
The effects of the collapse of Communism on migrant quality

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Part of a bigger project

- How did the collapse of Communism, a large shock that swiftly moved countries from extreme isolation from Western ideas to full openness, shape the international diffusion of knowledge?
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Why there is little empirical work on idea flows

- 1) Ideas are challenging to measure
 - 2) Challenging to capture ideas' key properties:
 - **Ideas are non-rival:** drives technological spillovers (e.g. Romer, 1986, 1990, 2010, Helpman 2004, Jones and Romer 2010)
 - **Ideas are disembodied:** idea embodied in purchased equipment may not generate technological spillover (e.g. Jaffe and Trajtenberg 1999)
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How we address these challenges

Paper 1:

- Suggest book translations as new measure of the international flow of ideas

 - Translations are potentially attractive because:
 1. Non-rival; no strategic considerations
 2. Disembodied; key purpose is to transmit written ideas/ information/ knowledge between speakers of different languages
 3. Quantifiable and classifiable by type
 4. Capture broad range of technical and social ideas
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Research questions

- How did the collapse of Communism in Eastern Europe affect the flow of ideas
 - between capitalist and Communist countries?
 - among Communist countries?
 - What type of ideas were most affected?
 - What type of countries were most affected?
 - Was there convergence in idea flows between Eastern and Western Europe post collapse?
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Data

- Index Translationum, international bibliography of translations for 1980-2000, collected by UNESCO from national libraries/depositories
 - We use data on 800,000 book translations
 - Translations increased from 13% of total publications in Communist countries pre-collapse to 21% post (Western Europe: 15% pre and post)
 - USSR and Czechoslovakia translations pre dissolution are allocated to a constituent nation based on city of publication
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Data (ctd)

- Comprehensive title-level records of books translated in Western and Communist countries: country, year of translation, original and target language, field, city of publication, title, author, etc
 - Fields: Natural and Exact Sciences (4.2%); Applied Sciences (11.4%); Social Sciences (8.5%); Arts (5.2%); Literature (52%); Philosophy (5.3%); Religion (5.7%); History (6.6%)
 - Subfields: we conduct keyword searches of titles to assign narrower subfields such as math and econ
 - Content: we hand-collected more specific content information on a sample of the most influential titles, such as whether author held anti-Communist views
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Empirical strategy: OLS and DID

Did Communist countries translate more post collapse?

■ Basic regressions:

$$Trans_{it} = \beta_0 + \beta_1 Post_t + \beta_2 X_{it} + \varepsilon_{it}$$

$$Trans_{it} = \beta_0 + \beta_1 Communist_i Post_t + \beta_2 Communist_i + \beta_3 Post_t + \beta_4 X_{it} + \varepsilon_{it}$$

□ *Trans*: translations into a country's main language (ln)

