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Inclusive human development in pre-crisis times of globalisation-driven debts

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Abstract

The paper verifies the Azzimonti et al. (2014) conclusions on a sample of 53 African countries for the period 1996-2008. Authors of the underlying study have established theoretical underpinnings for a negative nexus between rising public debt and inequality in OECD nations. We assess the effects of four debt dynamics on inequality adjusted human development. Instrumental variable and interactive regressions were employed as empirical strategies. Two main findings were established which depend on whether debt is endogenous to or interactive with globalisation. First, when external debt is endogenous to globalisation, the effect on inclusive human development is negative, whereas when it is interactive with globalisation, the effect is positive. This may reflect the false economics of pre-conditions. The magnitudes of negative estimates from endogenous related effects were higher than the positive marginal interactive effects. Policy implications were discussed.

JEL Classification: E60; F40; F59; D60; O55 *Keywords*: Debts; globalisation; inequality; inclusive development; Africa

1. Introduction

The phenomenon of globalisation remains one of the most dominant politico-economic forces in the universe. It promises to alleviate social stringencies, strengthen institutions and improve global wellbeing through the victory of self-interest over altruism and markets over governments (Asongu, 2013a). According to narratives, the phenomenon broadly represents a global commitment/consensus from the culmination of cultural prosperity and historical processes which can only be avoided by jeopardizing the progress of nations. Conversely, a stream of thought argues that the phenomenon is threatening to disfigure the human face and her planet in the manner it is evolving, inter alia: ecological decay, marginalization of poorer countries and widening gaps in income inequality to socially, economically and morally unacceptable standards.

While the debate on the outcome of trade globalisation is gradually reaching some consensus, that on financial liberalisation is increasingly taking centre stage, especially with the recurrences of financial crises. Accordingly, the potential benefits from international risk sharing and allocation efficiency in countries with scarce capital have been substantially outweighed by the downsides of the global financial meltdown (Kose et al., 2006, 2011; Henry, 2007), especially in more integrated economic/monetary zones (Price & Elu, 2014). According to this narrative, global financial instability is the result of increasing financial openness (Bhagwati, 1998; Rodrik, 1998; Stiglitz, 2000). This anti-thesis raises doubts on the financial openness rewards in terms of: stability in developed nations and economic growth in less developed countries (Fischer, 1988; Summers, 2000). Some accounts even suggest that financial globalisation may entail hidden ambitions of extending the rewards of international trade to benefits in assets (Asongu, 2014a).

Two important trends have marked globalisation over the past 30 years: burgeoning financial liberalisation and growing inequality (Azzimonti et al., 2014). Evidence of these tendencies are valid both for developing and developed nations. In the latter countries, while Atkinson et al. (2011) and Piketty (2014) have presented evidence of inequality, tendencies of evolving capital mobility have been documented by Obstfeld & Taylor (2005) and Abiad et al. (2008). With regard to the former or developing countries, whereas financial openness has been promoted by structural adjustment policies (Batuo & Asongu, 2015; Batuo et al., 2010), with the exceptions of Latin American and South East Asian countries, which have witnessed lower inequality associated with lower economic prosperity, inequality has been rising for the most part¹. Therefore, Piketty's recently celebrated literature in developed nations is broadly

¹ It is relevant to note that, the comparative periodicity affects the outcome. Accordingly, the 1980-2010 and 1990-2010 periods may reveal different findings on the reduction of poverty in Africa (Young, 2012). Moreover, according to Fosu (2014), tendencies also differ between 1995-2010 and 1980-2010. Hence, this could substantially affect the narrative of 'Africa being on time for the Millennium Development Goals' (Pinkivskiy & Sala-i-Martin, 2014).

consistent with accounts from broad samples of developing nations (Fosu, 2010a; Mlachila et al., 2014; Mthuli et al., 2014) and African countries (Fosu, 2010b, 2010c, 2009, 2008; Elu, 2013; Asongu, 2013b).

In the light of the above, there are growing discussions in policy making circles on the need for inclusive development in the post-2015 sustainable development goals (SDGs) agenda (UN, 2013a, pp. 7-13)². One of the most discussed findings in 2014 is Piketty's celebrated 'capital in the 21st century' which has established a u-shaped nexus between industrialisation and inequality. In other words, developing countries should not be prepared for industrialisation in light of Kuznets' conjectures (1955, 1971) because '*output may be growing and yet the mass of the people may be becoming poorer*' (Lewis, 1955). Given that one of the most important instruments of industrialisation in the 21st century is globalisation, a recent interesting finding in this direction has concluded that globalisation-driven debts have increased inequality in the Organisation of Economic Co-operation and Development (OECD) countries (Azzimonti et al., 2014).

The Azzimonti et al. (2014) conclusions are worth investigating in developing countries in general and African countries in particular for at least two main reasons. First, relative to other developing regions, Africa is less industrialised with more than a third having a manufacturing value added per capita of less than 100 US\$ (UN, 2013b). Second, there are suggestions that the continent's remarkable growth over the past decade may be marred by rising inequality (Blas, 2014). As noted by the World Bank (2013), almost one out of every two Africans lives in extreme poverty and it is expected that this rate will fall to between 16 percent and 30 percent by 2030: albeit, most of the world's poor will live in Africa by 2030.

