Online Appendix 1

Note: This is Online Appendix 1 of Bezuidenhout, C., Matthee, M. & Rankin, N., 2020, 'Inclusive growth and wage inequality: The case of South African manufacturing exporters', *South African Journal of Economic and Management Sciences* 23(1), a3014. https://doi.org/10.4102/sajems.v23i1.3014

TABLE 1-A1: IRP5 data cleaning.

Cleaning steps	Description of data cleaning
Keep individual	From the IRP5 data, only data from workers or employees were used in this article; therefore from the variable 'nature of person' only 'Individuals' was kept. All employees (IRP5s) are treated the same in terms of cleaning the data.
Periods worked	Some of the data on the 'period employed from' and 'period employed to' has 'invalid periods' reported; this was corrected: 1. For instance 1910 instead of 2010 2. End date 27 February instead of 28 February 3. End date before start date 4. End date in the month before year end and then start again a few days after the start of the year. When calculating the length of employment (in days) for each worker we used the 'period employed from' and 'period employed to'. If a worker left before the end of tax year or started halfway into the tax year their number of days worked will be less that 365.
Multiple job spells	There are individuals with 'multiple job spells', therefore one individual working multiple jobs at the same firm. When adding the number of days of each job spell, 3% adds to more than 365 days (which is impossible). For this 3% of jobs the average of the worker's multiple job spells at the firm was taken.
Duplicate certificates	Each job is assigned a certificate number; duplicate certificates were dropped to avoid double counting.
Age 15–64	There were individuals found to be 90 years of age. This study kept to the South African labour force definition and kept workers of the age 15–64.
Income	There are various ways to calculate income; we used gross remuneration (by adding three variables named: GROSSNTAXABLEINCOMEAMNT, GROSSRETFUNDINCOMEAMNT and GROSSNRETFUNDINCOMEAMNT).

TABLE 2-A1: Exporter dynamics per destination.

Variable	2010†		2011		2012		2013		2014	
	n	%	*n*	%	*n*	%	*n*	%	*n*	%
Non-exporter	24 959	-	25 561	-	24 868	-	27 256	-	22 992	-
Exporter	4957	-	6868	100	7145	100	8117	100	7257	100
Continuous	-	-	3956	58	5396	76	5234	64	5663	78
Africa only	-	-	2338	34	3010	42	2845	35	3143	43
International	-	-	1618	24	2386	33	2389	29	2520	35
Enter	-	-	2912	42	1749	24	2883	36	1594	22
Africa only	-	-	1672	24	1214	17	1901	23	1083	15
International	-	-	1240	18	535	7	982	12	511	7
Exit‡	-	-	457	7	570	8	519	7	663	9
Africa only	-	-	300	4	401	6	374	5	456	6
International	-	-	157	2	169	2	145	2	207	3
Total	**29 916**	**-**	**32 429**	**-**	**32 013**	**-**	**35 373**	**-**	**30 249**	**-**

†, Exporters cannot be classified in 2010, due to the fact that export dynamics are defined based on year t and year t–1 and there are no data available on 2009; ‡, The percentages for exits are based on the number of exporters in the previous period.

TABLE 3-A1: Regression variables.