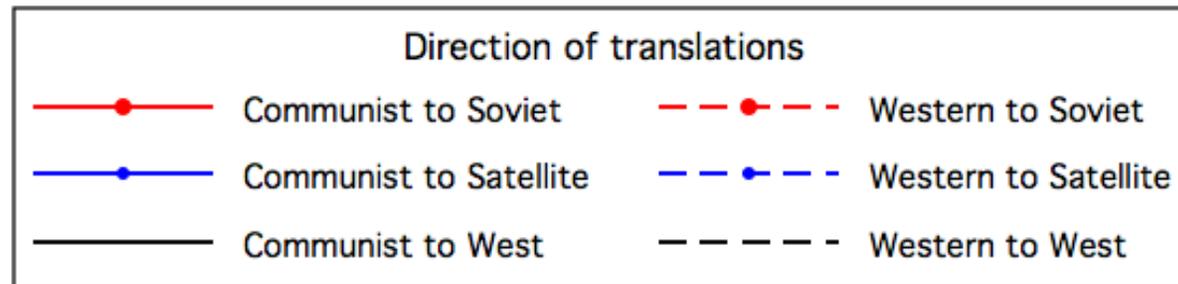
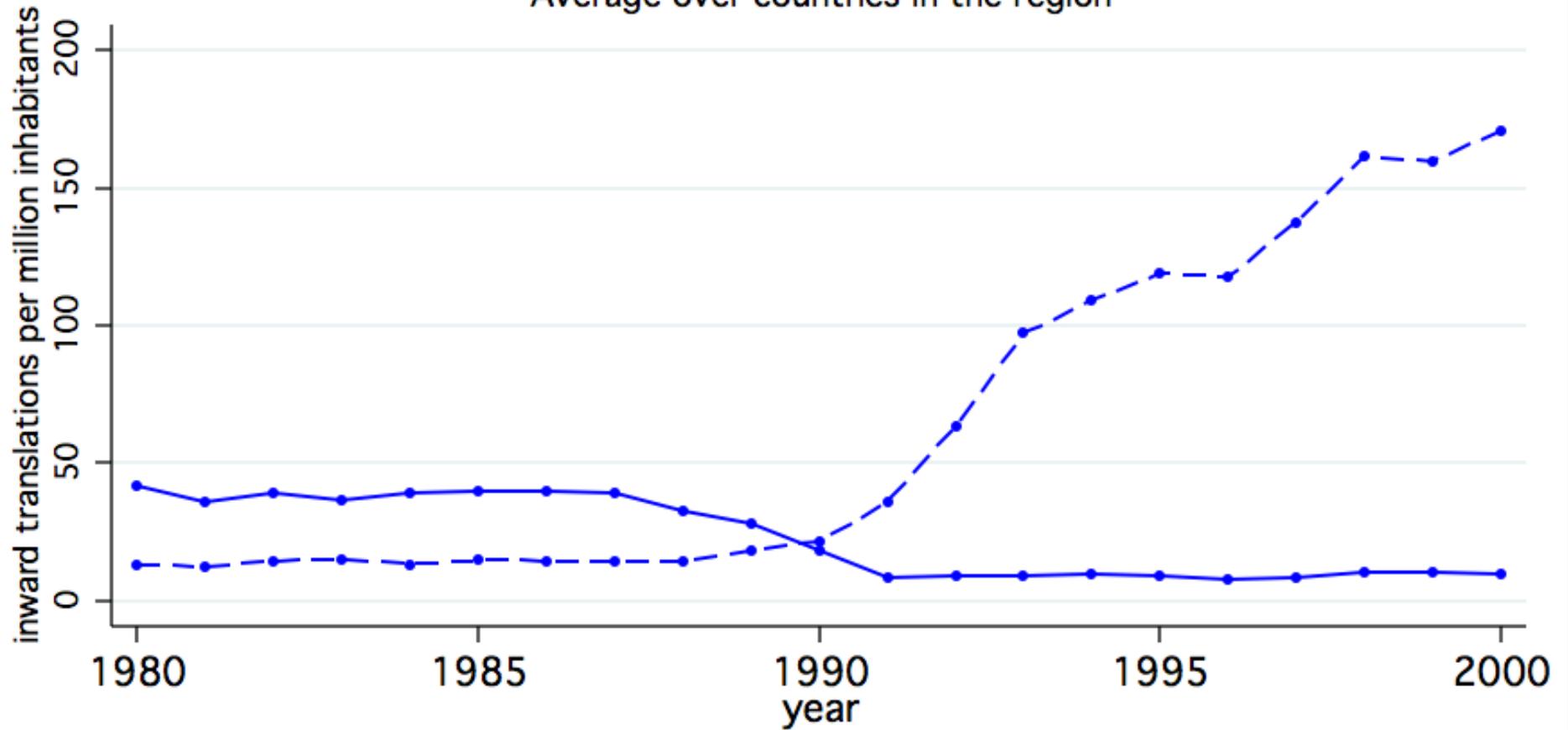
■ Allowing the effect to differ across:

□ translations from Communist vs Western languages

□ former Soviet nations vs Soviet satellites

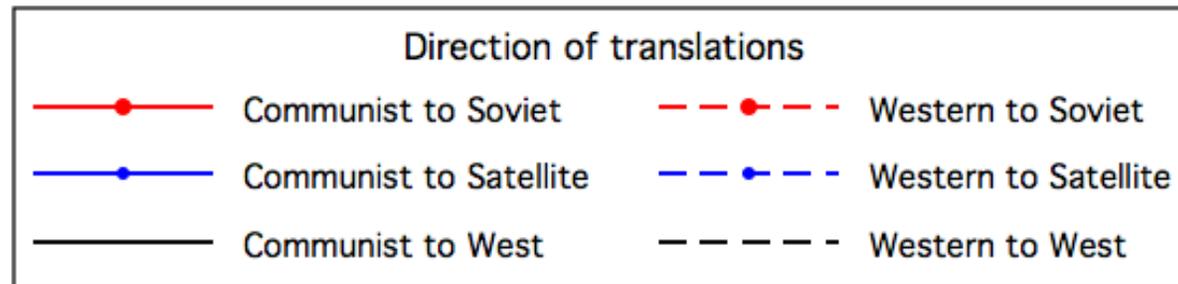
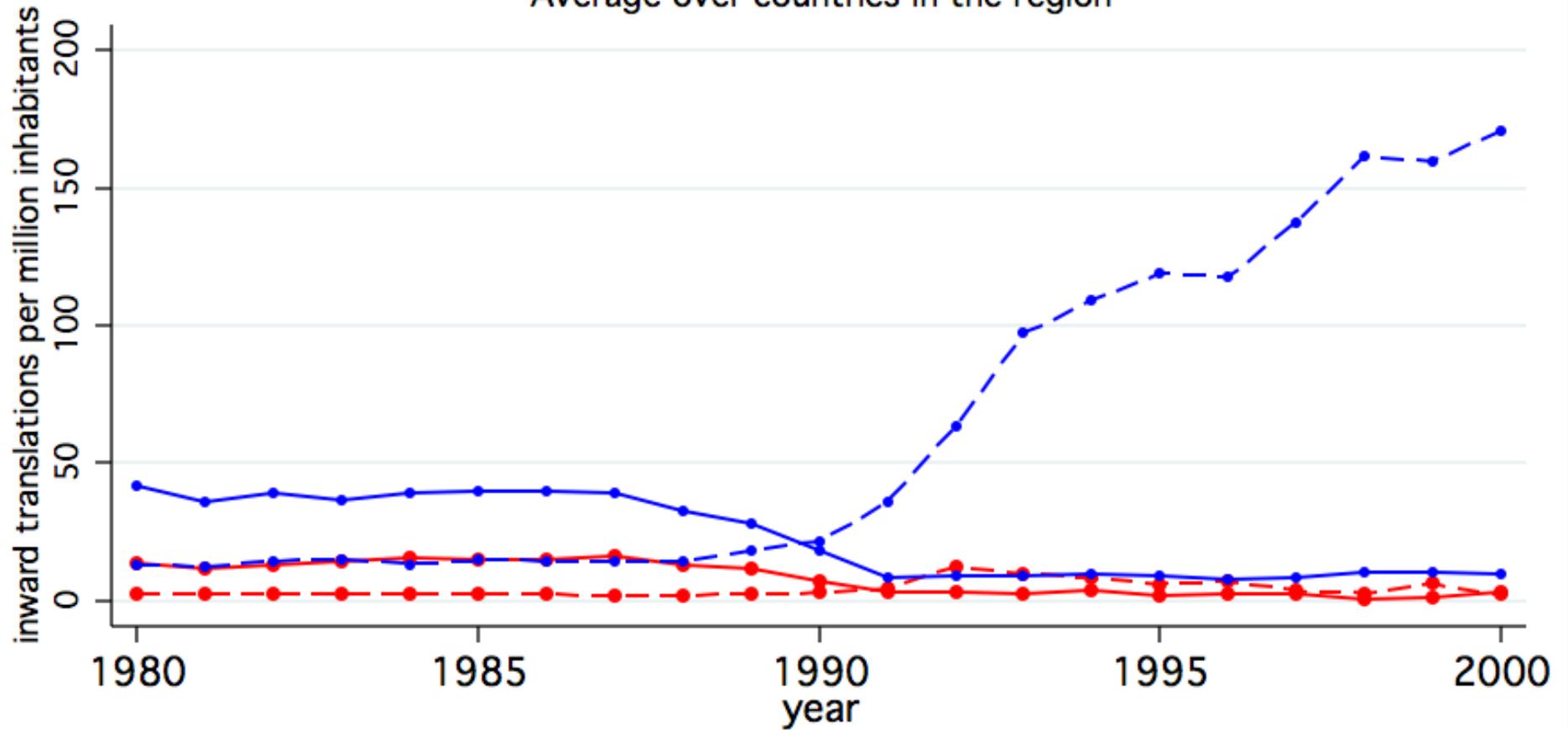
Inward translations per million inhabitants

