar equipment with prepaid financing and low-cost operations, anchored in mobile money payments (alternative methods include scratch cards, mobile airtime, and cash). Two PayGo pilots were tested in Haiti,[99] providing valuable lessons to build on, including (a) lack of customer understanding about the benefits of using mobile money payments; (b) if upfront costs are perceived by customers as too high, consumers will not grasp the potential savings compared to alternative energy sources; and (c) working in rural areas in Haiti substantially increases operational costs (for example, tampering, absence of spare parts, lack of trained technicians to provide customer support, security issues). Both pilots reported as their main challenge the cost of servicing the loans over longer periods of time (for more than 12 months), given the low prepayment capacity of their customer base (compare the boxes in appendix E). Regarding the sales model distributing larger solar home systems, a microfinance institution completed a small pilot on solar loans (without PayGo technology) for 150 systems above 150 watts, which included supplier contracts. The MFI is now looking to scale up. A large financial cooperative based in the West Department has 2,800 technology loans for generators and solar systems and is eager to scale up and to integrate the product with its new mobile banking platform, which links the financial cooperatives nationwide.

The relatively high penetration of solar lanterns in Haiti shows an appetite in the market for these technologies, but quality remains an issue. According to the World Bank (WB 2017b), Haiti's solar lantern penetration is about 15 percent, compared to a 17 percent market penetration for solar home systems and pico solar solutions estimated by Lighting Global (Lighting Global, GOGLA, and ESMAP 2020). Most of the lanterns on the market, however, are not quality certified (they do not provide sustained access). Pico solar solutions are already being distributed in Haiti by two distributors that benefited from donor support to start their operation.[100] Both sell solar products imported from China through their own nationwide distribution networks and compete with low-quality products sold in the market (see appendix E).

While minigrids are deployed, SHS and pico solar solutions represent an opportunity to accelerate access in Haiti. Haiti is an attractive market for solar home-based and small solar products because it is densely populated, has very low levels of energy access and little competition in the short and medium term from grid-based solutions, and has increasing mobile money usage (with 1.5 million customers) and sustained remittances flows to rural areas. Pilots have provided evidence of demand.[101] In particular, strong commercial sponsors and good distribution networks in rural areas seem to reduce the market entry risks considerably Additional important factors for PayGo operators include the capacity to finance longer tenors and to mitigate the currency risk.

Leveraging the mobile payment and financial cooperatives distribution network, increasing the variety of consumer pricing options, increasing the amount of patient equity, and creating longer-term loans could strengthen the development of PayGo solutions. However, capacity building seems needed for SHS operators. PayGo operators have difficulty meeting their needs for affordable working capital, which affects their capacity to grow. In addition, their supply chains are underdeveloped beyond urban areas. Risks and logistics costs in rural areas are high, and consumers there face greater affordability issues. In this context, partnering to leverage wide distribution networks and increased access to finance at longer terms would allow for PayGo firms, distributors, and microfinance institutions to match the households' ability to pay so that they can extend the normal repayment period from 1–2 to 2–3 years.[102] Moreover, SHS operators suffer from limited capacity in defining their business model, lending mechanisms, and distribution strategy. While OGEF can provide technical assistance for capacity building and financial support to the solar home-system segment,[103] it is likely that some form of subsidy will be needed in the short- to medium-term, or more patient equity in the long-term, to absorb higher losses as businesses scale up and customers emerge from the current period of social upheaval and pressure on incomes.[104] Mobile payment and financial cooperatives' distribution networks that reach deep into rural areas could also be leveraged to offer PayGo solutions. For instance, one of the mobile payments operators points of sale already accepts mobile payments for EDH. Coordination among donors to avoid targeting specific geographic areas and access tiers at the same time in the early stages of market formation could also be beneficial. The few experiences with PayGo have proven the risky nature of this business; companies will need grant funding to try it out and develop business models that are context specific and able to scale up.

RECOMMENDATIONS

Table 4.5 outlines four sets of recommendations. The first is related to the energy sector and the promotion of RE. The remaining three relate to the enabling environment to further develop the minigrids, C&I solutions, and solar home systems segments. A proposed prioritization is presented in the table that takes into account potential impacts of further private investment and reform feasibility. Improved coordination and buy-in from the relevant public agencies in Haiti, including municipalities, are required.

TABLE 4.5 SUMMARY OF POLICY RECOMMENDATIONS, ENERGY SECTOR

	Recommendation	Objective	Priority
Energy sector and promotion of renewable energy			
1	**Provide the country with an energy strategy (with scenarios and least-cost options for power supply), or at least a National Electrification Strategy** (with a formulation of the role and approach for minigrids), that allows the country to plan ahead and achieve the current policy objectives stated in ANARSE's request for quotation documents.[a]	Build an energy strategy (with scenarios and least-cost options) or alternatively a National Electrification Strategy (with a role and approach for minigrids), that allows the country to plan ahead to achieve ANARSE objectives.	High
2	**Increase transparency of procurement rules, including by standardizing PPA contracts.**[b] Because of the existing limited institutional capacity, international advice and expertise could be sought by the government of Haiti to ensure these PPAs are bankable (EDH's situation results in off-taker risk being extremely high).	Increase the capacity of the metropolitan area's network through improved private sector engagement.	High
3	**A development finance institution coordination matrix could be developed** to align assistance to government priorities and combine resources toward objectives that require significant investments (for example, this could facilitate scaling-up the minigrid program).	Cofinance high fixed-cost investments, contribute to sector long-term planning, share information, and combine instruments toward achieving common goals within a coherent framework.[c]	High
4	**Conduct an off-grid renewable energy solutions skills gap analysis.**	Build human capital and technical expertise of the local ecosystem (technical support, maintenance and service providers).[d]	Medium
5	**Review the regulations and implementation mechanisms of custom duties, VAT, and tax exemptions for renewable energy equipment.**[e]	Incentivize minigrid transition toward renewable energy solutions by reducing capital expenditure and limiting the exposure of tariffs (for hybrid solutions) to changes in fuel prices.[f]	Medium
Private participation in minigrid projects			
	Improve the tendering process		
6	**Define realistic timelines (for example, for data collection, preparation of proposals, and definition of financing needs)**[g] **as well as support consumer data collection in targeted locations.** Haiti could build on the experience from Togo, where the minigrid program collected data that were made available to potential bidders (appendix C).	Improve the participation of potential private operators in upcoming bidding processes as well as inform government policy and regulator capacity to monitor production costs and tariffs. Consumer data and good modeling are essential information to establish the business model and compare bids.	Quick win[h]

	Recommendation	Objective	Priority
7	**Ensure that ANARSE and Energy Cell integrate lessons learned from first RFP and international best practices into bidding documents of the upcoming second RFP.** In particular, contracts should reflect the local context (for example, of sites where the projects will be developed) and follow international best practices for minigrid projects; and market actors should be regulated impartially.	Address in contracts and tripartite agreements for the minigrids (and under bilateral agreements for the regional grids) the lack of PPP regulatory framework.	Quick win
8	**Widely publish notices requesting expressions of interest and RFPs to attract potential participants in upcoming minigrid tenders,** particularly targeting the African market (for example, by involving business associations such as the African Minigrids Developers Association). Communicate the availability of concessional financing in advance (see recommendation 15). Make information about funding sources available so bidders could take it into account as they develop their offers.	Improve reach, access, and transparency of information related to the tendering process.	Quick win
	Mitigate risks for project developers		
9	**Implement local awareness campaigns to increase willingness to pay and reduce delinquency, with the support from mayors.** A special facility (in OGEF or outside) could be proposed to help address demand risks (for example, guarantees).	Reduce demand and collection risks.	Quick win
10	**Give special attention in the bidding review process to the tariff-setting mechanism proposed by firms to balance profitability with growth in connections**. Donors could also consider increasing the subsidy per connection. The decentralized nature of Haiti's network requires that ANARSE find the right balance between cost-reflective tariffs and alignment with those charged to customers connected to EDH regional and municipal grids. ANARSE could also take into account the potential risks of social tensions if different tariffs are applied in neighboring communities and consider mandating that a developer working on several sites near each other applies similar (if not the same) tariffs.	Require in-depth assessment of affordability and encourage the implementation of sustainable business models.	High
11	**Define land acquisition processes and other related issues such as rights-of-way, permitting process, and title and perfection issues.** ANARSE with the support of the PPP unit intends to make public land available for minigrids. However, not all existing operators have been able to access public land, and thus they have resorted to short-term leases on private land.	Reduce landownership issues that disincentivize potential investors to participate in the bidding process and delay implementation of awarded contracts.	Medium
	Strengthen institutional capacity[i]		
12	**Strengthen ANARSE's capacity to play its regulator role (for example, assessing revenue requirements, agreeing on tariffs for minigrids, considering gains in efficiency over time and provisions for future investments) and limit its involvement on other aspects of the procurement process that could create a conflict of interest.** The provision of licenses is beyond the capabilities of ANARSE as currently staffed. Communication with stakeholders is also a challenge, creating uncertainty for the private sector.	Strengthen the regulator's technical capacity.	High

	Recommendation	Objective	Priority
13	**Support the PPP unit in its work with municipalities.** The objective would be to strengthen the institutional capacity of municipalities, local public agencies, and community leaders regarding private sector engagement by improving their understanding of tripartite agreements, improving the efficiency of the approval process of transaction agreements, and monitoring good governance of contracts. The PPP unit is meant to assist municipalities in future minigrid negotiations and monitor the enforcement of contracts, but staff acknowledges that the unit is small, and the technical capacity to carry these tasks needs to be strengthened.	Improve technical capacity of the PPP unit, municipalities, and other local stakeholders.	High
14	**Set up a monitoring system.** The Energy Cell seems best placed to monitor the compliance with contractual obligations, the evolution of demand elasticity, customers' actual capacity and willingness to pay, and the adoption curve.	Improve institutional capacity to monitor minigrid projects.	Medium
	Increase access to finance		
15	**Increase financial support for winning bidders to reach financial closure.** The OGEF was key in that regard for closing the first tender; continuity and additional resources are needed (including from other donors). An umbrella program offering a credit line and risk mitigation solutions for minigrid projects in Haiti could be explored.[j]	Have demonstration effects by providing access to finance and de-risking the project.	Quick win
16	**Have OGEF establish more engagement with potential investors early on.**	Attract firms with experience in markets similar to Haiti.	High
17	**Guarantee investments against political risk.**	Provide alternatives that mitigate political risk.	Quick win
	Commercial and industrial customer segment development		
18	**Conduct a market assessment to estimate the potential for solar and hybrid applications in the C&I sector, starting with the existing private industrial parks and free zones.**	Reduce market risk for private investors.	High
19	**Strengthen the renewable energy ecosystem through technical assistance and access to finance.**	Develop the supply chain for project design, implementation, and financing.	High
20	**Regulate tariffs for self-generation.**[k]	Mitigate the risk associated with having excess power and no market.	Medium
	Solar home systems and pico solar solutions segment development		
21	**Develop financial solutions (that is, affordable long-term debt, partial credit guarantees, and grant funding) to enable distributors, PayGo firms, and MFIs to extend payment terms.** Results-based financing has proven an effective instrument in African markets for incentivizing companies to increase sales in rural areas.	Scale up successful pilots.	High
22	**Provide technical assistance on business skills, marketing, and business model development.** In parallel, conduct consumer awareness campaigns regarding product quality.[l]	Scale up successful pilots.	Quick win

	Recommendation	Objective	Priority
23	**Support adoption of Lighting Global/IEC standards.**	Limit consumers' purchase of poor-quality small solar products.	High
24	**Enhance coordination between the energy, digital, and financial sector authorities to develop comprehensive regulations that favor the scale up of PayGo business models.**	Create an enabling environment that allows the PayGo model to grow.	High

Source: Source for energy sector and promotion of renewable energy section: Foster and Rana 2020.

Note: ANARSE = National Regulatory Authority of the Energy Sector; C&I = commercial and industrial; CDB = Caribbean Development Bank; EDH = Haiti Electricity Utility Company; ESMAP = Energy Sector Management Assistance Program; EU = European Union; GIZ = German Corporation for International Cooperation; GOGLA = Global Association for the Off-grid Solar Energy Industry; IEC = International Electrotechnical Commission; IDB = Inter-American Development Bank; IPP = independent power producer; IRR = internal rate of return; LCOE = levelized cost of energy; MFI = microfinance institution; OGEF = Off-Grid Energy Access Fund; PayGo = pay as you go; PPA = power purchase agreement; PPP = public-private partnership; PV = photovoltaic; RE = renewable energy; RFP = request for proposal; SREP = Scaling Up Renewable Energy in Low Income Countries Program; USAID = US Agency for International Development; VAT = value added tax.
a. The master plan should review the regional grid structure and decide on the opportunity for interconnecting larger systems in the future, with clear timelines. It should incorporate dispatch strategies, balancing, and storage capacities for high penetration of RE. Grid codes could be developed, made publicly available, and enforced equally to all market participants. Technical grid code requirements could address revenue collection, potentially through prepaid systems. Some of these are mentioned in the Renewable Energy for All project implemented with the support of World Bank, as part of a technical assistance component to support the development of the regulatory framework to support RE investments and private sector participation (World Bank 2019b). b. Addressing this issue would signal the commitment to abide by contracts. The government commitment to private sector engagement in the energy sector is perceived as weak by local sector stakeholders. Events such as unilateral termination of contracts for IPPs do not contribute to changing this perception. c. Coordination among donors is proving to be successful in African and Asian countries, such as Togo (EU, IFC, GIZ); Myanmar (Asian Development Bank, Japan International Cooperation Agency, World Bank Group). In Kenya, monthly donor meetings ensure coordination in investments and sharing of analytical work. d. Haiti State University does not have specific training programs in RE or power systems management. e. The government of Haiti eliminated customs duties on the imports of PV products, as part of the Finance Act 2017–2018. Tariff exemptions apply to both PV modules and inverters, as well as other PV devices such as street lighting systems. The World Bank is currently engaged in this topic through technical assistance. f. Although in this context the return on equity is not public information, requirements of 20 percent were reported to the team during the interviews. Considering the lending interest rate in 2018 was 13 percent (World Bank data, http://data.worldbank.org), the IRR requirements on projects could therefore be above 15 percent. Calculations made for 318 locations in Togo showed that 1 percent additional in IRR translated into $0.03 per kilowatt-hour additional to the project LCOE. g. World Bank is now working with IDB and CDB to fund the upcoming tender for 41 minigrids in 2020 ($16.5 million, adding to $3.5 million from SREP). h. World Bank, through OGEF, and USAID are working together. USAID commissioned Cross Boundary Advisory to design a data collection strategy that will allow for estimating revenue and sizing demand through field surveys and other data points. Trama TecnoAmbiental will train locals to conduct the surveys. ESMAP is working with Odyssey on geospatial mapping for sites that will be included in the second RFP. i. An approach to scale up minigrids could combine four factors: (a) mobilize grant and concessional capital; (b) define a PPP model and standardized auction process; (c) provide access to finance, including through mobilization of additional finance; and (d) strengthen capabilities of sector agencies. j. For example, in Africa, the European Commission's Electrification Financing Initiative acts as a financing mechanism to support market development and private sector initiatives for affordable, sustainable, and reliable energy solutions in developing countries. The fund provides flexible support options, including technical assistance, junior debt, senior debt, and equity. The program is the outcome of coordination between the EU, USAID/Power Africa, and European countries. k. Even though the lack of mechanism is a constraint for selling excess power to the grid, the current grid conditions and the low credibility in EDH's capacity to pay seem to be the main barriers to develop sizeable C&I minigrid projects. l. Delivery models that allow households to purchase small systems initially and trade up or expand these systems can increase affordability (Reiche, Covarrubias, and Martinot, 2000).

