# Drivers of Inclusive Development An Empirical Investigation

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- 2. Measurement of Inclusive Development: Multidimensional Inclusiveness Index
- 3. Drivers of Inclusive Development
- 4. Empirical Analysis
- 5. Policy Conclusions

#### 1. Motivation

- Large successes in global development:
  - Inequality between countries decreasing
  - Over 1 bill. People lifted out of extreme poverty (Chen, Ravallion, 2013)
- New problems in global development:
  - Inequality within countries rising (until 2005)
  - Deindustrialization and economic stagnation in the "West"
  - Environmental degradation
  - Structural fiscal challenges (especially after the 2008/09 world financial crisis)
  - Disruption of global supply chains as results of the Covid crisis
- Consequences:
  - Increasing skepticism with regards to international division of labour
  - Aversion from the multilateral order
  - Anti-globalization sentiments
  - Populism on the rise



#### 1. Motivation

- Necessary policy response:
  - New development concepts and models
- Increasing Number of Political Announcements on Inclusive Development
  - SDG #16 "Promote peaceful and inclusive societies [...] build effective, accountable and inclusive institutions at all levels"
  - 2016 "G20 Action Plan on the 2030 Agenda for Sustainable Development": 1st sentence: "The G20 is committed to [...] build an inclusive and sustainable future for all".
  - 2017 Hamburg Update calls for "inclusive growth" (7x), "inclusive business", "open and inclusive multilateral trading-system with the WTO at its core"
- Inclusive development is on the official agenda, but:
  - What does that mean?
  - How do we measure it?
  - How do we achieve it?



Defining inclusive development:

"Societal progress (development) that incorporates participatory empowerment of citizens and promotes well-being related outcomes in accordance with sustainability of societal foundations (institutions and environment)."

Dörffel, Schuhmann (2022): "What is Inclusive Development? Introducing the Multidimensional Inclusiveness Index." Published in Social Indicator Research.



- Selection of Indicators inspired by the Inclusive Development Index (WEF, 2017, 2018)
- Conceptual approach based on Anand et al. (2013), Dreher (2006), Gwartney and Lawson (2006), Gygli et al. (2019) as well as Nardo et al. (2005)
- MDI is calculated yearly for up to 171 countries for the time frame 1960 -2018

#### MDI basic version:

$$MDI = I_E \times I_A = [Gini_{income}] \times \begin{bmatrix} GDP \ p. \ c. \\ Savings/GDP \\ Life \ Expectancy \ at \ Birth \\ Human \ Capital \ Index \end{bmatrix}$$

MDI achievements+ version:

$$MDI_{A+} = I_E \times I_{A+} = [Gini_{income}] \times egin{bmatrix} GDP \ p. \ c. \ Savings/GDP \ Life Expectancy at Birth \ Human Capital Index \ Labor Productivity \ Employment Ratio \ Adjusted net Savings/GNI \ Dependency Ratio \ Carbon Intensity/GDP \ nat. res. depletion/GNI \ \end{bmatrix}$$

MDI equity+ version:

$$MDI_{E+} = I_{E+} \times I_A = \begin{bmatrix} Gini_{income} \\ Gini_{wealth} \\ Atkinson_{education} \\ Atkinson_{health} \end{bmatrix} \times \begin{bmatrix} GDP \ p. \ c. \\ Savings/GDP \\ Life \ Expectancy \ at \ Birth \\ Human \ Capital \ Index \end{bmatrix}$$

Index Composition and Variable Weights

Index	Subindex	Variable	Variable weight (PC 1)	Variable weight (PC 2)*	Variable weight (PC 3)*
		GDP p.c.	32%		
	Achievements	Savings	7%		
MDI basic	Index [50%]	Life Expectancy	28%		
		Human Capital	33%		
	Equity Index [50%]	Income Equity	100%		
		GDP p.c.	32%		
	Achievements	Savings	7%		
	Index [50%]	Life Expectancy	28%		
MDI equity+		Human Capital	33%		
Wibi equity +		Income Equity	28%	6%	
	Equity	Wealth Equity	0%	90%	
	Index [50%]	Education Equity	34%	1%	
		Health Equity	39%	2%	
		GDP p.c.	18%	5%	1%
		Savings	4%	4%	23%
		Life Expectancy	16%	0%	2%
		Human Capital	20%	0%	10%
	Achievements	Labor Productivity	16%	0%	0%
MDI achievements+	Index [50%]	Employment Ratio	3%	30%	0%
		Adj. Net Savings	3%	1%	60%
		Carbon Intensity	0%	57%	3%
		Nat. Res. Depletion	2%	0%	0%
		Dependency Ratio	18%	2%	1%
	Equity Index [50%]	Income Equity	100%		



Note: \* empty cells indicate that only one principal component is used; Principal components are weighted according to their relative contribution to overall variance; in the  $I_E$  in the  $MDI_{E+}$  PC 1 has a weight of 68% and PC 2 a weight of 32%; in the  $I_A$  in the  $MDI_{A+}$  PC 1 has a weight of 69%, PC 2 16% and PC 3 15%

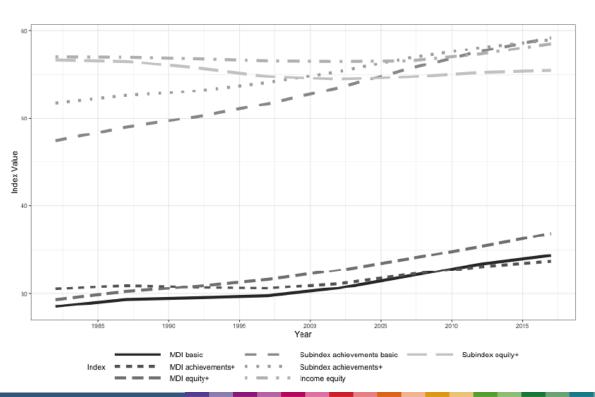
#### **Correlation coefficients with alternative development indices**

