Measuring the Development Impact of the IFC and Development Finance

Charles Kenny and George Yang

Abstract

Development Finance Institutions (DFIs) including the International Finance Corporation (IFC) tend to look at their development impact using project-level indicators of outputs and employment impacts. Evaluation of the development impact of DFIs should try to estimate the difference between how the country and sector is with the DFI investment compared to how the country and sector would be absent the investment. Using a database of IFC and other investments and sector outcomes covering infrastructure and finance, we find the quantity of IFC investment was significantly associated with larger sums of future non-IFC private investment, but it is diffcult to find evidence of an impact on outcomes.

Keywords: infrastructure, World Bank, International Finance Corporation

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1 Introduction

Development Finance Institutions (DFIs) including the International Finance Corporation (IFC) tend to look at their development impact using measures of additionality, leverage and project-level indicators of outputs and employment. These measures as calculated are inadequate to the task. If we are to have a better sense of how DFIs contribute to development we need a better grasp of the impact of their investments on outcomes at the sector and country level—does an IFC investment in telecommunications in Tanzania lead to a bigger telecoms sector in that country? When CDC Group supports a microfinance investment in Ghana, does that increase the overall number, size or quality of microfinance loans delivered? This paper makes an initial attempt in this direction, asking if IFC and multilateral development bank (MDB) investments in infrastructure and finance are correlated with subsequent sectoral performance.

The paper begins by walking through the issues with additionality and development impact as currently measured and used by DFIs. To illustrate the problems discussed, imagine a case where the IFC invested one dollar as part of a debt-financed deal to a client that had won a contract to deliver a billion-dollar project to connect one million people to electricity, employing 1,000 people in the process, but the client was in competition with other firms willing to deliver the same result without IFC involvement. The IFC could list its leverage ratio (total investment over IFC investment) as one billion to one, and report a development impact of its work as one million connections and a thousand jobs. But the actual development impact achieved by the IFC's involvement was zero: the IFC's dollar crowded out a private dollar and the project (and impact) would have happened without its involvement.

While this is an intentionally extreme illustration, the issues it raises are real. The IFC's own evaluations suggest its involvement is often unnecessary to the project going ahead (delivered by its client firm let alone by any firm). And the IFC's investment cannot 'take credit' for all of the non-IFC investment flowing to that client let alone to that project (or even, country). The same problems apply across DFIs. Impact evaluation of DFIs should estimate the difference between how the country and sector are with the DFI investment compared to how the country and sector would have been absent the investment.[1]

Some of the literature on additionality and development impact involving DFI financing and outcomes is explored. This paper then attemps to measure the relationship between DFI investments and sectoral outcomes. It is subject to many of the critiques that apply to existing efforts to measure the impact of overall DFI investments on macroeconomic outcomes: the paper does not use a natural experiment to measure the impact of DFIs nor does it do much in the way of approaches to get closer towards causal statements about impact. But, by providing some evidence at the sectoral level, it does fill a gap between project-level impact evaluations and macro analyses, hopefully providing some context and caveats to both of these other approaches.

[1]It is possible that such an approach ignores negative spillovers across countries—that an IFC facilitating an electricity investment in Ghana makes an electricity investment in Senegal or an agribusiness investment in Ghana less likely to happen. We ignore that concern here.

2 The Issue of Additionality and Impact

The IFC, the largest DFI in the world, has suggested staff think about the additionality of the Corporation's investments by asking questions including:

- How uniquely does the IFC address the client's financing needs in terms of longer-term or local financing?
- Does the IFC bring non-financial risk mitigation—such as introducing the client to other financial institutions and investors or providing to the client country political and country risk coverage?
- When working with local clients and second-tier companies, or when a client moves into new markets and sectors, does the IFC bring in global knowledge as well as technical and industry knowledge?[2]

IFC project teams asked about additionality suggest 'financial additionality' is the usual way that the investment adds value—through longer terms, resource mobilization, or market risk comfort. In a minority of cases they also suggest that the IFC has provided specialist advice and knowledge relevant to the investment or institutional standards setting—support around corporate governance or social standards, for example.[3]

In the 1996-2007 period, an Independent Evaluation Group (IEG) desk review suggested that in 27 percent of cases, IFC involvement was essential for the project to go ahead, while in 53 percent of cases, the Corporation was at least catalytic.[4] It is not clear how well a desk review could analyze whether a project would have gone ahead without the IFC, but financial additionality examples given in the report discuss meeting a particular client's financing needs.

Different DFIs have different definitions of 'additionality': was finance a 'necessary condition' to the project; did finance have a development impact or increase sustainability; was it 'catalytic'? In 2014, the Donor Committee for Enterprise Development[5] suggested steps for demonstrating additionality:

> "The agency must establish at least one of the following: The company cannot self-finance the project (within a reasonable time frame); it does not have the knowledge or skills to the implement the project activities alone; and/or it is unwilling to implement the project because it perceives the costs or risks to be higher than the benefits.
>
> If the company lacks the finance or knowledge to implement the project, the next step is to establish with reasonable credibility that the company also cannot access equivalent support from a commercial provider. Ideally, the agency would also make a convincing case that the cost-shared project is unlikely to displace other companies

[2] see International Finance Corporation (May 7, 2009). *IFC's Role and Additionality: A Primer*. The World Bank Group. URL: `https://web.archive.org/web/20150908002204/https://www.ifc.org/wps/wcm/connect/e8b825004750cb4db387bfbae11ad97e/AdditionalityPrimer.pdf?MOD=AJPERES` (visited on 09/16/2020)

[3] see Vinod Thomas et al. (Feb. 11, 2008). *Independent Evaluation of IFC's Development Results 2008*. 42556. Independent Evaluation Group

[4] see Vinod Thomas et al. (Feb. 11, 2008). *Independent Evaluation of IFC's Development Results 2008*. 42556. Independent Evaluation Group

[5] see Melina Heinrich (Apr. 2014). "Demonstrating Additionality in Private Sector Development Initiatives". In: *Donor Committee for Enterprise Development*

> already operating or ready to enter the market. Finally, the agency should establish that its support does not duplicate other donor-funded support. If these criteria can also be met, additionality can be demonstrated."[6]

This idea of additionality, and in particular the concern with displaced firms, involves not just the client but the country-sector. While the IFC traditionally asked 'does the client need the IFC to carry out the investment as designed,' the Donor Committee for Enterprise Development would ask 'does the country-sector need IFC involvement to make sure the private investment occurs as designed.' The OECD Development Assistance Committee (DAC) has made a similar proposal: "finance extended to companies in countries and regions where the private sector would not invest in developmental projects without official support."[7] It provides three reasons for this: capital market failure; project, sector or country deemed too risky; and gap between private and social returns of the project.

A DFI-funded project, if it is fully additional, should support investment that would not have taken place without DFI support.[8] The inputs and services provided by a DFI have to complement, not substitute for, what other institutions or the market could provide in order to foster development outcomes.[9] But this is (still) a higher standard than set (in practice) by DFIs, which tend to ask, 'would the project sponsor with which we are working have undertaken the project (in the same manner) if it had not worked with this DFI?'[10]

[6]This definition does help illustrate the narrow path on which DFIs are meant to tread: damned if they invest in something market would have done anyway because that is distortion by crowding out, damned if they invest in something that the market would never touch because it must be distorting the market through subsidy.

[7]Julia Benn and Cécile Sangaré (Mar. 22, 2016). *Implementation of the Principles of ODA Modernisation on Private-Sector Instruments*. URL: http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=DCD/DAC/STAT(2016)1&docLanguage=En (visited on 09/16/2020)

[8]Note: Sector additionality is necessary for development impact, but still not sufficient. If private investors are unwilling to support a project that may reflect low returns and (so) an economically sub-optimal investment (and one that may fail once subsidized finance is removed).

[9]see Vinod Thomas et al. (Feb. 11, 2008). *Independent Evaluation of IFC's Development Results 2008*. 42556. Independent Evaluation Group

[10]The question of additionality is shared by the Clean Development Mechanism (CDM), which was designed to invest in projects that left developing country carbon emissions lower than they would have been absent CDM support. Additionality implied that a project which lowered emissions would not have occurred without CDM support. Although all projects were meant to share this feature, the extent to which it happened in practice has been questioned: emissions do not appear to be lower in Chinese prefectures where the CDM was involved in projects, for example. In part this may be because the gap between financial rates of return with and without CDM support are relatively small. See Junjie Zhang and Can Wang (Sept. 2011). "Co-Benefits and Additionality of the Clean Development Mechanism: An Empirical Analysis". In: *Journal of Environmental Economics and Management* 62.2, pp. 140–154. ISSN: 00950696. DOI: 10.1016/j.jeem.2011.03.003. URL: https://linkinghub.elsevier.com/retrieve/pii/S0095069611000301 (visited on 09/17/2020). See also Johannes Alexeew et al. (Sept. 2010). "An Analysis of the Relationship between the Additionality of CDM Projects and Their Contribution to Sustainable Development". In: *International Environmental Agreements: Politics, Law and Economics* 10.3, pp. 233–248. ISSN: 1567-9764, 1573-1553. DOI: 10.1007/s10784-010-9121-y. URL: http://link.springer.com/10.1007/s10784-010-9121-y (visited on 09/17/2020) and Au Yong (Jan. 2009). "Technical Paper — Investment Additionality in the CDM". in: *Ecometrica Press*, p. 11. URL: https://ecometrica.com/assets/investment_additionality_technical.pdf

IFC has traditionally measured its development impacts by looking at employment generation and economic rate of return estimates from the projects it co-funds. Its new 'Anticipated Impact Measurement and Monitoring' (AIMM) system involves looking ex ante at a wider range of predicted impacts, including the degree to which an intervention improves the structure and functioning of markets. It also has a set of 'Development Goals' covering farming, health and education, financial services for microfinance and SMEs, infrastructure, and greenhouse emissions. Monitoring of these goals involves adding up the number of people who were educated or received health care across the portfolio of IFC projects, for example.

Fundamentally, and excluding the ex-ante estimates of AIMM on the structure and functioning of the market, these approaches are gross measures of the 'impact' of the projects in which the IFC invests (investment scale, employment by the client firm attributable to the project[11], profits of the firm along with taxes paid, services provided by the client firm). They are not measures of the net development impact of the project—let alone the IFC's participation, which needs some comparison to a counterfactual state absent the IFC's involvement. Other DFIs follow similar approaches. (While some have gone to additional lengths, using input/output relationships to add estimates of indirectly created employment by suppliers and consumers to their measures of development impact, these exercises still suffer similar concerns to measures of 'direct' impact).

Beyond project and portfolio studies carried out as part of DFI efforts at self-evaluation, Jouanjean and Massa (2013) run regressions of DFI investment against GDP-per-employee and suggest a one percentage point rise in DFI investment as a percentage of GDP is associated with a 3.4 percent rise in productivity, conditional (only) on wages, country fixed effects, and a time trend. They also exploit propensity matching and IV approaches with mixed results.[12] Massa (2011) examines aggregate DFI investments and economic growth across a sample of 101 countries between 1986 and 2001, using lagged DFI investment and FDI, trade openness, government consumption and inflation as controls. She also splits DFI investment by sector. She suggests a robust correlation between DFI investment and growth.[13]

DFI flows are a fraction of a percentage point of GDP in most of the countries under observation in these studies. Given that, it is somewhat surprising that macroeconomic effects of this investment are detectable and apparently so large. This raises the concern that an omitted variable may be driving the result. One example might be the role of non-DFI investment. Given that DFIs usually only invest in a country after expressions of firm interest, which is more likely in countries and sectors where economic prospects look positive, it may be that

(visited on 09/16/2020)

[11]Marie-Agnes Jouanjean and Isabella Massa (Mar. 2013). *The Role of Development Finance Institutions in Promoting Jobs and Structural Transformation.* Overseas Development Institute. URL: `https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/8326.pdf` (visited on 09/16/2020)

[12]Marie-Agnes Jouanjean and Isabella Massa (Mar. 2013). *The Role of Development Finance Institutions in Promoting Jobs and Structural Transformation.* Overseas Development Institute. URL: `https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/8326.pdf` (visited on 09/16/2020)

[13]Marie-Agnes Jouanjean and Isabella Massa (Mar. 2013). *The Role of Development Finance Institutions in Promoting Jobs and Structural Transformation.* Overseas Development Institute. URL: `https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/8326.pdf` (visited on 09/16/2020)

the correlation between DFI flows and growth reflects an underlying confidence about economic prospects in a country.

Kenny (2013) looks at sectoral outcomes, finding that IFC's focus on oil or gas or mining and mobiles in fragile states matches the overall sectoral distribution of FDI in fragile states, and that it does not appear that IFC mobile investments in fragile states (or elsewhere) are correlated with more rapid development in the telecoms sector in those states, using IFC project data from 2003 to 2007 and outcome data from 2010. This paper considerably improves on that approach, and seeks to untangle the issue that investments are likely to be concentrated in country-sectors where the outlook for development is more positive.[14]

Compare studies of aid effectiveness. The aid to growth relationship has been subject to many thousands of regressions and numerous meta-analyses, using different country samples, periods, control variables, lagged variables, and econometric techniques.[15] Aid has been instrumented using factors including country size, colonial legacies, and political alignment. A recent paper used the 'IDA cutoff' (that the World Bank halts concessional lending after a particular threshold) as a quasi-experimental approach towards making causal inferences.[16] The aid literature has also treated the issue of fungibility seriously—that is, 'is aid displacing or supplementing domestic investment efforts?'[17] Recent ap-

[14]Charles Kenny (Aug. 2013). *Moving Beyond Mines and Mobiles: How Can IFC Add Value in Fragile States?* CGD Policy Paper 030. Center for Global Development. URL: https://www.cgdev.org/sites/default/files/moving-beyond-mines_wcover.pdf (visited on 09/16/2020)

[15]Hristos Doucouliagos and Martin Paldam (July 2009). "The Aid Effectiveness Literature: The Sad Results of 40 Years of Research". In: *Journal of Economic Surveys* 23.3, pp. 433–461. ISSN: 09500804, 14676419. DOI: 10.1111/j.1467-6419.2008.00568.x. URL: http://doi.wiley.com/10.1111/j.1467-6419.2008.00568.x (visited on 09/16/2020). See Sanjay G Reddy and Camelia Minoiu (Feb. 2010). "Development Aid and Economic Growth: A Positive Long-Run Relation". In: *The Quarterly Review of Economics and Finance* 50.1, pp. 27–39. See Michael A. Clemens et al. (June 1, 2012). "Counting Chickens When They Hatch: Timing and the Effects of Aid on Growth". In: *The Economic Journal* 122.561, pp. 590–617. ISSN: 0013-0133, 1468-0297. DOI: 10.1111/j.1468-0297.2011.02482.x. URL: https://academic.oup.com/ej/article/122/561/590-617/5079624 (visited on 09/16/2020). See Channing Arndt, Sam Jones, and Finn Tarp (Dec. 27, 2010). "Aid, Growth, and Development: Have We Come Full Circle?" In: *Journal of Globalization and Development* 1.2. ISSN: 1948-1837. DOI: 10.2202/1948-1837.1121. URL: https://www.degruyter.com/view/journals/jgd/1/2/article-00001022022194818371121.xml (visited on 09/16/2020). See Markus Brückner (Jan. 2013). "On the Simultaneity Problem in the Aid and Growth Debate". In: *Journal of Applied Econometrics* 28.1, pp. 126–150. ISSN: 08837252. DOI: 10.1002/jae.1259. URL: http://doi.wiley.com/10.1002/jae.1259 (visited on 09/16/2020)

[16]Sebastian Galiani et al. (2017). "The Effect of Aid on Growth: Evidence from a Quasi-Experiment". In: *Journal of Economic Growth* 22.1, pp. 1–33

[17]Shanta Devarajan and Vinaya Swaroop (Oct. 1998). "The Implications of Foreign Aid Fungibility for Development Assistance". In: *Development Research Group World Bank*. DOI: 10.1596/1813-9450-2022. URL: https://elibrary.worldbank.org/doi/abs/10.1596/1813-9450-2022 (visited on 09/16/2020). Additionally, see Joseph L. Dieleman, Casey M. Graves, and Michael Hanlon (Dec. 2013). "The Fungibility of Health Aid: Reconsidering the Reconsidered". In: *Journal of Development Studies* 49.12, pp. 1755–1762. ISSN: 0022-0388, 1743-9140. DOI: 10.1080/00220388.2013.844921. URL: http://www.tandfonline.com/doi/abs/10.1080/00220388.2013.844921 (visited on 09/16/2020). See Oliver Morrissey (May 2015). "Aid and Government Fiscal Behavior: Assessing Recent Evidence". In: *World Development* 69, pp. 98–105. ISSN: 0305750X. DOI: 10.1016/j.worlddev.2013.12.008. URL: https://linkinghub.elsevier.com/retrieve/pii/S0305750X13002921 (visited on 09/16/2020). See Łukasz Marć and UNU-WIDER (2015). *The Impact of Aid on Total Government Expenditures: New Evidence on Fungibility*. 10th ed. Vol. 2015. WIDER Working Paper. UNU-WIDER. ISBN: 978-92-9230-895-7. DOI: 10.35188/UNU-WIDER/2015/895-7. URL:

proaches have also involved using regression discontinuity at the sectoral outcome level.[18] Approaches in this literature could perhaps be applied to the additionality of DFI finance, and would considerably strengthen the evidence base beyond this and other papers.

3 Our Approach

Are IFC investments in a sector of a country associated with subsequent improved outcomes in that sector? So, for example, does IFC investment in a power generation project in a country precede greater generation capacity in that country, or does an IFC investment in a mobile phone company precede more people having mobile phone access? An intermediate question is, "Does IFC investment in a sector precede increased total private investment in a sector?"

We look at IFC country-sector investments and subsequent country-sector outcomes in the four sectors of (i) electricity generation, (ii) electricity transmission and distribution, (iii) information and communications technology (ICT) and (iv) finance. It is worth noting that a sectoral approach will miss potential development impact. In privatizations, IFC's investment may flow as a payment to the government, which might shift funds from their budget in that sector to other sectors. In a greenfield power project, IFCs investment may allow the government to redeploy its own investment resources to pay for teachers. Or IFC's investment may crowd in private investment in other sectors (and perhaps in other countries). Nonetheless, MDBs and DFIs including the IFC repeatedly suggest that their investments do have development impact *in the sectors in which they are made*—that private provision brings efficiencies, that greenfield investments will support greater power production or more equitable consumption, for example. It appears justified to look for evidence of sectoral development impact on that basis.