Variable	Denfinition	Calculation
$\ln(X)_{it}$	The logarithm of monthly wages earned by workers at each percentile of the firm's wage distribution (5th percentile, 25th percentile, 75th percentile and 95th percentile) as well as the standard deviation and interquartile range of these wages per firm.	Calculated the average wage per worker in a firm at the 5th, 25th, 50th, 75th and 95th percentile.
$Export_{it}$	A dummy variable indicating the export status of a firm. The export status can vary between a non-exporter and an exporter exporting to Africa, SACU or the international market. Furthermore, export status can also indicate a firm's dynamics (enter, exit or continue).	0 or 1
$No.\ dest_{it}$	The number of destinations ($No.dest_{it}$) to which a firm exports and the number of products ($No.\ prod_{it}$) it exports are also accounted for (in the case of non-exporting firms this variable is simply a zero).	Number
$No.\ prod_{it}$	The number of destinations ($No.dest_{it}$) to which a firm exports and the number of products ($No.\ prod_{it}$) it exports are also accounted for (in the case of non-exporting firms this variable is simply a zero).	Number
lkl_{it}	Real capital per worker.	plant and equipment (which measure capital intensity) / weighted number of employees per firm
$Industry_{it}$	Control dummy for the industry in which the firm operates (classified according to the four-digit ISIC code).	-
$year_{i}$	Control dummy for the year (2010–2014).	-
lyl_{it}	The natural log of output per worker (in real terms) which serves as a measure of labour productivity.	gross income (which measures sales/output) / weighted number of employees per firm
ll_{it}	Natural log of number of employees which measures firm size.	the weighted number of employees per firm was created by calculating the length of employment (in days) for each worker within a year, arriving at a total within the firm and dividing by 365. The aim was essentially to generate the stock of worker inputs into production per firm for the whole year.
$price_{ik,t}$	Control for type of product (price is in real terms).	The product price per firm was calculated in two steps. $\text{STEP1}: HS6\_price_{ik,t} = \frac{Customsvalue_{ik,t}}{statisticalquantity_{ik,t}}$ $\text{STEP2}: price_{ik,t} = \left[average\left(\sum HS6\_price_{ik,t} \right) \right] - HS6\_price_{ik,t}$ Step one involved taking the customs value per transaction and dividing by its statistical quantity (to get the HS6_price). Step two involved determining the difference between the HS6_price and the average price of all products with the same HS6 code (this provides the price as a measure of the deviation from the average price per product).
$GDP_{ij,t}$	Control for type of destination.	The gross domestic product per capita was obtained from the World Bank (2016).
prodfe	Product-fixed effects (at HS6-digit level),	Fixed effects

TABLE 4-A1: Wage distribution: exporters' dynamics (enter, exit and continue) without product and destination control.

Variable	5th %		25th %		50th %		75th %		95th %		Standard deviation		Interquartile range	
	Coeffiecient	Standard error	Coeffiecient	Standard error	Coeffiecient	Standard error	Coeffiecient	Standard error	Coeffiecient	Standard error	Coeffiecient	Standard error	Coeffiecient	Standard error
Continue	0.0802*	0.00358	0.141*	0.00974	0.249*	0.00694	0.296*	0.00626	0.387*	0.00660	0.642*	0.00738	0.137*	0.00545
Exit	0.0569*	0.00978	0.0829*	0.0266	0.151*	0.0189	0.197*	0.0171	0.272*	0.0180	0.387*	0.0201	0.120*	0.0149
Enter	0.0724*	0.00510	0.138*	0.0138	0.240*	0.00985	0.293*	0.00888	0.374*	0.00937	0.538*	0.0105	0.135*	0.00774
Real capital per worker	0.00426*	0.000494	0.0268*	0.00129	0.0261*	0.000922	0.0272*	0.000832	0.0301*	0.000877	0.0328*	0.000980	0.00400*	0.000725
Constant	4.625*	0.00673	5.893*	0.0180	6.357*	0.0128	6.631*	0.0115	6.994*	0.0121	0.740*	0.0135	0.688*	0.01197
Number of destinations and products control	No	-	No	-	No	-	No	-	No	-	No	-	No	-
Industry control	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-
Year control	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-
Observations	130 640	-	130 640	-	130 640	-	130 640	-	130 640	-	122 868	-	130 640	-
R-squared	0.013	-	0.035	-	0.089	-	0.138	-	0.160	-	0.152	-	0.021	-

*, $p < 0.01$, significant at the 1% level.

TABLE 5-A1: Wage distribution: exporters' dynamics (enter, exit and continue) with product and destination control.

