

# A Global Assessment of Annual Investment in Telecommunications

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## Introduction

- 5G technology expansion and undersea cable network growth drive the 21st-century telecom industry.
- Unequal gaps in global connectivity and investment persist in telecom advancement and development.
- Using data from the ITU and World Bank, I assess correlations between annual investment in telecommunications, total gdp and gdp-per-capita, industry competition, and ease-of-business. Specifically, I assess:

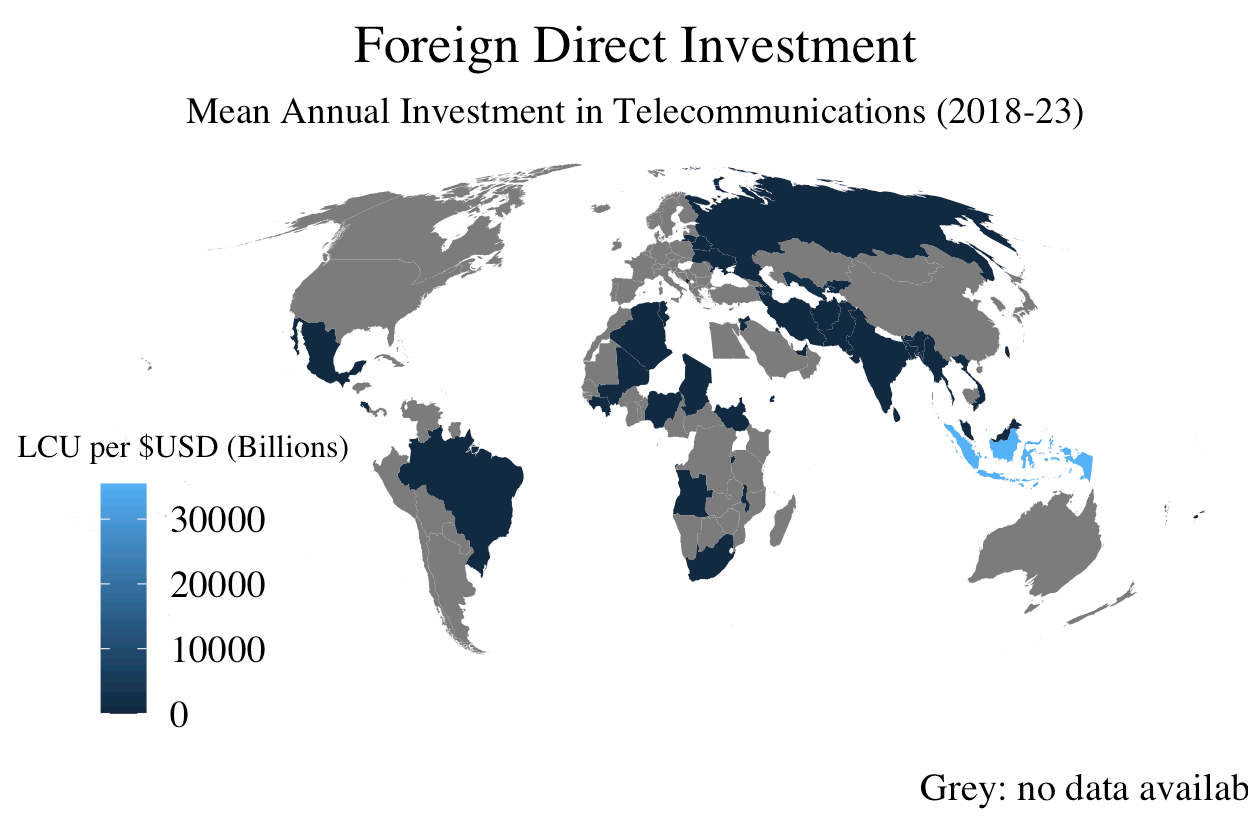
1. Global variance in domestic and foreign annual telecommunications investment.
2. Correlation between domestic and foreign annual investment and factors like economic strength, level of competition, and ease of business.