For brevity and space constraint, we refer the interested reader to the underlying study motivating this paper for the theoretical underpinnings surrounding the nexuses among globalisation, debts and inequality. We assess the effects of a plethora of debt dynamics on inequality adjusted human development. Instrumental variable and interactive regressions were employed as empirical strategies. Two main findings are established which depend on

² The interested reader can find recent literature on the post-2015 objectives of sustainable development which we have do not discuss because of space constraint (Miller, 2014; Singh, 2014; Bagnara, 2012; Monika & Bobbin, 2012; Ozgur et al., 2009; Timmons et al., 2009).

whether debt is endogenous to or interactive with globalisation. Under the assumption that debt is endogenous to (interactive with) globalisation, the impact on inclusive human development is negative (positive).

The rest of the study is organised as follows. Section 2 discusses the data and methodology. The empirical analysis and discussion of results are covered in Section 3 while Section 4 concludes.

2. Data and Methodology

2.1 Data

We assess a panel of 53 African countries with data from World Bank Development Indicators for the period 1996-2008. The end date is limited to 2008 for a twofold interest: (1) the objective of capturing the pre-crisis period and; (2) Washington consensus policies that have driven globalisation-driven debts were no longer (in principle) dominant in African development policy models after 2008 (Fofack, 2014, pp. 5-6).

The dependent variable is the inequality adjusted human development index (IHDI). Though it was first published in 2010, data on it is available from 1970 (Asongu, 2014b, p. 464). Financial liberalisation and trade openness variables are respectively: foreign direct investment (FDI) and trade openness. While the theory proposed by the underlying study (Azzimonti et al., 2014) is limited to financial liberalisation, we use trade openness and globalisation (FDI and trade) to improve subtlety of the analysis. Four main debt indicators were used: debt outstanding & disbursed (DOD), debt on concessional terms (DC), debt on non-concessional terms (DNC) and debt forgiveness or reduction (DFR). It should be noted that DOD= DNC+DC. The control variables are: Gross Domestic Product (GDP) growth, financial depth, tertiary school enrolment, mobile phones subscriptions and government effectiveness. Due to space constraint we justify and discuss the expected signs of control variables concurrently with the findings in Section 3. Definitions of these variables and corresponding summary statistics are presented in Panel A of Appendix 1.

2.2 Methodology

While the model proposed in the underlying study supposes that debt is endogenous to financial liberalisation, in this paper we assumed debt-driven globalisation as both endogenous and interactive. Instrumental variable regressions are employed in the former,

whereas interactive regressions are applied in the latter. The objective of this distinction is to limit the weight an assumption of unidirectional causality may have on the estimated coefficients

The first-stage of the instrumental variable (IV) regression consists of instrumenting the debt variables with globalisation dynamics, conditional on other covariates (or control variables). The fitted values or 'globalisation-driven debt' loadings are then saved and employed in the second-stage regressions as the independent variables of interest. The second-stage estimations are either based on Fixed- or Random-effects regressions depending on the outcome of the Hausman test for endogeneity. The summary statistics corresponding to the loadings from the first-stage regressions are presented in Panel B of Appendix 1.

Under a scenario where-by debt-driven by globalisation is the origin of interactions between debt dynamics and globalisation, interactive variable modeling is employed based on Fixed-or Random-effects regressions, conditional on the outcome of the Hausman test for endogeneity. Accordingly, when the Hausman test is significant, a Fixed-effects model is recommendable. In the interactive models, all constitutive terms enter into the specifications because concerns of multicollinearity and overparameterization are not relevant in the specifications of such models (See Brambor et al., 2006, Section 3). This is essentially because, unlike linear additive models, estimated coefficients corresponding to the interactive variables are not treated as elasticities but considered as marginal effects of the modifying or globalisation variable.

Eq. (1) below is broadly consistent with the second-stage of the IV estimation and the interactive regression, but for the fact that loadings are employed in the former (to account for debts endogenous to globalisation) and interactions employed in the latter (to account for a modifying globalisation variable).

$$IHDI_{i,t} = \alpha + \sum_{j=1}^{n} \sum_{h=1}^{m} \delta_j W_{h,i,t} + \eta_i + \xi_t + \varepsilon_{i,t} \quad (1)$$

Where: $IHDI_{i,t}$ is the Inequality adjusted Human Development Index for country *i* at period $t; \alpha$ is a constant, *W* is the vector of determinants, η_i is the country-specific effect, ξ_i is the time-specific effect and $\varepsilon_{i,t}$ the error term. All the regressions are based on Heteroscedasticity and Autocorrelation Consistent (HAC) standard errors. The Fixed-effects regressions are

specified to control for time-effects in an effort to further control for time invariant omitted variables and unobserved heterogeneity.

3. Empirical Analysis

3.1 Presentation of results

3.1.1 Instrumental variable estimations

Table 1 presents the findings of first-stage regressions from which the globalisation-driven debt loadings are obtained. In Panel A, the debt dynamics are regressed on globalisation variables conditional on other covariates. The regressions are classified into financial globalisation, trade globalisation and globalisation (which integrates the first-two). The correlation matrix on which the first-stage regressions are based is provided in Appendix 2.

