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Which Affects GDP More: Exchange Rates or FDI

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RESEARCH COLLOQUIUM 2018 PITTSBURG STATE UNIVERSITY



By. Nic Robinson



Does FDI Cause Exchange Rates?

Introduction

- Foreign Direct Investment
- Exchange Rates

Introduction Cont

Which Came First?

- Arguments for FDI
- Argument for Exchange Rates



Why This is Important?

Literature Review

Goldberg, L. S. (2009). *Exchange rates and foreign direct investment*. Princeton: Princeton University Press. Retrieved from

<http://library.pittstate.edu:2048/login?url=https://library.pittstate.edu:4471/docview/189251243?accountid=13211>

Asadurian, A. (2003). *The impact of exchange rate uncertainty on output: Analysis via exports and foreign direct investment* (Order No. 3099586). Available from ABI/INFORM Collection. (305329100). Retrieved from

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Kim, C. Y. (2010). *The exchange rate effects on different types of foreign direct investment* (Order No. 3435749). Available from ABI/INFORM Collection. (816357811). Retrieved from

<http://library.pittstate.edu:2048/login?url=https://library.pittstate.edu:4471/docview/816357811?accountid=13211>

Morrissey, O., & Udomkerdmongkol, M. (2008). *Foreign direct investment and exchange rates: A case study of US FDI in emerging market countries*. St. Louis: Federal Reserve Bank of St Louis. Retrieved from

<http://library.pittstate.edu:2048/login?url=https://library.pittstate.edu:4471/docview/1697784676?accountid>

Model & Methodology

- Least squared $GDP = Imports + Exports + Exchange\ Rates + FDI$
- Granger Causality Test

Databases

- FRED
- Econlit
- Investopedia

Findings

Dependent Variable: GDP__BILLIONS_

Method: Least Squares

Date: 03/30/18 Time: 10:52

Sample: 1996 2016

Included observations: 21

White heteroskedasticity-consistent standard errors & covariance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	6358.787	2025.712	3.139038	0.0063
IMPORTS__BILLIONS_	2.056026	0.380976	5.396742	0.0001
EXPORTS__BILLIONS_	-1.151181	0.632439	-1.820223	0.0875
EXCHANGE_RATE	-7.661572	14.40365	-0.531919	0.6021
FDI__BILLIONS_	2.382887	0.463993	5.135616	0.0001
R-squared	0.995013	Mean dependent var	13294.98	
Adjusted R-squared	0.993766	S.D. dependent var	3216.420	
S.E. of regression	253.9608	Akaike info criterion	14.11649	
Sum squared resid	1031938.	Schwarz criterion	14.36519	
Log likelihood	-143.2232	Hannan-Quinn criter.	14.17047	
F-statistic	798.0143	Durbin-Watson stat	1.822382	
Prob(F-statistic)	0.000000	Wald F-statistic	836.3693	
Prob(Wald F-statistic)	0.000000			

Pairwise Granger Causality Tests

Date: 03/20/18 Time: 05:00

Sample: 1996 2016

Lags: 1

Null Hypothesis:	Obs	F-Statistic	Prob.
EXCHANGE_RATE does not Granger Cause GDP__BILLIONS_ GDP__BILLIONS_ does not Granger Cause EXCHANGE_RATE	20	0.36930 0.31042	0.5514 0.5847
FDI__BILLIONS_ does not Granger Cause GDP__BILLIONS_ GDP__BILLIONS_ does not Granger Cause FDI__BILLIONS_	20	0.05478 0.01664	0.8177 0.8989
FDI__BILLIONS_ does not Granger Cause EXCHANGE_RATE EXCHANGE_RATE does not Granger Cause FDI__BILLIONS_	20	0.08412 1.02573	0.7753 0.3254

