

A decorative background featuring a network graph with various colored nodes (yellow, blue, green, purple, orange, red) connected by gray lines. The nodes are of different sizes and are distributed across the top and bottom of the slide, framing the central text.

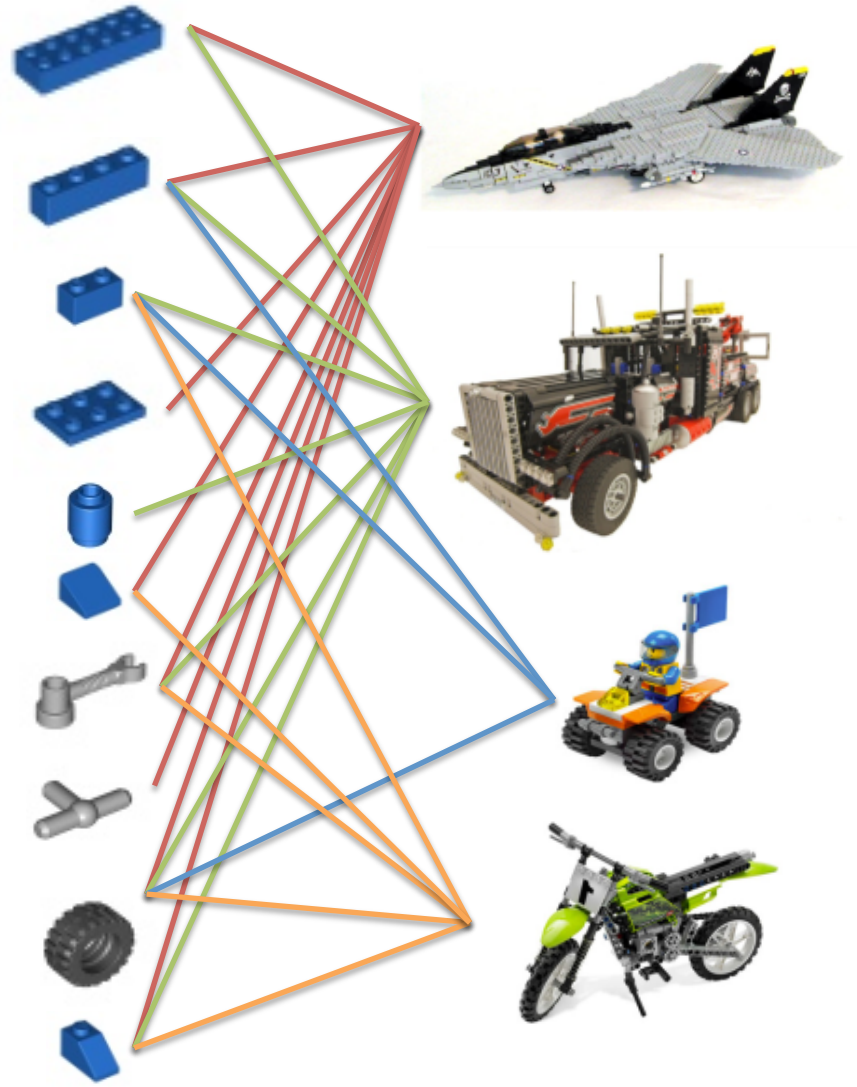
Economic complexity at the national and sub-national level