4.3 WATER SECTOR

Sector Overview and Organization

Water services in Haiti were decentralized in 2009 under the newly created National Directorate for Water Supply and Sanitation (DINEPA). DINEPA is charged with facilitating decentralization of water supply management, regulating water service providers, and coordinating donor assistance. DINEPA has four regional branches called Regional Offices for Potable Water and Sanitation (OREPAs), which, according to the legal framework, are expected to provide administrative, commercial, technical, and financial management of local water systems reaching about 5,000 people each. In reality, however, OREPAs provide technical support and supervisory services and possess administrative authority over water system contracts. In cities with a population above 10,000, a local branch of an OREPA, called a technical operation centre (CTE), is in charge of technical and commercial operations (see organization in appendix F). There is one separate and dedicated CTE for each of these 24 cities. The water services of the metropolitan region of Port-au-Prince (RMPP) are under the responsibility of the CTE-RMPP (See details of water systems in appendix F). In rural areas, the day-to-day water system management is done by comites d'eau, which are small groups of elected community members who are in charge of water systems in rural areas and small towns. They report directly to their respective OREPAs.

Overall, in the current context, DINEPA acts as both an operator and regulator, which is against international best practice because of the potential for dysfunctional conflicts of interest. Planning, policy, and budgeting of investments as well as technical and economic regulation are performed by DINEPA. As municipalities gain capacity, they are expected to be able to take over operations, thus allowing DINEPA to focus solely on regulation. Through the transition period, OREPAs are expected to be increasingly responsible for investments and operation at the local level. However, there has been limited progress in the implementation of this decentralization process, with DINEPA continuing to play both roles.

The deconcentrating process remains incomplete, as adequate capacities and arrangements are still lacking at subnational levels. At the regional level, the OREPAs are understaffed, without enough qualified water supply engineers, procurement and financial management specialists, and social specialists, and are not yet able to either support rural water supply services or monitor their performance (World Bank 2018a). The financial management of all sector activities is still carried out entirely at the central offices of DINEPA because the OREPAs are not equipped with financial management and accounting capabilities. Staffing is adequate at the communal level, with the recruitment of two water supply and sanitation technicians per commune (initially for a total of 278 and now reduced to 197).

Water quality, access, and consistency are a challenge across Haiti's water systems. Haiti's water systems are small and decentralized and source water from a mix of springs, wells, and gravity systems (see appendix F for details). When possible, water comes from springs because there is no cost related to pumping except for some chlorination with makeshift systems. Boreholes are used when there is no spring available. Estimated coverage rates (population connected over total population) of the piped systems are very low (under 15 percent for the cities covered by the study summarized in appendix F). The cities of Saint Marc and Port de Paix are two notable exceptions with connection rates near 50 percent. The populations connected to the network receive only 6–10 hours of running water per day for a few days a week. For publicly operated systems, 24-hour connections seven days a week are rare and limited to Port-de-Paix, Jacmel, and some areas in Port-au-Prince. Thus, households and businesses pay private providers of water that deliver to homes by truck or dig their own wells to tap the natural groundwater.

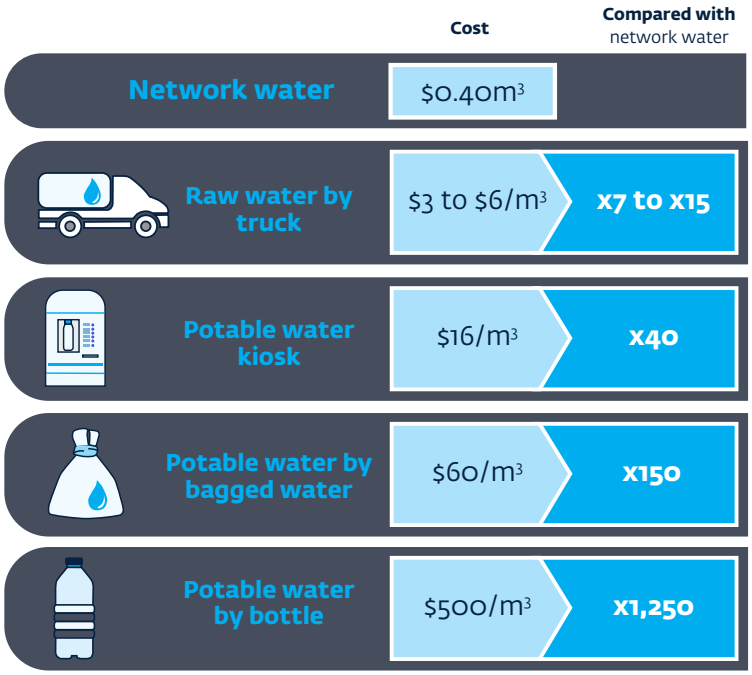
In 2015, a fifth of the Haitian population lived with water more than 30 minutes away round trip from their home. Access is particularly limited in the South-East, Grande-Anse, and North West regions. According to the World Bank 2018 study, overall, in Haiti it takes over 40 minutes a day to fetch surface or other unimproved sources of water, and it takes over 30 minutes to fetch off-premise piped water. For potable drinking water, individual 20-ounce and 5-gallon refillable jugs of water are commonly used, with kiosks, public fountains, and standpipes available in some small towns (World Bank 2018a).

The cholera outbreak heightened the urgency to improve access to clean water. Following the 2010 earthquake, a cholera crisis broke out in the same year, further exposing the challenges in water quality and public health and hygiene. Decimated infrastructure and challenges in public provision set the stage for exploring how the private sector could fill the gap in water provision, including production, treatment, and distribution. Currently, prices for commercially distributed water alternatives remain prohibitive. Utility service quality is heterogeneous, as limited institutional capabilities, as well as limited regulation and oversight, plague both public and private operators. Haiti's growing urban population means demand for water is expected to increase. Private provision of water is likely to continue filling the gaps to meet Haitian demand.

Water is a constraint to private investment in Haiti as the unreliability of water supply drives high costs for businesses. Water is an important input in several industries, notably tourism through hotels and real estate, services through restaurants and commercial retail, textile and apparel manufacturing through dyeing and steaming, and agribusiness through food and beverage processing and farm management. Where consistent, reliable, and high-quality water services are critical to business operations, reputation, and service delivery, businesses must pay a premium to purchase water containers by truck to guarantee supply. According to the World Bank Group 2019 Enterprise Survey, formal firms in Port-au-Prince with more than four employees reported in interviews that they still had to resort to private sources of water to guarantee supply owing to unreliability and inconsistency of connections.[105]

Social acceptance of paying tariffs for networked water is not widespread, despite high out-of-pocket payments for private commercial water alternatives. Despite high actual costs paid, there is a widespread perception that water should be a free public resource, especially when a spring or water source is in a community. Therefore, measures like metering, volume-based tariffs, and operation of a water network by a private entity have low acceptance. However, water supply services with metering and tariffs per volume consumed in Port de Paix, Saint Marc, and Pignon show that willingness to pay increases when costs are known and transparent and consistent quality is delivered (box 4.8). Communications and social education campaigns on behalf of municipal and regional governments have been critical for making the population aware of the cost of delivering safe and consistent water and building trust in a networked system. Additional efforts would need to be made on the social acceptability of a private operator, both among public agents and communities. Private commercial supply options are significantly more expensive than networked water. The tariff of raw water supplied by truck in Port-au-Prince is 7 to 15 times higher than the tariff of network water. Tariffs of potable water at kiosks, by bagged water, or by bottle are respectively 40 times, 150 times and 1,250 times higher than the tariff of network water (table 4.6). The difference of costs is comparable across cities in Haiti.

TABLE 4.6 COST OF WATER FROM DIFFERENT SUPPLY OPTIONS AVAILABLE IN PORT-AU-PRINCE



Source: World Bank/IFC interviews.
Note: m3 = cubic meter.

Constraints to Increased Access and Affordability of Water

Access to land is a constraint to building or expanding piped water systems. Acquisition of private land may be necessary to build new water infrastructure through piped systems and to build new wells. Access to land has proved difficult in many cases because of complex and unclear land titling and lack of enforcement. Access to land can become more complex by involving local politics, thus adding to the time and cost of resolving of expanding infrastructure.

Operational, commercial, and technical performance in most local water systems is very low. Most administrative work is still done on paper, without any commercial or accounting operating system. There are generally no water meters on intakes, on reservoirs, and at connections, making calculation of losses difficult to almost impossible (metering is up to 100 percent in Pignon, 95 percent in Saint Marc, 80 percent in Port de Paix, 10 percent in Port-au-Prince, and nearly nonexistent elsewhere, appendix F). However, all new and large projects (typically consuming more than 4 to 10 cubic meters per month) are now planned to include meters. The absence of water meters due to the limited willingness to pay for water by volume encourages water wastage. Fraud and vandalism are widespread in many areas. Tracking of billed water volume; options for mobile payments; an active bill collection policy; responses to customers' requests; control of large consumers; and research on new customers, reconnections, and new connections are missing. Moreover, there is limited cooperation between the local authorities and operators to combat fraud.

Revenues and financial resources are very low compared to needed investments. According to the 2009 water law, it is the responsibility of DINEPA to make policy for tariff setting.[106] Apart from specifying three broad objectives (economic efficiency, financial viability, and social equity), the law is silent on the methodology that should be used, and no other document provides such information. Tariffs are usually higher in urban areas (up to HTG 400 per month), where the service is often better and household revenue higher, than in rural areas. In CTEs where pumping is required, the tariff is also high to take into account the cost of fuel. It should also be noted that tariffs have not changed since 2010 in many places despite the two-digit annual inflation. In Saint Marc, where water service is run by a private utility operator, the affermage contract includes a revision formula that should be automatically applied every quarter by DINEPA, yet it has not changed since the start of the contract in 2009. Lack of tariff revision has thus suppressed revenues, with revenues near or less than $100,000 per year in most cities; up to $300,000 in Jacmel, Port de Paix, and Saint Marc; and $3 million in Port-au-Prince. Water systems generate enough collected revenue to cover the operational cost only in Saint Marc, Port de Paix, and Jacmel (See appendix F for details on water systems). Large operational subsidies are needed elsewhere. Finally, donors often pay both operational subsidies and part of the salaries for DINEPA staff, partly because of the absence of human resource capacity for this new agency. Payment of salaries by donors is unsustainable in the long run and erodes local ownership. A human resource assessment and institutional audit would be needed to identify a road map for the sustainability of the agency.

Institutional challenges at DINEPA are noteworthy. The institution controls all functions of the water sector in Haiti but is ill equipped and internally underfunded, thus relying heavily on donor assistance to deliver its mission. The daily delivery of water in the cities is delegated to the CTEs, which struggle to operate an aging and inadequate infrastructure with limited support and poor commercial drive and economic management. CTEs are directly attached and supervised by OREPAs, which are also responsible for rural areas through local structures run by communities. The central DINEPA structure keeps close control over investments and prioritizes the channeling of funds, staff, and supplies over investments. DINEPA's regulation function is limited by lack of human resources and thus tends to be more focused on operations than on regulation. In addition, DINEPA's investment decisions place greater importance on political and social considerations than on technical priorities expressed by CTEs. Despite the existence of a 2016–17 Master Plan through the Budget Programme par Objectifs, investment prioritization is not always aligned with defined priorities. Investments are selected by DINEPA in a top-down manner with little regard to the requests that the CTEs may express. Last, the quality of technical design from local consulting companies is poor, and the tendering process is excessively long because of low institutional capacity. Experience in FCV countries indicates that human resources training, construction insurance for contractors, and professional insurance to independent consulting firms are key to strengthening the local ecosystem.

Regarding commercial water products and services that are alternatives to the water utility, Haiti's poor road infrastructure makes water service delivery to remote and rural locations difficult. Most of the population and businesses rely on purchases at water kiosks and delivery by truck. However, the lack of paved roads, low road safety, and poor-quality road infrastructure increase the time and costs for such vehicles to travel.

Opportunities for PPPs

The private sector is likely to continue filling the gap in water service provision. The metropolitan water market in Port-au-Prince was estimated by the World Bank at $66.3 million in 2016 for residential and commercial use. Forty-seven percent of this value came from sales of untreated water delivered by truck, 30 percent from sales of bagged water, 13 percent from sales from private kiosks, and just 10 percent from sales by the water utility. The commercially treated water segment, such as water treated by reverse osmosis delivered by trucks or sold in gallons, bottles, and bags, suffers from high market concentration where collusion practices related to price setting have been identified (World Bank 2018a). The wholesale and retail distribution segments seem to be less concentrated.

The involvement of private operators in a context of decentralization of water services and investment in water infrastructure could improve water provision. Improving water supply in Haiti requires large funds to implement much needed and costly investments. Risks to new investments include the selection and implementation of the investments as well as the operation of the new or renovated water system. Involvement of private partners through PPPs may help reduce these risks and secure the investments. Technical assistance, affermage contracts, and potentially management contracts could serve as potential options to the Haitian context, if applied taking into account lessons learned from previous experiences together with buy-in from DINEPA and local counterparts.[107] As later discussed, an affermage contract has been in place since 2009 for the city of Saint Marc and a management contract was signed in 2011 for Port-au-Prince. Learning from these experiences is key.

Technical assistance

Technical assistance, while allowing for emergency support on technical challenges during the very difficult post-earthquake context, does not address key managerial and operational issues. On its own, it may fail in providing a significant, lasting, and sustainable improvement in water supply because it addresses only technical challenges and not key managerial and operational issues. Technical assistance could be a good instrument to provide support to DINEPA in the definition of the strategy of modernization of water systems, particularly in the identification of priority investments. Technical assistance could also provide support in developing preliminary studies, preparing tender documents, evaluating proposals, and awarding contracts.

Management contract

The model of a management contract that combines strong technical assistance and efficient management can improve quality of service and financial performance. Because critical size is needed to attract experienced operators, management contracts are better suited for large water networks in big cities or entire regions. The implementation of an infrastructure investment program renders this type of contract more attractive to internationally recognized operators. Such private participation could be considered in areas where the full renovation of water systems is planned (for example, IDB investment in Cap-Haïtien and Gonaïves based on the Dominican Republic pilot, box 4.6). In smaller cities, preliminary studies, which should take the form of master plans if possible, could be conducted to explore considering a management contract for a network of systems (to include a large city and surrounding rural localities or a group of more than one city). Targets could be Port-de-Paix, Jacmel, and Les Cayes. In Port-de-Paix, the performance of the local CTE is good but could be improved. Investment could finance the treatment plant in the spring, when turbidity is high, and

network extensions. Jacmel's CTE performance is also good, and the city has significant tourism potential. Les Cayes is among the largest cities, but its CTE performance is poor (large investments would be needed, and the presence of an experienced operator could potentially secure the longevity of investments). However, acceptability of this form of PPP among the public water operator, the regulator, and the population remain low. Also, learning from previous experience is needed. For instance, in Port-au-Prince, the contractor improved the quality of service and the financial performance but did not transform the utility into a self-sustaining entity.[108] Social education and sharing successful international practices from similar FCV countries could help demonstrate the benefits of management contracts and thus increase the cultural and political acceptance.

Lease-affermage

Water service provision in Saint Marc is the only affermage model in the water sector in Haiti and has succeeded in providing better service to the population.[109] The contract began in 2009 and is set to expire in 2024. The Haitian private company benefited from a large operational subsidy at the start of the contract, which covered the cost of the technical experts who managed the company and provided strong technical assistance during the first four years. Since then the company has worked without any significant operational subsidy and the cost of the technical assistance provided by the international parent company is covered by tariffs and revenues collected. However, the Haitian company and the parent company face challenges in the execution of the contract: the tariff has not been revised despite contractual clauses; objections were raised by the population, DINEPA, and local authorities regarding conceding a public service to a private company and therefore, cooperation with public authorities (DINEPA/OREPA and municipality) has not been optimal. This has resulted in limited contract and law enforcement (for example, no increase in tariffs, limited support in fighting against illegal connections, vandalism).

BOX 4.6 CASE STUDY: THE DOMINICAN REPUBLIC MANAGEMENT CONTRACT

The Dominican Republic model involves a private partner that is a consortium, including an operator and a construction company, and will work with the public partner, National Institute of Drinking Water and Sewerage (Dominican Republic), an equivalent to Haiti's National Directorate for Drinking Water and Sanitation (DINEPA). The private partner will provide four experts to take key positions in the water service (general director, financial director, technical director, and commercial director) over the course of three years, provide additional technical assistance with short-term experts, and implement the investment program on the basis of a Bill of Quantity and an agreed-upon unit price. Remuneration is fixed, but bonuses are awarded if objectives are met. The budget includes $8 million for the investments, $4 million for the management team, $2 million for the short-term experts, and $1 million for operational equipment. The tender started in September 2018 and the contract was awarded in April 2019. Bidders came from France, Spain, Portugal, and Colombia and included large and experienced water operators.