Variable	5th %		25th %		50th %		75th %		95th %		Standard deviation		Interquartile range	
	Coeffiecient	Standard error	Coeffiecient	Standard error	Coeffiecient	Standard error	Coeffiecient	Standard error	Coeffiecient	Standard error	Coeffiecient	Standard error	Coeffiecient	Standard error
Continue	0.0852*	0.0115	0.138*	0.00810	0.174*	0.00733	0.248*	0.00771	0.469*	0.00860	0.0538*	0.00418	0.110*	0.00633
Exit	0.0823*	0.0269	0.150*	0.0190	0.197*	0.0172	0.272*	0.0181	0.388*	0.0202	0.0574*	0.00984	0.121*	0.0148
Enter	0.101*	0.0123; 0.0109	0.147*	0.00868; 0.00770	0.192*	0.00785; 0.00697	0.264*	0.00825; 0.00733	0.427*	0.00920; 0.00817	0.0567*	0.00450; 0.00405	0.117*	0.00677; 0.00602
Number of destinations	0.00916*	0.00112	0.0171*	0.000796	0.0176*	0.000719	0.0190*	0.000757	0.0249*	0.000844	0.00292*	0.000406	0.00191*	0.000621
Number of products	5.39e-05	0.000161	0.000496*	0.000114	0.000832*	0.000103	0.00118*	0.000108	0.00127*	0.000121	0.000406*	5.83e-05	0.000681*	8.90e-05
Real capital per worker	0.0274*	0.00121	0.0252*	0.000855	0.0258*	0.000773	0.0281*	0.000813	0.0293*	0.000907	0.00364*	0.000459	0.00286*	0.000667
Constant	6.893*	0.0180	7.357*	0.0128	7.631*	0.0115	7.994*	0.0121	8.740*	0.0135	0.625*	0.00673	0.637*	0.00997
Industry control	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-
Year control	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-
Observations	130 640	-	130 640	-	130 640	-	130 640	-	130 640	-	122 868	-	130 640	-
R-squared	0.038	-	0.092	-	0.142	-	0.163	-	0.156	-	0.015	-	0.024	-

*, $p < 0.01$, significant at the 1% level.

TABLE 6-A1: Wage distribution (inequality): firms exporting to African and non-African countries (regression without price or gross domestic product control) (see Figure 8).

Variable	Standard deviation		5th %		25th %		50th %		75th %		95th %		Interquartile range	
	Coeffiecient	Standard error	Coeffiecient	Standard error	Coeffiecient	Standard error	Coeffiecient	Standard error	Coeffiecient	Standard error	Coeffiecient	Standard error	Coeffiecient	Standard error
Africa only (excluding SACU)	0.0493*	0.00104	-0.287*	0.00321	-0.136*	0.00162	-0.168*	0.00157	-0.171*	0.00159	-0.182*	0.00163	-0.0354*	0.00123
SACU only	0.0440*	0.00164	-0.523*	0.00506	-0.329*	0.00255	-0.373*	0.00247	-0.425*	0.00251	-0.528*	0.00257	-0.0964*	0.00193
Real capital per worker	0.00564*	0.000198	0.0332*	0.000609	0.0451*	0.000307	0.0475*	0.000298	0.0483*	0.000302	0.0458*	0.000309	0.00322*	0.000233
Number of destinations and products control	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-
Year control	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-
Industry controls	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-
Observations	1 004 035	-	1 013 994	-	1 013 994	-	1 013 994	-	1 013 994	-	1 013 994	-	1 013 994	-

*, $p < 0.01$, significant at the 1% level.

TABLE 7-A1: Wage distribution (inequality): firms exporting to African and non-African countries (regression with price control) (see Figure 8).

Variable	Standard deviation		5th %		25th %		50th %		75th %		95th %		Interquartile range	
	Coeffiecient	Standard error	Coeffiecient	Standard error	Coeffiecient	Standard error	Coeffiecient	Standard error	Coeffiecient	Standard error	Coeffiecient	Standard error	Coeffiecient	Standard error
Africa only (excluding SACU)	0.0500*	0.00104	-0.285*	0.00322	-0.132*	0.00162	-0.163*	0.00157	-0.166*	0.00159	-0.179*	0.00163	-0.0343*	0.00123
SACU only	0.0445*	0.00165	-0.522*	0.00507	-0.326*	0.00255	-0.369*	0.00247	-0.422*	0.00251	-0.527*	0.00257	-0.0958*	0.00194
Dev_price	0.00155*	0.000216	0.00945*	0.000669	0.0163*	0.000337	0.0225*	0.000326	0.0215*	0.000331	0.0126*	0.000339	0.00514*	0.000255
Real capital per worker	0.00572*	0.000198	0.0331*	0.000610	0.0452*	0.000307	0.0477*	0.000297	0.0486*	0.000302	0.0460*	0.000309	0.00335*	0.000233
Number of destinations and products control	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-
Year control	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-
Industry controls	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-
Observations	1 002 162	-	1 012 103	-	1 012 103	-	1 012 103	-	1 012 103	-	1 012 103	-	1 012 103	-

Dev_price, Deviation from price was added to the regression.