Pearson corr. coeff.	OECD countries (n=36)	non-OECD countries (n=141)	LDCs (n=42)	non-LDCs (n=135)	LICs (n=24)	MICs (n=98)	HICs (n=55)	All countries (n=175)
MDI basic & HDI	0.82*	0.73*	0.45*	0.82*	0.22	0.68*	0.75*	0.83*
MDI basic & IHDI	0.92*	0.85*	0.68*	0.90*	0.38	0.79*	0.71*	0.91*
MDI basic & IDI***	0.76*	0.68*	0.73*	0.82*	0.54	0.55*	0.71*	0.86*
MDI basic & log GPD p.c.	0.74*	0.59*	0.26	0.71*	0.25	0.42*	0.55*	0.78*
Spearman rank-corr. coeff.								
MDI basic & HDI	0.65*	0.76*	0.40**	0.82*	0.24	0.69*	0.69*	0.87*
MDI basic & IHDI	0.83*	0.86*	0.57*	0.92*	0.38	0.80*	0.78*	0.93*
MDI basic & IDI***	0.80*	0.72*	0.61**	0.82*	0.33	0.55*	0.78*	0.87*
MDI basic & log GPD p.c.	0.65*	0.60*	0.27	0.70*	0.08	0.44*	0.55*	0.78*

Note: \* p-val < 0.01, \*\* p-val < 0.05, \*\*\*respective samples for the IDI are smaller. LDCs are least developed countries, LICs are low income countries, MICs are middle income countries and HICs are high income countries, as defined by the World Bank.

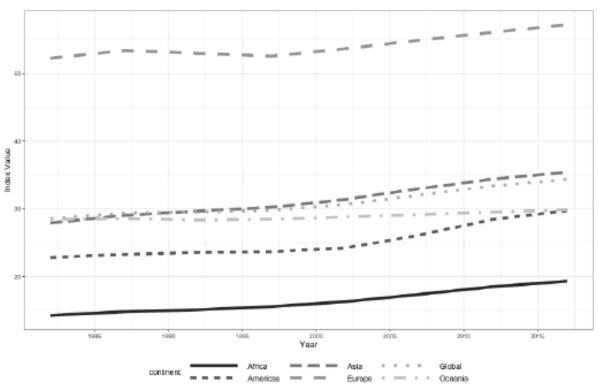


The Development of the MDI Basic Index Scores by Continent Averages



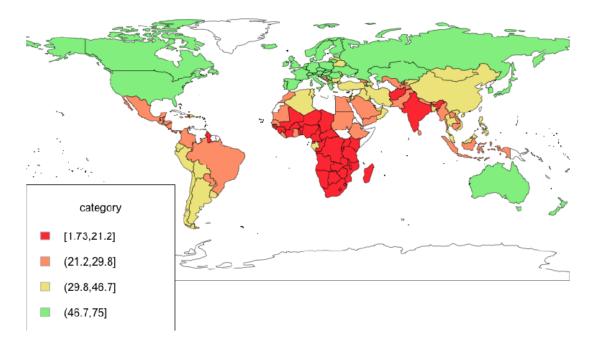


The Development of the MDI Basic Index Scores by Continent Averages





#### **Index scores:**



Note: Countries are grouped into quartiles. White countries reflect missing data



#### 3. Drivers of Inclusive Development

It is important to appreciate that there are manifold determinants of inclusive development.

For identifying main drivers of inclusive development, we conduct a qualitative review of growth literature and identify the most frequently used variables:

- Economic Development → investment/GDP, trade/GDP, credits/GDP, ICT density index (WDI database), bank deposits/GDP (Global Financial Development database)
- Social and Political Stability → Coups (Bjornskov, Rode, 2019), Historical Index of Ethnic Fractionalization (Drazanova, 2019)
- Institutional Quality → Support Vector Machines Democracy Index (Gruendler, Krieger, 2016)
- Economic Policies → Inflation, Government Consumption (WDI database)
- Regional heterogeneity → Africa dummy, Latin America dummy
- Structural Change →1-year absolute changes in sector employment (WDI database)



#### 3. Drivers of Inclusive Development

Investment/GDP

Trade/GDP

Credit/GDP

Bank deposit/GDP

**ICT** density

Coups

**Ethnic Fractionalization** 

Inflation

**Government Consumption** 

**Institutional Quality** 

Structural Change

→ positive impact on inclusive development

→ no impact/slightly positive impact

→ no impact/slightly negative impact

→ positive impact

→ no impact/slightly positive impact

→ negative impact

→ negative impact

→ negative impact

→ no impact

→ positive impact

→ positive impact

- Restricted time frame: 1980-2018
- Looking at different policy response time-frames (5 and 10-year averages)

$$MDI_{i,t} = \gamma MDI_{i,t-k} + X'_{i,t-1}\beta_k + \vartheta_i + \eta_t + \varepsilon_i$$

- (1) Two-way fixed effects model
- (2) System and Difference GMM model

(5-year averages)