Source: World Bank Group based on internal consultations.

The success of affermage contracts relies on the application of contractual provisions, which remains a challenge in a country with weak rule of law. The main risks for the private partner are an early termination of the contract due to financial or contractual difficulties or lack of tariff adjustment by the public authorities. Even though the financial losses are limited by the absence of investment paid by the operator, managing complex closing procedures and incurring reputational damage are certainly dissuasive for many. The potential profits, which are low in the water sector, may not balance the risks related to the affermage in the context of Haiti. In addition to a high-quality contract, high-quality management on the side of the operator and the awarding authority are key to determining the success of an affermage. In the case of Saint Marc, the contract continues despite the difficulties with a contractual end date in 2024. This rather successful experience proves that affermage could be an option in Haiti, despite risks and challenges.

There is potential for the involvement of local private operators in small water systems. This option is more viable because of the resistance among public authorities to hand over the management of water systems to a private partner, particularly a foreign one, and lower vested interests because of the lower profitability of this segment. The World Bank is testing the involvement of small local private operators in small cities (Sustainable Rural and Small Towns Water and Sanitation Project [EPARD]). Starting water operations requires a high level of commitment and investment in time and financing. To compensate for this investment, the duration of the contract should be at least five years. It should be very clear that the operator will be responsible for maintenance only and not for investment.

BOX 4.7 NIGER AFFERMAGE CONTRACT

The case of Niger illustrates a successful and profitable affermage contract that improved water service delivery to over 1 million people. In 2000, the government of Niger through a public asset company (Société de Patrimoine des Eaux du Niger; SPEN) signed an affermage contract with an international private operator for a duration of 15 years. It was later renewed for 10 additional years. The World Bank supported technical and legal aspects of the project, while the Agence Française de Developpement supported training of different stakeholders. There was good cooperation between SPEN, the private company, and donors. The private company provides assistance in the identification and implementation of investments, and SPEN has gained good capacities. The private company runs water systems that include a 4,850-kilometer network, five water treatment plants (surface water), and 240 boreholes. There are 240,000 connections in total, with approximately 25,000 new connections installed per year. The system also extends into the city of Niamey with 110,000 connections serving more than 1 million people, or almost two-thirds of the population. Water is available 24 hours a day, seven days a week, and is potable. All production points and connections are metered. Turnover of the private company was near $40 million in 2018, and $8 million was paid back to SPEN in 2018 at the end of the lease as an affermage fee to finance the investments. The operator is profitable, does not receive subsidies, and produces a detailed annual activity report and financial statements that are shared with authorities and are available to the public.

Source: World Bank Group based on internal consultations.

Leveraging technology and innovation for private sector solutions

In addition to testing various PPP models in small, medium, and large cities in Haiti, leveraging innovation and technology may also improve water service provision. Two technologies stand out as being immediate quick wins to reduce costs and improve water service: mobile payments and off-grid solar panels. In addition, financing solutions like first loss guarantees and grant financing from development banks, international financial institutions, and international donors could be leveraged and used in new, creative ways to meet challenges in the water sector.

Mobile payments could increase operational and commercial efficiency of water systems. To pay for a water connection and subsequent monthly bills, Haitians are required to physically go to a local OREPA or CTE. This takes time, creates a disincentive to pay, and is inefficient for both the operator and client. Challenges in urban and rural transport, security threats, and frequent natural disasters are further complications to making payments in person. The ability to make mobile payments would not only save time for clients but also could allow CTEs and OREPAs to shift to digital accounting and billing systems, allowing for better monitoring and tracking of commercial operations. Both USAID and IDB have developed online accounting systems for CTEs and OREPAs. The CTE of Port-au-Prince and the private operator in Saint Marc are piloting a mobile payment solution. Partnerships with donors or private providers of digital payment systems could be explored to scale up successful pilots.

Off-grid solar pumps would allow piped water systems to reduce energy costs over time. The costs of solar panels and batteries for energy storage continue to decrease. Minigrid private operators in Haiti have installed off-grid solar pumps in rural areas in Haiti in partnership with municipal governments. Private water providers could explore opportunities to partner with minigrid companies to share infrastructure and personnel. The World Bank is already supplying solar energy for pumping for new and rehabilitated systems.

Leveraging different financial tools such as guarantees and grants could bridge the gap in bankability of water projects in Haiti. Working with local players and financial institutions to develop a fund for local private operators may be a feasible option in Haiti. This concept has worked in Kenya and Uganda with World Bank Group support. A local fund, similar to OGEF for renewable energy (see the section on renewable energy), could leverage access to sustainable finance.

Last, there is room for other private players with proven business models to enter the water market to increase competition and reduce costs. Currently, the private market for bottled and kiosk water consists of two large players. The companies provide water through kiosks in hard-to-reach rural areas, as well as bottled water to the Port-au-Prince metropolitan region and Gonaïves. Because of challenges in road infrastructure, small towns further north and south are not serviced. Thus, other private players with willingness to serve small or medium cities could provide another private water option in these contexts. As mentioned previously, Haitians are currently paying high costs for private water, which could serve as a proxy to market demand. Overall, having more players in the market could increase coverage and reduce costs for consumers.

To conclude, there is potential in Haiti to improve access to water services through PPPs in small, medium, and large cities, using technological innovations, financial solutions, and appropriate complementary measures to address governance failures. The cross-cutting constraints that hold back the development of the water sector—like poor infrastructure, land access, low revenues of existing systems, low operational

efficiency, low willingness to pay for piped water, and institutional challenges within DINEPA—mean that authorities, donors, and private operators will need to adapt conventional tools to the particularities of the Haitian context and partner to develop innovative solutions. Examples like the affermage contracts in Saint Marc and Niger, the community outreach model in Pignon, and 24 hours a day, seven days a week water service in Jacmel and Port-de-Paix illustrate the feasibility and positive impact of different models. Close consideration should be given to the way PPP arrangements are structured to improve efficiency gains and access to service. Considering the governance constraints in Haiti, it is key to identify the complementary measures regarding contracting, monitoring, and oversight of PPP contracts to give private operators a strong incentive to behave competently and professionally. Previous experiences in Haiti indicate that the use of independent auditors or adjudicators as part of the PPP contract seems to be a promising avenue.

BOX 4.8 PIGNON MODEL

The piped water system in the city of Pignon is an example of a successful model of water provision based on community outreach and education. While Pignon still faces many challenges, with the water system still in the early stages of development, several lessons can be gleaned from this experience to date.

The population of Pignon is nearly 40,000, with 10,000 in the city itself. The nongovernmental organization (NGO) Haiti Outreach uses the open access geographic information system program mWater, provided by the US Agency for International Development, to track all available water connections through kiosks and wells and to measure distance from households to the nearest source (households farther than 500 meters are flagged, for example). Before the NGO built a piped water system in Pignon, households were paying HTG 2 per gallon of water. After proposing a system and negotiating costs and budget, the community agreed to pay HTG 0.5 per gallon for a functioning system. At HTG 0.5 per gallon, the operator would not have sufficient reserves to cover maintenance costs, but the low price allowed for social acceptability of the system. Soon after the installation of meters and troubleshooting, water service became available 24 hours, seven days a week. There are 150 active clients corresponding to a population of 1,000, or 10 percent of the service area. Many clients resell the water to neighbors, indirectly benefiting those who do not have a connection without affecting the profitability of the system (that is, tariff per volume).

The operation of the service is efficient, with very motivated employees and modern operational tools. So far, commercial activity and accounting are done by hand on paper, but the operator is planning to improve such tools. The operator is seeking funds to install solar pumps to reduce the operating costs, to repair the chlorine injection system, and to implement sectorization and pressure control to reduce nonrevenue water. The operator has invested $20,000 in the modernization of the service to date. Technical challenges include (a) unidentified leakage, (b) nonrevenue water losses over 60 percent, and (c) the low number of total connections.

Overall, while the Pignon model has worked to provide high-quality, reliable, and consistent service, it requires upfront start-up capital to finance initial infrastructure and dedicated time for community education and participative budgeting to agree on a socially acceptable tariff. Technical challenges need to be resolved rapidly to ensure proper functioning and sustainability of the model.

Source: World Bank Group based on internal consultations.

RECOMMENDATIONS

Table 4.7 outlines recommendations for the water sector in Haiti. The recommendations aim to encourage private sector investments by prioritizing quick wins, as well as medium and high priorities, depending on their potential impact and feasibility.

TABLE 4.7 SUMMARY OF POLICY RECOMMENDATIONS, WATER SECTOR

	Recommendation	Objective	Priority
1	**Improve management and operations of Haitian piped water systems through focus on profit-based management.**	Improve functioning, efficiency, and delivery of water services by focusing water systems on results and output. In the short term, for new infrastructure, this might be best done by a profit-motivated private operator while the need to improve public operators' capabilities through training and capacity building is addressed (results are likely to materialize over a longer-term horizon).	High
2	**Consider relevant PPP models for new and renovated piped water systems** given size of city or municipality and potentially at the national level. **Propose a feasibility study on PPP potential to the relevant government authority.**	Where water systems are planned to be expanded, renovated, or built, a feasibility study should assess which PPP model may be most relevant to allocate the risks between the public and private sector to deliver the service. Level of focus could include municipality, city, cluster of cities and municipalities, or, in the longer term, at the national level.	Quick win
3	**Explore entrusting operations of small, renovated systems to local private operators.** Consider establishing an independent auditor to monitor performance and resolve conflicts (splitting cost of the auditor 50/50 between the private operator and the local authority).	Where possible, leverage local private operators to manage small water systems in Haiti. This will increase ownership and trust. An independent auditor to resolve conflicts and monitor performance may be the best way to ensure quality and KPI results, provided that the cost structure is able to be shared between the public and private players.	Medium
4	**Prioritize water project selection where entire water systems will be renovated.** Include a comprehensive support package for entire water systems, using PPP models where relevant.	In new project selection, choose projects that seek to include the entire water system for renovation to improve efficiency and enhance impact.	Quick win
5	**Provide support to local actors so they are best equipped to participate in the PPP process.**	Additional support may be needed to train local actors in the Haitian market on how to participate in the PPP process from preparation and bidding through implementation of a contract. Provide potential extra support to consulting firms, construction companies, and banks.	Medium
6	**Engage in a social communication campaign** at the central level and in selected cities to make citizens and governments aware of the **cost of water provision.** **Share international experience on PPPs in similar FCV countries** with central government officials.	To improve the willingness to pay for water on behalf of the population and decrease fraud and vandalism, education campaigns could be implemented to make consumers aware of the costs of water extraction, system building, operation, safety and management. Increase the acceptability of private participation.	High

	Recommendation	Objective	Priority
7	**Focus DINEPA on its central function of regulating the water sector,** while regional OREPAs focus on asset management and operations.	To improve performance and accountability at all levels, DINEPA should focus its role on technical and economic regulation, while the OREPAs could use their authority to implement projects and operations (planning, policy, and budgeting of investments). However, close consideration should be given to the structuring of these institutional links to avoid conflicts of interest and to create greater transparency and healthy checks and balances.	High
8	**Conduct institutional audits of DINEPA and OREPAS** to determine where efficiency and performance could be improved.	An audit would improve cost transparency and allow funds to be better targeted to investments versus internal operations such as salaries.	Medium
9	**Use technology such as off-grid solar pumps and mobile payments to reduce costs and improve functioning of water systems.**	Solar pumps would reduce electricity costs, while mobile payments would increase efficiency of payments, improve accounting practices, and save time for consumers.	Quick win
10	**Develop a local fund to improve access to finance.**	A local fund could provide tailored and sustainable financial solutions to meet the needs of private operators in regards to grant financing.	High

Note: DINEPA = National Directorate for Drinking Water and Sanitation; FCV = fragile, conflict and violence; KPI = key performance indicators; OREPA = Regional Office of Drinking Water and Sanitation; PPP = public-private partnership.

4.4 APPAREL SECTOR

Sector Overview

Haiti's apparel industry, which has existed for several decades, has experienced periods of growth and contraction. The apparel sector is a key contributor to Haiti's economy, employing nearly 53,000 people in 2019 (ADIH 2020). The industry consisted of over 100 firms and 100,000 employees in the late 1980s (D'Sa 2016). The sector took a downturn, however, beginning in the early 1990s, brought on by US economic sanctions in 1991 (which lasted until 1994) and a United Nations (UN) trade embargo in 1994, both in reaction to the 1991 coup d'état against the first democratically elected president of Haiti. Another shock came in 2005 with the end of the Multi Fibre Arrangement and removal of worldwide apparel quotas, leading to massive shifts in the industry and a flood of US apparel imports from Asian markets, China in particular. The introduction of the Haitian Hemispheric Opportunity through Partnership Encouragement (HOPE) Act in 2006 helped encourage new investments in Haiti. While the devastating earthquake in 2010 led to contraction of the industry, the subsequent Haiti Economic Lift Program (HELP) Act, with its provision of duty-free access to the US market, helped spur growth.

Apparel is Haiti's top export of goods, accounting for 82 percent of its overall exports in 2019. Haiti exported $1.09 billion in apparel worldwide in 2019. Haiti's apparel exports have doubled since 2009 and grew consistently until 2015, at which point they leveled off. The effects of Hurricane Mathew in 2016 as well as lack of industrial space may have contributed to the trend during this time period. The vast majority of goods were exported to the United States (nearly $1 billion), while Haiti's apparel sector exported less than $89 million to the rest of the world (including Canada, the Dominican Republic, and Mexico). Over the past three years, Haiti has been the sixth-largest apparel exporter to the United States in the region.

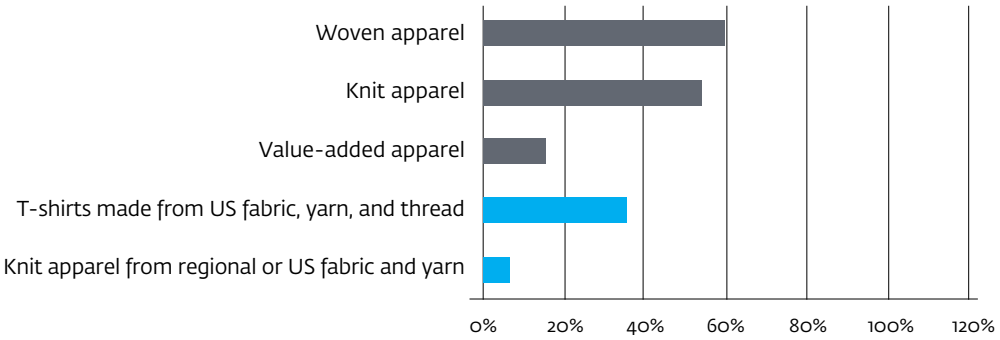
Since early 2020, an unprecedented global economic crisis due to COVID-19 has been very harmful to the apparel sector and has even led to questions about the sector's viability in the medium term. To curb the spread of COVID-19, the government of Haiti ordered the shutdown of the industry overnight in March 2020. Firms were able to reopen a month later under specific conditions to ensure the safety of the workers. In May, only 64 percent of factories were in operation, employing 34,500 workers—60 percent of those working at the beginning of the year (Better Work 2020). Production was organized under rotation plans to limit personal contact, which reduced output capacity. Orders from the United States were drastically reduced (at least 41 percent of factories declared canceled or suspended orders, and very few new orders were being received). This combined shock from both the supply and demand side led to only one in five firms operating at more than 60 percent of their capacity (ADIH and IFC 2020), affecting their financial sustainability. The International Labour Organization (ILO) has launched a Garment Sector Call to Action strategic document (which has been endorsed by 75 key parties in the sector) to guide the sector and includes Haiti on the list of priority countries (ILO 2019).

