REPORT

FINAL REPORT

El Salvador Investment Climate Project and the Guatemala Public-Private Partnership Activity Evaluation Design Report

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CONTENTS

TABLES

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FIGURES

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ACRONYMS

ANADIE	Alianzas para el Desarrollo de Infraestructura Económica
ANDA	Administración Nacional de Acueductos y Alcantarillados
AILA	Aeropuerto Internacional La Aurora
APEC	Asia-Pacific Economic Cooperation
API	Apuesta por InversionES
AusAID	Australian Aid
CAMAGRO	Cámara Agropecuaria y Agroindustrial de El Salvador
CBA	Cost-benefit analysis
CGAP	Consultative Group to Assist the Poor
CIDA	Canadian International Development Agency
CIFACIL	Comisión Intergremial para la Facilitación del Comercio
COEXPORT	Corporación de Exportadores de El Salvador
CP3P	Certified Public-Private Partnership Professional
CNR	Centro Nacional de Registros
COFEMER	Federal Commission on Regulatory Improvement (Mexico)
DfID	Department for International Development
DGA	Dirección General de Aduanas
DOC	Drivers of Change
DIGESTYC	Dirección General de Estadística y Censos (El Salvador)
ERR	Economic rate of return
ESIC	El Salvador Investment Challenge
ESICP	El Salvador Investment Climate Project
FGD	Focus Group Discussion
FOMILENIO II	Fondo del Milenio II
FUSADES	Fundación Salvadoreña Para El Desarrollo Económico y Social
GDP	Gross domestic product
GoES	Government of El Salvador
GoG	Government of Guatemala
IDB	Inter-American Development Bank
IRB	Institutional Review Board
ISSS	Instituto Salvadoreño de Seguridad Social (Salvadoran Social Security Institute)
ITT	Indicator tracking table
KII	Key informant interview

LAC	Latin America and Caribbean
MARN	Ministerio de Medio Ambiente y Recursos Naturales
M&E	Monitoring and Evaluation
MCA	Millennium Challenge Account
MCC	Millennium Challenge Corporation
MIHAC	Ministerio de Hacienda (El Salvador)
MINEDUC	Ministry of Education of Guatemala
MINEC	Ministry of Economy (El Salvador)
MoF	Ministry of Finance
MOP	Ministerio de Obras Públicas (El Salvador)
MTPS	Ministerio de Trabajo y Previsión Social
OECD	Organization of Economic Co-operation and Development
OFAPP	Organismo Fiscalizador de Asocios Públicos-Privados
OMR	Organismo de Mejora Regulatoria
OPAMSS	Oficina de Planificación del Área Metropolitana de San Salvador
PDA	Partnership Development Activity
PFRAM	PPP Fiscal Risk Assessment Model
PPIAF	The Public-Private Infrastructure Advisory Facility
PPP	Public–private partnership
PROESA	Agencia de Promoción de Exportaciones e Inversiones de El Salvador
PRONACOM	Programa Nacional de Competitividad
RFTS	Registro Federal de Trámites y Servicios
RIA	Regulatory Improvement Activity
RNT	Registro Nacional de Trámites
SARE	Sistema de Apertura Rápida de Empresas
SETEPLAN	Technical and Planning Secretariat (El Salvador)
SMR	Sistema de Mejora Regulatoria
USAID	United States Agency for International Development
USG	U.S. Government
VfM	Value for Money
WBDBS	World Bank Enterprise and Doing Business surveys
WBES	World Bank Enterprise Survey

I. INTRODUCTION

El Salvador's uncertain business environment and onerous business regulations limit growth, particularly in the country's tradeable sector. For example, in its *Starting a Business* rankings, the World Bank placed El Salvador 140th out of 190 countries based on the procedures, time frames, and costs associated with registering a new business in the country (World Bank 2018). To improve the business environment and unlock other constraints to growth in the tradeable sector, MCC and the Government of El Salvador (GoES) signed a five-year investment compact in September 2014. The compact, which entered into force in September 2015 and will end in September 2020, is financing $277 million[1] in large-scale improvements in human capital, the investment climate, and logistical infrastructure.

One of three large-scale projects in the compact, the El Salvador Investment Climate Project (ESICP), will invest nearly $41 million to boost the productivity of the tradeable sector by improving the regulatory and business environment and enabling the GoES to more effectively partner with the private sector to provide key public services. ESICP comprises two activities, the Regulatory Improvement Activity (RIA) and the Partnership Development Activity (PDA); in turn, PDA consists of two sub-activities, the El Salvador Investment Challenge (ESIC, or *Apuesta por InversionES* [API] for its name in Spanish) and the Public-Private Partnership (PPP) Sub-Activity.

In Guatemala, MCC and the Government of Guatemala (GoG) are implementing a $28 million threshold program, signed in April 2015, to improve tax and customs administration, stimulate more private funding for infrastructure, and provide Guatemalan youth with needed skills for the job market. Guatemala threshold activities began in May 2016 and will run through December 2020.

A key constraint to growth in Guatemala is the limited government funds available to invest in public goods due to low fiscal revenues and inefficiencies (World Bank 2014). The Resource Mobilization Program under the Guatemala Threshold Program is designed to unlock this constraint. The program is made up of two activities, Improving Tax and Customs Administration and Strengthening the Capacity to Form Private-Public Partnerships. This latter activity is similar in design and execution to the El Salvador PPP Sub-Activity described above.

MCC contracted Mathematica Policy Research to conduct performance evaluations of three activities and their related sub-activities funded under these two agreements: RIA and PDA in El Salvador and the PPP Activity in Guatemala. The RIA, ESIC, and PPP evaluations described in this report will address research questions on project implementation, results, and sustainability. All three evaluations will use a mix of qualitative and quantitative data sources to answer these questions—primarily key informant interviews, focus group discussions, administrative data, and third-party survey findings and indicators.

This design report provides context for the project and presents the evaluation design of each activity in further detail. Chapter II describes the Investment Climate Project in El Salvador and the PPP Activity in Guatemala, along with the goals and current implementation status of

[1] Unless otherwise noted, all monetary amounts in this report are expressed in U.S. dollars.

each of the projects to be evaluated. Chapter III reviews relevant literature on regulatory reforms, investment challenge programs, and PPPs. Chapter IV details Mathematica's overall evaluation strategy and evaluation questions, presents the design for each of the evaluations, and describes our data collection plans. Chapter V discusses potential challenges and solutions to the evaluations. Chapter VI concludes with a discussion of administrative concerns, including institutional review board (IRB) requirements, the dissemination plan, and the evaluation timeline. The appendices provide additional evaluation design information, including initial templates for tables and data files related to upcoming analyses.

II. OVERVIEW OF THE EL SALVADOR INVESTMENT CLIMATE PROJECT AND GUATEMALA PPP ACTIVITY

A. Overview of RIA

With around $6 million in funding, RIA establishes the institutional structure and builds government capacity to reduce regulatory burden to businesses in the tradeable sector. By eliminating obsolete or contradictory laws and regulations, promoting more transparent regulations, and reducing the administrative costs of compliance for firms, the activity aims to reduce the overall cost of doing business by 20 percent, thereby increasing private investment in tradeables. The anticipated outputs and short-, medium-, and long-term outcomes of RIA are summarized in Figure II.1.[2]

Under RIA, GoES and *Fondo del Milenio* II (FOMILENIO II), the MCC counterpart in El Salvador formed under the compact, have created the *Organismo de Mejora Regulatoria* (OMR), a public entity charged with improving the quality of regulations to help increase private investment. RIA also provides funding to train government officials to evaluate the potential impact of proposed regulations. Also under the activity, GoES established the *Registro Nacional de Trámites* (RNT), a public registry of administrative requirements for Salvadoran firms. Below, we summarize the progress to date of each of these components of RIA.

1. Establishing the OMR

RIA is designed to establish the organizational and institutional architecture for a continual process of regulatory and administrative improvement within the GoES, generally referred to as the *Sistema de Mejora Regulatoria* (SMR). Within this institutional architecture, GoES established OMR as an independent entity in 2015 to spearhead and facilitate SMR's initiatives. As of February 2018, OMR had a staff of 19 economists, lawyers, and policy experts dedicated to designing, facilitating, and communicating key regulatory and administrative reforms. OMR is governed by the *Consejo de Mejora Regulatoria* (CMR), composed of representatives from the Technical and Planning Secretariat (SETEPLAN), Office of the Vice President, Ministry of Finance, Ministry of Economy, Ministry of Public Works, and the export promotion agency, *Agencia de Promoción de Exportaciones e Inversiones de El Salvador* (PROESA).

Since its creation, OMR has worked with partner ministries in the Salvadoran government to simplify regulations, reduce bureaucratic red tape with respect to compliance, and reduce firms' barriers to entry into the market. OMR and partner ministries submitted their first package of recommendations for reforms in 2016 and obtained congressional approval for these reforms the following year. This first package of reforms focused on four general areas:

- Registering a business
- Import and export of samples with no commercial value

[2] The figure has been updated by Mathematica to include some suggested changes that were noted in the evaluability assessment. These changes include reframed RIA outputs (that now emphasize the immediate results of activities).

- Fines due to weight discrepancies at customs
- Construction permits

By early 2018, OMR and its partners had successfully implemented a central web portal (miempresa.gob.sv) outlining simplified processes for registering a business, as well as several improvements in the areas of business registration requirements, import and export of samples, and complications of weight discrepancies at customs. OMR and its partners had not implemented reforms related to construction permits, however, because these reforms would require substantive changes to an existing law.

A second package of reforms will be submitted for review in 2018. This second package focuses on simplifying procedures with the 14 *Ministerios del Órgano Ejecutivo,* the primary government ministries with which the executive branch interfaces. In the first part of 2018, OMR will conduct a cost analysis of these ministries' current business regulations and recommend key improvements and efficiencies. To do this, OMR is using the Organization for Economic Cooperation and Development (OECD)-approved SIMPLIFICA methodology, which allows them to quantify time and cost savings associated with each improvement (Comisión Federal de Mejora Regulatoria 2017). OMR staff hopes that these recommendations will be approved and implemented by the end of 2018.

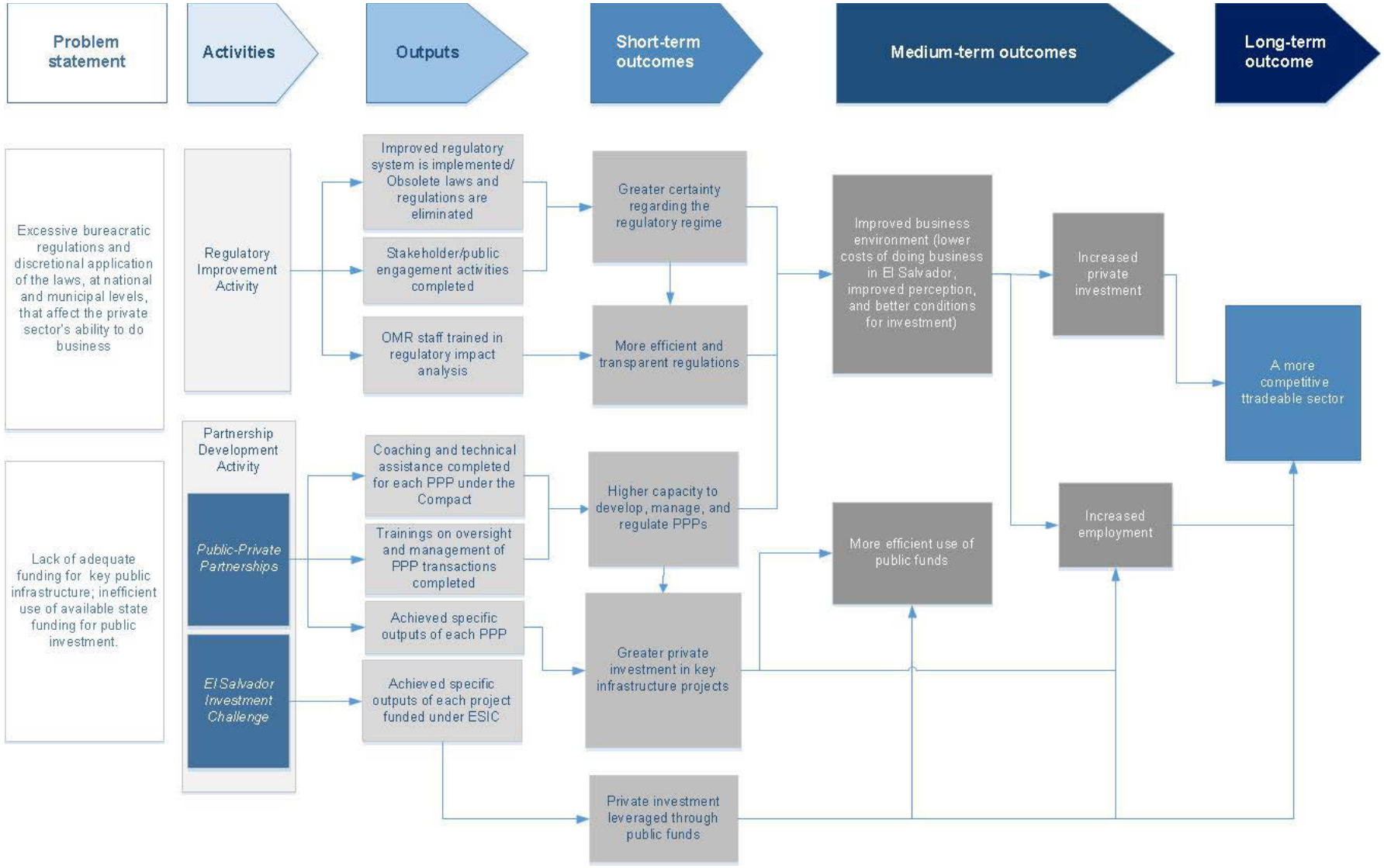
2. Training on regulatory impact assessment

To further institutionalize the interventions, RIA also includes a series of trainings for GoES officials on regulatory impact assessment. In 2016, OMR staff facilitated training for about 30 government staff, with the goal of equipping these staff with the tools and knowledge to initiate regulatory reforms at their respective ministries. There was little interest in additional rounds of training in late 2016 and early 2017 because at the time there were few institutional incentives for such training. In December 2017, GoES signed the Administrative Procedures Law (*Ley de Procedimientos Administrativos),* which requires government staff to acquire the capacity to evaluate the impact of regulatory reforms. This law has generated interest in additional trainings and OMR plans to restart regulatory impacts trainings in the second half of 2018.

3. Establishing the RNT and encouraging public consultation

RIA also includes an investment in the RNT, a public registry of existing administrative requirements for Salvadoran firms. The overarching goal of the RNT is to increase the transparency of requirements and reduce discretion in the application of regulatory and administrative requirements at the national level. Partnering with SETEPLAN, OMR began work on the RNT in mid-2017, with the goal of putting the registry online in late 2018. Using an online platform called *Legisla* developed in collaboration with the Instituto de Acceso a la Información Pública (IAIP), OMR will promote a culture of online public consultation and transparency with respect to regulatory impact analysis findings and regulatory proposals.

Figure II.1. El Salvador Investment Climate Project program logic



B. Overview of the ESIC (API) Sub-Activity

The $75 million ESIC Sub-Activity helps the government identify important private investment potential and efficiently allocate limited government resources to public goods and services needed to support this private investment. The larger goals of the sub-activity are to increase private investment, improve GoES's project selection and development capacity, and boost the country's competitiveness in the tradeable sector. The anticipated outputs and short-, medium-, and long-term outcomes of the ESIC Sub-Activity are summarized in Figure II.1.[3]

In implementing the sub-activity, FOMILENIO II funded an investment facility tasked with identifying potential private investment in El Salvador. ESIC invests in public goods that private investment needs make their investments viable. The investment facility establishes a competitive process by which the most promising business ideas are selected to receive grants for public goods, including but not limited to new infrastructure and capacity development. In operation since 2015, ESIC has completed three calls for applications. An investment committee composed of public and private sector representatives governs ESIC and is responsible for reviewing and approving all funding decisions.

ESIC core eligibility criteria

- Project internal rate of return exceeds 12.5 percent
- Private investment must exceed public investment requested
- Gender and socio-environmental impacts are minimized

To set up the grantee facility, FOMILENIO II developed an extensive grant manual that underwent several iterations. The original manual was published in May 2015, before the first call for proposals. Following initial outreach activities, FOMILENIO II received 75 proposals in the initial round; however, only one met the core eligibility criteria (see text box). FOMILENIO II revised and simplified the ESIC manual after the first call for proposals, informed by insights from several consultations with the private sector during the first round. Conducted between late 2015 and early 2016, FOMILENIO II received over 20 proposals in the second round, resulting in four awardees. To date, FOMILENIO II is implementing five projects and evaluating another five.

Current and planned ESIC investments cover a variety of public goods but are concentrated in infrastructure—including transportation and customs, water and sanitation, and flood control—as well as workforce development. Table II.1 summarizes ESIC agreements as of August 2018, organized by the sector of awardee firms. A more detailed table with the status of active projects is in Appendix A. Appendix A also contains a summary of the steps in the ESIC analysis and approval process.

[3] The figure has been updated by Mathematica to include some suggested changes that were noted in the evaluability assessment. These changes include the new outcome of leveraged private investment resulting from ESIC awards.

Table II.1. Summary of ESIC pipeline by sector (as of Q3 2018)

Sector	Number of projects	Accumulated API investment requested ($M)	Private investment committed ($M)
Agribusiness	4	16.07	74.5
Industry (Food and Beverage/Textiles)	3	49	132.5
Tourism	2	3.4	7.4
Aviation	1	2.4	32.2
Total	**10**	**70.87**	**246.6**

C. Overview of PPP activities

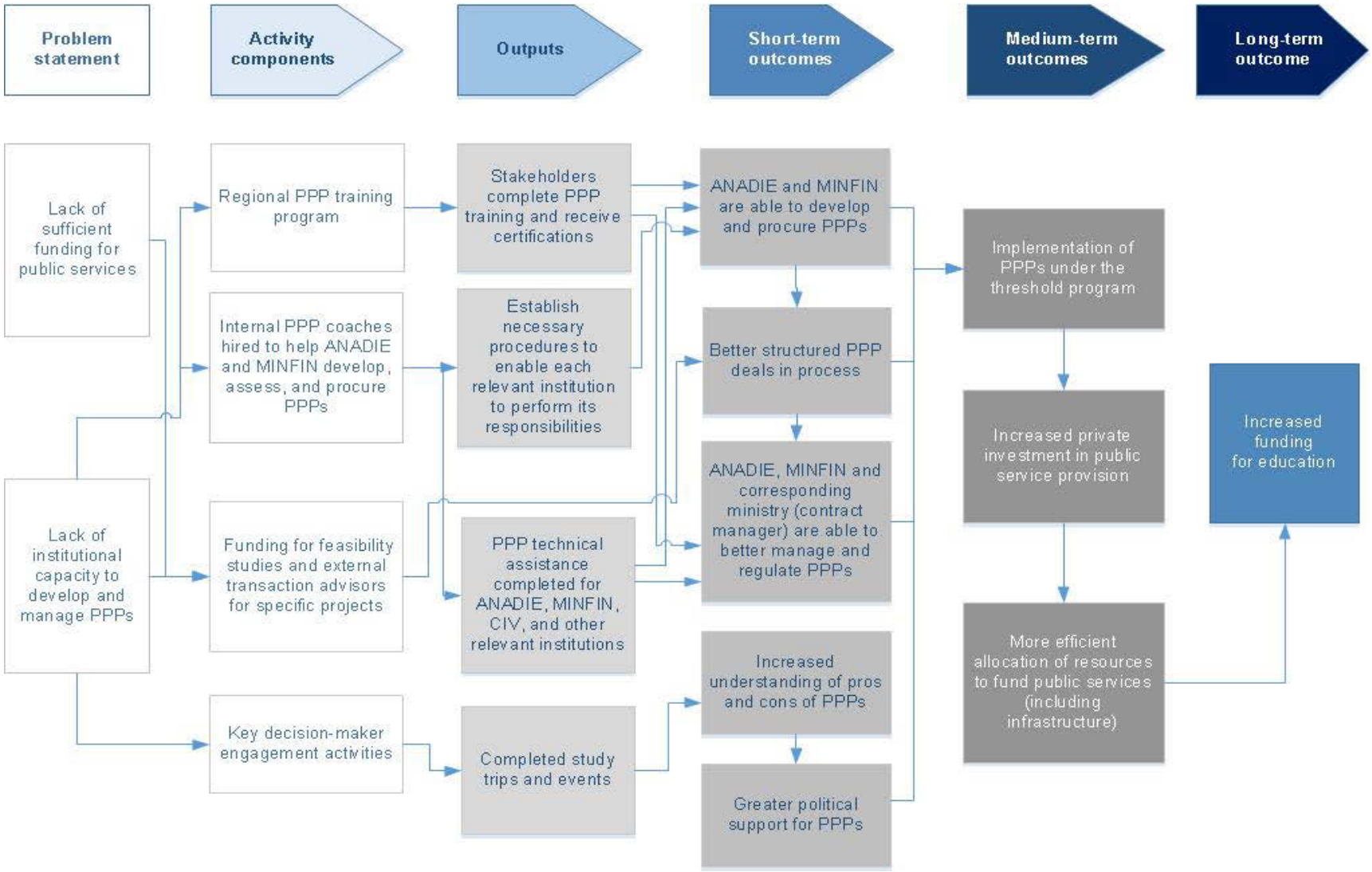
The $7 million PPP Sub-Activity in El Salvador is designed to help the government attract private capital to fund and manage critical public goods and services through PPPs, particularly in the transportation sector. PPPs are relatively new to El Salvador, so MCC's investments are largely focused on building the capacity of public institutions to vet, structure, and manage them. Combined with targeted MCC investments in technical studies, this increased government capacity should result in a strong pipeline of PPPs, increased private investment, and a more efficient use of government resources. The anticipated outputs and short-, medium-, and long-term outcomes of the PPP Sub-Activity are summarized in Figure II.1.[4]

The $4 million Guatemala PPP Activity will support efforts by GoG to build capacity to effectively implement and manage PPPs, promote transparency, and bring several PPP projects to market via the activity's technical assistance. By improving this PPP capacity, the activity aims to narrow the infrastructure financing gap in Guatemala and preserve public funding for other necessary social services. The PPP Activity in Guatemala complements the Education Project, which, among other activities, focuses on improving the way the Ministry of Education makes requests for and manages its budget. Through improved budget proposals from the Ministry of Education and less budgetary demands from the Ministry of Public Works as a result of using PPPs, the Ministry of Finance could increase investment in the education sector. The anticipated outputs and short-, medium-, and long-term outcomes of the PPP Activity are summarized in Figure II.2.[5]

[4] The figure on page 3 has been updated by Mathematica to include some suggested changes that were noted in the evaluability assessment. These changes include reframed PPP outputs (that now emphasize the immediate results of activities).

[5] The figure on page 6 has been updated by Mathematica to include some suggested changes that were noted in the evaluability assessment. These changes include a revised activity, *Key decision-maker engagement*, and its corresponding outputs and outcomes.

Figure II.2. Guatemala PPP Activity program logic



The PPP activities in El Salvador and Guatemala feature three pillars of support: (1) general training on PPPs, (2) individualized day-to-day coaching, and (3) specific project support to finance studies and transaction advisors. We describe these supports in more depth below.

1. General training on PPPs

In the first pillar, MCC funding provides government officials with periodic PPP training using the Certified Public-Private Partnership Professional (CP3P) program, as well as specialized overseas trainings on value-for-money and cost-benefit analysis.[6] As of early 2018, the first round of CP3P training was completed in both El Salvador and Guatemala. Twenty-one public sector officials completed the training in El Salvador; in Guatemala, approximately 40 public sector officials participated in the training. The curriculum in both countries was the same and was composed of eight different modules related to PPPs. As of mid-2018, several trainees were waiting for the CP3P certification exam to be offered in Spanish, which is now available. After gathering trainee input and making any appropriate modifications to the trainings, an additional round of training will likely be offered in summer 2018 to new participants in both countries.

2. Day-to-day coaching

In the second pillar, PPP experts or "coaches" provide day-to-day support to PPP authorities, ministries of finance, line ministries, and regulators to help them establish procedures to develop and manage PPPs and apply those procedures to specific projects in development. In El Salvador, coaches provide support to the PPP authority, the *Agencia de Promoción de Exportaciones e Inversiones de El Salvador (PROESA)*, and to the *Ministerio de Hacienda* (Ministry of Finance). In Guatemala, the coaches are providing direct support to the PPP authority—the *Agencia Nacional de Alianzas para el Desarollo de Infrastructura Económica (ANADIE)*—and the *Ministerio de Finanzas* (Ministry of Finance; MoF). Each entity has its own assigned coach that can represent the interest and perspective of that organization. (Generally, the interest of the PPP authority is to promote PPPs, whereas the interest of the Ministry of Finance is to ensure that the government can assume the costs and risks of PPPs.)