*, $p < 0.01$, significant at the 1% level.

TABLE 8-A1: Wage distribution (inequality): firms exporting to African and non-African countries (regression with gross domestic product control) (see Figure 8).

Variable	Standard deviation		5th %		25th %		50th %		75th %		95th %		Interquartile range	
	Coeffiecient	Standard error	Coeffiecient	Standard error	Coeffiecient	Standard error	Coeffiecient	Standard error	Coeffiecient	Standard error	Coeffiecient	Standard error	Coeffiecient	Standard error
Africa only (excluding SACU)	0.0459*	0.00106	-0.303*	0.00327	-0.150*	0.00165	-0.187*	0.00160	-0.196*	0.00162	-0.201*	0.00166	-0.0463*	0.00125
SACU only	0.0450*	0.00164	-0.521*	0.00506	-0.326*	0.00255	-0.368*	0.00247	-0.421*	0.00250	-0.525*	0.00256	-0.0944*	0.00194
lGDP	-0.00525*	0.000298	-0.0226*	0.000924	-0.0198*	0.000466	-0.0275*	0.000451	-0.0352*	0.000457	-0.0266*	0.000468	-0.0154*	0.000354
Real capital per worker	0.00552*	0.000198	0.0329*	0.000610	0.0446*	0.000308	0.0469*	0.000298	0.0476*	0.000302	0.0453*	0.000309	0.00301*	0.000233
Number of destinations and products control	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-
Year control	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-
Industry controls	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-
Observations	1 002 162	-	1 012 103	-	1 012 103	-	1 012 103	-	1 012 103	-	1 012 103	-	1 012 103	-

*, $p < 0.01$, significant at the 1% level.

TABLE 9-A1: Wage distribution (inequality): firms exporting to African and non-African countries (regression with product-fixed effects).

Varaible	Standard deviation		5th %		25th %		50th %		75th %		95th %		Interquartile range	
	Coeffiecient	Standard error	Coeffiecient	Standard error	Coeffiecient	Standard error	Coeffiecient	Standard error	Coeffiecient	Standard error	Coeffiecient	Standard error	Coeffiecient	Standard error
Africa only (excluding SACU)	0.0492*	0.00104	-0.288*	0.00322	-0.138*	0.00161	-0.169*	0.00155	-0.172*	0.00156	-0.186*	0.00161*	-0.0336*	0.00123
SACU only	0.0425*	0.00165	-0.514*	0.00506	-0.325*	0.00252	-0.366*	0.00243	-0.418*	0.00245	-0.528*	0.00253	-0.0926*	0.00194
Real capital per worker	0.00471*	0.000199	0.0335*	0.000612	0.0434*	0.000305	0.0457*	0.000294	0.0466*	0.000297	0.0433*	0.000307	0.00314*	0.000234
Number of destinations and products control	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-
Year control	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-
Industry controls	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-
Product fe (HS6)	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-
Observations	1 004 035	-	1 013 994	-	1 013 994	-	1 013 994	-	1 013 994	-	1 013 994	-	1 013 994	-

*, $p < 0.01$, significant at the 1% level.

TABLE 10-A1: Wage distribution (inequality): firms exporting to African and non-African countries (regression with price and product-fixed effects).

Varaible	Standard deviation		5th %		25th %		50th %		75th %		95th %		Interquartile range	
	Coeffiecient	Standard error	Coeffiecient	Standard error	Coeffiecient	Standard error	Coeffiecient	Standard error	Coeffiecient	Standard error	Coeffiecient	Standard error	Coeffiecient	Standard error
Africa only (excluding SACU)	0.00482*	0.000199	0.0336*	0.000613	0.0438*	0.000305	0.0462*	0.000293	0.0471*	0.000295	0.0436*	0.000306	0.00334*	0.000235
SACU only	0.0502*	0.00104	-0.285*	0.00323	-0.132*	0.00161	-0.161*	0.00154	-0.164*	0.00156	-0.181*	0.00161	-0.0317*	0.00123
Dev_price	0.0433*	0.00165	-0.512*	0.00507	-0.320*	0.00252	-0.360*	0.00242	-0.411*	0.00244	-0.524*	0.00253	-0.0912*	0.00194
Real capital per worker	0.00284*	0.000225	0.0150*	0.000695	0.0248*	0.000346	0.0333*	0.000332	0.0332*	0.000335	0.0220*	0.000348	0.00843*	0.000266
Number of destinations and products control	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-
Year control	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-
Industry controls	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-
Product fe (HS6)	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-
Observations	1 002 162	-	1 012 103	-	1 012 103	-	1 012 103	-	1 012 103	-	1 012 103	-	1 012 103	-