	(1)	(2)	(3)	(4)	(5) FE policy	(6)
VARIABLES	FE baseline	FE	FE	FE policy specification	specification restricted	FE structural specification
Lag MDI basic	0.822*** (0.0367)	1.086*** (0.0561)	1.069*** (0.0688)	0.849*** (0.0323)	0.803*** (0.0380)	0.762*** (0.0399)
Lag MDI basic (t-2)		-0.406***	-0.574***			
Lag MDI basic (t-3)		(0.0514)	(0.107) 0.220** (0.0985)			
Lag MDI basic (t-4)			-0.0549 (0.0396)			
Lag trade/GDP	0.00374 (0.00370)	0.00467 (0.00312)	0.00353 (0.00373)	0.00267 (0.00310)	0.00407 (0.00331)	
Lag investment/GDP	-0.00396 (0.00861)	-0.0111 (0.0105)	-0.0139 (0.0108)	-0.00233	-0.00245 (0.00878)	
Lag credit/GDP	-0.0147*** (0.00409)	-0.0109*** (0.00370)	-0.0119*** (0.00426)	-0.00795 (0.00614)		
Lag bank deposits/GDP	0.00576***	0.00784***	0.00691***	0.00329*	0.000743	
Lag FDI inflow/GDP	(0.00174) 0.0125 (0.00857)	(0.00152) 0.0113 (0.00697)	(0.00112) 0.00593 (0.00414)	(0.00170) 0.00326 (0.00382)	(0.00241) -0.00234 (0.00269)	
Lag ICT density	0.00132 (0.00292)	0.00097) 0.000927 (0.00243)	0.00278 (0.00301)	(0.00382)	(0.00209)	0.00113 (0.00300)
Lag Coups	0.0990 (0.323)	0.629* (0.351)	0.328 (0.436)			-0.0736 (0.305)
Lag ethnic fract. index	-3.921 (2.951)	-2.891 (2.714)	-3.541 (3.289)			-8.830*** (2.700)
Lag SVMDI	-0.0950 (0.363)	-0.128 (0.316)	-0.217 (0.428)			0.0857
Lag inflation	-0.00129*** (0.000273)	-0.000904*** (0.000254)	0.00413* (0.00217)	-0.00140*** (0.000259)	-0.00156*** (0.000283)	
Lag gov. cons.	0.0591*** (0.0169)	0.0680*** (0.0136)	0.0709*** (0.0112)	0.0536*** (0.0177)	0.0390* (0.0210)	
Lag struct. ch.	0.00125 (0.00554)	0.00170 (0.00523)	-0.00252 (0.00526)			-0.00554 (0.00434)
Observations R-squared	707 0.876	643 0.889	483 0.860	838 0.862	907 0.839	940 0.845
Number of countries Adj. R-squared	137 0.873	137 0.886	137 0.855	163 0.860	163 0.837	144 0.843

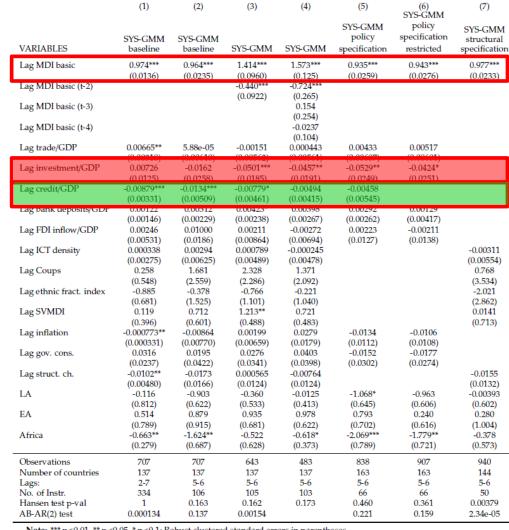
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**TWFE** 

Note: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1; Robust clustered standard errors in parentheses.

System GMM (5-year averages)



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Note: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1; Robust clustered standard errors in parentheses.

TWFE (10-year averages)

	(1)	(2)	(3)	(4) FE policy	(5) FE policy specification	(6)
VARIABLES	FE baseline	FE	FE	specification	restricted	FE structura specification
Lag MDI basic	0.630***	0.595***	0.376**	0.694***	0.600***	0.590***
I MDII : (( 2)	(0.0740)	(0.113)	(0.167)	(0.0674)	(0.0591)	(0.0557)
Lag MDI basic (t-2)		-0.165**	0.0195			
I MDII : (( 2)		(0.0764)	(0.110)			
Lag MDI basic (t-3)			-0.0545 (0.130)			
Lag trade/GDP	0.0103	0.0181**	0.0262**	0.00766	0.0127*	
Lag trade/GDI	(0.00876)	(0.00746)	(0.0126)	(0.00741)	(0.00731)	
Lag investment/GDP	0,00753	-0.0115	-0.00161	0.0124	0.0133	
Lug III estilicity GD1	(0.0234)	(0.0250)	(0.0307)	(0.0190)	(0.0185)	
Lag credit/GDP	-0.0190**	-0.0222**	-0.0131	-0.00771		
,	(0.00887)	(0.00877)	(0.0127)	(0.0122)		
Lag bank deposits/GDP	0.0369**	0.0381**	0.0233	0.0112	0.00396	
<u> </u>	(0.0167)	(0.0162)	(0.0203)	(0.0148)	(0.0106)	
Lag FDI inflow/GDP	-0.0293	-0.0403	-0.105	-0.00506	-0.00392	
	(0.0533)	(0.0690)	(0.0718)	(0.0530)	(0.00681)	
Lag ICT density	-0.00417	-0.00139	-0.00286			-0.00537
	(0.00750)	(0.00762)	(0.00956)			(0.00531)
Lag Coups	0.0871	0.198	0.780			-0.927
	(1.031)	(1.241)	(1.877)			(0.878)
Lag ethnic fract. index	-9.622	-7.419	-18.16*			-9.776**
	(7.702)	(8.160)	(9.600)			(4.513)
Lag SVMDI	1.049	-0.280	-1.983			0.533
	(0.740)	(0.943)	(1.627)			(0.540)
Lag inflation	-0.00204***	-0.00244***	-0.00309**	-0.00203***	-0.00239***	
	(0.000722)	(0.000774)	(0.00150)	(0.000576)	(0.000538)	
Lag gov. cons.	-0.000387	0.0515	0.0934	0.0262	-0.00666	
	(0.0366)	(0.0421)	(0.0564)	(0.0321)	(0.0322)	0.00100
Lag struct. ch.	0.00267	0.0133	0.0103			-0.00198
	(0.0164)	(0.0171)	(0.0173)			(0.00718)
Observations	352	300	230	425	472	505
R-squared	0.751	0.752	0.716	0.712	0.694	0.735
Number of countries	132	132	132	156	158	144

