Trade and FDI Flows from China to CEE
Patterns and Potentials

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CEIBS Research Projects
(*supported by the CEIBS CEE Research Fund*)

- Bin Xu (CEIBS), "Trade and FDI Flows between China and Central and Eastern European Countries: Facts and Implications", 2019.

- Bala Ramasamy (CEIBS) and Mathew Yeung (Open University of Hong Kong), "China's Outward Foreign Direct Investment to Developing Countries: The Case of Central and Eastern Europe", 2018.

- Bala Ramasamy (CEIBS) and Mathew Yeung (Open University of Hong Kong), "Should We Fear Chinese Investments: Potential Spillover Effects of Chinese Outward Foreign Direct Investment in Central and Eastern Europe", 2019.

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Imports from China, by continent
2010-2018

Legend: 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018
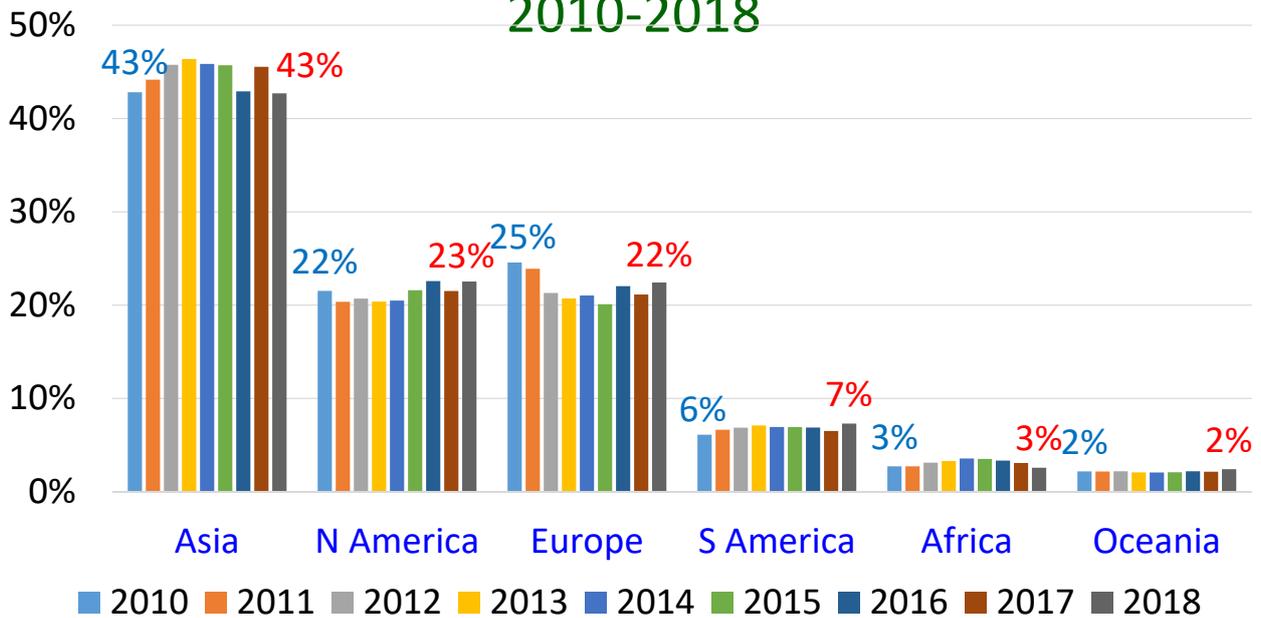
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FDI from China, by continent
(2012-14 average) vs. (2015-17 average)
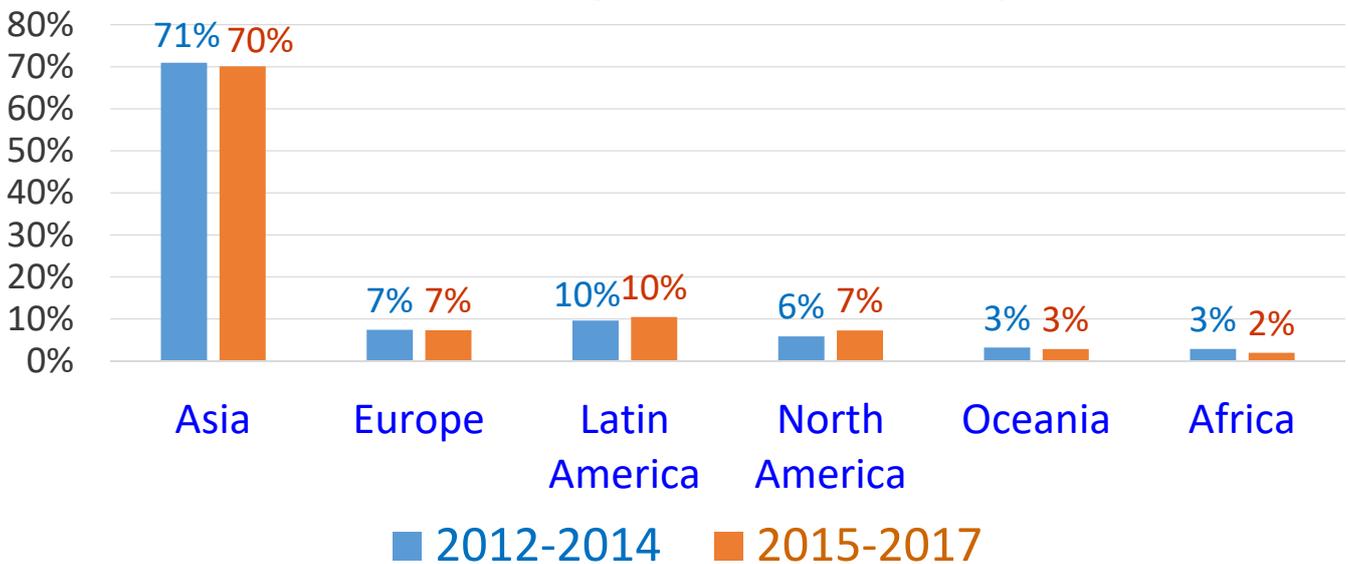
Legend: 2012-2014, 2015-2017

