WHAT DO OIL AND MINERAL RICH COUNTRIES DO WITH THEIR RENTS?

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This presentation

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1. Motivation:

Whether NR wealth becomes a curse or a blessing depend largely in what RA countries do with their rents, especially in the case of oil and mineral rich countries that are capital intensive and where rents are larger and forward and backward linkages limited.

Motivation

- Growth can be enhanced if the rents are well invested.

- Macro volatility effects can be mitigated if fiscal revenues from NR are saved in good times to smooth out public expenditures along commodity price cycles

- Dutch Disease effects can be avoided/mitigated if:
  - Rents are partially saved abroad during the production cycle.
  - Rents are invested in ways that increase the productivity of other (tradable and non-tradable) sectors

- (Inequality effects can be compensated by progressive public spending).

2. The data:

The data

- Compiled data on aggregate commodity derived fiscal revenues for 41 countries classified as hydrocarbon or mineral rich according to the Guide on Resource Revenue Transparency, IMF, 2005
  - An average share of hydrocarbon and/or mineral fiscal revenues in total fiscal revenue of at least 25 percent during the period 2000-2003
  - An average share of hydrocarbon and/or mineral export proceeds in total export proceeds of at least 25 percent during the period 2000-2003.
- A larger data base, containing 165 countries (including the previous 41) with fiscal, trade and macroeconomic data and institutional indexes from various sources.

The data set: sources

Description / Source	Source
Real GDP per capita PPP	WDI
Net natural resources per capita.	Own elaboration using CEPII international trade database
Natural resource fiscal revenue.	This data comes from Villafuerte, Lopez-Murphy and Ossowski 2010 for oil rich countries. For other countries we use the respective reports regarding IMF's article IV of different years
Resource rich countries	As indentified by the IMF
Public Investment to GDP	IMF
Government expenditures to GDP	IMF
Government revenue to GDP	World Bank
Government Effectiveness Index	World Bank
Political Stability Index	World Bank
Rule of Law Index	World Bank
ICRG Indicator of Quality of Government	ICRG
Agriculture's share of economy (% of GDP)	WDI
Nominal GDP in local currency	WEO

Variable	# Observ.	Mean	S.D.	Min	Max
GDPpc RA	825	11.208	16.278	508	149.899
Other	2722	10.364	11.806	1,33	89.832
NNREpc RA	586	10.9	6.68	-12.91	18.12
Other	1912	-8.2	7.77	-17.38	15.18
NRFR/GDP RA	852	10.6	12.86	0.00	60.22
INV/GDP RA	718	21.65	9.24	3.48	113.58
Other	2535	22.04	7.96	-23.76	92.44
NAA/GDP RA	481	18.1	15.83	-147.37	81.92
Other	1762	13.69	20.53	-490.99	77.33
FR/GDP RA	674	31.55	12.75	5.83	107.32
Other	2041	30.21	20.15	3.29	556.31
PI/GDP RA	624	6.82	4.79	0.00	34.99
Other	1681	5.89	3.94	0.00	34.77
GOVEFF RA	443	-0.41	0,78	-2.13	2.08
Other	1448	0.10	1.04	-2.50	2.27

Macro and fiscal performance in LA non-renewable resource rich countries during the recent price boom. Correlations with commodity prices

	Growth	Domestic Investment /GDP	Current Account /GDP	Commodity-related fiscal revenues/GDP	Non commodity-related fiscal revenues/GDP	Public expenditures /GDP	Public Investment /GDP	Public Debt/GDP
BOL	+++	++	+++	+++	--	+	+	---
CHL	No	++	No	+++	--	+	+	---
COL	+++	+++	--	+++	++	++	No	---
ECU	+	+	+	+++	+	++	++	---
PERU	+++	++	++	+++	No	-	+	---
MEX	++	No	No	+++	-	No	No	--
TTO	++	--	+++	+++	--	+	++	---
VEN	++	No	--		---	++	n.a.	---

3. Resource abundance and macroeconomic performance

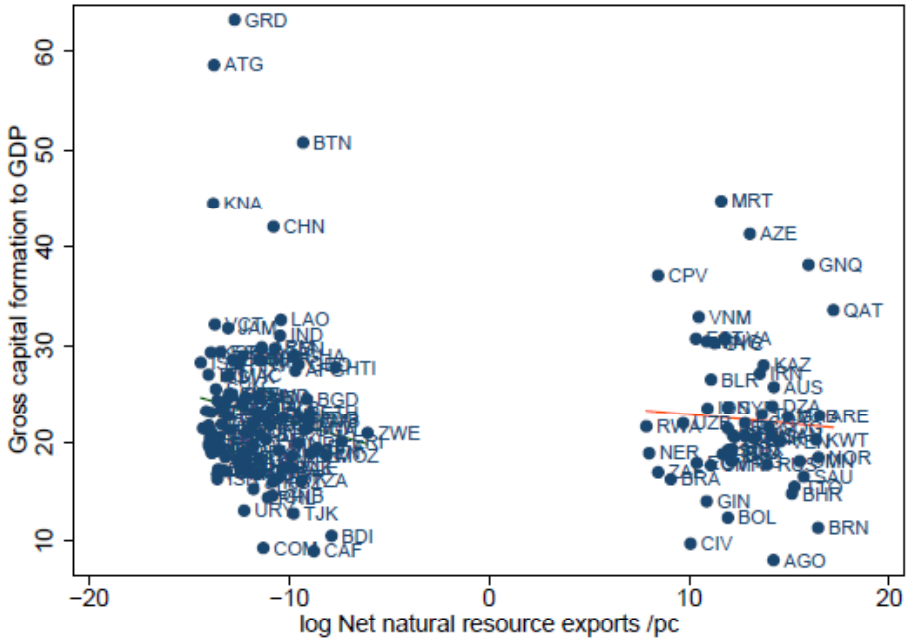
Do RA countries invest and save more?