Average over countries in the region

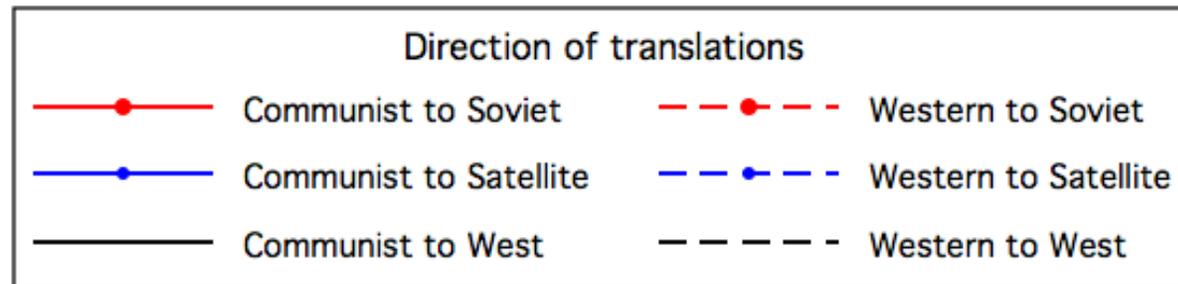
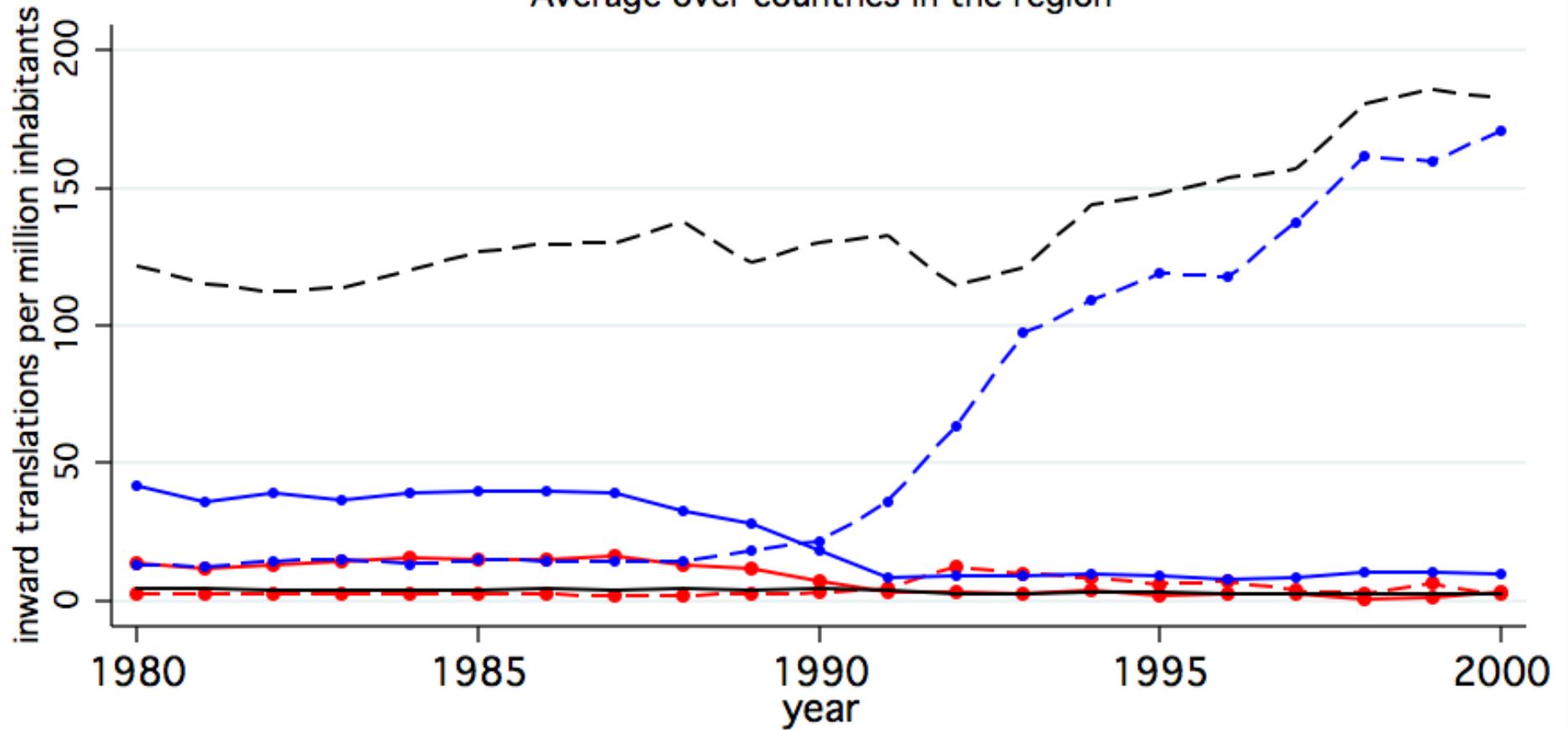