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ote: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1; Robust clustered standard errors in parentheses.

Difference GMM (10-year averages)

VARIABLES	Dif-GMM baseline	Dif-GMM	Dif-GMM	Dif-GMM policy specification	Dif-GMM policy specification restricted	Dif-GMM structural specification
Lag MDI basic	0.000203	-0.0463	0.158	0.451	0.486	0.456***
Lag MDI basic (t-2)	(0.210)	(0.202) 0.281 (0.260)	(0.390) 0.301* (0.180)	(0.372)	(0.417)	(0.140)
Lag MDI basic (t-3)		(0.260)	-0.315 (0.271)			
Lag trade/GDP	0.0597* (0.0354)	0.0441* (0.0250)	0.0706*** (0.0256)	0.0248 (0.0313)	0.0235 (0.0554)	
Lag investment/GDP	-0.101	-0.0389	-0.0698	-0.0514	-0.407*	
,	(0.114)	(0.0855)	(0.0646)	(0.0536)	(0.239)	
Lag credit/GDP	-0.0252	-0.0213	0.0146	0.000288	` '	
,	(0.0176)	(0.0275)	(0.0253)	(0.0330)		
Lag bank deposits/GDP	0.0625	0.0252	-0.000169	-0.0630	-0.122	
0	(0.0657)	(0.107)	(0.0542)	(0.0483)	(0.0914)	
Lag FDI inflow/GDP	-0.0610	-0.111	-0.274	0.0314	-0.0527	
	(0.160)	(0.257)	(0.264)	(0.107)	(0.0495)	
Lag ICT density	-0.00964	0.00423	-0.0164	()	(=====)	-0.00546
8	(0.0240)	(0.0279)	(0.0173)			(0.00744)
Lag Coups	1.165	-0.0399	3.516			0.337
zug coups	(1.718)	(2.146)	(3.307)			(0.822)
Lag ethnic fract. index	-9.976	-32.06	-23.59			-9.108
Lug cunic rruen muex	(23.57)	(34.72)	(15.25)			(7.359)
Lag SVMDI	3.794	1.698	-2.402			1.359
8	(3.310)	(4.179)	(5.470)			(0.861)
Lag inflation	-0.00442***	-0.00475**	-0.00384	-0.00508***	-0.0183**	
	(0.00171)	(0.00206)	(0.00287)	(0.00160)	(0.00911)	
Lag gov. cons.	-0.00345	0.0537	0.044/	0.192*	0.163	
	(0.199)	(0.236)	(0.128)	(0.110)	(0.188)	
Lag struct. ch.	-0.0221	-0.0213	-0.0368			-0.0188
	(0.0616)	(0.0454)	(0.0334)			(0.0119)
Observations	220	168	98	269	314	361
Number of countries	98	98	98	116	135	140
Lags:	2-4	2-4	2-4	2-4	2-4	2-4*
No. of Instr.	42	40	37	24	17	37
Hansen test p-val	0.212	0.152	0.221	0.113	0.132	0.111
AB-AR(2) test	0.862			0.350	0.728	0.463

(1)

(2)

(3)

(4)

(5)

(6)

Note: \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1; Robust clustered standard errors in parentheses; \* additional restrictions of lags of agricultural services, and industry sector shares to identify the estimation.



#### **5. Policy Conclusions**

- Inclusive Development seems to be subject to path dependencies
  - → governments should make sure to be on a
- Domestic inflation rates are significant
  - → governments need to provide macroeconomic stability
- Financial depth proxies (credit/GDP, bank deposits/GDP) are significant but have different signs; net effect hard to predict
- Government consumption is significant in TWFE in the short-run
  - → public sector spendings seem to benefit inclusive development
- Trade is significant only when looking at longer time-frames
  - → benefits may come with delay
- Domestic policy responses include targeted social policy, trade, inflation, financial sector development
  - → confirms some of the core policy fields of Washington Consensus.

#### **Open Questions/Future Research**

- 1. Establishing causality in empirical analysis
- 2. Looking closer at the relation between the MDI score and certain political outcomes
- 3. Analyzing the impact of the Covid19 crisis on inclusive development
- 4. Looking at subnational levels