Optimal use of non-renewable resource rents depend on marginal rates of discount of future vs present consumption and marginal rates of return to domestic investment and to financial assets abroad

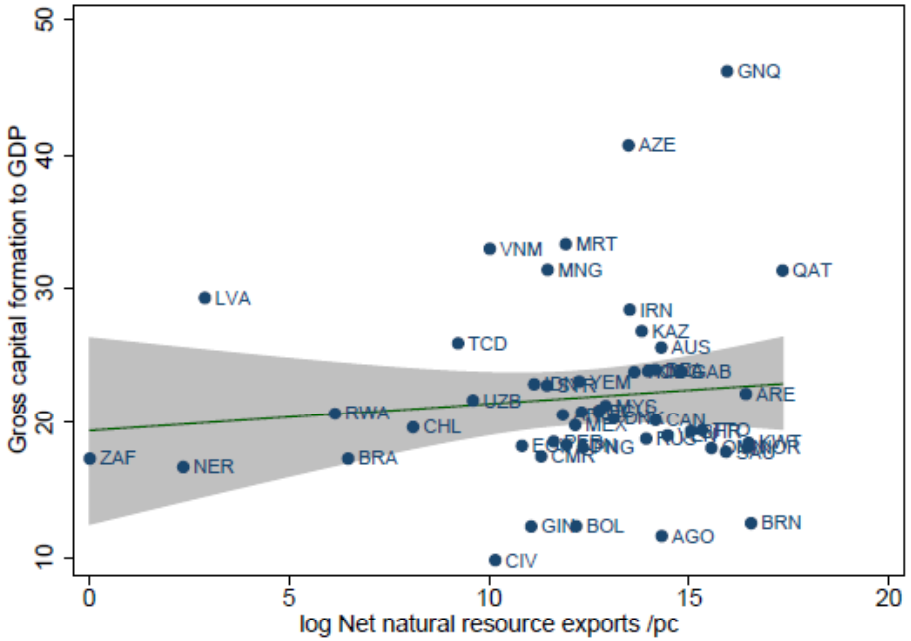
Hypothesis:

- Low income RA countries consume more
- Low and middle income RA countries invest more
- High income RA countries accumulate more financial assets

Do NRA countries invest more?



Year 2005



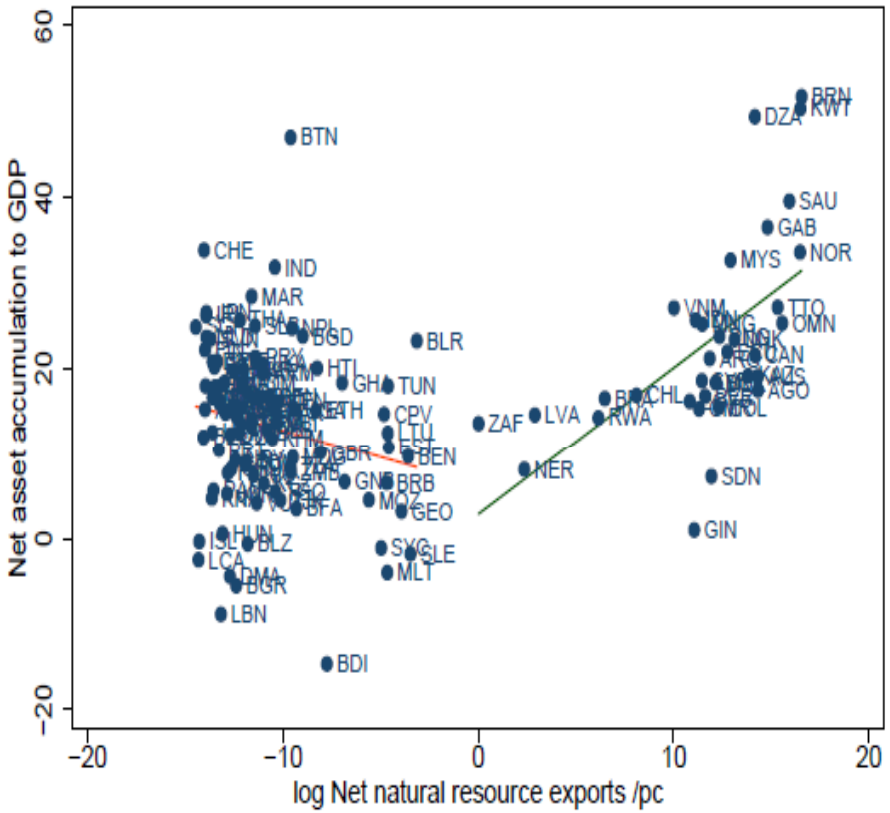
Average 2003-2008 (Only R-Rich countries)

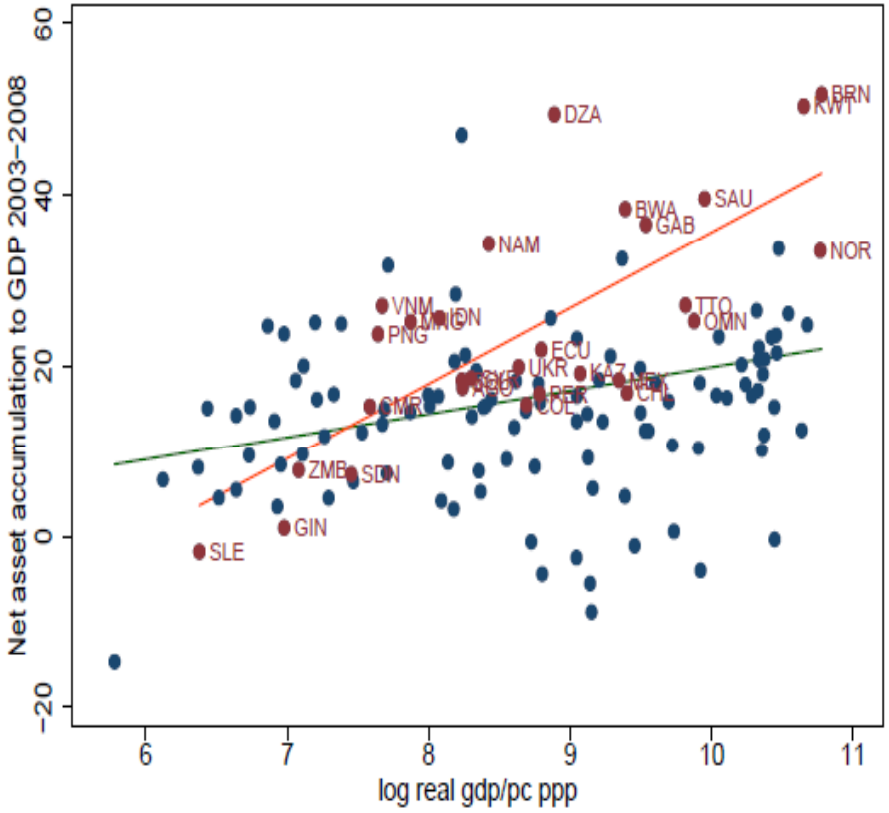
Do RA countries invest more?