3. Specific project support

Under the third pillar of support, MCC is funding pre-feasibility studies, feasibility studies, and transaction advisors to bring PPP projects to market during the compact period. Feasibility studies entail assessing seven dimensions of each project: (1) political, (2) legal, (3) economic, (4) financial, (5) social, (6) environmental, and (7) technical/engineering. Through the PPP Sub-Activity in El Salvador, three potential PPPs—an airport cargo terminal, a highway lighting and surveillance system, and a Pacific corridor toll road—have completed feasibility studies (or are scheduled to complete these studies in 2018). In Guatemala, stakeholders are currently evaluating the feasibility of two potential PPPs—a light-rail system serving Guatemala City (known as Metro Riel) and expansion of the country's international airport passenger terminal

[6] Value-for-money analysis is used to determine the circumstances in which PPPs are a more attractive option to governments than typical public procurement.

Aeropuerto Internacional La Aurora (AILA). Table II.3 summarizes the status of each PPP as of early 2018.

Table II.3. Description and status of PPPs in El Salvador and Guatemala

Name of PPP	Public good	Possible revenue stream for private sector	Status as of early 2018
El Salvador			
Expansion of cargo terminal in San Salvador Airport	Faster and more efficient movement of tradeable goods	User fees	Pre-feasibility and feasibility study completed. PROESA to formally structure and tender the project in March 2018.
Street lighting and video surveillance of 140km of road in El Salvador	Increased security of road	Ad sales from road billboards	Pre-feasibility and feasibility study completed. Project cannot be tendered until the Law on Roads (*Ley de Carreteras)* is amended to allow for publicity along public roads.
La Hachadura toll road in the Pacific Corridor of El Salvador	Improve logistical connectivity, time and cost savings for cargo and passengers, fiscal efficiency	Toll fees	Feasibility study underway with anticipated completion in December 2018.
Guatemala			
Improvement of AILA in Guatemala	Improved runway accessibility, cold storage facilities, lighting and safety; new cargo area	Airport fees	Feasibility study underway with anticipated completion in December 2018.
Metro Riel in Guatemala City. A 20.5km light rail system crossing Guatemala City	Time and cost savings from increased accessibility, reduced congestion, environmental benefits from reduced pollution.	Fees	Pre-Feasibility study complete and anticipated Feasibility study to begin December 2018.

In addition to the three pillars discussed above, PPP authorities are also engaging key decision makers on PPPs, such as congressional representatives who have the authority to approve specific PPP deals. For example, MCC organized a high-level visit between Salvadoran congressional representatives and PPP experts in the United Kingdom to learn about their best practices and experiences to date. Given the success of this trip, a similar trip for Guatemalan congressional representatives is planned for July 2018.

III. LITERATURE REVIEW

In this chapter, we review the existing evidence on the impacts of regulatory reforms, investment challenge programs, and PPPs on outcomes in the RIA, ESIC, and PPP program logic, respectively. First, we examine the general evidence on comprehensive regulatory reforms, followed by the evidence from key domains included in the first package of reforms proposed by OMR. Relevant to ESIC, we review the general evidence on challenge funds as well as the evidence of the impact of public investments in areas prioritized by ESIC, including transportation infrastructure and workforce development. We end the chapter by presenting evidence on the impacts of PPPs, with an emphasis on transportation infrastructure PPPs in Latin America.

A. Business and regulatory reforms

Regulations are a key determinant of a country's investment climate. When regulations are poorly designed or applied, or outdated, they can restrict private firms' capacity for innovation and competitiveness (OECD 2001). In the last couple of decades in Latin America, countries have taken important steps toward the creation and implementation of better regulatory frameworks to promote more transparency and better investment climates. In the case of Mexico, such efforts involved the creation of the Federal Commission on Regulatory Improvement (COFEMER) in 2000, a government agency charged with improving the efficiency and transparency of federal regulations. In May of 2018 COFEMER officially changed its name to CONAMER, the National Commission on National Improvement. Other countries, like Colombia, Chile, and Peru, have made significant improvements developing a comprehensive regulatory policy, including making regulations and their requirements more accessible, setting strategies for administrative simplification, and eliminating unnecessary requirements that affect businesses and citizens (OECD 2013, 2016a, 2016b). However, these countries' efforts fall short of creating an overarching oversight body such as CONAMER.

The Case of COFEMER/CONAMER in Mexico

Created by the Federal Ministry of Economy in Mexico, the main goals of CONAMER are to develop and sustain a new national regulatory improvement framework, draft and propose new regulations, publish national registries of regulations, and promote the efficient functioning of markets within the Mexican economy. Among its main achievements, all federal ministries and agencies in Mexico must now submit a regulatory impact assessment to CONAMER before any new law or instrument can be approved. COFEMER also established and launched the Federal Registry of Processes and Services (RFTS, or *Registro Federal de Trámites y Servicios*), an online inventory of all procedures required by federal agencies (Carreón-Gámez 2007). COFEMER also coordinates with Mexican states and municipalities to consolidate relevant regulations at the local, state, and national level into comprehensive online resources (OECD 2004). A recent assessment carried out by OECD determined that COFEMER has been able to successfully coordinate the national regulatory improvement framework and develop strong political consensus (OECD 2014).

Some rigorous and nonrigorous evidence supports a positive connection between regulatory reforms and economic outcomes, ranging from economic growth at the country level (Djankov et al. 2006; Haidar 2012; Messaoud and Teheni 2014) to productivity at the firm level (Branstetter 2014; Barsghyan 2008). A recent review by the World Bank (2015) found evidence that interventions designed to improve the functioning of markets and reduce transaction costs and risks can improve the conditions for doing business and increase private investment in general. However, the impact of regulatory reforms on employment or overall investment levels is not necessarily sustainable. Some research suggests that reforms must be stable over time to have a tangible effect on these outcomes (Ayyagari et al. 2006). Below, we summarize evidence related to regulations addressed in OMR's first package of reforms.

Effects of reducing barriers to entry

Relevant to OMR's efforts to streamline the business registration process and introduce a central web portal for business registration, Bruhn (2011) found that a reform in Mexico designed to facilitate business entry through the creation of a Rapid Business Opening System (*Sistema de Apertura Rápida de Empresas*; SARE) increased the number of registered businesses by 5 percent and increased wage employment by 2.2 percent. Similarly, Branstetter (2014) evaluated the consequences of a reform in Portugal that reduced firm entry costs by implementing "one-stop shops" offering prospective entrepreneurs reduced administrative fees and simplified incorporation procedures. The study found that such a program increased firm creation and employment among "marginal firms" that would have been most readily deterred by existing regulation.

Effects of customs reform

Improvement in port efficiency and customs administration can be of particular relevance in El Salvador, where the average number of days to clear imports through customs was 18 days in 2016, only slightly higher than the 16 days it takes on average in Latin America, but much higher than the 9 days it takes in other lower-middle-income countries (World Bank Group 2016a).[7] Relevant to OMR's efforts to simplify customs procedures in the case of weight discrepancies, Eifert and Ramachandran (2004) found that a reduction of 50 percent in the number of days required to clear customs in Ethiopia could increase private firms' productivity by 18 percent. Another study of Asia-Pacific Economic Cooperation (APEC) economies estimated that a 50 percent improvement in custom procedures performance could increase imports by 8 to 14 percent (Kim et al. 2004).

We also explored literature related to differentiated gender impacts of regulatory reforms. Women in business face more disadvantages than their male counterparts, yet few investment climate projects have targeted regulatory constraints that disproportionately affect women. In the World Bank (2013) review of reforms of business regulations, the authors identified only 19 investment climate projects (among 819) that specifically targeted female entrepreneurs. Of those 19 projects, only 11 reported results by gender, with 9 of them documenting positive results for women. The review recommends that evaluations of regulatory reforms should

[7] El Salvador Enterprise Survey, Country Profile, 2016.

explore effects by gender, when feasible—even for interventions that are believed to be gender-neutral.

B. Investment challenge programs

Investment challenge funds are flexible and competitive mechanisms to channel public funds to projects with high expected social impact and financial returns. The United Kingdom Department for International Development (DfID), Consultative Group to Assist the Poor (CGAP), Australian Agency for International Development (AusAID), Canadian International Development Agency (CIDA), and United States Agency for International Development (USAID) rely on these type of funds to engage the private sector as a partner to pursue economic development and poverty reduction (Pompa 2013).

Despite their recent growth in size and relevance in the development space, evidence on the overall impact of these funds is sparse and in some cases anecdotal (Heinrich 2013). Nevertheless, a few studies have found positive effects of such funds on grantee behavior, including adherence to best practices and transparent financial management. One evaluation of DfID's African Enterprise Challenge Fund found that 9 out of 29 projects supported by the challenge fund achieved high social impact and financial returns, with an initial $22 million fund leveraging an additional $105 million from the private sector and benefiting more than half a million rural households (Pompa 2013).

Our literature review also explored the existing evidence on the effects of strengthening public infrastructure and workforce development (WFD) since many proposals in the ESIC pipeline request funding for these two types of investments. The following table summarizes the relevant evidence in these areas.

Table III.1. Effects of strengthening public infrastructure and WFD

Variable	Observed effect
Effects of strengthening public infrastructure	Relevant to ESIC's investments in public infrastructure, Calderon and Serven identified telecommunications, transport, and energy as the sectors whose services are crucial to boost firms' productivity and economic growth (Calderon and Serven 2004). Gonzales et al. (2008) also identified transport infrastructure, logistics, and trade-related rules and regulations as key areas to enhance overall firm competitiveness. For example, Mesquita Moreira et al. (2008) estimated that a 10 percent regional reduction in transport costs in the Latin American and Caribbean (LAC) region would have nearly 20 times more impact on the region's export levels to the United States than a 10 percent reduction in tariffs.
Effects of workforce development	WFD programs in LAC have mixed results on individuals' employment and earnings, with large variation within and across countries (Betcherman et al. 2004, Ibarraran and Rosas Shady 2009, Ibarraran et al. 2014, Card et al. 2011, Attanasio 2011). These findings suggest that the design and structure of training programs—including these programs' linkages with the private sector—are important in determining outcomes. Related to this point, Kluve et al. (2016) found that WFD programs that offer trainees an array of training and employment supports register higher gains in employment and income than programs that offer technical training alone. Similarly, Olenik and Fawcett (2013) found that multi-component vocational training programs in LAC have generated positive impacts in employment, earnings and job quality—particularly among young women.

C. PPPs

As of 2016, the LAC region had the most active private sector participation in infrastructure investment worldwide. Attracting $32.2 billion in 2016, projects in the region represented 47 percent of global investment in infrastructure projects with private participation (Ruiz Nuñez et al. 2016). Seventeen of 33 countries in the LAC region have fully functional PPP units, and as of early 2017, PPPs accounted for around 40 percent of the region's yearly infrastructure commitments (Economist Intelligence Unit 2017).

There is little rigorous evidence on the overall economic impact of PPPs, in part due to an inability to compare the results of the PPP to the common counterfactuals of public provision or the absence of an investment project (Ruiz Nuñez et al. 2016). However, case studies and evidence reviews of transportation infrastructure PPPs have shown that efficiency gains from transportation infrastructure PPPs are common (Ruiz Nuñez et al. 2016), although not guaranteed (Estache and Saussier 2014). There is no conclusive evidence that transportation infrastructure PPPs lead to increases in direct or indirect employment. Notably, Estache and Garsous (2012) found that transportation PPPs have mixed results with respect to employment in the medium term, and that the likelihood of detecting positive impacts on employment is often highly dependent upon the analysis period and discount rate. Below we summarize some of the literature related to the PPPs MCC is supporting in El Salvador and Guatemala.

Effects of airport PPPs

Although not every air transport PPP is successful, PPPs in air transportation have successfully raised private capital, improved management and service provision, and increased profitability (Schlumberger 2016). Relevant to MCC's investments in a passenger terminal PPP in Guatemala, the El Dorado airport in Bogota, Colombia significantly reduced passenger waiting lines, improved the quality of airport user services, and contributed to an increased positive perception of the city among tourists (Magro 2015).

Effects of highway PPPs

Relevant to MCC's investments in toll roads and highway lighting and security, PPPs across Latin America have helped bridge a growing transportation infrastructure gap that has impeded long-term growth. Extensive toll road programs in Mexico, Colombia, Chile, and Brazil have leveraged significant private financing through PPPs. (Ruiz Nuñez et al.). These road programs often provide accessibility and ensure high quality maintenance that is absent in traditional government procurement and maintenance schemes (World Bank Group 2010). For example, the San Jose-Caldera highway project in Costa Rica increased road users far above initial forecasts and maintained the highway in good condition, while helping ease the country's 25-year infrastructure backlog (Magro 2015).

IV. EVALUATION DESIGN

This chapter describes our proposed design for evaluating the RIA, ESIC Sub-Activity, PPP Sub-Activity in El Salvador, and the PPP Activity in Guatemala. The evaluation design reflects extensive consultation with MCC, both with in-country and headquarters staff, as well as with key stakeholders in each country.[8] Drawing on the feedback received, we have made minor adjustments to the set of research questions from the RFP and added a research question with respect to PPPs. (All proposed modifications to the original research questions appear in Appendix B, along with justifications for these modifications.) We begin by providing an overview of our overall evaluation strategy (Section A) before describing the research questions, data collection plan, and analysis plan for the RIA case study (Section B) and the ESIC and PPP evaluations (Sections C and D, respectively). In Section E, we discuss the task of updating ex ante expected rates of return (ERR) for the activities.

A. Overall approach

MCC has posed questions related to program implementation, results, and sustainability of the RIA, ESIC Sub-Activity, and PPP activities. To answer these questions, we propose a mixed-methods case study of the RIA and mixed-methods performance evaluations of the ESIC Sub-Activity and PPP activities. The RIA case study includes an implementation analysis featuring a political economy approach, an outcome analysis of trends, and a sustainability analysis. The ESIC and PPP evaluations each include an implementation analysis and an outcome analysis of trends, but do not include explicit sustainability analyses. In addition to these three evaluations, we plan to assess and update key assumptions of any ex ante ERRs related to these activities. In Table IV.1, we present a summary of our high-level proposed evaluation approach, key outcomes and themes, and data sources for these evaluations.

[8] In El Salvador and Guatemala, the Mathematica team met with MCC technical and resident country staff to understand more fully what information and lessons they would like to obtain from the evaluation. In the case of El Salvador, the team met with a wide range of representatives of FOMILENIO II as well as with other country stakeholders pivotal to this evaluation, such as representatives of OMR, PROESA, and the Ministry of Finance. In Guatemala, the team met with PRONACOM, ANADIE, and MoF to understand what information they would like to be equipped with at the conclusion of the evaluation.

The importance of grounding all analyses in the program logic

MCC-developed program logic for the El Salvador Investment Climate Project and the Guatemala PPP Activity will serve as the overarching organizational framework for all three evaluations. Structuring the analysis around the activities, outputs, and outcomes in the program logic offers three benefits:

1. It ensures that key program design and implementation findings provide the context for major findings on programmatic results and sustainability. For example, if the PPP sub-activities fail to result in signed agreements, we will "trace backwards" in the logic model included in this evaluation design report to identify potential areas where implementation might have been suboptimal or where external threats may have derailed results.
2. The program logic provides a roadmap for how to use mixed methods to answer the research questions. In cases in which it is possible to construct qualitative and quantitative indicators for a single output or outcome in the program logic, we will attempt to do so in the interest of triangulating or complementing qualitative and quantitative findings.
3. Anchoring all three evaluations to the program logic will ensure that our analyses take into account expected operational synergies and common outcomes between sub-activities—particularly given that, in El Salvador, all three activities are expected to increase private investment, improve the investment climate, and increase the competitiveness of the tradeable sector.

Table IV.1. Overview of evaluation approaches

Activity	Proposed approaches	Key outcomes and themes	Data sources
RIA	***In-depth case study***		
	Implementation analysis (with political economy lens)	• Implementation facilitators and obstacles • Number/completeness of implemented reforms	• Key informant interviews and focus groups • OMR analyses and administrative data
	Outcome analysis (longitudinal trends)	• Decreases in wait-times and administrative costs • Key mechanisms through which reforms did or did not generate effects	• Key informant interviews and focus groups • World Bank and FUSADES surveys of firms; administrative data from participating ministries
	Sustainability analysis	• Sustainability of SMR (system level) • Sustainability of OMR (institutional level)	• Key informant interviews and focus groups • Budget outlays
ESIC	***Performance evaluation***		
	Implementation analysis	• Appropriateness, effectiveness, and efficiency of fund recruitment, selection, and management	• Follow-up interviews with awardees and focus groups or calls with nonawardees • Administrative and financial data from FOMILENIO II and awardees
	Outcome analysis (longitudinal trends)	• Changes in awardees' investment, employment, and profit • Awardee-reported reasons for (lack of) changes in investment, employment and profit	• Follow-up interviews with awardees • Applicant- and awardee reported data; FOMILENIO II monitoring data
El Salvador PPP Sub-Activity and Guatemala PPP Activity	***Performance evaluation***		
	Implementation analysis (with political economy lens)	• Adherence to PPP laws, regulations, and best practices • Key implementation facilitators and obstacles	• Key informant interviews; narrative reports
	Outcome analysis (longitudinal trends)	• Government capacity to develop and manage PPPs • Value of private investment in PPPs	• Key informant interviews and focus groups • Infrascope PPP country indicators • Finalized business cases and studies
All activities	***Cost-benefit analysis***		
		• Updated ERR assumptions and parameters	• Administrative data and quantitative evaluation findings

RIA= Regulatory Improvement Activity; ESIC= El Salvador Investment Challenge; PPP= Public Private Partnership; SMR= *Sistema de Mejora Regulatoria;* OMR= Organismo de Mejora Regulatoria*;* ITT = indicator tracking table; FUSADES= *Fundación Salvadoreña Para El Desarrollo Económico Y Social*

B. The RIA case study

1. RIA research questions and approach

We propose a mixed-methods case study for the RIA evaluation because a nuanced understanding of OMR's day-to-day work, institutional incentives, and interactions with other important institutions is critical to understanding program implementation, results, and sustainability. As noted above, the RIA case study includes three components: (1) an **implementation analysis**, (2) an **outcome analysis** of longitudinal trends, and (3) a **sustainability analysis**.

A unique feature of the RIA case study is that data collection will be relatively continuous from late 2018 to 2020 because of the proposed monthly in-person interviews between Mathematica's local research manager and OMR staff (discussed in Section 2 below). The study will also feature three primary rounds of data collection in late 2018, 2020, and late 2023. Scheduled for late 2018, round 1 of data collection will focus on assessing program implementation and initial effects, whereas data collection in 2020 and 2023 (Rounds 2 and 3, respectively) will focus on measuring RIA's mature (or 'steady-state') effects and potential for sustainability (see additional details in Table IV.2).

Table IV.2. RIA research questions, proposed analytic methods, and data collection timing

	Key research questions	Analytic approach	Key constructs and indicators			Data collection rounds		
	Questions on RIA implementation	**Implementation analysis**	**Qualitative constructs**	**Quantitative indicators**	**Monthly interviews with OMR**	**1**	**2**	**3**
OMR	**RQ1. Did the technical support from OMR to identify regulatory and non-regulatory reforms contribute to reducing administrative and regulatory compliance costs for firms operating in tradeable sectors?** Why or why not?	Mixed-methods analysis comparing stakeholder accounts and OMR's ex ante analyses	Stakeholder perceptions on the prioritization, analysis, and proposal process (including public-private dialogue activities) and the potential effects of proposed reforms	Net savings to society (according to ex ante regulatory impact analysis)		✓	✓	
	RQ2. Did the OMR trainings and technical support effectively help institutions conduct regulatory impact assessments?	Mixed-methods analysis of trainings and technical assistance	Stakeholder perceptions on the potential contributions of the trainings and technical assistance to the regulatory impact assessments	Number of trained civil servants Degree of training satisfaction (if captured quantitatively by OMR)			✓	
	RQ3. Were the recommendations prepared with the support of OMR adopted and meaningfully implemented by the relevant GoES entities? Why or why not?	Mixed-methods analysis of adoption	Stakeholder accounts of the extent of adoption/implementation of each proposed reform GoES responses to foreseen and unforeseen challenges	Number of recommended reforms implemented/adopted Degree of adoption (if captured quantitatively by OMR)	✓	✓	✓	

TABLE IV.2 (CONTINUED)

	Key research questions	Analytic approach	Key constructs and indicators			Data collection rounds		
	Questions on RIA implementation	**Implementation analysis**	**Qualitative constructs**	**Quantitative indicators**	**Monthly interviews with OMR**	**1**	**2**	**3**
OMR	**RQ4. What were the major barriers and facilitators to spurring these entities to adopt and implement the OMR's proposal(s)?** How did OMR respond to the challenges?	Qualitative analysis with a political economy lens	Barriers/facilitators to GoES adoption and implementation OMR responses to foreseen and unforeseen challenges		✓	✓	✓	
	RQ5. How successful was OMR in supporting the GoES institutions' adoption of regulatory improvement principles and methodologies?	Qualitative analysis with a political economy lens	Stakeholder perceptions of the utility of OMR assistance to GoES institutions		✓		✓	
SMR	**RQ6. How was the SMR conceived, developed, and implemented?** What challenges and opportunities did stakeholders face in designing and implementing the SMR? Why and how were important decisions made with respect to the design or implementation of the SMR?	Qualitative analysis with a political economy lens	Implementation activities and timeline Organizational structure and roles Challenges/ opportunities in SMR implementation Rationales for key decisions		✓	✓		
RNT	**RQ7. Was the RNT successfully set up with the appropriate organizational and institutional structure, technological support, user accessibility, operational procedures, and required information to achieve the objectives of transparency and legal certainty?**	Qualitative analysis with a political economy lens	Critical dimensions of RNT effectiveness, including accessibility/ functionality, information provision, and support		✓		✓	

TABLE IV.2 (CONTINUED)

	Key research questions	Analytic approach	Key constructs and indicators			Data collection rounds		
	Questions on RIA implementation	**Implementation analysis**	**Qualitative constructs**	**Quantitative indicators**	**Monthly interviews with OMR**	**1**	**2**	**3**
RNT	**RQ8. What were the key political, institutional, and organizational challenges and opportunities in establishing the RNT?** To what extent were they successfully handled? To what extent and how did they affect the design, scope, scale, or end effectiveness of the RNT?	Qualitative analysis with a political economy lens	Challenges/opportunities in establishing the RNT		✓		✓	

		Key research questions	Analytic approach	Key constructs and indicators		Data collection rounds		
	Questions on RIA effects	**Outcome analysis**	**Qualitative constructs**	**Quantitative indicators**	**Monthly interviews**	**1**	**2**	**3**
Effects on GoES	**RQ9. Did GoES entities develop the required capabilities to design and implement their own proposals for regulatory reform and simplification? Did GoES develop the required capabilities to conduct their own regulatory impact assessments?**	Qualitative analysis of GoES capacity with a political economy lens	GoES ability to fulfill responsibilities outlined in key legislation GoES ability to fulfill responsibilities		✓		✓	
	RQ10. To what extent is a culture of regulatory improvement taking root within the GoES as a result of efforts to communicate and implement the SMR? What are major challenges and facilitators to inculcating this culture—operationally, politically, and culturally—and how did stakeholders address them?	Mixed-methods analysis drawing from key principles from ethnographic literature on public sector reform	Culture of regulatory improvement Challenges and facilitators to inculcating this culture and efforts to surmount them	Expected index developed by OMR (TBD)	✓		✓	✓
Effects on Firms	**RQ11. Did the implemented reforms or changes materially reduce the administrative and regulatory compliance costs or response times for issuing permits or licenses to firms in the tradeable sectors?**	Longitudinal analysis of sector-wide trends in administrative and compliance costs as well as of wait- times, complemented by a qualitative analysis of stakeholder perceptions	Stakeholder-reported reasons/mechanisms for (lack of) changes in regulatory burden/costs	Firms' costs and wait-times associated with specific regulatory requirements and processes Government response times in completing permits and licenses		✓	✓	✓

TABLE IV.2 (CONTINUED)

		Key research questions	Analytic approach	Key constructs and indicators		Data collection rounds		
	Questions on RIA effects	**Outcome analysis**	**Qualitative constructs**	**Quantitative indicators**	**Monthly interviews**	**1**	**2**	**3**
Other effects	**RQ12. Did the reforms lead to unforeseen costs or adverse impacts for other businesses, government efficiency or processes, social groups of interest, environment, or other?**	Qualitative analysis of additional effects	Unforeseen positive and negative effects, including public efficiencies created by reform			✓	✓	✓

TABLE IV.2 (CONTINUED)

		Key research questions	Analytic approach	Key constructs and indicators		Data collection rounds		
	Questions on the sustainability of RIA-funded investments	**Sustainability analysis**	**Qualitative constructs**	**Quantitative indicators**	**Monthly interviews**	**1**	**2**	**3**
OMR	**RQ13. Does the OMR have an appropriate structure, position, and resources necessary to act as a strong coordinator and facilitator of the SMR?**	Qualitative assessment of OMR and SMR on several dimensions of sustainability and institutionalization, using a political economy lens	Key dimensions of OMR institutionalization and sustainability	OMR budget outlays	✓			✓
SMR	**RQ14. Does the SMR have the necessary structure, governance, incentives, technical capabilities, controls, checks and balances, and resources that are necessary to sustain it in the long run?** Is the structure of the SMR set up such that it is likely to lead to an increase in the quality of regulations and business procedures in El Salvador by ensuring that GoES rules increasingly comply with good regulatory principles? Are there permanent mechanisms to control the quality of new regulations?	Qualitative assessment of OMR and SMR on several dimensions of sustainability and institutionalization, using a political economy lens	Key dimensions of SMR institutionalization and sustainability	SMR budget outlays	✓			✓