Financial liberalisation substantially drives 'Debt Outstanding & Distributed' due to its effect on 'Debt on Non-concessional terms', while trade openness has insignificant positive effects on both. The two globalisation dynamics mitigate 'Debt on Concessional terms', with the effect of trade openness significant at the 10% level. Neither forms of globalisation have a significant effect on 'Debt Forgiveness or Reduction'. The positive (negative) effect of financial (trade) liberalisation on 'Debt on Non-concessional terms' ('Debt on Concessional terms') might be explained by the fact that globalisation reduces short term debts and favours long term debt (Schmukler & Vesperoni, 2006). Accordingly, long- (short-) term finance is preferred for investment (trade) purposes. In essence, there are two principal motivations for lending by international financial institutions: investment and trade finance. The latter embodies projects of shorter duration and hence, an expected positive nexus between shortrun debt and trade activities.

In Panel B, the validity of the loadings or instruments is tested by regressing the debt dynamics on the loadings. The results broadly confirm the validity of the instruments at the 1% significance levels, though explanatory powers of the instruments vary across specifications; stronger for 'Debt Outstanding & Distributed' and 'Debt on Concessional terms' relative to 'Debt on Non-concessional terms' and 'Debt Forgiveness or Reduction'. We also notice that the explanatory powers are highest in increasing order, for: 'Debt Forgiveness or Reduction', 'Debt on Non-concessional terms', 'Debt Outstanding & Distributed' and 'Debt Outstanding & Distributed' and 'Debt Outstanding & Distributed' and 'Debt on Non-concessional terms', 'Debt Outstanding & Distributed' and 'Debt on Concessional terms'. It is logical to expect that globalisation

instruments explain 'Debt on Concessional terms' highest because these concessional debts are loans with some grant element in the threshold of 25% or more. Since 'Debt Outstanding & Distributed' is the sum 'Debt on Concessional terms' and 'Debt on Non-concessional terms', its high value is driven by 'Debt on Concessional terms'. It is also logical to expect 'Debt on Non-concessional terms' and 'Debt Forgiveness or Reduction' to take the third and fourth positions. Accordingly, as we have already emphasised, while 'Debt on Concessional terms' is preferred to 'Debt on Non-concessional terms' at the advent of globalisation, 'Debt Forgiveness or Reduction' occur as a random effect of the phenomenon.

The control variables are significant with the expected signs. First, economic prosperity in terms of GDP growth consistently mitigates dependence on debts and forgiveness of debts. This is essentially because of the increasing ability of the recipient country to service/reimburse its debts and sustain its 'reimbursement credibility' respectively. Second, while foreign aid is positively associated with debt dependence (Ouattara, 2006; Kanbur, 1998), it is also logically negatively linked with reduction/forgiveness of debts.

The correlation matrix corresponding to the loadings is presented in Table 2. It enables us to mitigate issues of overparameterization and multicollinearity in the second-stage regressions presented in Table 3. A Hausman test is performed prior to any specification. A rejection of the null hypothesis favors Fixed-effects (FE) regressions as opposed to Random-effects (RE) estimations. From the outcome, the null hypotheses of various specifications are overwhelming rejected. Hence, all specifications in Table 3 are based on FE regressions, with additional control for time-effects. Based on the results, the Azzimonti et al. (2014) conclusions on a negative nexus between globalization-driven debt and inequality are confirmed with respect to inequality adjusted human development. On a specific note, this is valid for: FDI driven 'Debt Outstanding & Distributed', FDI driven 'Debt on Concessional terms'(DC), Trade driven DC, globalization driven 'Debt Outstanding & Distributed' and globalization driven DC.

The findings are consistent with our previous elucidations on the quality of debt dynamics, with respect to the quality or explanatory power of corresponding instruments. First, we have established that 'Debt Outstanding & Distributed' is substantially explained by 'Debt on Concessional terms'. Consequently, all significant estimates are either 'Debt Outstanding & Distributed' or 'Debt on Concessional terms' oriented. Second, the first affirmation is substantiated by the globalization-driven DC having a higher magnitude relative to globalization-driven 'Debt Outstanding & Distributed' (see DODFDI versus (vs) DCFDI and DODGlo vs DCGlo). This implies the lower magnitude of 'Debt Outstanding & Distributed' is due to the attenuation of the 'Debt on Concessional terms' effect by the insignificant 'Debt on Non-concessional terms' impact.

With the exception of mobile phone penetration, the three other control variables have the expected signs. While the effect of tertiary school enrolment is insignificant, those of financial depth and government effectiveness are positively significant. Accordingly, financial depth has been established to be pro-poor in Africa (Asongu, 2013b; Batuo et al., 2010; Kai & Hamori, 2009). Government effectiveness is intuitively expected to improve inclusive development because it is defined/measured as the formulation and implementation of policies that deliver public commodities to citizens. The unexpected effect of mobile phones has at least a twofold explanation. On the one hand, it starkly contrasts the pro-poor conclusions of Asongu (2015) because the author has used cross-sectional data for the period 2009 whereas data in this study is for the period 1996-2008. On the other hand, Aker & Mbiti (2010) have concluded that the phenomenon of mobile phones is not a 'silver bullet' for the development of Africa.