Pairwise Granger Causality Tests

Date: 03/20/18 Time: 05:08

Sample: 1996 2016

Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
EXCHANGE_RATE does not Granger Cause GDP__BILLIONS_ GDP__BILLIONS_ does not Granger Cause EXCHANGE_RATE	19	0.15088 1.24811	0.8613 0.3171
FDI__BILLIONS_ does not Granger Cause GDP__BILLIONS_ GDP__BILLIONS_ does not Granger Cause FDI__BILLIONS_	19	2.00391 0.16369	0.1717 0.8506
FDI__BILLIONS_ does not Granger Cause EXCHANGE_RATE EXCHANGE_RATE does not Granger Cause FDI__BILLIONS_	19	1.52091 0.92869	0.2525 0.4181

Pairwise Granger Causality Tests

Date: 03/20/18 Time: 05:09

Sample: 1996 2016

Lags: 3

Null Hypothesis:	Obs	F-Statistic	Prob.
FDI__BILLIONS_ does not Granger Cause GDP__BILLIONS_	18	1.99827	0.1728
GDP__BILLIONS_ does not Granger Cause FDI__BILLIONS_		1.06774	0.4023
EXCHANGE_RATE does not Granger Cause GDP__BILLIONS_	18	0.15827	0.9221
GDP__BILLIONS_ does not Granger Cause EXCHANGE_RATE		0.79799	0.5204
EXCHANGE_RATE does not Granger Cause FDI__BILLIONS_	18	1.34980	0.3087
FDI__BILLIONS_ does not Granger Cause EXCHANGE_RATE		1.42006	0.2893

Pairwise Granger Causality Tests

Date: 03/20/18 Time: 05:11

Sample: 1996 2016

Lags: 4

Null Hypothesis:	Obs	F-Statistic	Prob.
EXCHANGE_RATE does not Granger Cause GDP__BILLIONS_	17	0.47678	0.7526
GDP__BILLIONS_ does not Granger Cause EXCHANGE_RATE		1.04819	0.4403
FDI__BILLIONS_ does not Granger Cause GDP__BILLIONS_	17	2.61400	0.1153
GDP__BILLIONS_ does not Granger Cause FDI__BILLIONS_		1.51577	0.2853
FDI__BILLIONS_ does not Granger Cause EXCHANGE_RATE	17	0.39926	0.8043
EXCHANGE_RATE does not Granger Cause FDI__BILLIONS_		1.78962	0.2241

Pairwise Granger Causality Tests

Date: 03/20/18 Time: 05:11

Sample: 1996 2016

Lags: 5

Null Hypothesis:	Obs	F-Statistic	Prob.
EXCHANGE_RATE does not Granger Cause GDP__BILLIONS_ GDP__BILLIONS_ does not Granger Cause EXCHANGE_RATE	16	0.62911 0.99531	0.6883 0.5020
FDI__BILLIONS_ does not Granger Cause GDP__BILLIONS_ GDP__BILLIONS_ does not Granger Cause FDI__BILLIONS_	16	1.37440 1.06602	0.3678 0.4729
FDI__BILLIONS_ does not Granger Cause EXCHANGE_RATE EXCHANGE_RATE does not Granger Cause FDI__BILLIONS_	16	0.30096 3.00708	0.8932 0.1261

Pairwise Granger Causality Tests

Date: 03/20/18 Time: 05:13

Sample: 1996 2016

Lags: 6

Null Hypothesis:	Obs	F-Statistic	Prob.
EXCHANGE_RATE does not Granger Cause GDP__BILLIONS_ GDP__BILLIONS_ does not Granger Cause EXCHANGE_RATE	15	1.97303 1.92896	0.3739 0.3801
FDI__BILLIONS_ does not Granger Cause GDP__BILLIONS_ GDP__BILLIONS_ does not Granger Cause FDI__BILLIONS_	15	2.72853 3.56500	0.2923 0.2352
FDI__BILLIONS_ does not Granger Cause EXCHANGE_RATE EXCHANGE_RATE does not Granger Cause FDI__BILLIONS_	15	0.45008 2.55046	0.8104 0.3082

In Conclusion

- What this could mean for smaller countries
- More research should definitely be done