OMR= Organismo de Mejora Regulatoria*;* GoES = Government of El Salvador; RNT = *Registro Nacional de Trámites*; SMR = *Sistema de Mejora Regulatoria*; FOMILENIO II = *Fondo del Milenio II*

2. RIA data collection plan

The RIA in-depth case study draws on a combination of data collection methods: (a) a desk review, (b) key informant interviews with FOMILENIO II, MCC, and other stakeholders, (c) monthly in-person interviews with OMR staff, and (d) focus group discussions with firms. We discuss each of these methods below and, in Table IV.3, provide information on sample sizes and topics of discussion during each round of data collection.

a. Desk review. In late 2018, we will conduct a desk review to deepen our understanding of RIA implementation. We will collect and review implementation plans, progress reports, and other relevant documents on outputs and implementation costs, and begin composing a basic narrative and timeline of RIA implementation. (We will develop and employ a systematic review protocol to guide data extraction from relevant documents.) We plan to update the desk review at the end of the compact period in 2020 and again in 2023, so as to gain a full understanding of MCC-funded program implementation as well as of OMR's work in the post-compact period. (See Tables C.1 and C.2 for potential summary tables of RIA implementation that could result from the desk review.)

b. Monthly in-person interviews with OMR staff. MCC is particularly interested in better understanding OMR staff's first-hand experiences with reform and reflections on whether a culture of regulatory reform is taking root in the Salvadoran bureaucracy. To gather a wealth of information on these topics during the evaluation period, we propose that our local consultant conduct monthly in-person interviews with OMR staff. These monthly interviews will probe into stakeholders' values, incentives, and motivations related to reforms, as well as their approach, tactics and day-to-day experience promoting reforms with partner institutions. These interviews will also explore and periodically revisit key political economy concepts that are critical to understanding the context for regulatory reform, as well as potential leverage points or barriers to meaningful reform. These concepts include the key actors and interests involved in reforms, the role of institutions, and any evolving political factors that could affect specific reforms or regulatory reforms in general. Also during these monthly meetings, our local consultant will also engage OMR staff to track implementation progress and identify specific high-impact reforms for which administrative data may be available to estimate time and cost savings.

c. Key informant interviews (KIIs) with FOMILENIO II, MCC, and other stakeholders. We will conduct KIIs with representatives from FOMILENIO II, MCC, OMR's partner ministries, and private sector organizations at three distinct points during the evaluation. The objective of these KIIs is to gather stakeholders' perspectives on implementation, results, and the ultimate sustainability of investments, with a focus on implementation and initial effects in the first round of data collection in 2018, medium-term effects in 2020, and mature effects and the sustainability of OMR and the SMR in the last round of data collection in 2023. In planning KIIs, we will target representatives of partner ministries[9] and private

[9] This includes *Ministerio de Economia*, *Ministerio de Hacienda*, Centro Nacional de Registros [CNR], *Ministerio de Obras Publicas*, *Ministerio de Medio Ambiente y Recursos Naturales* [MARN], and *Oficina de Planificación del Área Metropolitana* de San Salvador [OPAMSS] *y Ministerio de Trabajo*.

sector organizations[10] that have interacted most frequently with OMR and FOMILENIO II on the topic of regulatory reforms. In interviews with ministry staff in particular, we will probe into stakeholders' experience working with OMR, their capacity-building efforts related to regulatory impact assessment, and their ongoing efforts to design and implement specific reforms. We will purposively select key informants from FOMILENIO II, ministries, and private sector organizations, based on their role, knowledge, or experience, with the goal of interviewing the one to two individuals per organization with the most knowledge of OMR-facilitated reforms.

d. Focus group discussions (FGDs) with firms. Focus groups help researchers gather information on a small set of topics from several participants simultaneously and to understand more fully cultural norms or shared perceptions among participants. Focus groups with firm owners and managers are appropriate for the OMR case study because they will enable us to grasp firms' shared perceptions of OMR's outreach work and its impact on regulatory burden as well as the state of El Salvador's investment climate. In late 2018, 2020, and late 2023 (Rounds 1, 2, and 3, respectively), we will conduct focus group discussions with a sample of business owners and managers who would be most likely to benefit from OMR-initiated reforms. The focus groups will explore firm representatives' perceptions of recent reforms and their potential impacts—particularly whether they are experiencing fewer delays or costs as a result of the activity, and the reasons or mechanisms for these changes, if relevant. In focus groups, we will also explore OMR's potential role in mitigating common obstacles that make it harder for women to start and grow enterprises (World Bank 2015).

In preparation for interviews and focus groups, Mathematica will develop tailored data collection protocols that cover common topics across participant types, to the extent that participants can speak to the same topics. A common set of topics across interviews will facilitate triangulation of findings during analysis. Evaluation team members will travel to El Salvador for pre-testing or piloting of protocols, training, and oversight of data collection. Our local data collectors will conduct the interview and then transcribe and clean them. They will review the transcripts for fidelity to the recordings, add definitions of acronyms and jargon, and include notes for context. After cleaning the transcripts, the local data collectors will transfer the transcripts to Mathematica in a manner that protects participant privacy. The most likely process will be for data collectors to encrypt and/or password protect all files that contain personally identifiable information, and post them on a secure server established by Mathematica.

[10] This includes *Comisión Intergremial para la Facilitación del Comercio* [CIFACIL], *Corporación de Exportadores de El Salvador* [COEXPORT], and *Cámara Agropecuaria y Agroindustrial de El Salvador* [CAMAGRO].

Approach to selecting firms for focus group discussions

For FGDs, we will target those firms that are slated to benefit the most from each package of OMR reforms. During the first round of data collection in 2018—corresponding to the first package of reforms—we will conduct FGDs with representatives of firms that have used miempresa.gov.sv in recent months, exporting firms, and firms that recently applied for construction permits.

We will work with FOMILENIO II, OMR and the partner ministries with which OMR works to identify businesses that could feasibly have benefited from each proposed reform, and thus could speak to the actual time and cost savings of each reform. One potential option is to obtain contact information for the sample of businesses that responded to FOMILENIO II's 2016 online survey on regulatory burden. However, if privacy considerations permit, it would be preferable to use a more targeted sample frame for each FGD. For example, perhaps we can use the full registry of firms that applied for multiple construction permits in recent years—including at least one permit prior to reform and at least one permit following reform—to purposively select firms for the FGD on the construction permitting process. Alternately, we could ask ministries with which OMR works to provide the names and contact information of firms that were affected by reforms, and we could select a purposive sample of these firms.

We will conduct two FGDs with firms expected to benefit from each reform, based on research showing that sample sizes of three to six FGDs often result in saturation or a point at which further data produce little or no new information (Namey et al. 2016). Given potential logistical difficulties in convening business owners at a location for FGDs, we may hold brief telephone calls with firms that are expected to have benefited from each reform. The sample should include at least seven to ten firms per reform to generate information that is comparable to that of two focus groups.

Potentially, we could also employ a mix of focus groups and telephone interviews—focus groups with firms based in San Salvador and telephone interviews with firms based outside of San Salvador. This mix of focus groups and one-on-one interviews might be useful to glean different types of information: A focus group is likely the best dynamic to capture firms' general awareness of OMR-initiated outreach and recent reform efforts, as well as their perceptions on the pace and effect of these efforts (if in fact they are aware of reforms). In contrast, one-on-one phone interviews could provide a better forum to explore individual firms' full experience with specific reforms, including wait-times for licenses or use of miempresa.gov.sv.

Table IV.3. Sample sizes and key areas of focus for RIA evaluation, by data source

Data source	Data collection method	Sample size	Key areas of focus		
			Round 1 Late 2018	Round 2 2020	Round 3 2023
FOMILENIO II	KIIs	2: one per round	***Political economy context*** • Actors and interests, institutions, power structures, and political factors ***Implementation*** • Key activities and rationales for important decisions • Challenges/facilitators to setting up SMR/RNT • Stakeholders' personal experiences, values, and motivations • Training and capacity-building efforts ***Initial effects*** • (Lack of) changes in regulatory burden/costs and reasons/mechanisms • Unforeseen positive and negative effects	***Implementation*** • Extent of adoption of each proposed reform • Effectiveness of OMR assistance to GoES institutions • Barriers and facilitators to GoES adoption of reforms • Stakeholders' personal experiences, values, and motivations ***Medium-term effects*** • GoES capacity for regulatory reform • (Lack of) changes in regulatory burden/costs and reasons/mechanisms • Unforeseen positive and negative effects	n.a.
OMR	Monthly interviews	One per month: 2018 to 2023			***Post-compact implementation*** • Extent of adoption of each proposed reform • Effectiveness of OMR assistance to GoES institutions • Barriers and facilitators to GoES adoption of reforms ***Mature effects*** • (Lack of) culture of regulatory improvement • (Lack of) changes in regulatory burden/costs and reasons/mechanisms • Unforeseen positive and negative effects ***Sustainability*** • Key dimensions of OMR institutionalization and sustainability • Key dimensions of SMR institutionalization and sustainability
MCC	KIIs	3: one per round			
Ministries that have collaborated with OMR: MINEC, *Ministerio de Hacienda*, CNR, MOP, MARN, OPAMSS y *Ministerio de Trabajo*	KIIs	Up to 30: At least one interview per ministry from 2018 to 2023 (2 interviews for highly engaged ministries)			

TABLE IV.3 (CONTINUED)

Data source	Data collection method	Sample size	Key areas of focus		
			Round 1 Late 2018	Round 2 2020	Round 3 2023
Private sector representatives: COEXPORT, and CAMAGRO	KIIs	6: One interview per organization, per round	***Context*** • Actors and interests, institutions, power structures, and political factors ***Implementation*** • Perspectives on public-private dialogue activities, SMR, and OMR ***Initial effects*** • (Lack of) changes in regulatory burden/costs and reasons/mechanisms • Unforeseen positive and negative effects	***Implementation*** • Perspectives on public-private dialogue activities, SMR, and OMR ***Medium-term effects*** • GoES capacity for regulatory reform • (Lack of) changes in regulatory burden/costs and reasons/mechanisms • Unforeseen positive and negative effects	***Post-compact implementation*** • Perspectives on public-private dialogue activities, SMR, and OMR ***Mature effects*** • (Lack of) culture of regulatory improvement • (Lack of) changes in regulatory burden/costs and reasons/mechanisms • Unforeseen positive and negative effects
Firms that could be affected by reforms	FGDs and/or phone interviews	Up to 20: 2 FGDs per reform area, per round			

KII = key informant interview; FGD = focus group discussion; OMR = Organismo de Mejora Regulatoria*;* GoES = Government of El Salvador; RNT = *Registro Nacional de Trámites*; SMR = *Sistema de Mejora Regulatoria*; FOMILENIO II = *Fondo del Milenio II;* MINEC = Ministry of Economy; CNR = *Centro Nacional de Registros;* MOP = *Ministerio de Obras Públicas*; MARN = *Ministerio de Medio Ambiente y Recursos Naturales;* OPAMSS = *Oficina de Planificación del Área Metropolitana de San Salvador;* CIFACIL = *Comisión Intergremial para la Facilitación del Comercio*; COEXPORT = *Corporación de Exportadores de El Salvador;* CAMAGRO = *Cámara Agropecuaria y Agroindustrial de El Salvador*. n.a. = not applicable.

3. RIA analysis plan

a. Political economy mapping

Following the first round of data collection in late 2018, we will first construct a basic mapping of the political economy of regulatory reform in El Salvador. This mapping will provide the analytical lens through which we will address several research questions related to implementation, results, and sustainability. The exercise involves gathering, organizing, and assessing information on the following dimensions:[11]

- **Actors and interests:** This includes the key organizational and individual stakeholders in the realm of regulatory reform—including OMR, partner ministries, SECTEC and the office of the presidency, congress, and private sector organizations, among others—as well as the primary interests of each party with respect to regulatory reform. In addition, we will document the extent to which each party has advocated for their interests and positions to date, and their success with such efforts. The relevant literature suggests that public actors—such as OMR and partner ministries—are more likely to advocate for technically sound reforms that advance the public interest, whereas political actors have a dominant interest in advancing (and taking credit for) highly visible reforms, particularly in election years (Shapiro and Borie-Holtz).
- **Power structures and accountability:** This includes the formal and informal power structure with respect to congress, the office of the presidency, SECTEC, OMR, and partner ministries, and how this power structure manifests itself in regulatory reform efforts. It also includes an understanding of how authority, decision-making power, and leadership are organized among these actors—particularly with respect to the legislative approval of key regulatory reforms. Also critical is an understanding of how accountability functions (or doesn't function) within the system—particularly with respect to partner ministries' new responsibility to design and implement reforms—and how power relations shape institutional and personal incentives.
- **Political and social tensions:** This includes any long-standing political or social conflicts or tensions in the regulatory improvement space. Presumably, as in the case of most public policy issues in El Salvador—political tensions between left- and right-wing political factions could undermine or accelerate regulatory reform efforts. We also want to document each political faction's official and unofficial position on regulatory reform, as well as their political maneuverings on the topic.
- **Institutions and rules:** This includes the legal and bureaucratic framework by which actors must abide when developing, adopting, and implementing regulatory reforms, including any official or unofficial "rules of the game" and how those rules are enforced. Important to this domain is whether any actors get preferential treatment with respect to the rules of the game, or if any rules of the game contradict others.

[11] These dimensions are based on a draft MCC political economy toolkit document shared with Mathematica in May 2018.

Background on political economy analysis

Practitioners and researchers use political economy analysis to determine the underlying reasons for a lack of progress on important social issues—such as alleviating poverty—as well as to identify potential strategies for social reform. For example, the Department for International Development's (DFID) drivers of change (DOC) framework (Warrener 2004) conceptualizes "the interplay of economic, social and political factors that support or impede" poverty reduction (OECD DAC 2005). The approach is generally qualitative and does not feature a standardized template to conduct a full political economy analysis; rather, it lays out a simple three-part conceptual model of structures, individual agents, and mediating institutions that could propel or inhibit social change on a particular issue. Using a DOC framework, for example, practitioners may find that the elite's capture of certain government institutions in combination with a lack of leadership on the part of nationally elected leaders are two key factors that inhibit additional investment in secondary education in a developing country.

In their focus on power structures and mediating institutions, political economy analyses often assess the formal and informal roles of each stakeholder or relevant institution, the extent to which power is vested in each entity, any corruption or rent-seeking behaviors, prevailing ideologies and values, how decisions are made in the system, critical bottlenecks to implementation, and the likely "winners" and "losers" relative to substantive reforms.

For the RIA evaluation (as in the PPP evaluation discussed in Chapter VI1), we will not conduct a discrete political economy analysis. Rather, we will use our understanding of the political economy of regulatory reform as an analytical lens through which we will assess key questions focused on implementation, results, and sustainability—particularly to identify and assess barriers and constraints to successful implementation, as well as political, institutional, and economic factors that inhibit results and prospects for sustained benefits following the compact period.

b. Implementation analysis

Once the initial political economy mapping is complete, we will use a mix of qualitative and quantitative data to answer implementation-focused research questions. To determine whether OMR-proposed reforms could feasibly reduce costs to firms (RQ1), we plan to contextualize OMR's ex ante quantitative analysis of cost savings (by using *Programa de Simplificacion de Tramites y Servicios* [SIMPLIFICA] methodology[12]) with stakeholder perceptions of the validity of these estimates. Similarly, to determine whether OMR's proposals were adopted and meaningfully implemented (RQ2), we plan to complement monitoring figures on the number of reforms adopted or implemented (as well as the degree of adoption, if available) with stakeholder perceptions of the breadth and depth of adoption. Below, we outline our general approach to

[12] Developed by *COFEMER* in Mexico, the methodology attempts to isolate and minimize extraneous administrative costs related to regulations through a three-step process that involves data collection, analysis/recommendations, and implementation of regulatory reforms.

analyzing qualitative data, which we will employ for all qualitative analyses in the RIA and ESIC and PPP sub-activity evaluations.

General approach to analyzing qualitative data

We will use two primary analysis methods to analyze qualitative data: organizational and thematic coding, and triangulation among sources. We discuss each of these methods below.

Organizational and thematic coding. Mathematica staff will code all interview and focus group transcripts as well as the embedded researcher's written reflections on OMR's work. To do this, we will first develop a coding scheme consisting of a hierarchy of conceptual categories linked to the research questions (constituting the first level of the coding hierarchy) and the key qualitative constructs specified in Tables IV.2, V.7, and VI.11 (constituting the second level of the hierarchy). These categories will help us organize qualitative data—thus dividing transcripts into sections of text in which specific topics or constructs are discussed. Next, a trained team of coders will then use qualitative data analysis software to assign thematic codes to the qualitative data (constituting the third level of the hierarchy), using an inductive and iterative approach in which themes are identified and added to the coding scheme as coding progresses (Ritchie and Spencer 2002).

Triangulation among sources. Once key themes are coded for each qualitative construct, we will test for consistency and discrepancies in findings across data sources and analyses by triangulating among sources—particularly program donors, implementers, and direct participants. This triangulation process facilitates confirmation of patterns or findings and the identification of important discrepancies; it also helps identify instances in which stakeholders' perceptions with respect to implementation and results are not aligned, which is a valuable finding in itself.

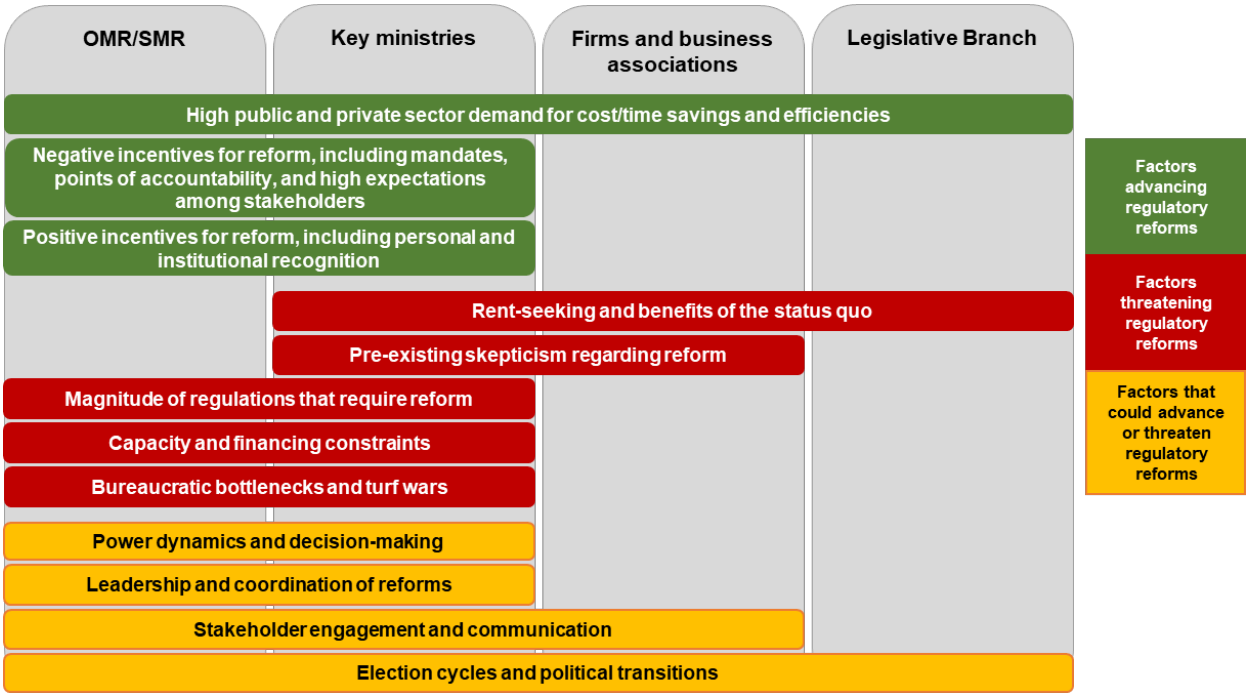
Mathematica staff will code and triangulate findings using NVivo, a proven data analysis software that helps identify themes across many diverse respondent groups and data collection methods. Once we have coded and triangulated the data, we will write summaries of the themes, highlighting our findings. Finally, we will integrate the findings from all data sources into a detailed final report that will include pervasive perspectives and contrary opinions and cases, key comparisons between and among stakeholder types, and in-depth vignettes and quotes as appropriate.

Mathematica staff will follow the same approach for the analysis of qualitative data for all relevant analyses of RIA implementation, results, and sustainability as well as all implementation and outcome analyses for the ESIC and PPP evaluations.

To document why and how important decisions were made in SMR implementation (RQ5), we will map out key implementation decisions along the implementation timeline, noting the project phase, activities, key players, and rationale for each decision. In Table C.2 in Appendix C, we provide an example of how we plan to document key RIA implementation decisions.

Next, we will use our political economy mapping exercise and Round 1 stakeholder interviews to identify the major facilitators and challenges to the adoption of reforms (RQ3); and key political, institutional, and organizational facilitators and challenges in establishing the RNT (RQ7). As part of this process, we will revise and update the framework below that features (1) the key facilitators of high quality regulatory reforms (in green), (2) the key challenges to high quality regulatory reforms (in red), and (3) neutral factors that could either facilitate or serve as a barrier to high quality regulatory reforms (in yellow), depending on the nature of RIA implementation and partner ministry performance (Figure IV.1). Under this model, the success (or failure) of each OMR-facilitated reform is determined by the extent, within each institution type, that facilitators of regulatory reforms dominate constraints to reforms. Key stakeholders—particularly OMR and its partner ministries—can play a significant role in the success of reforms by converting neutral factors—such as leadership, coordination, and stakeholder engagement—into facilitators. We plan to refine this framework in subsequent waves of data collection.

Figure IV.1. Conceptual framework for RIA implementation facilitators and barriers



c. Outcome analysis

Similar to the implementation analysis above, some aspects of the RIA outcome analysis will be qualitative because of the nature of the phenomena in question. For example, to determine whether GoES entities developed the required capabilities to design and implement their own proposals for regulatory reform and simplification (RQ8), we will conduct a structured qualitative assessment of the extent to which OMR and relevant ministry staff acquired the following critical competencies of regulatory impact analysis: (1) the ability to lead public-private dialogue and data collection, (2) the ability to conduct impact analysis and develop recommendations, (3) the ability to communicate recommendations and results to end-users, and (4) the ability to incorporate regulatory impact analysis into public policymaking. In large part,

these competencies are based on the five fundamental objectives of the SMR, as described in the 2015 law that established the regulatory improvement system (*Decreto Ejecutivo número* 90). We will contextualize our findings through our understanding of the political economy of regulatory reform in El Salvador—particularly with respect to ministry staff's institutional incentives and agency to acquire and execute these critical competencies within the broader Salvadoran bureaucracy.

To assess whether a culture of regulatory improvement is taking root within the GoES (RQ9), we will also explore key themes that have emerged in recent ethnographic research on public sector reforms. This body of literature is designed to capture public servants' reflections on the value of reform, their personal experiences with reform, and their strategies in executing reforms in the context of their work environment, priorities, and existing responsibilities. This literature also examines the process by which micro-actions ultimately transform macro-level structures within public agencies (Bjerge and Rowe 2017) and documents how public sector reform happens in practice (Douglas 1986; Jarzabkowski and Lê 2016). Below we note some key organizational ethnography concepts that we plan to explore and analyze, drawing from monthly interviews with OMR staff and KIIs with partner ministry staff in 2018, 2020, and 2022:

- *Individual empowerment and personal pride*. Providing public servants with relevant job skills, healthy incentives, and discretion in performing their duties can have a positive effect on perceived performance (Fernandez and Moldogaziev 2010). In the context of RIA, OMR and partner ministries could motivate staff to lead high-quality regulatory reforms through positive incentives, including offering specialized training, granting staff autonomy to spearhead reforms, and widely recognizing successful champions of reform. Personal accolades and recognition in particular could help engender a sense of personal pride among partner ministry staff tasked with spearheading regulatory reforms.
- *Unintended consequences of organizational reform*. Reforms and intended change are rarely implemented on a simple, smooth and linear basis. In practice, they are often transformed into something different than initial intentions or plans. (Lipsky 1980; Moore 1978; Meyer and Rowan 1977; Brunsson and Olsson 1997; Flyvbjerg 1996). In the context of OMR's work, ministries could feasibly adopt only selected portions of the regulatory impact assessment techniques they learn through OMR assistance, or develop their own 'home-grown' version of the assessment techniques that is more tailored to each ministry's unique processes and culture.
- *Institutional paradoxes:* Paradoxes refer to contradictory features of organizations that exist simultaneously over time, with seemingly surprising, ironic or absurd effects (Putnam et al. 2016). In particular, the client-focused bureaucrat often finds that they face conflicting incentives or rules generated by senior staff. In the context of RIA, partner ministry staff could identify some inherent contradiction in their dual roles of performing proper due diligence in issuing permits on one hand, and being asked to lead reform efforts to minimize wait-times on the other hand.
- *Mental saturation and time constraints.* Public servants often have limited time and mental energy to devote to new initiatives over and above their current workload and priorities (Bjerge and Rowe 2017). In the context of OMR's work, partner ministry staff's existing workload and priorities may inhibit their ability to lead or contribute to substantive reforms.