INV/GDP=a+bGDPpc+cRA+dGDPpcxRA+elNST+glNSTxRA

Dep Var: log of investment to GDP	(1)	(2)
log GDP/pc PPP	0.472	-0.029
	(0.462)	(0.157)
Log NNRE/pc	0.308*	0.050*
	(0.162)	(0.026)
log GDP/pc PPP x Log NNRE/pc	-0.041*	-0.006**
	(0.022)	(0.003)
Log gov. revenue	0.104	0.242***
	(0.144)	(0.077)
log NRFR/GDP	0.031	-0.051
	(0.056)	(0.036)
govt_eff_index	-0.098	0.150***
	(0.313)	(0.051)
govt_eff x Log NNRE/pc	0.028	0.008**
	(0.023)	(0.003)
cons.	-0.689	2.336*
	(3.491)	(1.388)
Country fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
R-squared	0.783	0.785
N	338	1537

Do RA countries accumulate more assets?





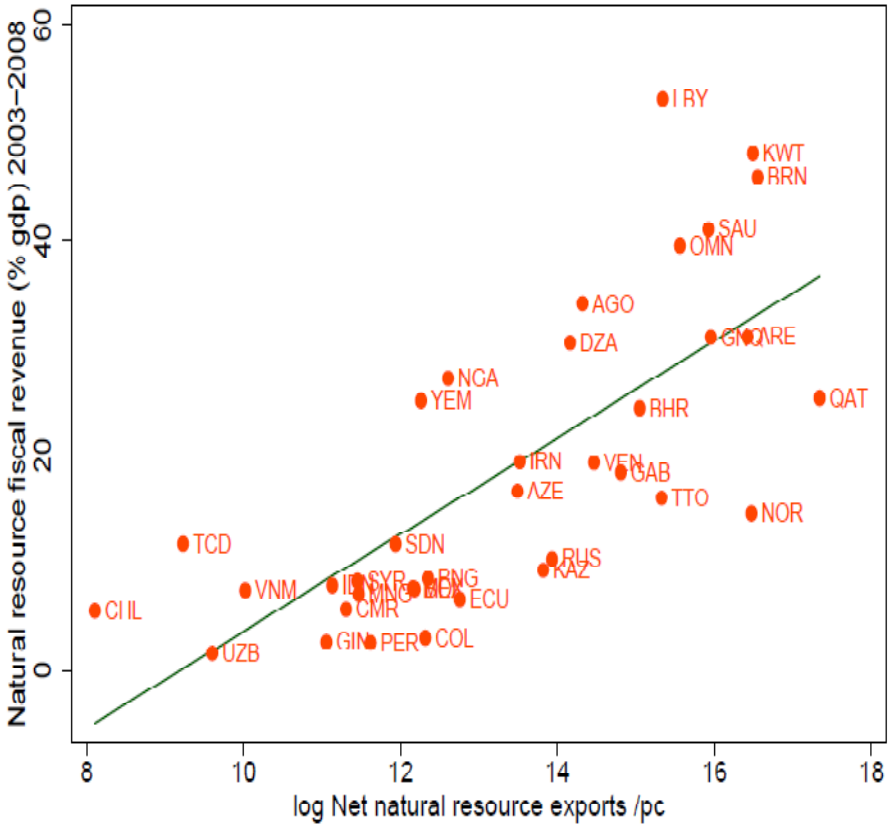
Do RA countries accumulate more assets?

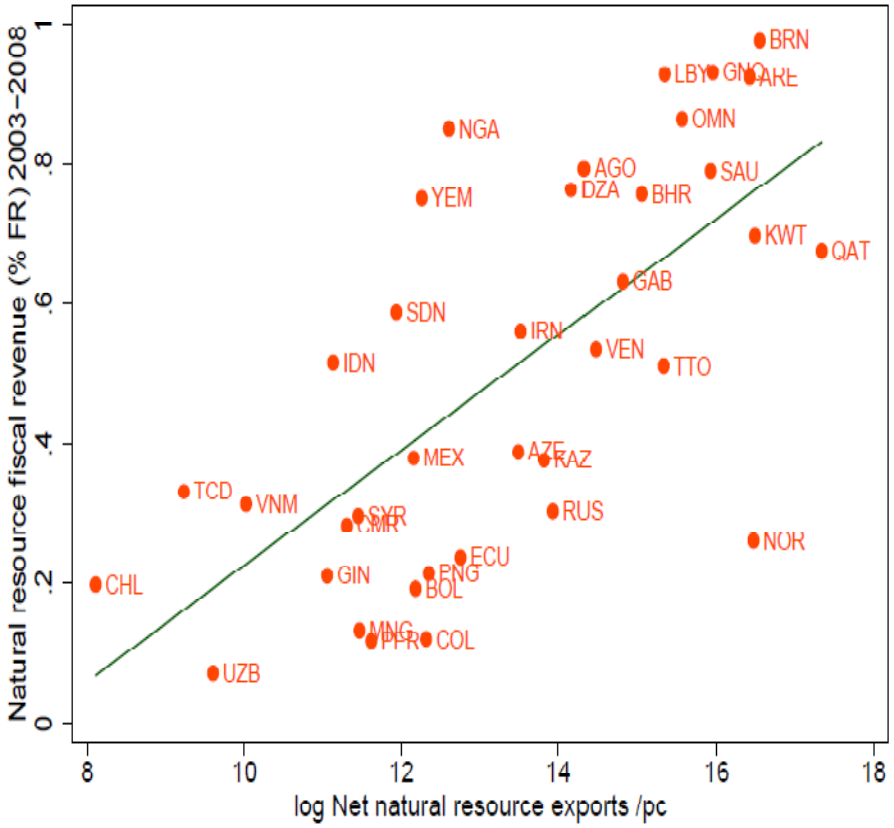
NAA/GDP=a+bGDPpc+cRA+dGDPpcxRA+eINST+gINSTxRA