A reported investment in electricity generation would not immediately cause a rise in consumption of electricity: plants need to be built, and (unmet) demand need to be provided with supply. Similarly, the purchase of a new license for mobile provision does not immediately translate into an increase in mobile subscribers. The effect will be lagged by some indeterminate amount. Given these characteristics, we take a lagged approach to investment impact on outcomes. We choose a four year lag for most of our analysis (average investments in years one to four affect outcomes in year five). This is arguably the wrong period of lag. We did attempt to run regressions of annual investment data against outcomes to see if the relationship was notably stronger over a particular period, but with no significant results. And we report later that results were the same running an eight year panel.

Turning (briefly) to causality, if IFC goes where the deals would occur without its involvement, even if it is crowding out investment that would have happened anyway, total investment (and outcomes) will be higher in those markets. If IFC goes where the deals would not occur without its involvement, it will look

`https://www.wider.unu.edu/node/1242` (visited on 09/16/2020)

[18] Sarah Dykstra et al. (2015). "The Impact of Gavi on Vaccination Rates: Regression Discontinuity Evidence". In: *SSRN Electronic Journal*. ISSN: 1556-5068. DOI: `10.2139/ssrn.2623084`. URL: `http://www.ssrn.com/abstract=2623084` (visited on 09/16/2020)

like IFC is crowding out investment because total investments (and outcomes) will still likely be lower. So the correlation between IFC investment and sector outcomes, if positive, doesn't prove impact. If correlation is negative or absent, it doesn't necessarily prove lack of impact. Looking at the impact of IFC on private investment as well as as outcomes and also looking at the impact of total private investment on outcomes may help unpack questions to causality, but will not fully or convincingly answer them. An IFC investment in a sector may simply signal that the sector is open and attractive to private investment. It may be that this fact, rather than the investment itself, drives improved outcomes. Some ways to test this are (i) to examine if the size of an IFC investment is more closely related to outcomes than a simple count of projects and (ii) to use an independent measure of openness. The simplest is GDP per capita, which we use. We also add regulatory variables and the attractiveness of other parts of infrastructure to private investment as two proxies. However, given the nature of our data, we do not have a clean identification strategy to isolate causal effects.

3.1 Investment Data

The World Bank's Private Participation in Infrastructure (PPI) database[19] has data on PPI on infrastructure going back to 1995, including the name of the project, country, year, sector, PPI type, % private investment, government support, bid type, number of bids, multilateral support (from whom), and project banks. We downloaded the data from the PPI query tool on 5/18/2020 for primary sectors energy/electricity/natural gas, and ICT, excluding cross-border projects. On download, we excluded the electricity other, natural gas and multisector energy subsectors; the multiple segment; as well as land based and submarine cable from ICT. This left us with a database covering ICT 'other' and the energy segments: electricity distribution, electricity transmission, electricity generation, electricity distribution and transmission, and electricity generation and transmission projects.

The data on multilateral involvement are presented as multiple entries in a single table cell. Data on multilateral investments by amount and year are repeated for each project listed in the database, but as multilateral investments are at the company-facility level (as it might be, a distribution company) and one company-facility can generate multiple project entries in the PPI database, it is necessary to extract and deduplicate data. This was done manually.

Indicators were created reporting:

- IFC investment in the project and sum of loans, equity, syndication, guarantee, other.
- Other multilateral institution investment in the project and sum of loans, equity, syndication, guarantee, other.

The dataset was sorted on multilateral investment data, and multilateral investments were recorded (once) next to the specific project they were most closely dated to as long as the project investment year was within two years of the reported multilateral investment year (this was possible in nearly all cases).

[19] *Data on Private Participation in Infrastructure (PPI)* (2020). URL: `https://ppi.worldbank.org/en/ppidata` (visited on 09/17/2020)

In cases of projects with the same investees, same investors, same multilateral investment amounts, and same financial closure year as other projects, the multilateral investments were assigned to the closest project investment year reported in the data for that company/facility, as long as it was within two years of the reported multilateral investment year.

For analysis, we group 'electricity generation' and 'generation and transmission' together as one category (generation), 'electricity transmission', 'transmission and distribution', and 'distribution projects' together as a second category (distribution) and ICT projects as a third category (ICT). For the few investments labelled as both 'electricity transmission' and 'generation', we put them into the distribution category. Hereafter, we refer to these categories by their abbreviated names: generation (Table 1), distribution (Table 2), and ICT (Table 3). The data suggests energy projects involving multilaterals including the IFC tend to be slightly larger than average, and more focused in poorer developing countries. At the same time, MDBs including the IFC are not involved in the considerable majority of projects. Table 1 suggests they take part in about 14 percent of all generation projects in developing countries, rising to 18 percent in low and lower middle income countries.

The PPI database warns, "The database relies primarily on information reported in public sources which may not be accurate or contain all the required information. For instance, different public sources report different investment commitments for some projects. In these cases, the database reports the investment figures which seem to be the most accurate." As one of the public sources listed is multilateral institutions, and as the PPI database is product of the World Bank Group, the database is hopefully comprehensive as regards IFC (in particular) and multilateral (in general) funding. Indeed, the bias may be that this information is more available than information on PPIs that do not involve multilateral funding, and this would upwardly bias estimates of the role of MDBs in PPI projects.

For our fourth sector, finance, we merge in data from IFC portfolio data downloaded on 5/18/2020 (Table 4). There is no equivalent to the PPI database for investment in banking operations in developing countries. Here, we only have data from 2004 onwards, and we do not have data on other MDB or private company involvement. This means that any analysis of data involving financial investment was truncated to only be from 2004 onwards. We kept only finance sector projects and excluded all regional and global projects as well as projects without a dollar amount of IFC investment.

We aggregate projects at the country-year level, producing time series by investment year for each country for each of the four sectors (generation, distribution, ICT, finance). We then divide through dollar amounts by country population in the same year and adjust for inflation using the FRED GDP deflator.[20] In the final stage, we calculate a period-based lag variable that sums up IFC investment in the immediate four years prior to the outcome variable: IFC investment was aggregated in 4-year periods from 1998 to 2018, inclusive. The years at which outcome variables were observed were 2002, 2006, 2010, 2014, and 2018. That is, observations of renewable energy output in year 2002 correspond to cumulative sector investment from years 1998 to 2001. Note, for our

[20]U.S. Bureau of Economic Analysis (Aug. 27, 2020). *Gross Domestic Product: Implicit Price Deflator*. URL: `https://fred.stlouisfed.org/series/GDPDEF` (visited on 09/17/2020)

outcome variable of 'account ownership at a financial institution', the data are more sparse than our other data. Therefore, we perform the same procedure, but for 3-year periods, observing the outcome at year 2011, 2014, and 2017.

Table 1: generation

	IFC involved in projects	IFC or Other MDB involved in projects	No MDB involved in projects
Number of projects	183	493	3052
Average project total investment size (mil USD)	276.61	277.68	199.12
Low or lower middle income country (percent of projects)	0.66	0.55	0.38
IFC an investor (percent of projects)	1	0.37	0
Other MDB an investor (percent of projects)	0.44	0.79	0
Average IFC/Other MDB investment (mil USD)	62.27	52.29	0

Table 2: transmission

	IFC involved in projects	IFC or Other MDB involved in projects	No MDB involved in projects
Number of projects	18	60	886
Average project total investment size (mil USD)	163.63	158.91	136.34
Low or lower middle income country (percent of projects)	0.67	0.37	0.22
IFC an investor (percent of projects)	1	0.30	0
Other MDB an investor (percent of projects)	0.33	0.80	0
Average IFC/Other MDB investment (mil USD)	35.92	38.13	0

With the exception of the finance sector, this leaves us with the following variables for each country and each sector:

- IFC investment (number)
- IFC investment ($ per capita)

Table 3: ICT

	IFC involved in projects	IFC or Other MDB involved in projects	No MDB involved in projects
Number of projects	8	32	314
Average project total investment size (mil USD)	302.95	236.69	296.51
Low or lower middle income country (percent of projects)	0.62	0.59	0.48
IFC an investor (percent of projects)	1	0.25	0
Other MDB an investor (percent of projects)	0.50	0.88	0
Average IFC/Other MDB investment (mil USD)	41.50	24.08	0

Table 4: Financial Institutions

	IFC involved in projects
Number of projects	1163
Average project total investment size (mil USD)	n/a
Low or lower middle income country (percent of projects)	n/a
IFC an investor (percent of projects)	1
Other MDB an investor (percent of projects)	n/a
Average IFC/Other MDB investment (mil USD)	42.18

- (IFC + other MDB) investments in country-sector (number)
- (IFC + other MDB) investments in country-sector ($ per capita)
- Private investment in other sectors in same country ($ per capita)

The finance sector variables only include the first two in this list: IFC investment (number) and IFC investment ($ per capita).

3.2 Outcome and Control Variables

We downloaded from the World Development Indicators[21] data on:

- Access to electricity (% of population)
- Renewable electricity output (% of total electricity output)
- Firms experiencing electrical outages (% of firms)
- Electric power consumption (kWh per capita)
- Mobile cellular subscriptions (per 100 people)
- Fixed telephone subscriptions (per 100 people)
- Individuals using the Internet (% of population)
- GDP per capita, PPP (constant 2017 international $)
- Population, total
- Borrowers from commercial banks (per 1,000 adults)
- Account ownership at a financial institution or with a mobile-money-service provider (percent of population ages 15+)

While yearly coverage is widespread for most of these variables, it is limited to survey years for the two firm survey questions. We add regulatory variables from Estache and Goioechea.[22] This source has the advantage over other historical sources of wide country coverage for electricity with the disadvantage that it is only available for the year 2004. Table 5 shows outcome variables for each of our four sectors. Control variables include:

- GDP per capita PPP (constant 2017 international $)
- Population
- Cumulative private investment in other infrastructure sectors in same country ($ per capita) (to see if the country is generally attractive to private investment)

[21] *World Development Indicators* (Sept. 16, 2020). URL: `https://datacatalog.worldbank.org/dataset/world-development-indicators` (visited on 09/16/2020)

[22] Antonio Estache and Ana Goicoechea (2005). "A 'Research' Database on Infrastructure Economic Performance". In: *SSRN Electronic Journal*. ISSN: 1556-5068. DOI: `10.2139/ssrn.757364`. URL: `http://www.ssrn.com/abstract=757364` (visited on 09/17/2020)

Table 5: Outcome Observations

variable	n	standard deviation	mean	median
Cumulative Period non-IFC Total Private Investment	2025	54.7	11.4	0.0
Cumulative Period non-IFC non-MDB Total Private Investment	2025	50.6	10.3	0.0
Renewable electricity output (% of total electricity output)	540	34.6	36.1	26.0
Firms experiencing electrical outages (% of firms)	74	23.6	65.2	70.5
Electric power consumption (kWh per capita)	388	1932.6	1853.1	1363.9
Access to electricity (% of population)	649	32.3	72.0	89.7
Electric power consumption (kWh per capita)	388	1932.6	1853.1	1363.9
Mobile cellular subscriptions (per 100 people)	651	49.9	67.2	65.7
Fixed telephone subscriptions (per 100 people)	647	11.7	11.0	7.2
Individuals using the Internet (% of population)	572	23.0	21.8	12.2
Account ownership at a financial institution or with a mobile-money-service provider (% of population ages 15+)	317	23.9	41.8	39.7
Borrowers from commercial banks (per 1,000 adults)	274	162.8	151.4	102.7

Note:
For Finance variables, the only available data is on the quantity of project-level IFC investment.

- Estache and Goioechea regulatory variables for 2004:
  - For electricity generation: the presence of an independent regulator and experience of private participation in generation.
  - For distribution: the presence of an independent regulator and private participation in distribution.
  - For ICT: presence of an independent regulator, existence of private capital and digital mobile competition.

For a full summary table of each of our variables as they appear in the regressions, see Tables 8, 9, 10, 11, and 12 in the Appendix. It is important to note with regard to our outcome variables that they will not capture the full range of outcomes that might be expected from sector investments (for example we do not have measures of lending to SMEs which is a focus of many projects in the finance sector). Different projects will be designed to address different outcomes even amongst those for which we do have measures. And our approach will miss outcomes including demonstration effects across countries or sectors.

3.3 Regression Specification

On the investment variables (total private non-IFC investment and total private non-IFC non-MDB investment), we ran gamma-log regressions of the *positive*

cumulative total private investment in year 2018 on cumulative IFC and MDB investment as well as cumulative counts of IFC and MDB investment:

$$\begin{aligned}&\sum_{t=-5}^{18}(\text{totalinvestment}_{i,t,s} \mid \text{totalinvestment}_{i,t,s} > 0) \\ &= \beta_1(\log(\text{pop}_{i,18})) + \beta_2(\text{gdppc}_{i,18}) + \beta_3(s) + \beta_4(\sum_{t=-5}^{18}\text{ifc}_{i,t,s})\end{aligned} \tag{1}$$

where

- i is country
- s is segment (ICT, generation, transmission, and finance (finance is excluded for total investment calculations for lack of data))
- t is year -2000.
- $\sum_{t=-5}^{18}\text{totalinvestment}_{i,t,s}$ is, depending on the independent variables, 2018 cumulative total private non-IFC investment or 2018 cumulative total private non-IFC non-MDB investment
- $\log(\text{pop}_{i,18})$ is the log of population in country i in year 2018
- $\text{gdppc}_{i,18}$ is GDP per capita (constant, PPP) in country i in year 2018
- $\sum_{t=-5}^{18}\text{ifc}_{i,t,s}$ is cumulative IFC investment to year 2018.

We repeat this process, replacing IFC investment here with IFC and other MDB investment. Additionally, in some regressions, we add extra controls, such as the count of the number of IFC investments.

We also ran OLS regressions on cumulative IFC investment, cumulative IFC and MDB investment, and cumulative non-IFC non-MDB total private investment from 2004 to 2018:

$$\sum_{t=4}^{18}\text{investment}_{i,t,s} = \gamma_1\text{gdppc}_{i,18} + \gamma_2\text{population}_{i,18} + \gamma_3\text{regulatory variables}_{i,4,s} \tag{2}$$

Finally, on the panel dataset, we ran OLS regressions on the investment variables across all sectors, as well as the sector-specific outcome variables, adding controls iteratively:

$$\sum_{n=t-4}^{t-1}\text{investment}_{i,n,s} = \eta_1\text{gdppc}_{i,18} + \eta_2\text{pop}_{i,18} + \eta_3\text{s} + \eta_4\sum_{n=t-8}^{t-5}\text{investment}_{i,n,s} \tag{3}$$

$$\text{outcome}_{i,t,s} = \phi_1\text{gdppc}_{i,18} + \phi_2\sum_{n=t-4}^{t-1}\text{investment}_{i,n,s} \tag{4}$$

Here, $\sum_{n=t-4}^{t-1} \text{investment}_{i,n,s}$ is the cumulative investment for a 4-year period, whether it is IFC investment, IFC and MDB investment, or total private investment. Again, for 'account ownership at a financial institution,' we use a three year period rather than a four year period for lack of data.

Our cutoff value for significance is 0.05 (two ** in the appendix). Since we are performing over 1400 hypothesis tests on individual regression variables, one may be concerned about the problem of multiple comparisons. However, our goal is not to prevent false positive Type I errors, but rather to prevent Type II errors (i.e. we want to find more instances of IFC private investment significance, despite the risk of falsely identifying these instances).

4 Results and Discussion

4.1 Exploratory Plots

We do a preliminary exploration of the residual plots of the generation sector by regressing a few variables on GDP per capita. For brevity, we denote "excess" values as residuals of the regression of this dependent variable on GDP per capita. When looking at the plot of cumulative total non-IFC private investment in generation vs. cumulative IFC investment in generation (Figure 1), many points are at zero,[23] and we have a few outliers: Laos, notably, receives zero IFC investment, but enjoys large private investment flows. Despite this outlier, there is a generally positive relationship between excess private investment in generation (controlled for GDP) and IFC investment in generation (see Figure 2).

On the other hand, when plotting the excess non-IFC non-MDB private investment vs. cumulative IFC and MDB investment, we see a very clear linear relationship (Figure 3). MDBs outside of the IFC invest in Laos and Belize, which other private investors also invest in.

On a plot of excess electric power consumption vs. cumulative IFC investment in generation (Figure 4), IFC investment in generation is not correllated with excess electric power consumption. Of note, the IFC has spent very little in generation for countries like Russia or Ukraine, which enjoy large electric power consumption given their GDP per capita. This similarly holds for MDBs in general (Figure 5).

4.2 Investment

We regressed cumulative IFC investment from the year 2004 to the year 2018 on population, GDP per capita, and our regulatory variables (Table 14). GDP per capita was significant for investment in the Financial Institutions sector. For the generation sector, the electricity regulatory variable was a significant indicator of greater cumulative IFC investment. Finally, the presence of ICT mobile competition in a country was significantly negatively associated with cumulative IFC investment in ICT. So, IFC tended to invest in areas that were relatively more affluent for financial projects. Additionally, IFC tended to invest

[23] 43 countries are at the origin and receive no private investment at all

in countries where there was less prior private mobile competition and countries where there previously was an independent regulatory body for electricity.

Moving to the regressions of cumulative IFC and other MDB investments from the year 2004 to the year 2018 on the same dependent variables (Table 15), we find similar results. Other MDBs, like IFC, invested in countries with independent electricity regulatory bodies and where there was little mobile competition. Like the IFC, for other MDBs, GDP per capita is not significantly related to investment in non-Financial sectors.[24]

When regressing total private investment on the same dependent variables, we find all variables, except GDP per capita, are not significant. Here, the coefficient for GDP per capita is significant for all three sectors with data available (Generation, ICT, and Transmission) (Table 16). Compared to other private investors, IFC and other MDBs invest in countries that have independent electricity regulatory agencies and less private mobile competition. Additionally, IFC and other MDB investment quantity is not as related to a country's wealth as non-IFC non-MDB private investment is. This may suggest IFC and other MDBs are investing in countries with greater infrastructure needs.