- *Discretion of 'street-level bureaucrats'.* Mid-level bureaucrats often have considerable discretion in the day-to-day implementation of public initiatives and programs (Lipsky 1980). Mid-level bureaucrats often use personal tactics to best perform their job (or maximize their personal utility) in a particular situation; these tactics may or may not be at odds with their ministry's overall strategy or official policies, which are often defined by legislation or senior staff (de Certau 1984). In the context of RIA, midlevel bureaucrats at partner ministries could feasibly employ the tactics of delaying or weakening regulatory reforms if it suits their interest, or simply pay 'lip-service' to reforms without implementing them in a substantive way. Alternately, they could exercise leadership and personal initiative in designing and implementing reforms if the proper incentives, resources, and ministry leadership are in place to align institutional strategy with personal tactics.

To supplement this qualitative analysis of whether a culture of regulatory improvement is taking root within the GoES (RQ9), we intend to build an index of the ministries' commitment to regulatory reform based on a similar index in Ecuador (Senplades 2014). The Ecuador index is organized around six components: (1) whether the ministry has an explicit policy of regulatory improvement, (2) how regulations are introduced within the ministry, (3) design and review of regulations at the ministry, (4) implementation and control of regulations within the ministry, (5) the ministry's monitoring and evaluation in reference to initial regulatory objectives, and (6) the ministry's risk assessment. Our index may include some or all of these components, in addition to some measure of whether ministries retain trained staff in regulatory impact assessment.

Because the RIA activities could have significant impacts across the entire country, we will not be able to find a credible control group for estimating RIA's causal effects on firms. Instead, we will conduct a **longitudinal trend analysis** by using data from third-party surveys and administrative data from relevant ministries, thereby developing a better understanding of the potential effect of RIA activities on compliance costs and wait-times (RQ10). In Figure IV.2, we provide an illustration of longitudinal trend analysis for the outcome of number of days to obtain a construction permit in El Salvador, as measured by administrative data from the Ministry of Public Works (*Ministerio de Obras Publicas*, or MOP).

Figure IV.2. Illustration of longitudinal analysis for one outcome: Days to obtain a construction permit

Source: OMR M&E Report, 2016.
Note: Data beyond 2016 are hypothetical.

Quantitative data for the trend analysis will come from public ministries' administrative records, the World Bank Enterprise and Doing Business Surveys, and the Fundación Salvadoreña Para El Desarrollo Económico y Social (FUSADES) Business Competitiveness Survey (see Table IV.4 for a summary of third-party surveys). Each data source implies a different sample frame and methodology. Presumably, administrative records will provide raw data for the full set of firms that started or completed each regulatory step during the calendar year. In contrast, the Enterprise Survey provides accurate estimates of regulatory and administrative costs and wait-times for a nationally representative sample of existing firms, and the Doing Business Survey reflects expert accounts of what a standardized firm might expect (in terms of time frames or costs) if everything were done according to the official legal requirements and costs in place. (As such, the Enterprise Survey is a more empirical measure of burden, but the Doing Business Survey is more theoretical measure of burden.) Lastly, the FUSADES Business Competitiveness Survey is a good source of information on firm owners' overall perceptions of the burden of regulations—either in general or for specific ministries—but does not provide information on the burden of specific regulations, requirements, or processes.

Table IV.4. Third-party data sources for the RIA outcome analysis

Survey	Enterprise	Doing Business	Business Competitiveness
Steward	World Bank	World Bank	FUSADES
Frequency	About every four years	Annually	Every six months
Countries	139 economies worldwide, including El Salvador	190 worldwide, including El Salvador	El Salvador
Sample size	The 2016 survey covered 719 firms, featuring an additional subsample of firms that operate in the tradeable sector	An average of 39 expert surveys per economy	450 firms in San Salvador, Santa Ana, and San Miguel
Representativeness	Nationally representative sample of firms with five or more employees	Collects data only for the most populous business city	None
Sectors represented	(1) Manufacturing (all subsectors), (2) construction, (3) motor vehicle sales and repair, (4) wholesale, (5) retail, (6) hotels and restaurants, (7) storage, transportation, and communications, and (8) information and technology (IT)	No explicit sectors represented or excluded	(1) Industry, (2) commerce, (3) services, and (4) construction (agriculture, water, and energy excluded)
Modules	Several investment climate topics: firm characteristics, gender participation, access to finance, annual sales, costs of inputs/labor, workforce composition, corruption, licensing, infrastructure, trade, crime, competition, capacity utilization, land and permits, taxation, informality, business-government relations, innovation and technology	Measures 11 business regulation topics: starting a business, dealing with construction permits, getting electricity, registering property, getting credit, protecting minority investors, labor market regulation, paying taxes, trading across borders, enforcing contracts, and resolving insolvency	Business owners' credit, sales, employment, and investments; their reasons for investing or not investing; and their perceptions of the overall health of the investment climate
Common use	Given that the Enterprise Survey captures existing firms' actual sales, costs, wait-times, etc., it is often used to assess the impact of reforms on businesses	Given that it measures what a firm should expect if everything is done according to official legal requirements and costs, the Doing Business Survey is used to identify areas for regulatory reform	The Business Competitiveness Survey is used as a timely barometer of firms' assessment of the business climate in El Salvador

FUSADES = *Fundación Salvadoreña Para El Desarrollo Económico Y Social*

In Table IV.5, we describe the key outcome indicators that we will study for the RIA trend analysis, our approach, and the timing. Key outcomes relevant to the first package of reforms include the time needed to start a business and the time needed to import samples without commercial value, among other outcomes. As illustrated in the table, we propose using multiple data sources and indicators to measure some key outcomes, such as time to start a business and time to obtain a construction permit. The rationale for this exercise is to attempt to triangulate findings using alternate samples and methodologies, under the premise that a positive trend among multiple data sources is indicative of substantive progress toward the desired outcome.

We will monitor future reform packages to identify appropriate outcomes for best measuring future effects of RIA on firms' regulatory costs. In Appendix Table C.3, we provide an extensive list of potential indicators from these surveys that may be used for outcome analyses of future reform packages.

It is important to note that findings from FGDs with firm owners and managers will complement the longitudinal trend analyses by enabling us to explore how and why the estimated changes in outcomes did or did not occur. For example, if preliminary analysis suggests that an OMR-initiated reform decreased the wait-times for a construction permit, we could ask firms to describe any changes in the license application and approval process that they observed in recent months and what differences the changes made to the approval timeline, if any.

Table IV.5. Key outcome indicators for RIA outcome analysis

Outcome	Approach	Data source	Indicator	Goal and timeline[a]	Timing of measurement
Relevant to first package of reforms					
Time needed to start a new business	Pre-post	World Bank Enterprise Survey	Total number of days required for married men/married women to register a firm	n.a.	Pre: 2016 Post: 2020
	Trend analysis	Records from the CNR	Total number of days to register a firm	From 15.5 days to 8 days by 2018	Yearly from 2010 to 2022
Procedures required to register a company	Trend analysis	Records and databases from the CNR	Procedures to register a company in anonymous society	From 8 procedures in 2016 to 5 procedures in 2018	Yearly from 2010 to 2022
Cost of opening a business	Trend analysis	Records from the CNR	Cost to open corporations as a percentage of per capita income in El Salvador ($4,000)	41 percent in 2016 to 20 percent in 2019	Yearly from 2010 to 2022
Time needed to obtain a construction permit	Pre-post	World Bank Enterprise Survey	Days to obtain construction-related permit	n.a.	Pre: 2016 Post: 2020
	Trend analysis	Doing Business Survey	Total number of days required to build a warehouse	n.a.	Yearly from 2010 to 2022
	Trend analysis	MOP records	Days to obtain construction permit	From 277 days in 2016 to 128 days in 2018	Yearly from 2010 to 2022

TABLE IV.5 (CONTINUED)

Outcome	Approach	Data source	Indicator	Goal and timeline[a]	Timing of measurement
Relevant to first package of reforms					
Time needed to import samples without commercial value	Trend analysis	Records from MIHAC/DGA	Days to import samples from the United States that have no commercial value for a company located in the free trade zone	From 5 days in 2016 to 2 days in 2018	Yearly from 2010 to 2022
Cost of importing samples without commercial value	Trend analysis	Records from MIHAC/DGA	Cost in U.S. dollars incurred to import samples without commercial value from the United States by a company located in the free trade zone	$186 in 2016 to $113 in 2018 (per piece)	Yearly from 2010 to 2022
Time to export	Trend analysis	Doing Business	Time in hours: separate for border and documentary compliance	n.a.	Yearly from 2010 to 2022
Cost to export	Trend analysis	Doing Business	Cost in U.S. dollars: separate for border and documentary compliance	n.a.	Yearly from 2010 to 2022
Time required to resolve a discrepancy in weight for imported/ exported goods)	Trend analysis	Records from MIHAC/DGA	Days to complete the abbreviated penalty procedure for discrepancies in weights between the declared and actual weight	4 days in 2016 to one day in 2018	Yearly from 2010 to 2022
Time required to obtain environmental emission permit	Trend analysis	MARN	Days to obtain an environmental permit adopted by the MARN	From 86 days in 2016 to 60 days in 2017	Yearly from 2010 to 2022
Time required to obtain drinking water feasibility permit	Trend analysis	ANDA	Days to obtain water feasibility permit	From 73 days in 2016 to 40 days in 2017	Yearly from 2010 to 2022
Relevant to all reforms					
Perceptions of key ministries' efficiency in the permit process	Trend analysis	FUSADES Business Competitiveness Survey	Degree of regulatory burden associated with customs, MARN, Salud, and Hacienda	n.a.	Yearly from 2010 to 2022

[a]Goals are according to OMR's 2016 M&E Plan.

CNR = Centro Nacional de Registros; MARN = Ministerio de Agricultura y Recursos Humanos MIHAC = Ministerio de Hacienda; WEF = World Economic Forum; FUSADES = Fundación Salvadoreña Para El Desarrollo Económico y Social; ANDA = Administración Nacional de Acueductos y Alcantarillados. ; DGA =Dirección General de Aduanas. n.a. = not applicable, as no goal was defined with respect to these indicators and data sources.

To the extent possible, we plan to benchmark El Salvador's performance on key Enterprise and Doing Business indicators against other Central American countries' performance during the same timeframe. The benchmarking exercise is important for identifying potential areas in which El Salvador may diverge from the tendency across Central America, potentially making El Salvador a relatively more attractive environment for investment. In Table C.4 in Appendix C we summarize the key domains from the Enterprise and Doing Business survey, countries, and years of data available for these benchmarking analyses.

d. Sustainability analysis

Near the end of the contract period, we will analyze OMR's prospects for long-term sustainability in terms of several dimensions, including its position within the technical secretary's office, operating structure and governance, technical capabilities, and financial resources. We will also conduct a sustainability analysis of the entire SMR as a system, in which we assess its institutional incentives, accountability and agency, checks and balances, and political support to fulfill its mission in the long term. A nuanced, updated understanding of the political of regulatory reform in El Salvador is critical for this task, as the sustainability analysis is fundamentally an assessment of the degree to which OMR and SMR are capable of fulfilling their core functions within the existing bureaucracy, despite limited resources, complex power dynamics and accountability structures, and high susceptibility to political forces. In Table IV.6, we summarize how we will analyze the OMR's and SMR's potential for long-term sustainability, and list some potential tools we could employ for this analysis.

Table IV.6. Analysis of OMR's and SMR's long-term sustainability

Dimensions	Potential considerations	Potential tools and constructs
Analysis of OMR's sustainability and institutionalization		
Position and influence	Extent to which OMR's position and influence within the bureaucracy affords it political authority to lead and coordinate regulatory reforms	Visual power analysis mapping OMR and each ministry's degree of influence on, and extent of direct communication with, the Office of the Presidency and SECTEC (World Bank 2018b)
Leadership, governance, systems and processes	Extent to which OMR's leadership, governance, and established internal systems and processes allow it to fulfill its essential competencies	Organizational assessment tools (William & Flora Hewlett Foundation 2017)
Technical capabilities	Extent to which OMR has the ability to attract and retain qualified staff capable of conducting regulatory impact analysis and providing public officials with technical assistance	Capacity to perform the core competencies of impact analysis, including (1) assessing benefits, (2) assessing costs, (3) accounting for time, and (4) conducing uncertainty analysis
Financial resources	Extent to which OMR has consistent budgetary support in the post-compact period	OMR annual outlays

Dimensions	Potential considerations	Potential tools and constructs
Analysis of SMR's sustainability and institutionalization		
Institutional incentives	Extent to which OMR, ministries, and the technical secretary's office face permanent incentives to initiate and coordinate regulatory reforms	Positive incentives: recognition and financial compensation for staff who lead regulatory reforms Negative incentives: bureaucratic requirements that each ministry conduct regulatory impact analysis
Resources and agency	Extent to which ministries have the resources and agency to develop and implement regulatory reforms	Financial resources and dedicated staff-time devoted to regulatory improvements (as a portion of ministry budgets) Mid-level bureaucrats' accounts of their ability to initiate and execute policy reforms
Accountability	Extent to which ministries that originate burdensome or onerous regulations are held to account for them	Vertical accountability between partner ministries and the constituencies they serve (World Bank 2018a)
	Presence of appropriate checks and balances between OMR and relevant ministries, particularly with respect to ensuring the technical quality of proposed reforms	Horizontal accountability among public institutions, particularly OMR, partner ministries, and SECTEC (World Bank 2018a)
Political support	Extent of SMR's political support from both major political parties	General assembly representatives' voting behavior with respect to OMR and regulatory reform

C. ESIC performance evaluation

1. ESIC research questions and approach

As mentioned, the ESIC performance evaluation will feature a mixed-methods **implementation analysis** to answer a series of questions on the ESIC manual, ESIC operations, and applicant characteristics and perceptions as well as an **outcome analysis** that will rely on a longitudinal trend design to assess changes in awardees' investment, employment, and net income. Overall, data collection in late 2018 (Round 1) and 2020 (Round 2) will focus on assessing program implementation before the end of the compact period, whereas data collection in 2023 (Round 3) will focus on measuring ESIC's effects after the compact period. In Table IV.7, we show the key research questions that the ESIC evaluation seeks to answer, our analytic approach to each question, and key indicators and the timing of data collection.

Table IV.7. ESIC Sub-Activity research questions, proposed methods, and data collection timing

	Key evaluation questions	Analytic approach	Key constructs and indicators		Data collection rounds		
	Questions on ESIC implementation	**Implementation analysis**	**Qualitative constructs**	**Quantitative indicators**	**1**	**2**	**3**
ESIC manual	**RQ1. Are the guidelines and processes outlined in the grant manual appropriate to achieve GoES objectives?** Can they be improved? Are the guidelines appropriate to minimize gender discrimination, enhance gender equality, and minimize adverse social and environmental impacts?	Structured qualitative assessment of the grant manual	Alignment of guidelines/processes with program, gender, social, and environmental objectives		✓		
ESIC operations	**RQ2. To what extent has the process for recruiting, reviewing, and selecting proposals from private investors been appropriate, efficient, and effective?** Is the grant manual being followed? Does the approval process use clear selection criteria? Were the criteria appropriate to achieve the stated objectives? To what extent do ESIC investments meet GoES needs?	Mixed-methods analysis of the fund's recruitment, selection, and management processes, based on best practices and stakeholder interviews	Alignment of recruitment and selection practices to program objectives Perspectives on the clarity, fairness, and transparency of the recruitment and selection process Perspectives on the value of key recruitment steps and actors' contributions Proponents' reasons for discontinuing the process	Formal and informal expressions of interest, by wave Amounts approved and obligated versus funding targets, (by wave, as applicable) Median/maximum and minimum days from application to approval/obligation, by wave	✓	✓	
	RQ3. Is the fund being managed well, and is it efficient?	Mixed-methods analysis of the fund's recruitment, selection, and management processes, based on best practices and stakeholder interviews	Quality of fund management		✓	✓	
Applicant characteristics and perceptions	**RQ4. What types of proposed investments is the fund attracting?** Are applicants and awardees existing investors in El Salvador or new ones? Was there qualified demand for public goods—did enough applicants meet the basic requirements?	Mixed-methods analysis of stakeholder perceptions and applicant/awardee characteristics		Country of origin of applicants Number and proportion of proponents that were eligible, by wave Number and proportion of eligible proponents that were approved, by wave	✓	✓	

TABLE IV.7 (CONTINUED)

	Key evaluation questions	Analytic approach	Key constructs and indicators		Data collection rounds		
Applicant characteristics and perceptions	**RQ5. Do potential investors see ESIC as an appropriate tool to leverage investment?** What type of investment is needed for private investment (especially foreign) to be established in the tradeable sector?	Qualitative assessment of stakeholder perceptions, drawing from interviews with awardees and non-awardees	Perceptions on the value of ESIC and current investment gaps; perceived interest in a publicly administered program similar to ESIC post-compact		✓	✓	
	Questions on ESIC results	**Outcome analysis**	**Qualitative constructs**	**Quantitative indicators**	**1**	**2**	**3**
Effects for GoES	**RQ6. Was the fund an effective mechanism for allocating public money to higher-return projects?** Did it improve GoES decision making? Would GoES have invested in the public good anyway?	Mixed-methods assessment	Perceptions of the fund's effectiveness and effect on GoES decision making	Rates of return of approved versus rejected projects	✓	✓	
Effects on investment, employment, and growth	**RQ7. How has the investment challenge spurred more private investment in El Salvador?** Were private sector cost-sharing amounts calculated appropriately? If subsidization is taking place, how could it be avoided in future fund designs?	Trend analysis of private investment, employment, and net income, complemented by qualitative analysis of stakeholder accounts	Perceptions of reasons for (lack of) changes in investment Perceptions on the accuracy of cost-sharing estimates	Changes in awardees' investment Cost-sharing amounts for awardees		✓	
	RQ8. What type of impact did the total investment (public and private) have on awardees in terms of employment and business outcomes?	Trend analysis of private investment, employment, and net income, complemented by qualitative analysis of stakeholder accounts	Perceptions of reasons for (lack of) changes in employment and net income	Changes in awardees' self-reported employment and net income			✓
Social effects	**RQ9. To what extent are the selected investments expected to generate positive environmental and social (employment opportunities for men and women, productive activities at the local level, human capital development, etc.) impacts?** How? Are the expected impacts significant? Are they likely to be achieved? To what extent are the investments promoting gender equality? How?	Qualitative assessment of stakeholder perceptions	Perceptions of environmental and social impacts			✓	✓

GoES = Government of El Salvador; ESIC = El Salvador Investment Challenge; ISSS-*Instituto Salvadoreño de Seguridad Social* (Salvadoran Social Security Institute).

2. ESIC data collection plan

To answer all qualitative research questions on ESIC implementation and results, we will conduct a desk review, KIIs, and FGDs. Below, we discuss each category of data source in detail, including the specific data sources, analysis approach, and timing. Table IV.8 summarizes sample sizes, key areas of focus, and timing of KIIs and FGDs.

(i) **Desk review.** We will begin the implementation analysis with a desk review of all ESIC design documents, manuals, and reports in late 2018. Based on this review, we will characterize the three distinct phases of ESIC program implementation—including each phase's timeline, number of applicants, number of awardees, and total investment amount. (See Table C.5 in Appendix C for a potential framework for this characterization.) During the desk review, we will also identify any substantive changes that were made to the ESIC manual between phases—particularly with respect to the selection process and criteria—and summarize any written documentation of the rationale for these changes. We will also document any changes in the fund's identification or funding strategy, including the emergence of cluster-focused grant-making.

(ii) **KIIs with implementers, donors and investment committee members.** In 2018 and 2020 (rounds 1 and 2), we will conduct key informant interviews with FOMILENIO II staff, the MCC technical lead, and members of the ESIC investment committee to discuss program recruitment, selection, and management, as well as the activity's effect on private investment in the case of projects that are underway at the time of the interviews. Committee members will be selected based on their role in committee deliberations and their relevant experience. To ensure diversity of perspective, we will interview two private sector representatives and two public sector representatives on the investment committee in each round of data collection.

(iii) **KIIs with ESIC applicants and awardees.** In rounds 1 and 2, we will interview representatives from the full set of awardees (at the time of data collection) as well as any applicants that advanced to the feasibility study stage but did not receive ESIC funding, either due to a failure to qualify or advance or a decision not to proceed. This approach will allow us to compare and contrast awardees' and non-awardees' perspectives on the fund's recruitment and selection process, and on whether they consider ESIC an appropriate tool for leveraging private investment. In 2023 (Round 3), however, we will interview only ESIC awardees, with the goal of better understanding any emerging effects of the fund's public goods on awardees' investment, employment, and net income, as well as other environmental and social outcomes. These interviews will likely feature a quantitative module on the awardees' investments, employment, costs, sales, and profits, complemented by qualitative modules that explore awardees' perspectives on the extent to which ESIC funding helped generate these outcomes.

(iv) **FGDs with firms that expressed initial interest.** In Rounds 1 and 2, we will conduct focus groups with a randomly selected sample of representatives from firms in target sectors that expressed initial interest in ESIC but did not proceed to pre-feasibility assessments, either due to choice or because they did not meet the eligibility criteria. FGDs will allow us to capture these firms' perspectives on the fund's recruitment and selection processes, and whether they think ESIC is an appropriate tool to leverage private investment. Holding separate focus groups with firms from different waves will allow us to compare and contrast

interested firms' experiences with ESIC across different waves. We will randomly select firms for FGDs from the full set of firms that expressed initial interest in the fund, but we will stratify by firm sector (agribusiness, plastics, industry, etc.) or proposed project type (physical infrastructure, training, etc.) to ensure diverse perspectives. If logistical issues make it infeasible to convene stakeholders in one location for FGDs, we may conduct phone interviews with a random sample of firms that expressed initial interest.

Table IV.8. Sample sizes and key areas of focus for ESIC evaluation, by data source

Data source	Data collection method	Sample size	Key areas of focus		
			Round 1	Round 2	Round 3
			Late 2018	2020	2023
FOMILENIO II, MCC, and four investment committee members (from PROESA, *Bandesal*, MINEC, *SETEPLAN*, and *Consejo para el Crecimiento*)	KIIs	12: 6 per round	***Implementation (Waves 1 and 2):*** • Perspectives on the appropriateness, efficiency, and effectiveness of fund recruitment, selection, and management • Perspectives on the value of key recruitment steps and actors' contributions • Perceptions on value of ESIC and public interest in a similar program post-compact ***Early effects:*** Changes in investment	***Implementation (Wave 3):*** • Perspectives on the appropriateness, efficiency, and effectiveness of fund recruitment, selection, and management • Perspectives on the value of key recruitment steps and actors' contributions • Perceptions on value of ESIC and public interest in a similar program post-compact ***Early effects:*** • Changes in investment	n.a.
Awardees	KIIs	Up to 15 per round	***Implementation (Waves 1/2):*** • Perspectives on the clarity, fairness, and transparency of the recruitment and selection process • Perceptions on value of ESIC and existing investment gaps	***Implementation (Wave 3):*** • Perspectives on the clarity, fairness, and transparency of the recruitment and selection process • Perceptions on value of ESIC and existing investment gaps ***Early effects (All waves)*** • Changes in investment	***Mature effects (All waves):*** • Changes in employment and net income • Environmental, gender, and social impacts
Non-awardees that progressed to feasibility studies	KIIs	Up to 5 per round	***Implementation (Waves 1/2):*** • Perspectives on the clarity, fairness, and transparency of the recruitment and selection process • Proponents' reasons for discontinuing the process • Perceptions on value of ESIC and existing investment gaps	***Implementation (Wave 3):*** • Perspectives on the clarity, fairness, and transparency of the recruitment and selection process • Perceptions on value of ESIC and existing investment gaps	n.a.

TABLE IV.8 (CONTINUED)

Data source	Data collection method	Sample size	Key areas of focus		
			Round 1	Round 2	Round 3
			Late 2018	2020	2023
Firms that expressed initial interest but did not advance	FGDs	4: 2 per round	***Implementation (Waves 1 and 2):*** • Perspectives on the clarity, fairness, and transparency of the recruitment and selection process • Proponents' reasons for not advancing in the process • Perceptions on value of ESIC and existing investment gaps	***Implementation (Wave 3):*** • Perspectives on the clarity, fairness, and transparency of the recruitment and selection process • Perceptions on value of ESIC and existing investment gaps	n.a.

n.a. = not applicable.