Inward translations per million inhabitants

Average over countries in the region



Inward translations per million inhabitants
Average over countries in the region



Other main findings

- Larger for more “ideological” fields such as religion (especially Christian), philosophy and the social sciences (especially economics)
 - Larger for “threatening” titles published during the Communist era, or titles whose authors voiced anti-Communist views
 - Smallest for exact sciences (especially math)
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Issues with translations as measure of idea flows

- 1) Only measure idea flow across languages
 - 2) Only capture codifiable ideas (exclude tacit knowledge)
 - 3) Do not capture very new ideas
 - 4) Some people are multi-lingual
 - 5) Do not capture quality of ideas
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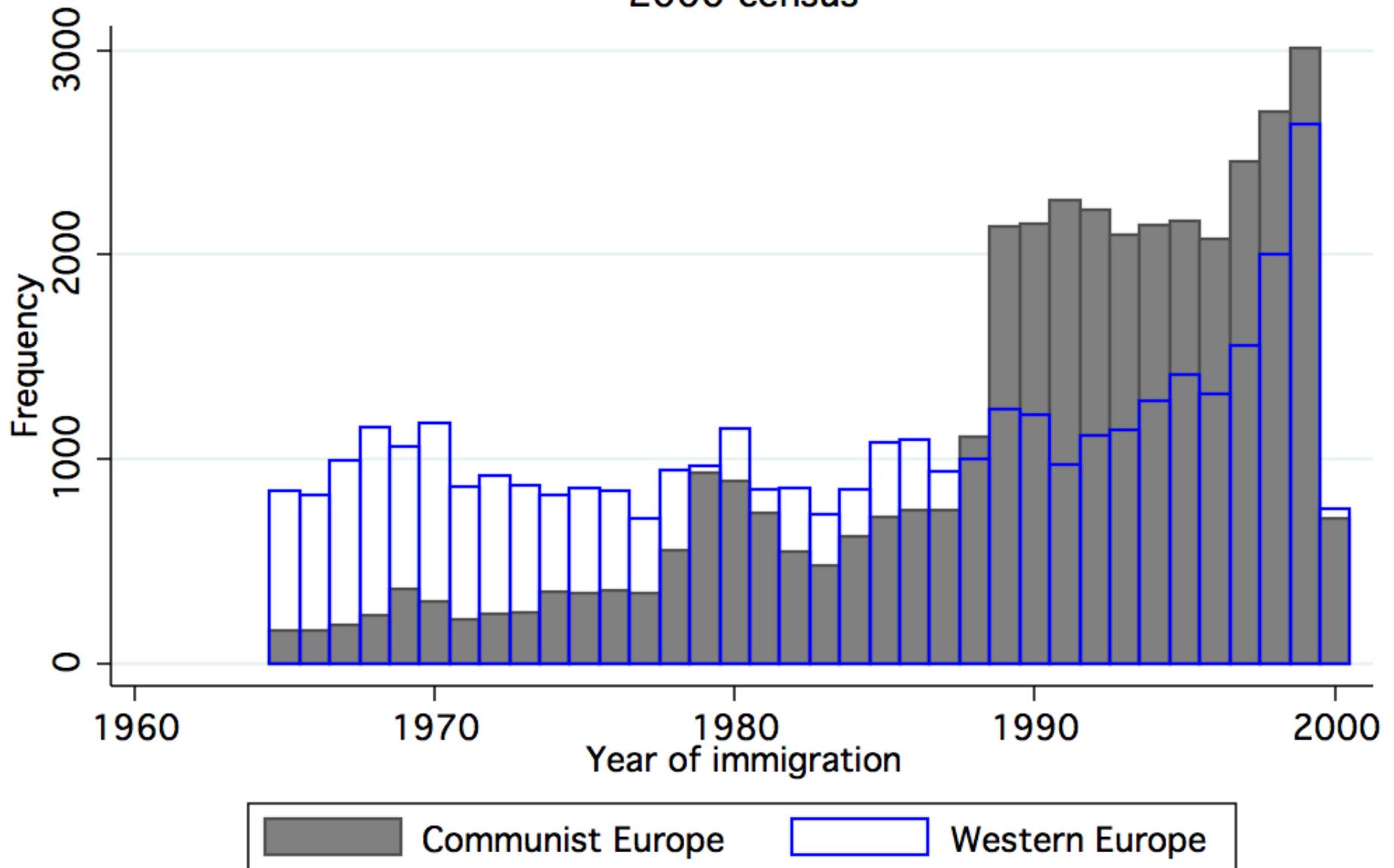
This paper (still in progress): effect of collapse on migration

- How the collapse of Communism affected:
 - 1) migration flows?
 - 2) quality of the migration flow from Eastern Europe into the US?
 - Captures other aspect of idea flows and their economic “quality”
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Preliminary findings

- 1) Immigration from the former Eastern Bloc into the US increased substantially post collapse, both in absolute terms and relative to immigration from Western Europe
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Year of immigration of migrants who migrated aged 20-50 by origin
2000 census



How collapse affected quality of migrants

- Conceptually:
 - 1) Pre collapse: ideological migrants. Post collapse: economic migrants. Latter expected to be more positively, suggesting an increase in average migrant quality following the collapse
 - 2) Decrease in the emigration restrictions in former Communist countries could have made it easier for the average person to leave, suggesting a decrease in average migrant quality
 - Empirical question how the average quality of migrants changed with collapse
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Data and empirical strategy

- 5% samples of US censuses for the years 1980, 1990 and 2000 to test the changes in relative quality of Communist-to-US immigrants.
- Difference-in-differences regression:

$$Y_{imt} = \alpha_1 CommunistMigrant_i \times Post_m + \alpha_2 CommunistMigrant_i + \alpha_3 Migrant_i + \alpha_4 Migrant_i \times (t - m) + \alpha_5 Migrant_i \times (t - m)^2 + \alpha_6 Age_{it} + \alpha_7 Age_{it}^2 + \alpha_8 Male_i + \beta_t + \gamma_m + \varepsilon_{imt}$$