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Imports from China, by European region
2010-2018

Chart showing imports from China by European region (2010-2018):
- West E: 62% (2010) to 61% (2018)
- CEE: 11% (2010) to 14% (2018)
- South E: 14% (2010) to 12% (2018)
- North E: 5% (2010) to 5% (2018)

Legend: 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018
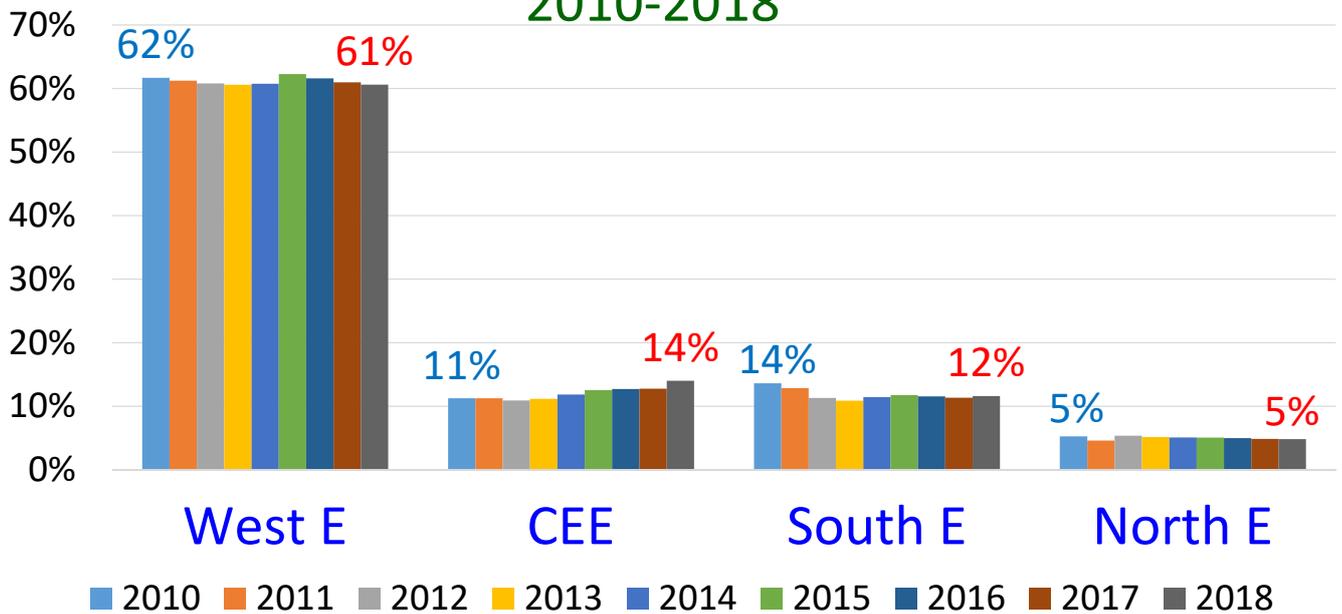
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FDI from China, by European region
(2012-14 average) vs. (2015-17 average)