3. ESIC analysis plan

a. Implementation analysis

The first task in the implementation analysis is to assess the ESIC manual, including the clarity of selection criteria, the alignment of manual guidelines and processes with GoES objectives, and the appropriateness of guidelines to minimize gender discrimination, enhance gender equality, and minimize negative social and environmental impacts (RQ1). Table IV.9 shows our approach to these analyses.

Next, we will analyze the fund's recruitment, selection, and management (RQ2-3). Once the ESIC application data are complete and available, we will use them to determine whether the recruitment and selection processes were effective in achieving GoES's goals. To do this, we will compare the characteristics of awardees with those of non-awardees that progressed to the pre-feasibility or feasibility assessment stage, with the assumption that awardees should have higher expected rates of return and private-public investment ratios, stronger potential to promote gender equality, and lower environmental risk. In addition, we will calculate the number of days from application to grant obligation to get some insight into the overall efficiency of the selection process. We will complement this quantitative analysis with qualitative accounts of project implementation from FOMILENIO II staff and participating firms. (Table IV.9 describes the key concepts we will use in our analysis of the fund's selection and management.)

Table IV.9. Approach to assessing key ESIC implementation concepts

Concept	Analytical approach
Manual assessment	
Clarity of selection criteria	• Assessment of the degree to which selection criteria are (1) specific, (2) time-bound (if relevant), and (3) can be measured objectively and reliably
Appropriateness of selection criteria	• Separately for private investment and public good: map each selection criterion to one or more program objectives, with the goal of determining that each program objective is represented by at least one criterion
Appropriateness of criteria and guidelines to minimize gender discrimination, enhance gender equality, and minimize negative social and environmental impacts	• Assessment of the degree to which the selection criteria/guidelines capture key phenomena of interest, as compared to best practices in grant fund management
Recruitment and selection	
Extent to which manual is being followed	• Assess the extent to which stakeholders are conducting the four key steps to selection (*registro, pre-factibilidad, factibilidad, ejecución*) outlined in the manual, and applying pre-defined criteria at each step • Assess the extent to which the investment committee complies with its 10 primary responsibilities in the manual • Assess the extent to which basic eligibility criteria are applied accurately and consistently • Assess the extent to which projects are selected on rate of return (30%), leverage (50%), and socio-environmental and gender impacts (20%)
Effectiveness of the recruitment process	• Analyze the degree to which promotional activities and materials resulted in formal and informal expressions of interest in each wave[a]

TABLE IV.9 (CONTINUED)

Concept	Analytical approach
Recruitment and selection	
Effectiveness of the selection process	• Assess awardees on rate of return, leverage, and social and environmental outcomes. Compare leverage to MCC-defined internal goal of 3:1 private-to-public leverage ratio.
Efficiency of the review and selection process	• Calculate median/minimum and maximum days from application to approval/obligation, by wave, and identify any reasons for delays or particularly speedy approvals.
Fund management	
Quality of fund management	• Assess extent to which an awardee monitoring strategy is in place • Assess extent to which budgetary and funding targets are set and tracked • Assess extent to which awardee risks are monitored and addressed

[a] The process of submitting formal and informal expressions of interest varied between waves; as such, we will not compare and contrast number of expressions of interest received in one wave versus another

To determine what types of proposed investments the fund is attracting and whether there was qualified demand for public goods (RQ4), we will analyze and report the number of applications by sector, investment type, and applicant country of origin, as well as the proportion of applications that met basic eligibility requirements and the proportion of applicants that were selected, by wave. We will rely on purely qualitative methods to distill stakeholder perceptions on whether potential investors see ESIC as an appropriate tool to leverage investment (RQ5), and to explore whether stakeholders believe the fund changed GoES's investment decision-making (RQ6). These two questions are of particular interest to MCC and FOMILENIO, as they probe the will and interest on the part of GoES to adopt the API model in the post-compact period. Mathematica will therefore devote more time and attention to the analysis of these questions among all questions that will be answered qualitatively. We will compare and contrast different parties' perspectives on these topics, and document any GoES plans to adopt ESIC practices.

b. Outcome analysis

Because no valid comparison group can be identified for the ESIC outcome analysis, we propose a **longitudinal trend analysis** of how awardees' investment, employment, and net income changed over time since the ESIC award (RQ7-8-9). We will use administrative data from ESIC applications and awardee monitoring reports for this analysis, in addition to key informant interviews with all awardees during the compact and post-compact period. We will complement this quantitative trend analysis with a qualitative analysis of grantees' own accounts of how the ESIC funding enhanced their programs, or the extent to which they would have made investments, generated new employment, and/or increased their profitability in the absence of the ESIC award.

To facilitate the trend analysis, we will obtain and organize data from ESIC applications, awardee monitoring reports, and awardee follow-up interview data into an applicant/awardee database that features panel data for each awardee. Table IV.10 summarizes the data sources and indicators we plan to use for the analysis, as well as their availability, reporting frequency, and intended use in the evaluation. Table C.6 in Appendix C presents a template for the applicant/awardee database. To the extent that data that can be disaggregated by gender of firm

owners, we will assess gender differences in the trend analyses and use KIIs and FGDs to provide possible explanations for the differences.

Table IV.10. Indicator and data sources for the ESIC trend analysis

Indicator	Source	Available for	Reporting frequency	Used for
Rate of economic return	Application materials	All applicants with pre-feasibility studies	Once during the application process	Implementation analysis: effectiveness of the recruitment and selection process
Private/public investment ratio	Application materials	All applicants with pre-feasibility studies	Once during the application process	Implementation analysis: effectiveness of the recruitment and selection process
Socio-environmental and gender impacts	Application materials	All applicants with pre-feasibility studies	Once during the application process	Implementation analysis: effectiveness of the recruitment and selection process
Number of days from application to approval	ESIC administrative data	All awardees	n.a.	Implementation analysis: efficiency of review and selection process
Number of FTEs in the tradeable sector generated by the project (by gender if available)	Monitoring reports	All awardees	Reported to FOMILENIO II every 6 months	Outcome analysis: change in awardees' employment status
Average monthly salary earned by employees (by gender if available)	Monitoring reports	All awardees	Reported to FOMILENIO II every 6 months	Outcome analysis: change in awardees' average salary
Value of exports linked to the investment challenge	Monitoring reports	All awardees	Reported to FOMILENIO II every 6 months	Outcome analysis: change in awardees' exports
Total private investment leveraged by ESIC award	Mathematica KIIs with awardees	All awardees	Up to 3 times: 2018, 2020, and 2023	Outcome analysis: change in awardees' investment Outcome analysis: verification of cost-sharing amounts and ex ante investment ratio
Firm's total employment (in FTEs)	Mathematica KIIs with awardees	All awardees	Up to 3 times: 2018, 2020, and 2023	Outcome analysis: change in awardees' employment
Firm's net income	Mathematica KIIs with awardees	All awardees	Up to 3 times: 2018, 2020, and 2023	Outcome analysis: change in awardees' business outcomes

Notes: Net income is calculated by subtracting cost of sales, operational expenses, depreciation, amortization, interest, and taxes from total revenue.

n.a. = not applicable.

D. The PPP performance evaluation

1. PPP research questions and approach

As noted, the PPP performance evaluation will feature a mixed-methods **implementation analysis** that uses a political economy approach to answer a series of questions on the quality of PPP implementation—including GoES and GoG officials' execution of their PPP roles—as well as an **outcome analysis** that will rely on a longitudinal trend design to assess changes in the countries' capacity to design and execute PPPs. To the extent possible, we will compare the implementation experiences and outcomes of El Salvador and Guatemala in the performance evaluation. Overall, data collection in late 2018 (round 1) and 2020 (round 2) will focus on assessing program implementation before the end of the compact/threshold period, whereas data collection in 2023 (round 3) will focus on measuring the PPP activities' effects after the compact/threshold period. Table IV.11 shows the key research questions that the PPP activities are designed to answer, our analytical approach, the key indicators, and the timing of data collection.

Table IV.11. PPP activities: research questions, proposed analytic methods, and data collection timing

	Key evaluation questions	Analytical approach	Key constructs and indicators		Rounds		
	Questions on PPP activity implementation	**Implementation analysis**	**Qualitative constructs**	**Quantitative indicators**	**1**	**2**	**3**
Adherence to laws and best practices	**RQ1. Did the GoG/GoES follow the PPP law in developing and managing PPP projects? Did they follow best international practice in developing and managing PPP projects?**	Qualitative assessment	Adherence to the PPP laws and international best practices		✓	✓	✓
Implementation context	**RQ2. What role did political and institutional contexts play in implementing PPPs in both countries?**	Qualitative analysis with a political economy lens	Implementation barriers and facilitators linked to political forces, institutional factors, and the investment climate		✓	✓	✓
Quality of studies and assessments	**RQ3. How well was the ex-ante CBA done for each PPP?** How good was the PPP's financial model and business case, including the demand study and the ability of the government and users to pay? What was the quality of the government's assessment of PPP costs and benefits from a technical, financial, economic, environmental, social, legal, and political perspective?	Assessment of CBAs for implemented PPPs	Overall quality of CBAs, financial models, and VfM studies—with a focus on the face validity of key assumptions		✓	✓	
MoF, line ministry and regulator performance	**RQ4. How good were the MoF's assessment and management of its direct payment and contingent liability obligations arising from the PPP?**	Mixed-methods analysis, Assessment of MINFIN analysis for tendered PPPs	Perceptions of MoF, line ministry, and regulator effectiveness in their assigned PPP roles				✓
	How effective were the "*concedente*" (line ministry that signed the concession) and the regulator in managing and regulating the concession after it was signed?	Mixed-methods analysis, Assessment of MINFIN analysis for tendered PPPs	Perceptions of MoF, line ministry, and regulator effectiveness in their assigned PPP roles				✓
Configuration of assistance	**RQ5. Does MCC's three-pillar approach to PPP assistance meet stakeholder needs?** Were any pillars more useful than others? How could the three-pillar approach be improved?	Qualitative analysis that consolidates stakeholder accounts	Reflections on the utility of the three-pillar approach; suggested improvements		✓	✓	
	Questions on the PPP activity results	**Outcome analysis**	**Qualitative constructs**	**Quantitative indicators**	**1**	**2**	**3**
Effects on public capacity and institutions	**RQ6. How did training and coaching outcomes differ between the two countries?**	Descriptive analysis of monitoring indicators from training activities, cross-country comparison	Stakeholder accounts of the value of training/coaching and suggestions to improve them further	Number of individuals trained/certified; trainees' scores on exit exams (if available)	✓	✓	
	RQ7. To what extent did the project facilitate greater capacity for PPPs within GoES and GoG? How have institutional interactions normalized or been codified to support PPPs?	Mixed-methods analysis of capacity and institutional interactions	Stakeholder accounts of administrative, technical, and leadership capacity of PPP authorities and regulators	Infrascope indicators: institutional framework, regulatory framework and operational maturity sub-scores		✓	✓
Effects on Investment	**RQ8. To what extent has the PPP Activity resulted (or is it likely to result) in greater private investment in key infrastructure projects?**	Mixed-methods analysis	Stakeholder accounts of private investment generated by the activity	Private investment estimates from finalized business cases and studies			✓
Effects on public finance and education	**RQ9. What cost savings accrue to GoES and GoG through the PPPs?**	Mixed-methods analysis	Stakeholder accounts of cost savings	Cost savings outlined in VfM and budgetary impact assessments			✓
	RQ10. [If applicable] Were costs savings used for education investments?	Mixed-methods analysis	Stakeholder accounts of budget allocations/transfers	Annual budget outlays			✓

CP3P = Certified Public-Private Partnership Professional; MoF = Ministry of Finance; PPIAF =The Public-Private Infrastructure Advisory Facility, CBA = cost-benefit analysis; VfM = Value for Money; PFRAM = PPP Fiscal Risk Assessment Model

2. PPP data collection plan

To answer the research questions of the PPP performance evaluation, we will conduct a desk review, interviews, and focus groups. Below, we discuss each data source in detail, including our selection approach and timing. (See Table IV.12 for sample sizes and areas of focus for KIIs, FGDs and phone interviews.)

(i) **Desk review**. In late 2018, we will begin a desk review of PPP project documents, the legal and regulatory framework for PPPs in El Salvador and Guatemala, and best practices with respect to developing and managing PPPs, particularly in Latin America. We will also review all materials used in PPP trainings as of late 2018. In addition, we will use narrative reports from PROESA, FOMILENIO, and PPP coaches to start characterizing each of the MCC-supported PPPs in El Salvador and Guatemala, updating our records with each new development. This exercise will also involve reviewing documents from the pre-compact period, as some MCC-supported PPPs were identified and pre-selected by stakeholders before compact and threshold program development. Over time, we will develop implementation timelines and project summaries for each PPP. The summaries will note instances in which other actors—including the World Bank and Inter-American Development Bank—made substantive contributions to MCC-supported PPPs in development, with the goal of documenting potential complementary activities or duplication among donors. (See Table C.7 in Appendix C for a simple template for PPP implementation timelines and summaries.) We will also compile and update a full list of all individuals who received MCC-funded PPP training during the compact period.

(ii) **KIIs with implementers, donors, coaches and firms.** Next, we will deepen our understanding of the PPP activities' implementation and results in El Salvador and Guatemala by conducting KIIs with stakeholders during all three rounds of data collection. In addition to interviewing MCC technical staff, we will interview officials from MCC counterparts in each country (FOMILENIO II in El Salvador and PRONACOM in Guatemala), representatives of the agencies leading PPP activities in each country (PROESA in El Salvador and ANADIE in Guatemala), PPP coaches (during the first two rounds of data collection, before compact close-out), and representatives of the firms that secured PPP contracts. During KIIs, we will explore cross-cutting issues common to both countries, including the institutional capacity of the GoES and GoG to promote and launch PPPs, and the effectiveness of each country's ministry of finance in assessing PPPs. During the final round of interviews, we will also explore stakeholders' perceptions on whether and how the PPPs increased private funding of key infrastructure projects.

(iii) **FGDs and phone interviews with trainees**. We will also conduct FGDs and phone interviews with PPP trainees in 2018 and 2020 to get their perspectives on the value of training and coaching, and any suggestions they may have to improve training and coaching in future programs. We will likely stratify these focus groups by training wave to facilitate some analyses of potential changes in trainees' experiences as the trainings progressed and evolved. We expect to hold FGDs with training participants in cases where several participants are co-located—for example, at PROESA, ANADIE, and ministries of finance. However, we also expect to conduct some phone interviews of trained line ministry and private sector representatives as needed.

Table IV.12. Sample sizes and key areas of focus for PPP evaluation, by source

Data source	Data collection method	Sample size and data type	Key areas of focus		
			Round 1 Late 2018	Round 2 2020	Round 3 2023
Training participants from PPP authorities, ministry of finance, line ministries, private sector, etc.	FGD	4: 1 per round, per country	***Implementation:*** Value of training and suggestions to further improve it	***Implementation:*** Value of training and suggestions to improve it	n.a.
PPP coaches	KII, trip reports and deliverables	4: 1 per round, per country	***Political economy context*** • Actors and interests, institutions, power structures, and political factors ***Implementation:*** Initial reflections on the three-pillar approach Adherence to the PPP laws and best practices	***Implementation:*** Overall quality of (pre)feasibility and VfM studies Final reflections on the three-pillar approach Adherence to the PPP laws and best practices Effect of politics and institutional factors on PPPs ***Early effects:*** Administrative, technical, and leadership capacity of PPP authorities and regulators	n.a.
FOMILENIO II, PRONACOM	KII	4: 1 per organization, per round	***Political economy context*** • Actors and interests, institutions, power structures, and political factors ***Implementation:*** Initial reflections on the three-pillar approach Adherence to the PPP laws and best practices	***Implementation:*** Overall quality of (pre)feasibility and VfM studies Final reflections on the three-pillar approach Adherence to the PPP laws and best practices Effect of politics and institutional factors on PPPs ***Early effects:*** Administrative, technical, and leadership capacity of PPP authorities and regulators	n.a.

TABLE IV.12 (CONTINUED)

Data source	Data collection method	Sample size and data type	Key areas of focus		
			Round 1 Late 2018	Round 2 2020	Round 3 2023
MCC, PROESA/ANADIE, Ministries of Finance, line ministries	KII	Up to 15: 1 per organization per round	***Political economy context*** • Actors and interests, institutions, power structures, and political factors ***Implementation:*** Initial reflections on the three-pillar approach Adherence to the PPP laws and best practices	***Implementation:*** Overall quality of (pre)feasibility and VfM studies Final reflections on the three-pillar approach Adherence to the PPP laws and best practices Effect of politics and institutional factors on PPPs ***Early effects:*** Administrative, technical, and leadership capacity of PPP authorities and regulators	***Post-compact implementation:*** MoF and line ministry performance Adherence to the PPP laws and best practices ***Mature effects:*** Administrative, technical, and leadership capacity of PPP authorities and regulators Increase in private investment resulting from the activity Cost savings resulting from PPPs
Transaction advisors and firms selected for PPPs	KII	Up to 10: 1 per advisor/firm, per round	***Implementation:*** Adherence to the PPP laws and best practices Overall quality of (pre)feasibility and VfM studies Effect of politics and institutional factors on PPPs	***Implementation:*** Adherence to the PPP laws and best practices Overall quality of (pre)feasibility and VfM studies Effect of politics and institutional factors on PPPs	***Post-compact implementation:*** MoF and line ministry performance Adherence to the PPP laws and best practices ***Mature effects:*** Administrative, technical, and leadership capacity of PPP authorities and regulators Increase in private investment resulting from the activity Cost savings resulting from PPPs
SEGEPLAN	KII	1	n.a.	n.a.	***Mature effects:*** Use of cost savings resulting from PPPs

n.a. = not applicable.

TABLE IV.12 (CONTINUED)

VfM = Value for Money; MoF = Ministry of Finance; FGD = focus group discussion; KII = key informant interview; PPP = Public-private partnership; FOMILENIO II = Fondo del Milenio II; PROESA = *Agencia de Promoción de Exportaciones e Inversiones de El Salvador*; ANADIE = *Alianzas para el Desarrollo de Infraestructura Económica;* SEGEPLAN = *Secretaria de Planificación y Programación de la Presidencia (Guatemala)*

3. PPP analysis plan

a. Political economy mapping

Following the first round of data collection in late 2018, we will first construct a basic mapping of the political economy of public-private partnerships in El Salvador. This mapping will provide the analytical lens through which we will address several research questions related to the implementation and results of MCC's PPP investments in El Salvador and Guatemala. The exercise involves gathering, organizing, assessing information on the following dimensions:[13]

- *Actors and interests:* This includes the key organizational and individual stakeholders in the realm of PPPs—including PPP authorities, potential line ministries and regulators, congress, private sector organizations, and potential utility users, among others—as well as the primary interests of each party with respect to specific PPPs and PPPs in general. PPP authorities and private sector organizations are likely highly favorable toward PPPs. Individual lawmakers may be somewhat divided on the social utility of PPPs and the political consequences of supporting high-profile PPPs. However, lawmakers are likely susceptible to pressure from their own parties—particularly in the case of lawmakers affiliated with ARENA, the pro-business party in El Salvador—as well as pressure from international donors (such as MCC). Individual users would likely have an interest in obtaining free infrastructure services, as opposed to paying a fee based on service use (Boardman and Vining 2012).
- *Power structures and accountability:* This includes the formal and informal power relationship between PPP authorities (who play to role of promoting PPPs) and MoFs (who play the role of conducting due diligence on PPPs). This relationship is critical because if one institution can exert more political power than the other, the quality and quantity of tendered PPPs can be suboptimal. This also includes an understanding of how authority, decision-making power, and leadership are exercised in congress with respect to authorizing individual PPPs. Also critical is an understanding of how accountability functions (or doesn't function) within the system—particularly with respect to line ministry and regulator capacity and willingness to enforce PPP contracts and regulations, respectively.
- *Political and social tensions:* This includes any long-standing political or social conflicts or tensions in the PPP space. Presumably, unions would be against specific PPPs that threaten their members' job security. Similarly, civil society groups could mobilize against specific PPPs or PPPs in general, given likely negative associations between PPPs and privatizations that occurred in Latin America in recent decades.
- *Institutions and rules:* This includes the legal and bureaucratic framework by which actors must abide when developing, adopting, and implementing PPPs, including any official or unofficial 'rules of the game' and how those rules are enforced. This includes the legal framework established by recent PPP laws in El Salvador and Guatemala, as well as the

[13] These dimensions are based on a draft MCC political economy toolkit document shared with Mathematica in May 2018.

extent to which actors abide by these laws. It also includes the regulations that apply to each PPP.

b. Implementation analysis

Once the initial political economy mapping is complete, we will turn to the implementation analysis. Drawing on the findings of the desk review and stakeholder interviews, we will assess how well PPPs complied with relevant laws (RQ1). It will be particularly important to determine whether all parties completed all key steps to PPP development outlined in the legislation in a transparent manner and in good faith—including evaluation, contract structuring, and procurement (Table IV.13). We will also compare the implementation of PPPs to international best practices, with a focus on assessing whether a PPP structure presented more value for money (VfM) than conventional procurement for all projects, whether each project's structure ensured some degree of bankability while protecting VfM and maximizing social benefits, and whether risks were properly allocated across actors (Table IV.14).

Table IV.13. Key aspects of the PPP laws

	El Salvador	Guatemala
Sectors	• Any sector except direct services in health, water, education, and security[a]	• Any sector except water, education, and health
Conditions	• Minimum investment amount: $13.5 million • Maximum project timeline: 40 years	• No minimum investment amount • Maximum project timeline: 30 years
Roles	• PROESA: plan, select, develop, assess, and help implement PPPs • Line ministries: Implement PPPs • *Hacienda*: Conduct fiscal viability analysis and manage direct payment and contingent liability obligations • OFAPP: Supervise and regulate PPPs	• ANADIE: plan, select, develop, assess, and help implement PPPs; supervise and regulate PPPs • Line ministries: Implement PPPs • *Finanzas Publicas*: Conduct fiscal viability analysis and manage direct payment and contingent liability obligations
Approval process	Two legislative approvals required: one before the contract is structured and one before the contract is signed	• One legislative approval required before the contract is signed
Key steps	Identification, evaluation, PPP authority approval, first legislative approval, structuring and contract, procurement, second legislative approval, signing, construction, operation, termination and transfer	• Identification, evaluation, PPP authority approval, structuring and contract, procurement, legislative approval, signing, construction, operation, termination and transfer

PROESA = *Agencia de Promoción de Exportaciones e Inversiones de El Salvador*; ANADIE = *Alianzas para el Desarrollo de Infraestructura Económica*; OFAPP = *Organismo Fiscalizador de Asocios Públicos-Privados*

[a]In health, education and security, infrastructure construction and maintenance are permitted. In water, treatment projects for San Salvador, Santa Ana, and San Miguel are permitted.