Competitive Advantages

Haiti benefits from duty-free export quotas in the US market with more flexible rules of origin and shipment conditions than in preferential agreements with other markets, such as the European Union; but quotas remain largely underused. Duty-free access to the US market is favored with quotas historically never filled through the Caribbean Basin Trade Partnership Act (CBTPA), renewed on October 2020 for 10 more years, as well as the HOPE Act and the HELP Act (both expiring in September 2025). While CBTPA provides duty-free treatment for apparel that is wholly assembled, knit, or knit-to-shape in Haiti using yarns and fabrics from the United States or CBTPA countries, HOPE/HELP provides duty-free treatment for apparel using yarns and fabrics from any country. In 2018, 70 percent of Haiti's textiles and apparel exports entered the United States under HOPE/HELP, while 26 percent entered under CBTPA. However, only 55 percent of the simplest form of knit and woven apparel under HOPE/HELP and 21 percent of the CBTPA quota were used in 2018 (figure 4.9). In contrast, only 16 percent of the value-added products quota was used the same year.[110]

Haiti's parliament is yet to ratify two agreements signed with the European Union in 2009, the Economic Partnership Agreement (EPA) and the Caribbean Community (CARICOM); even if the agreements were ratified, the volume of exports would probably not reach those to the United States. Although Haiti has duty-free preferential access to the European Union through the Everything But Arms initiative for selected products, rules of origin partly prevent apparel exporters from making use of such preferential access, which could change if fabric were produced in Haiti. The EPA, signed over a decade ago, is a regional agreement between the European Union and

FIGURE 4.9 CBTPA AND HOPE/HELP QUOTA UTILIZATION IN 2018 (IN PERCENTAGE OF THE QUOTA LIMIT)



Source: Office of Textiles and Apparel (OTEXA), US Department of Commerce.
Note: Quotas define a ceiling of duty-free imports to the United States for each product category, measured in volume of product. CBTPA = Caribbean Basin Trade Partnership Act; HELP = Haiti Economic Lift Program; HOPE = Haitian Hemispheric Opportunity through Partnership Encouragement Act.

multiple Caribbean countries; Haiti is the only partner to have not ratified it. The agreement would provide duty-free entry to a larger range of Haitian products to the EU market. However, Haitian apparel products may still not be as competitive as those from other providers to the European Union because of freight costs and timeliness. CARICOM would offer duty-free access to the 20-member-country Caribbean market for certain eligible apparel and textile products.

Haiti apparel producers have increased efforts to meet certain social, labor, and safety standards requested from international buyers and mandatory compliance to avoid revocation of US preferential access. Companies maintaining accounts with large retailers and brands adhere to company-specific certifications. Many apparel companies operating in Haiti are certified by or are pursuing improvements and certifications, such as the Worldwide Responsible Accredited Production; the Custom-Trade Partnership Against Terrorism (C-TPAT) certification that improves security levels and reduces the likelihood of inspection at a US port of entry; and Better Work (a requirement to use US preferential quotas) that in 2019 worked with 35 factories and seven free zones hosting 90 percent of apparel producers.[111]

Haiti's most significant competitive advantage, in addition to its duty-free access to the United States, is speed to market (World Bank 2013). It is estimated that a 40-foot container costing on average $2,500 reaches the United States (Port Everglades, Florida) in three days. This compares with shipping times of four to five weeks between Florida and China. Besides, the relatively low cost of labor is relevant to manufacturers in a very cost-sensitive industry; although labor productivity partly erodes this advantage compared to Central American countries.

Sector Analysis

The garment value chain in Haiti is heavily weighted toward apparel production and largely defined by cut-make-trim (CMT) production. While CMT has been the traditional production model for most garment manufacturers in Haiti, new investments have brought more factories with full-package offerings, which go beyond CMT. Haiti

imported nearly $400 million worth of textile fabrics in 2018.[112] Of this total, more than one-third was sourced from China, while 26 and 16 percent came from the Dominican Republic and the Republic of Korea, respectively.[113]

There is very little downstream production of inputs in Haiti. Indeed, there is one known company doing embroidery, one of the more recent investors has put in washers, there is one Korean manufacturer with the capacity to provide garment threads, polybag, and elastic bands to local companies; and factories are able to purchase plastic packaging locally. Otherwise, most of the inputs are imported.

Haiti's apparel product mix is heavily weighted toward basic knitted garments. Haiti exported nearly $856 million in knitted apparel products in 2018, which represented 83 percent of its total apparel exports (table 4.8). In 2018, Haiti was the 36th largest exporter in the world of knitted garments. The remaining 17 percent (nearly $176 million) consisted of woven apparel items. Product offerings from Haiti have historically consisted of basic, nontechnical garments with very little value added. The largest product category in Haiti is knit tops, including t-shirts (which make up 43 percent of Haiti's apparel exports) and jerseys and pullovers (which make up 26 percent of Haiti's apparel exports). The rest of Haiti's product mix consists of other knitted garments, underwear, woven bottoms, uniforms and work wear, performance wear, and athleisure products.

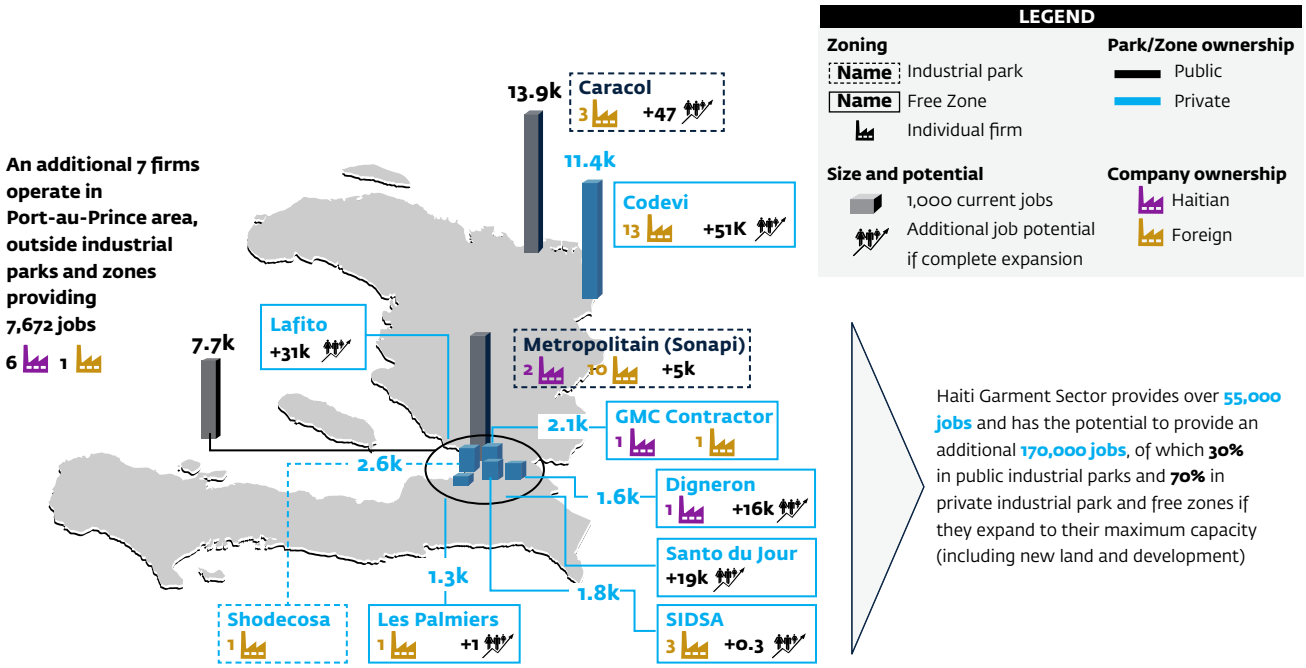
TABLE 4.8 HAITI EXPORTS OF APPAREL IN PERCENTAGE OF VALUE BY PRODUCT, 2018

Share of Haiti apparel exports (%)	H.S. code	Product label
43	6109	T-shirts, singlets, and other vests, knitted or crocheted
26	6110	Jerseys, pullovers, cardigans, waistcoats, and similar articles, knitted or crocheted
9	6203	Men's or boys' suits, ensembles, jackets, blazers, trousers, bib and brace overalls, breeches
9	6104	Women's or girls' suits, ensembles, jackets, blazers, dresses, skirts, divided skirts, trousers
4	6205	Men's or boys' shirts (excluding knitted or crocheted, nightshirts, singlets, and other vests)
2	6103	Men's or boys' suits, ensembles, jackets, blazers, trousers, bib and brace overalls, breeches
3	Other 61	Articles of apparel and clothing accessories, knitted or crocheted
4	Other 62	Articles of apparel and clothing accessories, not knitted or crocheted

Source: ITC TradeMap.
Note: H.S. = harmonized system.

The development of the sector and job creation have recently been driven by foreign direct investment in the north of Haiti, which represents 57 percent of the potential 170,000 jobs that could be hosted by industrial space available or earmarked for development in Haiti. There are 43 companies producing apparel goods for export: 33 are foreign investors, while 10 are national investors. Foreign investors in the Haitian apparel sector come from economies including Korea; the United States; the Dominican Republic; Taiwan, China; Sri Lanka, Panama, and Hong Kong, SAR, China. Foreign investors are permitted to own 100 percent of a company or subsidiary and enter into joint ventures with Haitian entities or individuals. As a Haitian entity, such companies enjoy all rights and privileges provided under the law. There are two government-owned industrial parks, one private industrial park, and seven private free-trade zones in Haiti catering to the apparel sector. The CODEVI private free-trade zone, located in Ouanaminthe, and the government-owned Caracol Industrial Park (PIC), located in Caracol—both in the North—together employ over 25,000 Haitians. The Metropolitan Industrial Park is an older, also government-owned industrial park, located in Port-au-Prince, under the management of the National Society of Industrial Parks (SONAPI), a government institution. PIC, previously under SONAPI management, is now overseen and managed by the Technical Execution Unit of the Ministry of Economy and Finance, while an expansion of industrial space, supported by the IDB, is conducted. There are other privately owned industrial areas supporting apparel manufacturers in and around Port-au-Prince (see figure 4.10).

FIGURE 4.10 COMPANIES AND JOBS IN APPAREL SECTOR BY INDUSTRIAL PARKS AND FREE ZONES, 2019



Source: World Bank based on Association of Industries of Haiti data and stakeholder interviews (as of September 2019).
Note: CODEVI = Company for Industrial Development; k = 1,000. Numbers with firm icons indicate the number of individual firms.

Key Sector Challenges

The most pressing challenge for the garment sector in Haiti is to navigate the near-term consequences of the COVID-19 pandemic, which is changing business partnerships within the global apparel value chain. Facing the massive economic impact of closed economies in many parts of the world, many leading brands and retailers—including those with significant purchases in Haiti—have canceled or delayed orders and placed moratoriums on further sourcing. According to the McKinsey Global Fashion Index analysis, fashion companies will post approximately a 90 percent decline in economic profit in 2020, after a 4 percent rise in 2019 (McKinsey and Company 2021). Consequently, major retailers and brands are under great financial stress or have even filed for bankruptcy. By exposing the vulnerability of procurement partners, the weakness of contracts, and the risks of a concentrated supplier footprint, the crisis accelerated many of the changes that companies were already making to rebalance their supply chain. To mitigate future ruptures, fashion players are likely to move away from transactional relationships in favor of deeper partnerships that bring greater agility and accountability.

Government decisions on how to fight COVID-19 in Haiti have not fully considered the economic realities of the sector, partly due to limited consultation with the private sector and workers' unions. This, coupled with lack of clarity on the measures and very short notice, put an extra burden on workers and manufacturers. Mandatory social distancing directives limiting workforce capacity to 30 percent, export restrictions, and the donation of masks were a financial burden on companies and, for some of them, could make the business unviable. In this context, most firms need information on how to adapt environmental health and safety (EHS) regulations and working capital to comply with COVID-19 protocols. Yet limited availability of trade finance (particularly for domestic investors) has been exacerbated by a global liquidity crisis.

In Haiti, the external shock caught apparel companies off guard. In May 2020, 56 percent of firms did not have a written business continuity plan, and one-third of managers reported that it would take between 31 and 90 days to restore full operations (Better Work 2020). Some producers had to seek permission from buyers and headquarters to use raw materials to shift from current production to PPE such as masks, and others had serious difficulties sourcing raw materials (at least 67 percent of firms faced shortages of inputs in May 2020). Furthermore, even if EHS measures are in place, several risks are difficult to address (that is, many modes of transportation for workers have not been adapted for social distancing).

The production of PPE can help some of the sector's operations; however, several challenges prevent companies from fully seizing this opportunity. There are limited resources to retool factories for PPE production, but more important, firms lack information on the market to appropriately gauge resources, specifications, and capacity needed for production. Additionally, the perception of Haitian products needs improvement abroad based on a good understanding of its competitive position and the quality of its products. Furthermore, the government has imposed restrictions on importing and exporting raw materials and PPE products. For instance, the sector must sell 20 million masks to the government before exports can be authorized. The private sector also perceives uncertainty regarding public procurement payment conditions.

Frequent and prolonged sociopolitical instability in the country has led to increased security costs, forced worker absenteeism, and supply chain disruptions. Road transport, particularly in Port-au-Prince, was crippled with periods of very limited access to fuel. Companies reported the loss of containers due to organized gang activity, which resulted in additional costs to reinforce security (ranging between $50 to $250 per container), and the 2019 crisis led to the loss of 3,000 jobs (ADIH 2020). Factories operating in the northern industrial parks, including CODEVI and Caracol, were less adversely affected by disruptions. The sudden appreciation of the gourde that lost 40 percent of its value overnight after August 2020 (coming back to the exchange rate of early 2018) also affected the accuracy of production cost estimates for Haitian exporters.

While the government of Haiti recognizes the apparel sector as a key driver of economic growth, it does not have a known public strategic vision or plans for the industry, institutional coordination is not always pursued, and it has limited resources to provide public services to the sector. Public services such as security; access to electricity, water, and sanitation; and health services for formal workers who contribute to the social security system often are not provided, forcing private firms to self-generate them so that they operate at costs that erode their competitiveness. Other policy issues, such as an ineffective land titling system, have also undermined investors' confidence.

There is an unlevel playing field between government-owned and private industrial spaces. Substantial public investment allows for subsidized rentals with long grace periods in public industrial spaces, which private parks cannot afford to offer (on average $2.95 per square meter per month in a government-owned park, $2.43 with special reductions and extended rent holidays for up to 15 years, versus $4.05 per square meter per month in a private zone). However, management of publicly owned spaces has been ineffectual and unresponsive to tenants' needs. This results in a disparity between what government-managed and private industrial areas offer on a cost-benefit basis. There is also a lack of clarity on the role of the investment promotion agency versus the authority in charge of industrial parks management regarding investment promotion strategies. As a result, efforts to attract private investment to Haiti are scattered and roles are overlapping rather than well differentiated, creating confusion among investors.

Much of Haiti's infrastructure for logistics is in poor condition, affecting the performance of the apparel sector. Less than half of Haiti's roads are paved, and its ports are outdated and inefficient. In fact, the port of Cap-Haïtien in the north was only C-TPAT certified in October 2020. As a result, companies operating in the north, including notably the manufacturers in Caracol, could not use the port for its exports. In the past five years, 85 percent of the containers leaving Caracol went through a Dominican port (IDB 2019), which was more costly and time consuming than exporting through Cap-Haïtien (businesses estimate an additional $1,500 per container) and represented a loss of revenue for Haitian port authorities.

The supply of electricity in Haiti is expensive, sporadic, and unreliable. Electricity costs, averaging $0.30–$0.35 per kilowatt-hour, are high relative to other apparel-producing countries. For instance, rates are approximately $0.14 per kilowatt-hour in Honduras or the Dominican Republic (World Bank 2017a), $0.18 per kilowatt-hour in Kenya, and $0.03 per kilowatt-hour in Ethiopia. Given that energy costs represent approximately 10–15 percent of an average apparel company's operating costs, high energy costs are a drag on the bottom line of operators in Haiti. These costs are compounded by factory downtime caused by outages and machinery damage resulting from power spikes.