# Thank you very much for your attention!



#### **Index ranking:**

Rank	Country	MDI basic score 2018	MDI basic score 1993	Δ 1993-2018 (abs.)	Δ 1993-2018 (%)
1	Norway	75.2	72.5	2.7	3.70%
2	Slovak Republic	71.3	66.2	5.1	7.70%
3	Denmark	70.7	70	0.8	1.10%
4	Slovenia	70.7	63.6	7.1	11.10%
5	Iceland	70.3	58	12.4	21.30%
6	Czech Republic	70.3	66.5	3.8	5.70%
7	Sweden	70.3	69.4	0.9	1.20%
8	Finland	70.3	68	2.3	3.30%
9	Switzerland	69.3	63	6.3	10.00%
10	Netherlands	68.1	63.5	4.6	7.20%
11	Luxembourg	67.9	65.4	2.6	3.90%
12	Belgium	67.9	63.3	4.5	7.10%
13	Austria	66.2	61.6	4.6	7.50%
14	Germany	65.8	66.9	-1	-1.50%
15	Canada	64.5	61.2	3.3	5.30%
16	Malta	63.8	53.5	10.3	19.30%
17	Ireland	63	49.4	13.6	27.40%
18	France	61.5	57	4.4	7.80%
19	Japan	60.8	61.2	-0.4	-0.60%
20	Croatia	60.7			
21	Hungary	60.6	52.4	8.2	15.70%
22	Australia	59.9	61.3	-1.4	-2.30%
23	United Kingdom	59.6	51.8	7.8	15.00%
24	Poland	59.6	51.2	8.3	16.20%
25	Korea, Rep.	58.9	52.8	6.1	11.60%

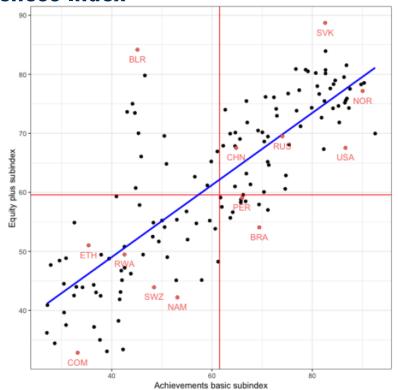


#### **Index ranking:**

Rank	Country	MDI basic score 2018	MDI basic score 1993	Δ 1993-2018 (abs.)	Δ 1993-2018 (%)
136	Sierra Leone	16	8.6	7.4	85.90%
137	Congo, Dem. Rep.	15.8	12.6	3.3	25.90%
138	Burundi	15.8	11.8	4	34.40%
139	Angola	14.8	10	4.8	48.00%
140	Rwanda	14.5	6.3	8.2	129.00%
141	Cabo Verde	14.2			
142	Equatorial Guinea	13.7			
143	Chad	13.2	10.6	2.6	24.60%
144	Guinea-Bissau	12.4	11.7	0.8	6.50%
145	Mozambique	12	8.1	3.9	47.60%
146	Cote d'Ivoire	11.7	12.6	-0.9	-7.00%
147	Zambia	11.7	9.4	2.3	24.40%
148	Botswana	11.4	9.1	2.3	25.20%
149	Lesotho	10.8	9.6	1.2	12.10%
150	Haiti	10.5	8.9	1.6	18.40%
151	South Africa	8.4	8	0.4	5.20%
152	Eswatini	8.1	9	-0.9	-9.80%
153	Central African Republic	8	7	1	14.90%
154	Comoros	8	6.9	1.1	16.60%
155	Namibia	1.7	0	1.7	



Scores in Achievements Index Basic and Equity Index Plus for 2018:



#### **Data coverage MDI basic:**

	1960-69	1970-79	1980-89	1990-99	2000-09	2010-18
Imputed No imputation					84.90% 63.30%	

Note: The cells show the fraction of countries for which data is available.



#### 3. Drivers of Inclusive Development

Papers used for development literature review

					1						
Туре	Dalgaard et al., 2004	Sala-į- Martin, 1997	Roubini and Sala-į- Martin, 1992	Barro, 1996	Barro, 2003	Barro, 2000	Roine et al., 2009	Vanhout, 2000	Burnside, and Dollar, 2000	Dollar and Kraay, 2004	Anand et al., 2013
Economic Development	x	x	x	x	x	x	x	x	x	x	x
Social and Political Stability	x	x	x						x		
Institutional Quality	x	x		x	x	x			x	x	
Economic Policies	x	x	x	x	x	x	x		x	x	x
Human Capital and Health		x	x	x		x		x			x
Regional heterogeneities	×	x	x	×		×			x	x	
Other determinants (e.g. Aid, Fertility, Population (growth), Religion)		x		x	x	x	x	x		x	



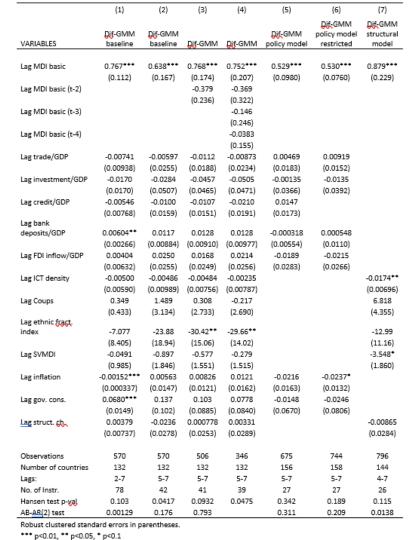
Note: If a cell is marked by an "x", the type of driver is included in the respective paper.