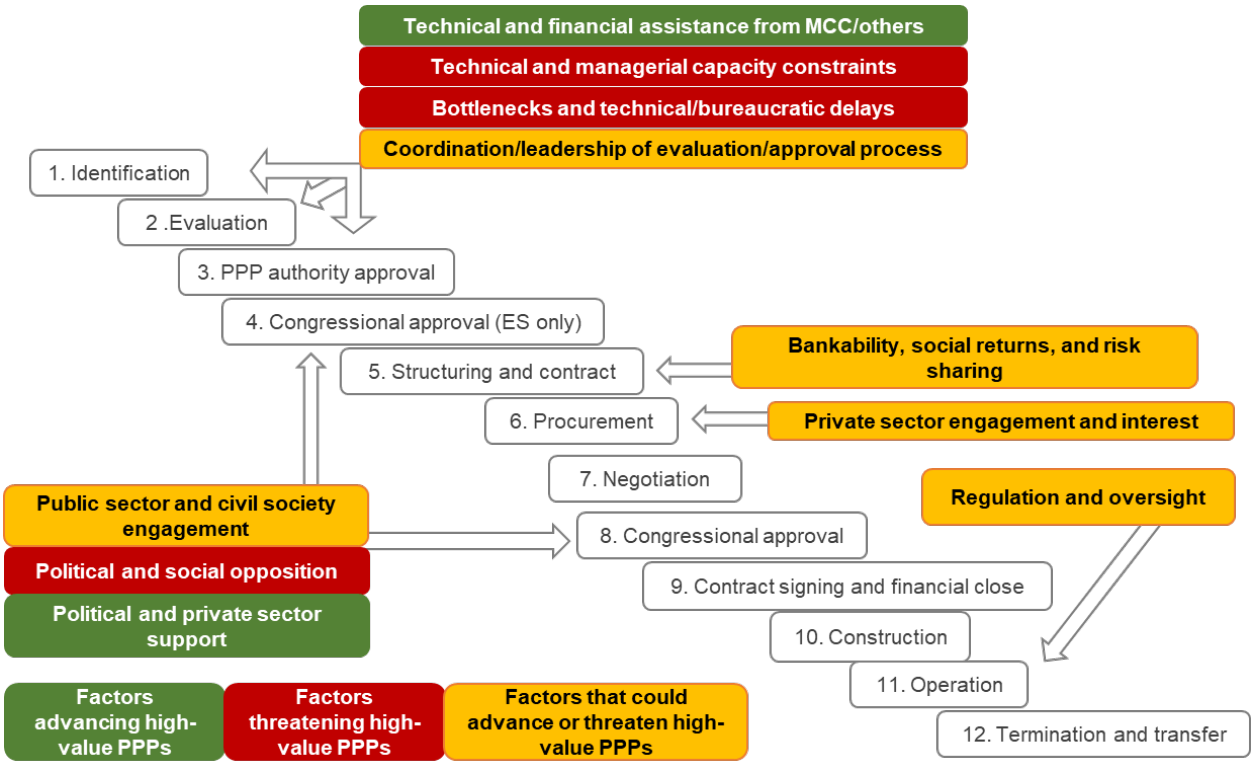
Table IV.14. Best practices for PPPs, by steps in the PPP life cycle

Identification	• Pilot PPPs are selected on objective criteria (Espelt 2015).
Technical merit	• The project provides an adequate technical solution for a public need (World Bank Group 2016b).
Suitability for a PPP	• The PPP process delivers a better VfM outcome than traditional project methods would (World Bank Group 2016b).
Structuring	• The project's structure ensures bankability while protecting VfM and allowing value drivers to emerge (World Bank Group 2016b). • Private investment is leveraged under a "project finance" structure to involve a private partner in managing whole-of-life costs, if possible (World Bank Group 2016b). • Room is allowed for innovation by focusing remuneration on results or "output specifications," instead of on inputs (World Bank Group 2016b). • Quality elements are incorporated into the payment mechanism (World Bank Group 2016b). • Risks are properly allocated, potential fiscal impact of risks is reasonable, and mitigation plans are in place for key risks (International Monetary Fund). • Government guarantees are not excessive (De la Torre and Rudolph 2015).
Tendering	• PPPs are tendered through a transparent public competitive process (World Bank Group 2016b).
Managing	• Management is proactive in maximizing VfM over the life of the contract (World Bank Group 2016b).
All steps	• The government and its procuring authorities develop in-house technical and management skills, and there are infrequent changes in the project team (World Bank Group 2016b). • PPP authorities have the ability to take and manage decisions, and they work effectively with skilled advisors to properly manage the process (World Bank Group 2016b). • Quality control mechanisms are in place at all key steps (World Bank Group 2016b) • There is project ownership and leadership at all stages—including advocacy on the part of key PPP advocates (World Bank Group 2016b). • PPP authorities identify the right stakeholders and communicate with them throughout the process (World Bank Group 2016b). • PPPs are developed along realistic time scales that are at least somewhat independent of political forces (World Bank Group 2016b)

VfM = Value for Money

Next, we will assess the role that political and institutional factors played in implementing PPPs in both countries (RQ2). Drawing from our political economy mapping and Round 1 interviews, we will identify factors advancing high-value PPPs (in green), factors threatening high-value PPPs (in red), and neutral factors that could either advance or threaten each MCC-supported PPP at key stages of development and implementation (Figure IV.3). In this model, high-value PPPs—or PPPs that maximize social benefits while maintaining a minimal but sufficient degree of bankability—progress successfully to the operation stage if PPP authorities and other key actors are successful in leveraging supporting factors, minimizing threatening factors, and converting neutral factors to supporting factors, as feasible.

Figure IV.3. Factors that could influence PPP success, by stage



We will also assess the CBA business case used for drafting each PPP to determine whether they: (1) adhere to international best practices with respect to technical, financial, economic, environmental, social, legal, and political analysis; (2) rely on reasonable assumptions and sound data, and make logical assertions (RQ3). Because the conclusions of CBA business cases often heavily depend on the methodology and assumptions underlying the models, we will devote most of the assessment to examining the face validity of assumptions, and comparing the assumptions to those used for similar types of projects, if available.

To assess the performance of the MoF's initial assessment of its liability obligations and the financial risk of PPPs, we will determine whether the assessment conformed to the World Bank-developed PPP Fiscal Risk Assessment Model (P-FRAM) framework (RQ4). To assess the performance of each line ministry and regulator, we will compare the ministry's and regulator's performance to international best practices, including but not limited to the following: (1) the line ministry and regulator have established capacity and enforcement mechanisms at the time of the concession, (2) the line ministry dictates and enforce key aspects of the contract, and (3) the regulator outlines all requirements and necessary regulations at the outset of the contract.

c. Outcome analysis

We plan to conduct a descriptive analysis of outcomes from training activities in Guatemala and El Salvador, highlighting and explaining any notable differences in training outcomes between the two countries (RQ6). We will analyze administrative data and report outcomes such as number of trainees (by ministry/sector), course completion rates, and number of certified trainees. If possible, we will analyze post-training exam and follow-up survey data from

FOMILENIO II and ANADIE to understand and report trainees' mastery of the material and their training experiences. We will complement these quantitative analyses with qualitative findings from focus groups with trainees—particularly with respect to trainees' experience with courses and their suggestions to improve PPP trainings going forward.

Drawing from our qualitative interviews with stakeholders in both the public and private sectors, we will conduct a structured qualitative assessment of government capacity to develop and implement PPPs in both countries (RQ7). The capacity assessment will define key dimensions of government capacity implied by the necessary functions of PPP authorities, ministries of finance, line ministries, and regulators, as outlined in PPP laws and regulations. For example, the El Salvador PPP authority (PROESA) and its board of directors must have the capacity to: (1) evaluate and approve potential PPPs, (2) offer technical assistance on PPPs to other public authorities, (3) coordinate the effective implementation of PPPs with public and private parties, and (4) engage in public dialogue on PPPs, among other functions (*Decreto* 379, enacted in 2015 and revised in 2017). The capacity assessment will also examine staff turnover in PPP authorities, ministries of finance, regulators, and line ministries, because the turnover would have direct implications for authorities' institutional capacity to develop and manage PPPs.

We will also rely on qualitative stakeholder interviews to analyze whether institutional interactions have normalized or been codified to support PPPs (RQ7). Critical to this analysis is determining whether there is timely communication and transparent information sharing between PPP authorities, ministries of finance, line ministries, and regulators at key points in the development and management process. We will conduct this analysis using a political economy lens, as institutional interactions are largely a function of power dynamics and accountability structures within the executive branch.

To complement these qualitative assessments of government capacity, we will conduct a **longitudinal trend analysis** of Infrascope scores from before the compact/threshold period to after the compact/threshold period in both countries—with a focus on regulatory framework, operational maturity and institutional framework sub-scores. These sub-scores serve as proxy measures of government capacity to develop and manage PPPs, as well as the extent of coordination across government entities (Figure IV.4). We will also track the countries' performance on the single Infrascope indicator of public capacity to plan and oversee PPPs, as this is the most direct measure of government capacity to develop and implement PPPs.[14]

[14] However, this indicator has limited value, given that it has only five values: 0, 25%, 50%, 75%, and 100%.

Background on the Infrascope Index

Developed and reported by the Economist Intelligence Unit, the Infrascope index measures a country's readiness and capacity to implement sustainable and efficient PPPs in key infrastructure sectors. On a periodic basis—ranging from every year to every five years, depending on the country—the Intelligence Unit research team conducts interviews with experts and reviews relevant legislation, literature, surveys, databases, and media reports for each country of interest. Based on this research, the team develops country-level subscores for the following five dimensions:

1. **Regulations** includes:
    a. Conducive regulatory environment
    b. PPP selection criteria
    c. Fairness/Openness of bids and contract changes
    d. Conciliation schemes
    e. Regulators' risk allocation
    f. Coordination among government entities
    g. Renegotiations
    h. Sustainability

2. **Institutions** includes:
    a. PPP institutional framework
    b. PPP dedicated agency, stability
    c. Project preparation facilities
    d. Transparency and accountability
    e. Experience with infrastructure

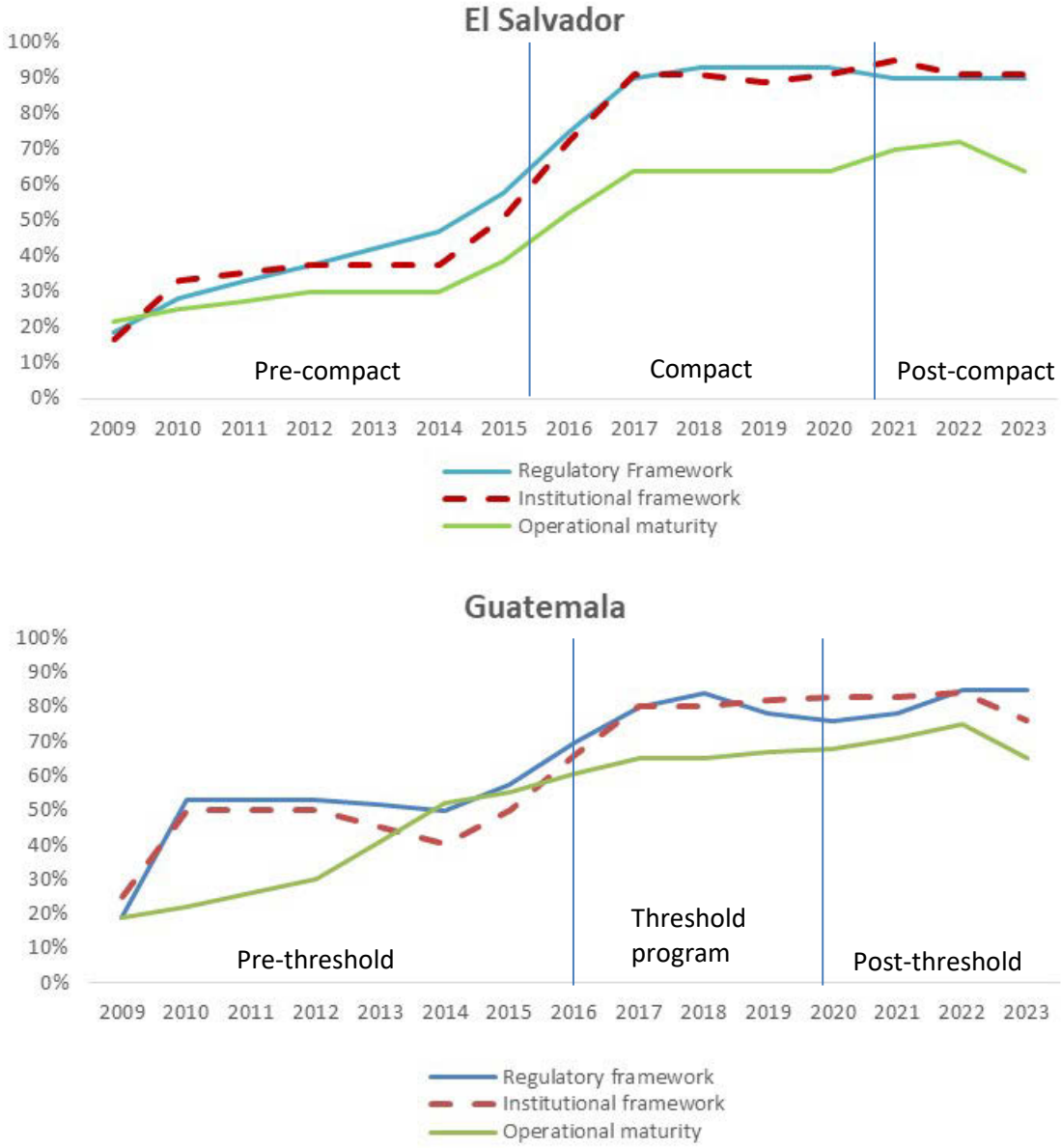
3. **Maturity** includes:
    a. Experience with infrastructure PPP contracts and service-performance project delivery
    b. Expropriation risk
    c. Contract termination

4. **Investment and business climate** includes:
    a. Political effectiveness
    b. Business environment
    c. Political will
    d. Competition environment in the local industry

5. **Financing** includes:
    a. Government payment risk
    b. Capital market for private infrastructure finance
    c. Institutional investors and insurance market development
    d. Currency risk

These subscores are weighted and aggregated to produce an overall country-level score. Countries are then ranked within their region based on their subscores and overall scores.

Figure IV.4. Infrascope subscores related to government PPP capacity and institutional interactions



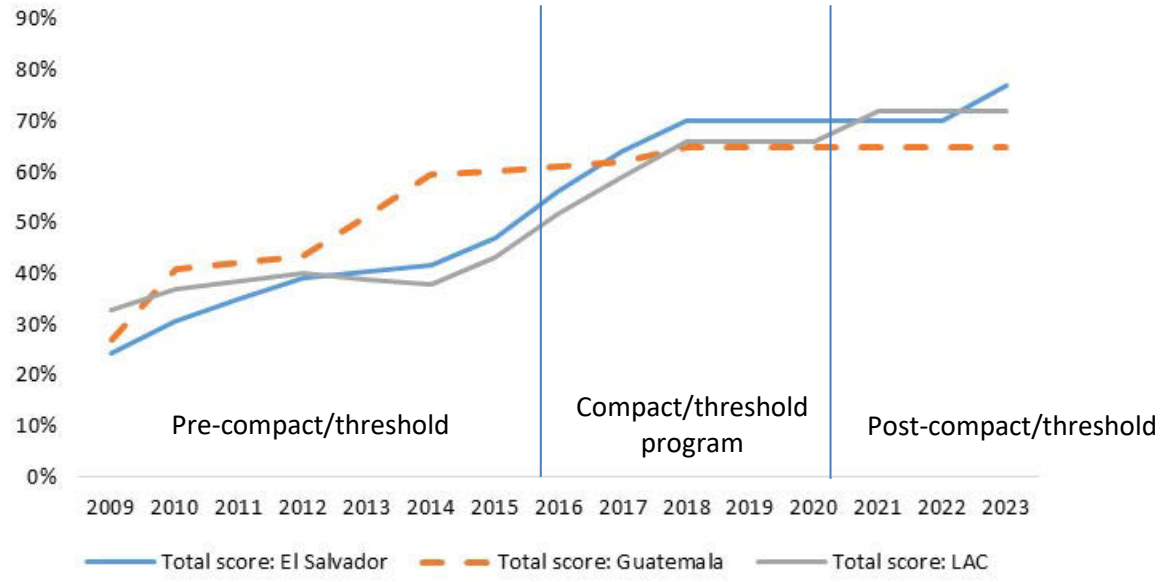
Source: Economist Intelligence Unit.

Notes: Data beyond 2018 are hypothetical. Regulatory framework scores reflect coordination among government entities, among other factors; institutional framework scores are based on the PPP authority's competency, stability and transparency, among other factors; operational maturity scores are based on the government's experience with transport, water and electricity PPPs, among other factors.

In addition, to contextualize any improvements in operational capacity and PPP institutions in El Salvador and Guatemala among Central American countries, we will undertake a benchmarking exercise using Infrascope indicators. We will compare the countries' total Infrascope scores and relevant sub-scores to the Central American regional average over time (see Figure IV.5). This benchmarking exercise is important to capture the extent to which El

Salvador and Guatemala outperform neighboring countries with respect to PPP readiness in a region that appears to be making rapid progress toward more and higher quality PPPs.

Figure IV.5. Total Infrascope scores: El Salvador, Guatemala, and LAC



Source: Economist Intelligence Unit.
Notes: Data beyond 2018 are hypothetical. LAC = Latin America and the Caribbean

In addition, we will use finalized business cases for implemented PPPs to estimate total private investment in key infrastructure projects as a result of PPPs in both countries (RQ8). We will complement the results of this quantitative analysis with qualitative stakeholder accounts of whether key assumptions in business cases largely held true once PPPs were operational.

We will use existing VfM and budgetary impact analyses to estimate cost savings to the GoES and GoG that occur through the implemented PPPs (RQ9). To better understand the ultimate effects of cost savings in Guatemala, we will also review changes in budget allocations by ministry and year to identify which, if any, ministries might be benefiting from cost savings (RQ10). In KIIs with government representatives—particularly staff at *Finanzas Publicas* and *Secretaria de Planificación y Programación de la Presidencia (SEGEPLAN)*—we will also explore the extent to which cost savings through PPPs were reallocated to social programs, as articulated in the initial program logic.

E. Cost benefit analysis

As part of its evaluation contract with MCC, Mathematica will calculate ex-post economic rates of return (ERR) for the Investment Climate Project (ICP). The ERR analyses that MCC conducts for its programs compare costs and benefits, where costs are the MCC-funded investments in each country and the benefits are increases in income for households, revenue for firms, or other value-added benefits at the household, firm, local, or national level. One important feature of the cost-benefit calculation is that MCC typically calculates benefits that can reasonably be attributed to its investments; that is, the benefits from the "with-project scenario" are compared to a counterfactual "without-project scenario." The comparison between these two

scenarios allows MCC to calculate the benefit of the MCC intervention over and above investments that would likely have taken place in the absence of a compact.

Mathematica proposes to calculate three distinct ERRs under this contract: one for the RIA, one for ESIC, and one for the PPP Sub-Activity in El Salvador.[15] We recommend developing distinct rates of return for each activity—as opposed to one single rate for the entire ICP—because each of these activities has a largely independent stream of benefits and costs. This means that investments in each activity are largely distinct from investments in other ICP activities, and benefits and costs of the three ICP activities are easily separated. Furthermore, estimating activity-level rates of return could provide MCC with valuable insights into the effectiveness of each activity, as all three are relatively new areas of investment for the agency.

1. General approach

Although no ex-ante ERRs were completed for the ICP, the RIA, ESIC, and PPP activities require that ex-ante cost-benefit analyses (CBAs) be completed for each proposed investment as part of program implementation. (For the purpose of this section, we define investment as each OMR-supported regulatory reform [under RIA], each awarded project within ESIC, and each signed PPP in El Salvador.) We propose to leverage these existing investment-level CBAs in creating activity-level ERRs.

To create ERRs in a systematic way across all three activities, we intend to execute the following five steps in sequence for each activity: (1) verify and update key benefits and costs in existing investment-level CBAs, (2) aggregate investment-level benefits and costs into activity-level benefits and costs, (3) add any additional MCC and FOMILENIO II costs not already included in previous steps, (4) generate activity-level ERRs using the most appropriate time horizon, and (5) conduct sensitivity tests. Below, we describe these steps in more detail.

Step 1: Verify and update benefits and costs in existing investment-level CBAs.

We will conduct the following seven substeps in sequential order:

1. Define the full set of investments to include in calculations. This includes (1) all OMR-facilitated regulatory reforms that were implemented by compact close-out for RIA, (2) all projects implemented by close-out for ESIC, and (3) all MCC-supported PPPs in El Salvador for which a contract was signed by close-out.
2. Define a preset time frame to examine costs and benefits for each activity. Unless the literature and investment-level CBAs stipulate otherwise, we will use the standard MCC 20-year time horizon.
3. Verify the full set and number of beneficiaries of each investment identified in substep 1. Beneficiaries of these investments include firms, employees, and communities directly benefiting from the investments—or some combination thereof—depending on each investment.
4. Verify the full monetary value of the benefits that have accrued (or will accrue) to the beneficiaries identified in substep 2 during the preset time frame; this is also done at the level of each individual investment. Some benefits will be captured in monetary terms but some will have to be monetized—for example, time savings from more efficient regulations. This substep will likely require us to update ex-ante estimates of benefits with true (ex-post) values, as well as to reassess key assumptions in existing CBAs with respect to the magnitude and permanence of benefit streams. Importantly, any benefits measured at the beneficiary level will be multiplied by the number of beneficiaries to estimate investment-level benefits.

[15] ERRs are not required for Threshold programs, so we will not be conducting a CBA of the PPP activity in Guatemala.

Step 1: Verify and update benefits and costs in existing investment-level CBAs.

5. Assess the without-project scenario for each investment and deduct the benefits that will have accrued under this scenario from the full set of benefits discussed in substep 4. This will provide an estimate of the benefits we can attribute to MCC's investment compact. For all three activities, we believe that some level of activity (reform in the case of RIA, private investment in the case of ESIC and new PPP development, approval and implementation) would have occurred in the absence of MCC assistance. Identifying the magnitude of the counterfactual activities and their likely benefits is of primary interest. To construct the without-project scenario, we will use a combination of interviews with stakeholders and experts, as well as available quantitative and qualitative data.
6. Verify the costs associated with investments identified in substep 1 during the preset time frame. These include ESIC awardees' capital investments, PPP construction costs, and interest paid, among other costs. (It is important to note that, unlike other MCC investments—in which the costs related to the activity are solely MCC and MCA costs—in the case of ESIC and PPP activities, there are significant private sector costs implied in each investment.) This substep will likely require us to update ex-ante estimates of costs with true (ex-post) values.
7. Deduct the costs that would have accrued under the without-project scenario from the full set of costs discussed in substep 6. This will provide an estimate of the costs we can attribute to MCC's investment compact. Similar to substep 5, interviews with stakeholders will be critical to determining this without-project scenario.

Step 2: Aggregate investment-level benefits and costs into activity-level benefits and costs.

In this step, we will aggregate all individual investment costs and benefits into a single stream of costs and a single stream of benefits for the activity. For example, in the case of the PPP Sub-Activity, we will aggregate the costs and benefits of up to three MCC-supported PPPs into a single cost and benefit stream for the entire sub-activity. Critical to this step is ensuring that all costs and benefits are aggregated in their appropriate years and adhere to the pre-set time frame for each activity.

Step 3: Add additional activity-level costs.

Certain administrative costs borne by MCC or FOMILENIO, such as for training, consultant fees, and staff salaries associated with managing or overseeing each of the sub-activities, might not be accounted for in investment-level costs covered in Step 2. However, these administrative costs should be included in the ERRs to fully reflect MCC's true opportunity cost of investing in these activities as opposed to others.

Step 4: Generate activity-level ERRs, accounting for time.

We will complete the following two substeps in order:

1. Calculate the net benefits (benefits - costs) for each year of the preset period, separately for each activity.
2. Calculate the discount rate where the net benefits over time equal zero. The discount rate is used to account for the fact that costs and benefits accrue over time and that benefits that are experienced now are more valuable than benefits accruing later. All else equal, higher overall net benefits require a higher discount rate in order to be "zeroed out": the higher the estimated ERR, the higher the project's value for the money expended.

Step 5: Conduct sensitivity tests.

Lastly, we will conduct sensitivity analysis to determine the robustness of ERRs. Specifically, we will examine the extent to which alternate without-project scenarios and assumptions with respect to benefit streams alter ERRs.

In the following three sections, we outline how we will tailor these steps to each activity or sub-activity.

2. PPP cost-benefit analysis (CBA) model

Verify and update benefits and costs in existing investment-level CBAs (Step 1). To assess the viability of each proposed PPP, MCC finances a series of pre-feasibility and feasibility studies, including an economic assessment that includes a detailed cost-benefit analysis. Therefore, we anticipate having access to detailed ex-ante cost and benefit data for each finalized MCC-supported PPP. Building upon the CBA methodology used in feasibility studies, we will use ex-post data—largely administrative data from the line ministries and regulators—to verify that key benefit streams occurred as planned. We will also rely on administrative data to update the costs associated with each investment. However, it is possible that one or more PPPs will not yet be operational when we conduct our final round of data collection in 2023. If so, we may be unable to verify real costs and benefits. In that case, we will review the ex-ante estimated benefits streams as well as associated costs in the original CBAs, and make any necessary adjustments to key assumptions and existing parameters.

Aggregate investment-level benefits and costs into activity-level benefits and costs (Step 2). Once we verify and update costs and benefits streams of individual PPPs, we will aggregate them to obtain activity-level costs and benefits across multiple PPPs (see Figure IV.6, below).

Add additional activity-level costs (Step 3). We will use an activity-based costing, or "ingredients" approach, to estimate activity-level costs that are not already incorporated into investment-level ERRs (Levin and McEwan 2001; Tan-Torres Edejer et al. 2003; Dhaliwal et al. 2011). Under such an approach, we inventory all the major costs associated with program implementation. We anticipate that the largest cost drivers for this activity will be the costs of the PPP coaches and training, in addition to feasibility studies. However, we may also include any labor or operating costs incurred by FOMILENIO II in supervising or managing the sub-activity. We will rely on administrative data and KIIs to document and estimate all costs associated with the PPP Sub-Activity.

We recognize that MCC supported some PPP initiatives that failed to materialize. Although those PPPs may not have yielded social benefits, we assume that learnings from the experiences resulted in better processes and contributed to the success of the final PPPs. Therefore, we intend to incorporate MCC and FOMILENIO II costs related to supporting non-tendered PPPs into our final cost analysis. Because PPPs require significant investments related to selecting and processing, we believe that including costs of only approved PPPs would result in a significant underestimation of the true cost of developing, vetting, approving, and implementing PPPs.

Figure IV.6 visually depicts our approach to generating the PPP Sub-Activity ERR. We provide additional details on our approach in Table IV.15.