Turning to our four-year results, lagged IFC investment is consistently and significantly related to subsequent private investment in infrastructure (Table 17). The effect comes not merely from the *presence* of IFC investments—adding number of projects does not knock out the significance of the scale of those investments (although it also enters significantly). The results hold for MDBs and the IFC together (Table 18). However, the results are not robust after eliminating the instances where cumulative private investment and IFC investment was zero. In a gamma-log regression of only positive cumulative private investment, the effect of IFC investment does not come in significant (Table 13). It is worth emphasizing that IFC and MDBs co-invest with private companies in projects. They will only be able to do that if private provision is allowed in the market and private providers are willing to operate and invest there. Given that, it is unsurprising that there is a link between IFC/MDB PPI and banking investments and other private investment (although the lag implies this investment is (usually) not co-investment in the same project). But it is a concern is that in cases where private sector investment is non-zero, the scale of IFC investment in a sector-country is unrelated to subsequent private investment in a sector-country, suggesting a potential limit to demonstration effects.

4.3 Infrastructure

With regards to sector outcomes in infrastructure, there is little evidence of a relationship between prior IFC or MDB investment in our outcome variables. Table 21 looks at investment in electricity generation and power consumption. While time and GDP per-capita enter significantly and explain a considerable portion of the variation over time in consumption, none of the IFC or MDB lagged investment variables enter significantly. It is interesting to note that the presence of private investment in electricity is 2004 is associated with lower consumption, while an electricity regulator is associated with somewhat higher consumption.

[24]Note that we cannot run this regression on the financial sector because we do not have data on total private investment in financial institutions.

Table 22 looks at IFC/MDB investment in electricity transmission and distribution and electricity access. Absent country effects, there is a small significantly positive effect of IFC investment on access, but the result disappears with the inclusion of country fixed effects. The same result holds for MDB investment as a whole. There is some evidence that private distribution in 2004 is associated with slightly greater electricity access. The same results broadly hold for investment in transmission and consumption (Table 23) and ICT and mobile phone access (Table 24).

In many cases, almost all the variation in a country's outcomes could be explained by GDP per-capita, country effects, and the progression of time. Moreover, total lagged private investment was insignificantly related to the above outcomes with the inclusion of country effects. Given that the primary route through which it would be hoped IFC or MDB investment in private provision of infrastructure would have an effect would be through catalyzing private investment, and given the insignificance of private investment to sector outcomes in these regressions, the insignificance of MDB investment on outcomes should come as less of a surprise. However, without any proper identification strategy, we make no strong conclusions about causality.

As a robustness test, we re-ran the four-year regressions using eight-year periods. The main results did not change, except that cumulative period private investment is significant for electric power consumption. Cumulative period private investment is significant for electric power consumption.[25]

4.4 Finance

Using the cumulative three year lagged results without country fixed effects, Table 28 suggests that the scale of IFC investment is associated with the number of borrowers from commercial banks, although the effect is apparently driven by participation rather than the scale of IFC investment. While IFC investment levels are not associated with account ownership, the lagged number of projects is significantly correlated. As with the infrastructure results, however, these results disappear with the inclusion of country fixed effects.

5 Conclusion

Perhaps the lack of results should not come as a surprise. Our panel, as shown earlier, has only a total of around 200 IFC investments in infrastructure. The IFC has spent to the tune of only 10-20 billion dollars worldwide since 1995 in the sector. Projects are not all designed to increase access or generation, attenuating any relationship between investment and any particular outcome variable. It might have been unreasonable to expect much in the way of significant results under the circumstances. More might have been hoped from analysis of MDBs as a whole, and the lack of association between private investment as a whole to outcomes may suggest it is substituting for public investment rather than spurring greater access and use. Note that this potential substitution may allow

[25]These regressions had 2 data maximum per country (years 2010 and 2018 for the outcome variable). Therefore, the number of total observations dropped by more than half. We could not run country fixed effects on the regressions, and when we had only one year of data available, the year independent variable was omitted.

for greater government investment in other sectors, but it is hard to reconcile with development institutions advertising that they have leveraged billions of investment that has led to millions of connections as impact. In finance, despite the fact that this is the largest single sector of IFC operations, the scale of those operations do remain small compared to the overall size of the banking sector. Again, perhaps it would be a surprise to find a significant impact under the circumstances.

This is a partial and inadequate effort to look at sectoral outcomes related to IFC and MDB investments. Not least, our economic approach does not allow for strong causal statements. And it is important to emphasize that many IFC and MDB-financed projects have successfully delivered results –both better infrastructure and more finance, often with demonstration and market making effects. But this is why the agencies themselves, and in particular their evaluation arms, should pay considerably more attention to analyzing macroeconomic impact, especially given a 'billions to trillions' agenda that calls for DFIs to have a major role on delivering the universal access targets of the Sustainable Development Goals.