Sebastian Bustos

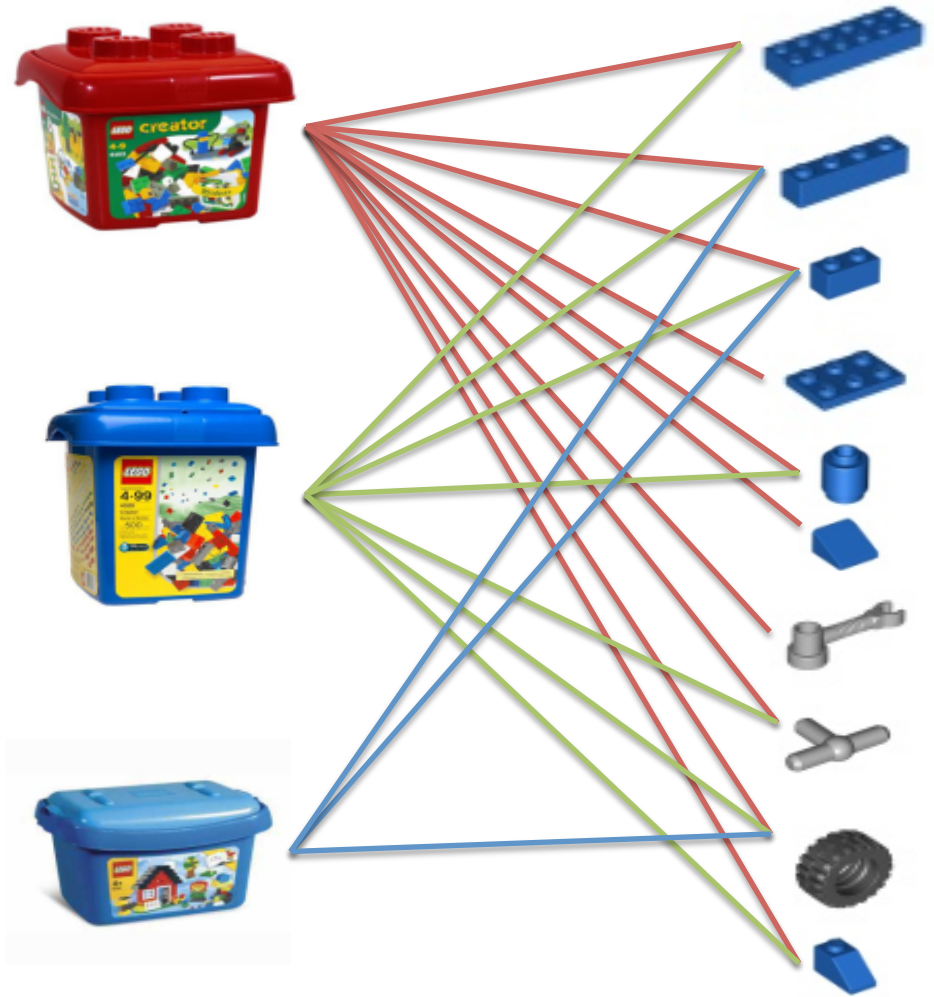
Research agenda

- Understand capabilities used for economic output
 - Country level
 - Sub-national level
- Economic complexity
- Nestedness