Dep. Variable: Total net asset accumulation	(1)	(2)	(3)	(5)	(6)
log GDP/pc PPP	0.177***	0.191***	0.206***	-0.05	0.195***
	(0.032)	(0.029)	(0.05)	(0.119)	(0.033)
RRICH	-1.027			-2.690**	
	(0.739)			(1.277)	
log GDP/pc PPP x RRICH	0.143*			0.321**	
	(0.082)			(0.147)	
log NRFR/GDP		0.028***	0.011	0.234**	
		(0.007)	(0.053)	(0.108)	
log GDP/pc PPP x log NRFR/GDP			0.002	-0.025**	
			(0.006)	(0.012)	
Log NNRE/pc					0.009***
					(0.003)
Country fixed effects	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes
R2	0.131	0.135	0.135	0.144	0.127
N	2054	2054	2054	2054	1440

4. Resource abundance and fiscal performance

From non-renewable natural resource abundance (NRA) to fiscal dependence (NRFD)





From Resource Abundance to Fiscal Dependence

NRFR/GDP=a+bGDPpc+cRA+dGDPpcxRA+eINST+gINSTxRA

	Log NRFR/GDP			Log NRFR/FR		
Dep. variable: Log NRFR/GDP	(1)	(2)	(3)	(4)	(5)	(6)
Log GDP/pc PPP	0.620***	0.568**	0.726***	0.464***	0.365	0.580***
	(0.155)	(0.252)	(0.171)	(0.175)	(0.275)	(0.181)
Log NNRE/pc	0.073*	0.074*	0.246***	0.30	0.031	0.264***
	(0.042	(0.042)	(0.052)	(0.054)	(0.055)	(0.058)
Govt. effect. index		-0.203	-2.616***		-0.175	-3.244***
		(0.157	(0.686)		(0.152)	(0.663)
Govt. effect. Index x Log NNRE/pc			0.190***			0.239***
			(0.052)			(0.049)
Country Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
R2	0.901	0.903	0.917	0.881	0.883	0.909
N	424	399	399	382	365	365

From Resource Abundance to Fiscal Dependence (All countries)

	log NRFR/GDP		Log NRFR/FR	
	1	2	3	4
log GDP/pc PPP	0.386***	0.307*	0.924	0.867
	(0.132)	(0.177)	(0.601)	(0.735)
Log NNRE/pc	0.007***	0.024***	0.035**	0.124***
	(0.002)	(0.007)	(0.015)	(0.044)
govt_eff_index	-0.109***		-0.171	
	(0.037		(0.224)	
govt_eff_index x Log NNRE/pc	-0.002		-0.011	
	(0.002)		(0.012)	
ICG -Quality of Government		-0.182		0.406
		(0.211)		(0.923)
ICG – QOG x Log NNRE/pc		-0.026***		-0.155***
		(0.009)		(0.057)
cons.	-8.238***	-7.059***	-13.99***	-13.774**
	(1.112)	(1.512)	(5.057)	(6.374)
Country Fixed Effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
R2	0.997	0.997	0.875	0.873
N	1865	1497	1938	1563

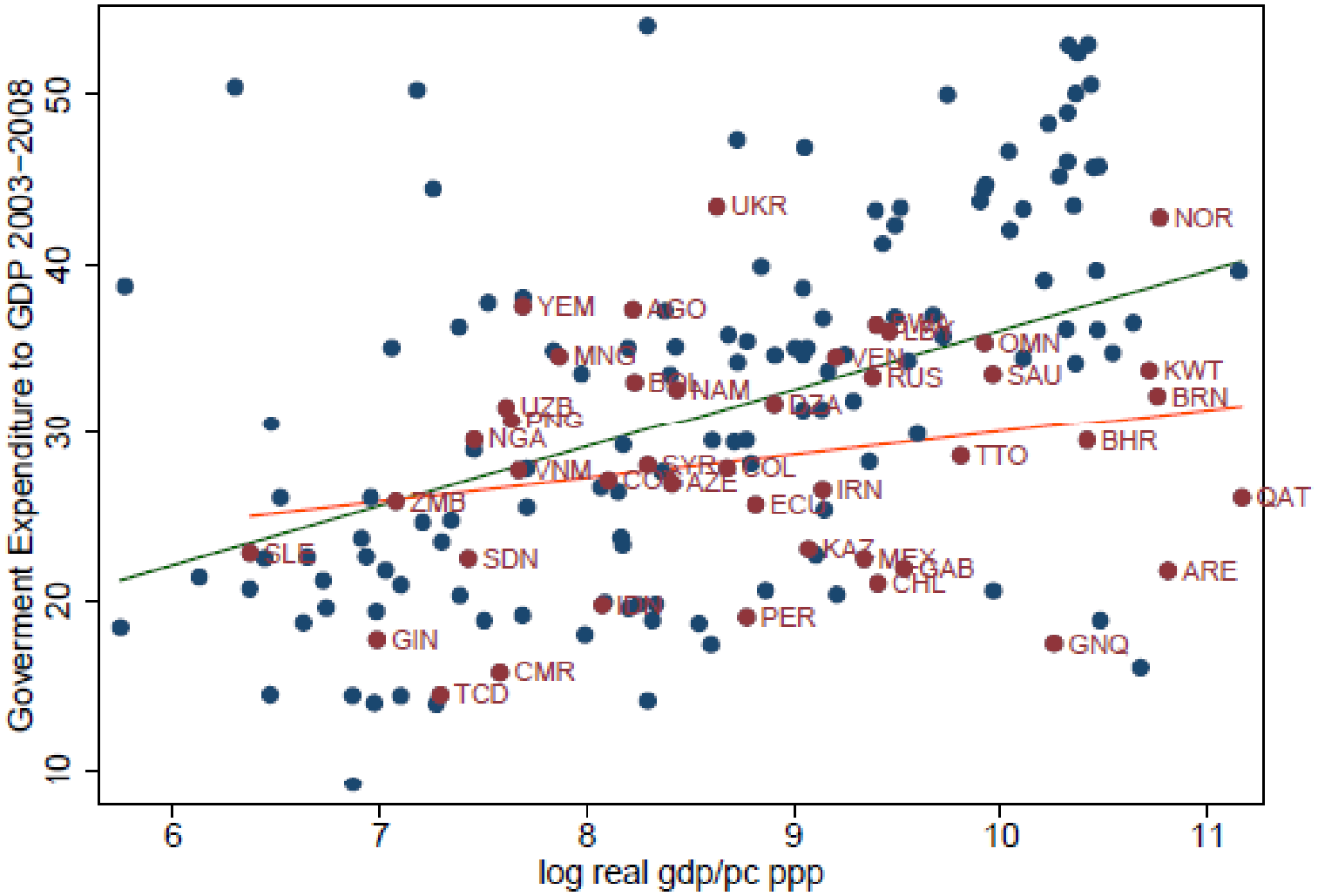
What do RA countries do with their fiscal revenues?