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7 Appendix

7.1 Exploratory Plots:

Figure 1

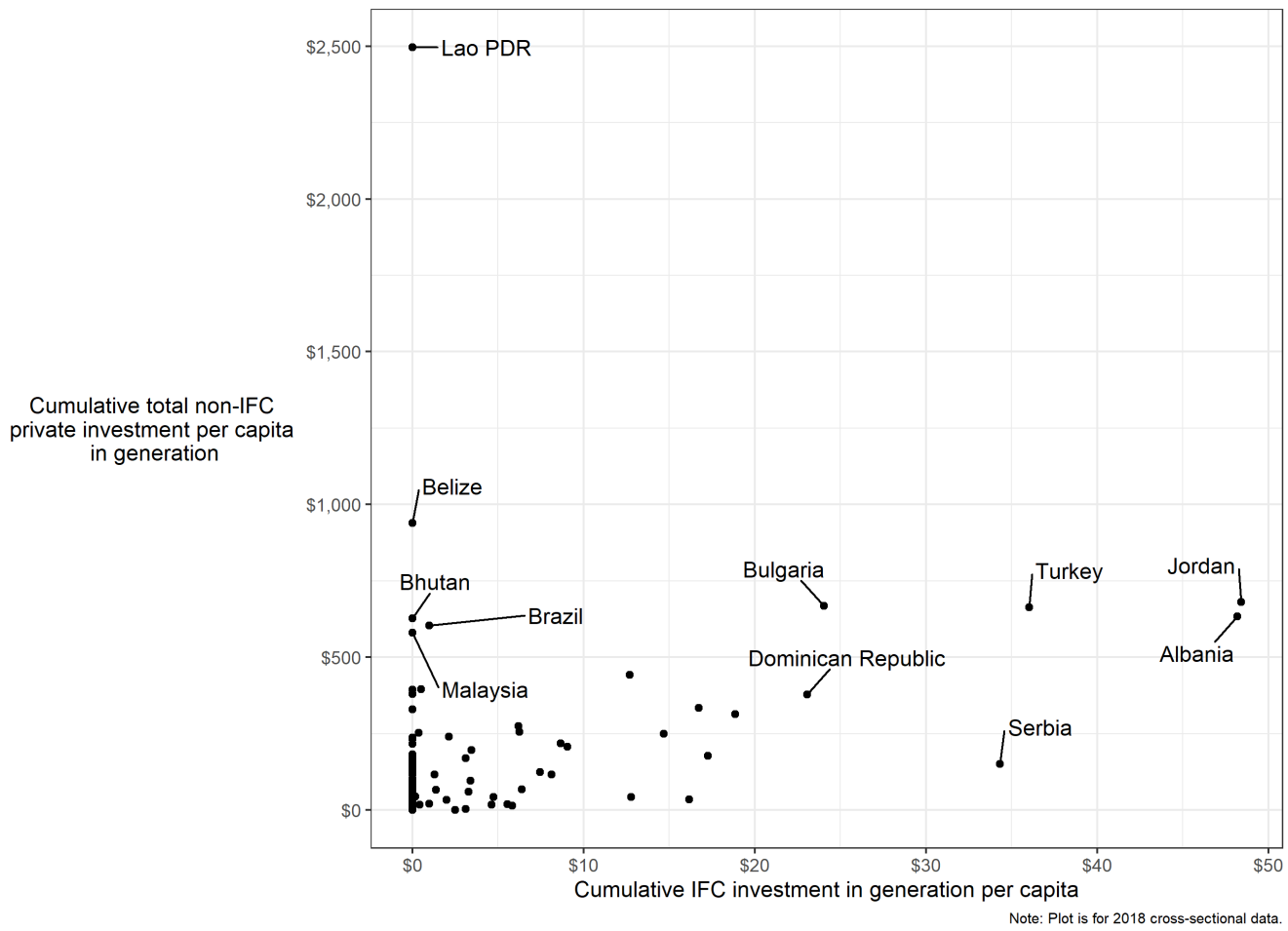


Figure 2

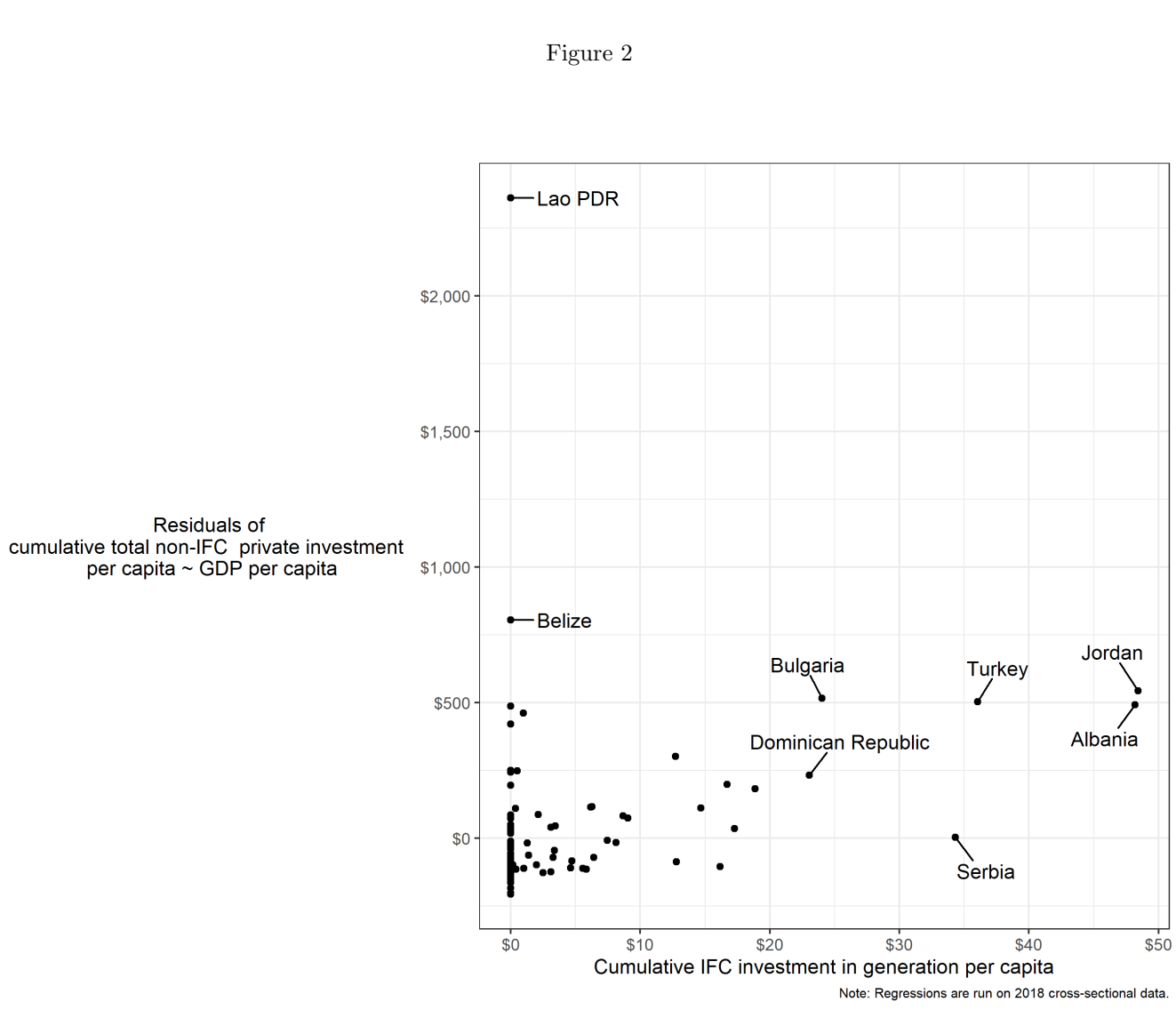


Figure 3

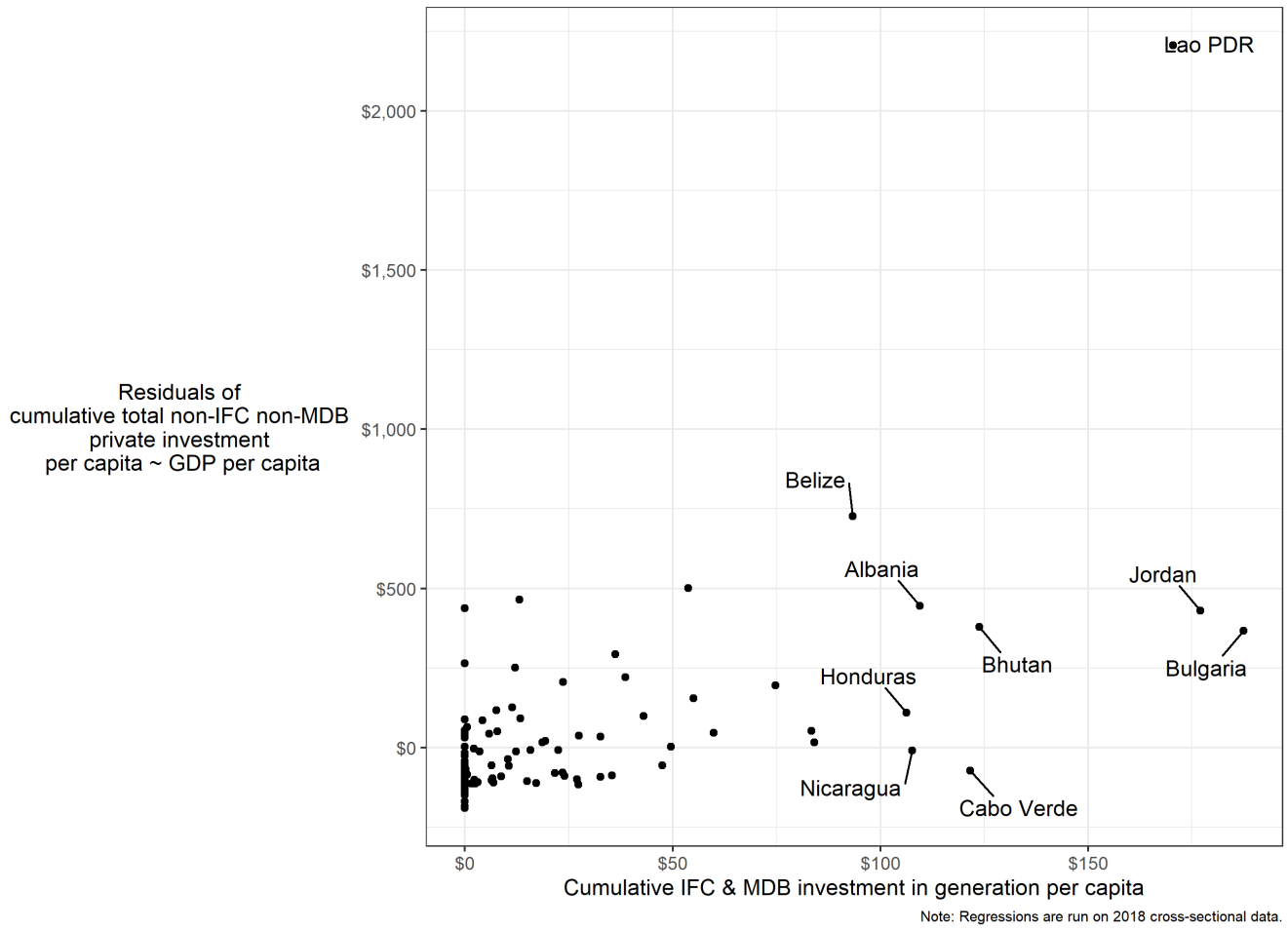


Figure 4

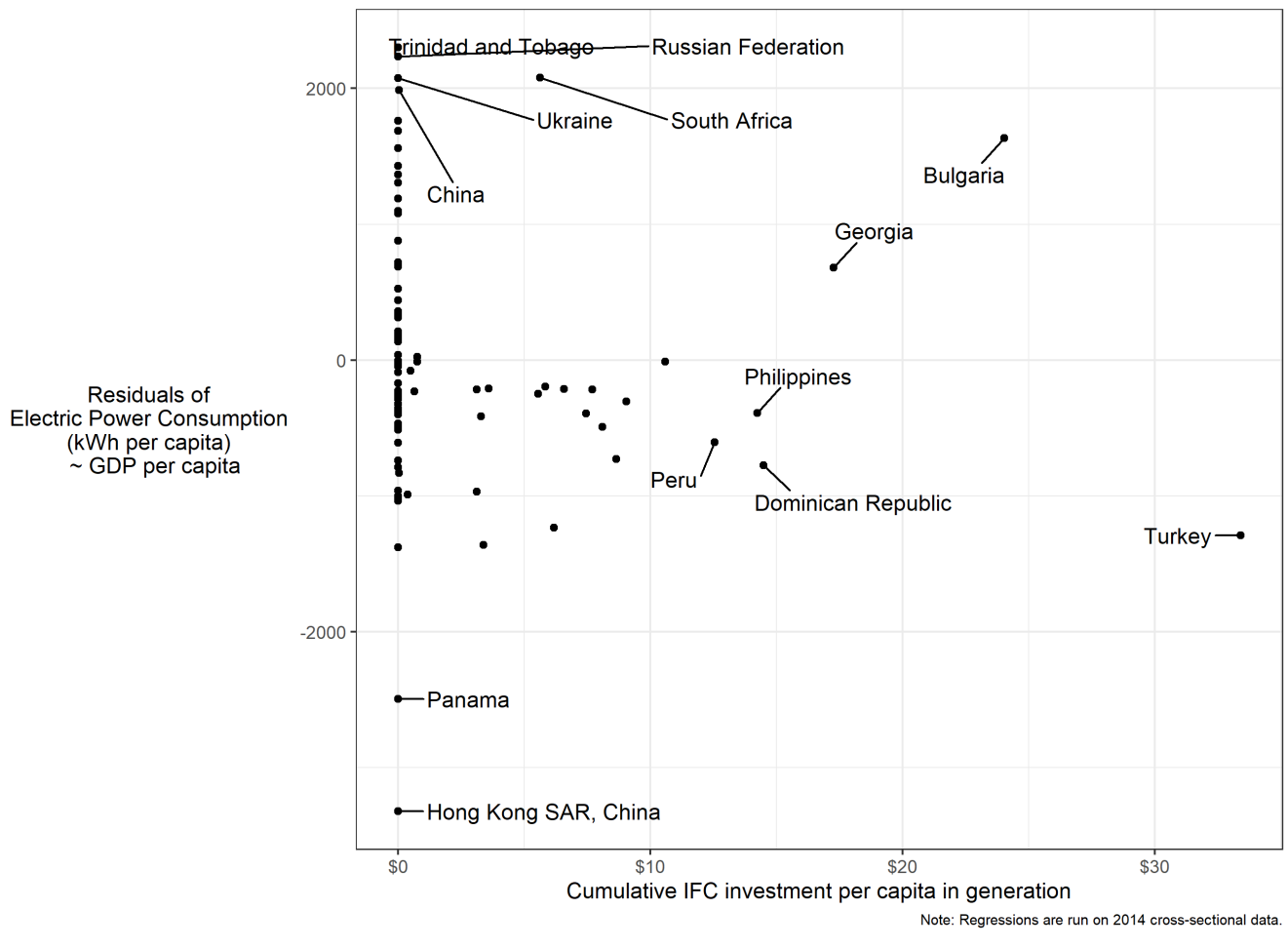
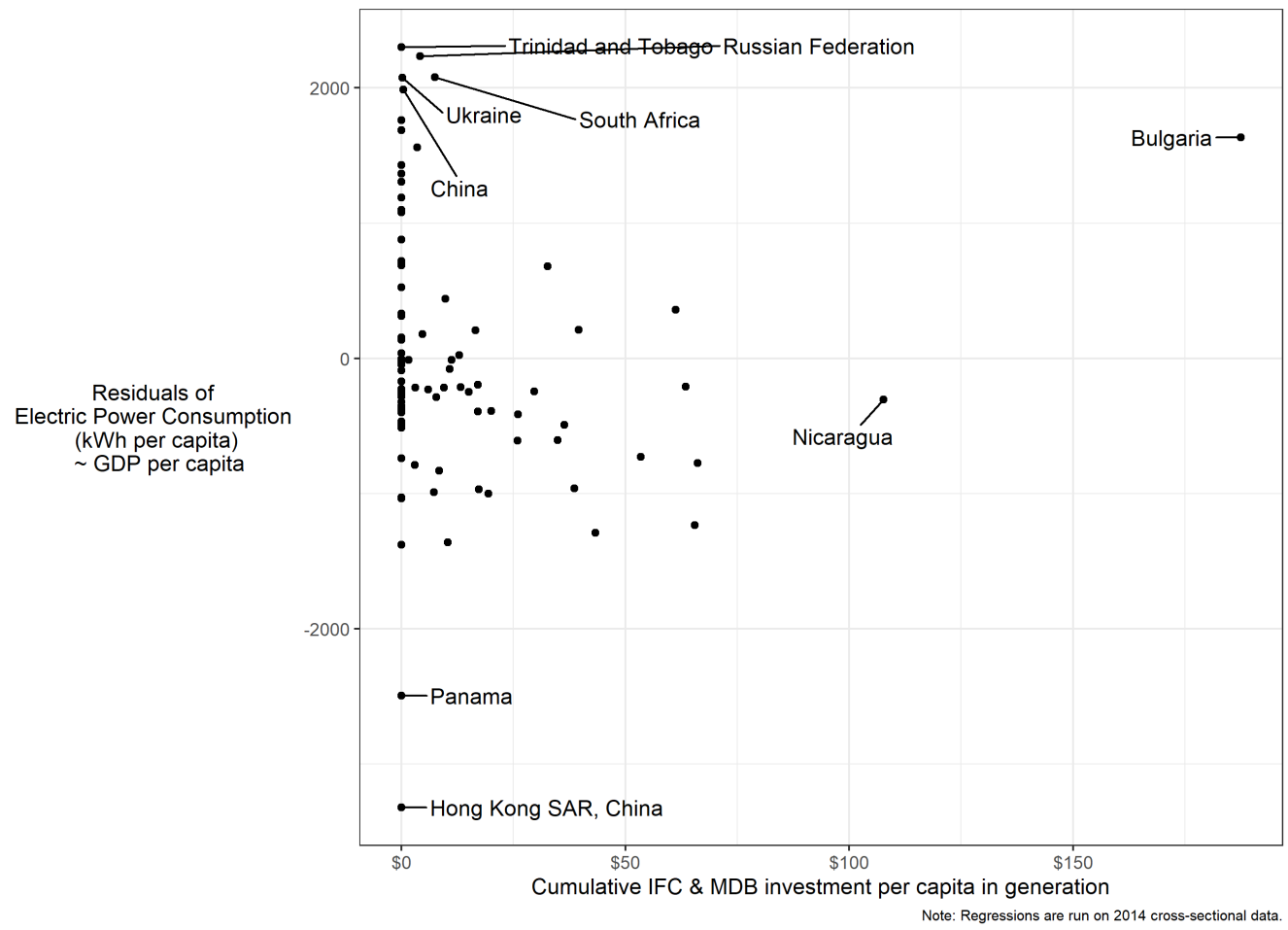


Figure 5



7.2 Tables of Regression Variables:

Table 6: Summary Statistics for Variables in Cross-Sectional Gamma-Log Regression

	mean	sd	median
Cumulative Total Private non-IFC Investment	118.52	220.58	43.05
Cumulative Total Private non-IFC non-MDB Investment	107.75	204.10	34.25
Log(Population)	16.56	1.77	16.67
GDP per capita	9988.86	7319.96	8449.59
Cumulative IFC Investment (2018)	2.82	8.77	0
Count of Cumulative IFC Investment (2018)	0.80	2.41	0
Cumulative IFC and MDB Investment (2018)	13.58	30.80	0
Count of Cumulative IFC and MDB Investment (2018)	2.21	4.65	0

Table 7: Summary Statistics for Variables in Cross-Sectional Regression on Investment Variables

	mean	sd	median
Cumulative IFC Investment (2004-2018)	6.65	24.82	0
Cumulative IFC and MDB Investment (2004-2018)	4.58	18.65	0
Cumulative Total non-IFC non-MDB Private Investment (2004-2018)	31.82	126.74	0
GDP per Capita	11689.78	11030.47	8607
Population	48128647.25	168714603.59	11338138
Electricity Regulator (regulatory variable)	0.53	0.50	1
Private Generation (regulatory variable)	0.47	0.50	0
ICT regulator (regulatory variable)	0.71	0.45	1
ICT Private Capital (regulatory variable)	0.57	0.50	1
ICT Mobile Competition (regulatory variable)	0.86	0.35	1
Private Distribution (regulatory variable)	0.35	0.48	0

Table 8: Financial Institutions Summary Statistics for Variables in Panel Period Regression

	mean	sd	median
GDP per Capita	9993.26	10538.68	7185
Investment Year	10.00	5.66	10
Period IFC Investment	5.47	21.60	0
Count of Period IFC Investment	1.89	4.23	0
Log(Population)	15.99	1.83	16
Period Other IFC Investment	0.95	5.12	0
Period IFC and MDB Investment	n/a	n/a	n/a
Period MDB Investment	n/a	n/a	n/a
Total Private Investment	n/a	n/a	n/a

Table 9: Generation Summary Statistics for Variables in Panel Period Regression

	mean	sd	median
GDP per Capita	9993.26	10538.68	7185
Investment Year	10.00	5.66	10
Period IFC Investment	0.57	3.45	0
Count of Period IFC Investment	0.21	0.93	0
Log(Population)	15.99	1.83	16
Period Other IFC Investment	5.74	22.05	0
Period IFC and MDB Investment	3.34	13.76	0
Period MDB Investment	0.53	1.63	0
Total Private Investment	5.63	30.40	0
Electricity Regulator	0.53	0.50	1
Private Generation	0.47	0.50	0

Table 10: ICT Summary Statistics for Variables in Panel Period Regression

	mean	sd	median
GDP per Capita	9993.26	10538.68	7185
Investment Year	10.00	5.66	10
Period IFC Investment	0.17	3.00	0
Count of Period IFC Investment	0.01	0.11	0
Log(Population)	15.99	1.83	16
Period Other IFC Investment	6.26	22.21	0
Period IFC and MDB Investment	0.36	4.38	0
Period MDB Investment	0.03	0.21	0
Total Private Investment	1.54	17.89	0
ICT Regulator	0.71	0.45	1
ICT Private Capital	0.57	0.50	1
ICT Mobile Competition	0.86	0.35	1

Table 11: Transmission Summary Statistics for Variables in Panel Period Regression

	mean	sd	median
GDP per Capita	9993.26	10538.68	7185
Investment Year	10.00	5.66	10
Period IFC Investment	0.13	1.52	0
Count of Period IFC Investment	0.02	0.16	0
Log(Population)	15.99	1.83	16
Period Other IFC Investment	6.30	22.15	0
Period IFC and MDB Investment	0.59	4.36	0
Period MDB Investment	0.08	0.55	0
Total Private Investment	1.09	10.30	0
Electricity Regulator	0.53	0.50	1
Private Distribution	0.35	0.48	0

Table 12: Total Summary Statistics for Variables in Panel Period Regression

	mean	sd	median
GDP per Capita	9993.26	10532.49	7185
Investment Year	10.00	5.66	10
Period IFC Investment	1.38	10.43	0
Count of Period IFC Investment	0.46	2.13	0
Log(Population)	15.99	1.83	16
Period Other IFC Investment	4.81	19.45	0
Period IFC and MDB Investment	1.43	8.81	0
Period MDB Investment	0.21	1.03	0
Total Private Investment	2.75	21.30	0

7.3 Gamma-Log Regression on Outcome of Other Private Investment:

Table 13

	Dependent variable:				
	Cumulative Total Private non-IFC Investment		Cumulative Total Private non-IFC non-MDB Investment		
	(1)	(2)	(3)	(4)	(5)
Log(Population)	−0.211***	−0.259***	−0.293***	−0.152***	−0.354***
	(0.060)	(0.068)	(0.050)	(0.048)	(0.065)
GDP per capita	0.0001***	0.0001***	0.0001***	0.0001***	0.0001***
	(0.00001)	(0.00002)	(0.00001)	(0.00001)	(0.00002)
Cumulative IFC Investment	0.013	0.003			
	(0.012)	(0.014)			
Cumulative Count of IFC Investment		0.079			
		(0.055)			
Cumulative IFC and MDB Investment			0.008***	0.011***	
			(0.003)	(0.003)	
Cumulative Count IFC and MDB Investment			0.088***		0.105***
			(0.021)		(0.027)
segment: ICT	−1.339***	−1.235***	−0.493**	−0.823***	−0.762***
	(0.241)	(0.262)	(0.197)	(0.197)	(0.268)
segment: transmission	−1.078***	−0.994***	−0.634***	−0.769***	−0.868***
	(0.301)	(0.321)	(0.229)	(0.235)	(0.316)
Constant	7.637***	8.298***	8.222***	6.203***	9.500***
	(1.022)	(1.123)	(0.841)	(0.822)	(1.073)
Observations	213	213	208	208	208
Log Likelihood	−1,145.300	−1,143.400	−1,090.700	−1,101.200	−1,098.300
Akaike Inf. Crit.	2,302.600	2,300.800	2,195.400	2,214.500	2,208.600
Note:					*p<0.1; **p<0.05; ***p<0.01

7.4 Cross-Sectional Regression on Investment Variables:

Table 14

	Cumulative IFC Investment (2004-2018)			
	Financial Institutions	Generation	ICT	Transmission
	(1)	(2)	(3)	(4)
GDP per Capita	0.001***	0.0002*	0.0001	0.00004
	(0.0004)	(0.0001)	(0.0001)	(0.0001)
Population	−0.00000	−0.000	−0.000	−0.000
	(0.00000)	(0.000)	(0.000)	(0.000)
Electricity Regulator (regulatory variable)		4.922**		0.157
		(2.012)		(0.856)
Private Generation (regulatory variable)		−3.072		
		(1.978)		
ICT regulator (regulatory variable)			1.695	
			(1.801)	
ICT Private Capital (regulatory variable)			1.920	
			(1.513)	
ICT Mobile Competition (regulatory variable)			−5.748***	
			(2.097)	
Private Distribution (regulatory variable)				1.615*
				(0.878)
Constant	12.467**	0.444	2.541	−0.341
	(5.860)	(1.777)	(2.445)	(0.667)
Observations	127	96	100	101
R^2	0.082	0.120	0.097	0.063
Adjusted R^2	0.067	0.081	0.049	0.024
Residual Std. Error	44.326 (df = 124)	9.073 (df = 91)	6.984 (df = 94)	3.564 (df = 96)
F Statistic	5.540*** (df = 2; 124)	3.091** (df = 4; 91)	2.015* (df = 5; 94)	1.610 (df = 4; 96)
Note:				*p<0.1; **p<0.05; ***p<0.01

Table 15

	Cumulative IFC and MDB Investment (2004-2018)		
	Generation	ICT	Transmission
	(1)	(2)	(3)
GDP per Capita	0.001	0.0002	0.0002
	(0.0005)	(0.0002)	(0.0001)
Population	−0.00000	−0.000	−0.000
	(0.00000)	(0.000)	(0.000)
Electricity Regulator (regulatory variable)	18.535***		0.708
	(6.978)		(2.380)
Private Generation (regulatory variable)	−9.028		
	(6.861)		
ICT regulator (regulatory variable)		3.267	
		(2.662)	
ICT Private Capital (regulatory variable)		1.278	
		(2.236)	
ICT Mobile Competition (regulatory variable)		−6.786**	
		(3.099)	
Private Distribution (regulatory variable)			3.887
			(2.440)
Constant	5.264	2.138	−0.826
	(6.164)	(3.613)	(1.853)
Observations	96	100	101
R^2	0.114	0.086	0.072
Adjusted R^2	0.075	0.037	0.033
Residual Std. Error	31.472 (df = 91)	10.322 (df = 94)	9.907 (df = 96)
F Statistic	2.939** (df = 4; 91)	1.766 (df = 5; 94)	1.864 (df = 4; 96)
Note:			*p<0.1; **p<0.05; ***p<0.01

Table 16

	Cumulative Total non-IFC non-MDB Private Investment (2004-2018)		
	Generation	ICT	Transmission
	(1)	(2)	(3)
GDP per Capita	0.008***	0.002**	0.002***
	(0.002)	(0.001)	(0.001)
Population	−0.00000	−0.00000	−0.000
	(0.00000)	(0.00000)	(0.00000)
Electricity Regulator (regulatory variable)	54.679*		17.952
	(27.557)		(12.117)
Private Generation (regulatory variable)	−25.499		
	(27.095)		
ICT regulator (regulatory variable)		−11.234	
		(12.446)	
ICT Private Capital (regulatory variable)		−4.780	
		(10.454)	
ICT Mobile Competition (regulatory variable)		7.020	
		(14.492)	
Private Distribution (regulatory variable)			5.263
			(12.423)
Constant	3.768	9.936	−16.161*
	(24.342)	(16.894)	(9.434)
Observations	96	100	101
R^2	0.251	0.068	0.170
Adjusted R^2	0.218	0.019	0.135
Residual Std. Error	124.280 (df = 91)	48.265 (df = 94)	50.436 (df = 96)
F Statistic	7.611*** (df = 4; 91)	1.381 (df = 5; 94)	4.915*** (df = 4; 96)
Note:			*p<0.1; **p<0.05; ***p<0.01

7.5 Panel Regression with Periods on Investment Variables:

Table 17

	Private Investment: Cumulative Period non-IFC Total Investment							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
GDP per capita	0.0001	0.001	0.0001	0.0005	0.0001	0.001	0.0001	0.0002
	(0.0001)	(0.001)	(0.0001)	(0.001)	(0.0001)	(0.001)	(0.0001)	(0.001)
Investment Year	0.800**	0.701*	0.736**	0.654*	0.715**	0.631*	0.803**	1.066
	(0.335)	(0.359)	(0.335)	(0.359)	(0.336)	(0.360)	(0.336)	(0.707)
Cumulative Prior Period IFC Investment	3.144***	2.891***	2.306***	2.185***			3.142***	2.886***
	(0.649)	(0.658)	(0.708)	(0.721)			(0.649)	(0.658)
Count of Cumulative Period IFC Investment.lag			13.287***	11.396**	19.323***	17.359***		
			(4.564)	(4.783)	(4.184)	(4.372)		
Log(Population)							−0.188	−17.901
							(0.801)	(29.900)
segment: ICT	−16.593***	−16.627***	−15.095***	−15.340***	−14.669***	−14.907***	−16.593***	−16.627***
	(3.657)	(3.534)	(3.684)	(3.569)	(3.693)	(3.577)	(3.658)	(3.535)
segment: transmission	−18.485***	−18.558***	−17.325***	−17.559***	−17.353***	−17.560***	−18.485***	−18.559***
	(3.661)	(3.538)	(3.673)	(3.557)	(3.685)	(3.567)	(3.662)	(3.539)
Constant	16.237***	4.754	15.215***	3.583	15.301***	3.458	19.228	309.110
	(3.886)	(16.648)	(3.893)	(16.627)	(3.905)	(16.676)	(13.296)	(508.620)
Country effects?	No	Yes	No	Yes	No	Yes	No	Yes
Observations	1,536	1,536	1,536	1,536	1,536	1,536	1,536	1,536
R^2	0.040	0.178	0.045	0.181	0.039	0.176	0.040	0.178
Adjusted R^2	0.037	0.100	0.041	0.103	0.035	0.098	0.036	0.100
Residual Std. Error	58.492 (df = 1530)	56.529 (df = 1403)	58.350 (df = 1529)	56.435 (df = 1402)	58.533 (df = 1530)	56.600 (df = 1403)	58.510 (df = 1529)	56.542 (df = 1402)
F Statistic	12.708*** (df = 5; 1530)	2.297*** (df = 132; 1403)	12.054*** (df = 6; 1529)	2.330*** (df = 133; 1402)	12.269*** (df = 5; 1530)	2.264*** (df = 132; 1403)	10.593*** (df = 6; 1529)	2.281*** (df = 133; 1402)
Note:								*p<0.1; **p<0.05; ***p<0.01