Power outages have created operating inefficiencies, with many days of lost productivity (for example, interviews reported that 10 minutes of outage can lead to one hour of overtime). Many companies use diesel generators, which add to operating costs (and generate greenhouse gas emissions). Cleaner, solar-generated electricity could be a solution (as discussed in the RE section) with a payback period of three to four years. However, delays in obtaining the related government authorizations in public industrial spaces seems to be a constraint for its uptake.[114]

Limited piped-water availability and lack of waste and wastewater treatment facilities and waste management strategies have hindered quality-upgrading possibilities and have reduced orders from brands that are sensitive to reputational risks. Many companies must truck water in for use in factories, hindering textile-washing operations. Manufacturers are responsible for treating all solid and liquid waste, especially if they are using chemical products, which is common in the sector. However, most waste is disposed of without treatment. As a result, Haiti does not have the infrastructure to produce garments that are intensive water users (for example, jeans) and has not yet met the requirements in terms of the collection and treatment of solid waste and wastewater treatment plants requested by some brands. As the pandemic is likely to accelerate trends toward consumption of products with ethical business practices, such deficiencies are hindering new market opportunities.

The sector suffers from low labor productivity, lack of local middle management and technical skills, limited social protection for workers, and conflictive relations between employers and unions. Several firms estimate labor productivity levels in Haiti at 60 percent of those found in Guatemala, Honduras, and Nicaragua, with longer training periods. Users of the training centers serving Caracol Park claimed that not enough equipment was available. Most middle management or technical staff consists of expatriates. Workers have limited access to electricity, water, and medical care in and around their homes. The public health insurance system is widely regarded as ineffective, while 70 percent of employers did not collect and forward workers' contributions in 2019 (Better Work 2019), leading to worrisome reports of preventable life losses among workers (Hearing on the Caribbean Basin Trade Partnership Act: Considerations for Renewal 2020). The negotiating power of the unions is diluted, with at least nine federations grouping 34 organizations involved in the sector. The right to unionize and to conduct awareness campaigns is not always respected by employers. With consumption trends increasingly shifting toward business practices that champion fairness and social justice, addressing labor issues is critical for Haitian manufacturers to retain and attract new buyers.

The labor legislation in Haiti does not fully conform to international conventions, and, as mentioned in the cross-cutting section, its application is inconsistent, requiring clarification and guidance from authorities. A revision of the Labor Code started in 2013 to ensure compliance with the 25 ILO conventions ratified by Haiti. The process has been stopped several times, but the government, unions, and the private sector are currently working with the ILO to prepare a new code. Regulatory instruments have not been issued to apply the current 3 × 8 law, and labor tax charges are reported to differ from time to time without explicit guidance from the government. Additionally, the government randomly announces national holidays on short notice, interrupting production cycles.

The minimum wage revision mechanism is difficult to predict, and the negotiation process is disruptive, creating negative perceptions among buyers. The law requires an increase in the minimum wage when inflation is above 10 percent for over a year; however, the calculation methodology is not defined, leading to disruptive negotiations and unsatisfactory results for all parties. Before the last increase by 19 percent for the minimum wage in the sector, in March 2019, the lower chamber of Parliament passed a 78 percent minimum wage increase, which the Senate never passed; it was therefore never implemented but it still generated confusion. Unpredictability prevents planning and accurate business forecasting, thus increasing risk aversion in investment decision making. Finally, the confusion serves as a major constraint to attracting and retaining buyers, who have been confronted with violence by workers in some cases.

Many local investors face costly trade finance requirements. For instance, letters of credit need to be guaranteed by collateral valued at 100 percent. Additionally, companies face charges for commercial letters of credit of 4–5 percent in Haiti versus 1.00–1.25 percent in Asia. Meanwhile, most foreign direct investors do not face such difficulties because they use corporate headquarters facilities for financing.

An acute shortage of bills and security issues increase the cost of salary payments. There is no check clearing or mobile money interoperability and not enough agents to cash mobile accounts, with one active agent on average per 7,524 adults in Haiti, against one agent per 454 adults in Bangladesh; or one nonbranch commercial bank retail agent for each 2,594 adults in the Dominican Republic.[115] As a result, employers must transport large amounts of (deteriorated) cash every two weeks. Digitization of garment workers' salaries combined with an expansion of the digital payment ecosystem would bring efficiency gains both for workers and for employers.

A Vision Forward for the Apparel Sector

Haiti could substantially increase the number of jobs within the sector if operating conditions improved. Primary requirements are surviving the COVID-19 crisis, sustained political and economic stability, improved security, and retention through the renewal of expiring trade preference programs (CBTPA and HOPE/HELP). Others include actively attracting new investors while working to achieve a reduction in costs, especially energy costs; improving basic infrastructure and services to investors in industrial parks and free zones; and having the government make a renewed commitment to improve the operating environment to put Haiti on firmer footing as a stable, mature, and growing apparel producer. Development of the apparel sector can **also serve as a stepping stone toward the development of higher value-added industries.**

Companies will need to navigate structural shifts in the sector due to COVID-19. Given that the apparel sector is heavily reliant on exports to the United States, a key question is what types of apparel products from Haiti will be in demand moving forward. With supply chain disruptions, increased lead times (especially from China), and changing consumption habits (for example, digital trade and ethical business practices), sourcing executives are increasingly looking more closely at their sourcing needs (Berg and others 2020). Updating and implementing EHS guidelines in the industrial parks and free zones based on good industry practices and lessons learned in 2020 would enhance worker welfare as well as productivity. Moreover, developing an effective communications outreach program to ensure that workers are provided with accurate information on crisis-related protocols on social distancing and hand washing is key.

Providing information on the operating environment, helping solve issues through public-private dialogue, and ensuring the success of existing investor operations are among the best strategies to attract new investors, as the former are the best ambassadors to advertise the competitiveness of Haiti. Several expansion plans in industrial zones are ongoing but require that critical operating environment challenges are tackled. Industrial park and free zone investment promotion teams could focus their communications efforts on current investors, to ensure they are kept well informed with useful and accurate information related to doing business in the industrial space, and maintain communication with newly secured investors that have put their investments on hold. This will be important because it's a reflection of the operators' commitment to investor relationships and will increase the likelihood of the investment resuming post-crisis.

The Haitian garment sector has significant potential to increase product and export market diversification. Higher value added from apparel production could be achieved by using more resource-efficient and climate-friendly technologies and by increasing specialized training. Haiti could attract textile mills and develop full-package manufacturing if a number of challenges were addressed, chief among them energy reliability and costs and water and waste management plants to allow for washing services. Haitian workers are also recognized for their dexterity, having sewing skills to take on more technical operations. While exports beyond the US market are minimal, opportunities to increase exports to other countries could be explored to minimize overreliance on a single market. The European Union provides a good, if admittedly smaller, opportunity. This requires the ratification of the EPA by the Haitian Parliament.

Improving the provision of services in industrial areas at competitive prices, including eco-friendly solutions, is key for Haiti to retain and attract new investors as sourcing locations are being reorganized. Shifts in consumption habits are putting more emphasis on ethical business practices. Adopting applicable circular economy solutions such as eco-industrial parks and resource efficient and cleaner production (RECP) could help Haiti distinguish its apparel sector among buyers (see box 4.9 on the Bangladesh experience). Strategies to reduce costs and greenhouse gas emissions through investment in energy and water efficiency technology as well as solar PV power generation could also improve Haiti's appeal as a production location. Besides electricity, water, and waste management, a comprehensive approach to industrial space development,

including the provision of health, transport, housing, and other services for workers (for example, childcare, financial services) is necessary to improve the working conditions and well-being of employees and limit negative socioeconomic impacts to the population outside industrial areas. While the two existing training centers are adequate for initial workforce orientation and entry-level training needs, more and better training, with a focus on higher worker productivity, is also needed.

Leveling the playing field between private and public industrial space is key to attracting new investors and ensuring effective public spending. While rent prices in public industrial space are significantly lower than in private industrial space because of significant subsidies, government services in the former are not up to competitive standards. While private industrial space (private free zones) services are more responsive to investor's needs, public investment in adjunct infrastructure (for example, roads) is poor. Improving management of public industrial parks (including by exploring delegating management to private operators) and promoting fairer competition between public and private industrial spaces by rationalizing incentives and optimizing the geographical allocation of public investment, would improve the country's efforts to attract foreign investment. Greater clarity on what public and private industrial areas offer, as well as on who operates and promotes public industrial areas versus who conducts investment promotion for the whole country, are key initiatives to build confidence for current operators and new investors.

BOX 4.9 BANGLADESH PARTNERSHIP FOR CLEANER TEXTILE

The Advisory Partnership for Cleaner Textile (PaCT) implemented by IFC is a holistic program that supports the entire textile value chain—spinning, weaving, wet processing, and apparel production—in adopting cleaner production practices. It also engages with brands, technology suppliers, industrial associations, financial institutions, and government to bring about systemic and positive environmental changes for the Bangladesh textile sector and contribute to the sector's long-term competitiveness and environmental sustainability. Launched in 2013, PaCT focuses on reducing the environmental impact and resource consumption of Bangladesh's textile sector. PaCT is the first program ever to incorporate several cutting-edge innovations to address the environmental and sustainability challenges related to textile-sector development. These range from low-cost or no-cost changes in management and housekeeping practices, to process modifications, to larger investments such as new equipment.

PaCT helped more than 338 factories reduce freshwater consumption by 25 million cubic meters per year and cut wastewater discharge by 21.08 million cubic meters per year. These factories now save 2.5 million megawatt-hours per year in energy and avoid greenhouse gas emissions of up to 489,796 tons per year of carbon dioxide—the equivalent of removing over 98,000 cars from the road. Helping factories recover chemicals such as salt and caustic soda further cuts operating costs. PaCT advocacy helped create a $200 million Green Transformation Fund, through which the Bangladeshi government supports low-cost financing for resource efficiency in the textile industry. As the challenges of the textile sector were becoming increasingly more complex, this program evolved into its second phase (PaCT II), in which the competitiveness of the textile sector became the emphasis of the program.

Source: IFC and PaCT (Partnership for Cleaner Textile), https://www.textilepact.net/.

RECOMMENDATIONS

Table 4.9 outlines recommendations for the apparel sector in Haiti. The recommendations aim to encourage private sector investments by prioritizing quick wins, as well as medium and high priorities, depending on their potential impact and feasibility.

TABLE 4.9 SUMMARY OF POLICY RECOMMENDATIONS IN THE APPAREL SECTOR

	Recommendation	Objective	Priority
Help the sector navigate the COVID-19 crisis			
1	**Help the Haitian apparel sector to quickly adapt and exploit a new set of PPE opportunities.**	Use success in PPE exports to demonstrate, in the short term, Haiti's reliability as a production source and comparative advantage in terms of speed to market and to build the basis to diversify in the longer term toward technology-intensive areas such as medical products. Conduct a PPE demand analysis that identifies current demand, forecasts future trends, and discusses market changes. Use existing PPE manufacturing facilitation platforms to (a) learn the design and specifications of the PPE manufacturing business model and nearshoring investment program and facilitate financing at competitive prices and (b) benchmark to define the competitive position and contribute to disseminating the value proposition of Haiti as a PPE producer.	Quick win
2	**Develop a private sector business continuity plan in the context of the COVID-19 crisis and changing global value chain landscape.**	Establish a committee to identify and implement policy levers and actions to (a) allocate resources, (b) collect data, and (c) engage public and private stakeholders on business continuity planning (including on EHS guidelines) in a pandemic situation.	Quick win
Strengthen policy dialogue, coordination, and strategy setting			
3	**Encourage greater public-private sector dialogue and data-driven advocacy and foster greater institutional capacity and coordination.**	Improve communication and sustained dialogue among companies, the government, and unions; strengthen data-driven advocacy on priority reforms; and pursue frequent follow-ups on commitments. Additionally, government agencies and donors could coordinate more regularly.	Quick win
4	**Implement the first steps to revamp investment policies, strengthen investment generation and retention, and find opportunities to attract investment with higher domestic value added.**	With the improved stability in Haiti, renew the focus on retaining and proactively attracting new investment. Prioritize analyzing, rationalizing, and monitoring the investment incentives regime to ensure predictability and efficient public investment, particularly in the form of tax exemptions and subsidies. Enhance clarity about land ownership. Focus on Haiti's competitive advantages, especially key enablers for scaling up investments that bring more domestic value added to the country.	Quick win

	Recommendation	Objective	Priority
5	**Develop, endorse, and disseminate a comprehensive and actionable strategy for the sector, including post-HOPE. Strengthen institutional capacity to address policy constraints.**	Develop a sector strategy that recognizes the limited window of opportunity for investors, have it validated by stakeholders and ratified by the government. This will set a clear path for coordination on priority actions, by serving as an overarching strategy for government institutions, donors, and surrounding communities involved in the sector.	Medium
Reinforce enabling factors for sector growth and value addition			
6	**Incentivize the use of resource-efficient and climate-friendly technologies (for example, energy, water, waste).**	Change to using resource-efficient and climate-friendly technologies (energy, water, and waste) to give Haiti an advantage over its competitors, opening it up to new buyers. For example, renewable energy generation initiatives in industrial spaces (for example, Caracol) could be replicated. Incentive schemes could be considered, with close monitoring.	Quick win
7	**Provide factory-level technical assistance and enhance market links support.**	Build the skills base of factory workers and managers by targeted factory-level technical assistance. Regular business-to-business links are also essential to increase spillovers of such assistance.	Quick win
8	**Improve access to finance and create an e-payment platform to ease salary payments to workers.**	Invest in a financial guarantee facility to ease the restrictive letter of credit requirements for Haitian investors. Facilitate digitization of workers' salaries and thus promote financial inclusion by encouraging effective e-platforms for payments and mobile money interoperability and ensuring that ATMs remain operational.	Quick win
9	**Improve labor productivity through enhancement of workforce development.**	Expand the courses offered by training centers toward advanced technical sewing skills, as well as on mechanical services and management practices. Consider programs to incentivize workers' productivity gains.	High
10	**Improve offerings of industrial areas.**	Encourage more rapid build-out of industrial space and enhance physical infrastructure and service provision (especially roads and energy). In particular, a sustained effort to bring down the cost of electricity is required to retain investors and encourage new investment, especially in the capital-intensive area of textile mills. Improve management of public industrial parks (including by exploring delegating management to private operators), promote fairer competition between public and private industrial spaces, and provide clarity on who operates and promotes public industrial areas versus who conducts investment promotion for the whole country in order to build confidence for current operators and new investors.	High
11	**Improve socioeconomic conditions of workers.**	Explore mechanisms to facilitate the provision of housing, transport, food, and health care for workers in the sector—especially in the main industrial areas—to improve productivity and promote stability. For example, the government could allow firms to redirect a portion of the payments to social security toward the direct provision of health care services.	Medium

	Recommendation	Objective	Priority
12	**Streamline and harmonize border control procedures and maintain C-TPAT compliance of Cap-Haïtien port.**	Enhance trade facilitation at the border to ensure timeliness and reliability along the value chain, an increasingly important step with the development of digital trade. Commit to maintaining the C-TPAT certification of Cap-Haïtien port by US Homeland Security. This will reduce the cost to export from the north and increase port management revenues.	Quick win
13	**Encourage labor law and regulations improvements and application.**	Finalize the reform of the labor code to avoid gray areas in worker-employer relationships and ensure compliance with the 25 ILO conventions ratified by Haiti. Annual strikes reflect workers' dissatisfaction with labor conditions, damage Haiti's reputation among international buyers, and affect investor planning. Improve the predictability, clarity, and adequacy of the methodology for defining minimum wage increases and public holiday planning. Pursue training for unions on their rights and obligations.	High
14	**Ratify trade agreements.**	Ratify the EPA and CARICOM so the garment sector has better access to the Caribbean and the European markets.	Medium

Note: CARICOM = Caribbean Community and Common Market; C-TPAT = Custom-Trade Partnership Against Terrorism; EHS = environmental health and safety; EPA = Economic Partnership Agreement; HOPE = Haitian Hemispheric Opportunity through Partnership Encouragement Act; ILO = International Labour Organization; PPE = personal protective equipment.

APPENDICES

APPENDIX A
INNOVATIVE MICROFINANCE, KENYA

Kenya Maji Ni Maisha [Water Is Life]: Innovative Microfinance

K-Rep Bank's Maji Ni Maisha is an innovative program providing loan finance to small community water projects. The program provides a combination of subsidies and commercial finance to enable these projects to expand service and achieve financial sustainability.