Findings: migrants quality declined post collapse

- With the collapse, the quality of Eastern (relative to Western) European migrants declined in terms of:
 - 1) Education
 - 2) Occupation
 - 3) Wage (even given education and English proficiency levels)
 - 4) Employment status
 - 5) English proficiency
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The quality of migrants declined post collapse: Education, occupation, employment

Dependent variable:	Education (yrs)	Occupation score	Employment	Labor force participation
Communist migrant * migrated post collapse (1990-2000)	-0.866*** (0.034)	-5.402*** (0.130)	-0.067*** (0.005)	-0.038*** (0.004)
Communist migrant	0.535*** (0.015)	0.429*** (0.057)	0.021*** (0.002)	0.028*** (0.002)
Migrant	-1.833*** (0.047)	-2.075*** (0.175)	-0.154*** (0.006)	-0.135*** (0.006)
Years in the US	0.052*** (0.003)	0.088*** (0.011)	0.012*** (0.000)	0.011*** (0.000)
Years in the US squared (/100)	-0.012* (0.007)	0.021 (0.027)	-0.022*** (0.001)	-0.020*** (0.001)
Age	0.077*** (0.003)	0.397*** (0.011)	0.045*** (0.000)	0.044*** (0.000)
Age squared (/100)	-0.150*** (0.003)	-0.468*** (0.013)	-0.059*** (0.000)	-0.058*** (0.000)
Male	0.187*** (0.007)	4.897*** (0.028)	0.217*** (0.001)	0.225*** (0.001)
<i>Census year fixed effects</i>	Yes	Yes	Yes	Yes
<i>Immigration decade fixed effects</i>	Yes	Yes	Yes	Yes
R-Squared	0.091	0.069	0.117	0.137
Observations	697,643	518,546	697,643	697,643

Standard errors are presented in parentheses. * p<0.10, ** p<0.05, *** p<0.01

The quality of migrants declined post collapse: English proficiency

Dependent variable:	Any English	Good English	English level (0-4)
Communist migrant * migrated post collapse (1990-2000)	-0.078*** (0.001)	-0.322*** (0.002)	-0.912*** (0.007)
Communist migrant	0.009*** (0.000)	-0.029*** (0.001)	-0.507*** (0.003)
Migrant	-0.129*** (0.002)	-0.343*** (0.003)	-1.625*** (0.010)
Years in the US	0.009*** (0.000)	0.021*** (0.000)	0.052*** (0.001)
Years in the US squared (/100)	-0.015*** (0.000)	-0.034*** (0.000)	-0.057*** (0.001)
Age	0.001*** (0.000)	0.003*** (0.000)	0.008*** (0.001)
Age squared (/100)	-0.002*** (0.000)	-0.006*** (0.000)	-0.019*** (0.001)
Male	0.003*** (0.000)	0.004*** (0.001)	0.001 (0.002)
<i>Census year fixed effects</i>	Yes	Yes	Yes
<i>Immigration decade fixed effects</i>	Yes	Yes	Yes
R-Squared	0.060	0.198	0.476
Observations	697,643	697,643	697,643

Standard errors are presented in parentheses. * p<0.10, ** p<0.05, *** p<0.01

The quality of migrants declined post collapse: Wages, even given education and English proficiency