## Data and Methodology

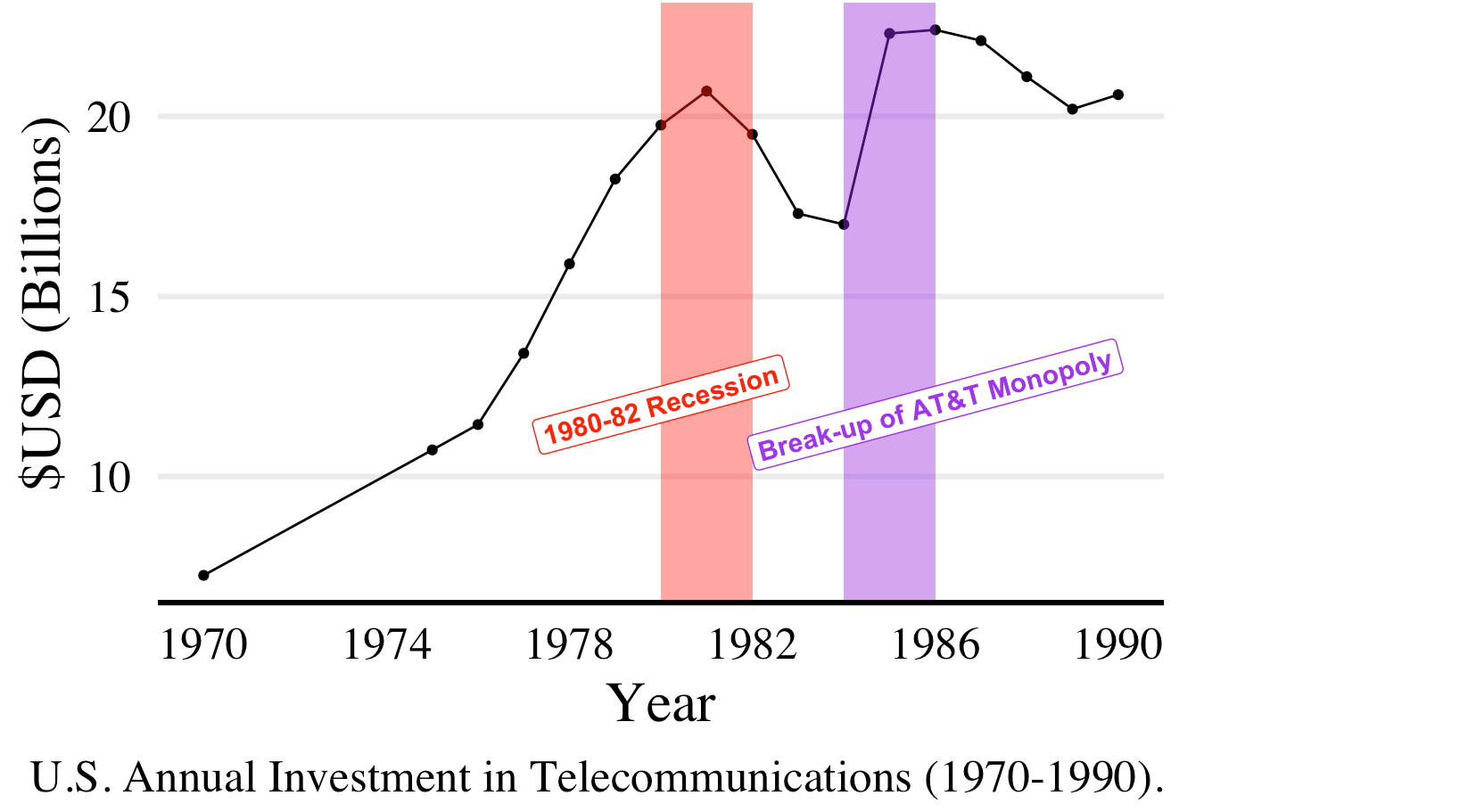
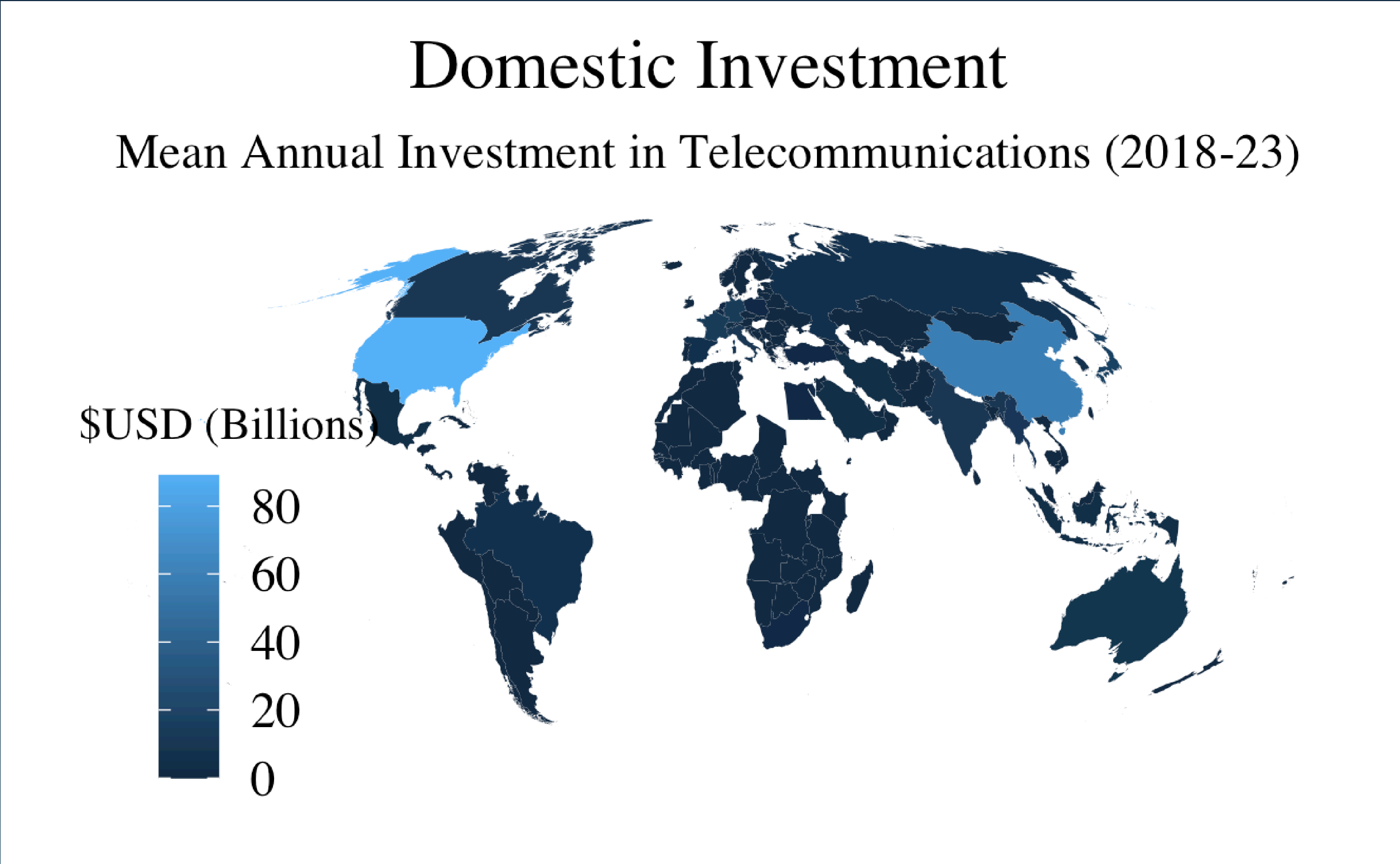
- I compiled two datasets (‘telecom.csv’ and ‘fdi\_telecom.csv’) with data from [the International Telecommunication Union](#), [the International Monetary Fund](#), and [the World Bank](#).
- Most (~75-80%) data fell between 2000-2021.
- To visualize variance in domestic and foreign telecommunications investment, I created two graphs (global maps) just with the ITU’s data.
- To assess correlation between annual investment and my factor variables, I used multivariate regression analysis.
- I used fixed country effects to account for systematic differences among countries.