Table 1: Deriving globalisation-fuelled debt factor loadings

			Panel A: Inst	rumentation (Dependent variables: Debt dynamics. Independent variables: Globalisation dynamics)							
	Fir	nancial globalis	ation fuelled de	ebts	L I	Trade globalisa	ation fuelled de	bts		Globalisation	fuelled debts	
	Debt	Debt on	Debt on Non-	Debt	Debt	Debt on	Debt on Non-	Debt	Debt	Debt on	Debt on Non-	Debt
	Outstanding	Concessional	concessional	Forgiveness	Outstanding	Concessional	concessional	Forgiveness	Outstanding	Concessional	concessional	Forgiveness
	& Disbursed (DOD)	Terms (DC)	Terms (DNC)	or Reduction (DFR)	& Disbursed (DOD)	Terms (DC)	Terms (DNC)	or Reduction (DFR)	& Disbursed (DOD)	Terms (DC)	Terms (DNC)	or Reduction (DFR)
Constant	54.540***	40.501***	14.039	0.0007	39.898***	42.283***	-2.385	-0.011**	49.157***	49.535***	-0.378	-0.002
	(0.000)	(0.000)	(0.134)	(0.800)	(0.000)	(0.000)	(0.877)	(0.038)	(0.000)	(0.000)	(0.976)	(0.689)
FDI	1.706**	-0.899	2.605**	0.0003					1.491*	-0.404	1.895*	0.0001
	(0.021)	(0.149)	(0.023)	(0.154)					(0.088)	(0.439)	(0.068)	(0.533)
Trade					0.077	-0.157	0.235**	0.00007	0.065	-0.133*	0.199	0.00004
					(0.583)	(0.109)	(0.047)	(0.212)	(0.682)	(0.087)	(0.114)	(0.466)
NODA	3.544***	2.110***	1.434	-0.001***	3.871***	2.190***	1.680*	-0.001***	3.637***	1.989***	1.648*	-0.001***
	(0.000)	(0.000)	(0.106)	(0.000)	(0.000)	(0.000)	(0.089)	(0.000)	(0.000)	(0.000)	(0.053)	(0.000)
GDPg	-3.608***	-2.476***	-1.131	-0.001***	0.952	-0.538	1.490	-0.0005	-3.478***	-2.418***	-1.059	-0.001***
	(0.001)	(0.000)	(0.127)	(0.003)	(0.675)	(0.534)	(0.310)	(0.202)	(0.000)	(0.001)	(0.128)	(0.007)
Adjusted R ²	0.327	0.370	0.178	0.077	0.214	0.347	0.097	0.046	0.328	0.375	0.198	0.080
Fisher	79.074***	95.586***	35.904***	14.995***	55.002***	106.13***	22.461***	11.141***	58.093***	71.071***	29.930***	11.646***
Observations	483	483	483	501	594	594	594	623	467	467	467	485
	405	405	403	45	47	47	47	50	42	407	407	45
Countries	42	42	42	43	4/	4/	4/	50	42	42	42	43

Panel B: Testing the strength of factor loadings (Dependent variable: Debt dynamics. Independent variables: instruments or globalisation-fuelled debts loadings) Financial globalisation fuelled debts Clobalisation fuelled debts

	Fin	ancial globalis	ation fuelled de	ebts	1	rade globalisa	ation fuelled del	bts		Globalisation	n fuelled debts	
	Debt	Debt on	Debt on Non-	Debt	Debt	Debt on	Debt on Non-	Debt	Debt	Debt on	Debt on Non-	Debt
	Outstanding	Concessional	concessional	Forgiveness	Outstanding	Concessional	concessional	Forgiveness	Outstanding	Concessional	concessional	Forgiveness
	& Disbursed	Terms (DC)	Terms (DNC)	or Reduction	& Disbursed	Terms (DC)	Terms (DNC)	or Reduction	& Disbursed	Terms (DC)	Terms (DNC)	or Reduction
	(DOD)			(DFR)	(DOD)			(DFR)	(DOD)			(DFR)
Constant	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	(1.000)	(1.000)	(1.000)	(1.000)	(1.000)	(1.000)	(1.000)	(1.000)	(1.000)	(1.000)	(1.000)	(1.000)
Loading	1.000***	1.000***	1.000***	1.000***	1.000***	1.000***	1.000***	1.000***	1.000***	1.000***	1.000***	1.000***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Adjusted R ²	0.329	0.373	0.181	0.081	0.217	0.349	0.100	0.049	0.333	0.379	0.204	0.086
Fisher	238.214***	287.95***	108.16***	45.167***	165.56***	319.48***	67.611***	33.533***	233.880***	286.131***	120.49***	46.876***
Observations	483	483	483	501	594	594	594	623	467	467	467	485
Countries	42	42	42	45	47	47	47	50	42	42	42	45

FDI: Foreign Direct Investment. NODA : Net Official Development Assistance. GDPg : GDP growth rate. *, **, *** : significance levels at 10%, 5% and 1% respectively.