Hypothesis:

- Lower Income RA Countries should have larger public government expenditures and particularly higher public investment and expenditures in bassic human capital

- Higher Income RA countries should have lower non-resource taxes and lower public debts

Do RA rich countries have larger Government Expenditures?

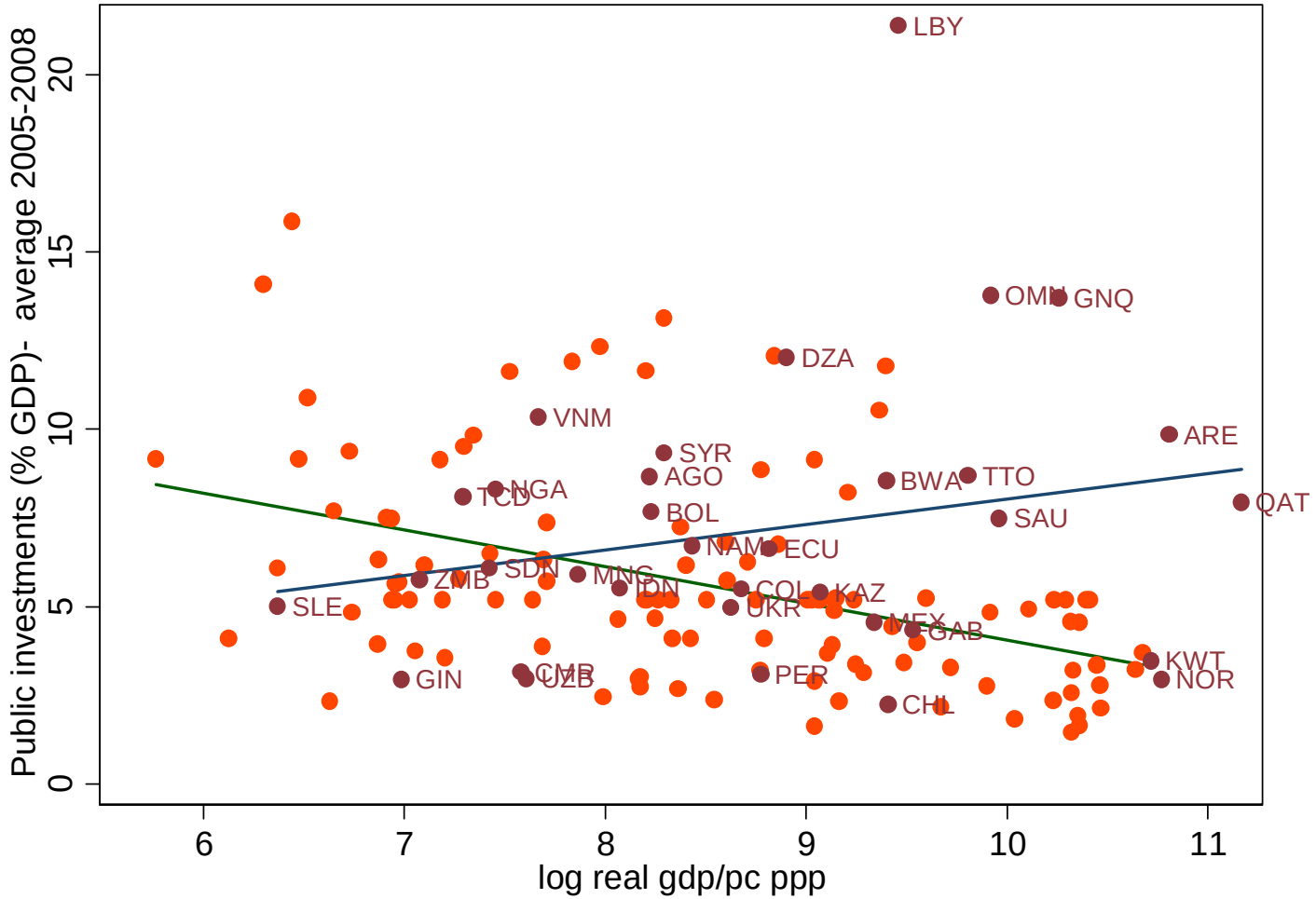


Do RA countries have larger Governments?

PE/GDP=a+bGDPpc+cRA+dGDPpcxRA+eINST+gINSTxRA

Dep. Variable: Log of Gov. expenditure to GDP	(1)	(2)	(3)
log GDP/pc PPP	0.02	-0.118	-0.02
	(0.202)	(0.107)	(0.152)
log NRFR/GDP	-0.042	0.487**	0.420*
	(0.054)	(0.193)	(0.225)
log NRFR/GDP x log GDP/pc PPP		-0.056**	-0.046*
		(0.023)	(0.026)
govt_eff_index			-0.039
			(0.053)
govt_eff_index log NRFR/GDP			0.001
			(0.011)
cons.	2.975*	4.49***	3.61***
	(1.773)	(0.949)	(1.323)
Country Fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
r2	0.775	0.783	0.842
N	2185	2185	1714

Do RA countries have higher public investment?

