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NVGLOBE-L
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The Effect of Firm-level Investment and Taxation on Inequality and Poverty Around the World

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Introduction: role of corporate taxation

- UN Sustainable Development Goals (SDGs)
  - No Poverty (goal 1) and Reduced Inequalities (goal 10)
- Corporate taxation and inequality
  - Corporate income tax as progressive taxation
  - Raise corporate tax rates to address inequality
- Tax incidence theory
  - Forward shifting to consumer prices
  - backward shifting to return on labor or capital
- Empirical evidence is mixed:
  - Recent survey by Faccio and Iacono (2021)
  - Businesses to non-corporate sector (Hines, 2020)
  - Substantial impact on wages (Arulampalam *et al.,* 2012; Fuest *et al.,* 2018)

Introduction: role of capital expenditures

- Sluggish investment since the 2008 financial crisis
- COVID-19 pandemic and rise in capital expenditures
- Interest in financial markets and inequality
  - Mixed evidence
  - Demirguc-Kunt and Levine (2009); Blau (2018)
- Capital expenditures and inequality
  - Much less evidence, in need of more study
- May be explained by impact on poverty
  - Capital expenditures to economic growth to poverty reduction

Empirical Research

- We examine the role of corporate taxation (effective tax rates) and capital expenditures in poverty and inequality
- 87 countries over the 1979-2018 period
  - Including MENA countries
- Inequality and poverty data from the World Bank
- Corporate tax rates and capital expenditures data from Global Compustat
- Control variables are:
  - *Savings*, the amount of gross savings relative to GDP
  - *BankCredit*, domestic credit to private sector by banks (% of GDP)
  - *GDP growth*, annual growth in GDP
  - *NetExport*, the difference between exports and imports (% of GDP)

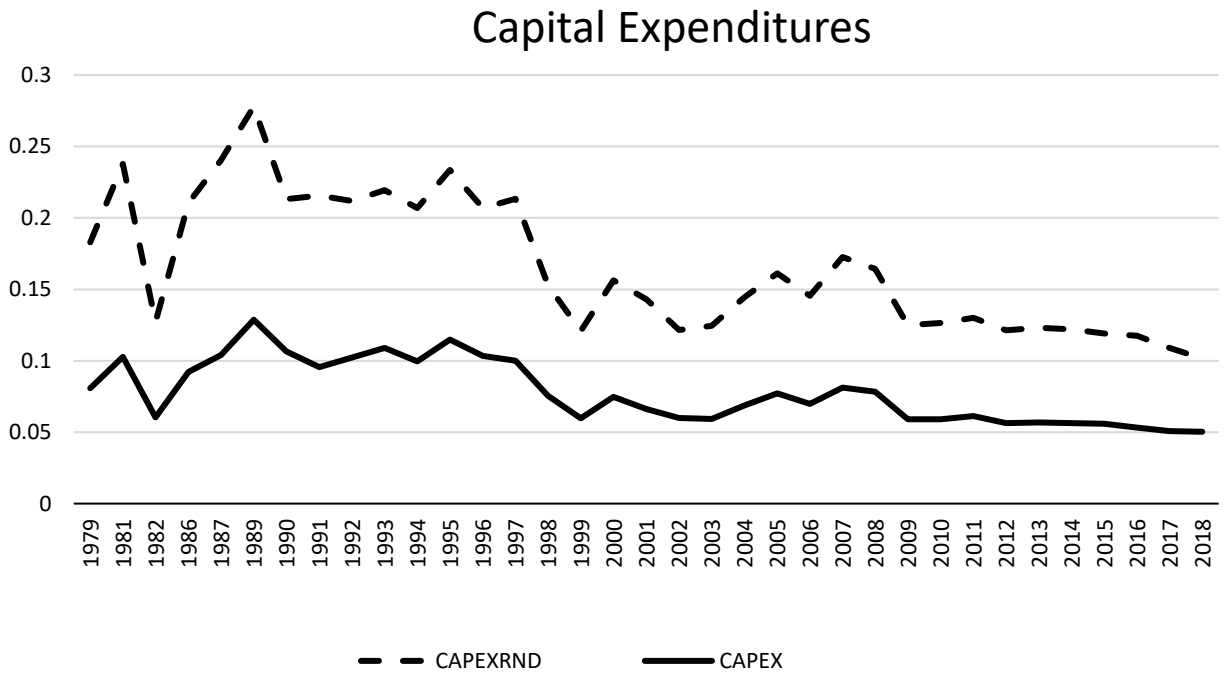
Empirical Research

- Inequality measures:
  - Gini index
  - Income share held by the richest 10% and richest 20%
  - Income share held by the poorest 20% and poorest 10%
- Poverty measures:
  - Poverty gaps at $1.90, $3.20 and $5.50 a day
  - Poverty headcount at $1.90, $3.20 and $5.50 a day
- Cash effective tax rate (ratio of tax paid to pre-tax income)
- Capital expenditure (also with R&D expenses) scaled by beginning-of-year total assets