Chart showing FDI from China by European region, 2012-2014 vs. 2015-2017:
- West E: 79% vs. 78%
- Russia: 11% vs. 21%
- North E: 4% vs. -7%
- South E: 1% vs. 5%
- CEE: 2% vs. 2%
- Eurasia: 2% vs. 1%

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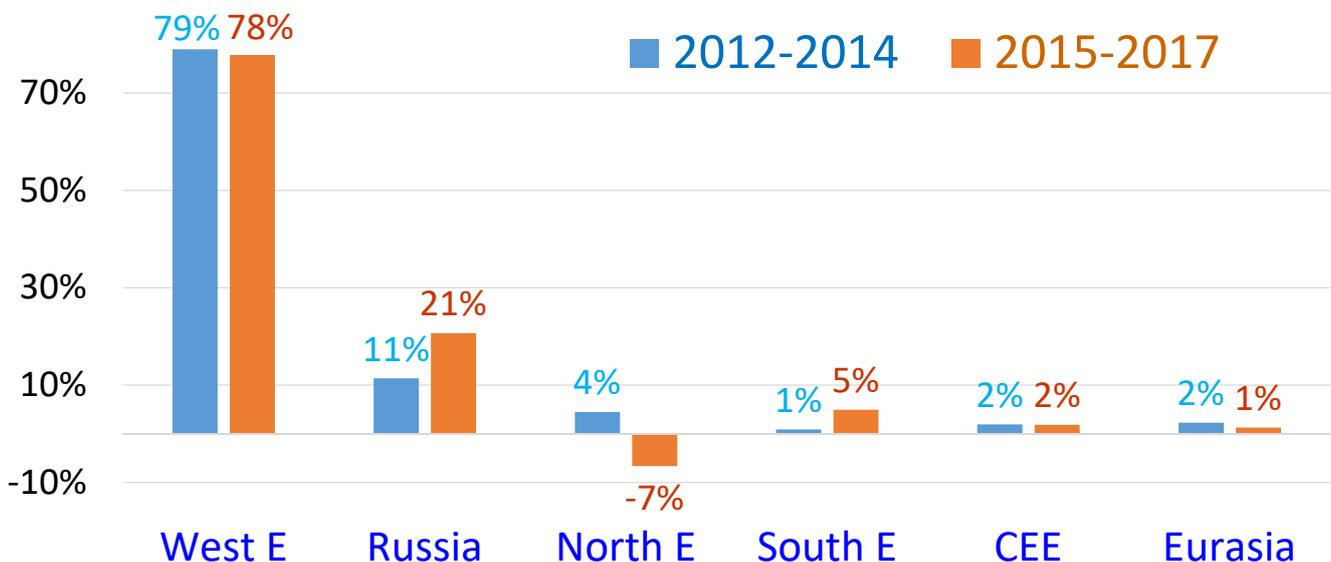
Regression specification

- The Gravity Model of *trade flows* and *FDI flows*

- $\log(\text{IMPORT}_{i,\,CH}) = a_0 + a_t + a_1\log(\text{GDP}_i) + a_2\log(\text{GDPPC}_i)$
  $\quad\quad\quad + a_3\text{DIST}_i + a_4\text{LANDLOCK}_i + a_5\text{CEE} + \varepsilon_i$