Maji Ni Maisha uses an output-based aid approach to leverage co-financing from K-Rep, a commercial bank. The capital subsidy is paid only upon the delivery of predetermined and agreed outputs. As a result, the following are true:

- The subsidy reduces total loan sizes and ensures that debt service remains affordable.
- The subsidy and project development support provide better risk management for the lender.
- Incentives for project completion and subsequent performance are increased.

Small, community-owned water projects obtain loans and make debt service payments to K-Rep bank. The loan from the bank amounts to 80 percent of the total investment, with the remaining 20 percent provided by the community as an equity contribution. The grant subsidy, which is 40 percent of project costs and up to a maximum of 50 percent of the loan amount, is then used to reduce the loan principal upon successful delivery of the outputs.

Outputs are measured in two ways:

- Change in the service coverage, such as an increase in household or community service points.
- Change in revenues collected, as a result of increased service and improved payment collection.

Each community project defines the level of outputs it plans to achieve, which will be built into its loan agreement with K-Rep Bank. Output verification is done by an independent auditor.

As of December 2010, 10 projects had secured $1 million in debt finance from K-Rep Bank and an additional $300,000 in equity contributions.

Source: World Bank Group.

APPENDIX B
BENCHMARKING INFORMATION ON RENEWABLE ENERGY

TABLE B.1 GENERAL STATISTICS FOR COMPARATIVE COUNTRIES

General statistics	Burkina Faso	Dominican Republic	Haiti	Honduras	Jamaica	Nicaragua	Togo	Source
Area, sq. km	274.2	48.7	27.8	112.5	11.0	130.4	56.8	WBG
Population, millions	19.75	10.63	11.12	9.59	2.93	6.47	7.89	WBG
Population density (1,000/sq. km)	70	218	400	80	270	50	138	Calculated
HDI/rank	0.423/183	0.736/94	0.498/168	0.617/133	0.732/97	0.658/124	0.503/165	UNDP
GNI per capita, purchasing power parity (2020 international, US$)	1,920	16,960	1,870	4,780	8,930	5,390	1,760	WBG
Electricity consumption (kWh/capita)	–	1,395 [2010]	25 [2010]	618 [2010]	1,216	507 (2010)	124	WBG
Access rate, total	20% [2016]	97% [2016]	33% [2016]	76% [2016]	100% [2016]	89% [2016]	35% [2016]	IEA
Access rate, urban	58% [2016]	98% [2016]	45% [2016]	81% [2016]	100% [2016]	96% [2016]	74% [2016]	IEA
Access rate, rural	2% [2016]	91% [2016]	8% [2016]	65% [2016]	96% [2016]	70% [2016]	5% [2016]	IEA
Renewable energy, % of generation	9.4% [2014]	11.63 [2015]	8% [2015]	39%	10.26 [2015] 11.5% [2018]	50.5%	75.31%	WBG via Macrotrends. Sopelia. Caricom Energy
Non-hydro renewables (billions, kWh)	0	1.15	0	2.1	0.2	2.0	0	EIA

General statistics	Burkina Faso	Dominican Republic	Haiti	Honduras	Jamaica	Nicaragua	Togo	Source
Mobile subscription (per 100 people)	93.5	81.4	57.4	88.9	107.0	131.6	77.8	WBG
RISE score	42	62	21	35	67	49	41	RISE
Non-hydro renewables (billions, kWh)	0	1.15	0	2.1	0.2	2.0	0	EIA
Mobile subscription (per 100 people)	93.5	81.4	57.4	88.9	107.0	131.6	77.8	WBG
RISE score	42	62	21	35	67	49	41	RISE

Source: Sources for the various statistics are listed in the far-right column.
Note: Dates in brackets are the dates for the listed information. – = not available; EIA = US Energy Information Administration; GNI = gross national income; HDI = Human Development Index; hydro = hydroelectric; kWh = kilowatt-hour; RISE = Regulatory Indicators for Sustainable Energy; sq. km = square kilometer; subss = subscriptions; UNDP = United Nations Development Programme; WBG = World Bank Group.

TABLE B.2 RISE SCORE FOR RENEWABLE ENERGY, 2010 AND 2017

RISE score for renewable energy	Haiti	Honduras	Nicaragua	Jamaica	Dom. Rep.	Burkina Faso	Togo
2017	14	39	49	54	59	37	33
2010	1	21	27	21	54	11	12
RISE 7-year evolution	13	18	22	33	5	26	21

Source: World Bank and RISE (Regulatory Indicators for Sustainable Energy) methodology, 2021, https://rise.worldbank.org/scoring-system.

TABLE B.3 PROGRESS AREAS AS A PERCENTAGE OF CUMULATIVE CHANGES IN RISE SCORE, 2010–17

Progression 2010–17 (as % of total progress)	RE Indicator 1: Legal framework for renewable energy (%)	RE Indicator 2: Planning for renewable energy expansion (%)	RE Indicator 3: Incentives and regulatory support for renewable energy (%)	RE Indicator 4: Attributes of financial and regulatory incentives (%)	RE Indicator 5: Network connection and use (%)	RE Indicator 6: Counterparty risk (%)
Burkina Faso	27.3	18.0	26.2	0	0	28.4
Dominican Republic	0	64.7	0	0	0	35.3
Haiti	54.3	16.3	6.5	0	14.1	8.7
Honduras	38.2	0	0	32.1	0	29.8
Jamaica	21.7	14.8	10.4	10.9	21.3	20.9
Nicaragua	0	29.8	9.9	27.8	19.9	12.6
Togo	33.1	24.5	12.6	16.6	0	13.2

Source: World Bank and RISE (Regulatory Indicators for Sustainable Energy) methodology, 2021.
Note: Values explaining most of the progresses for a single country (highest values in a single line) are highlighted in blue. Each indicator has one or more subcomponents. Details are available at https://rise.worldbank.org/scoring-system. RE = renewable energy.

APPENDIX C
MINIGRID PLANNING IN TOGO

The Togolese Rural Electrification Agency (AT2ER) conducted a minigrid planning with support from the European Union, IFC, and German Corporation for International Cooperation (GIZ).

Starting from a long list of 318 villages listed for priority electrification, the project delivered a technical, environmental, and financial assessment of the rural electrification plan in Togo. It determined the main dimensioning parameters required to create a pipeline of bankable projects. The first phase of the study was to establish a clear separation between areas eligible for grid extensions and areas eligible for minigrids and solar home systems.

- The largest 318 localities were shortlisted for further analysis and clearly communicated through the website of the rural electrification agency (AT2ER).
- For each of the 318 locations, a variety of household surveys were conducted to define the willingness to pay, capacity to pay, and potential demand.
- Ground surveys mapped and qualified potential productive users, administrative buildings, and other special uses (water pumping, telecommunications).

These ground-collected data enabled planners to create a load curve for each location, considering the progressive increase in the number of connections over time, and demand elasticity. The resulting load curves were extrapolated to estimate growth in demand annually until 2030.

Each minigrid was designed on a geographic information system (GIS). The load curve and cost estimates were input into Hybrid Optimization Model for Electric Renewables (HOMER) to simulate the optimal technical configuration and annual power production. The HOMER simulations were then input to a financial model that estimated the levelized cost of energy (LCOE) for each system at different levels of internal rate of return (IRR). At this stage, it was possible to differentiate systems with minigrid potential from those that could be eligible for a solar home system program (low density, low consumption).

Allotments were performed, grouping the most reliable investments into investment portfolios of 50–80 locations for an investment volume of $60 million each. Five lots were defined, each separated into three tranches, delimiting five potential zones for minigrids investors. Finally, on demand by the Togolese government, the level of grants required to reach a specific tariff of $0.20 per kilowatt-hour at a set IRR were estimated for each location, and for each lot. All data, including GIS analysis, household surveys, and HOMER files, were designed to be made available to potential bidders, with the expectation that bidders would be able to outperform the consultant's proposal and deliver at lower prices.

The case of the Togolese study differs from Haiti, as the Togolese government had expected the minigrid tariffs to match the grid tariffs. Because of the large difference in production costs, the gap (up to $0.30 to $0.50 per kilowatt-hour) had to be compensated. Studies estimated that the two main instruments allowing for minigrids to be bankable in this setting were a combination of upfront investment grant and concessional funding. A grant for the distribution grid or tax cuts on income taxes had a marginal impact on the cost of power.

The IRR is a major driving parameter for LCOE. Its impact was estimated to an increased LCOE of $0.03 per kilowatt-hour for each additional point on the IRR. In Haiti, the expected IRR (in excess of 20 percent) expected by the interviewed minigrid developers and pass through of diesel cost variation to end consumers will affect the price to end consumers, limited in their ability to pay by other basic needs. Therefore, the actual demand may be lower than forecast, and production assets may be underexploited. Therefore, a recommendation of this report for the minigrid segment is the facilitation of access to mechanisms allowing lower investment risk and expected return on capital (debt and equity).

The rural electrification initiative is currently being complemented by an expansion plan for the distribution networks and a georeferencing of medium voltage lines across Togo. The last part of the power system—the transmission network—is being planned through the Economic Community of West African States (ECOWAS) Master Plan for the Generation and Transmission of Electrical Energy. Such an integrated master plan—transmission, distribution, minigrids planning—is currently missing in Haiti. The lack of such a plan creates uncertainty in the intent of government regarding the eventual connection of regional grids to an interconnected national network or the eventual connection of minigrids to neighboring regional grids, should the case arise.

Source Expertise Advisors/ETI Consulting for COWI Consulting. Ref. EuropeAid/2018/398126-1.

APPENDIX D
ELECTRICITY FIRM B IN HAITI

Firm B started by selling solar home systems and products and improved cook stoves (to replace the use of charcoal) in Les Anglais. As demand was larger than expected, the company partnered with a telecom operator to serve its telecommunications tower and use the excess capacity to connect households and businesses. The first microgrid started in 2012 with 14 customers, expanded with support from a grant from the US Agency for International Development (USAID). In 2015, the company installed a hybrid generation system to serve more than 400 households, with prepaid metering. Operations started with 250 customers, and before Hurricane Mathew hit in 2016, the firm had reached 450 connections.

As of August 2019, it had 420 connections, and no longer has a partnership with the telecom operator. The company continues to sell light bulbs, fans, and other products, to stimulate demand and is now trying to work on productive users. In December 2019, the company launched the second solar-powered minigrid in Tiburon (95-kilowatt capacity), serving 500 homes and businesses with 24 hour a day, seven day a week electricity. The project has had funding from the Organization of the Petroleum Exporting Countries (OPEC) Fund for International Development and support from USAID, among other donors.[116] A few takeaways from this company's experience follow:

- **The positive effect on savings reinforces the benefits of expanding access with minigrid solutions.** Data collected from customers reveal that people are saving between 50 and 80 percent of what they used to spend on charcoal, kerosene, and candles before the minigrid was set up. With prepaid systems, consumers can spend what they can afford. The expenditure range is wide: people can spend between HTG 50 per month (US$0.50 per month) to HTG 8,000 per month (US$80 per month). As operators systematically collect information about their customers and the effects on savings, they will strengthen the argument for expanding access through private minigrids.
- **Minigrid developers might consider clustering minigrid projects, to save on overhead costs.** Firm B has a spin-off company, which operates and manages the infrastructure of the firms' minigrids, that was created under the assumption that firm B will be able to develop 22 additional sites. The distance between minigrids is important for this concept to work; if it does, it will allow the company to operate with managers by cluster and to have customer relations staff, security services, and technical staff to monitor and supervise in cases of blackouts or fire emergencies.
- **As operators gain experience, they can play a role in strengthening National Regulatory Authority of the Energy Sector (ANARSE) with technical know-how.** For instance, during a tariff review process, the regulator and operator have exchanges related to technical specifications and assumptions of business models, which is an opportunity to strengthen ANARSE's analysis capacity and enrich databases.

- **Information about demand, key to assessing potential for minigrid expansion and setting tariffs, is not readily available and can delay review and licensing processes.** Project developers set up their business models using, among other information, their own data about existing and potential demand. Collecting the information through ability-to-pay surveys is a costly exercise that needs to be conducted every so often to adequately size a proposed minigrid and identify the potential for minigrid expansion. The regulator will need to have data about the consumption patterns and demand to compare it with that provided by project developers. For instance, ANARSE uses extrapolations from sample surveys, while developers use census data; this difference in the source and quality of information results in discrepancies in the analysis of the business model of the regulator versus the operator and adds to the complexity of the review and licensing process. Strengthening efforts to collect information is important for ANARSE to have a stronger capacity to discuss and challenge the analysis of operators.
- **Having different tariffs for regional, municipal, and local minigrids may generate conflict and affect licenses to operate with local communities.** Given the nature of Haiti's network structure, the regulator will need to balance having a tariff that matches costs for proposed minigrids with the tariffs that are currently charged to customers connected to Haiti Electricity Utility Company (EDH) regional grids and municipal grids. ANARSE might also have to consider that if a developer is working on several sites that are in proximity, all projects should have similar (if not the same) tariffs to prevent social conflict from arising.

Source: Interview with the director of operations of the firm in Haiti.

APPENDIX E
PICO SOLAR SOLUTIONS AND SOLAR HOME SYSTEM PILOTS IN HAITI

Solar Home System Pilots

BOX E.1 IPP#1

The IPP, created by an independent power producer, operated for almost a year (September 2018–July 2019) and sold 600 units using a sales model. After this, the pilot was put on hold to make necessary adjustments.

The sale of solar products leveraged a microfinance institution's branch network, and the information collected by its customer relationship management system proved useful to analyze customer ability to repay loans and to test different loan tenors (from 6 to 24 months). The door-to-door installation and after-sale service allowed the firm to establish stronger local relations. Company representatives acknowledge an opportunity in this line of business: it contributes to solving the energy access deficit in the country with clean energy, and there seems to be strong demand for lanterns and solar home systems (SHS). A factor of success, in the firm's experience, is the ability to have a trained sales force and to offer a wider range of products to meet the needs of a highly segmented market. The representatives identified customers who "are extremely interested in solar home kits but do not have the ability to get them, and those who can afford the kits but find that the current offer doesn't meet their electricity needs" (that is, customers need larger SHS to connect solar-powered electronic devices such as televisions, irons, fans, and so on).

BOX E.2 FIRM E

Firm E, a start-up that partnered with a telecom operator, started operations in 2015 to provide clean, affordable light and power in rural areas by offering a lease-to-own 10-watt SHS (with a solar panel, a battery unit with USB power outlet) with three lights, a torch, and a radio, for a down payment.[a]

The firm sold and distributed products manufactured in China. Rather than paying the full cost upfront, customers made the down payment and paid a low monthly fee via mobile money. These installments would go toward paying off the system, allowing customers to eventually own their SHS and to complete the payment ahead of the collection schedule. The mobile money account was opened at the point-of-service at registration.[b] A locally based sales and service team installed the systems and worked on maintenance and troubleshooting on installed systems, and customer service was provided through a call center (operated by a telecom operator). The company reached more than 7,000 customers but faced several challenges that led to its closure.

a. A detailed description of the model can be found in a case study published by GSMA, "d.light and RE-Volt: Pay-as-You-Go Solar Service Driving Mobile Money Adoption in Haiti," 2018, https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2018/04/d.light-and-RE-VOLT-Pay-as-you-go-solar-service-driving-mobile-money-adoption-in-Haiti.pdf.
b. Initially customers could pre-pay for electricity, daily, weekly, or monthly, and have their account credited remotely through an embedded SIM card in the SHS, which also allowed RE-Volt to manage the maintenance of the system remotely. This changed as the pilot was implemented.

Pico Solar Solutions Pilots

BOX E.3 FIRM F

The firm F is a brand of an international group in electronics and mobile phone manufacturing. It participated in a project supported by FOMIN/ IDB, USAID, and Arc Finance and run by a Haitian money transfer and payment services company that is a subsidiary of a Haitian commercial bank, with an international solar home systems manufacturer as partner. The firm F distributes low-cost small photovoltaic (PV) products (with cell phones) imported from China. Its product range covers light bulbs, solar lanterns, and small solar PV systems up to 100 watts. The project's best-selling product as a group is a rechargeable bulb, which has sold 1 million units.

- Distribution network: 350 shops and 500 commission-based agents in Haiti. The company also exports solar products to Ethiopia, Ghana, and Puerto Rico.