Financ	Financial globalisation fuelled debts		Trade globalisation fuelled debts			Globalisation fuelled debts			Control variables			l					
DODFDI	DCFDI	DNCFDI	DFRFDI	DODTrade	DCTrade	DNCTrade	DFRTrade	DODGlo	DCGlo	DNCGlo	DFRGlo	Fin. D	Gov.E	Mobile	TSE	IHDI	_
1.000	0.911	0.909	-0.733	0.902	0.893	0.779	-0.838	0.998	0.894	0.888	-0.735	-0.200	-0.324	-0.185	-0.442	-0.069	DODFDI
	1.000	0.656	-0.710	0.850	0.918	0.642	-0.832	0.907	0.982	0.649	-0.714	-0.240	-0.336	-0.269	-0.418	-0.056	DCFDI
		1.000	-0.625	0.793	0.708	0.776	-0.695	0.911	0.647	0.966	-0.624	-0.097	-0.265	-0.066	-0.341	-0.072	DNCFDI
			1.000	-0.948	-0.884	-0.882	0.963	-0.733	-0.699	-0.612	0.996	0.244	0.297	0.224	0.407	0.091	DFRFDI
				1.000	0.927	0.908	-0.973	0.909	0.831	0.792	-0.946	-0.271	-0.258	-0.216	-0.483	-0.082	DODTrade
					1.000	0.685	-0.940	0.884	0.944	0.645	-0.906	-0.329	-0.315	-0.308	-0.474	-0.051	DCTrade
						1.000	-0.841	0.802	0.572	0.848	-0.853	-0.138	-0.154	-0.074	-0.370	-0.103	DNCTrade
							1.000	-0.835	-0.852	-0.647	0.976	0.315	0.262	0.285	0.462	0.062	DFRTrade
								1.000	0.882	0.900	-0.738	-0.199	-0.301	-0.173	-0.452	-0.073	DODGlo
									1.000	0.591	-0.725	-0.300	-0.331	-0.315	-0.427	-0.031	DCGlo
										1.000	-0.596	-0.011	-0.223	-0.005	-0.319	-0.098	DNCGlo
											1.000	0.276	0.297	0.246	0.415	0.079	DFRGlo
												1.000	0.569	0.492	0.583	0.080	Fin. D
													1.000	0.371	0.357	0.187	Gov. E
														1.000	0.422	0.004	Mobile
															1.000	-0.062	TSE
																1.000	IHDI

	a 14		1	•
Table 7.	Correlation	matrix for	· cecond c	tage regressions
	Contration	mati in ivi	second s	

DOD: Outstanding & Disbursed Debt. DC: Concessional Debt. DNC: Non Concessional Debt. DFR: Debt Reduction or Forgiveness. DODFDI: FDI Driven DOD. DODTrade: Trade Driven DOD. DODGlo: Globalisation Driven DOD. DCFDI: FDI Driven DC. DCTrade: Trade Driven DC. DCGlo: Globalisation Driven DC. DNC FDI: FDI Driven DNC. DNCTrade: Trade Driven DNC. DNCGlo: Globalisation Driven DNC. DFRFDI: FDI Driven DFR. DFRTrade: Trade Driven DFR. DFRGlo: Globalisation Driven DFR. Fin. D: Financial Depth. Gov. E: Government Effectiveness. Mobile: Mobile phone penetration. TSE: Tertiary School Enrolment. IHDI: Inequality Adjusted Human Development Index.

Table 3: Second-Stage regressions (Based on panel fixed- or random-effects)

	Dependent variable: Inequality Adjusted Human Development Index												
	Fina	ancial globalis	ation fuelled d	ebts	Tr	ade globalisat	ion fuelled d	ebts	Globalisation fuelled debts				
	Outstanding	Concessional	Non-	Forgiveness	Outstanding	Concessional	Non-	Forgiveness	Outstanding	Concessional	Non-	Forgiveness	
	& Disbursed	Debt (DC)	concessional	or Reduction	& Disbursed	Debt (DC)	concessional	or Reduction	& Disbursed	Debt (DC)	concessional	or Reduction	
	Debt		Debt (DNC)	of Debt	Debt		Debt (DNC)	of Debt	Debt		Debt (DNC)	of Debt	
	(DOD)			(DFR)	(DOD)			(DFR)	(DOD)			(DFR)	
Constant	1.027***	1.029***	1.021***	1.021***	0.955***	0.964***	0.948***	0.954***	1.065***	1.068***	1.060***	1.058***	
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	
DODFDI	-0.0001**												
	(0.015)												
DCFDI		-0.0002***											
		(0.000)											
DNCFDI			-0.0004										