- $\log(\text{FDI}_{i,\,CH}) = b_0 + b_t + b_1\log(\text{GDP}_i) + b_2\log(\text{GDPPC}_i) + b_3\text{DIST}_i$
 $\quad\quad\quad + b_4\text{LANDLOCK}_i + b_5\text{CEE} + \eta_i$

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Sample

- **Sample countries**
  - All European countries
  - Dummy (CEE=1) for CEE countries (17 maximum)

- **Sample periods**
  - 2015-2018 for imports from China (data source: UNCTAD)
  - 2015-2017 for FDI flows from China (data source: Ministry of Commerce, China)

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Imports from China to CEE (14 countries)
Share in total imports from China, 2018
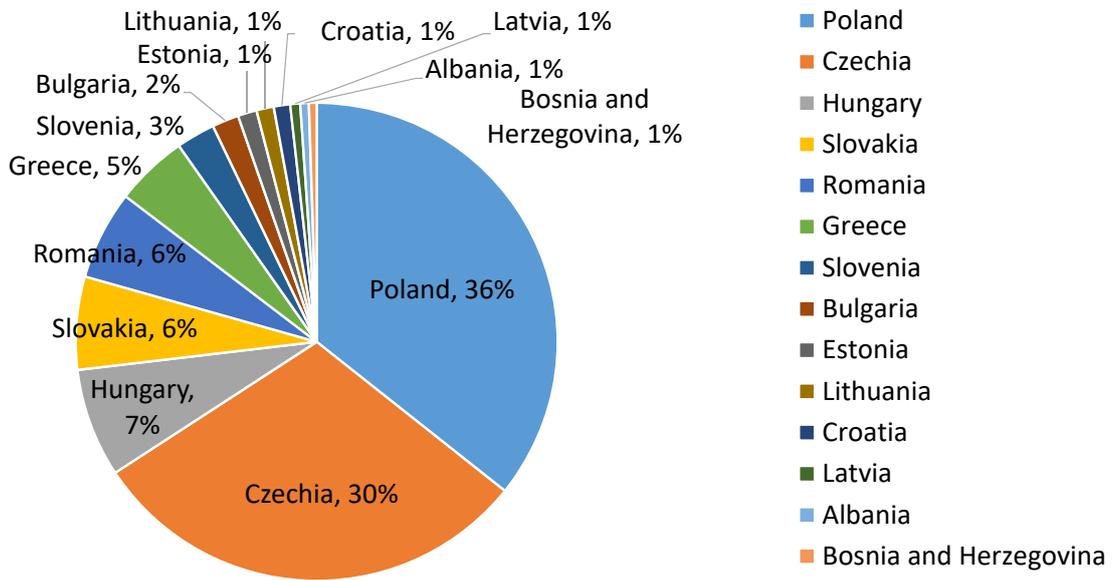
Poland, 36%
Czechia, 30%
Hungary, 7%
Slovakia, 6%
Romania, 6%
Greece, 5%
Slovenia, 3%
Bulgaria, 2%
Estonia, 1%
Lithuania, 1%
Croatia, 1%
Latvia, 1%
Albania, 1%
Bosnia and Herzegovina, 1%

Legend:
- Poland
- Czechia
- Hungary
- Slovakia
- Romania
- Greece
- Slovenia
- Bulgaria
- Estonia
- Lithuania
- Croatia
- Latvia
- Albania
- Bosnia and Herzegovina

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Imports from China to CEE (14 countries)
Industry distribution, 2018

Machinery and transport equipment, 62.0%
Miscellaneous manufactured articles, 21.5%
Manufactured goods, 11.1%
Chemicals, 3.6%
Food and live animals, 0.7%
Crude materials, 0.7%