The project enabled the Haitian diaspora in the US to use remittances to pay for solar devices for their families via a website. It distributed the small solar products through the Haitian money transfer and payment services company nationwide network (with 90 branches) and provided microcredit through the affiliated microfinance institution.

- Sold 85,000 lanterns.

Issues: high cost of marketing required to promote the project in the US, competition with direct purchases, and problems with the quality of the solar product line because not all its products are quality certified.

BOX E.4 MICROFINANCE SOLUTIONS

This firm started as a project from Entrepreneurs du Monde (a nongovernmental organization) and became a microfinance institution.

It imports solar lanterns (Sunking)[a] at low margins from China and through a subsidy received on solar devices and transport, is able to supply products at affordable prices.

- Points of sale: 2 in Port-au-Prince, 1 in Grand Anse, and 1 in Hinche.
- Distribution: network of more than 150 distributors across the country. Provides after-sale services.
- Provides microloans through a group lending model with individual liability over six months, whereby individual loans can be granted to purchase SHS only after a few group loans have been made and repaid. Cash is collected in the field.
- old more than 16,000 lamps.

Issues: competition from low-quality products and the low purchasing power of the potential customers. Lack of credit history of the customers affects the lending rates applied (above 20 percent).

a. Several models are available: Sunking Home 60 without pay-as-you-go and with a radio, sold for HTG 7,100. Lamps:

APPENDIX F
ORGANIZATION AND STRUCTURE OF WATER SYSTEMS

DINEPA	123
Administration	62
Projects	61

1,451 employees

OREPA SUD	
Central office	27
URBAN/CTE	109
Cayes	28
Aquin	12
Jeremie	22
Jacmel	35
Miragoane	12
RURAL	85
URD	12
TEPAC	73

221 employees

OREPA OUEST	
Central office	18
URBAN/CTE	709
RMPP	662
Croix des Bouquets	7
Leogane	7
Grand Goave	3
Petit Goave	17
Kenscoff	13
RURAL	35
URD	8
TEPAC	27

762 employees

OREPA CENTRE	
Central office	19
URBAN/CTE	89
Hinche	15
Mirbalais	7
Lascahobas	2
Gonaives	30
St Michel	9
Estere Desdunes	17
Pte Riviere	9
RURAL	50
URD	6
TEPAC	44

158 employees

OREPA NORD	
Central office	17
URBAN/CTE	98
Cap-Haitien	21
Port de paix	47
Jean Rabel	3
Mole St Nicholas	2
Ouanaminthe	18
Fort-Liberte	7
RURAL	72
URD	5
TEPAC	67

187 employees

Source: DINEPA's accounting service.

APPENDIX G
SUMMARY OF WATER SYSTEMS IN HAITI

	Port-au-Prince	Saint Marc	Port de Paix	Môle SN	Anse Rouge
Population	3,100,000	300,000	200,000	30,000	25,000
Population in service area	2,000,000	75,000	100,000	15,000	15,000
Number of employees	700	25	47	2	—
Type of system (gravity/ pumping)	mixed	gravity	gravity	gravity	mixed
Active connections	51,000	5,500	6,200	700	—
Metered connections	10%	95%	80%	0%	0%
Population with active connection	330,000	35,000	40,000	4,500	1,300
Coverage rate total	11%	12%	20%	15%	5%
Coverage rate in service area	16%	50%	40%	30%	9%
Availability of water service	2 to 6 hours, 3 days per week in most cases; 24h/7d in some areas.	6 to 8 hours per day (18 hours per day until 2015 when illegal connections developed in Venotte area)	24h/7d	6 hours per day; 24h/7d for hotels	—
Tariff without meter	HTG 400 to HTG 1,000 per month	HTG 200 per month	domestic HTG 440 /month; administration HTG 1,250; commercial HTG 1,590	domestic HTG 50 /month; administration HTG 150; commercial HTG 1,000	150 HTG/month

	Port-au-Prince	Saint Marc	Port de Paix	Môle SN	Anse Rouge
Tariff with meter	HTG 621 up to 15m3 per month + HTG 37.5 per m3 above	HTG 62.5 per m3	HTG 50 per m3 + HTG 114 per month	—	—
Cost of new connection	HTG 12,000	HTG 4,600	HTG 3,600	—	—
Billing/latest	—	HTG 27 million	HTG 44 million	—	—
Collection/latest	HTG 350 million	HTG 25 million	HTG 26 million	HTG 0.45 million	—
Collection rate	—	>90% (70% since social unrest)	60%	—	—
Comments	Ongoing IDB project—PPP envisaged for boreholes and for distribution in Carrefour area	System renovated by IDB in 2009—private operator	System renovated by IDB in 2009	Included in EPARD project; full renovation for $2 million; potential for 2,000 connections	Included in EPARD project; full renovation for $6 million; potential for 3,500 connections

	St Michel dla	Pignon	Hinche	Lascahobas	Les Cayes	Cap-Haïtien
Population	50,000	40,000	100,000	40,000	130,000	260,000
Population in service area	20,000	10,000	35,000	10,000	70,000	100,000
Number of employees	3	4	17	2	25	20
Type of system (gravity/ pumping)	gravity	gravity	mixed	mixed	mixed	mixed
Active connections	540	150	2,264	560	2,700	1,332
Metered connections	0%	100%	0%	0%	0%	0%
Population with active connection	3,500	1,000	15,000	3,600	18,000	9,000
Coverage rate total	7%	2.5%	15%	9%	14%	3%
Coverage rate in service area	17%	10%	40%	36%	25%	9%

	St Michel dla	Pignon	Hinche	Lascahobas	Les Cayes	Cap-Haïtien
Availability of water service	12 hours per day, 3 days per week	24h/7d	12 hours per day, 2 days per week	3 hours per day	2 hours every 2 days	Few hours per day
Tariff without meter	domestic HTG 220 /month; administration HTG 500; commercial HTG 2,200	—	domestic HTG 220 /month; administration HTG 440; commercial HTG 660	HTG 110 per month	domestic HTG 330 /month; administration HTG 660; commercial HTG 800	HTG 330 per month
Tariff with meter	—	HTG 140 per m^3	—	—	—	—
Cost of new connection	HTG 4,4000	HTG 5,000	HTG 2,478 + material	HTG 1,541 + material	HTG 5,451	HTG 3,300
Billing/latest	—	HTG 1.5 million	—	—	—	—
Collection/latest	HTG 1.5 million	HTG 1.1 million	HTG 4 million	HTG 0.6 million	HTG 15 million	HTG 3 million
Collection rate	—	70%	—	—	—	—
Comments	No investments planned	Projects for solar pumps, sectorization and water treatment, with support from Rotary International	Included in AECID project; full renovation for $9 million; potential for 5,000 connections	Included in EPARD project; full renovation for $6 million; potential for 5,000 connections	Included in USAID project;$2.5 million investment + technical assistance and equipment; potential for 7,000 connections	Ongoing IDB project; full renovation for $50 million + management contract; potential for 20,000 connections

	Jérémie	Mirebalais	Canaan
Population	130,000	90,000	300,000
Population in service area	40,000	—	0
Number of employees	12	16	0
Type of system (gravity/ pumping)	gravity	gravity	—
Active connections	2,000	1,400	0
Metered connections	0%	0%	0%
Population with active connection	13,000	9,000	0
Coverage rate total	10%	10%	0%
Coverage rate in service area	30%	—	0%
Availability of water service	intermittent	intermittent	No service
Tariff without meter	domestic HTG 495 /month; administration HTG 1,000; commercial HTG 495	domestic HTG 110 /month; administration HTG 750; commercial HTG 750	—
Tariff with meter	—	—	—
Cost of new connection	HTG 4,000	HTG 4,137	—
Billing/latest	—	—	—
Collection/latest	HTG 3 million	HTG 1.5 million	—
Collection rate	—	—	—
Comments	Included in AECID and USAID project; 2,000 new connections + $2.5 million investment + technical assistance and equipment	Included in AECID project; full renovation for $9 million; potential for 5,000 connections	Included in USAID project. $3 million investment + technical assistance and equipment; PPP envisaged

Source: CPSD team based on consultations.
Note: — = not available; 24h/7d = 24 hours a day, 7 days a week; AECID = Spanish Agency for International Development Cooperation; EPARD = Sustainable Rural and Small Towns Water and Sanitation Project; HTG = Haitian gourde; IDB = Inter-American Development Bank; m^3 = cubic meter; PPP = public-private partnership; USAID = US Agency for International Development.

ENDNOTES

1 World Bank Enterprise Survey, 2019, enterprisesurveys.org.

2 Vetiver essential oil accounted for 4 percent of exports, followed by tropical fruits (mangoes), copper waste and scraps, beans (cocoa, coffee), and fisheries and crustaceans, among others.

3 In this model, a private operator is responsible for operating and maintaining a utility but not for financing an investment.

4 The Post-Covid-19 Economic Recovery Plan (PREPOC) 2020–2022 government plan aims to achieve 2.4 percent GDP growth (similar to the rate previous to the 2018–19 sociopolitical crisis), create employment (50,000 jobs), and foster economic diversification through activities in six pillars. The PREPOC has an estimated cost of 24.4 percent of GDP over a three-year period.

5 Overall, inclusive gains could arise from better quality of and access to goods and services; their affordability and subsequent consumption effects; and income gains (including from profits and labor income).

6 GSMA Intelligence Database, https://www.gsmaintelligence.com/data/, accessed 2019.

7 World Bank Enterprise Survey 2019, enterprisesurveys.org.

8 World Bank Enterprise Survey 2019, enterprisesurveys.org.

9 Considering the high share of female labor force participation, the expansion of the sector could potentially improve productivity, education, and health outcomes for underserved segments of the population, because women tend to spend relatively more on those types of expenditures.

10 An increase from 22.8 percent in 2018 to 25.1 percent estimated in 2020 of the population living under $1.90 per day; and 46.7 percent in 2018 to 51.0 percent in 2020 living under $3.20 per day.

11 United Nations Development Programme, HDI (Human Development Index), http://hdr.undp.org/en/content/human-development-index-hdi.

12 Poor households are especially exposed to natural hazards: 80 percent of extremely poor households and 70 percent of moderately poor households experience an average of at least two shocks per year. Major threats include hurricanes, floods, erosion, droughts, earthquakes, and landslides.

13 Rebasing is the process of replacing an old base year with a more recent base year to keep up with the evolution in prices. The World Bank rebased Haiti's GDP in 2018 and supported the strengthening of the capacity of the Haiti Statistical Office (IHSI).

14 Even though there is a knowledge gap on the use of Petrocaribe funds for public investment, they peaked to almost 5 percent of GDP in 2013.

15 Google COVID-19 Community Mobility Reports. www.google.com/covid19/mobility/

16 Prior to the COVID-19 pandemic outbreak, the sector was forecast to grow at 3.5 to 4.5 percent in 2020 with much optimism coming from executives in North America (McKinsey Global Fashion Index 2021). Various Asian-based firms, including MAS Holdings and Reliable Source Industrial International, started to produce or were planning investments in manufacturing plants in Haiti that are now on hold.

17 USAID's latest Demographic and Health Survey in Haiti was completed in 2016–17. The survey gathered data from over 13,000 households, 14,000 women, and nearly 10,000 men across all administrative regions, https://dhsprogram.com/Countries/Country-Main.cfm?ctry_id=16.

18 Demographic and Health Survey, https://dhsprogram.com/Countries/Country-Main.cfm?ctry_id=16.

19 Results are based on the 2012 Survey on the Living Conditions of Households after the Earthquake (ECVMAS) household survey (covering formal and informal firms) and the Haiti World Bank Enterprise Survey (covering formal firms with more than four employees and completed in 2019). For the latter, data collection was carried out in four communes only, as widespread social unrest disrupted the collection process. Adjustments meant that the survey would not be fully comparable with World Bank standard enterprise surveys at the country level.

20 World Bank Enterprise Survey, 2019, enterprisesurveys.org.

21 These data give a partial picture of the formal private sector, as firms that benefit from tax exemptions are not included in the database.

22 Sing and Burton-Dock 2015; 2019 Haiti World Bank Enterprise Survey; and CFI 2018. For the 85 percent of formal firms in Port-au-Prince that considered political instability the biggest obstacle to operating, their job creation was at a pace 16 percent lower than the rest of the firms in 2019, and the labor demand from foreign-owned firms seems to be more sensitive to this constraint.

23 The 2020 Marital Status Decree extended the list of goods that spouses keep as separate property (immovable and movable assets).

24 Haiti acceded to the Caribbean Community and Common Market (CARICOM) in July 1999 but the legislation on the common external tariff is still pending parliament approval. Haiti signed an economic partnership agreement with the European Union in 2009, but the Haitian parliament has not yet ratified the agreement.

25 However, the increase in crime and the violent civil unrest outbreaks in 2018–19 and the subsequent decision by the United States to place Haiti in its level 4 "do not travel" ban category prompted the tourism sector's recession.

26 An all-time FDI inflow peak at 2.6 percent of GDP was observed in 2017, mainly due to the acquisition of the main petroleum distributor.

27 Investment in certain sectors, such as health and agriculture, requires special government authorization. Investment in "sensitive" sectors such as electricity, water, telecommunications, and mining requires a government concession as well as an authorization from the appropriate state agency.

28 Based on World Bank Enterprise Surveys done in 2013 in Madagascar, 2016 in Togo, and 2015 in Papua New Guinea as well as in 2019 in Haiti.

29 World Bank, Global Indicators of Regulatory Governance dataset. 2018.

30 WEF, Global Competitiveness Indicator dataset. 2019.

31 Economist Intelligence Unit (EIU) March 2020 data do not capture the presidential decree from November 30, 2020, that introduced price controls for a list of consumption goods.

32 World Bank Enterprise Survey, 2019, enterprisesurveys.org.

33 World Bank Group's estimates based on the Tax Authority of Haiti (DGI) and import data. Market concentration is based on common thresholds used by the US Department of Justice and Federal Trade Commission. A market is highly concentrated when the Herfindahl-Hirschman Index (HHI) exceeds 2,500 and is moderately concentrated when the HHI is between 1,500 and 2,500. DGI (Direction Generale des Impotes) databank, https://www.impots.cm/.

34 Privilege-resistant policies in business regulation, customs, and incentives have been identified following the methodology established by Mahmood and Slimane (2018).

35 In January 2018, the CFI launched a one-stop shop to allow entrepreneurs to fill out all incorporation forms in one location.

36 The import-weighted average applied tariff rate (most favored nation) is particularly low for a low-income country (6 percent versus 10 percent of average in LICs, 2018). Even though 40 percent of agricultural tariff lines face international peaks, the import-weighted tariff for such goods reaches only 7 percent. However, most-favored-nation applied tariffs more than doubled in 2020 for several food products that weight heavily in the consumption basket of poor households, such as wheat or meslin flour, prepared foods obtained by the swelling or roasting of cereals or cereal products, pasta; tomato, processed tomato sauce, and derivates; fruit juices; and sauce and preparations thereof. Furthermore, in October 2020, Haiti imposed additional inspection fees equivalent to $800 per container from Dominican Republic exporters.

37 In 2015, the Ministry of the Economy and Finance attempted to limit cross-border trade by banning the importation by land of 23 products, including food and construction material. The nonpublication of selection criteria for these products created mistrust on the motives of the ban (Speck, Sandin, and Schneider 2019).

38 See Economist Intelligence Unit, Operational Risk Model, https://www.eiu.com/n/solutions/operational-risk-model/.

39 Some of the companies belonging to the groups "rotated" in terms of operations in certain product markets so the group could benefit from recurrent "infant industry" protection for a prolonged period. Once that company ceased to qualify for it, the company was dissolved, and another company was created.

40 Such practices grant a comparative advantage only to certain firms, which is not necessarily associated with their efficiency. Studies (Fiebelkorn 2019) have shown a significant connection premium and have also estimated lower productivity levels of connected firms and negative impacts for the connected sectors, such as reduced job creation and innovation. Evidence suggests that deep underlying governance constraints, such as the power of certain actors who have the incentive and the means to preserve the status quo, can prevent countries from lifting themselves out of development traps (WBG 2017b).

41 For further information on key principles, see the WBG and FIRST Initiative (2015) report on public credit guarantee schemes for SMEs and Agence Francaise de Developpement international conference on public development banks at https://www.afd.fr/en/actualites/agenda/visible-hand-development-banks-transition.