Table 18

	Private Investment: Cumulative Period non-IFC non-MDB Total Private Investment							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
GDP per capita	0.0001	0.0005	0.0001	0.0004	0.0001	0.0005	0.0001	0.0002
	(0.0001)	(0.001)	(0.0001)	(0.001)	(0.0001)	(0.001)	(0.0001)	(0.001)
Investment Year	0.525*	0.457	0.460*	0.416	0.551*	0.484	0.514*	0.781
	(0.281)	(0.305)	(0.280)	(0.305)	(0.306)	(0.331)	(0.281)	(0.601)
Cumulative Period Lagged IFC and MDB Investment	2.895***	2.692***	2.682***	2.545***			2.901***	2.692***
	(0.146)	(0.153)	(0.154)	(0.162)			(0.146)	(0.153)
Count of Cumulative Period Lagged IFC and MDB Investment			7.205***	5.122***	16.915***	15.396***		
			(1.696)	(1.920)	(1.755)	(1.958)		
Log(Population)							0.563	−15.884
							(0.670)	(25.422)
segment: ICT	−6.572**	−7.123**	−4.450	−5.600*	−8.085**	−8.654***	−6.557**	−7.124**
	(3.085)	(3.032)	(3.108)	(3.079)	(3.395)	(3.332)	(3.085)	(3.033)
segment: transmission	−9.265***	−9.808***	−7.557**	−8.580***	−11.654***	−12.135***	−9.250***	−9.810***
	(3.084)	(3.032)	(3.093)	(3.060)	(3.377)	(3.309)	(3.084)	(3.032)
Constant	7.202**	−0.313	5.436*	−1.217	9.335***	0.696	−1.758	269.750
	(3.271)	(14.157)	(3.279)	(14.130)	(3.582)	(15.320)	(11.154)	(432.450)
Country effects?	No	Yes	No	Yes	No	Yes	No	Yes
Observations	1,536	1,536	1,536	1,536	1,536	1,536	1,536	1,536
R^2	0.223	0.313	0.232	0.316	0.078	0.195	0.223	0.313
Adjusted R^2	0.220	0.248	0.229	0.251	0.075	0.120	0.220	0.247
Residual Std. Error	48.945 (df = 1530)	48.066 (df = 1403)	48.674 (df = 1529)	47.962 (df = 1402)	53.293 (df = 1530)	52.002 (df = 1403)	48.949 (df = 1529)	48.076 (df = 1402)
F Statistic	87.626*** (df = 5; 1530)	4.831*** (df = 132; 1403)	76.842*** (df = 6; 1529)	4.869*** (df = 133; 1402)	26.011*** (df = 5; 1530)	2.580*** (df = 132; 1403)	73.125*** (df = 6; 1529)	4.796*** (df = 133; 1402)
Note:								*p<0.1; **p<0.05; ***p<0.01

7.6 Panel Regression with Periods on Outcome Variables:

Table 19

	Electricity Generation: Renewable electricity output (percent of total electricity output)									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
GDP per capita	−0.001***	−0.00002	−0.001***	−0.00002	−0.001***	−0.00002	−0.001***	−0.0001	−0.001***	−0.0001
	(0.0001)	(0.0002)	(0.0001)	(0.0002)	(0.0001)	(0.0002)	(0.0002)	(0.0003)	(0.0002)	(0.0003)
Investment Year	0.233	0.028	0.255	0.028	0.270	0.027	0.363	0.155	0.401	0.148
	(0.334)	(0.103)	(0.335)	(0.104)	(0.334)	(0.104)	(0.521)	(0.139)	(0.515)	(0.137)
Cumulative Period IFC Investment	0.201	−0.063	0.776	−0.081			0.398	−0.088		
	(0.789)	(0.275)	(1.005)	(0.355)			(0.815)	(0.284)		
Count of Cumulative Period IFC Investment			−3.009	0.091	−1.452	−0.077				
			(3.257)	(1.166)	(2.556)	(0.903)				
Cumulative Period IFC Investment in Other Sectors							−0.084	0.013	−0.084	0.013
							(0.069)	(0.021)	(0.069)	(0.021)
Constant	44.472***	80.085***	44.533***	80.090***	44.428***	80.103***	43.444***	79.297***	43.193***	79.383***
	(3.215)	(4.728)	(3.216)	(4.734)	(3.212)	(4.728)	(5.576)	(4.854)	(5.547)	(4.837)
Country effects?	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Observations	512	512	512	512	512	512	384	384	384	384
R^2	0.086	0.946	0.087	0.946	0.086	0.946	0.094	0.963	0.093	0.963
Adjusted R^2	0.080	0.928	0.080	0.928	0.081	0.928	0.084	0.944	0.086	0.944
Residual Std. Error	33.302 (df = 508)	9.336 (df = 381)	33.307 (df = 507)	9.348 (df = 380)	33.294 (df = 508)	9.337 (df = 381)	32.739 (df = 379)	8.096 (df = 252)	32.707 (df = 380)	8.082 (df = 253)
F Statistic	15.877*** (df = 3; 508)	51.453*** (df = 130; 381)	12.117*** (df = 4; 507)	50.927*** (df = 131; 380)	15.971*** (df = 3; 508)	51.447*** (df = 130; 381)	9.837*** (df = 4; 379)	50.296*** (df = 131; 252)	13.063*** (df = 3; 380)	50.864*** (df = 130; 253)
Note:										*p<0.1; **p<0.05; ***p<0.01

	Electricity Generation: Renewable electricity output (percent of total electricity output)									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
GDP per capita	−0.001***	−0.0004*	−0.001***	−0.0004*	−0.001***	−0.00002	−0.001***	−0.00002	−0.001***	−0.00002
	(0.0001)	(0.0002)	(0.0001)	(0.0002)	(0.0001)	(0.0002)	(0.0001)	(0.0002)	(0.0001)	(0.0002)
Investment Year	0.210	0.500**	0.068	0.469**	0.185	0.020	0.200	0.028	0.229	0.031
	(0.333)	(0.203)	(0.331)	(0.202)	(0.332)	(0.103)	(0.336)	(0.105)	(0.336)	(0.105)
Cumulative Period IFC Investment	0.037	−0.147								
	(0.790)	(0.275)								
Cumulative Period Total Private Investment			0.046***	0.003						
			(0.016)	(0.006)						
Log(Population)	1.673**	−22.967***	1.683**	−22.203***						
	(0.790)	(8.536)	(0.780)	(8.491)						
Cumulative Period IFC and MDB Investment					0.179	0.020	0.191	0.026		
					(0.109)	(0.037)	(0.116)	(0.040)		
Count of Cumulative Period IFC and MDB Investment							−0.412	−0.240	0.337	−0.127
							(1.358)	(0.519)	(1.282)	(0.489)
Constant	17.884	470.530***	17.749	457.680***	44.309***	80.167***	44.320***	80.095***	44.425***	80.068***
	(12.964)	(145.190)	(12.787)	(144.430)	(3.206)	(4.726)	(3.209)	(4.733)	(3.214)	(4.729)
Country effects?	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Observations	512	512	512	512	512	512	512	512	512	512
R^2	0.094	0.947	0.109	0.947	0.090	0.946	0.091	0.946	0.086	0.946
Adjusted R^2	0.087	0.929	0.102	0.929	0.085	0.928	0.083	0.928	0.080	0.928
Residual Std. Error	33.189 (df = 507)	9.260 (df = 380)	32.915 (df = 507)	9.260 (df = 380)	33.217 (df = 508)	9.333 (df = 381)	33.246 (df = 507)	9.343 (df = 380)	33.302 (df = 508)	9.336 (df = 381)
F Statistic	13.109*** (df = 4; 507)	51.952*** (df = 131; 380)	15.447*** (df = 4; 507)	51.959*** (df = 131; 380)	16.835*** (df = 3; 508)	51.487*** (df = 130; 381)	12.627*** (df = 4; 507)	50.990*** (df = 131; 380)	15.878*** (df = 3; 508)	51.455*** (df = 130; 381)
Note:										*p<0.1; **p<0.05; ***p<0.01

	Electricity Generation: Renewable electricity output (percent of total electricity output)									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
GDP per capita	−0.002***	−0.002***	−0.002***	−0.002***	−0.002***	−0.002***	−0.002***	−0.002***	−0.002***	−0.002***
	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)
Investment Year	0.373	0.411	0.456	0.380	0.464	0.362	0.261	0.420	0.421	0.431
	(0.602)	(0.607)	(0.606)	(0.608)	(0.599)	(0.603)	(0.597)	(0.597)	(0.616)	(0.615)
Cumulative Period IFC Investment	0.736	1.047		0.739		0.723				
	(0.870)	(1.047)		(0.872)		(0.872)				
Count of Cumulative Period IFC Investment		−1.939	0.064							
		(3.615)	(3.010)							
Cumulative Period IFC Investment in Other Sectors				−0.016	−0.011					
				(0.169)	(0.169)					
Cumulative Period Total Private Investment							0.062**			
							(0.028)			
Log(Population)						0.638	0.790			
						(1.138)	(1.132)			
Cumulative Period IFC and MDB Investment								0.081	0.082	
								(0.131)	(0.138)	
Count of Cumulative Period IFC and MDB Investment									−0.016	0.271
									(1.639)	(1.564)
Electricity Regulator (regulatory variable)	11.154***	11.392***	11.688***	11.145***	11.699***	10.986**	10.183**	11.309***	11.316***	11.544***
	(4.221)	(4.250)	(4.239)	(4.230)	(4.177)	(4.237)	(4.204)	(4.222)	(4.299)	(4.277)
Private Generation (regulatory variable)	−12.781***	−12.693***	−12.688***	−12.784***	−12.686***	−13.094***	−12.348***	−12.520***	−12.518***	−12.705***
	(4.125)	(4.133)	(4.133)	(4.132)	(4.129)	(4.168)	(4.149)	(4.134)	(4.147)	(4.130)
Constant	49.709***	49.366***	48.599***	49.656***	48.532***	39.590**	37.865**	48.901***	48.886***	48.847***
	(6.918)	(6.956)	(6.914)	(6.953)	(6.822)	(19.343)	(19.121)	(6.811)	(6.985)	(6.977)
Country effects?	No	No	No	No	No	No	No	No	No	No
Observations	291	291	291	291	291	291	291	291	291	291
R^2	0.138	0.138	0.135	0.138	0.135	0.139	0.150	0.137	0.137	0.135
Adjusted R^2	0.122	0.120	0.120	0.119	0.120	0.120	0.133	0.121	0.118	0.120
Residual Std. Error	32.862 (df = 285)	32.903 (df = 284)	32.903 (df = 285)	32.919 (df = 284)	32.903 (df = 285)	32.902 (df = 284)	32.673 (df = 284)	32.881 (df = 285)	32.939 (df = 284)	32.902 (df = 285)
F Statistic	9.092*** (df = 5; 285)	7.606*** (df = 6; 284)	8.927*** (df = 5; 285)	7.552*** (df = 6; 284)	8.928*** (df = 5; 285)	7.611*** (df = 6; 284)	8.384*** (df = 6; 284)	9.016*** (df = 5; 285)	7.487*** (df = 6; 284)	8.934*** (df = 5; 285)
Note:										*p<0.1; **p<0.05; ***p<0.01

Table 20

	Electricity Generation: Firms experiencing electrical outages (percent of firms)									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
GDP per capita	−0.002***	−0.002***	−0.002***	−0.002***	−0.002***	−0.002***	−0.002***	−0.002***	−0.002***	−0.002***
	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)
Investment Year	0.409	0.508	0.533	0.297	0.228	0.573	0.542	0.341	0.490	0.484
	(0.592)	(0.599)	(0.620)	(0.561)	(0.595)	(0.575)	(0.620)	(0.629)	(0.626)	(0.622)
Cumulative Period IFC Investment	−8.251***	−7.155**		−8.089***		−7.538***				
	(2.796)	(2.979)		(2.643)		(2.715)				
Count of Cumulative Period IFC Investment		−3.385	−6.048*							
		(3.193)	(3.101)							
Cumulative Period IFC Investment in Other Sectors				0.145***	0.148***					
				(0.049)	(0.052)					
Cumulative Period Total Private Investment							−0.003			
							(0.035)			
Log(Population)						−3.301**	−3.732**			
						(1.365)	(1.450)			
Cumulative Period IFC and MDB Investment								0.010	0.063	
								(0.208)	(0.207)	
Count of Cumulative Period IFC and MDB Investment									−3.326*	−3.237*
									(1.950)	(1.914)
Constant	78.842***	78.408***	76.704***	80.592***	78.878***	131.070***	136.250***	77.015***	77.069***	77.322***
	(7.036)	(7.041)	(7.254)	(6.676)	(7.062)	(22.635)	(24.049)	(7.508)	(7.401)	(7.303)
Country effects?	No	No	No	No	No	No	No	No	No	No
Observations	70	70	70	70	70	70	70	70	70	70
R^2	0.335	0.346	0.288	0.414	0.330	0.389	0.317	0.247	0.279	0.278
Adjusted R^2	0.304	0.306	0.255	0.378	0.300	0.352	0.275	0.213	0.235	0.245
Residual Std. Error	18.907 (df = 66)	18.889 (df = 65)	19.560 (df = 66)	17.871 (df = 65)	18.969 (df = 66)	18.248 (df = 65)	19.299 (df = 65)	20.115 (df = 66)	19.830 (df = 65)	19.693 (df = 66)
F Statistic	11.059*** (df = 3; 66)	8.591*** (df = 4; 65)	8.889*** (df = 3; 66)	11.503*** (df = 4; 65)	10.842*** (df = 3; 66)	10.367*** (df = 4; 65)	7.547*** (df = 4; 65)	7.207*** (df = 3; 66)	6.289*** (df = 4; 65)	8.471*** (df = 3; 66)
Note:										*p<0.1; **p<0.05; ***p<0.01

	Electricity Generation: Firms experiencing electrical outages (percent of firms)									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
GDP per capita	−0.002***	−0.002***	−0.002***	−0.002***	−0.002***	−0.002***	−0.002***	−0.002***	−0.002***	−0.002***
	(0.0004)	(0.0004)	(0.0005)	(0.0004)	(0.0005)	(0.0004)	(0.0005)	(0.0005)	(0.0005)	(0.0005)
Investment Year	−0.175	−0.075	−0.051	−0.197	−0.269	−0.048	−0.102	−0.240	−0.112	−0.112
	(0.649)	(0.663)	(0.695)	(0.629)	(0.669)	(0.651)	(0.699)	(0.699)	(0.710)	(0.702)
Cumulative Period IFC Investment	−7.421***	−6.748**		−7.082***		−7.219**				
	(2.712)	(2.844)		(2.632)		(2.693)				
Count of Cumulative Period IFC Investment		−2.481	−4.581							
		(3.047)	(3.056)							
Cumulative Period IFC Investment in Other Sectors				0.290**	0.315**					
				(0.144)	(0.152)					
Cumulative Period Total Private Investment							−0.065			
							(0.217)			
Log(Population)						−2.033	−2.060			
						(1.514)	(1.756)			
Cumulative Period IFC and MDB Investment								−0.184	−0.053	
								(0.667)	(0.679)	
Count of Cumulative Period IFC and MDB Investment									−1.983	−2.013
									(1.970)	(1.913)
Electricity Regulator (regulatory variable)	−14.112**	−13.496**	−14.899**	−12.155**	−14.186**	−12.807**	−14.465**	−15.978**	−15.011**	−15.121**
	(5.640)	(5.711)	(5.953)	(5.548)	(5.850)	(5.676)	(6.216)	(6.214)	(6.287)	(6.063)
Private Generation (regulatory variable)	5.364	5.772	4.001	2.967	0.349	5.859	3.479	2.825	3.444	3.453
	(5.243)	(5.286)	(5.484)	(5.215)	(5.453)	(5.212)	(5.516)	(5.551)	(5.585)	(5.524)
Constant	90.378***	89.294***	89.009***	90.531***	91.265***	121.200***	122.020***	91.189***	89.840***	89.805***
	(8.691)	(8.824)	(9.247)	(8.419)	(8.956)	(24.515)	(28.577)	(9.348)	(9.442)	(9.331)
Country effects?	No	No	No	No	No	No	No	No	No	No
Observations	53	53	53	53	53	53	53	53	53	53
R^2	0.416	0.425	0.354	0.464	0.380	0.438	0.352	0.324	0.339	0.339
Adjusted R^2	0.354	0.350	0.286	0.394	0.314	0.365	0.267	0.253	0.253	0.269
Residual Std. Error	17.541 (df = 47)	17.604 (df = 46)	18.451 (df = 47)	16.991 (df = 46)	18.083 (df = 47)	17.393 (df = 46)	18.684 (df = 46)	18.872 (df = 47)	18.869 (df = 46)	18.668 (df = 47)
F Statistic	6.706*** (df = 5; 47)	5.659*** (df = 6; 46)	5.157*** (df = 5; 47)	6.638*** (df = 6; 46)	5.754*** (df = 5; 47)	5.985*** (df = 6; 46)	4.163*** (df = 6; 46)	4.515*** (df = 5; 47)	3.933*** (df = 6; 46)	4.820*** (df = 5; 47)
Note:										*p<0.1; **p<0.05; ***p<0.01

Table 21

	Electricity Generation: Electric power consumption (kWh per capita)									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
GDP per capita	0.153***	0.062***	0.152***	0.062***	0.152***	0.062***	0.158***	0.050***	0.158***	0.050***
	(0.004)	(0.007)	(0.004)	(0.007)	(0.004)	(0.007)	(0.005)	(0.010)	(0.005)	(0.010)
Investment Year	1.132	23.175***	2.615	23.302***	3.060	23.273***	−8.229	25.339***	−9.306	24.985***
	(11.212)	(4.302)	(11.238)	(4.328)	(11.200)	(4.315)	(18.420)	(6.538)	(18.175)	(6.373)
Cumulative Period IFC Investment	−9.542	−3.972	16.041	−1.549			−9.262	−2.789		
	(22.642)	(9.665)	(28.486)	(12.396)			(24.243)	(10.907)		
Count of Cumulative Period IFC Investment			−136.580	−12.699	−104.880	−15.865				
			(92.540)	(40.574)	(73.368)	(31.628)				
Cumulative Period IFC Investment in Other Sectors							11.613*	−0.933	11.384*	−0.900
							(6.418)	(2.697)	(6.379)	(2.687)
Constant	151.040	977.300***	156.460	976.370***	153.620	977.130***	123.950	1,056.100***	130.800	1,061.200***
	(108.630)	(173.450)	(108.510)	(173.760)	(108.300)	(173.340)	(193.420)	(205.200)	(192.280)	(203.690)
Country effects?	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Observations	367	367	367	367	367	367	276	276	276	276
R^2	0.773	0.980	0.774	0.980	0.774	0.980	0.777	0.985	0.777	0.985
Adjusted R^2	0.771	0.973	0.772	0.973	0.772	0.973	0.774	0.977	0.775	0.977
Residual Std. Error	941.770 (df = 363)	324.150 (df = 272)	940.250 (df = 362)	324.690 (df = 271)	939.360 (df = 363)	324.100 (df = 272)	953.310 (df = 271)	305.650 (df = 180)	951.810 (df = 272)	304.860 (df = 181)
F Statistic	412.060*** (df = 3; 363)	140.710*** (df = 94; 272)	310.590*** (df = 4; 362)	138.770*** (df = 95; 271)	414.800*** (df = 3; 363)	140.750*** (df = 94; 272)	236.690*** (df = 4; 271)	122.800*** (df = 95; 180)	316.530*** (df = 3; 272)	124.750*** (df = 94; 181)
Note:										*p<0.1; **p<0.05; ***p<0.01