Legend:
- Machinery and transport equipment
- Miscellaneous manufactured articles
- Manufactured goods
- Chemicals
- Food and live animals
- Crude materials
- Commodities and transactions
- Mineral fuels
- Beverages and tobacco
- Animal and vegetable oils
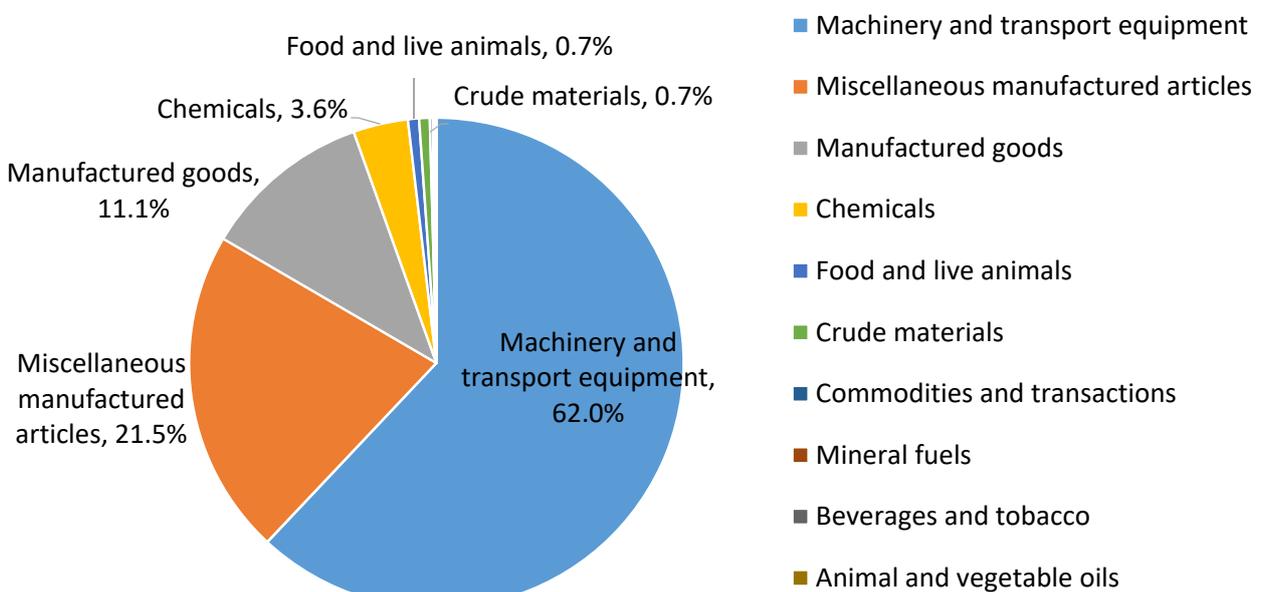
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OLS regression on total imports from China

| log (GDP)	1.037***
	(0.024)
log (GDP per capita)	-0.330**
	(0.073)
Distance	-0.000***
	(0.000)
Landlocked dummy	0.472***
	(0.055)
CEE dummy	-0.021
	(0.027)
Year fixed effects (2015-18)	Yes
Adjusted R-squared	0.903
Observations	139 (14 CEE; 22 non-CEE)

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Industries showing CEE dummy<0	Chemicals and related products	Commodities and transactions	Food and live animals
Share in total imports from China	4.9%	1.3%	1.2%
log (GDP)	1.008***	1.430***	1.134***
	(0.025)	(0.084)	(0.021)
log (GDP per capita)	-0.725***	-1.273***	-0.560***
	(0.048)	(0.108)	(0.053)
Distance	0.000	-0.001	-0.000***
	(0.000)	(0.000)	(0.000)
Landlocked dummy	0.042*	1.278*	-0.449***
	(0.014)	(0.480)	(0.011)
CEE dummy	-0.376***	-1.532*	-0.282***
	(0.032)	(0.607)	(0.034)
Year fixed effects (2015-18)	Yes	Yes	Yes
Adjusted R-squared	0.824	0.374	0.869
Observations	139	130	139

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Industries showing **CEE dummy=0**	Machinery and transport equipment	Miscellaneous manufactured articles	Manufactured goods	Crude materials	Mineral fuels	Beverages and tobacco	Animal and vegetable oils
Share in total imports from China	52.4%	23.2%	15.9%	0.7%	0.2%	0.1%	0.0%
log (GDP)	1.013***	1.129***	1.072***	1.272***	1.058**	1.407***	1.245***
	(0.039)	(0.014)	(0.010)	(0.062)	(0.183)	(0.068)	(0.057)
log (GDP per capita)	-0.225*	-0.171**	-0.714***	-0.527**	-0.303	-0.968*	-0.756***
	(0.085)	(0.047)	(0.042)	(0.098)	(0.387)	(0.351)	(0.126)
Distance	-0.000***	-0.000***	-0.000***	-0.000	0.000	0.000	0.001**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Landlocked dummy	0.755***	0.098**	-0.166**	-0.469***	-1.678***	0.301	-0.911***
	(0.075)	(0.029)	(0.037)	(0.070)	(0.187)	(0.132)	(0.120)
CEE dummy	0.030	0.042	0.027	0.206	-0.409	1.002	0.078
	(0.047)	(0.025)	(0.015)	(0.099)	(0.563)	(0.486)	(0.093)
Year fixed effects (2015-18)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R-squared	0.856	0.923	0.930	0.823	0.387	0.531	0.713
Observations	139	139	139	139	139	134	138