Products differ
in the set
of capabilities
they require



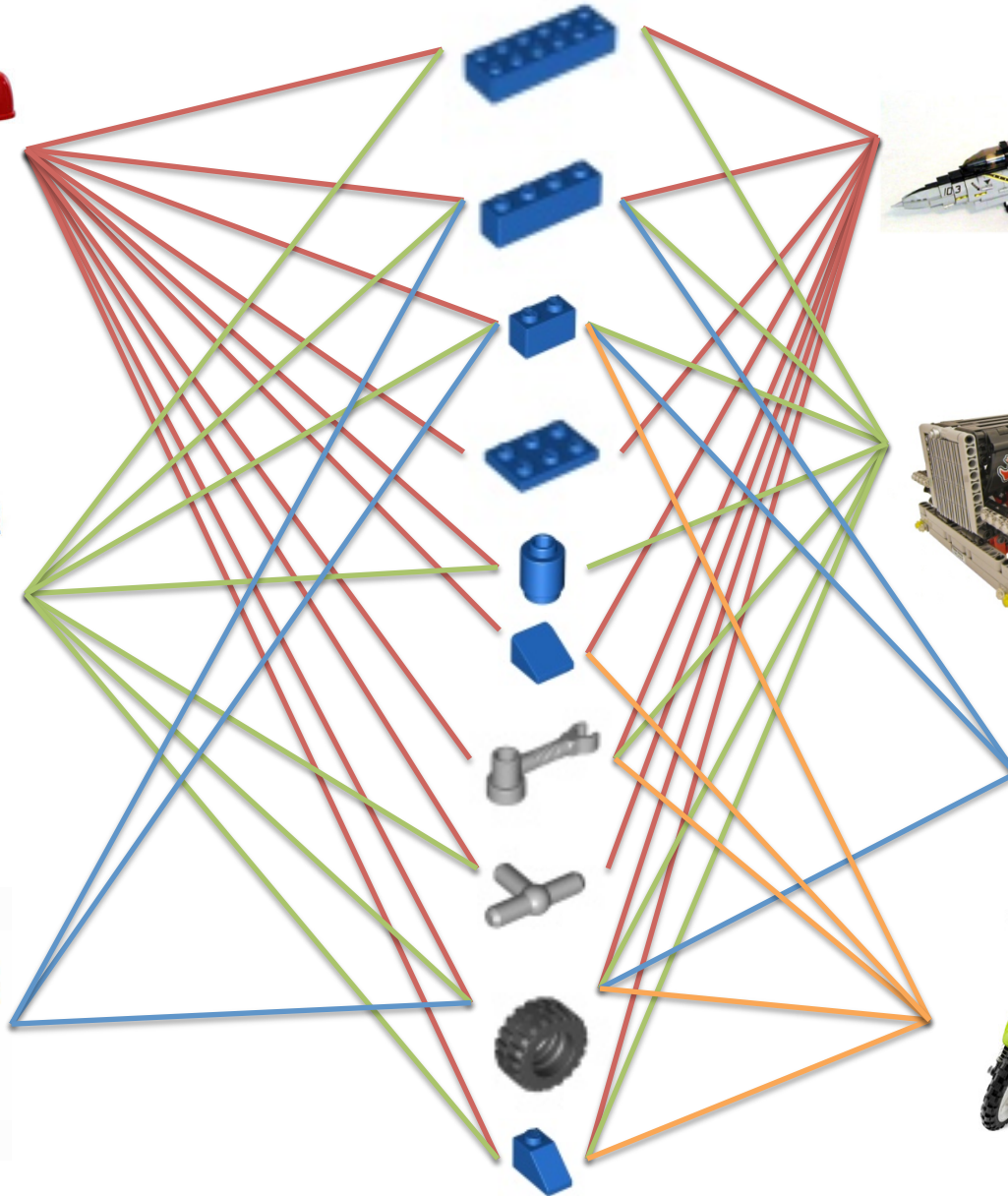
places differ
in the set of
capabilities
they have