$$Ln(Inequality)_{i,t} = \beta_1 CETR_{i,t} + \beta_2 Ln(BankCredit)_{i,t} + \beta_3 GDPgrowth_{i,t} + \beta_4 Ln(Savings)_{i,t} + \beta_2 NetExport_{i,t} + \alpha_t + \varepsilon_{i,t}$$

$$Ln(Inequality)_{i,t} = \beta_1 Capxrnd_{i,t} + \beta_2 Ln(BankCredit)_{i,t} + \beta_3 GDPgrowth_{i,t} + \beta_4 Ln(Savings)_{i,t} + \beta_2 NetExport_{i,t} + \alpha_t + \varepsilon_{i,t}$$

Average Capital Expenditures and Average Inequality



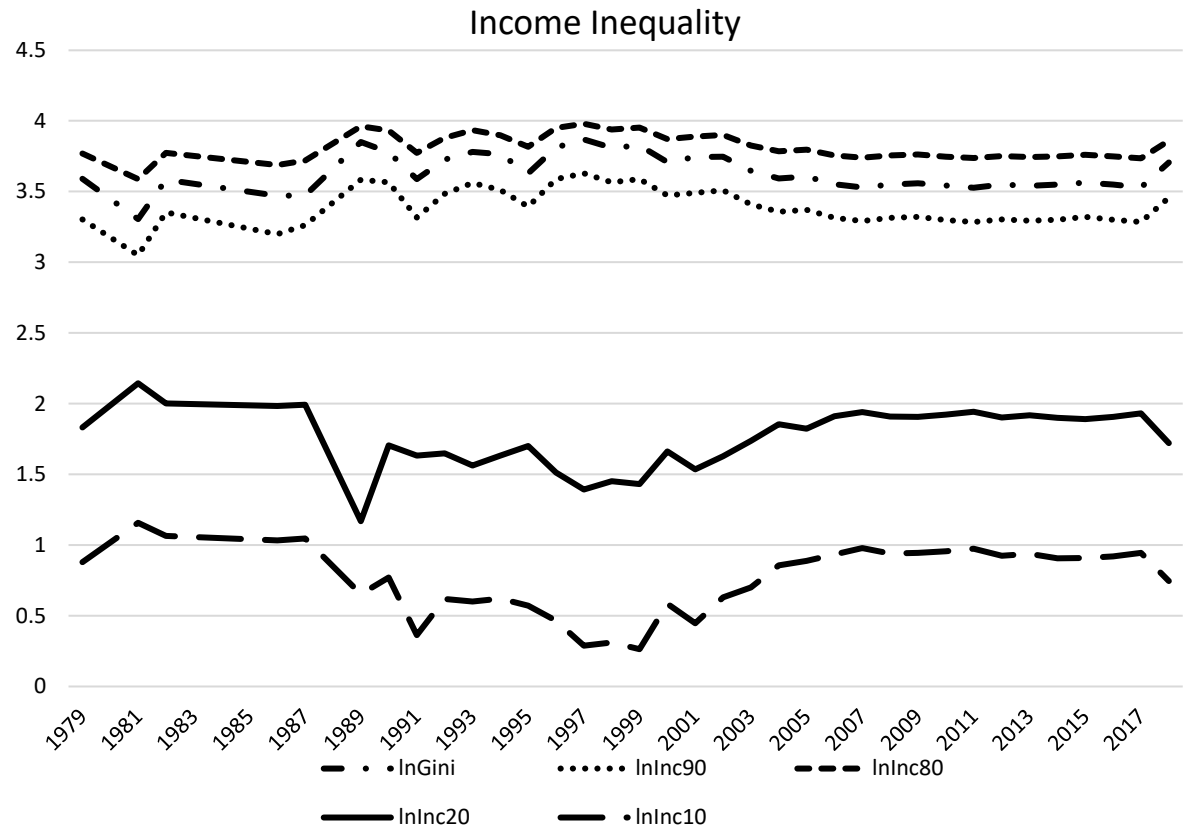


Table 2. Income Inequality and Cash Effective Tax Rate

Panel A: Main model specifications

Variables	(1) Ln(Gini)	(2) Ln(Inc90)	(3) Ln(Inc80)	(4) Ln(Inc20)	(5) Ln(Inc10)
CETR	0.0104***	0.0078***	0.0061***	-0.0397***	-0.1709***
	(3.62)	(3.04)	(3.12)	(-6.71)	(-3.08)
Ln(BankCredit)	-0.0727***	-0.0692***	-0.0505***	0.1114**	0.1343*
	(-2.69)	(-3.03)	(-2.92)	-2.21	-1.98
GDPgrowth	0.0108**	0.0107**	0.0076**	-0.0106	-0.0083
	-2.33	-2.6	-2.46	(-1.26)	(-0.76)
Ln(Savings)	-0.0476	-0.047	-0.031	0.0966	0.0993
	(-1.06)	(-1.18)	(-1.04)	-1.26	-1.03
NetExport	-0.0033	-0.0032*	-0.0023	0.004	0.0053
	(-1.55)	(-1.68)	(-1.59)	-0.94	-0.85
Constant	3.8530***	3.5569***	3.9449***	1.3235***	0.2487
	-21.76	-23.11	-33.94	-3.96	-0.56
Observations	873	873	873	873	871
R-squared	0.2591	0.2839	0.2765	0.2565	0.2298
Year FE	YES	YES	YES	YES	YES
Clustered SE	YES	YES	YES	YES	YES

Panel B: Alternative models with lagged variables

Variables	(1) Ln(Gini)	(2) Ln(Inc90)	(3) Ln(Inc80)	(4) Ln(Inc20)	(5) Ln(Inc10)
Lagged CETR	0.0086***	0.0061***	0.0048***	-0.0226***	-0.0509***
	(3.43)	(2.95)	(3.03)	(-4.37)	(-6.41)
Lagged Controls	Yes	Yes	Yes	Yes	Yes
Observations	612	612	612	612	611
R-squared	0.3613	0.3133	0.3254	0.3307	0.3504
Year FE	YES	YES	YES	YES	YES
Clustered SE	YES	YES	YES	YES	YES

Panel C: Alternative models with MENA Interactions