	Electricity Generation: Electric power consumption (kWh per capita)									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
GDP per capita	0.152***	0.074***	0.152***	0.074***	0.153***	0.062***	0.152***	0.062***	0.152***	0.062***
	(0.004)	(0.009)	(0.004)	(0.009)	(0.004)	(0.007)	(0.004)	(0.007)	(0.004)	(0.007)
Investment Year	1.805	9.615	−0.970	8.376	0.102	22.892***	4.114	23.059***	4.298	23.067***
	(11.220)	(8.148)	(11.350)	(8.201)	(11.126)	(4.281)	(11.250)	(4.375)	(11.251)	(4.367)
Cumulative Period IFC Investment	−8.268	−1.502								
	(22.656)	(9.697)								
Cumulative Period Total Private Investment			0.806	0.237						
			(0.935)	(0.422)						
Log(Population)	−40.208	679.920*	−41.706	707.320**						
	(34.192)	(347.650)	(34.140)	(346.410)						
Cumulative Period IFC and MDB Investment					1.222	0.144	5.572	0.315		
					(4.670)	(2.042)	(5.112)	(2.228)		
Count of Cumulative Period IFC and MDB Investment							−84.176**	−3.679	−65.539*	−2.616
							(41.125)	(18.962)	(37.412)	(17.377)
Constant	821.850	−9,155.700*	847.570	−9,593.100*	151.090	979.620***	157.380	978.130***	161.410	981.990***
	(580.680)	(5,183.900)	(579.610)	(5,172.800)	(108.720)	(175.200)	(108.290)	(175.680)	(108.260)	(173.230)
Country effects?	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Observations	367	367	367	367	367	367	367	367	367	367
R^2	0.774	0.980	0.774	0.980	0.773	0.980	0.776	0.980	0.775	0.980
Adjusted R^2	0.771	0.973	0.772	0.973	0.771	0.973	0.773	0.973	0.773	0.973
Residual Std. Error	941.270 (df = 362)	322.480 (df = 271)	940.480 (df = 362)	322.310 (df = 271)	941.910 (df = 363)	324.250 (df = 272)	937.800 (df = 362)	324.820 (df = 271)	938.040 (df = 363)	324.240 (df = 272)
F Statistic	309.710*** (df = 4; 362)	140.710*** (df = 95; 271)	310.390*** (df = 4; 362)	140.870*** (df = 95; 271)	411.900*** (df = 3; 363)	140.620*** (df = 94; 272)	312.680*** (df = 4; 362)	138.650*** (df = 95; 271)	416.300*** (df = 3; 363)	140.630*** (df = 94; 272)
Note:										*p<0.1; **p<0.05; ***p<0.01

	Electricity Generation: Electric power consumption (kWh per capita)									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
GDP per capita	0.183***	0.182***	0.182***	0.181***	0.181***	0.184***	0.182***	0.182***	0.182***	0.183***
	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.010)	(0.009)	(0.009)	(0.009)
Investment Year	−14.365	−11.900	−11.599	−17.298	−18.733	−15.760	−19.273	−16.007	−10.124	−10.190
	(17.398)	(17.574)	(17.469)	(17.819)	(17.506)	(17.345)	(17.470)	(17.158)	(17.832)	(17.803)
Cumulative Period IFC Investment	−8.907	5.195		−10.060		−8.711				
	(22.006)	(26.185)		(22.076)		(21.914)				
Count of Cumulative Period IFC Investment		−89.842	−80.121							
		(90.410)	(75.810)							
Cumulative Period IFC Investment in Other Sectors				5.241	5.034					
				(6.752)	(6.724)					
Cumulative Period Total Private Investment							0.509			
							(0.944)			
Log(Population)						64.331*	64.275*			
						(38.502)	(38.490)			
Cumulative Period IFC and MDB Investment								0.661	2.733	
								(4.482)	(4.801)	
Count of Cumulative Period IFC and MDB Investment									−51.349	−42.540
									(42.908)	(39.957)
Electricity Regulator (regulatory variable)	282.860**	294.840**	296.790**	267.700**	259.440**	302.930**	279.430**	271.180**	291.370**	301.550**
	(123.210)	(123.800)	(123.130)	(124.860)	(123.310)	(123.280)	(125.210)	(124.390)	(125.410)	(123.930)
Private Generation (regulatory variable)	−608.580***	−603.340***	−603.520***	−602.540***	−603.830***	−646.910***	−641.880***	−607.500***	−597.310***	−606.290***
	(118.440)	(118.560)	(118.290)	(118.800)	(118.550)	(120.150)	(120.610)	(119.240)	(119.420)	(118.190)
Constant	144.800	125.440	120.090	171.110	190.410	−926.910	−881.640	165.680	111.350	110.620
	(204.790)	(205.720)	(203.480)	(207.760)	(203.020)	(673.050)	(673.730)	(200.820)	(205.690)	(205.350)
Country effects?	No	No	No	No	No	No	No	No	No	No
Observations	219	219	219	219	219	219	219	219	219	219
R^2	0.664	0.665	0.665	0.665	0.665	0.668	0.668	0.664	0.666	0.665
Adjusted R^2	0.656	0.656	0.658	0.655	0.657	0.659	0.659	0.656	0.656	0.658
Residual Std. Error	816.970 (df = 213)	817.000 (df = 212)	815.150 (df = 213)	817.740 (df = 212)	816.210 (df = 213)	813.560 (df = 212)	813.300 (df = 212)	817.240 (df = 213)	816.420 (df = 212)	815.120 (df = 213)
F Statistic	84.144*** (df = 5; 213)	70.280*** (df = 6; 212)	84.711*** (df = 5; 213)	70.090*** (df = 6; 212)	84.380*** (df = 5; 213)	71.175*** (df = 6; 212)	71.242*** (df = 6; 212)	84.060*** (df = 5; 213)	70.430*** (df = 6; 212)	84.721*** (df = 5; 213)
Note:										*p<0.1; **p<0.05; ***p<0.01

Table 22

	Electricity Transmission: Access to electricity (percent of population)									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
GDP per capita	0.002***	−0.0004***	0.002***	−0.0004***	0.002***	−0.0004***	0.002***	−0.0004**	0.002***	−0.0004**
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0002)	(0.0001)	(0.0002)
Investment Year	0.680***	1.097***	0.710***	1.101***	0.720***	1.097***	0.691***	1.157***	0.705***	1.153***
	(0.193)	(0.060)	(0.194)	(0.060)	(0.193)	(0.060)	(0.259)	(0.079)	(0.258)	(0.079)
Cumulative Period IFC Investment	1.282*	−0.163	0.571	−0.248			0.607	−0.263		
	(0.678)	(0.215)	(0.793)	(0.249)			(0.709)	(0.220)		
Count of Cumulative Period IFC Investment			12.838*	1.587	15.636**	0.391				
			(7.457)	(2.376)	(6.363)	(2.049)				
Cumulative Period IFC Investment in Other Sectors							0.119**	−0.002	0.124**	−0.004
							(0.051)	(0.016)	(0.051)	(0.016)
Constant	49.029***	52.537***	48.461***	52.488***	48.355***	52.545***	48.118***	51.795***	47.992***	51.871***
	(2.370)	(3.658)	(2.389)	(3.660)	(2.384)	(3.660)	(3.415)	(3.554)	(3.411)	(3.556)
Country effects?	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Observations	617	617	617	617	617	617	504	504	504	504
R^2	0.318	0.961	0.321	0.961	0.321	0.961	0.337	0.964	0.336	0.964
Adjusted R^2	0.315	0.950	0.317	0.950	0.317	0.950	0.331	0.951	0.332	0.951
Residual Std. Error	26.682 (df = 613)	7.204 (df = 486)	26.639 (df = 612)	7.208 (df = 485)	26.629 (df = 613)	7.208 (df = 486)	25.632 (df = 499)	6.907 (df = 372)	25.625 (df = 500)	6.911 (df = 373)
F Statistic	95.279*** (df = 3; 613)	91.100*** (df = 130; 486)	72.429*** (df = 4; 612)	90.305*** (df = 131; 485)	96.475*** (df = 3; 613)	90.995*** (df = 130; 486)	63.317*** (df = 4; 499)	76.249*** (df = 131; 372)	84.225*** (df = 3; 500)	76.736*** (df = 130; 373)
Note:										*p<0.1; **p<0.05; ***p<0.01

	Electricity Transmission: Access to electricity (percent of population)									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
GDP per capita	0.002***	−0.0002	0.002***	−0.0002	0.002***	−0.0004***	0.002***	−0.0004***	0.002***	−0.0004***
	(0.0001)	(0.0002)	(0.0001)	(0.0002)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Investment Year	0.689***	0.830***	0.719***	0.837***	0.696***	1.097***	0.720***	1.102***	0.724***	1.102***
	(0.194)	(0.119)	(0.192)	(0.119)	(0.193)	(0.060)	(0.193)	(0.060)	(0.193)	(0.060)
Cumulative Period IFC Investment	1.259*	−0.140								
	(0.678)	(0.214)								
Cumulative Period Total Private Investment			0.192***	0.022						
			(0.049)	(0.017)						
Log(Population)	−0.532	13.082***	−0.634	12.909**						
	(0.574)	(5.032)	(0.568)	(5.027)						
Cumulative Period IFC and MDB Investment					0.659***	0.064	0.542**	0.047		
					(0.242)	(0.078)	(0.251)	(0.081)		
Count of Cumulative Period IFC and MDB Investment							3.417*	0.601	4.512**	0.708
							(1.926)	(0.721)	(1.864)	(0.697)
Constant	57.498***	−170.530**	58.277***	−167.600*	48.662***	52.551***	48.236***	52.502***	48.422***	52.496***
	(9.430)	(85.884)	(9.331)	(85.785)	(2.368)	(3.657)	(2.376)	(3.659)	(2.381)	(3.656)
Country effects?	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Observations	617	617	617	617	617	617	617	617	617	617
R^2	0.319	0.961	0.332	0.961	0.322	0.961	0.326	0.961	0.321	0.961
Adjusted R^2	0.315	0.951	0.328	0.951	0.319	0.950	0.321	0.950	0.317	0.950
Residual Std. Error	26.685 (df = 612)	7.162 (df = 485)	26.425 (df = 612)	7.152 (df = 485)	26.600 (df = 613)	7.204 (df = 486)	26.553 (df = 612)	7.206 (df = 485)	26.632 (df = 613)	7.201 (df = 486)
F Statistic	71.659*** (df = 4; 612)	91.528*** (df = 131; 485)	76.096*** (df = 4; 612)	91.787*** (df = 131; 485)	97.135*** (df = 3; 613)	91.120*** (df = 130; 486)	73.894*** (df = 4; 612)	90.373*** (df = 131; 485)	96.390*** (df = 3; 613)	91.189*** (df = 130; 486)
Note:										*p<0.1; **p<0.05; ***p<0.01

	Electricity Transmission: Access to electricity (percent of population)									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
GDP per capita	0.003***	0.003***	0.003***	0.003***	0.003***	0.003***	0.003***	0.003***	0.003***	0.003***
	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)
Investment Year	0.380	0.399	0.401	0.336	0.335	0.379	0.392	0.380	0.386	0.397
	(0.262)	(0.264)	(0.262)	(0.262)	(0.262)	(0.263)	(0.262)	(0.261)	(0.264)	(0.263)
Cumulative Period IFC Investment	0.216	0.037		−0.056		0.218				
	(0.638)	(0.715)		(0.655)		(0.640)				
Count of Cumulative Period IFC Investment		3.976	4.145							
		(7.188)	(6.408)							
Cumulative Period IFC Investment in Other Sectors				0.180*	0.178*					
				(0.103)	(0.100)					
Cumulative Period Total Private Investment							0.031			
							(0.054)			
Log(Population)						0.038	0.020			
						(0.680)	(0.678)			
Cumulative Period IFC and MDB Investment								0.170	0.159	
								(0.258)	(0.265)	
Count of Cumulative Period IFC and MDB Investment									0.328	0.557
									(1.767)	(1.724)
Electricity Regulator (regulatory variable)	0.367	0.320	0.319	0.410	0.407	0.348	0.238	0.375	0.365	0.360
	(2.770)	(2.774)	(2.770)	(2.763)	(2.759)	(2.794)	(2.802)	(2.769)	(2.772)	(2.770)
Private Distribution (regulatory variable)	7.366**	7.130**	7.132**	6.925**	6.909**	7.369**	7.351**	7.229**	7.160**	7.313**
	(2.874)	(2.908)	(2.904)	(2.877)	(2.867)	(2.878)	(2.871)	(2.881)	(2.909)	(2.895)
Constant	36.168***	35.965***	35.942***	36.655***	36.674***	35.561***	35.806***	36.189***	36.133***	35.982***
	(3.645)	(3.666)	(3.635)	(3.646)	(3.634)	(11.445)	(11.438)	(3.635)	(3.652)	(3.641)
Country effects?	No	No	No	No	No	No	No	No	No	No
Observations	401	401	401	401	401	401	401	401	401	401
R^2	0.495	0.496	0.496	0.499	0.499	0.495	0.496	0.496	0.496	0.495
Adjusted R^2	0.489	0.488	0.489	0.492	0.493	0.488	0.488	0.489	0.488	0.489
Residual Std. Error	22.993 (df = 395)	23.013 (df = 394)	22.984 (df = 395)	22.933 (df = 394)	22.905 (df = 395)	23.022 (df = 394)	23.016 (df = 394)	22.984 (df = 395)	23.012 (df = 394)	22.993 (df = 395)
F Statistic	77.573*** (df = 5; 395)	64.582*** (df = 6; 394)	77.694*** (df = 5; 395)	65.490*** (df = 6; 394)	78.785*** (df = 5; 395)	64.482*** (df = 6; 394)	64.553*** (df = 6; 394)	77.699*** (df = 5; 395)	64.596*** (df = 6; 394)	77.569*** (df = 5; 395)
Note:										*p<0.1; **p<0.05; ***p<0.01

Table 23

	Electricity Transmission: Electric power consumption (kWh per capita)									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
GDP per capita	0.153***	0.062***	0.153***	0.062***	0.153***	0.062***	0.158***	0.050***	0.158***	0.050***
	(0.004)	(0.007)	(0.004)	(0.007)	(0.004)	(0.007)	(0.005)	(0.010)	(0.005)	(0.010)
Investment Year	2.029	23.260***	2.069	23.262***	1.207	23.062***	−8.838	25.169***	−9.407	25.187***
	(11.093)	(4.276)	(11.107)	(4.284)	(11.075)	(4.268)	(18.374)	(6.484)	(18.352)	(6.463)
Cumulative Period IFC Investment	88.622	20.087	72.830	19.647			137.720	−5.111		
	(58.859)	(25.380)	(71.325)	(30.674)			(162.900)	(63.765)		
Count of Cumulative Period IFC Investment			117.650	3.222	289.890	48.289				
			(299.390)	(125.790)	(247.370)	(104.160)				
Cumulative Period IFC Investment in Other Sectors							9.583	−1.011	9.676	−1.015
							(6.048)	(2.650)	(6.044)	(2.642)
Constant	128.600	977.120***	125.050	977.130***	133.270	980.160***	122.850	1,060.300***	133.890	1,060.000***
	(109.420)	(173.090)	(109.920)	(173.410)	(109.630)	(173.160)	(193.560)	(203.850)	(193.020)	(203.250)
Country effects?	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Observations	367	367	367	367	367	367	276	276	276	276
R^2	0.774	0.980	0.774	0.980	0.774	0.980	0.777	0.985	0.777	0.985
Adjusted R^2	0.772	0.973	0.772	0.973	0.772	0.973	0.774	0.977	0.774	0.977
Residual Std. Error	939.070 (df = 363)	323.880 (df = 272)	940.170 (df = 362)	324.480 (df = 271)	940.220 (df = 363)	324.120 (df = 272)	953.390 (df = 271)	305.670 (df = 180)	952.890 (df = 272)	304.830 (df = 181)
F Statistic	415.120*** (df = 3; 363)	140.950*** (df = 94; 272)	310.660*** (df = 4; 362)	138.950*** (df = 95; 271)	413.810*** (df = 3; 363)	140.730*** (df = 94; 272)	236.640*** (df = 4; 271)	122.790*** (df = 95; 180)	315.610*** (df = 3; 272)	124.780*** (df = 94; 181)
Note:										*p<0.1; **p<0.05; ***p<0.01

	Electricity Transmission: Electric power consumption (kWh per capita)									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
GDP per capita	0.152***	0.073***	0.152***	0.073***	0.153***	0.062***	0.153***	0.062***	0.153***	0.062***
	(0.004)	(0.009)	(0.004)	(0.009)	(0.004)	(0.007)	(0.004)	(0.007)	(0.004)	(0.007)
Investment Year	2.625	10.124	0.480	9.023	1.075	23.488***	1.063	23.477***	0.458	23.026***
	(11.105)	(8.175)	(11.059)	(7.980)	(11.104)	(4.261)	(11.121)	(4.272)	(11.083)	(4.267)
Cumulative Period IFC Investment	82.965	11.471								
	(59.086)	(25.674)								
Cumulative Period Total Private Investment			2.841	1.124						
			(1.820)	(0.777)						
Log(Population)	−36.495	659.040*	−37.654	698.410**						
	(34.204)	(350.190)	(34.104)	(343.470)						
Cumulative Period IFC and MDB Investment					9.118	7.183	9.311	7.309		
					(12.191)	(4.968)	(12.698)	(5.246)		
Count of Cumulative Period IFC and MDB Investment							−3.853	−2.876	10.210	13.723
							(69.660)	(37.692)	(66.926)	(35.821)
Constant	738.820	−8,845.200*	767.160	−9,467.600*	139.680	927.100***	140.120	926.960***	150.620	977.560***
	(582.270)	(5,222.100)	(579.560)	(5,123.600)	(109.860)	(176.590)	(110.310)	(176.930)	(109.310)	(173.460)
Country effects?	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Observations	367	367	367	367	367	367	367	367	367	367
R^2	0.775	0.980	0.775	0.980	0.773	0.980	0.773	0.980	0.773	0.980
Adjusted R^2	0.773	0.973	0.773	0.973	0.771	0.973	0.771	0.973	0.771	0.973
Residual Std. Error	938.890 (df = 362)	322.380 (df = 271)	938.290 (df = 362)	321.260 (df = 271)	941.270 (df = 363)	323.010 (df = 272)	942.570 (df = 362)	323.610 (df = 271)	941.970 (df = 363)	324.170 (df = 272)
F Statistic	311.750*** (df = 4; 362)	140.810*** (df = 95; 271)	312.260*** (df = 4; 362)	141.810*** (df = 95; 271)	412.620*** (df = 3; 363)	141.720*** (df = 94; 272)	308.610*** (df = 4; 362)	139.720*** (df = 95; 271)	411.830*** (df = 3; 363)	140.700*** (df = 94; 272)
Note:										*p<0.1; **p<0.05; ***p<0.01