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FDI flows from China to CEE (12 countries)
(2012-14 average) vs. (2015-17 average), million USD
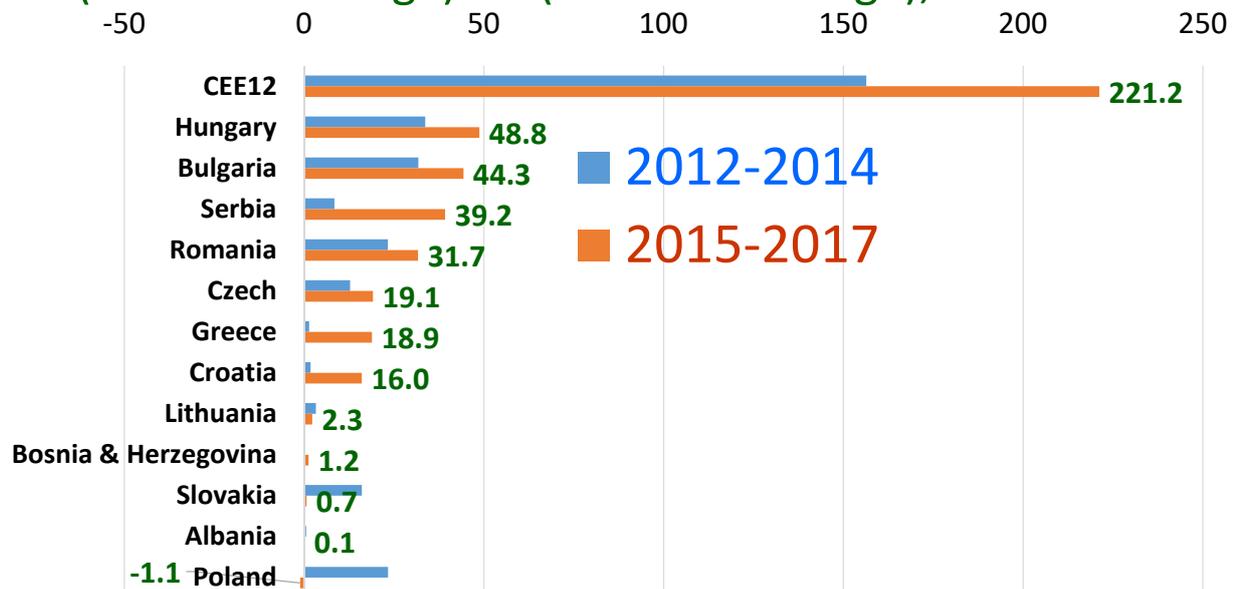
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FDI stocks from China to CEE (17 countries)
(2012-14 average) vs. (2015-17 average) , million USD

	0	500	1000	1500	2000

- CEE17 — **1946**
- Hungary — **404**
- Poland — **360**
- Romania — **355**
- Bulgaria — **218**
- Czech — **206**
- Greece — **117**
- Serbia — **101**
- Slovakia — **98**
- Croatia — **21**
- Slovenia — **20**
- Lithuania — **15**
- Montenegro — **15**
- Bosnia & Herzegovina — **7**
- Albania — **6**
- Estonia — **4**
- Latvia — **1**
- Serbia & Montenegro — **0**

