Readme file for "Electricity Cost and Firm Performance: Evidence from India"

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This Readme file describes the data and program files for replicating the results in "Electricity Cost and Firm Performance: Evidence from India".

Data

The main dataset used for the analysis in the paper, the Indian Annual Survey of Industries, is a proprietary dataset from the Indian Ministry of Statistics and Programme Implementation (MOSPI). The dataset can be obtained by contacting MOSPI at the following address: Deputy Director General, Computer Centre, Ministry of Statistics and Programme Implementation, East Block-10, R. K. Puram, New Delhi – 110066, email address: asidata.cc-mospi@gov.in. Further information on obtaining the dataset can be found on the following MOSPI webpage: http://mospi.nic.in/Mospi_New/site/inner.aspx?status=4&menu_id=71.

The following datasets, which have been provided, were used in addition to the Indian Annual Survey of Industries dataset described above.

India_WPI.dta: Wholesale price indices from the Office of the Economic Adviser to the Government of India Ministry of Commerce and Industry.

India_CoalPrice.dta: Price of coal paid by power utilities from the 2010-2011 issue of the Coal Directory of India published by India's Ministry of Coal.

India_StateData.dta:

- Gross state domestic product and population (from the Central Statistics Office, National Account section of the Ministry of Statistics and Programme Implementation's website (http://mospi.nic.in)).
- Plant load factor (from the 2001-2002 issue of the Annual Report on the Working of State Electricity Boards and Electricity Departments and the 2011-2012 issue of the Annual Report on the Working of State Power Utilities and Electricity Departments published by India's Planning Commission, and the Indiastat database).
- Euclidean distance from the center of a state to the tip of the nearest coal mine (from Trippi, Michael H., and Susan J. Tewalt. 2011. "Geographic Information System (GIS) Representation of Coal-Bearing Areas in India and Bangladesh: U.S. Geological Survey Open-File Report 2011–1296." http://pubs.usgs.gov/of/2011/1296).
- Thermal share of electricity generation (from India's Ministry of Power's 1997-1998, 2002-2003, and 2006-2007 annual reports).
- State consumer price index with base year of 1994 (from India's Labour Bureau).

UK_Power.dta: UK 4-digit industry electricity intensities from the UK Department of Energy and Climate Change, "Energy Consumption in the UK: Industrial Data Tables - 2011."

Software

The data were analyzed using Stata Version 10 on Microsoft Windows.

Replication Program
ElectricityIndia_REStat.do: This file contains the Stata code used to produce the results in the paper.

Data Dictionary

Variable	Description
alphaK	industry capital as a share of output
alphaL	industry wages as a share of output
alphaM	industry inputs as a share of output
Bldg.	value of buildings in rupees
Caprog	value of capital work in progress in rupees
capt	value of total capital in rupees
coal	value of coal consumed in rupees
coal1l	growth rate of value of coal consumed
coalprice	price of coal paid by power utilities in current rupees
comp	value of computer equipment including software in rupees
constore	value of consumable store in rupees
cp	price of coal paid by power utilities
distcoal	Euclidean distance from the center of a state to the tip of the nearest coal mine
dominput	total domestic input in rupees
eb_qty	quantity of electricity purchased in kilowatt-hours
eb_val	value of electricity purchased in rupees
ebg_qty	quantity of electricity purchased and generated in kilowatt-hours
eg_qty	quantity of electricity generated in kilowatt-hours
eg_val	value of electricity generated in rupees
ep	price of electricity paid by firm in rupees
forinput	total foreign input in rupees
fprodint	average product electricity intensity
gendummy	dummy for electricity generation
genshare	share of electricity generated
group1	state by year group
gsdp	gross state domestic product
gsdp_pc	gross state domestic product per capita
ibldg	investment in buildings in rupees
icaprog	investment in capital work in progress in rupees
icapt	total investment in capital in rupees
icomp	investment in computer equipment including software in rupees
id	firm ID
iland	investment in land in rupees
imach	investment in plant and machinery in rupees