DFRFDI			(0.788)									
				0.044 (0.735)								
DODTrade					-0.000 (0.519)							
DCTrade						-0.0002*** (0.005)						
DNCTrade							0.00009 (0.496)					
DFRTrade								0.093 (0.627)				
DODGlo									-0.0001** (0.013)			
DCGlo										-0.0003*** (0.000)		
DNCGlo											-0.0001 (0.492)	
DFRGlo											/	0.014 (0.922)
Financial Depth	0.060 (0.109)	0.068* (0.065)	0.045 (0.229)	0.044 (0.246)	0.020 (0.545)	0.030 (0.356)	0.016 (0.622)	0.019 (0.563)	0.073* (0.083)	0.079* (0.051)	0.061 (0.136)	0.057 (0.168)
Gov. Effectiveness	0.011 (0.248)	0.012 (0.210)	0.008 (0.455)	0.007 (0.461)	0.011 (0.219)	0.015* (0.076)	0.009 (0.331)	0.011 (0.225)	0.012 (0.214)	0.013 (0.154)	0.009 (0.363)	0.008 (0.427)
Mobile Phone	-0.0005* (0.053)	-0.0005** (0.028)	-0.0004 (0.104)	-0.0004* (0.094)	-0.0003 (0.211)	-0.0003 (0.163)	-0.0002 (0.282)	-0.0002 (0.218)	-0.0005 (0.152)	-0.0005 (0.108)	-0.0004 (0.204)	-0.0004 (0.219)
Tertiary School	0.001 (0.131)	0.001 (0.094)	0.001 (0.185)	0.001 (0.176)	0.001 (0.231)	0.001 (0.197)	0.001 (0.258)	0.001 (0.232)	0.001 (0.179)	0.001 (0.134)	0.001 (0.226)	0.001 (0.230)
Time effects Hausman test	Yes 32.372*** (0.003)	Yes 32.291*** (0.003)	Yes 32.309*** (0.003)	Yes 33.395*** (0.002)	Yes 37.192*** (0.000)	Yes 36.327*** (0.000)	Yes 37.498*** (0.000)	Yes 37.355*** (0.000)	Yes 32.911*** (0.002)	Yes 31.779*** (0.004)	Yes 32.866*** (0.000)	Yes 33.235*** (0.002)
Within R ² Fisher Observations Countries	0.757 928272*** 156 28	0.770 981740*** 156 28	0.744 881969*** 156 28	0.744 881984*** 156 28	0.726 729718*** 179 32	0.736 756044*** 179 32	0.727 731662*** 179 32	0.726 728721*** 179 32	0.727 905354*** 148 28	0.740 952858*** 148 28	0.714 863798*** 148 28	0.712 857508*** 148 28

. *,**,*** : significance levels at 10%, 5% and 1% respectively. DOD: Outstanding & Disbursed Debt. DC: Concessional Debt. DNC: Non Concessional Debt. DFR: Debt Reduction or Forgiveness. DODFDI: FDI Driven DOD. DODTrade: Trade Driven DOD. DODGlo: Globalisation Driven DOD. DCFDI: FDI Driven DC. DCTrade: Trade Driven DC. DCGlo: Globalisation Driven DC. DNC FDI: FDI Driven DNC. DFRFDI: FDI Driven DFR. DFR DFR. DFR DFR. DFR DFR. DFR Globalisation Driven DFR. Gov. Effectiveness: Government Effectiveness.

	Fin	ancial globalis	ation fuelled d				tion fuelled d	n an Developn ebts		Globalisation	n fuelled debts	
	Outstanding & Disbursed Debt (DOD)	Concessional Debt (DC)	Non- concessional Debt (DNC)	Forgiveness or Reduction of Debt (DFR)	Outstanding & Disbursed Debt (DOD)	Concessional Debt (DC)	Non- concessional Debt (DNC)	Forgiveness or Reduction of Debt (DFR)	Outstanding & Disbursed Debt (DOD)	Concessional Debt (DC)	Non- concessional Debt (DNC)	Forgivenes or Reductio of Debt (DFR)
Constant	1.035*** (0.000)	1.031*** (0.000)	1.025*** (0.000)	1.008*** (0.000)	0.965*** (0.000)	0.955*** (0.000)	0.958*** (0.000)	0.938*** (0.000)	0.946*** (0.000)	0.938*** (0.000)	0.936*** (0.000)	0.919*** (0.000)
DOD	-0.0002*** (0.000)				-0.0002** (0.011)				-0.0003*** (0.000)			
DC		-0.0003*** (0.000)				-0.0003** (0.026)				-0.0004*** (0.002)		
DNC			-0.0002* (0.084)				-0.0004* (0.075)				-0.0005** (0.016)	
DFR				-0.012 (0.409)				-0.094** (0.013)				-0.031* (0.053)
FDI	0.0002 (0.810)	0.0004 (0.587)	0.0007 (0.337)	0.001** (0.026)								
Trade					0.00002 (0.911)	0.0001 (0.517)	0.00001 (0.946)	0.0002 (0.079)				
Globalisation (Glob)									-0.0001 (0.170)	-0.0001 (0.409)	-0.0001 (0.284)	0.00003 (0.651)
DOD*FDI	0.00002** (0.017)											
DC*FDI		0.00003* (0.066)										
DNC*FDI			0.00004* (0.084)									
DFR*FDI				-0.001 (0.710)								
DOD*Trade					0.000001 (0.287)							
DC*Trade						0.000001 (0.539)						
DNC*Trade							0.000006 (0.138)					
DFR*Trade								0.001** (0.010)				
DOD*Glo									0.000002** (0.019)			
DC*Glo										0.000002 (0.122)		
DNC*Glo											0.000007** (0.014)	