locations



capabilities



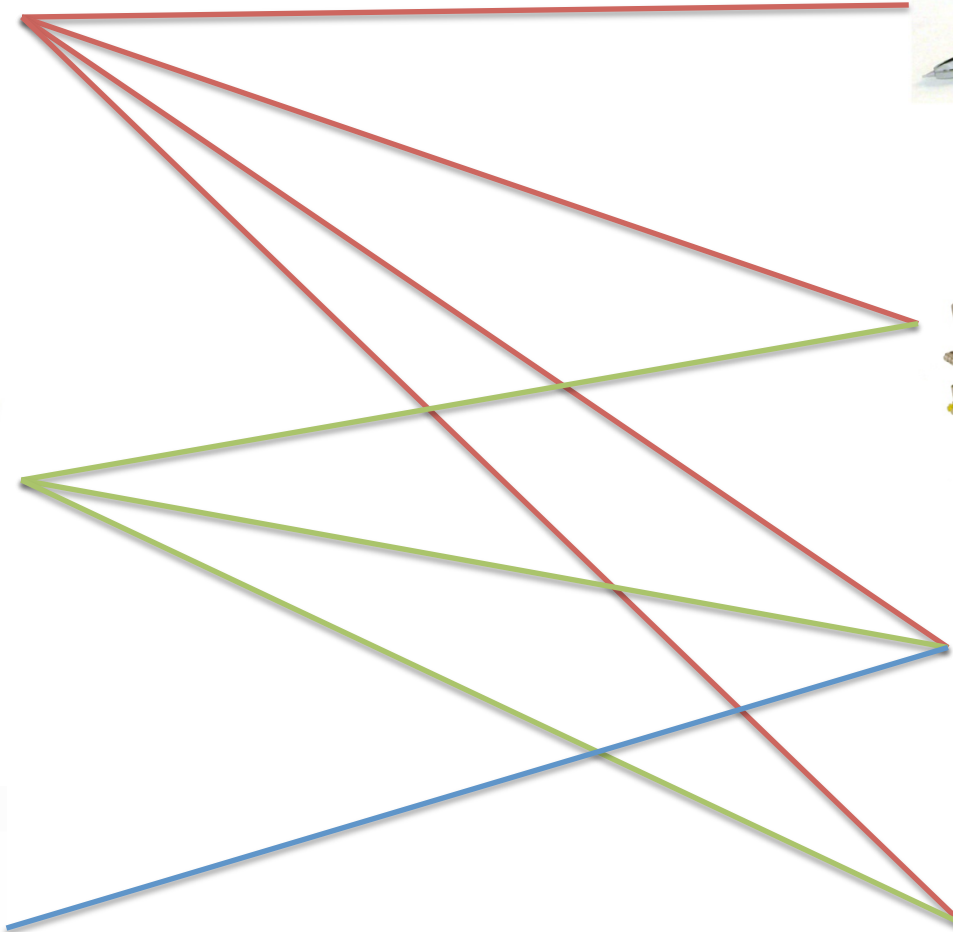
Products



locations

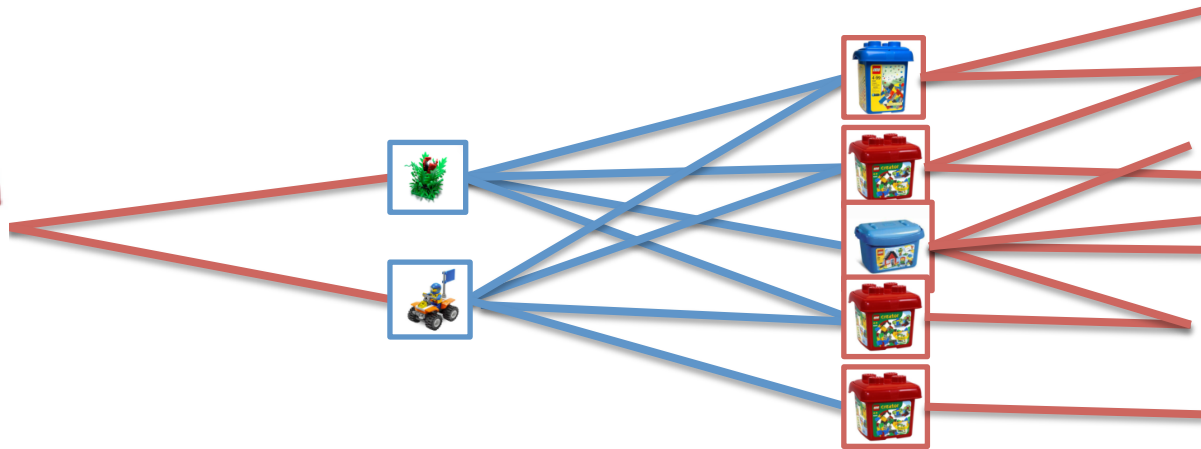


Products

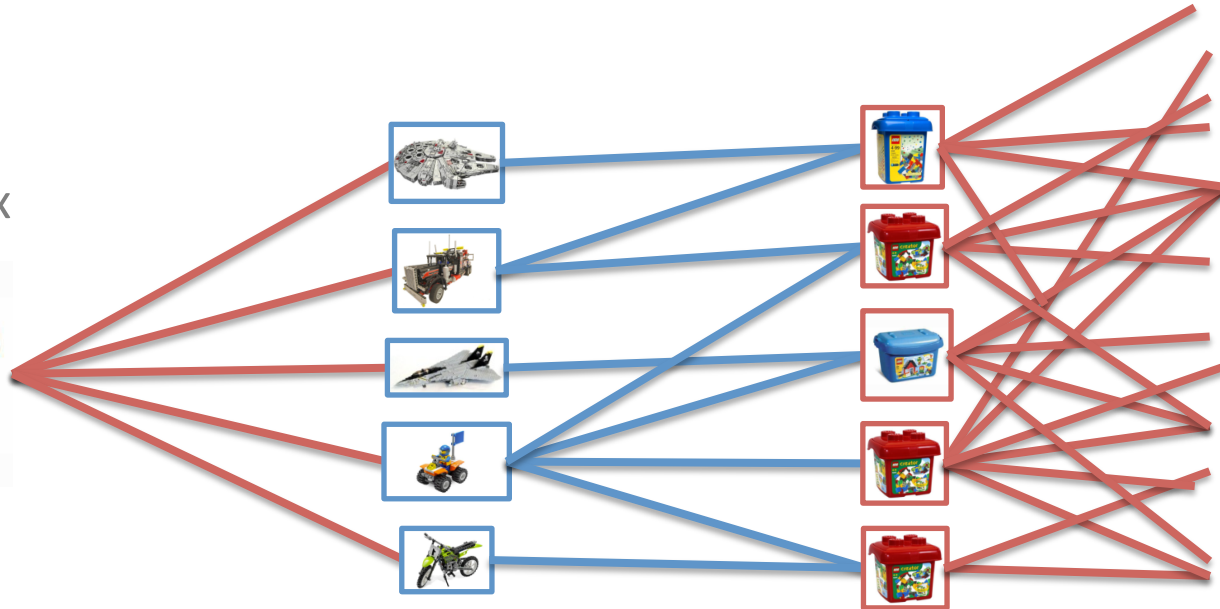


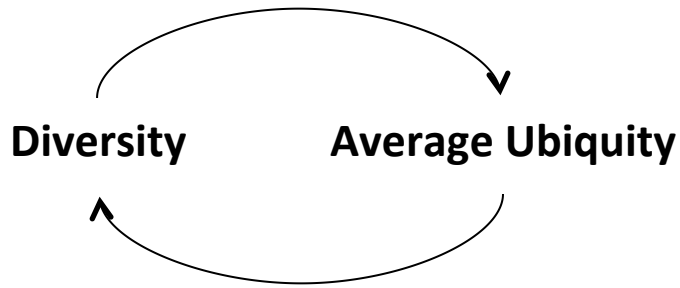
Diversity Av. Ubiquity Diversity*

Simple



Complex





THE ATLAS OF **ECONOMIC COMPLEXITY**

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JOHN F. KENNEDY SCHOOL OF GOVERNMENT



Economic Complexity Ranking 2010

Top 15 Countries		
Country	ECI	Ranking
JPN	2.17	1
DEU	1.96	2
CHE	1.90	3
AUT	1.73	4
SWE	1.71	5
KOR	1.69	6
FIN	1.69	7
CZE	1.68	8
GBR	1.67	9
SGP	1.65	10
FRA	1.53	11
USA	1.51	12
HUN	1.44	13
SVN	1.44	14
SVK	1.43	15

Bottom 15 Countries		
Country	ECI	Ranking
GAB	-1.14	114
MNG	-1.14	115
LBY	-1.24	116
MOZ	-1.26	117
CIV	-1.27	118
PNG	-1.31	119
ETH	-1.41	120
YEM	-1.53	121
COG	-1.55	122
MRT	-1.58	123
SDN	-1.66	124
GIN	-1.69	125
CMR	-1.75	126
AGO	-2.28	127
NGA	-2.31	128