*, $p < 0.01$, significant at the 1% level.

TABLE 11-A1: Wage distribution (inequality): firms exporting to African and non-African countries (regression with gross domestic product and product-fixed effects).

Variable	Standard deviation		5th %		25th %		50th %		75th %		95th %		Interquartile range	
	Coeffiecient	Standard error	Coeffiecient	Standard error	Coeffiecient	Standard error	Coeffiecient	Standard error	Coeffiecient	Standard error	Coeffiecient	Standard error	Coeffiecient	Standard error
Africa only (excluding SACU)	0.0462*	0.00106	-0.299*	0.00327	-0.147*	0.00163	-0.182*	0.00157	-0.189*	0.00158	-0.199*	0.00164	-0.0427*	0.00125
SACU only	0.0432*	0.00165	-0.511*	0.00506	-0.323*	0.00253	-0.362*	0.00243	-0.413*	0.00245	-0.525*	0.00254	-0.0902*	0.00194
lGDP	-0.00469*	0.000303	-0.0169*	0.000937	-0.0131*	0.000468	-0.0205*	0.000450	-0.0272*	0.000454	-0.0187*	0.000470	-0.0141*	0.000360
Real capital per worker	0.00467*	0.000200	0.0332*	0.000613	0.0431*	0.000306	0.0453*	0.000294	0.0461*	0.000297	0.0429*	0.000307	0.00300*	0.000235
Number of destinations and products control	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-
Year control	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-
Industry controls	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-
Product fe (HS6)	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-
Observations	997 911	-	1 007 827	-	1 007 827	-	1 007 827	-	1 007 827	-	1 007 827	-	1 007 827	-

*, $p < 0.01$, significant at the 1% level.

TABLE 12-A1: Wage distribution (inequality): firms exporting to African and non-African countries Africa (regression with price, gross domestic product and product-fixed effects) (see Figure 8).

Varaible	Standard deviation		5th %		25th %		50th %		75th %		95th %		Interquartile range	
	Coeffiecient	Standard error	Coeffiecient	Standard error	Coeffiecient	Standard error	Coeffiecient	Standard error	Coeffiecient	Standard error	Coeffiecient	Standard error	Coeffiecient	Standard error
Africa only (excluding SACU)	0.0472*	0.00106	-0.296*	0.00328	-0.141*	0.00163	-0.173*	0.00157	-0.181*	0.00158	-0.193*	0.00164	-0.0407*	0.00126
SACU only	0.0441*	0.00165	-0.509*	0.00507	-0.318*	0.00253	-0.356*	0.00242	-0.406*	0.00244	-0.521*	0.00254	-0.0887*	0.00194
lGDP	-0.00471*	0.000303	-0.0170*	0.000938	-0.0133*	0.000467	-0.0208*	0.000448	-0.0275*	0.000452	-0.0189*	0.000469	-0.0142*	0.000360
Dev_price	0.00283*	0.000225	0.0150*	0.000696	0.0248*	0.000347	0.0334*	0.000333	0.0333*	0.000336	0.0219*	0.000348	0.00846*	0.000267
Real capital per worker	0.00478*	0.000200	0.0333*	0.000613	0.0435*	0.000306	0.0458*	0.000293	0.0467*	0.000296	0.0433*	0.000307	0.00321*	0.000235
Number of destinations and products control	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-
Year control	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-
Industry controls	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-
Product fe (HS6)	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-
Observations	996 078	-	1 005 976	-	1 005 976	-	1 005 976	-	1 005 976	-	1 005 976	-	1 005 976	-

*, $p < 0.01$, significant at the 1% level.