Variables	(1) Ln(Gini)	(2) Ln(Inc90)	(3) Ln(Inc80)	(4) Ln(Inc20)	(5) Ln(Inc10)
MENA dummy	-1.1046***	-0.8620***	-0.6866***	1.9344***	2.3964***
	(-3.31)	(-3.59)	(-3.54)	(3.02)	(2.81)
CETR	0.0106***	0.0078***	0.0061***	-0.0397***	-0.1716***
	(3.45)	(2.92)	(2.99)	(-6.47)	(-3..09)
MENA * CETR	0.0159	0.0609	0.0328	-0.0142	0.0846
	(0.10)	(0.62)	(0.38)	(-0.05)	(0.23)
Controls with Interactions	Yes	Yes	Yes	Yes	Yes
Observations	873	873	873	873	871
R-squared	0.2839	0.2991	0.2954	0.2927	0.2682
Year FE	YES	YES	YES	YES	YES
Clustered SE	YES	YES	YES	YES	YES

Table 3. Income Inequality and Capital Expenditures

Panel A: Main model specifications

	(1)	(2)	(3)	(4)	(5)
Variables	Ln(Gini)	Ln(Inc90)	Ln(Inc80)	Ln(Inc20)	Ln(Inc10)
Capxrnd	-1.4550***	-1.3626***	-1.0014***	2.7275***	4.1686***
	(-3.27)	(-3.38)	(-3.38)	(3.45)	(3.49)
Ln(BankCredit)	-0.0805***	-0.0764***	-0.0558***	0.1280***	0.1621**
	(-3.18)	(-3.54)	(-3.42)	(2.65)	(2.36)
GDPgrowth	0.0120**	0.0118***	0.0084***	-0.0132	-0.0104
	(2.58)	(2.81)	(2.70)	(-1.57)	(-0.92)
Ln(Savings)	-0.0377	-0.0374	-0.0243	0.0873	0.0746
	(-0.89)	(-0.98)	(-0.86)	(1.19)	(0.74)
NetExport	-0.0030	-0.0030	-0.0021	0.0028	0.0042
	(-1.48)	(-1.63)	(-1.52)	(0.70)	(0.70)
Constant	4.0846***	3.7728***	4.1043***	0.8843***	-0.3122
	(23.42)	(24.60)	(35.87)	(2.80)	(-0.69)
Observations	928	928	928	928	926
R-squared	0.2957	0.3230	0.3144	0.2689	0.2434
Year FE	YES	YES	YES	YES	YES
Clustered SE	YES	YES	YES	YES	YES

Panel B: Alternative models with lagged variables

	(1)	(2)	(3)	(4)	(5)
Variables	Ln(Gini)	Ln(Inc90)	Ln(Inc80)	Ln(Inc20)	Ln(Inc10)
Lagged	-1.3200**	-1.2540***	-0.9209***	2.2927***	3.4506***
Capxrnd	(-3.26)	(-3.23)	(-3.31)	(3.39)	(3.47)
Lagged					
Controls	Yes	Yes	Yes	Yes	Yes
Observations	909	909	909	909	907
R-squared	0.2835	0.3102	0.3030	0.2630	0.2320
Year FE	YES	YES	YES	YES	YES
Clustered SE	YES	YES	YES	YES	YES