Table 4: Interactive regressions (Based on panel fixed- or random-effects)

DFR*Glo												0.0005** (0.014)
Financial Depth	0.055	0.055	0.052	0.053	0.030	0.036	0.019	0.015	0.026	0.031	0.014	0.009
*	(0.123)	(0.125)	(0.173)	(0.173)	(0.347)	(0.223)	(0.557)	(0.642)	(0.420)	(0.338)	(0.668)	(0.772)
Gov. Effectiveness	0.008	0.006	0.008	0.004	0.011*	0.009	0.014*	0.011	0.010	0.008	0.012	0.010
	(0.237)	(0.374)	(0.365)	(0.656)	(0.068)	(0.105)	(0.079)	(0.146)	(0.125)	(0.212)	(0.112)	(0.205)
Mobile Phone	-0.0004*	-0.0003	-0.0006**	-0.0005*	-0.0001	-0.00005	-0.0003	-0.0002	-0.0002	-0.0001	-0.0003*	-0.0003
	(0.016)	(0.187)	(0.020)	(0.052)	(0.403)	(0.799)	(0.150)	(0.285)	(0.245)	(0.499)	(0.098)	(0.136)
Tertiary School	0.001*	0.001	0.002*	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
·	(0.057)	(0.147)	(0.057)	(0.106)	(0.119)	(0.245)	(0.135)	(0.223)	(0.121)	(0.234)	(0.138)	(0.210)
Time effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Hausman test	34.389*** (0.000)	31.616** (0.011)	32.751*** (0.007)	32.099*** (0.009)	35.633*** (0.003)	33.290*** (0.006)	38.464*** (0.001)	35.425*** (0.003)	34.814*** (0.004)	33.567*** (0.006)	37.674*** (0.001)	36.439*** (0.002)
Within R ²	0.810	0.805	0.786	0.768	0.760	0.757	0.747	0.737	0.781	0.774	0.773	0.752
Fisher	1116453***	1088147***	991406***	898305***	784409***	777465***	746026***	705853***	795990***	772368***	766520***	692350***
Observations	156	156	156	158	179	179	179	181	187	187	187	189
Countries	28	28	28	29	32	32	32	33	32	32	32	33

*,**,*** : significance levels at 10%, 5% and 1% respectively. DOD: Outstanding & Disbursed Debt. DC: Concessional Debt. DNC: Non Concessional Debt. DFR: Debt Reduction or Forgiveness. DOD*FDI: FDI and DOD. DOD*Trade: Trade and DOD. DOD*Glo: Globalisation and DOD. DC*FDI: FDI and DC. DC*Trade: Trade and DC. DC*Glo: Globalisation and DC. DNC* FDI: FDI and DFR. DFR*Trade: Trade and DFR. DFR*Glo: Globalisation and DNC. DFR*FDI: FDI and DFR. DFR*Trade: Trade and DFR. OFR*Glo: Globalisation and DNC. DFR*FDI: FDI and DFR. DFR*Trade: Trade and DFR. Gov. Effectiveness: Government Effectiveness.

3.1.2 Interactive estimations

Table 4 above reveals interactive estimations based on Panel Fixed -and Randomeffects regressions. Like in the second-stage of the IV procedure in the preceding section, the choice of either model is decided by the outcome of the Hausman test. The specifications are Fixed-effects because the Hausman test is overwhelmingly rejected. The following findings are established: first, the effects of debt dynamics on inclusive development are consistently negative across specifications. This confirms narratives challenging the legitimacy of some external debt in Africa, inter alia: past external debts have failed to benefit the poor/people; the borrowing was for the most part done without the consent of the people and 'creditor awareness test' can be established by historical evidence (Boyce & Ndikumana, 2011).

Second, a possible reason for the positive association between financial globalisation and debts is that the former could provide incentives for long-term unsustainable debts. Third, the interactive marginal effects are overwhelmingly positive in financial liberalisation and globalisation interactions for the most part. The absence of significant marginal interactive effects with trade openness implies that the positive effects between globalisation and the debt dynamics are substantially driven financial globalisation. We do not lay much emphasis on the magnitude of interactive estimates because of high decimal values. What is interesting to note however is that the results contrast with those in Table 3. Hence, it may be established that the effect of globalisation driven-debts on inclusive human development may be positive or negative depending on whether debts are modelled as endogenous to globalisation or interactive with globalisation.

The discussions related to the significance and signs of the control variables are consistent with the elucidations relevant for Table 3 above.

4. Concluding implications

With growing evidence that public support for globalisation is waning in both developed and developing nations, studies have emerged with a frantic search for avenues out of a regime characterised by a morally enervating unvarnished capitalism. The paper has contributed to this narrative by investigating the Azzimonti et al. (2014) conclusions and responding to the increasing demand for globalisation to be given a human face in the light of the post-2015 development agenda.