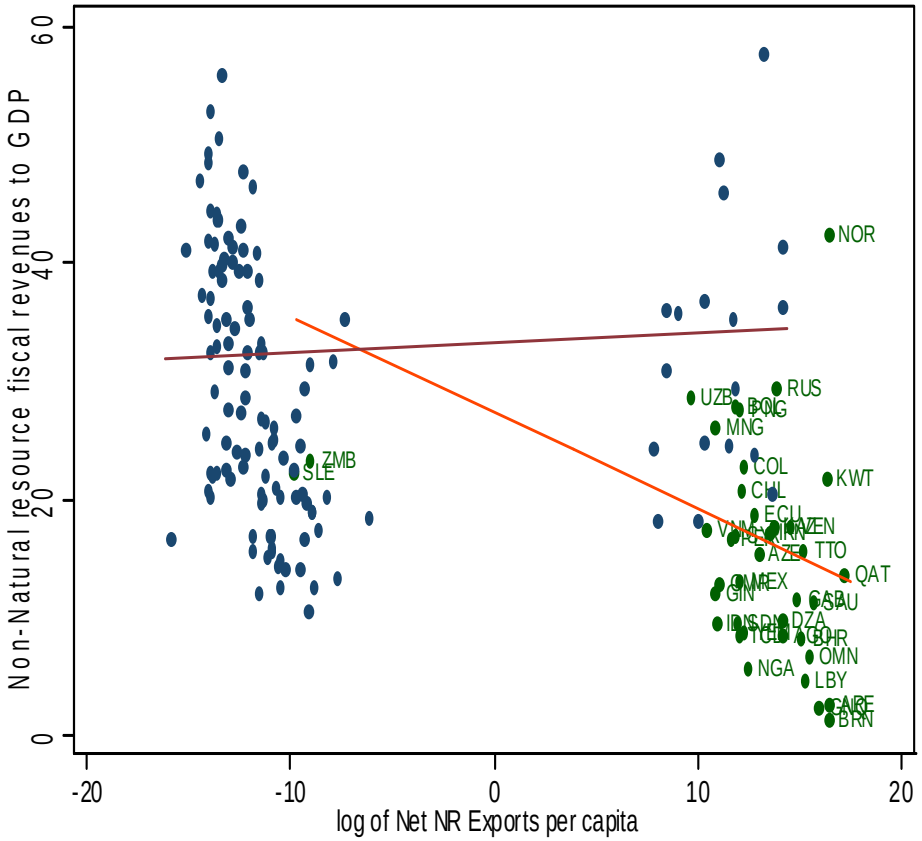


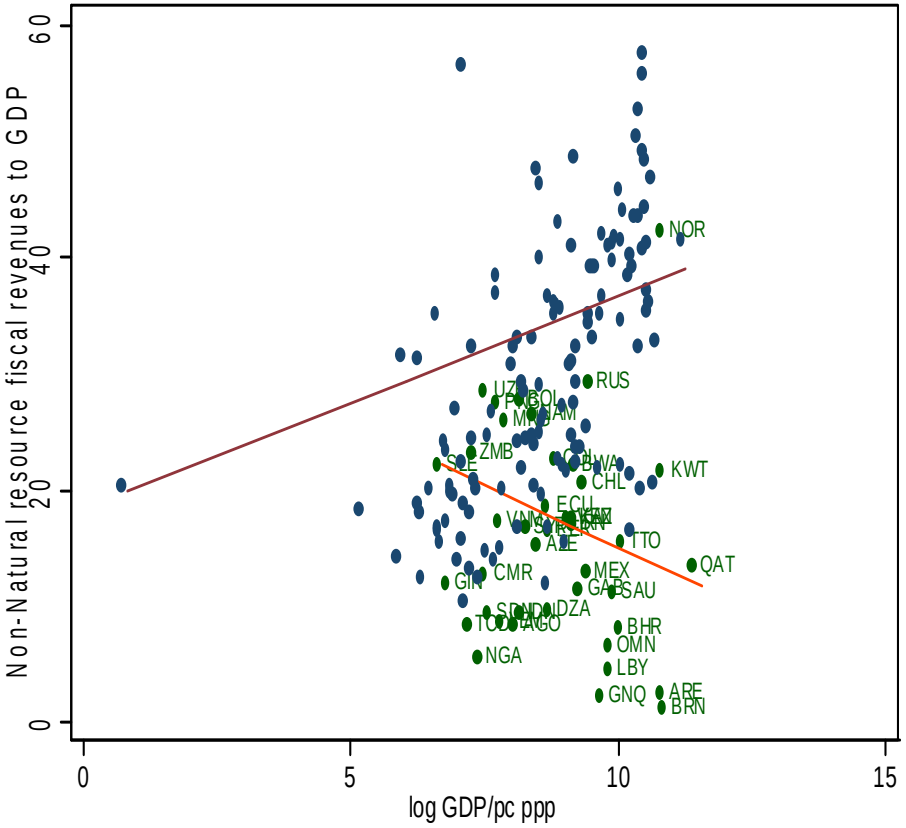
Do RA countries have higher public investment?

PI/GDP=a+bGDPpc+cRA+dGDPpcxRA+eINST+gINSTxRA

Dep. Var. Log of Public investment to GDP	(1)	(3)	(4)
log GDP/pc PPP	-0.394	-0.154***	-0.109
	(0.396)	(0.033)	(0.072)
RRICH x log GDP/pc PPP		0.169***	0.131***
		(0.033)	(0.046)
log NRFR/GDP	-1.321		
	(0.857)		
log NRFR/GDP x log GDP/pc PPP	0.176*		
	(0.098)		
govt_eff_index	0.749***		
	(0.184)		
govt_eff x log NRFR/GDP	-0.280***		
	(0.05)		
log NRFR/GDP squared		0.030***	0.017*
		(0.007)	(0.01)
OECD budget transparency			-0.003
			(0.004)
OECD budget transparency x log NRFR/GDP			0.00
			(0.001)
cons.	4.78	2.649***	2.369***
	(3.387)	(0.302)	(0.538)
Country Fixed Effects	Yes	Yes	No
Year fixed effects	Yes	Yes	No
r2	0.803	0.161	0.308
N	323	1897	44

Do RA countries have lower non NR taxes?





Do RA countries have lower non NR taxes?