Dependent variable: wages (ln)	(1)	(2)	(3)
Communist migrant * migrated post collapse (1990-2000)	-1.009*** (0.045)	-0.787*** (0.045)	-0.737*** (0.045)
Communist migrant	0.250*** (0.020)	0.157*** (0.020)	0.177*** (0.021)
Migrant	-1.665*** (0.062)	-1.389*** (0.061)	-1.270*** (0.063)
Years in the US	0.121*** (0.004)	0.113*** (0.004)	0.109*** (0.004)
Years in the US squared (/100)	-0.211*** (0.009)	-0.214*** (0.009)	-0.208*** (0.009)
Age	0.316*** (0.004)	0.296*** (0.004)	0.295*** (0.004)
Age squared (/100)	-0.437*** (0.004)	-0.401*** (0.004)	-0.400*** (0.004)
Male	2.148*** (0.010)	2.082*** (0.010)	2.080*** (0.010)
<i>Census year fixed effects</i>	Yes	Yes	Yes
<i>Immigration decade fixed effects</i>	Yes	Yes	Yes
<i>Education level fixed effects</i>	No	Yes	Yes
<i>English proficiency level fixed effects</i>	No	No	Yes
R-Squared	0.119	0.149	0.149
Observations	697,643	697,643	697,643

Standard errors are presented in parentheses. * p<0.10, ** p<0.05, *** p<0.01

The quality of migrants declined more for the Soviet Union than the Soviet Satellites

Dependent variable:	Education (yrs)	Employment	English level (0-4)	Wages (ln)
Soviet migrant * migrated post collapse (1990-2000)	-1.183*** (0.044)	-0.073*** (0.006)	-0.888*** (0.009)	-0.927*** (0.059)
Satellite migrant * migrated post collapse (1990-2000)	-1.252*** (0.045)	0.015** (0.006)	-0.851*** (0.010)	-0.387*** (0.060)
Soviet migrant	1.393*** (0.027)	0.033*** (0.004)	-0.585*** (0.006)	-0.113*** (0.037)
Satellite migrant	0.614*** (0.018)	0.043*** (0.003)	-0.475*** (0.004)	0.259*** (0.025)
Migrant	-1.625*** (0.047)	-0.109*** (0.007)	-1.608*** (0.010)	-1.380*** (0.064)
<i>Other controls</i>	Yes	Yes	Yes	Yes
<i>Census year fixed effects</i>	Yes	Yes	Yes	Yes
<i>Immigration decade fixed effects</i>	Yes	Yes	Yes	Yes
<i>Education level fixed effects</i>	No	No	No	Yes
<i>English proficiency level fixed effects</i>	No	Yes	No	Yes
R-Squared	0.093	0.120	0.465	0.150
Observations	685,034	685,034	685,034	685,034

Standard errors are presented in parentheses. * p<0.10, ** p<0.05, *** p<0.01

The decline in quality was not just a continuation of an ongoing trend

Dependent variable:	Education (yrs)	Employment	English level (0-4)	Wages (ln)
Communist migrant * migrated post collapse (1990-2000)	-0.388*** (0.055)	-0.044*** (0.008)	-0.972*** (0.012)	-1.039*** (0.074)
Communist migrant * migrated in the 1980s	0.774*** (0.054)	0.003 (0.007)	-0.395*** (0.012)	-0.428*** (0.072)
Communist migrant * migrated in the 1970s	1.737*** (0.056)	0.009 (0.008)	0.209*** (0.012)	-0.209*** (0.075)
Communist migrant * migrated in the 1960s	-0.361*** (0.054)	-0.010 (0.007)	0.059*** (0.012)	0.013 (0.072)
Migrant from Communist Europe	0.283*** (0.046)	0.041*** (0.006)	-0.448*** (0.010)	0.337*** (0.061)
<i>Other controls</i>	Yes	Yes	Yes	Yes
<i>Census year fixed effects</i>	Yes	Yes	Yes	Yes
<i>Immigration decade fixed effects</i>	Yes	Yes	Yes	Yes
<i>Education level fixed effects</i>	No	No	No	Yes
<i>English proficiency level fixed effects</i>	No	Yes	No	Yes
R-Squared	0.093	0.120	0.465	0.150
Observations	685,034	685,034	685,034	685,034

Standard errors are presented in parentheses. * p<0.10, ** p<0.05, *** p<0.01

Conclusions

- The collapse of Communism dramatically affected the movement of ideas between Eastern Europe and the West
 - As measured by book translations
 - Carried by migrants: While the number of migrants from former Communist Europe to the US increased dramatically, their average skills fell
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