Figure IV.6. Visual depiction of PPP CBA

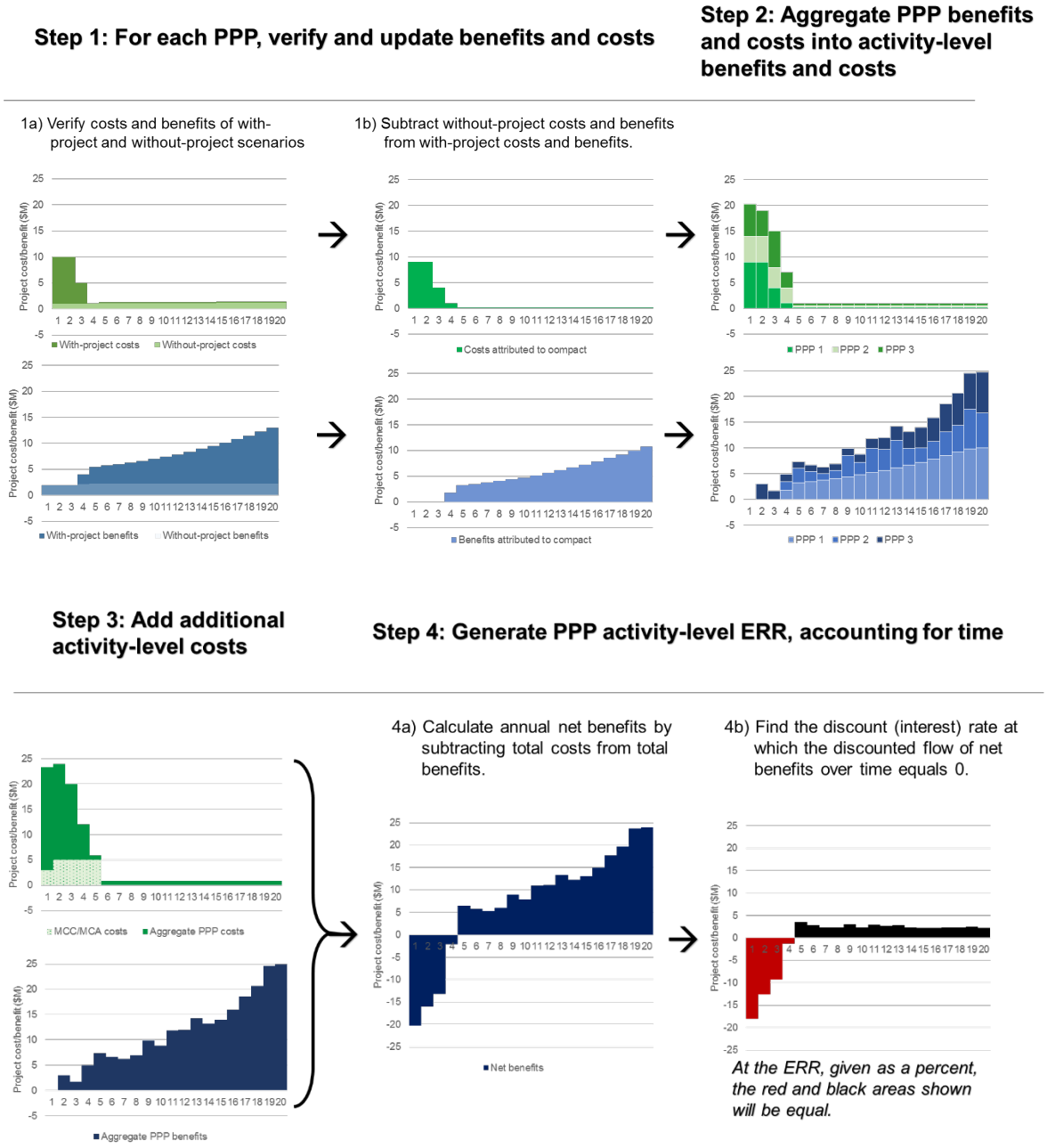


Table IV.15. Additional details on ex-post ERR approach for PPP Sub-Activity

Task or parameter	Approach
Identification of beneficiaries	We will define primary beneficiaries as owners and employees of the firms awarded PPP contracts, as well as users of the investment (such as road users in the case of the highway lighting and surveillance PPP).
Estimating benefits	We will use line ministry and regulator data to capture both public and private revenue from PPPs, time savings, and other social benefits, such as reduced mortality due to improved lighting on roads.
Estimating costs	We will use an "ingredients" approach to estimate MCC and FOMILENIO II activity-level costs. We will use line ministry and regulator data to capture true PPP costs, including capital investments, interest payments, and salaries.
Without project scenario	We will use the without-project scenario in each of the CBAs, included as part of the economic assessment of the PPPs. These scenarios often envision the counterfactual of public provision of PPPs, despite the fact that the without-project scenario is often no construction. Through KIIs, we will verify that the without-project scenario for each PPP is valid.
Time horizon	We will use the shortest time horizon employed among all ex-ante CBAs, because that is the only time period for which cost and benefit projections are available for all PPPs. This will likely be 20 or 25 years. However, we will discuss with MCC the feasibility and utility of extending the time horizon to 30 years, given the delayed benefits commonly associated with transportation infrastructure projects.

3. ESIC ERR discussion

Verify and update benefits and costs in existing investment-level CBAs (Step 1). As part of the approval process, ESIC applicants have to demonstrate that their projects will generate an internal rate of return (IRR) of 12.5 percent using the MCC-approved Socioeconomic Evaluation Manual for ESIC (MCC 2017). This manual provides clear guidance on how to estimate the IRR, which includes identifying the with-project and without-project scenarios, identifying benefits and costs, and properly monetizing benefits. In addition to requiring IRRs for each award, FOMILENIO requests an estimate of each proposed public good's social and environmental benefits, in essence the public good's ERR. We will therefore verify not only the benefit streams included in each IRR, but any other social and environmental benefits identified in the ERR. We plan to verify these benefits (as well as costs) in interviews with grantees toward the end of the contract period, as well as through an analysis of grantee-reported employment and salary information (requested by FOMILENIO on a quarterly basis).

Aggregate investment-level benefits and costs into activity-level benefits and costs (Step 2). Because of the varied nature of the awardees, we anticipate that the benefits will vary in nature and may need to be monetized to be aggregated. If, in the course of verifying benefits, we determine that additional (unanticipated) benefits occurred due to the investment, we will include them in our final analysis using the guidance provided in the ESIC manual as well as in other published guidelines, such as the "Guide to Cost-Benefit Analysis of Investment Projects"[16] developed by the European Commission. We will also use the ex-ante CBA, including costs

[16] European Commission. "Guide to Cost-Benefit Analysis of Investment Projects Economic Appraisal Tool for Cohesion Policy 2014–2020." Brussels, Belgium, 2015.

from pre-feasibility studies, to verify costs and aggregate them to be able to compare them to total costs.

Add additional activity-level costs (Step 3). Similar to our approach with the PPP Sub-Activity, we will use an activity-based (ingredients) costing approach to estimate activity-level costs that are not already incorporated into investment-level ERRs. In the case of ESIC, we anticipate monetary costs will include fixed costs needed to set up ESIC (which we may need to calculate as a percentage of FOMILENIO II fixed costs) as well as recurring costs (FOMILENIO II staff salaries and consultants, supplies, and so forth).

Table IV.16 provides further details on our approach for estimating the ERR for ESIC.

Table IV.16. Additional details on ex-post ERR approach for ESIC

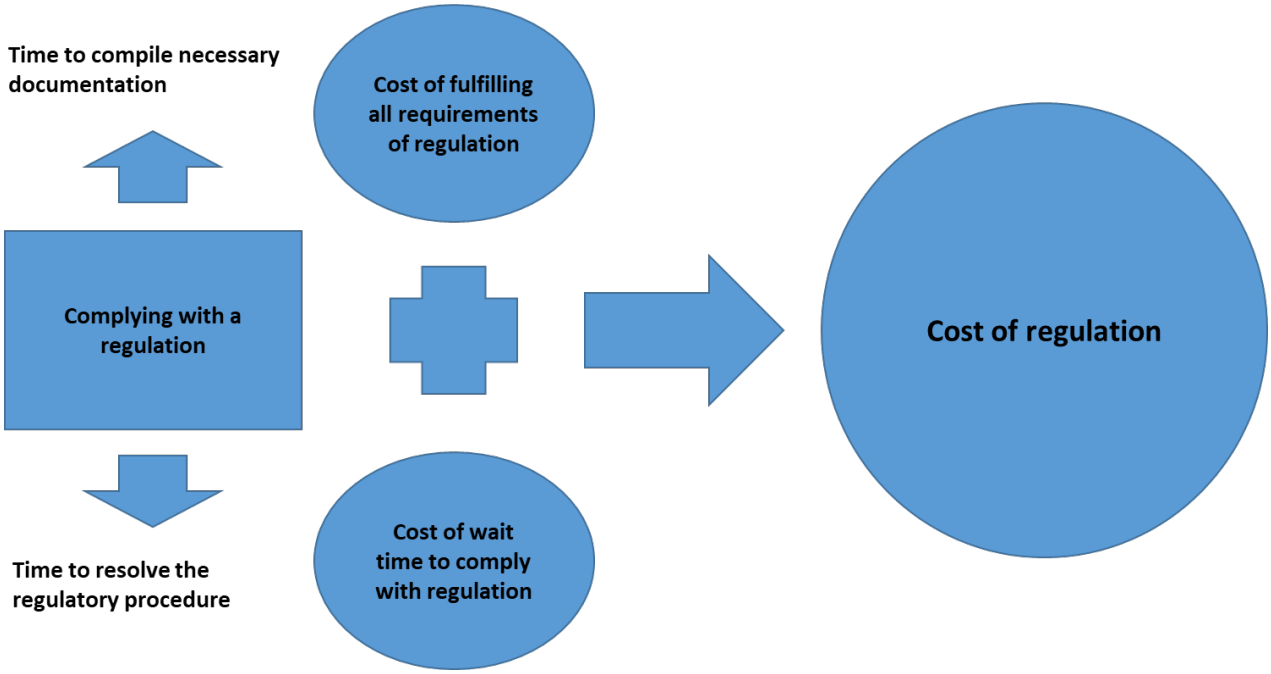
Task or parameter	Approach
Identification of beneficiaries	We will define beneficiaries as owners and employees of the firms who are expected to benefit from public goods and private investments. Additional beneficiaries include communities and users that will benefit from public goods.
Estimating benefits	We will use awardee records to measure improved revenue resulting from increased production and/or increased earnings, additional employment, time savings (monetized), and health benefits (monetized).
Estimating costs	We will use awardee records to measure project costs, including capital investments and interest payments. Use an ingredients approach to estimate activity-level costs.
Identification of without project scenario	We will interview awardees to verify that the without-project scenario included in their original application remains valid. Based on these interviews, we will group investments into three basic scenarios: (1) no investment would have occurred in the absence of ESIC, (2) some form of investment would have occurred without ESIC, and (3) the same investment would have occurred without ESIC. Based on this categorization, we will estimate total costs and benefits of revised without-project scenarios for each project.
Time horizon	We will use the same timeline as ex-ante IRRs—likely either 20 or 25 years. However, we will discuss with MCC the feasibility and utility of extending the time horizon to 30 years, given the delayed benefits commonly associated with large-scale infrastructure projects.

4. RIA ERR discussion

Verify and update benefits and costs in existing investment-level CBAs (Step 1). OMR has adopted a CBA methodology to prioritize regulations that will improve the business-enabling environment. Called SIMPLIFICA, this methodology was developed by the Federal Commission on Regulatory Improvement in Mexico (COFEMER) and has been applied throughout Mexico to justify reducing government-mandated business procedures. At its core, SIMPLIFICA helps measure the costs of a particular regulation on an individual or company, where the costs are driven by (1) the time invested by an individual or a firm in preparing all the necessary paperwork and requirements to meet the regulation and (2) the time corporations wait for the respective public institution to process paperwork, make a decision, or resolve the administrative procedure. To monetize the first type of costs, SIMPLIFICA disaggregates time costs by type of staff required to comply with the regulation and multiplies their hourly or daily rates by the hours or days spent on fulfilling a requirement. The second cost is monetized as the opportunity cost to the business of waiting for a procedure to be addressed. Combining these costs generates an estimate of a regulation's full compliance costs to the private sector. A reduction in these costs

through OMR-sponsored regulatory reforms can be considered a benefit to firms. Figure IV.7 visually depicts the SIMPLIFICA methodology.

Figure IV.7. Depiction of SIMPLIFICA methodology



Source: Adapted from COFEMER (Comisión Federal de Mejora Regulatoria 2014).

Although OMR uses SIMPLIFICA to estimate how specific reforms could reduce costs (or extend benefits) to firms, there is no ex-post verification by OMR or other entities that the benefits to firms have actually been realized once reforms are implemented. We will use actual time and cost savings from key reforms (captured from our outcomes analysis) to update projected benefits in the original SIMPLIFICA model. For example, initial calculations indicated that a reform focused on border wait times would result in a savings of $4 per transaction for over 500 businesses. If our analysis of administrative data reveals an average savings of only $3 for fewer than 500 businesses, we would update the inputs to reflect this more modest benefit stream.

We do not envision accounting for any costs of individual RIA reforms, as each reform is best conceptualized as a benefit. However, in focus groups with firms and public officials, we will explore the potential that implemented reforms did in fact generate unforeseen costs that must be monetized and subtracted from benefit streams.

Aggregate investment-level benefits and costs into activity-level benefits and costs (Step 2). Due to the large volume of reforms that OMR is supporting, we will update SIMPLIFICA models for five reforms that best represent the overall set of reforms implemented during the compact period. For each of the five reforms, we will verify the two primary cost drivers of the SIMPLIFICA model: (1) the private sector time it takes to fulfill the regulatory requirement and (2) the cost of waiting for the requirement to be resolved. If, in the process of verifying these costs, we find that anticipated benefits to firms are comparable to those calculated in the original model, we will assume that the benefits of the remaining reforms are largely equal to

SIMPLIFICA estimates. If, however, our calculations demonstrate that the estimates are incorrect, we will inflate or deflate the estimated benefits of the remaining reforms implemented during the compact period.

Add additional activity-level costs (Step 3). As with the other activity-level ERRs, we will use activity-based costing to estimate activity-level costs that are not already incorporated into investment-level ERRs. In the case of RIA, we anticipate monetary costs will include fixed costs (infrastructure, furniture needed to set up the OMR office), recurring costs (maintenance, OMR salaries, supplies, and so forth), and additional administrative costs (office rentals, equipment, other administrative staff time) during the compact period. We will include not just OMR-related expenses covered by MCC, but also other RIA-related costs incurred by FOMILENIO II—including salaries of FOMILENIO II staff, proportional to the share of their time they devoted to RIA.

We will request administrative data on expenditures from OMR and FOMILENIO II teams to calculate the costs associated with the activities. To the extent that any of these items are not available through administrative records, we will seek to estimate the associated costs through other data sources, including interviews with OMR and FOMILENIO II staff.

Table IV.17 provides further details on the steps of our approach in estimating the ERR for RIA.

Table IV.17. Additional details on ex-post ERR approach for RIA

Task or parameter	Approach
Identification of beneficiaries	We will define beneficiaries as firms affected by reforms (such as firms in sectors the reforms prioritized), primarily firms in the tradeables sector.
Estimating benefits	We will use administrative data to measure actual time savings (both labor and wait times) and reductions in costs of transactions (fees).
Estimating costs	We will not estimate costs in regulation-specific CBAs, as the SIMPLIFICA methodology only allows for cost reductions or benefits. However, we will use focus groups with firms and public officials to verify that specific reforms do not generate any unintended costs. Drawing on administrative data, we will use an ingredients approach to estimate activity-level costs such as OMR operating budget and related fixed costs during the compact period.
Without project scenario	Some reforms would have occurred in the absence of OMR. We will interview experts as well as GoES staff to ask which reforms could have occurred without the support of OMR. We will then verify the list with MCC staff, and update without project scenarios accordingly.
Time horizon	MCC generally uses a 20-year time horizon for ERRs. However, because the future of OMR and the long-term impact of OMR-facilitated reforms are subject to continually changing political forces, we may set a more conservative time horizon, such as 10 years, to estimate lasting benefits from all OMR-led regulations that were implemented during the time period.

5. Risks and limitations of this approach

We anticipate conducting CBAs of each of the activities under ICP, though some risks and limitations do exist. Calculation of net benefits requires a carefully defined without-project scenario. In the case of ICP, there is no clear counterfactual. Unlike other types of interventions (such as CBA using impacts estimates from impact evaluations), the without-project scenarios

will be based on assumptions and not quantifiable data. We will confirm the without-project scenarios with MCC and FOMILENIO II so that net benefits are not over- or underestimated.

As evidenced in other sections of this report, we will not be conducting primary quantitative data collection of some of the anticipated ERR inputs (i.e., ESIC awardees' employment and salaries). Rather, we will rely on firms to provide that information as part of their monitoring agreements with FOMILENIO II. In addition, time and resource constraints may dictate that we must rely on ex-ante estimates of benefits provided by awardees, consultants, and transaction advisors, as opposed to ex-post data.

Because we are proposing separate CBAs for RIA, ESIC, and PPP, we will need detailed cost breakdowns for each of the activities and sub-activities. FOMILENIO II may not currently track activity- and sub-activity-level costs. Therefore, it could be possible that we are not able to obtain the necessary level of disaggregation to develop a distinct CBA for each of the three activities. In that instance, we will work with FOMILENIO II and MCC to disaggregate costs to the extent possible, or identify an alternate approach to ERRs.

V. ANTICIPATED CHALLENGES AND SOLUTIONS

Although our evaluation design offers the best possible opportunity to answer the key research questions, its implementation also might present some challenges. Below, we discuss some of those challenges and how we plan to resolve them.

Political events in El Salvador and Guatemala. Political transitions or crises in El Salvador and Guatemala can affect our evaluation timeline. Most notably, general elections for president in El Salvador will take place in February of 2019. To avoid the perception that our evaluation may be politically motivated, we will not carry out sensitive data collection in the three-month period preceding elections.

Leadership and staff transitions. Even a well-designed evaluation with committed implementation partners and a clear plan for program delivery can encounter problems when key figures change. A strong initial commitment to the evaluation from stakeholders at OMR, PPP authorities, and ministries of finance will help mitigate the effects of such transitions. This includes obtaining institutional buy-in, and not just personal commitments, from those who occupy leadership positions at the outset of the study. If new people assume key leadership and staff positions during the evaluation period, we will ensure they are briefed and informed about the evaluation and the level and type of contribution expected of them, and made aware that their participation is valued.

Recall bias. Considering the time lapse between the creation and implementation of some institutions, like OMR or RNT, and the times when data will be collected, it is possible that respondents may have difficulty remembering details and timing of the activities. This bias is likely to be particularly strong for decisions that were made or events that took place a few years earlier, like the OMR's first year of operation or the time of the release and dissemination of the original API manual, among others. In addition, perceptions also may have changed over time or may have been affected by current events, leading to inaccurate answers to questions about the past. Mathematica has conducted many analyses that depend on retrospective answers, and we have experience counteracting the resulting biases. For those cases in which faulty memories are likely to be particularly relevant, we will give more weight to written documentation. To aid recall bias, our interviewers will be trained to help respondents reference the appropriate time frame for each question.

Response bias. It is likely that some responses obtained through qualitative methods will be biased. For example, representatives of firms that applied to ESIC but were not selected for the grants might remember more of the negative aspects of the application process, whereas representatives of firms that were selected for the grants might have more positive attitudes. For this reason, we plan to triangulate different parties' responses to interview and focus group questions, and to interpret these responses in terms of interviewees' incentives, experiences and affiliations.

Other donor activities. We expect that other related donor activities will take place in El Salvador and Guatemala during the evaluation period, particularly with respect to World Bank and Inter-American Development Bank assistance on PPPs in both countries, and USAID funding for related investment climate and logistical infrastructure interventions in El Salvador.

Our thorough desk review, KIIs, and FGDs will help us identify related activities that may affect the evaluations' outcomes of interest, and to assess the activities' potentially complementary or counterproductive roles in influencing outcomes.

VI. EVALUATION ADMINISTRATION AND MANAGEMENT

Given the complexity of this multicomponent project and evaluation, careful management of the evaluation and timeline is essential. In this section, we discuss administrative issues related to the evaluation and present a timeline of evaluation activities.

A. Institutional review board

Mathematica is committed to protecting the rights and welfare of human subjects by obtaining approval from an institutional review board (IRB) for relevant research and data collection activities. IRB approval requires three sets of documents: (1) a research protocol, in which we describe the purpose and design of the research and present our plans for protecting study participants, their confidentiality, and their human rights—including how we will acquire consent from individuals for their participation; (2) copies of all data collection instruments and consent forms that we plan to use for the evaluation; and (3) a completed IRB questionnaire with information about the research protocol and how we will securely collect and store data, protect participants, and prevent any possible threats to participants resulting from the study or any compromise of data confidentiality. For example, we will ensure that interviewees and participants in the focus groups are not identified in the reports. We expect our documents to qualify for an expedited review by the IRB because the study presents minimal risk to participants. IRB approval is valid for one year, and we will submit request for annual renewals as needed.

We will ensure that the study meets all U.S. and local research standards for ethical clearance. Mathematica will submit the research protocols and instruments to its U.S.-based IRB and to local IRBs. We have been informed that an IRB in El Salvador and Guatemala will not be necessary, but we will verify this before the first round of data collection. If either the U.S. IRB or the local IRB recommend changes to protocols or instruments, we will accommodate the changes, with parties agreeing on the final protocols before the start of data collection.

B. Personnel: roles and responsibilities

Our team has extensive evaluation and subject matter experience and expertise and therefore will be able to meet MCC's evaluation needs. Patricia Costa will oversee the project team, including the consultants. She is responsible for managing the evaluation team and leading the implementation of the evaluation. Ms. Costa also monitors the project's budget and schedule and manages communication with MCC, local partners, and other stakeholders. Mr. Randall Blair serves as the principal investigator, providing technical guidance to Ms. Costa, and is responsible for the overall design. Together they will oversee the data collection efforts. Dr. Jorge Ugaz will also work on the performance evaluations and analysis. The team will also get support from junior analysts and research assistants, as needed. Dr. Audrey Moore performs quality assurance reviews for all of the project's key deliverables.

Our consultants will also offer their extensive expertise in the subject matter to support this evaluation. Mr. Oscar Hernandez (senior analyst-regulatory reform) will support the RIA evaluation drawing on his experience supporting regulatory reform efforts in El Salvador. Mr. Juan Pablo Tarelli (PPP/project finance specialist) and Mr. Eduardo Telles (senior PPP/project finance attorney) will support the team on the PPP evaluations. Mr. Tarelli has extensive

experience in tariff and regulatory policy issues in Argentina and Brazil, and Mr. Telles was instrumental in developing the PPP law in El Salvador. Ms. Claudia Wagner will serve as the local researcher in Guatemala, helping the team obtain key administrative data. Finally, Ms. Claudia Argueta will serve a dual role. She will be the embedded researcher for OMR and will also serve as the local research manager in El Salvador, where she will help the team obtain administrative data and other information needed for the evaluation. Table VI.1 describes Ms. Argueta's proposed scope of work at OMR and for the evaluation in terms of its objectives, potential activities, level of effort, and timeline. [17]

Table VI.1. Embedded researcher's scope of work at OMR and at Mathematica

	Embedded researcher's work with OMR	Embedded researcher's work with Mathematica
Objective	Build rapport with OMR staff and make a substantive contribution to their work	Give Mathematica detailed, nuanced information on program implementation, effects, and sustainability
Potential activities	• Help OMR staff estimate the effect of regulatory reforms on burden to firms • Organize and run communications events • Designing and maintaining knowledge management systems	• Summaries of key projects, meetings, and decisions • Reflections on implementation barriers and facilitators, as well as inter-institutional communication and dynamics
Level of effort	4–5 days per month	1–2 days per month

C. Data access, privacy, and documentation plan

The qualitative (for example, KIIs and FGDs) and quantitative data (for example, administrative, enterprise, and financial data) collected for this evaluation will be stored on Mathematica's secure server and will only be accessible to project team members. After producing and finalizing the three rounds of evaluation reports, we will prepare corresponding de-identified data. We understand that some of these files could be made available to the public, so we will de-identify these data according to the most recent guidelines set forth by MCC. We will submit qualitative data as restricted or public use files to the extent allowed by the Institutional Review Board.

1. Dissemination plan

To ensure the results and lessons from the evaluation reach a wide audience, we will work with MCC to increase the visibility of the evaluation and the findings that are most relevant for the economic and business sectors, particularly policymakers and practitioners. We will release outreach materials based on our final design report to inform and engage stakeholders in the evaluation process. We will ensure these materials are distributed to the Ministry of Finance,

[17] Mathematica and MCC are in discussions with OMR to present the details of the observational component of the RIA case study (see Appendix E for a proposal submitted to OMR). As of the submission date of this report, Mathematica has not received confirmation from OMR to proceed with the observational component. Should OMR not be comfortable with this approach, Mathematica will submit a revision to this report to alter the design plans (likely to include monthly KIIs with OMR staff).