Non-NRFR/non-NRGDP=a+bGDPpc+cRA+dGDPpcxRA+eINST+gINSTxRA

	Resource Rich countries			All countries	
Dep var: Non-NRFR/GDP	(1)	(2)	(3)	(4)	(5)
NRFR/GDP	-0.24***	-0.24***	-0.20***	-0.22***	-0.21
	(0.068)	(0.054)	(0.046)	(0.049)	(0.137)
log real GDP/pc PPP		-0.32	-0.76	2.70**	-0.4
		(1.703)	(1.755)	(1.337)	(1.833)
Agriculture (% of GDP)		-0.11	-0.16	-0.15**	-0.11
		(0.113)	(0.107)	(0.07)	(0.112)
Corruption index		-1.2	-1.43	-0.45	-1.2
		(1.814)	(1.5)	(0.769)	(1.813)
Lag non-NRFR/GDP			0.23*	0.47***	
			(0.138)	(0.1)	
NRFR/GDP squared					0.00
					(0.002)
Constant	19.96***	24.33	24.11	-5.46	24.89
	(1.07)	(15.32)	(17.07)	(12.36)	(16.11)
Country fixed effects	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes
Observations	519	278	262	1,209	278
R-squared	0.862	0.884	0.899	0.935	0.884

Do RA countries carry lower public debt?
PD/GDP=a+bGDPpc+cRA+dGDPpcxRA+eINST+gINSTxRA

Dep Var: Log of Public Debt to GDP	(1)	(2)
log GDP/pc PPP	2.035	-0.944**
	(1.183)	(0.447)
log NRFR/GDP	6.525***	
	(1.98)	
log NRFR/GDP x log GDP/pc PPP	-0.781***	
	(0.25)	
log NRFR/FR		5.062**
		(2.313)
log NRFR/FR x log GDP/pc PPP		-0.627**
		(0.299)
govt_eff_index	-2.397*	-1.833
	(1.292)	(1.288)
govt_eff x log NRFR/GDP	0.644*	0.413
	(0.317)	(0.299)
cons.	-13.147	11.48***
	(9.645)	(3.863)
Country fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
R2	0.752	0.737
N	154	154

5. Do RA countries have less efficient and more volatile and pro cyclical public expenditures?

Do RA countries have less efficient public expenditures and weaker institutions?

- Public choice theory suggests that public expenditures will be more efficient and transparent the more they are financed by taxes on residents (less by resource rents, aid flows or transfers).

- In addition, resource curse theories suggest that NRA countries have weaker institutions (e.g., Government effectiveness, control of corruption)

Do NRFD countries have less efficient public expenditures? EFFPE=a+bGDPpc+cRA+dGDPpcxRA+eINST+gINSTxRA

Dep. Variable:	Primary Education Output Eff. FDH	Primary Education Output Eff. DEA	Secondary Education Output Eff. FDH	Secondary Education Output Eff. DEA
	(1)	(2)	(3)	(4)
Log GDP/pc	0.07***	0.07***	0.19***	0.18***
	(0.012)	(0.011)	(0.014)	(0.012)
log NRFR/FR	-0.01	-0.02*	0.02*	-0.02**
	(0.009)	(0.008)	(0.01)	(0.009)
Constant	0.11	0.08	-1.11***	-1.11***
	(0.108)	(0.104)	(0.128)	(0.109)
Observations	122	122	122	122
R-squared	0.228	0.245	0.617	0.674

Do NRFD countries have less efficient public expenditures? EFFPE=a+bGDPpc+cRA+dGDPpcxRA+eINST+gINSTxRA

Dep. Var: Immunization output efficiency (DEA method)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Log GDP/pc	0.06***	0.06***	0.05***	0.05***	0.06***	0.07***	0.08***	0.07***
	(0.015)	(0.015)	(0.017)	(0.017)	(0.013)	(0.013)	(0.017)	(0.016)
log NRFR/FR	-0.02*	-0.01	-0.01	-0.00	-0.02	-0.01	-0.02*	-0.06**
	(0.010)	(0.010)	(0.010)	(0.011)	(0.010)	(0.011)	(0.009)	(0.027)
corruption	0.07**	0.15***						
	(0.027)	(0.047)						
corruption X non-NRFR/GDP		0.03**						
		(0.011)						
govt_eff_index			0.09***	0.20***				
			(0.030)	(0.056)				
govt_eff X non-NRFR/GDP				0.03**				
				(0.013)				
Political Stability					0.05***	0.10**		
					(0.020)	(0.043)		
Political Stability X non-NRFR/GDP						0.01		
						(0.010)		
ICRF - Quality of government							0.60***	0.99***
							(0.157)	(0.259)
ICRF - Quality of government X non-NRFR/GDP								0.11*
								(0.057)
Constant	0.28*	0.29**	0.41**	0.42**	0.23*	0.25*	-0.16	-0.32**
	(0.149)	(0.147)	(0.168)	(0.165)	(0.129)	(0.129)	(0.118)	(0.143)
Observations	131	131	131	131	131	131	96	96
R-squared	0.333	0.358	0.345	0.371	0.340	0.348	0.539	0.556

Do NRFD countries have less transparent budgets?

PETR=a+bGDPpc+cRA+dGDPpcxRA+eINST+gINSTxRA

Dep. Variable: OECD open budget index	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Log GDP/pc	0.35***	0.37***	0.20*	0.20*	0.35***	0.38***	0.23**	0.24**
	(0.069)	(0.064)	(0.109)	(0.110)	-0.067	-0.061	-0.107	-0.108
Log NRFR/FR		-0.18***	-0.13***	-0.12**				
		(0.041)	(0.048)	(0.052)				
Log NRFR/GDP						-0.28***	-0.22***	-0.21***
						-0.054	-0.062	-0.066
Gov. effectiveness index			0.32**	0.42*			0.28*	0.24
			(0.161)	(0.247)			-0.156	-0.171
Gov. Eff. X log NRFR/FR				0.03				
				(0.056)				
Gov. Eff. X log NRFR/GDP								0.04
								-0.069
Constant	0.65	-0.14	1.23	1.22	0.69	0.62	1.55*	1.49
	(0.589)	(0.578)	(1.045)	(1.049)	-0.58	-0.524	-0.919	-0.928
Observations	119	119	118	118	124	124	118	118
R-squared	0.204	0.316	0.339	0.341	0.195	0.347	0.365	0.367

Do NRFD countries have less efficient Governments?

Dep. Var: Government efficiency Index	(1)	(2)	(3)
Log GDP/pc	0.52***	0.54***	0.55***
	(0.010)	(0.009)	(0.009)
log NRFR/FR		-0.17***	
		(0.009)	
log NRFR/GDP			-0.24***
			(0.013)
Constant	-4.31***	-5.23***	-4.51***
	(0.098)	(0.102)	(0.090)
Observations	1,701	1,701	1,701
R-squared	0.608	0.676	0.676

Do NRFD countries have less control of corruption?

