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An Empirical Analysis of the Role of China's Exports on CO2 Emissions

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- top CO2 emitter
- emissions
- cited as one of the reasons for this surge



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Table 1. Granger Causality Tests

		Sold a solid to a solid
Hypothesis:	F-Statistic	Prob.
LN_EXPORT does not Granger Cause LN_CONS	2.3831	0.0898*
LN_CONS does not Granger Cause LN_EXPORT	1.9036	0.1511
LN_EXPORT does not Granger Cause LN_EMISSIONS	3.1473	0.0400**
LN_EMISSIONS does not Granger Cause LN_EXPORT	2.2986	0.0986*
LN_EXPORT does not Granger Cause LN_INCOME	2.3441	0.0936*
LN_INCOME does not Granger Cause LN_EXPORT	0.5981	0.6214
LN_ EMISSIONS does not Granger Cause LN_CONS	0.8166	0.4952
LN_CONS does not Granger Cause LN_EMISS	2.5802	0.0727*
LN_INCOME does not Granger Cause LN_CONS	4.3563	0.0119***
LN_CONS does not Granger Cause LN_INCOME	0.6426	0.5938
LN_INCOME does not Granger Cause LN_EMISSIONS	1.2149	0.3219
LN_EMISSIONS does not Granger Cause LN_INCOME	1.0245	0.3962



Figure 3. Variance Decomposition Analysis

12 million and the second								
Variance Decomposition of LN_CONS:								
Period	S.E.	LN_CONS	LN_EXPORT	LN_EMISS	LN_INCOME			
1	0.000511	100	0	0	0			
5	0.007855	92.70707	5.344069	1.398673	0.550192			
10	0.019797	53.36225	7.766309	9.437798	29.43364			
Variance Decomposition of LN_EXPORT:								
Period	S.E.	LN_CONS	LN_EXPORT	LN_EMISS	LN_INCOME			
1	0.019677	4.922843	94.73549	0	0.341672			
5	0.03985	2.919406	34.03641	7.49851	55.54568			
10	0.047905	5.45398	25.44814	11.18288	57.915			
Variance Decomposition of LN_EMISS:								
Period	S.E.	LN_CONS	LN_EXPORT	LN_EMISS	LN_INCOME			
1	0.042797	2.869818	18.40518	66.29852	12.42648			
5	0.093723	1.752594	13.99362	71.74069	12.51309			
10	0.163376	2.183012	9.58627	45.27713	42.95358			
Variance Decomposition of LN_INCOME:								
Period	S.E.	LN_CONS	LN_EXPORT	LN_EMISS	LN_INCOME			
1	0.086355	11.12244	0	0	88.87756			
5	0.196482	2.855105	2.96612	4.229296	89.94948			
10	0.247411	2.126706	2.562368	3.408093	91.90283			
Cholesky Ordering: LN_CONS LN_INCOME LN_EXPORT LN_EMISS								

- emissions
- emissions

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Figure 4. Generalized Impulse Response Functions

Summary of Key Findings

Bi-directional causality running from exports to

 Granger causality running from exports to coal consumption

Income will determine the future variability in CO2

 The government should employ renewable energy strategies to reduce CO2 emissions

Acknowledgement

Further Information