Descriptive Statistics MDI (1980 – 2018)

VARIABLES	N	Mean	Std. Dev.	Min.	Max.
MDI basic	696	31.38	17.27	0.83	76.06
MDI achievements plus	696	31.95	14.13	0.95	66.51
MDI equity plus	689	33.33	17.12	6.53	72.74
Sub-index achievements basic	696	55.58	17.04	16.88	90.83
Sub-index achievements plus	696	57.68	10.73	33.72	82.57
Sub-index equity plus	689	56.20	14.57	27.21	88.98
Income equity	696	53.93	16.72	1.71	92.00
Exports/GDP	694	37.69	25.01	5.90	217.20
Imports/GDP	694	41.88	22.90	5.71	190.00
FDI inflow/GDP	694	3.93	9.05	-3.15	176.00
FDI outflow/GDP	693	2.32	9.32	-8.41	201.40
Investment/GDP	691	23.56	7.41	5.70	60.44
Gov. consumption/GDP	690	15.13	5.32	1.15	48.06
Fertility rate	696	3.29	1.69	1.14	7.83
Inflation	695	18.96	133.00	-3.02	2414.00
Population growth	696	1.66	1.40	-4.07	15.74
Credit/GDP	691	46.55	43.25	1.69	247.20
coups	696	0.03	0.09	0.00	0.80
SVMDI	696	0.66	0.35	0.00	1.00
Ethnic frac. Index	561	0.47	0.26	0.00	0.89
Bank Depos Gdp	691	42.69	40.44	2.57	597.70
KOF Glob. Index	693	57.71	15.97	20.98	90.99
KOF GIob. Index de facto	693	55.27	16.13	19.85	91.42
KOF GIob. Index de jure	693	60.17	16.69	20.47	93.07
Econ.Freedom of the World	641	6.41	1.14	2.65	8.82
EFW gov. size	640	6.35	1.22	2.66	9.45
EFW legal & prop. rights	631	4.96	1.69	1.22	8.97
EFW sound money	641	7.60	1.87	0.00	9.89
EFW freedom to trade	627	6.65	1.64	0.24	9.85
EFW regulations	639	6.58	1.17	2.51	9.15
Structural change	696	15.01	9.68	0.87	101.90
ICT density	696	75.68	67.59	0.05	252.30
Trade volume	694	79.57	45.84	16.23	407.10
Africa	696	0.33	0.47	0.00	1.00
EA	696	0.03	0.17	0.00	1.00
LA	696	0.06	0.24	0.00	1.00
FDI volume	693	6.25	18.02	-9.60	377.30



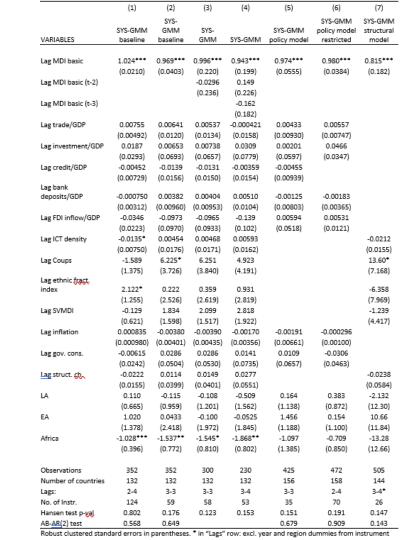
Difference GMM (5-year averages)



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System GMM (10-year averages)





		(1)	(2)	(3)	(4)	(5)	(6)
4. Empirical Analysis	VARIABLES	MDI achi+	MDI achi+	MDI achi+	MDI_equity+	MDI_equity+	MDI_equity+
	Lag MDI version	0.825*** (0.0372)	0.843*** (0.0323)	0.774***	0.950*** (0.0571)	0.988***	0.931***
	Lag trade/GDP	0.00393	0.00264	(0.0300)	0.00328	0.00163	(0.0300)
		(0.00332)	(0.00275)		(0.00448)	(0.00382)	
	Lag investment/GDP	-0.0112	-0.00934		0.00277	0.00575	
	lu (ann	(0.00894)	(0.00789)		(0.0125)	(0.0113)	
	Lag credit/GDP	-0.0157***	-0.00863		-0.0135***	-0.0133***	
TWFE for	Lag bank deposits/GDP	(0.00395) 0.00491***	(0.00600) 0.00280*		(0.00465) 0.00348**	(0.00372) 0.00203	
MDI saldanamanta alua	Eug builk deposits/GDI	(0.00173)	(0.00149)		(0.00163)	(0.00214)	
MDI achievements plus	Lag FDI inflow/GDP	0.00821	0.00160		0.00329	0.00100	
And MDL aquity plus		(0.00715)	(0.00301)		(0.0100)	(0.00325)	
And MDI equity plus	Lag ICT density	0.00117		0.000283	-0.00620*		-0.00996***
(5-year averages)		(0.00282)		(0.00277)	(0.00336)		(0.00267)
(5 year averages)	Lag Coups	-0.0802		-0.0808	0.204		0.267
		(0.346)		(0.321)	(0.312)		(0.250)
	Lag ethnic fract. index	-2.525		-8.377***	-2.943		-8.037***
	I 01/04/D1	(2.691)		(2.692)	(3.049)		(2.295)
	Lag SVMDI	-0.0651		0.117	-0.505		0.0895
	Lag inflation	(0.337) -0.00139***	-0.00141***	(0.259)	(0.319) -0.000561***	-0.000667***	(0.252)
	cag illiacion	(0.000263)	(0.000246)		(0.000156)	(0.000153)	
	Lag gov. cons.	0.0326***	0.0324***		0.0371**	0.0325*	
		(0.0103)	(0.00950)		(0.0184)	(0.0180)	
	Lag struct. ch.	0.00611		-0.00551	-0.00270		-0.00681**
		(0.00489)		(0.00403)	(0.00523)		(0.00330)
	Observations	708	839	947	707	831	940
	R-squared	0.823	0.806	0.772	0.867	0.857	0.869
FRIEDRICH-SCHILLER-	Number of countries	138	164	145	137	162	144
UNIVERSITAT	Adj. R^2	0.818	0.802	0.769	0.864	0.855	0.867
JENA	Robust clustered standard err	ors in parentheses.					