Panel C: Alternative models with MENA Interactions

	(1)	(2)	(3)	(4)	(5)
Variables	Ln(Gini)	Ln(Inc90)	Ln(Inc80)	Ln(Inc20)	Ln(Inc10)
MENA					
dummy	-1.1304***	-0.8558***	-0.6865***	1.9681***	2.4003***
	(-3.97)	(-4.29)	(-4.25)	(3.57)	(3.12)
Capxrnd	-1.6674***	-1.4967***	-1.1179***	3.1763***	4.7956***
	(-3.63)	(3.51)	(-3.61)	(3.97)	(3.89)
MENA *					
Capxrnd	0.1058	-0.2215	-0.0993	-0.8984	-1.5444
	(0.18)	(-0.42)	(-0.26)	(-0.89)	(-1.06)
Controls with					
Interactions	Yes	Yes	Yes	Yes	Yes
Observations	928	928	928	928	926
R-squared	0.3281	0.3441	0.3402	0.3169	0.2954
Year FE	YES	YES	YES	YES	YES
Clustered SE	YES	YES	YES	YES	YES

Table 9. Poverty and Capital Expenditures

Panel A: Main model specifications

Variables	(1) Ln(PovGp190)	(2) Ln(PovGp320)	(3) Ln(PovGp550)	(4) Ln(PovHcr190)	(5) Ln(PovHcr320)	(6) Ln(PovHcr550)
Capxrnd	-5.7775***	-9.7136***	-11.1667***	-8.4159***	-11.2707***	-10.9667***
	(-2.65)	(-3.98)	(-4.56)	(-3.29)	(-4.30)	(-4.17)
Ln(BankCredit)	-1.0182***	-1.0989***	-1.2795***	-1.2638***	-1.2863***	-1.3905***
	(-6.44)	(-6.12)	(-6.65)	(-7.78)	(-6.75)	(-6.66)
GDPgrowth	0.0198	0.0874***	0.1171***	0.0559*	0.1148***	0.1206***
	(0.74)	(2.90)	(3.44)	(1.79)	(3.42)	(3.24)
Ln(Savings)	0.0733	0.2058	0.4278	0.2597	0.4681	0.5047
	(0.30)	(0.73)	(1.42)	(0.920	(1.54)	(1.53)
NetExport	-0.0255	-0.0447***	-0.0586***	-0.0378**	-0.0588***	-0.0659***
	(-1.56)	(-2.92)	(-4.93)	(-2.19)	(-4.47)	(-5.66)
Constant	3.0851**	3.2915**	4.2473***	4.3609***	4.1695***	5.3085***
	(2.56)	(2.55)	(3.15)	(3.08)	(3.01)	(3.72)
Observations	714	814	888	784	875	917
R-squared	0.4663	0.5193	0.5419	0.5275	0.5426	0.5464
Year FE	YES	YES	YES	YES	YES	YES
Clustered SE	YES	YES	YES	YES	YES	YES

Panel B: Alternative models with MENA Interactions

Variables	(1) Ln(PovGp190)	(2) Ln(PovGp320)	(3) Ln(PovGp550)	(4) Ln(PovHcr190)	(5) Ln(PovHcr320)
MENA dummy	0.3352	5.8140***	1.5284	4.2182*	2.6955
	(0.15)	(2.83)	(0.66)	(1.83)	(1.05)
Capex	-6.6651***	-10.0008***	-11.4438***	-9.0820***	-11.3622***
	(-3.27)	(-4.00)	(-4.27)	(-3.66)	(-4.01)
MENA * Capex	8.6077	2.2397	2.4618	7.1194	1.4788
	(1.35)	(0.27)	(0.29)	(0.76)	(0.15)
Controls with Interactions	YES	YES	YES	YES	YES
Observations	714	814	888	784	875
R-squared	0.5021	0.5313	0.5450	0.5498	0.5470
Year FE	YES	YES	YES	YES	YES
Clustered SE	YES	YES	YES	YES	YES

Summary and Conclusions

- Some evidence that firms can play an important role in reducing inequality and poverty
- Firm capital expenditure is negatively associated with inequality
- This impact is driven by increasing income at the lower end of the income distribution
- Firm investment is also associated with reducing the poverty gap
- Results are robust to a variety of country controls, level of economic fitness, health of the banking sector and unemployment level
- Higher corporate tax rates are not found to reduce inequality or poverty
- MENA countries have lower inequality than the rest but aren’t different than other countries in terms of inequality or poverty results
- Policy reform to support firm investment with targeted tax incentives