■ 2012-2014
■ 2015-2017
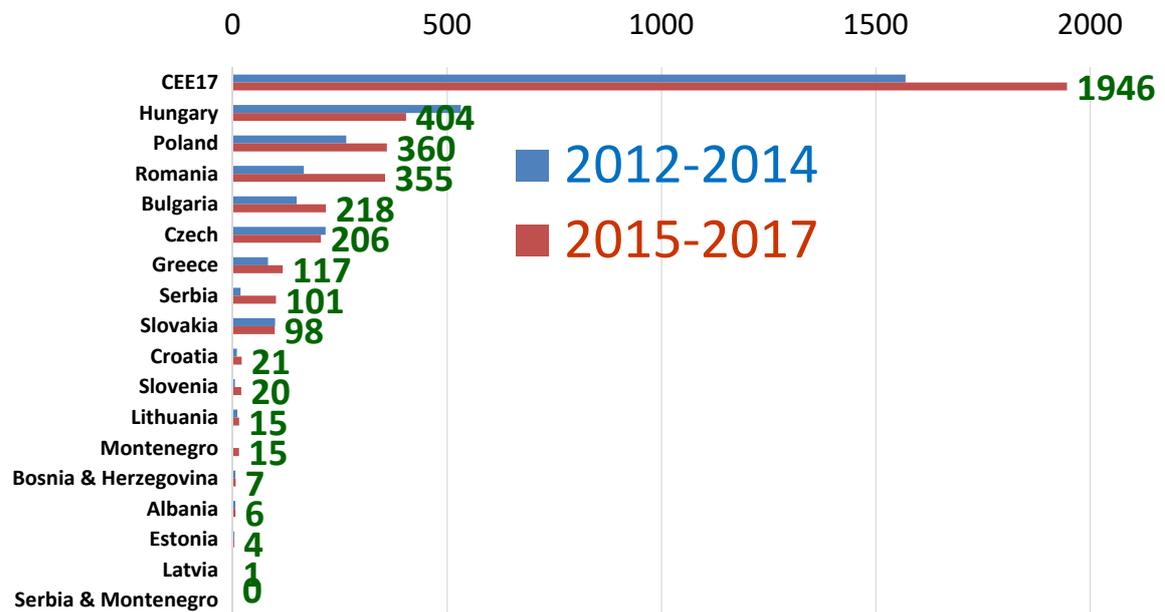
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OLS regression on FDI flows from China

log (GDP)	0.864***
	(0.091)
log (GDP per capita)	1.765***
	(0.226)
Distance	-0.000
	(0.000)
Landlocked dummy	0.111
	(0.345)
CEE dummy	-0.526
	(0.302)
Year fixed effects (2015-17)	Yes
Adjusted R-squared	0.554
Observations	85 (12 CEE; 17 non-CEE)

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Quantile regression on FDI flows from China

	50th percentile	60th percentile	70th percentile	80th percentile	90th percentile
log (GDP)	1.098***	0.925***	0.753***	0.481**	0.396*
	(0.243)	(0.236)	(0.244)	(0.236)	(0.225)
log (GDP per capita)	1.275	1.769**	2.222***	1.364*	1.223
	(0.813)	(0.791)	(0.817)	(0.789)	(0.752)
Distance	-0.000	-0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Landlocked dummy	1.087	1.043	0.938	0.626	0.378
	(0.829)	(0.807)	(0.834)	(0.805)	(0.767)
CEE dummy	-0.698	-1.070	-1.063	-2.073**	-2.096***
	(0.825)	(0.803)	(0.829)	(0.801)	(0.764)
Year fixed effects (2015-17)	Yes	Yes	Yes	Yes	Yes
Observations	85	85	85	85	85

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Countries in the 80th percentile
ranked by magnitude of FDI flows from China

Country	FDI flow from China (million USD)	Year
Netherlands	13463	2015
Switzerland	7514	2017
Germany	2716	2017
United Kingdom	2066	2017
Luxembourg	1602	2016
France	1500	2016
Sweden	1290	2017
Italy	633	2016
Austria	412	2017
Ireland	332	2016

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Summary and conclusion

- Using a sample of European countries in 2015-2018, we find that the amount of goods CEE countries imported from China is largely comparable to the average amount of goods Europe imported from China except for a few (broadly defined) industries which account for less than 10% of CEE's total imports from China.

- Using a sample of European countries in 2015-2017, we find that CEE countries have potentials attracting more FDI from China as the magnitude of FDI from China reaches a threshold level.

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Q & A

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