\*\*\* p<0.01. \*\* p<0.05. \* p<0.1

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
		Subindex achi+			Subindex achi ba	sic		Subindex equit	ty+		Subindex income e	equity
		FE policy	FE structural		FE policy	FE structural		FE policy	FE structural		FE policy	FE structural
VARIABLES	FE baseline	model	model	FE baseline	model	model	FE baseline	model	model	FE baseline	model	model
Lee MDI subjector	0.747***	0.753***	0.751***	0.796***	0.824***	0.781***	1.023***	1.058***	1.076***	0.867***	0.873***	0.820***
Lag MDI subindex	0.747***											
1	(0.0364)	(0.0292)	(0.0288)	(0.0361)	(0.0307)	(0.0350)	(0.0658)	(0.0656)	(0.0603)	(0.0354)	(0.0350)	(0.0367)
Lag trade/GDP	0.00254	0.00146		0.000951	0.00112		0.00329	0.00141		0.000837	0.00102	
Lastinus and CDD	(0.00242) -0.0171*	(0.00245)		(0.00369)	(0.00331)		(0.00543)	(0.00497)		(0.00504)	(0.00362)	
Lag investment/GDP		-0.0146		-0.00507	-0.00320		0.0160	0.0211		-2.09e-05	0.00108	
	(0.00950)	(0.00882)		(0.0123)	(0.0113)		(0.0160)	(0.0157)		(0.0105)	(0.00951)	
Lag credit/GDP	-0.00939***	-0.00991***		-0.00698**	-0.0105***		-0.00953*	-0.0114***		-0.0119*	-0.00378	
	(0.00260)	(0.00220)		(0.00315)	(0.00253)		(0.00506)	(0.00413)		(0.00640)	(0.00782)	
Lag bank deposits/GDP	0.00484***	0.00305		0.00682***	0.00375		0.00177	0.00153		0.00241	0.00140	
	(0.00161)	(0.00231)		(0.00196)	(0.00308)		(0.00187)	(0.00210)		(0.00274)	(0.00223)	
Lag FDI inflow/GDP	0.00765	0.00196		0.0143	0.00444		-0.00748	-0.00136		-0.000505	-0.000707	
	(0.00823)	(0.00359)		(0.0121)	(0.00559)		(0.00827)	(0.00567)		(0.00479)	(0.00251)	
Lag ICT density	-0.00594**		-0.00797***	-0.0099***		-0.0104***	-0.011***		-0.0115***	0.00574		0.00661*
	(0.00244)		(0.00193)	(0.00343)		(0.00269)	(0.00376)		(0.00275)	(0.00406)		(0.00352)
Lag Coups	-0.00824		-0.00390	0.495		0.0946	0.251		0.208	-0.410		-0.172
	(0.392)		(0.291)	(0.439)		(0.359)	(0.420)		(0.268)	(0.492)		(0.469)
Lag ethnic fract. index	0.446		-3.524**	-1.418		-4.349**	-5.749*		-8.187***	-4.610		-10.07***
	(1.802)		(1.591)	(2.337)		(1.774)	(3.210)		(2.279)	(3.463)		(3.402)
Lag SVMDI	-0.126		0.186	-0.173		0.152	-0.837**		-0.0792	0.0570		0.0318
	(0.263)		(0.234)	(0.411)		(0.298)	(0.392)		(0.259)	(0.578)		(0.389)
Lag inflation	-0.00086***	-0.00081***		-0.00061**	-0.00067***		2.79e-05	-0.000222		-0.0012***	-0.00132***	
	(0.000238)	(0.000218)		(0.000249)	(0.000222)		(0.000227)	(0.000220)		(0.000274)	(0.000239)	
Lag gov. cons.	0.0267**	0.0294**		0.0746**	0.0671**		0.0127	0.00353		0.0308**	0.0253**	
	(0.0114)	(0.0115)		(0.0291)	(0.0276)		(0.0137)	(0.0144)		(0.0155)	(0.0123)	
Lag struct. ch.	0.00317		-0.00578	-0.00245		-0.00474	-0.0106		-0.00825***	0.00493		-0.00350
	(0.00542)		(0.00422)	(0.00713)		(0.00497)	(0.00714)		(0.00310)	(0.00773)		(0.00513)
Observations	697	827	971	696	829	964	690	810	959	697	817	966
R-squared	0.917	0.913	0.900	0.939	0.937	0.934	0.583	0.539	0.610	0.753	0.753	0.699
Number of countries	140	166	149	139	166	148	139	163	147	140	164	148
Adj. R^2	0.914	0.912	0.899	0.937	0.936	0.933	0.571	0.531	0.606	0.746	0.748	0.695

Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1



TWFE for MDI subindices (5-year averages)