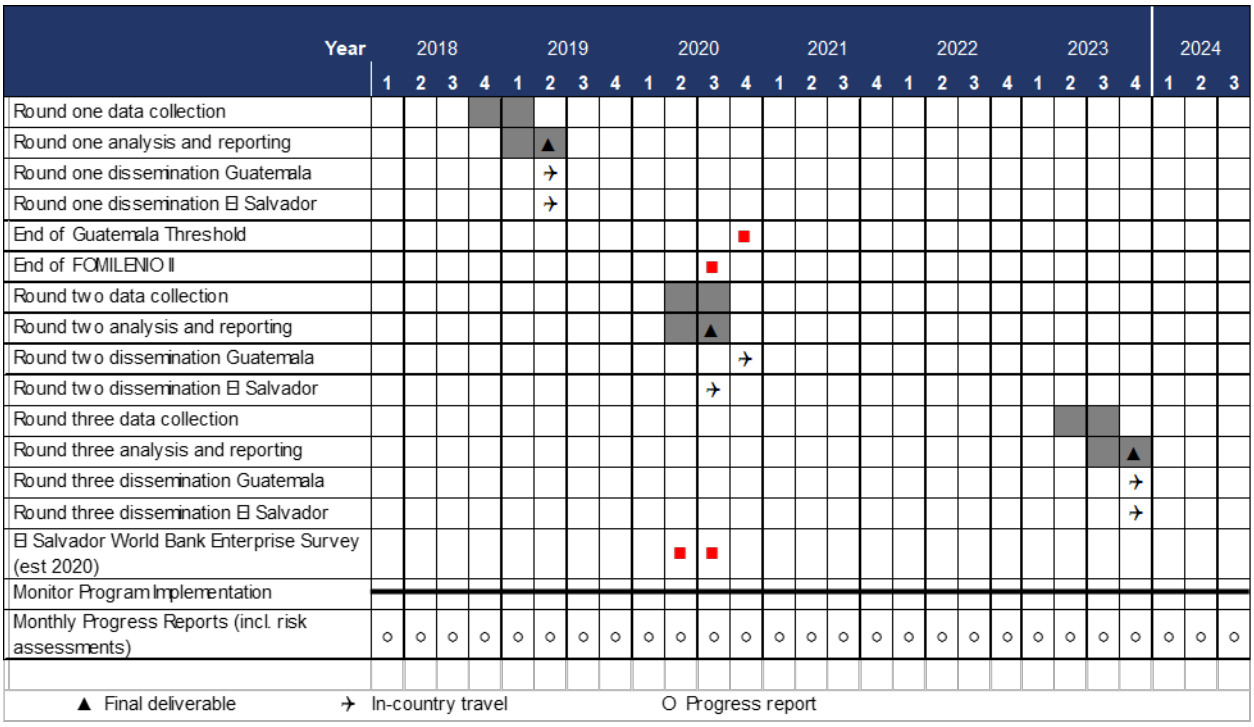
local authorities involved in business activities, and other representatives of the governments of El Salvador and Guatemala. The findings from the reports will be presented to MCC in Washington, DC, and to key stakeholders in El Salvador and Guatemala. The evaluation reports will be available on the MCC website within six months of the drafts being submitted.

We expect the broader research community to have a strong interest in the findings from the evaluation. To facilitate wider dissemination of findings and lessons learned, we will collaborate with MCC and other stakeholders to identify more forums—conferences, workshops, and publications—in which to disseminate the results, and encourage other donors and implementers to integrate the findings into their programming.

D. Timeline and deliverables

As noted in Chapter IV, our data collection efforts will take place in three separate rounds. The first one will take place in fall 2018, and the second one will take place in spring 2020, before the El Salvador compact and the Guatemala Threshold close. Our final round of data collection will take place in 2023. However, where possible we will attempt to collect administrative and other project related data on a continuous basis. After every evaluation report, Mathematica will travel to El Salvador and Guatemala to present the findings.

Figure VI.1. Data collection and report timeline



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APPENDIX A

ADDITIONAL INFORMATION ON ESIC

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The ESIC selection and implementation process has four phases:

1. **The registration phase:** Businesses submit their applications along with copies of legal documents demonstrating their eligibility.
2. The **pre-feasibility phase:** Based on the proposal submitted, FOMILENIO II, along with the responsible governmental entity, completes a pre-feasibility study of the public sector investment requested. During this phase, FOMILENIO II also includes an assessment of the socioeconomic and environmental risks, as well as key gender considerations.
3. **The feasibility phase:** If the pre-feasibility phase results in a determination that the third-party benefits of the public and private sector investment exceed the cost of the investment, the proposal is recommended to the Investment Committee for approval and signature. Once the agreement has been signed, a feasibility study is funded.
4. Based on the results of the study, the **execution phase** begins. In this phase, awardees receive funds and report key investments, activities, outputs, and results to FOMILENIO II at regular intervals.

Figure A.1. ESIC selection and implementation phases

Below is a summary of ESIC projects as of early 2018.

Table A.1. Summary of API pipeline and status

Name of private sector grantee	Public good requested	Sector	API investment request (USD Million)	Private investment	Current status (as of Q1 2018)
AEROMAN	Workforce development training in airplane maintenance to future AEROMAN technicians	Aviation	2.4	32.2	Agreement signed; currently being implemented. Propose to train 780 youth.

TABLE A.1 (CONTINUED)

Name of private sector grantee	Public good requested	Sector	API investment request (USD Million)	Private investment	Current status (as of Q1 2018)
APANC	Technical assistance in agribusiness for dairy cooperative	Agribusiness (dairy)	0.7	0.1	Agreement signed; APANC currently receiving technical assistance in marketing and sales to expand sales under own brand.
ACOPASCA (*Asociación Cooperativa San Carlos*)	Improvement in potable water and sanitation system	Agribusiness (horticulture)	0.7	0.9	Agreement signed; currently being implemented.
Lactolac, Grupo Callejas	Sewage water treatment in the Municipality of Nejapa	Agribusiness (dairy)	5.3	15.5	Agreement signed; currently being implemented.
*Alianza el Zonte/*ATAMI	Sewage water treatment in El Zonte and El Palmar	Tourism	3.5	7.4	Agreement signed; currently being implemented.
Alianza el Zonte/ATAMI	Potable water system in El Zonte and El Palmar	Tourism	n.a.	n.a.	Prefeasibility study
Avicola Campestre	Flooding mitigation measures in San Miguel	Agribusiness (poultry)	2.6	10.0	Prefeasibility study
Termoencogibles, Salvaplastic. Iberplastic	Development of an innovation and entrepreneurial development center for the plastics industry	Plastics	12	20	Prefeasibility study
Livsmart/Swisstex	Modernization of Anguiatú border control	Food and Beverage/ Textiles	25	43.5	Prefeasibility study
La Cabaña	Irrigation system, El Paisnal and Nueva Concepción	Agribusiness	10	58	Prefeasibility study
Livsmart/Swisstex/ La Cabaña/DIANA	Construction of Bypass Road connecting Flor Amarilla and Ateos	Food and Beverage/ Agribusiness/ Textiles	12	69.34	Prefeasibility study

n.a. = not available

APPENDIX B

REVISIONS TO ORIGINAL RESEARCH QUESTIONS

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Table B.1. Summary of revisions to evaluation questions

Evaluation	Initial question	Revised question	Rationale for change
RIA	RQ1. Did the OMR produce a body of proposed reforms and simplifications that could reduce administrative and regulatory compliance costs for firms operating in tradeable sectors? Why or why not?	RQ1**.** Did the technical support from OMR to identify regulatory and non-regulatory reforms contribute to reducing administrative and regulatory compliance costs for firms operating in tradeable sectors? Why or why not?	OMR does not produce reforms, they provide training and technical assistance to identify possibly improvements in reforms.
RIA	Not included in RFP.	**RQ2, Did the OMR trainings and technical support effectively help institutions conduct regulatory impact assessments?**	The training and support around regulatory impact assessment is also an important part of OMR's role.
RIA	RQ2. Were OMR's proposals adopted and meaningfully implemented by the relevant GoES entities?	RQ4. Were the **recommendations prepared with the support of OMR** adopted and meaningfully implemented by the relevant GoES entities? Why or why not?	OMR does not propose changes to regulations, they can only prepare recommendations.
RIA	RQ3. What were major barriers to getting these entities to adopt and implement the OMR's proposal(s)? How did OMR respond to these challenges?	RQ4. What were major barriers **and facilitators** to getting these entities to adopt and implement the OMR's proposal(s)? How did OMR respond to these challenges?	We believe there is value in identifying both barriers and facilitators.
RIA	RQ5. How was the SMR conceived, developed, and implemented? What challenges did stakeholders face in designing and implementing the SMR? Why and how were important decisions made relating to the design or implementation of the SMR?	RQ6. How was the SMR conceived, developed, and implemented? What challenges **and opportunities** did stakeholders face in designing and implementing the SMR? Why and how were important decisions made relating to the design or implementation of the SMR?	We believe there is value in identifying both challenges and opportunities.
RIA	RQ7. What were the key political, institutional, and organizational challenges in establishing the RNT?	RQ8. What were the key political, institutional, and organizational challenges and **opportunities** in establishing the RNT?	We believe there is value in identifying both challenges and opportunities.
RIA	RQ19. To what extent is a culture of regulatory improvement taking root within the GoES as a result of efforts to communicate and implement the SMR? What are major challenges to inculcating this culture—operationally, politically, and culturally—and how did stakeholders address them?	RQ10. To what extent is a culture of regulatory improvement taking root within the GoES as a result of efforts to communicate and implement the SMR? What are major challenges **and facilitators** to inculcating this culture—operationally, politically, and culturally—and how did stakeholders address them?	We believe there is value in identifying both barriers and facilitators.

TABLE B.1 (CONTINUED)

Evaluation	Initial question	Revised question	Rationale for change
RIA	RQ10. Did GoES entities develop the required capabilities to design and implement their own proposals for regulatory reform and simplification?	RQ9. Did GoES entities develop the required capabilities to design and implement their own proposals for regulatory reform and simplification? **Did GoES develop the required capabilities to conduct their own regulatory impact assessments?**	We added a review of OMR's contributions to stakeholders' ability to carry out their own regulatory impact assessments.
ESIC	RQ6. Was the fund an effective mechanism for allocating public money to higher-return projects? Did it improve GoES decision making, or would GoES have invested in the public good anyway?	RQ6. Was the fund an effective mechanism for allocating public money to higher-return projects? Did it improve GoES decision **making? Would** GoES have invested in the public good anyway?	We separated the two clauses of this research question to avoid a false dichotomy in the question.
ESIC	RQ8. What type of impact did the total investment (public and private) have on the agriculture, textile export, and plastics sectors the size of these export sectors as a percentage of GDP?	RQ8. What type of impact did the total investment (public and private) have **on awardees in terms of employment and business outcomes?**	It is unlikely that ESIC's effects will be detectable at the national level.
PPP	Not included in RFP	**RQ5. Does MCC's three-pillar approach to PPP assistance meet stakeholder needs? Were any pillars more useful than others? How could the three-pillar approach be improved?**	MCC technical and M&E leads requested this question, given MCC's continued interest in tailoring PPP assistance to recipient country needs.
PPP	Not included in RFP	**RQ10. [If applicable] Were costs savings used for education investments?**	MCC M&E lead requested this question, given the value of testing the key assumption that costs savings of PPPs could be used for education.

APPENDIX C

POTENTIAL TABLES, INDICATORS, AND DATA SOURCES

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Below are a series of tables that depict how information may be organized and presented in upcoming reports. In addition, we list potential indicators for the RIA outcome analysis.

Table C.1. Summary of OMR-proposed reforms

Package	Sector	Recommendation	Description	Corresponding ministry	Product	Date recommended	Date adopted	Level of implementation as of [date]
Package 1 (Year)	Imports/Exports	Reform 1						
	Imports/Exports	Reform 2						

Table C.2. Summary of RIA implementation decisions

Project phase	Summary of activities	Key players	Major decisions	Rationale for decisions
Design phase				
Initial preparations				
Compact implementation				
Post-compact implementation				

Table C.3. Potential indicators for RIA outcome analysis

DOMAIN	INDICATOR
WORLD BANK ENTERPRISE SURVEY	
Regulations and taxes	Senior management time spent in dealing with requirements of government regulation
	Average number of visits or required meetings with tax officials
	Percent of firms identifying tax rates as major constraint
	Percent of firms identifying tax administration as major constraint
	Days to obtain operating license
	Days to obtain construction-related permit
	Days to obtain an import license
	Percent of firms identifying business licensing and permits as major constraint
Infrastructure	Delay in obtaining an electrical connection (upon application)
	Delay in obtaining a water connections (days)
	Delay in obtaining a mainline telephone connection (days)
Trade	Days to clear direct exports through customs
	Days to clear imports from customs*
DOING BUSINESS SURVEY	
Starting a business	Total number of procedures required for married men/married women to register a firm
	Total number of days required for married men/married women to register a firm.
	Cost to complete procedure for married men/married women (% of income per capita)
	Paid-in min. capital (% of income per capita)

TABLE C.3 (CONTINUED)

DOMAIN	INDICATOR
Dealing with construction permits	Total number of procedures required to build a warehouse.
	Total number of days required to build a warehouse.
	Cost (% of warehouse value)
	Building quality control index (0–15)
Getting electricity	Number of procedures to obtain a permanent electricity connection.
	Number of days to obtain a permanent electricity connection.
	Cost (% of income per capita)
Registering property	Total number of procedures legally required to register property.
	Total number of days required to register property.
	Cost (% of property value)
Paying taxes	Time it takes to prepare, file and pay (or withhold) all taxes (in hours per year).
	Post filing index (0–100)
Trading across borders	Time to export: Border compliance (hours)
	Cost to export: Border compliance (USD)
	Time to export: Documentary compliance (hours)
	Cost to export: Documentary compliance (USD)
	Time to import: Border compliance (hours)
	Cost to import : Border compliance (USD)
	Time to import : Documentary compliance (hours)
	Cost to import : Documentary compliance (USD)
Enforcing contracts	Time (days) to resolve a dispute
	Cost (% of claim value)
	Quality of judicial processes index (0–18)
BUSINESS COMPETITIVENESS SURVEY	
Trade	Percent of firms that export
	Method of export
	Factors that inhibit exports, including ‘red tape’
Regulations	Primary problem with public institutions, including bureaucracy, permits, inefficiency
	Perceptions of the efficiency of the permit process with key ministries, including *Aduanas, MARN, Salud,* and *Hacienda*
Investment climate	Positive/negative perception of the investment climate

Table C.4. Potential data sources for RIA benchmarking exercise

Domains from WB Enterprise Survey (WBES)	Central American countries included and years						
Regulations and taxes; Corruption; Finance; Infrastructure; Trade; Workforce; Biggest obstacles facing the business	**WBES**	**2006**	**2010**	**2010–2011**	**2016**	**2016–2017**	**2018**
	Belize		X				
	Costa Rica			X			
	El Salvador	X	X		X		
	Guatemala	X	X				X
	Honduras	X		X			
	Nicaragua	X	X			X	
Domains from WB Doing Business Survey (WBDB)	**Countries included and years**						
Starting a business; Dealing with construction permits; Getting electricity; Registering property; Getting credit; Paying taxes; Trading across borders; Enforcing contracts	Annual data for the period 2011–2018 available for all Central American countries listed above						

WB = World Bank.

Table C.5. Summary of ESIC implementation

Phase (Year–Year)	Expressions of interest (#)	Applicants (#)	Eligible applicants (#)	Eligible applicants for which pre-feasibility studies were completed (#)	Eligible applicants for which feasibility studies were completed (#)	Eligible applicants that progressed to the investment committee(#)	Awardees (#)	Total ESIC investment	Total private investment

Table C.6. ESIC applicant/awardee database fields

	Application data				Administrative data		Monitoring period [1….5]				Follow-up period [1…2]			
	Date of application	Expected Rate of Return	Expected Private Investment/Public Investment Ratio	Expected socio-environmental and gender impacts	Approved? (Y/N)	Date of approval	Investment amount	Number of FTEs in the tradable sector generated by the project	Average monthly salary earned by employees	Value of exports linked to the investment challenge	Amount invested in past year	Average number of FTEs associated with the business in the past year	Business net costs in the past year	Business net income in the past year
Observation 1														
Observation 2														

Table C.7. PPP timelines and summaries

		AILA	METRORIEL	HIGHWAY LIGHTING	[additional PPPs]
	Investment amount				
	Project summary				
	Line ministry				
Step 1: Identification	Date started–Date completed				
	Parties involved				
	Description				
	Delays/Issues				
	Determination				
Step 2: Evaluation	Date started–Date completed				
	Parties involved				
	Description				
	Delays/Issues				
	Determination				
Step 3: PPP authority approval	Date started–Date completed				
	Parties involved				
	Description				
	Delays/Issues				
	Determination				
Step [X], including Congressional approval, Structuring and contract, Procurement, Contract signing, Construction, and Operation	Date started–Date completed				
	Parties involved				
	Description				
	Delays/Issues				
	Determination				

APPENDIX D

EVALUATION BUDGET

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The budget for this evaluation is adequate to respond to the evaluation questions. Mathematica is not seeking any modification to the budget at this time.

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APPENDIX E

PROPOSAL SENT TO OMR IN MARCH 2018 TO DISCUSS OPTIONS FOR THE EMBEDDED RESEARCHER

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Tras la reunión organizada entre el equipo de Mathematica, OMR, FOMILENIO II y MCC con fecha de 2 de marzo del 2018, procedemos a presentarles más información acerca de la metodología y la visión de la evaluación de desempeño de la Actividad de Mejora Regulatoria.

Metodología

Como parte de la evaluación de desempeño, Mathematica pretende evaluar la implementación, los logros y la sostenibilidad de las actividades dentro de la Actividad de Mejora Regulatoria, incluyendo la creación de OMR. Tenemos previsto utilizar varias metodologías para dicha evaluación como grupos focales, entrevistas con fuentes de información clave, análisis de datos administrativos e indicadores públicos, además de una variación de un estudio etnográfico. Los estudios etnográficos se basan en la premisa que, al pasar más tiempo con los sujetos de investigación, se entiende mejor su cultura interna, trabajo diario, incentivos personales e institucionales, y formas de comunicación. Se han utilizado métodos etnográficos para muchos estudios sociales, ya que permiten describir de una forma más detallada y holística los progresos y también los desafíos de las organizaciones. El estudio etnográfico de OMR que se propone ofrece una visión más global de lo que se está estudiando—por un lado recoge un punto de vista interno (el de los miembros de OMR comunicado a través de las observaciones e integración del investigador) y una perspectiva externa (la interpretación de las observaciones según el análisis de Mathematica).

Plan de trabajo

Entendemos que esta metodología es nueva tanto para OMR como MCC y no queremos afectar al trabajo que está realizando OMR, ni presionar a OMR para que participe en algo con lo que no está cómodo el equipo. Por lo tanto proponemos el siguiente plan. En mayo, durante la visita de Liz Wilke de MCC a El Salvador, el investigador podría empezar a familiarizarse con OMR mediante la participación en reuniones claves durante un periodo de 1-2 semanas (podría ser durante una semana a tiempo completo o dos semanas a tiempo parcial). La idea sería que participe en reuniones claves (pero no confidenciales) que OMR ya esté preparando para Liz para que la participación del investigador no cause más trabajo para el equipo de OMR en cuanto a la organización de reuniones adicionales. El objetivo es que mediante esta aproximación se conozcan ambas partes. Una vez finalizado este periodo OMR podría considerar una de las tres opciones aquí expuestas:

Opción 1. Entrevistas cualitativas mensuales

Mediante esta opción, el investigador entrevistaría al personal clave de OMR mensualmente para informar sobre los logros y desafíos de la implementación. El investigador no participaría en actividades de OMR, y daría simplemente una visión externa de las experiencias del OMR. Estimamos que esto sería 2-3 horas mensuales de dos personas.

Opción 2. Incorporación parcial al equipo de OMR mensualmente, con entrevistas semanales

Con esta opción el investigador participaría en labores de OMR según indicado por el equipo gestor de OMR durante 4-5 días seguidos cada mes. Para mantenerse informado de los progresos de OMR durante las semana que no está trabajando en las oficinas de OMR, efectuará una entrevista de una hora de duración (telefónica o en persona) a la semana con algún integrante

de OMR (podría ser con el especialista en comunicaciones para no quitarle tiempo al equipo gestor).

Opción 3. Incorporación integral al equipo de OMR mediante un puesto a tiempo parcial

Con esta opción, el investigador participaría en labores de OMR según indicado por el equipo y estaría trabajando para OMR a tiempo parcial todos los días (podría ser horario matinal o vespertino). No se efectuarían ningunas entrevistas adicionales ya que formaría parte del equipo diariamente.

Una vez OMR decida qué opción quiere elegir, se procedería a una temporada de pruebas durante 2-3 meses para ver si hay que hacer algún cambio.

Visión operativa para opción 2 y 3

Para poder llevar a cabo las opciones 2 o 3, normalmente el investigador debe integrarse como parte del equipo para tener una visión "interna" de cómo funciona realmente la organización y el trabajo de día a día. Nuestra visión de integrar a un investigador (opción 2 o 3) es la siguiente:

- La integración de un nuevo miembro del equipo (en este caso el investigador) no debe de crear cambio de dinámica entre el equipo de OMR, de hecho el investigador debe crear utilidad para el equipo de OMR para que su presencia no desestabilice el día a día del equipo de OMR.
- Para poder integrarse como miembro del equipo, el investigador tiene que emprender tareas de utilidad para avanzar el trabajo de OMR. (Ver tabla 1). Cuanto más útil sea el apoyo de esta persona, más rápido se podrá integrar en el equipo- siempre y cuando las tareas realizadas cumplan con las expectativas de OMR.
- Mathematica, como evaluador, no se involucra en las actividades del investigador como miembro de OMR. Es decir, Mathematica no puede decirle al investigador en qué actividades va a trabajar dentro de OMR. Ese tipo de decisiones las tiene que tomar el equipo gestor de OMR. En todo momento, OMR tiene que tomar las decisiones sobre en qué reuniones puede participar el investigador, y en qué no debido a la sensibilidad de la información.
- Para garantiza la confidencialidad, el investigador firmará un acuerdo de confidencialidad con OMR, así como un acuerdo de confidencialidad con MCC. Como parte del acuerdo entre Mathematica y el investigador, se darán pautas para que solamente se comparta información relacionada al trabajo de OMR que le corresponde al investigador y/o a las preguntas de investigación indicadas en nuestro plan de evaluación.
- Durante la evaluación el equipo de OMR puede en todo momento ponerse en contacto con MCC o Mathematica para averiguar cómo se va a presentar la información. Así mismo, se le dará a OMR la oportunidad de leer los borradores de los informes para revisar la información incluida.

(xv) En cualquier momento, OMR tiene la opción de pedir al investigador que cese de participar en actividades de OMR. En esa situación, OMR conversaría con MCC y Mathematica para valorar si el problema es la metodología o el investigador para poder

subsanar la situación. (Se discutiría si hay que modificar la metodología, o reemplazar al investigador.

Tabla 1 resume el trabajo del investigador con OMR y Mathematica. Hay que tener en cuenta que las actividades potenciales a realizar por el investigador podrían ser otras y se podrían ser discutidas directamente entre OMR y el investigador.

Tabla E.1. Términos de referencia del investigador con OMR y con Mathematica.

	Trabajo con OMR	Trabajo con Mathematica
Objetivo	Integrarse como parte del equipo de trabajo creando buenas relaciones profesionales y contribuyendo al trabajo de OMR A raíz del buen trabajo y las contribuciones al equipo obtener la confianza del equipo.	Proporcionar a Mathematica información detallada del trabajo, logros e institucionalidad del OMR
Actividades potentiales	• Apoyar al equipo de OMR en estimar el efecto de las reformas regulatorias. • Ayudar a organizar y manejar eventos de diseminación. • Diseñar y mantener un sistema de gestión del conocimiento. • Otras actividades según las necesidades de OMR y las capacidades del investigador.	• Resúmenes de actividades, reuniones y decisiones claves. • Reflexiones sobre obstáculos de la implementación, así como dinámicas y comunicaciones internas y externas.
Gestión y supervision	Equipo OMR (a definir por OMR)	Mathematica (Patricia Costa)

Proponemos que después del primer trimestre de la evaluación, OMR, MCC y Mathematica se reúnan para discutir los progresos de la evaluación y valorar si es necesario cambiar a otras opciones.

Valor agregado de opciones 2 y 3 para OMR

Un aspecto crítico de esta metodología es que el investigador externo agregue valor al trabajo diario del OMR. Algunos de los posibles beneficios de esta metodología para OMR incluyen:

- Beneficiarse del apoyo de un integrante de quipo adicional para avanzar la implementación mediante las actividades realizadas.
- Contar con una perspectiva externa en formular las actividades de comunicación y acercamiento a entidades públicas y privadas de El Salvador.
- Asegurar que la evaluación de Mathematica refleje la complejidad y realidad del trabajo del OMR, y así aumentar la probabilidad que sus hallazgos y conclusiones sean válidos y de utilidad para el mismo OMR.

Siguientes pasos

Como siguientes pasos, el equipo de Mathematica estará disponible para contestar dudas o preguntas mediante correo electrónico o por teléfono. Podemos asimismo facilitar una reunión

entre el investigador y el equipo de OMR, antes de que tomen una decisión final sobre la metodología que prefieran que Mathematica implemente.

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