	Electricity Transmission: Electric power consumption (kWh per capita)									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
GDP per capita	0.177***	0.177***	0.177***	0.175***	0.175***	0.178***	0.175***	0.177***	0.177***	0.177***
	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)
Investment Year	−13.505	−11.818	−11.645	−18.967	−19.751	−13.973	−14.808	−14.366	−13.627	−13.556
	(16.894)	(16.975)	(16.943)	(17.589)	(17.601)	(16.931)	(16.925)	(16.973)	(17.099)	(17.052)
Cumulative Period IFC Investment	179.030	84.215		180.660		182.470				
	(143.380)	(171.320)		(143.310)		(143.660)				
Count of Cumulative Period IFC Investment		317.390	401.870							
		(313.940)	(262.280)							
Cumulative Period IFC Investment in Other Sectors				6.907	6.827					
				(6.231)	(6.239)					
Cumulative Period Total Private Investment							2.509			
							(2.088)			
Log(Population)						24.476	24.292			
						(37.736)	(37.747)			
Cumulative Period IFC and MDB Investment								−0.354	−2.475	
								(18.470)	(19.210)	
Count of Cumulative Period IFC and MDB Investment									27.279	24.982
									(66.369)	(63.790)
Electricity Regulator (regulatory variable)	218.130*	215.250	215.330	198.790	201.580	222.350*	202.180	220.860*	220.640*	219.460*
	(131.450)	(131.470)	(131.250)	(132.540)	(132.690)	(131.780)	(133.140)	(132.240)	(132.490)	(131.880)
Private Distribution (regulatory variable)	−363.540***	−383.450***	−382.710***	−375.180***	−356.540***	−365.200***	−350.140***	−344.940***	−353.080***	−353.990***
	(129.710)	(131.190)	(130.960)	(130.070)	(129.390)	(129.900)	(129.140)	(129.950)	(131.690)	(131.210)
Constant	31.097	17.018	15.031	88.995	93.712	−380.270	−352.120	36.539	32.364	32.087
	(197.300)	(197.780)	(197.400)	(204.000)	(204.230)	(664.290)	(663.990)	(198.000)	(198.620)	(198.180)
Country effects?	No	No	No	No	No	No	No	No	No	No
Observations	231	231	231	231	231	231	231	231	231	231
R^2	0.641	0.643	0.643	0.643	0.641	0.642	0.642	0.639	0.639	0.639
Adjusted R^2	0.634	0.634	0.635	0.634	0.633	0.633	0.632	0.631	0.630	0.631
Residual Std. Error	830.030 (df = 225)	829.990 (df = 224)	828.590 (df = 225)	829.610 (df = 224)	830.700 (df = 225)	831.100 (df = 224)	831.420 (df = 224)	832.900 (df = 225)	834.450 (df = 224)	832.620 (df = 225)
F Statistic	80.517*** (df = 5; 225)	67.275*** (df = 6; 224)	80.954*** (df = 5; 225)	67.371*** (df = 6; 224)	80.317*** (df = 5; 225)	66.995*** (df = 6; 224)	66.917*** (df = 6; 224)	79.654*** (df = 5; 225)	66.161*** (df = 6; 224)	79.738*** (df = 5; 225)
Note:										*p<0.1; **p<0.05; ***p<0.01

Table 24

	ICT: Mobile cellular subscriptions (per 100 people)									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
GDP per capita	0.002***	0.002***	0.002***	0.002***	0.002***	0.002***	0.002***	0.001*	0.002***	0.001*
	(0.0001)	(0.0004)	(0.0001)	(0.0004)	(0.0001)	(0.0004)	(0.0001)	(0.001)	(0.0001)	(0.001)
Investment Year	5.873***	5.910***	5.869***	5.907***	5.866***	5.906***	4.946***	5.233***	4.933***	5.246***
	(0.191)	(0.176)	(0.191)	(0.176)	(0.191)	(0.176)	(0.280)	(0.238)	(0.279)	(0.238)
Cumulative Period IFC Investment	0.287	−0.077	0.399	0.134			0.274	−0.307		
	(0.338)	(0.303)	(0.413)	(0.371)			(0.379)	(0.328)		
Count of Cumulative Period IFC Investment			−5.363	−10.100	0.971	−7.971				
			(11.404)	(10.252)	(9.331)	(8.370)				
Cumulative Period IFC Investment in Other Sectors							0.257***	0.128***	0.257***	0.130***
							(0.054)	(0.049)	(0.053)	(0.048)
Constant	−11.446***	−30.497***	−11.373***	−28.500***	−11.350***	−28.861***	−2.924	−24.743**	−2.740	−25.057**
	(2.283)	(9.574)	(2.290)	(9.786)	(2.289)	(9.726)	(3.620)	(10.467)	(3.610)	(10.459)
Country effects?	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Observations	618	618	618	618	618	618	494	494	494	494
R^2	0.727	0.860	0.727	0.860	0.727	0.860	0.648	0.854	0.648	0.854
Adjusted R^2	0.726	0.822	0.725	0.822	0.725	0.822	0.645	0.801	0.646	0.801
Residual Std. Error	26.234 (df = 614)	21.123 (df = 487)	26.250 (df = 613)	21.124 (df = 486)	26.249 (df = 614)	21.105 (df = 487)	27.098 (df = 489)	20.293 (df = 362)	27.084 (df = 490)	20.290 (df = 363)
F Statistic	544.610*** (df = 3; 614)	22.925*** (df = 130; 487)	408.000*** (df = 4; 613)	22.756*** (df = 131; 486)	543.740*** (df = 3; 614)	22.971*** (df = 130; 487)	225.320*** (df = 4; 489)	16.160*** (df = 131; 362)	300.550*** (df = 3; 490)	16.283*** (df = 130; 363)
Note:										*p<0.1; **p<0.05; ***p<0.01

	ICT: Mobile cellular subscriptions (per 100 people)									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
GDP per capita	0.002***	0.002***	0.002***	0.002***	0.002***	0.002***	0.002***	0.002***	0.002***	0.002***
	(0.0001)	(0.0005)	(0.0001)	(0.0005)	(0.0001)	(0.0004)	(0.0001)	(0.0004)	(0.0001)	(0.0004)
Investment Year	5.903***	5.582***	5.954***	5.610***	5.880***	5.913***	5.863***	5.893***	5.863***	5.893***
	(0.191)	(0.350)	(0.191)	(0.352)	(0.191)	(0.176)	(0.193)	(0.178)	(0.193)	(0.178)
Cumulative Period IFC Investment	0.230	−0.068								
	(0.337)	(0.303)								
Cumulative Period Total Private Investment			0.077**	0.020						
			(0.032)	(0.029)						
Log(Population)	−1.416**	15.900	−1.379**	15.329						
	(0.565)	(14.636)	(0.562)	(14.657)						
Cumulative Period IFC and MDB Investment					0.304	0.028	0.371	0.116		
					(0.231)	(0.207)	(0.253)	(0.228)		
Count of Cumulative Period IFC and MDB Investment							−3.562	−4.537	−0.279	−3.506
							(5.471)	(4.903)	(4.996)	(4.458)
Constant	11.054	−301.140	9.546	−291.650	−11.579***	−30.594***	−11.295***	−29.562***	−11.302***	−29.645***
	(9.268)	(249.320)	(9.236)	(249.650)	(2.285)	(9.578)	(2.327)	(9.644)	(2.329)	(9.635)
Country effects?	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Observations	618	618	618	618	618	618	618	618	618	618
R^2	0.730	0.860	0.732	0.860	0.727	0.860	0.727	0.860	0.727	0.860
Adjusted R^2	0.728	0.822	0.730	0.822	0.726	0.822	0.726	0.822	0.725	0.822
Residual Std. Error	26.122 (df = 613)	21.119 (df = 486)	26.010 (df = 613)	21.110 (df = 486)	26.212 (df = 614)	21.124 (df = 487)	26.225 (df = 613)	21.127 (df = 486)	26.249 (df = 614)	21.111 (df = 487)
F Statistic	413.530*** (df = 4; 613)	22.767*** (df = 131; 486)	418.440*** (df = 4; 613)	22.789*** (df = 131; 486)	545.840*** (df = 3; 614)	22.922*** (df = 130; 487)	409.100*** (df = 4; 613)	22.747*** (df = 131; 486)	543.740*** (df = 3; 614)	22.955*** (df = 130; 487)
Note:										*p<0.1; **p<0.05; ***p<0.01

	ICT: Mobile cellular subscriptions (per 100 people)									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
GDP per capita	0.003***	0.003***	0.003***	0.003***	0.003***	0.003***	0.003***	0.003***	0.003***	0.003***
	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)
Investment Year	4.961***	4.963***	4.961***	4.855***	4.845***	5.004***	5.064***	4.976***	4.983***	4.976***
	(0.291)	(0.291)	(0.290)	(0.292)	(0.291)	(0.289)	(0.288)	(0.291)	(0.292)	(0.291)
Cumulative Period IFC Investment	0.141	0.087		0.177		0.080				
	(0.353)	(0.422)		(0.351)		(0.351)				
Count of Cumulative Period IFC Investment		2.880	4.265							
		(12.247)	(10.245)							
Cumulative Period IFC Investment in Other Sectors				0.251**	0.249**					
				(0.107)	(0.107)					
Cumulative Period Total Private Investment							0.102**			
							(0.047)			
Log(Population)						−2.032***	−1.944**			
						(0.774)	(0.769)			
Cumulative Period IFC and MDB Investment								0.200	0.152	
								(0.239)	(0.284)	
Count of Cumulative Period IFC and MDB Investment									2.998	5.755
									(9.542)	(8.013)
ICT Regulator (regulatory variable)	−1.457	−1.468	−1.441	−2.058	−1.958	−2.277	−2.026	−1.575	−1.623	−1.563
	(3.267)	(3.271)	(3.264)	(3.258)	(3.249)	(3.257)	(3.235)	(3.267)	(3.275)	(3.270)
ICT Private Capital (regulatory variable)	4.244	4.241	4.267	3.746	3.829	4.060	4.230	4.251	4.283	4.343
	(2.685)	(2.689)	(2.683)	(2.678)	(2.670)	(2.666)	(2.647)	(2.680)	(2.685)	(2.680)
ICT Mobile Competition (regulatory variable)	−0.406	−0.443	−0.549	0.859	0.592	1.912	1.679	−0.268	−0.286	−0.487
	(3.797)	(3.805)	(3.766)	(3.813)	(3.773)	(3.871)	(3.823)	(3.783)	(3.788)	(3.766)
Constant	−9.580*	−9.604*	−9.538*	−8.958*	−8.739*	22.261*	19.864	−9.765*	−9.869*	−9.770*
	(5.317)	(5.325)	(5.309)	(5.293)	(5.270)	(13.231)	(13.151)	(5.312)	(5.329)	(5.321)
Country effects?	No	No	No	No	No	No	No	No	No	No
Observations	391	391	391	391	391	391	391	391	391	391
R^2	0.641	0.642	0.642	0.647	0.646	0.648	0.652	0.642	0.642	0.642
Adjusted R^2	0.636	0.635	0.636	0.640	0.641	0.641	0.646	0.636	0.636	0.636
Residual Std. Error	24.889 (df = 384)	24.920 (df = 383)	24.889 (df = 384)	24.744 (df = 383)	24.720 (df = 384)	24.701 (df = 383)	24.553 (df = 383)	24.872 (df = 384)	24.901 (df = 383)	24.878 (df = 384)
F Statistic	114.520*** (df = 6; 384)	97.925*** (df = 7; 383)	114.520*** (df = 6; 384)	100.110*** (df = 7; 383)	116.970*** (df = 6; 384)	100.650*** (df = 7; 383)	102.520*** (df = 7; 383)	114.770*** (df = 6; 384)	98.158*** (df = 7; 383)	114.680*** (df = 6; 384)
Note:										*p<0.1; **p<0.05; ***p<0.01

Table 25

	ICT: Fixed telephone subscriptions (per 100 people)									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
GDP per capita	0.001***	0.0002***	0.001***	0.0002***	0.001***	0.0002***	0.001***	0.0001	0.001***	0.0001
	(0.00003)	(0.0001)	(0.00003)	(0.0001)	(0.00003)	(0.0001)	(0.00004)	(0.0001)	(0.00004)	(0.0001)
Investment Year	−0.212***	−0.084***	−0.211***	−0.084***	−0.211***	−0.085***	−0.335***	−0.154***	−0.330***	−0.156***
	(0.063)	(0.025)	(0.063)	(0.025)	(0.063)	(0.025)	(0.087)	(0.032)	(0.087)	(0.032)
Cumulative Period IFC Investment	−0.008	0.070	−0.038	0.075			−0.107	0.048		
	(0.112)	(0.043)	(0.141)	(0.055)			(0.117)	(0.044)		
Count of Cumulative Period IFC Investment			1.418	−0.242	0.746	1.094				
			(4.151)	(1.612)	(3.301)	(1.282)				
Cumulative Period IFC Investment in Other Sectors							0.052***	0.012*	0.053***	0.011*
							(0.017)	(0.007)	(0.017)	(0.007)
Constant	5.463***	0.807	5.450***	0.808	5.446***	0.816	6.685***	2.201	6.615***	2.230
	(0.760)	(1.528)	(0.762)	(1.530)	(0.761)	(1.531)	(1.129)	(1.637)	(1.127)	(1.637)
Country effects?	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Observations	615	615	615	615	615	615	491	491	491	491
R^2	0.460	0.949	0.460	0.949	0.460	0.948	0.498	0.960	0.497	0.960
Adjusted R^2	0.458	0.935	0.457	0.935	0.458	0.934	0.494	0.946	0.494	0.946
Residual Std. Error	8.696 (df = 611)	3.018 (df = 484)	8.702 (df = 610)	3.021 (df = 483)	8.695 (df = 611)	3.024 (df = 484)	8.380 (df = 486)	2.747 (df = 359)	8.379 (df = 487)	2.747 (df = 360)
F Statistic	173.710*** (df = 3; 611)	68.578*** (df = 130; 484)	130.120*** (df = 4; 610)	67.918*** (df = 131; 483)	173.730*** (df = 3; 611)	68.304*** (df = 130; 484)	120.690*** (df = 4; 486)	66.091*** (df = 131; 359)	160.690*** (df = 3; 487)	66.557*** (df = 130; 360)
Note:										*p<0.1; **p<0.05; ***p<0.01

	ICT: Fixed telephone subscriptions (per 100 people)									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
GDP per capita	0.001***	0.0002***	0.001***	0.0002***	0.001***	0.0002***	0.001***	0.0002***	0.001***	0.0002***
	(0.00003)	(0.0001)	(0.00003)	(0.0001)	(0.00003)	(0.0001)	(0.00003)	(0.0001)	(0.00003)	(0.0001)
Investment Year	−0.200***	−0.167***	−0.171***	−0.158***	−0.211***	−0.083***	−0.209***	−0.084***	−0.209***	−0.085***
	(0.063)	(0.050)	(0.063)	(0.050)	(0.063)	(0.025)	(0.064)	(0.025)	(0.064)	(0.025)
Cumulative Period IFC Investment	−0.034	0.072*								
	(0.111)	(0.043)								
Cumulative Period Total Private Investment			0.037***	0.006						
			(0.011)	(0.004)						
Log(Population)	−0.616***	4.051*	−0.582***	3.754*						
	(0.187)	(2.086)	(0.185)	(2.090)						
Cumulative Period IFC and MDB Investment					0.015	0.058*	0.007	0.065**		
					(0.077)	(0.030)	(0.084)	(0.033)		
Count of Cumulative Period IFC and MDB Investment							0.442	−0.388	0.501	0.193
							(1.868)	(0.721)	(1.711)	(0.661)
Constant	15.280***	−68.178*	14.225***	−63.161*	5.449***	0.797	5.416***	0.817	5.416***	0.816
	(3.076)	(35.558)	(3.048)	(35.632)	(0.761)	(1.527)	(0.774)	(1.528)	(0.773)	(1.533)
Country effects?	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Observations	615	615	615	615	615	615	615	615	615	615
R^2	0.470	0.949	0.480	0.949	0.460	0.949	0.460	0.949	0.460	0.948
Adjusted R^2	0.466	0.935	0.477	0.935	0.458	0.935	0.457	0.935	0.458	0.934
Residual Std. Error	8.627 (df = 610)	3.009 (df = 483)	8.542 (df = 610)	3.011 (df = 483)	8.696 (df = 611)	3.014 (df = 484)	8.702 (df = 610)	3.016 (df = 483)	8.695 (df = 611)	3.026 (df = 484)
F Statistic	135.090*** (df = 4; 610)	68.473*** (df = 131; 483)	140.790*** (df = 4; 610)	68.410*** (df = 131; 483)	173.720*** (df = 3; 611)	68.757*** (df = 130; 484)	130.110*** (df = 4; 610)	68.134*** (df = 131; 483)	173.750*** (df = 3; 611)	68.209*** (df = 130; 484)
Note:										*p<0.1; **p<0.05; ***p<0.01