**Robustness Check:** 

**Trade Channels** 

	(1) FE policy	(2)	(3)	(4)	(5)	(6)	(7)	
VARIABLES	model baseline	exports	imports	FDI inflows	FDI outflows	FDI sum	All	All e ou
VARIABLES	baseiiiie	exports	IIIIports	TOTIIIIOWS	outnows	1 DI SUIII	All	
Lag MDI basic	0.849***	0.852***	0.848***	0.853***	0.853***	0.853***	0.863***	0.8
	(0.0325)	(0.0330)	(0.0318)	(0.0325)	(0.0325)	(0.0325)	(0.0333)	(0.
Lag trade/GDP	0.00308							
	(0.00322)							
Lag								
investment/GDP	-0.00152	0.000724	-0.00684	-8.53e-05	0.000255	0.000135	-0.0194**	-0.0
	(0.00809)	(0.00788)	(0.00831)	(0.00787)	(0.00799)	(0.00795)	(0.00810)	(0.
Lag credit/GDP	-0.00804	-0.00770	-0.00797	-0.00786	-0.00772	-0.00780	-0.00726	-0.
	(0.00622)	(0.00614)	(0.00625)	(0.00611)	(0.00609)	(0.00610)	(0.00625)	(0.
Lag bank								
deposits/GDP	0.00301*	0.00379**	0.00134	0.00374**	0.00363**	0.00366**	0.000285	-0.0
	(0.00173)	(0.00147)	(0.00174)	(0.00160)	(0.00150)	(0.00154)	(0.00218)	(0.
Lag FDI inflow/GDP	0.00292			0.00289			0.00957	0.
	(0.00364)			(0.00388)			(0.0146)	(0.
Lag inflation	-0.00139***	-0.0014***	-0.0014***	-0.0014***	-0.0014***	-0.0014***	-0.0014***	-0.0
	(0.000260)	(0.000268)	(0.000250)	(0.000267)	(0.000267)	(0.000267)	(0.000246)	(0.0
Lag gov. cons.	0.0547***	0.0557***	0.0452***	0.0560***	0.0561***	0.0561***	0.0234	0
	(0.0179)	(0.0172)	(0.0172)	(0.0175)	(0.0175)	(0.0175)	(0.0148)	(0
Lag exports/GDP		-0.000799					-0.0226***	-0.0
		(0.00555)					(0.00776)	(0.
Lag imports/GDP			0.0145**				0.0329***	0.0
			(0.00631)				(0.00835)	(0.
Lag FDI								
outflow/GDP					0.000585		-0.00865	
					(0.00242)		(0.0145)	
Lag FDI volume						0.000913		
						(0.00153)		
Observations	816	820	820	816	816	816	816	
R-squared	0.863	0.864	0.865	0.863	0.863	0.863	0.867	(
Number of								
countries	163	163	163	163	163	163	163	
Adj. R^2	0.861	0.861	0.863	0.861	0.861	0.861	0.864	(

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# Robustness Check: Globalization

	(1)	(2)	(3)	(4)
	FE			
	structural		KOF De	
	model	KOF Glob.	Facto Glob.	KOF De Jure
VARIABLES	baseline	Index	Index	Glob. Index
Lag MDI basic	0.764***	0.768***	0.768***	0.772***
205 1101 00310	(0.0393)	(0.0378)	(0.0382)	(0.0378)
Lag KOF Glob. Index	(,	0.0469**	(,	(/
		(0.0182)		
Lag ICT density	0.00113	-0.00122	-0.00108	-8.06e-05
	(0.00297)	(0.00307)	(0.00300)	(0.00305)
Lag Coups	-0.0458	0.0455	0.0423	0.0218
	(0.304)	(0.290)	(0.285)	(0.301)
	- 0.71***	7 540***	7 474 * * *	0.200***
Lag ethnic fract. index	8.871*** (2.624)	-7.543*** (2.604)	-7.471*** (2.521)	-8.399*** (2.664)
Lag SVMDI	0.0788	-0.0562	0.00881	-0.0134
Edg 5VMD1	(0.276)	(0.267)	(0.268)	(0.273)
Lag struct. ch.	-0.00532	-0.00581	-0.00693*	-0.00602
208 201 000 011.	(0.00432)	(0.00383)	(0.00384)	(0.00390)
Lag KOF Glob. Index de facto	,,	,	0.0420***	,,
J			(0.0131)	
L.KOF Glob. Index de jure				0.0217
				(0.0160)
Observations	954	951	951	951
R-squared	0.846	0.854	0.854	0.852
Number of countries	146	145	145	145
Adj. R^2	0.844	0.852	0.852	0.850

(3)



<sup>\*\*\*</sup> p<0.01, \*\* p<0.05, \* p<0.1



Robustness Check: Fertility rate and population growth

			FE
		FE policy	structural
VARIABLES	FE baseline	model	model
Lag MDI basic	0.809***	0.842***	0.759***
Lag MIDI Dasic			(0.0408)
Landa (CDD	(0.0379)	(0.0336)	(0.0408)
Lag trade/GDP	0.00437	0.00315	
	(0.00375)	(0.00319)	
Lag investment/GDP	-0.00169	-0.000892	
1 dit (CDD	(0.00866)	(0.00836)	
Lag credit/GDP	-0.0129***	-0.00645	
	(0.00418)	(0.00626)	
Lag bank deposits/GDP	0.00525***	0.00305*	
	(0.00167)	(0.00174)	
Lag FDI inflow/GDP	0.0110	0.00269	
	(0.00824)	(0.00375)	
Lag ICT density	0.00280		0.00254
	(0.00295)		(0.00313)
Lag Coups	0.0803		-0.0674
	(0.340)		(0.303)
Lag ethnic fract. index	-4.011		-9.136***
	(2.765)		(2.664)
Lag SVMDI	-0.0787		0.0791
	(0.373)		(0.278)
	-		
Lag inflation	0.00130***	-0.00141***	
	(0.000273)	(0.000260)	
Lag gov. cons.	0.0595***	0.0529***	
	(0.0182)	(0.0195)	
Lag struct. ch.	0.00177		-0.00416
	(0.00599)		(0.00427)
Lag population growth	-0.0734	-0.0836*	-0.0860**
	(0.0456)	(0.0450)	(0.0415)
Lag fertility rate	-0.227	-0.169	-0.126
	(0.145)	(0.133)	(0.112)
Observations	696	816	952
R-squared	0.879	0.865	0.847
Number of countries	139	163	146
Adj. R^2	0.875	0.862	0.845
Robust clustered standard err	ors in parentheses.		
*** p<0.01, ** p<0.05, * p<0.1	1		

(2)

(3)



The paper is currently in review process in the Progress in Development Studies since 06-22