Table 1: Global Telecom Competition (2021)

Level of Competition	Freq	Percent
Full competition	1245	86.338419
Partial competition	119	8.252427
Monopoly	78	5.409154



# Industry competition did not seem to correlate with domestic annual telecom investment.



## Results

Table 2: DV: (Domestic) Annual Investment in Telecommunications				
	Competition	Total GDP	GDP per cap.	Ease of business
Monopoly	-524.03	-185.59	-197.73	161.32
Partial competition	36.71	551.98	549.21	739.68
Total GDP		2.18***	2.19***	3.45
GDP per capita			0.00	-0.01
Startup business capital				-0.98
Permit time				9.01
Num.Obs.	20673	19799	19799	10487
*** p < 0.01				
Table 3: DV: (Foreign) Annual Investment in Telecommunications				
	Competition	Total GDP	GDP per cap.	Ease of business
Monopoly	6268.72	7951.86	6860.87	7000.68***
Partial competition	3765.81	4255.46	4879.53	4506.46***
Total GDP		200.07	202.22	-27.41
GDP per capita			-0.61	-0.50
Startup business capital				2.77
Permit time				282.49***
Num.Obs.	3681	3437	3437	1917
*** p < 0.01				

## Findings

- There are stark gaps in time-series ITU data on domestic and foreign investment.
- Foreign annual investment data too limited and spurious to draw insights.
- United States and China had considerable domestic annual telecommunications investment.
- Total GDP and GDP-per-capita strongly correlated with domestic annual telecommunications investment.
- No significant correlation between annual investment and level of industry competition.
- No significant correlation between annual investment and ease of business indicators.
- Noticeable surge in annual telecommunications investment post-AT&T breakup; significance difficult to gauge due to ITU data limitations (2000-2022).
- Further research needed to evaluate the impact of industry competition on annual telecommunications investment.

## Contact

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