We have investigated the impact of debts on inclusive human development using two assumptions of globalisation-driven debt. Under the assumption that debt is endogenous to (interactive with) globalisation, the impact on human development is negative (positive). The following policy implications are worthwhile

First, whereas the findings may reflect the false economics of pre-conditions in which access to external debt is conditioned on the adoption of more friendly policies towards financial liberalisation and trade openness, we wish to stay away from the debate because it is out of scope. Accordingly, while resisting the itch, we welcome the debate as an interesting future research direction. Moreover, the interested reader may refer to Monga (2014) for more insights.

Second, we have found that the magnitudes of estimates confirming the conclusions of the underlying paper are higher relative to those rejecting them. Hence, globalisation could be a substantial instrument in improvement human development if it is tailored with equitable and sustainable human development policies.

Third, the influence of debt on concessional (non-concessional) terms is more (less) significant in the scenario where the conclusions of the underlying paper are confirmed. This implies loans incorporating a grant element have a better chance of affecting inclusive development.

As a broad policy implication, the findings could be viewed in light of Piketty's celebrated capital in the 21st century in the perspective that, globalisation should not lead African countries to industrialisation according to Kuznets' conjectures. Hence, in order to achieve the post-2015 inclusive development objectives, external debt acquisition policies by sampled countries (conditional on globalisation) should be tailored towards their effects on human development. This would require, inter alia: improving the credibility and legitimacy of some external debts in the continent. Measures tailored along this line of policy should involve, amongst others, ensuring that: external debt benefits the people, domestic governments' borrowings are mandated by the people and creditors restraint from some capitalistic ideals by imposing some inclusive human development lending conditions.

Appendix

Table 1: Variable definitions and summary statistics

Panel A: Variable definitions and summary statistics for	r Developm	ent, Debt	and Cont	rol varial	oles
	Mean	S.D	Min.	Max.	Obs
Inequality Adjusted Human Development Index (IHDI)	1.482	6.792	0.127	47.48	479
Debt Outstanding & Disbursed (DOD) in % of GDP	96.587	118.97	3.202	1520.6	632
Debt on Concessional Terms (DC) in % of GDP	55.786	54.936	0.000	376.89	632
Debt on Non-concessional Terms (DNC) in % of GDP	40.801	87.598	0.283	1143.7	632
Debt Forgiveness or Reduction (DFR) in % of GDP	-0.024	0.092	-1.353	0.000	671
Foreign Direct Investment (FDI) in % of GDP	4.118	8.532	-8.629	145.20	510
Net Official Development Assistance (NODA) in % of GDP	10.868	12.943	-0.251	148.30	653
Gross Domestic Product Growth rate (GDPg) in annual %	4.917	7.724	-31.300	106.28	659
Financial Depth (Money Supply) in % of GDP	0.311	0.228	0.001	1.279	530
Tertiary School Enrolment (TSE) % of Gross	6.217	8.733	0.219	54.355	357
Mobile Cellular Subscriptions (Mobile) per 100 people	10.817	18.805	0.000	119.99	684
Government Effectiveness (Gov. E)	-0.675	0.616	-1.853	0.807	496

Panel B: Variable definitions and summary statistics of loadings or Globalisation-driven debt dynamics

	Mean	S.D	Min.	Max.	Obs
FDI Driven DOD (DODFDI)	81.163	46.588	-23.529	634.52	483
Trade Driven DOD (DODTrade)	91.636	48.605	41.898	636.59	594
Globalisation Driven DOD (DODGlo)	80.550	46.951	-16.608	647.17	467
FDI Driven DC (DCFDI)	47.337	25.728	-6.107	293.79	483
Trade Driven DC (DCTrade)	51.355	27.984	3.590	331.33	594
Globalisation Driven DC (DCGlo)	46.171	25.286	-13.483	281.25	467
FDI Driven DNC (DNCFDI)	33.826	25.462	-20.302	340.74	483
Trade Driven DNC (DNCTrade)	40.280	24.942	-5.642	305.26	594
Globalisation Driven DNC (DNCGlo)	34.379	27.340	-4.475	365.92	467
FDI Driven DFR (DFRFDI)	-0.022	0.020	-0.232	0.014	501
Trade Driven DFR (DFRTrade)	-0.022	0.017	-0.202	0.005	623
Globalisation Driven DFR (DFRGlo)	-0.021	0.021	-0.234	0.015	485

S.D: Standard Deviation. Min: Minimum. Max: Maximum. Obs: Observations

	Deb	ts		Globalis	sation	Control v	Control variables		
DOD	DC	DNC	DFR	FDI	Trade	NODA	GDPg		
1.000	0.726	0.902	0.012	0.232	-0.005	0.545	0.109	DOD	
	1.000	0.359	-0.007	-0.003	-0.176	0.609	-0.020	DC	
		1.000	0.022	0.319	0.100	0.360	0.156	DNC	
			1.000	-0.030	0.044	-0.186	-0.058	DFR	
				1.000	0.445	0.156	0219	FDI	
					1.000	-0.095	0.151	Trade	
						1.000	0.044	NODA	
							1.000	GDPg	

Appendix 2: Correlation matrix for first-stage regressions

DOD: Outstanding & Disbursed Debt. DC: Concessional Debt. DNC: Non Concessional Debt. DFR: Debt Reduction or Forgiveness. NODA: FDI: Foreign Direct Investment. Net Official Development Assistance. GDPg: GDP growth rate.

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