ind2	2-digit industry code
ind2_wpi	2-digit industry code for merging with wholesale price index data
ind2op	2-digit industry code for calculating total factor productivity
ind3	3-digit industry code
ind4	4-digit industry code
ind5	5-digit industry code
indint3	3-digit industry electricity intensity
indint4	4-digit industry electricity intensity
indint5	5-digit industry electricity intensity
input	total input in rupees
input_basic	total basic inputs in rupees
input_chem	total chemical inputs in rupees
input_pack	total packing inputs in rupees
iothcap	investment in other capital in rupees
ipoll	investment in pollution control equipment in rupees
itransp	investment in transport equipment in rupees
KLt	capital-labor ratio
lab	labor
labprod	labor productivity
land	value of land in rupees
lcapt	log of value of total capital
lcp	log of price of coal paid by power utilities
leb_qty	log of quantity of electricity purchased
leb_val	log of value of electricity purchased
lebg_qty	log of quantity of electricity purchased and generated
leff_cp	thermal share of electricity generation interacted with log of coal price paid by power utilities
leff_cp1l	growth rate of thermal share of electricity generation interacted with log of coal price paid by power utilities
leg_qty	log of quantity of electricity generated
leg_val	log of value of electricity generated
lep	log of price of electricity paid by firm
lep1l	growth rate of log of price of electricity paid by firm
lfprodint	log of average product electricity intensity
lgsdp_pc	log of state gross domestic product per capita
lgsdp_pc1l	growth rate of log of state gross domestic product per capita
licapt	log of total investment in capital in rupees
lindint3	log of 3-digit industry electricity intensity
lindint4	log of 4-digit industry electricity intensity
lindint5	log of 5-digit industry electricity intensity
linput	log of total input
llab	log of labor

llabgrowth1l	growth rate of labor
llabprod	log of labor productivity
llabprodgrowth1l	growth rate of labor productivity
lML	log of machine-labor ratio
loutput	log of value of output
loutputgrowth1l	growth rate of log of output
lplf	log of plant load factor
lpopn	log of state population
lpopn1l	growth rate of state population
ltfp	log of total factor productivity estimated as residuals from industry-specific OLS Regressions
ltfpgrowth1l	growth rate of log of total factor productivity estimated as residuals from industry-specific OLS Regressions
ltfpLP	log of total factor productivity estimated using Levinsohn-Petrin method
ltfpLPgrowth1l	growth rate of log of total factor productivity estimated using Levinsohn-Petrin method
ltfpOP	log of total factor productivity estimated using Olley-Pakes method
ltfpOPgrowth1l	growth rate of log of total factor productivity estimated using Olley-Pakes method
ltfpS	log of total factor productivity estimated using Solow accounting method
ltfpSgrowth1l	growth rate of log of total factor productivity estimated using Solow accounting method
lwfprodint	log of weighted average product electricity intensity
mach	value of plant and machinery in rupees
ML	machine-labor ratio
MULT	sampling multiplier
nic04	industry code from India National Industrial Classification 2004
nic98	industry code from India National Industrial Classification 1998
no4	number of firms used in calculating 4-digit industry electricity intensities
oil	value of petrol, diesel, oil and lubricants consumed in rupees
othcap	value of other capital in rupees
othfuel	value of other fuel consumed in rupees
output	value of output in rupees
plf	plant load factor
poll	value of pollution control equipment in rupees
popn	state population
prodint1	electricity intensity of firm's first product
prodint10	electricity intensity of firm's tenth product
prodint2	electricity intensity of firm's second product
prodint3	electricity intensity of firm's third product
prodint4	electricity intensity of firm's fourth product
prodint5	electricity intensity of firm's fifth product

prodint6	electricity intensity of firm's sixth product
prodint7	electricity intensity of firm's seventh product
prodint8	electricity intensity of firm's eighth product
prodint9	electricity intensity of firm's ninth product
prodintno	firm's number of products for which electricity intensities are available
prodno	firm's number of products
region	region
scapt	value of industry total capital in rupees
sinput	value of industry total input in rupees
soutput	value of industry total output in rupees
state_new	state code
statecpi_ind_9394	state consumer price index with base year of 1994
swages	value of industry total wages in rupees
switch	dummy for switching to less electricity intensive 5-digit industry
thermal	thermal share of electricity generation in 1998
thermal2003	thermal share of electricity generation in 2003
thermal2007	thermal share of electricity generation in 2007
transp	value of transport equipment in rupees
ukindint4	UK 4-digit industry electricity intensity
wages	total wages in rupees
wfprodint	weighted average product electricity intensity
wpi_inp	wholesale price index for industry's inputs
wpi_mach	wholesale price index for machinery
wpi_out	wholesale price index for industry's output
ycp_firm2	price of coal paid by firms in rupees
year	year