Dep. Var.: Corruption Index	(1)	(2)	(3)
Log GDP/pc	0.49***	0.52***	0.53***
	(0.011)	(0.010)	(0.010)
log NRFR/FR		-0.19***	
		(0.010)	
log NRFR/GDP			-0.25***
			(0.014)
Constant	-4.11***	-5.09***	-4.31***
	(0.108)	(0.112)	(0.100)
Observations	1,701	1,701	1,701
R-squared	0.543	0.618	0.614

Do RA countries have more volatile and pro cyclical fiscal policies?

- **Hypothesis:**
  - Countries with high NRFR have more volatile public expenditures
  - Countries with high NRFR have more pro cyclical fiscal policies depending on how correlated business cycles and commodity prices are (probably high for countries with high RA)

Effects of commodity-related revenues on the cycle of public expenditures

∂PE=a+b∂NRFR+c∂GDP+dRA∂GDP

Dep.Var. Expenditure cycle	(1)	(2)	(3)	(4)	(5)	(6)
GDP cycle	0.520***	0.578***	0.423***	0.394***	0.290**	0.436***
	(0.106)	(0.11)	(0.135)	(0.096)	(0.143)	(0.134)
log NRFR/GDP (cycle)	0.072***	0.071***	0.066**	0.083***	0.081***	0.074***
	(0.012)	(0.013)	(0.027)	(0.01)	(0.01)	(0.009)
GDP cycle x RRICH		-0.26				
		(0.174)				
Log NNRE/pc x GDP cycle			-0.013			
			(0.011)			
log NRFR/GDP x GDP cycle				-0.028		
				(0.017)		
log NRFR/FR x GDP cycle					-0.043	
					(0.027)	
Terms of trade cycle						0.003
						(0.063)
cons	-0.007	-0.006	-0.011	-0.006	-0.006	-0.017
	(0.011)	(0.011)	(0.02)	(0.011)	(0.011)	(0.012)
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
r2	0.235	0.243	0.202	0.244	0.244	0.263
N	2442	2442	1953	2442	2442	1695

Effects of commodity-related revenues on the cycle of public expenditures IV

IV for ∂GDP: ∂TOT, ∂TPGDP

Dep. Variable:	Public expenditures cycle (1)	Public expenditures cycle (2)	Public investment cycle (3)	Public investment cycle (4)
GDP cycle	2.177	0.381	1.217*	0.819*
	(5.522)	(0.659)	(0.65)	(0.478)
Difference of log NRFR/GDP	-0.044		0.081*	
	(0.187)		(0.042)	
log NRFR/GDP x GDP cycle	0.123	0.009	0.046	0.02
	(0.35)	(0.042)	(0.044)	(0.033)
Public expenditures cycle (t-1)	0.044	0.263***		
	(0.694)	(0.086)		
log GDP/pc PPP	0.012	0.012	0.272***	0.216***
	(0.062)	(0.026)	(0.076)	(0.074)
govt_eff_index	-0.017	0.007	0.069*	0.056
	(0.077)	(0.015)	(0.041)	(0.038)
Public investment cycle (t-1)			0.171**	0.203***
			(0.083)	(0.062)
Terms of Trade		0.022		0.044
		(0.019)		(0.036)
log NRFR/GDP x Terms of trade		-0.001		-0.008
		(0.005)		(0.012)
cons.	-0.082	-0.21	-2.292***	-2.014***
	(0.581)	(0.215)	(0.651)	(0.608)
Country fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
N	1151	1155	1003	1009

Co-movement between cycles of GDP and Commodity Prices

Dep. Variable: GDP cycle	(1)	(2)	(3)	(4)	(5)	(6)
Cycle metal index	-0.00308					
	-0.0093					
Cycle energy index		0.0214**				
		-0.0104				
Cycle main commodity			0.0171**			
			-0.00814			
Cycle metal index (t-1)				0.0359***		
				(0.00933)		
Cycle energy index (t-1)					0.0527***	
					(0.00955)	
Cycle main commodity (t-1)						0.0515***
						(0.00801)
Constant	0.000699	0.000433	0.000713	0.00124	-0.00174	0.00113
	-0.00183	-0.0023	-0.00183	(0.00185)	(0.00218)	(0.00182)
Country Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,067	710	1,067	1,038	673	1,038
R-squared	0	0.006	0.004	0.015	0.046	0.040
Number of id	38	38	38	38	38	38

6. Policy implications

	Low Low NRA	Income High NRA	Middle Low NRA	Income High NRA	High Low NRA	Income High NRA
Consumption	++ Focused CT	+++ Focused CT Low VAT		++ Focused CT		
Private Investment	++ Low Margin. Enhanced	+++ Tax Rates Institutions	++ Low Margin. Enhanced	++++ Tax Rates Institutions		+ Low Marg. Tax Rates
Public Investment	+++ Enhanced Enhanced	++++ Budget Inst Planning	+++ Enhanced Enhanced	++++ Budget Inst PPP		++ EnhancedP P
Human Capital	+++ Basic	++++ Basic, Sec.	+++ Sec., Tertiary	++++ Sec., Tertiary		++ Post Tertiar
Financial Assets Abroad				++ Wealth Funds	++ Wealth	++++ Funds
Non NR Taxes	-- LMTRI	---- LMTRI, VAT	- LMTRI	-- LMTRI		
Exp Smoothing	++ Price	++++ Benchmark	++ Fiscal	++++ Rule	++ Budget	++++ Inst

Policy Implications (2)

- Enhancing institutions is more difficult but more important (higher payoff) in NRA countries

- As the lack of the tax-expenditure link seems to be behind the low efficiency of public expenditures in resource-rich countries reformist Governments should:
  - Promote public awareness about the fact that non-renewable resources are finite and there should be civil society oversight over the use of commodity-related rents.

Policy Implications (3)

- Establish institutional procedures for the effective participation of civil society organizations in the allocation and supervision of the use of commodity-related rents

- Conform to the IMF guidelines on *Resource Revenue Transparency* and go through the transparency validation of the Extractive Industries Transparency Initiative (EITI)

- Increase non-commodity related tax collections, mostly by broadening bases and controlling evasion, as low and middle income countries with high abundance non renewable resources should use part of their rents to increase private investment (and thus should keep low marginal investment rates) and low income countries also to increase present consumption (and thus keep low also tax rates on consumption).

WHAT DO OIL AND MINERAL RICH COUNTRIES DO WITH THEIR RENTS?

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