

Appendix E Robustness tests of subnational level risk indices

Cereals, legumes and oilseeds

Pairwise correlation of indices (N=44; * 95 percent significance level)

	Risk index Anderson (2008) method	Risk index based on average of standardized variables	PCA-based risk index
Risk index Anderson (2008) method	1		
Risk index based on average of standardized variables	0.9833*	1	
PCA-based risk index	0.1713 0.2663	0.2062 0.1792	1

Spearman rank correlation (N=44; * 95 percent significance level)

	Risk index Anderson (2008) method	Risk index based on average of standardized variables	PCA-based risk index
Risk index Anderson (2008) method	1		
Risk index based on average of standardized variables	0.9797*	1	
PCA-based risk index	0.3662* 0.0145	0.3436* 0.0224	1

Classification difference test

	Risk index Anderson (2008) method	Risk index based on average of standardized variables	PCA-based risk index
Highest risk tertile	100%	93.3%	60.0%
Middle risk tertile	100%	86.7%	33.3%
Lowest risk tertile	100%	92.9%	35.7%

Rice

Pairwise correlation of indices (N=44; * 95 percent significance level)

	Risk index Anderson (2008) method	Risk index based on average of standardized variables	PCA-based risk index
Risk index Anderson (2008) method	1		
Risk index based on average of standardized variables	0.9664*	1	
PCA-based risk index	0.0714 0.6452	0.0936 0.5455	1

Spearman rank correlation (N=44; * 95 percent significance level)

	Risk index Anderson (2008) method	Risk index based on average of standardized variables	PCA-based risk index
Risk index Anderson (2008) method	1		
Risk index based on average of standardized variables	0.9594* 0	1	
PCA-based risk index	-0.1594 0.3013	-0.0798 0.6067	1

Classification difference test

	Risk index Anderson (2008) method	Risk index based on average of standardized variables	PCA-based risk index
Highest risk tertile	100%	86.7%	20.0%
Middle risk tertile	100%	80.0%	33.3%
Lowest risk tertile	100%	92.9%	14.3%

Vegetables, melons, roots and tubers

Pairwise correlation of indices (N=44; * 95 percent significance level)

	Risk index Anderson (2008) method	Risk index based on average of standardized variables	PCA-based risk index
Risk index Anderson (2008) method	1		
Risk index based on average of standardized variables	0.9836* 0	1	
PCA-based risk index	0.8398* 0	0.9081* 0	1

Spearman rank correlation (N=44; * 95 percent significance level)

	Risk index Anderson (2008) method	Risk index based on average of standardized variables	PCA-based risk index
Risk index Anderson (2008) method	1		
Risk index based on average of standardized variables	0.9824* 0	1	
PCA-based risk index	0.8545* 0	0.9073* 0	1

Classification difference test

	Risk index Anderson (2008) method	Risk index based on average of standardized variables	PCA-based risk index
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Highest risk tertile	100%	93.3%	86.7%
Middle risk tertile	100%	80.0%	53.3%
Lowest risk tertile	100%	85.7%	64.3%

Perennials

Pairwise correlation of indices (N=44; * 95 percent significance level)

	Risk index Anderson (2008) method	Risk index based on average of standardized variables	PCA-based risk index
Risk index Anderson (2008) method	1		
Risk index based on average of standardized variables	0.9838* 0	1	
PCA-based risk index	0.2236 0.1445	0.3259* 0.0309	1

Spearman rank correlation (N=44; * 95 percent significance level)

	Risk index Anderson (2008) method	Risk index based on average of standardized variables	PCA-based risk index
Risk index Anderson (2008) method	1		
Risk index based on average of standardized variables	0.9849* 0	1	
PCA-based risk index	0.2808 0.0649	0.3333* 0.027	1

Classification difference test

	Risk index Anderson (2008) method	Risk index based on average of standardized variables	PCA-based risk index
Highest risk tertile	100%	93.3%	46.7%
Middle risk tertile	100%	86.7%	13.3%
Lowest risk tertile	100%	92.9%	35.7%

Livestock

Pairwise correlation of indices (N=44; * 95 percent significance level)

	Risk index Anderson (2008) method	Risk index based on average of standardized variables	PCA-based risk index
Risk index Anderson (2008) method	1		
Risk index based on average of standardized variables	0.9808* 0	1	
PCA-based risk index	0.8592* 0	0.9357* 0	1

Spearman rank correlation (N=44; * 95 percent significance level)

	Risk index Anderson (2008) method	Risk index based on average of standardized variables	PCA-based risk index
Risk index Anderson (2008) method	1		
Risk index based on average of standardized variables	0.9735* 0	1	
PCA-based risk index	0.8795* 0	0.9473* 0	1

Classification difference test

	Risk index Anderson (2008) method	Risk index based on average of standardized variables	PCA-based risk index
Highest risk tertile	100%	86.7%	80.0%
Middle risk tertile	100%	66.7%	53.3%
Lowest risk tertile	100%	78.6%	64.3%

Mixed farming

Pairwise correlation of indices (N=44; * 95 percent significance level)

	Risk index Anderson (2008) method	Risk index based on average of standardized variables	PCA-based risk index
Risk index Anderson (2008) method	1		
Risk index based on average of standardized variables	0.9972* 0	1	
PCA-based risk index	0.6826* 0	0.7345* 0	1

Spearman rank correlation (N=44; * 95 percent significance level)

	Risk index Anderson (2008) method	Risk index based on average of standardized variables	PCA-based risk index
Risk index Anderson (2008) method	1		
Risk index based on average of standardized variables	0.9928* 0	1	
PCA-based risk index	0.6692* 0	0.7270* 0	1

Classification difference test

	Risk index Anderson (2008) method	Risk index based on average of standardized variables	PCA-based risk index
Highest risk tertile	100%	100.0%	60.0%

Middle risk tertile	100%	93.3%	33.3%
Lowest risk tertile	100%	92.9%	64.3%