42 Addressing these constraints could significantly improve production competitiveness, as up to 30 percent of production that is for sale (for example, rice, mangoes, avocados) is lost owing to inadequate transportation, storage, and packaging.

43 Haiti is the most expensive passenger air traffic destination in the Caribbean, with average travel costs out of Port-au-Prince reaching $0.35 per kilometer, 25 to 30 percent higher than for Jamaica (Kingston Airport) and the Dominican Republic (Santo Domingo Airport).

44 GSMA Intelligence Database, https://www.gsmaintelligence.com/data/, accessed 2019.

45 Sectors that have the potential for significant positive development outcomes but were not selected for deep dives were excluded primarily because of lack of political will, the need for significant policy reform, the need for long-term investment in infrastructure, and/or high barriers to entry and growth.

46 Madagascar, Papua New Guinea, and Togo. World Bank Enterprise Survey, 2019, enterprisesurveys.org.

47 The BRH provides subsidized funding for agricultural production and transformation (in domestic currency at 6 percent fixed over 10 years versus market rates ranging between 11 percent for "prime" corporations to 48 percent for microloans), but the effectiveness of this program in terms of additionality and performance of loans remains to be assessed.

48 Banking institutions are required to comply with regulatory foreign exchange positions at all times: a maximum ratio of 0.5 percent set by BRH's Circular 81-5 (April 2017) between the accumulation of long positions (all currencies combined) and short positions (all other currencies combined) on the one hand, and their total equity on the other hand. During the last six months of 2019 (peyi lòk crisis), all but one bank had been noncompliant at some point, one of them 40 percent of the time by a wide margin, which raises the issue of the supervision quality or the sanctions regime.

49 Related persons: controls the bank or is controlled by it; subsidiary owned by the bank; shareholder holding at least 5 percent stake; and quasi-equity instrument holders of at least 10 percent equity; bank directors or officers and spouses.

50 As of March 2020, one of the largest private banks does not comply with the maximum single exposure ratio of 10 percent. Three of them do not comply with the maximum exposure to related parties of 20 percent.

51 During interviews in July 2019 with two-thirds of Haiti's banking sector, the majority of executives answered that interest rates charged to clients increased. During interviews held in April 2020, most executives concluded that interest charged to clients would mostly remain the same despite the reduction of BRH bond rates.

52 Excerpt from the 2008 Financial Sector Assessment Program (FSAP): "Banks' accounting practices need to be improved, including . . . the objective of full IFRS [International Financial Reporting Standards] compliance. . . . [T]here is clear evidence that banks have insufficient capacity to apply IFRS on their own" (IMF 2008).

53 Since August 2020, the Central Bank is entitled by presidential decree to regulate the noncooperative microfinance sector.

54 Although it was noted by the IMF in its latest FSAP of 2008 (IMF 2008) that "major deficiencies" regarding Basel Core Principles EC1-6 on liquidity management should be addressed.

55 The NPLs that are not covered by provisions could wipe out 48 percent of net worth, according to the BRH quarterly report as of March 2020.

56 The Credit Bureau was supported by Inter-American Development Bank and the WBG, and the electronic collateral registry is supported by the WBG.

57 Formality of enterprises is generally defined by banks as (a) being registered with a government agency (mostly for tax and customs purposes); (b) keeping a professional accounting system (in-house or not, automated or manual), thus providing annual accounts; (c) having or being able to have at least one individual account with a bank (microfinance or electronic accounts are not sufficient); and (d) having a registered business address. Microfinance institutions usually only refer to the "patente tax" as the defining factor for formality.

58 Small enterprises employ between 5 and 20 employees with a revenue bracket between $51,000 and $100,000; a medium enterprise has a maximum of 100 employees with a revenue bracket between $101,000 and $1 million.

59 World Bank's Global Financial Inclusion Survey Database (FINDEX), 2017.

60 A long-awaited microfinance law became effective on August 20, 2020 and will take time to be implemented. It will bring all types of microfinance institutions under regulation and oversight of the BRH and formally allow corporate MFIs to take deposits (some apparently already offer accounts in the form of cash collateral or savings, although not formally authorized for this).

61 Leopard Capital, the only private equity manager operating in Haiti until 2017, is liquidating its last fund. In 2017, Caribbean Investor Capital started operations. Availability of venture capital finance is among the lowest (ranked 136th, next to last, on the venture capital availability index of the World Economic Forum), despite the proximity with the United States and active countries such as Jamaica. See http://reports.weforum.org/global-competitiveness-index-2017-2018/competitiveness-rankings/#series=EOSQ089.

62 One of the state-owned banks has had negative equity since 2016 and has been placed under a special administration regime by the BRH, in compliance with the 2012 banking law. The government, as controlling shareholder, is expected to provide additional equity while a new development plan and management team are approved. The other state-owned bank has not yet published its 2019 certified accounts, unlike all other banks. The NPLs that are not covered by provisions could wipe out 48 percent of net worth, according to the BRH quarterly report as of March 2020.

63 As suggested in CGAP (2018), an inappropriate regulatory framework can stifle investment and innovation in DFS.

64 Given the social and economic uncertainties in Haiti at the time of this paper's writing, it is not certain that all stakeholders mentioned are still operating.

65 Over 80 percent of the power delivered to the grids is supplied through thermal generation, with hydropower contributing to the remaining 19 percent, mostly from the Peligre hydropower plant (54 megawatts), which is under reconstruction.

66 Convention subscribed to by República Bolivariana de Venezuela, Haiti, and Cuba by which República Bolivariana de Venezuela provides support to Haiti, including cooperation in three energy projects.

67 The nine regional grids are each 20 megawatts and serve some of the larger towns and nearby areas. The village-level grids each have less than 300 kilowatts of generating capacity.

68 Figures provided by EDH. Estimate of peak demand from Haiti SREP Investment Plan 2015 (Chrysostome 2015).

69 At the time of the writing of this report, one of the IPP contracts had expired four years previously; the company has been supplying electricity on demand. The government has been making monthly prepayments for electricity to another of the IPPs and negotiations were pending to determine a more permanent arrangement.

70 Tracking SDG7: The Energy Progress Report, Global Tracking Framework, https://trackingsdg7.esmap.org/results, 2017.

71 World Bank and RISE, 2021, https://rise.esmap.org/analytics.

72 World Bank databank, https://data.worldbank.org/indicator/EG.ELC.ACCS.UR.ZS?locations=HT.

73 World Bank Enterprise Survey 2019, enterprisesurveys.org.

74 All these contribute to EDH's recovering only 22 percent of the value of the electricity generated and legally purchased (see IBRD and IDA 2017c).

75 Historically, cheap oil from the Petrocaribe plan reduced incentives for generation diversification away from diesel. Fuel was supplied at subsidized rates, which flowed through to the population as a subsidy. The program ended in 2017, resulting in steadily rising costs of fuel.

76 Haiti currently does not have a Ministry of Energy and the lead government agency in charge of the energy sector is the Ministry of Public Works Transportation and Communication (Belt 2017).

77 Off-grid solutions tend to be small, stand-alone solar power generating systems with storage batteries that provide electricity to a single user or multiple users through a decentralized distribution network. They differ from grid power supplied by independent power plants connected to a national or centralized grid and operate independently of the grid distribution companies.

79 The fund is managed by a partnership between the Fonds de Développement Industriel—a Haitian public development fund under the BRH—and a competitively selected international fund manager.

79 The renewable energy score is composed of seven indicators: (a) legal framework for renewable energy, incentives and regulatory support for renewable energy; (b) network connection and use; (c) planning for renewable energy expansion; (d) attributes of financial and regulatory incentives; (e) counterparty risk; (f) carbon pricing; and (g) monitoring. The countries proposed as benchmarks for Haiti were selected on the basis of perceived similarities on economic and geographic dimensions (see appendix B: tables B.2 and B.3 show the evolution in RISE scores and an analysis of its components, based on the contribution of each subindicator to each country's progress in the score, between 2010 and 2017).

80 This came forward as a major barrier for investment from interviews with stakeholders. It refers to creditworthiness, payment risk mitigation, utility transparency, and monitoring.

81 This should be the role of the Energy Cell or the PPP unit, not of the regulator.

82 According to the most recent estimate by EDH, there are 23 potential hydropower sites ranging from pico to large with a combined untapped potential of 298.95 megawatts (UNIDO 2016). Solar resources maps in the Global Solar Atlas 2.0 (using Solargis data) confirm high photovoltaic power potential.

83 The use of smart meters allows customers to consume only the kilowatt-hours for which they have the capacity to pay. It eliminates administrative and logistical costs associated with the printing and distribution of invoices. Illegal connections and tampering detected by the smart meter result in disconnection of supply for the community.

84 Minigrids have high fixed investment costs. Low-density areas where lighting needs are high will have a high LCOE (US dollars per kilowatt-hour). Alternatives—kerosene lamps, diesel generation sets, and small solar solutions—are more expensive per kilowatt-hour (all above $0.50–$0.60 per kilowatt-hour).

85 In addition, United Nations Development Programme (UNDP) assessed three grant-funded projects in 2019, as part of the Rural Electrification and Empowerment of Women project, and has gathered valuable information on willingness to pay in peri-urban areas: Mont-Organisé (1,151 connections), Vallières (526), and Capotille (308). Projects were expected to be in operation by 2020.

86 The RFP indicated that the minigrids would be awarded to the best proposals up to the amount of available funds.

87 Some of the challenges explain the low level of participation in the first tender as designed and executed in 2019. The government is working to address them in a second RFP planned for 2020. The success of the two awarded projects is key for the growth of the sector. If these achieve financial close and are successfully implemented, they will demonstrate that renewable electrification through minigrids can be commercially viable in Haiti.

88 In Togo, this constraint was relaxed to allow three to four hours of curtailment at night, leading to significantly lower costs of energy.

89 ESMAP 2019. The minigrid with the lowest estimated LCOE is from Bangladesh. It is one of the largest in the sample in number of customers (1,000 households, approximately 5,000 people) and firm alternating-current output (294 kilowatts).

90 For the first RFP, the grant from the World Bank project was $300 or $500 per connection (depending on a classification of the minigrid as being more or less commercially attractive), contributing to about 50 percent of total capital expenditure. Estimates of the cost per connection are around $1,000 (information provided by IFC Upstream Unit in the Middle East and Africa).

91 A few companies sell generators to fill in the gaps in energy provision. They offer flexible private generation contracts to large industrial customers that face poor or no service from EDH and import fuel as well.

92 On-site solar was found cheaper than the electricity tariffs paid by C&I clients in 7 out of 15 markets in Sub-Saharan Africa, and 110 projects with an estimated capacity of 74 megawatts and a project pipeline in excess of 100 megawatts were identified (BNEF 2019).

93 The thermal plant, operated by Firm C on behalf of USAID, will be transferred to the government of Haiti and operated by an independent concessionaire selected under an international competitive process led by ANARSE and supported by USAID—as part of the regional grid modernization and transfer of seven regional grids to private operators. It is now part of the RFP for the North East network. The winning concessionaire will be responsible for the rehabilitation and operation of the Fort Liberte thermal plant.

94 In 2013 the Mirebalais hospital was inaugurated with 1,800 rooftop solar panels with support from NRG Energy. In 2016 NRG Global Giving joined forces with a Haitian solar company and installed two rooftop solar arrays at a Haitian nonprofit health center in Port-au-Prince and at a nonprofit organization working on sanitation services in Cap-Haïtien.

95 The 1974 Industrial Parks Act does not prohibit the installation of solar panels. If a tenant plans to do so, the tenant is obliged to notify SONAPI and submit the technical studies. The installation will be supervised by SONAPI's technical team. However, in one case, a company located in a public industrial park imported solar panels, but the authorization from the administrator to install them is still pending after a couple of years.

96 Summary of insights from three reports (BNEF 2017, 2019; Sakr 2017).

97 Some have reduced licensing requirements for small-scale projects below certain thresholds. In Kenya and Nigeria, it is possible to install as much as 1 megawatt for self-consumption without obtaining a generation license. Licenses are granted if technical precautions are taken that prevent solar power from being fed into the grid. The system must be installed by a licensed technician and must have construction permits and fire safety or environmental assessments. In Kenya, for instance, construction permits are administered at the county level, and requirements can differ between locations.

98 In the PayGo model, a company owns the solar home system or multilight pico devices for which a customer makes a down payment followed by monthly payments for a term (6 to 24 months in Haiti), and the company is responsible for service. In the sales model, the company (a distributor) purchases the systems or components from manufacturers and sells them directly to households, usually as an installed system, and sometimes on credit.

99 One of them is a joint venture between one of the IPPs and a microfinance institution; the other one is a partnership between an electricity start-up firm and one of the telecom operators (see appendix E). It is worth noting they were implemented at a time when the introduction of mobile money was at an early stage.

100 One of them became a microfinance institution in 2014, providing credit to customers using a group lending model and collecting payment in cash. Another one partnered with a money transfer and payment services company with a platform to collect payments from remittances sent by the Haitian diaspora in the United States.

101 Having gained experience from the pilot program, the energy producer and the microfinance institution were planning to relaunch their partnership to reach small businesses and distribute higher-end products. The market potential is of approximately 200,000 customers with a purchase budget of $5 to $20 per month. Customers can receive top-up funding from the diaspora with a $5 per month offer.

102 Financial cooperatives' distribution networks are linked nationwide by a new mobile banking platform, allowing them to collect and move liquidity across the country. The points of sale (3,000) that already accept mobile payments for EDH could be leveraged to offer PayGo solutions.

103 Through it, the goal was to supply sustainable off-grid energy services to an estimated 117,000 households (585,000 people) by year six, from which 237,250 beneficiaries through pico-PV and 302,250 through solar home systems.

104 Some opportunities were identified that could be potentially eligible for OGEF's engagement. For instance, a second phase of the PayGo pilot between one of the IPPs and the microfinance institution could be funded to scale up more rapidly. Firm F, implementing the Lighting Global Certification, could be supported in accelerating its rollout and supplying an expanding local market in an integrated solar system ecosystem of manufacture, distribution, and financing. The microfinance institution and the financial cooperative initiatives could be supported in expanding their tier 3 lending programs more rapidly.

105 World Bank Enterprise Survey 2019, enterprisesurveys.org.

106 The law specifies that DINEPA is responsible for determining policy (methodology) for tariff setting; in practice, DINEPA is the entity that sets the actual tariffs for each CTE.

107 A guide to PPPs can be found at https://pppknowledgelab.org/guide/sections/3-what-is-a-ppp-defining-public-private-partnership.

108 Under a technical and operational assistance contract, the consortium provided assistance to the Port-au-Prince metropolitan region water utility.

109 In this model, a private operator is responsible for operating and maintaining a utility but not for financing an investment. The principal distinguishing feature from the management contract is that the operator does not receive a fixed fee for its services from the awarding authority but charges an operator fee to consumers. A portion of the receipts may go to the awarding authority as a lease fee to the owner of the asset with the remainder being retained by the operator, or the operator retains the operator fee out of the receipts and charges the consumers an additional surcharge that is paid to the awarding authority to go toward investments that the awarding authority makes or has made in the infrastructure. In this model the operator tends to bear the greater operating risk and usually employs staff directly.

110 OTEXA (Office of Textiles and Apparel), US Department of Commerce: International Trade Administration database, https://otexa.trade.gov.

111 Better Work is a program that offers technical assistance to improve factory performance (seminars, workshops, coaching, and training sessions); strengthens the legal and public administrative structures for improving compliance in the industry; and accompanies the sector ombudsman office to dispute settlements, also established by requirement of the HOPE/HELP Acts (Better Work 2018).

112 This includes imports of products classified under chapters 52 (cotton), 55 (manmade staple fibers), 58 (special woven fabrics), and 60 (knitted fabric) in the Harmonized System Customs Code.

113 See the ITC Trade Map, https://www.trademap.org/.

114 For example, a manufacturer located in Metropolitan Industrial Park brought in solar panels to install on top of industrial buildings two years ago, but it has yet to obtain the authorization to use them.

115 IMF Financial Access Survey (FAS), 2015 data.

116 Based on interviews conducted in Haiti in 2019.

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