	ICT: Fixed telephone subscriptions (per 100 people)									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
GDP per capita	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Investment Year	−0.347***	−0.347***	−0.342***	−0.356***	−0.348***	−0.338***	−0.308***	−0.345***	−0.344***	−0.341***
	(0.072)	(0.072)	(0.072)	(0.073)	(0.073)	(0.072)	(0.072)	(0.072)	(0.073)	(0.073)
Cumulative Period IFC Investment	−0.132	−0.111		−0.129		−0.146*				
	(0.088)	(0.108)		(0.088)		(0.087)				
Count of Cumulative Period IFC Investment		−1.148	−3.215							
		(3.445)	(2.792)							
Cumulative Period IFC Investment in Other Sectors				0.022	0.024					
				(0.027)	(0.027)					
Cumulative Period Total Private Investment							0.034***			
							(0.012)			
Log(Population)						−0.450**	−0.395**			
						(0.193)	(0.191)			
Cumulative Period IFC and MDB Investment								−0.057	−0.066	
								(0.060)	(0.072)	
Count of Cumulative Period IFC and MDB Investment									0.562	−0.724
									(2.527)	(2.102)
ICT Regulator (regulatory variable)	−5.276***	−5.274***	−5.313***	−5.331***	−5.406***	−5.463***	−5.464***	−5.293***	−5.300***	−5.328***
	(0.815)	(0.816)	(0.815)	(0.818)	(0.818)	(0.814)	(0.808)	(0.817)	(0.819)	(0.818)
ICT Private Capital (regulatory variable)	1.705**	1.714**	1.695**	1.665**	1.603**	1.651**	1.636**	1.663**	1.666**	1.645**
	(0.667)	(0.668)	(0.668)	(0.669)	(0.669)	(0.664)	(0.658)	(0.667)	(0.668)	(0.668)
ICT Mobile Competition (regulatory variable)	0.387	0.396	0.517	0.492	0.685	0.922	1.056	0.478	0.478	0.558
	(0.939)	(0.941)	(0.933)	(0.948)	(0.940)	(0.962)	(0.949)	(0.938)	(0.939)	(0.935)
Constant	7.232***	7.231***	7.139***	7.290***	7.136***	14.282***	12.871***	7.169***	7.154***	7.109***
	(1.321)	(1.323)	(1.320)	(1.324)	(1.321)	(3.296)	(3.273)	(1.323)	(1.326)	(1.325)
Country effects?	No	No	No	No	No	No	No	No	No	No
Observations	391	391	391	391	391	391	391	391	391	391
R^2	0.611	0.611	0.610	0.612	0.610	0.617	0.622	0.610	0.610	0.609
Adjusted R^2	0.605	0.604	0.604	0.605	0.604	0.610	0.615	0.604	0.603	0.603
Residual Std. Error	6.191 (df = 384)	6.198 (df = 383)	6.199 (df = 384)	6.194 (df = 383)	6.203 (df = 384)	6.155 (df = 383)	6.111 (df = 383)	6.202 (df = 384)	6.210 (df = 383)	6.208 (df = 384)
F Statistic	100.590*** (df = 6; 384)	86.039*** (df = 7; 383)	100.190*** (df = 6; 384)	86.249*** (df = 7; 383)	99.962*** (df = 6; 384)	87.996*** (df = 7; 383)	90.103*** (df = 7; 383)	100.020*** (df = 6; 384)	85.523*** (df = 7; 383)	99.677*** (df = 6; 384)
Note:										*p<0.1; **p<0.05; ***p<0.01

Table 26

	ICT: Individuals using the Internet (percent of population)									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
GDP per capita	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***	0.001**	0.001***	0.001**
	(0.00005)	(0.0002)	(0.00005)	(0.0002)	(0.00005)	(0.0002)	(0.0001)	(0.0002)	(0.0001)	(0.0002)
Investment Year	2.644***	2.555***	2.642***	2.555***	2.642***	2.556***	3.114***	3.056***	3.120***	3.060***
	(0.103)	(0.093)	(0.103)	(0.093)	(0.103)	(0.092)	(0.154)	(0.123)	(0.154)	(0.123)
Cumulative Period IFC Investment	−0.055	−0.180	0.009	−0.071			−0.098	−0.107		
	(0.155)	(0.138)	(0.190)	(0.169)			(0.172)	(0.143)		
Count of Cumulative Period IFC Investment			−3.099	−5.172	−2.954	−6.302*				
			(5.250)	(4.659)	(4.292)	(3.796)				
Cumulative Period IFC Investment in Other Sectors							0.065**	0.011	0.065**	0.012
							(0.025)	(0.021)	(0.025)	(0.021)
Constant	−12.901***	−18.409***	−12.860***	−17.148***	−12.859***	−16.906***	−21.318***	−27.272***	−21.392***	−27.383***
	(1.088)	(4.726)	(1.091)	(4.859)	(1.090)	(4.820)	(1.785)	(4.938)	(1.778)	(4.932)
Country effects?	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Observations	548	548	548	548	548	548	424	424	424	424
R^2	0.730	0.876	0.730	0.876	0.730	0.876	0.738	0.915	0.737	0.915
Adjusted R^2	0.729	0.837	0.728	0.837	0.729	0.837	0.735	0.878	0.735	0.878
Residual Std. Error	12.076 (df = 544)	9.362 (df = 417)	12.083 (df = 543)	9.359 (df = 416)	12.072 (df = 544)	9.350 (df = 417)	12.269 (df = 419)	8.341 (df = 292)	12.259 (df = 420)	8.334 (df = 293)
F Statistic	490.420*** (df = 3; 544)	22.585*** (df = 130; 417)	367.460*** (df = 4; 543)	22.435*** (df = 131; 416)	490.850*** (df = 3; 544)	22.651*** (df = 130; 417)	294.340*** (df = 4; 419)	24.138*** (df = 131; 292)	392.980*** (df = 3; 420)	24.356*** (df = 130; 293)
Note:										*p<0.1; **p<0.05; ***p<0.01

	ICT: Individuals using the Internet (percent of population)									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
GDP per capita	0.001***	0.0001	0.001***	0.0001	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***
	(0.00005)	(0.0002)	(0.00005)	(0.0002)	(0.00005)	(0.0002)	(0.00005)	(0.0002)	(0.00005)	(0.0002)
Investment Year	2.653***	3.285***	2.678***	3.276***	2.648***	2.557***	2.652***	2.554***	2.652***	2.553***
	(0.103)	(0.168)	(0.103)	(0.170)	(0.103)	(0.093)	(0.104)	(0.094)	(0.104)	(0.093)
Cumulative Period IFC Investment	−0.069	−0.175								
	(0.156)	(0.134)								
Cumulative Period Total Private Investment			0.030**	−0.008						
			(0.015)	(0.013)						
Log(Population)	−0.339	−37.135***	−0.300	−36.804***						
	(0.280)	(7.247)	(0.279)	(7.283)						
Cumulative Period IFC and MDB Investment					0.040	−0.067	0.025	−0.055		
					(0.106)	(0.095)	(0.117)	(0.104)		
Count of Cumulative Period IFC and MDB Investment							0.799	−0.573	1.017	−1.061
							(2.523)	(2.205)	(2.299)	(2.004)
Constant	−7.532	613.170***	−8.578*	607.490***	−12.958***	−18.421***	−13.025***	−18.266***	−13.025***	−18.213***
	(4.572)	(123.340)	(4.560)	(123.950)	(1.090)	(4.735)	(1.111)	(4.777)	(1.110)	(4.772)
Country effects?	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Observations	548	548	548	548	548	548	548	548	548	548
R^2	0.731	0.883	0.733	0.883	0.730	0.875	0.730	0.875	0.730	0.875
Adjusted R^2	0.729	0.846	0.731	0.846	0.729	0.836	0.728	0.836	0.729	0.836
Residual Std. Error	12.071 (df = 543)	9.091 (df = 416)	12.028 (df = 543)	9.105 (df = 416)	12.076 (df = 544)	9.375 (df = 417)	12.086 (df = 543)	9.386 (df = 416)	12.075 (df = 544)	9.378 (df = 417)
F Statistic	368.490*** (df = 4; 543)	23.971*** (df = 131; 416)	372.050*** (df = 4; 543)	23.887*** (df = 131; 416)	490.440*** (df = 3; 544)	22.511*** (df = 130; 417)	367.240*** (df = 4; 543)	22.290*** (df = 131; 416)	490.500*** (df = 3; 544)	22.498*** (df = 130; 417)
Note:										*p<0.1; **p<0.05; ***p<0.01

	ICT: Individuals using the Internet (percent of population)									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
GDP per capita	0.002***	0.002***	0.002***	0.002***	0.002***	0.002***	0.002***	0.002***	0.002***	0.002***
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Investment Year	2.693***	2.693***	2.702***	2.625***	2.636***	2.694***	2.721***	2.703***	2.709***	2.714***
	(0.147)	(0.148)	(0.147)	(0.149)	(0.148)	(0.148)	(0.148)	(0.148)	(0.148)	(0.148)
Cumulative Period IFC Investment	−0.169	−0.190		−0.152		−0.170				
	(0.144)	(0.173)		(0.144)		(0.145)				
Count of Cumulative Period IFC Investment		1.117	−1.891							
		(5.010)	(4.196)							
Cumulative Period IFC Investment in Other Sectors				0.117**	0.119**					
				(0.047)	(0.047)					
Cumulative Period Total Private Investment							0.019			
							(0.020)			
Log(Population)						−0.049	0.006			
						(0.347)	(0.347)			
Cumulative Period IFC and MDB Investment								−0.022	−0.073	
								(0.098)	(0.117)	
Count of Cumulative Period IFC and MDB Investment									3.183	1.850
									(3.910)	(3.284)
ICT Regulator (regulatory variable)	−2.911**	−2.916**	−2.974**	−3.287**	−3.377**	−2.927**	−2.970**	−2.980**	−3.037**	−3.064**
	(1.386)	(1.388)	(1.387)	(1.383)	(1.381)	(1.392)	(1.392)	(1.390)	(1.392)	(1.390)
ICT Private Capital (regulatory variable)	1.122	1.121	1.055	0.846	0.760	1.116	1.065	1.041	1.080	1.045
	(1.193)	(1.194)	(1.193)	(1.188)	(1.186)	(1.195)	(1.194)	(1.193)	(1.195)	(1.192)
ICT Mobile Competition (regulatory variable)	1.739	1.721	1.992	2.390	2.657	1.789	2.009	1.978	1.952	2.067
	(1.683)	(1.687)	(1.670)	(1.690)	(1.671)	(1.723)	(1.711)	(1.680)	(1.681)	(1.670)
Constant	−23.116***	−23.121***	−23.307***	−22.681***	−22.901***	−22.345***	−23.684***	−23.322***	−23.424***	−23.493***
	(2.331)	(2.335)	(2.329)	(2.319)	(2.311)	(5.926)	(5.927)	(2.335)	(2.340)	(2.335)
Country effects?	No	No	No	No	No	No	No	No	No	No
Observations	334	334	334	334	334	334	334	334	334	334
R^2	0.785	0.785	0.785	0.789	0.789	0.785	0.785	0.785	0.785	0.785
Adjusted R^2	0.781	0.781	0.781	0.785	0.785	0.781	0.780	0.781	0.780	0.781
Residual Std. Error	10.171 (df = 327)	10.186 (df = 326)	10.189 (df = 327)	10.091 (df = 326)	10.093 (df = 327)	10.187 (df = 326)	10.194 (df = 326)	10.192 (df = 327)	10.197 (df = 326)	10.188 (df = 327)
F Statistic	199.470*** (df = 6; 327)	170.480*** (df = 7; 326)	198.570*** (df = 6; 327)	174.580*** (df = 7; 326)	203.410*** (df = 6; 327)	170.470*** (df = 7; 326)	170.150*** (df = 7; 326)	198.450*** (df = 6; 327)	170.020*** (df = 7; 326)	198.660*** (df = 6; 327)
Note:										*p<0.1; **p<0.05; ***p<0.01

7.7 Panel Regression with Periods on Finance Outcome Variables:

Table 27

	Finance: Account ownership at a financial institution or with a mobile-money-service provider (percent of population ages 15+)									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
GDP per capita	0.001***	0.0001	0.001***	0.0001	0.001***	0.0001	0.001***	0.0001	0.001***	0.0001
	(0.0001)	(0.0005)	(0.0001)	(0.0005)	(0.0001)	(0.0005)	(0.0001)	(0.0005)	(0.0001)	(0.0005)
Investment Year	2.735***	3.056***	2.828***	3.011***	2.812***	3.001***	2.745***	3.034***	2.711***	3.021***
	(0.399)	(0.190)	(0.398)	(0.194)	(0.397)	(0.193)	(0.401)	(0.191)	(0.401)	(0.189)
Cumulative 3yr period IFC Investment	0.102	0.017	0.075	0.035			0.105	0.026		
	(0.085)	(0.048)	(0.085)	(0.050)			(0.086)	(0.048)		
Count of Cumulative 3yr period IFC Investment			0.535**	−0.241	0.559***	−0.197				
			(0.214)	(0.205)	(0.212)	(0.195)				
Cumulative 3yr period IFC Investment in Other Sectors							−0.064	0.121	−0.035	0.112
							(0.212)	(0.106)	(0.211)	(0.105)
Constant	−12.146**	−31.667***	−14.717**	−30.969***	−14.272**	−30.939***	−12.244**	−31.395***	−11.410**	−31.290***
	(5.760)	(4.417)	(5.802)	(4.452)	(5.778)	(4.446)	(5.777)	(4.420)	(5.742)	(4.407)
Country effects?	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Observations	309	309	309	309	309	309	309	309	309	309
R^2	0.483	0.952	0.494	0.952	0.492	0.952	0.483	0.952	0.481	0.952
Adjusted R^2	0.478	0.923	0.487	0.924	0.487	0.924	0.477	0.924	0.476	0.924
Residual Std. Error	17.191 (df = 305)	6.586 (df = 194)	17.044 (df = 304)	6.579 (df = 193)	17.038 (df = 305)	6.571 (df = 194)	17.216 (df = 304)	6.581 (df = 193)	17.230 (df = 305)	6.569 (df = 194)
F Statistic	95.066*** (df = 3; 305)	33.571*** (df = 114; 194)	74.094*** (df = 4; 304)	33.357*** (df = 115; 193)	98.608*** (df = 3; 305)	33.733*** (df = 114; 194)	71.110*** (df = 4; 304)	33.343*** (df = 115; 193)	94.162*** (df = 3; 305)	33.756*** (df = 114; 194)

Note: *p<0.1; **p<0.05; ***p<0.01

	Finance: Account ownership at a financial institution or with a mobile-money-service provider (percent of population ages 15+)	
	(1)	(2)
GDP per capita	0.001***	0.001
	(0.0001)	(0.001)
Investment Year	2.720***	2.483***
	(0.400)	(0.324)
Cumulative 3yr period IFC Investment	0.126	0.003
	(0.088)	(0.048)
Log(Population)	0.718	30.329**
	(0.705)	(13.961)
Constant	−24.019*	−549.850**
	(12.996)	(238.570)
Country effects?	No	Yes
Observations	309	309
R^2	0.485	0.953
Adjusted R^2	0.478	0.925
Residual Std. Error	17.190 (df = 304)	6.524 (df = 193)
F Statistic	71.568*** (df = 4; 304)	33.958*** (df = 115; 193)

Note: *p<0.1; **p<0.05; ***p<0.01

Table 28

	Finance: Borrowers from commercial banks (per 1,000 adults)									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
GDP per capita	0.010***	0.013***	0.010***	0.013***	0.010***	0.013***	0.010***	0.012***	0.010***	0.013***
	(0.001)	(0.004)	(0.001)	(0.004)	(0.001)	(0.004)	(0.001)	(0.004)	(0.001)	(0.003)
Investment Year	5.588***	4.519***	3.123*	4.351***	3.247*	4.258***	5.396***	4.604***	5.632***	4.557***
	(1.754)	(1.258)	(1.680)	(1.285)	(1.680)	(1.285)	(1.733)	(1.223)	(1.735)	(1.231)
Cumulative Period IFC Investment	0.804*	0.370	0.555	0.335			0.763*	0.466*		
	(0.443)	(0.257)	(0.414)	(0.263)			(0.437)	(0.252)		
Count of Cumulative Period IFC Investment			12.653***	1.402	12.902***	1.936				
			(1.979)	(2.103)	(1.974)	(2.065)				
Cumulative Period IFC Investment in Other Sectors							3.298***	2.203***	3.365***	2.067***
							(1.171)	(0.651)	(1.175)	(0.651)
Constant	−27.189	−87.999**	−16.081	−85.687**	−16.625	−85.898**	−27.640	−86.548**	−28.706	−88.197**
	(22.970)	(35.646)	(21.486)	(35.869)	(21.514)	(35.930)	(22.675)	(34.667)	(22.755)	(34.886)
Country effects?	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Observations	269	269	269	269	269	269	269	269	269	269
R^2	0.456	0.916	0.529	0.917	0.526	0.916	0.472	0.921	0.466	0.920
Adjusted R^2	0.450	0.877	0.522	0.877	0.520	0.876	0.464	0.884	0.460	0.882
Residual Std. Error	121.140 (df = 265)	57.295 (df = 182)	112.940 (df = 264)	57.382 (df = 181)	113.110 (df = 265)	57.481 (df = 182)	119.580 (df = 264)	55.717 (df = 181)	120.050 (df = 265)	56.087 (df = 182)
F Statistic	74.005*** (df = 3; 265)	23.199*** (df = 86; 182)	74.070*** (df = 4; 264)	22.867*** (df = 87; 181)	97.868*** (df = 3; 265)	23.035*** (df = 86; 182)	58.939*** (df = 4; 264)	24.381*** (df = 87; 181)	76.973*** (df = 3; 265)	24.300*** (df = 86; 182)

Note: *p<0.1; **p<0.05; ***p<0.01

	Finance: Borrowers from commercial banks (per 1,000 adults)	
	(1)	(2)
GDP per capita	0.010***	0.007*
	(0.001)	(0.004)
Investment Year	5.461***	9.725***
	(1.754)	(2.315)
Cumulative Period IFC Investment	0.941**	0.396
	(0.453)	(0.253)
Log(Population)	5.737	−249.230***
	(4.215)	(93.693)
Constant	−118.420*	4,166.900***
	(70.847)	(1,599.900)
Country effects?	No	Yes
Observations	269	269
R^2	0.460	0.920
Adjusted R^2	0.451	0.881
Residual Std. Error	120.940 (df = 264)	56.362 (df = 181)
F Statistic	56.145*** (df = 4; 264)	23.779*** (df = 87; 181)

Note: *p<0.1; **p<0.05; ***p<0.01