For more information visit: Atlas.media.mit.edu

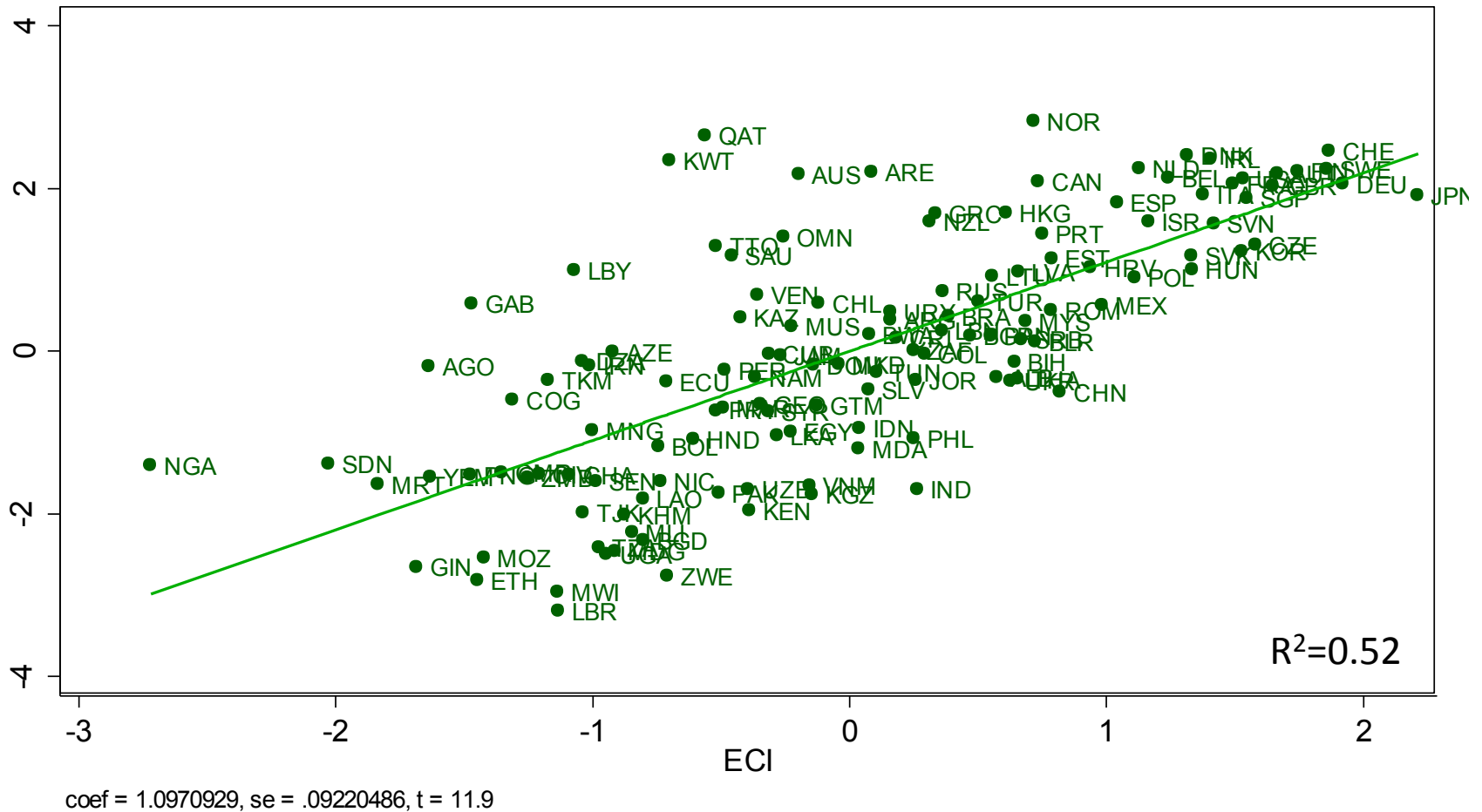
Top complexity products

Product Code (SITC4)	Product Name	Product Community	Product Complexity Index
7284	Machines & appliances for specialized particular industries	Machinery 	2.27
8744	Instrument & appliances for physical or chemical analysis	Chemicals & Health 	2.21
7742	Appliances based on the use of X-rays or radiation	Chemicals & Health 	2.16
3345	Lubricating petrol oils & other heavy petrol oils	Chemicals & Health 	2.10
7367	Other machine tools for working metal or metal carbide	Machinery 	2.05

Bottom complexity products

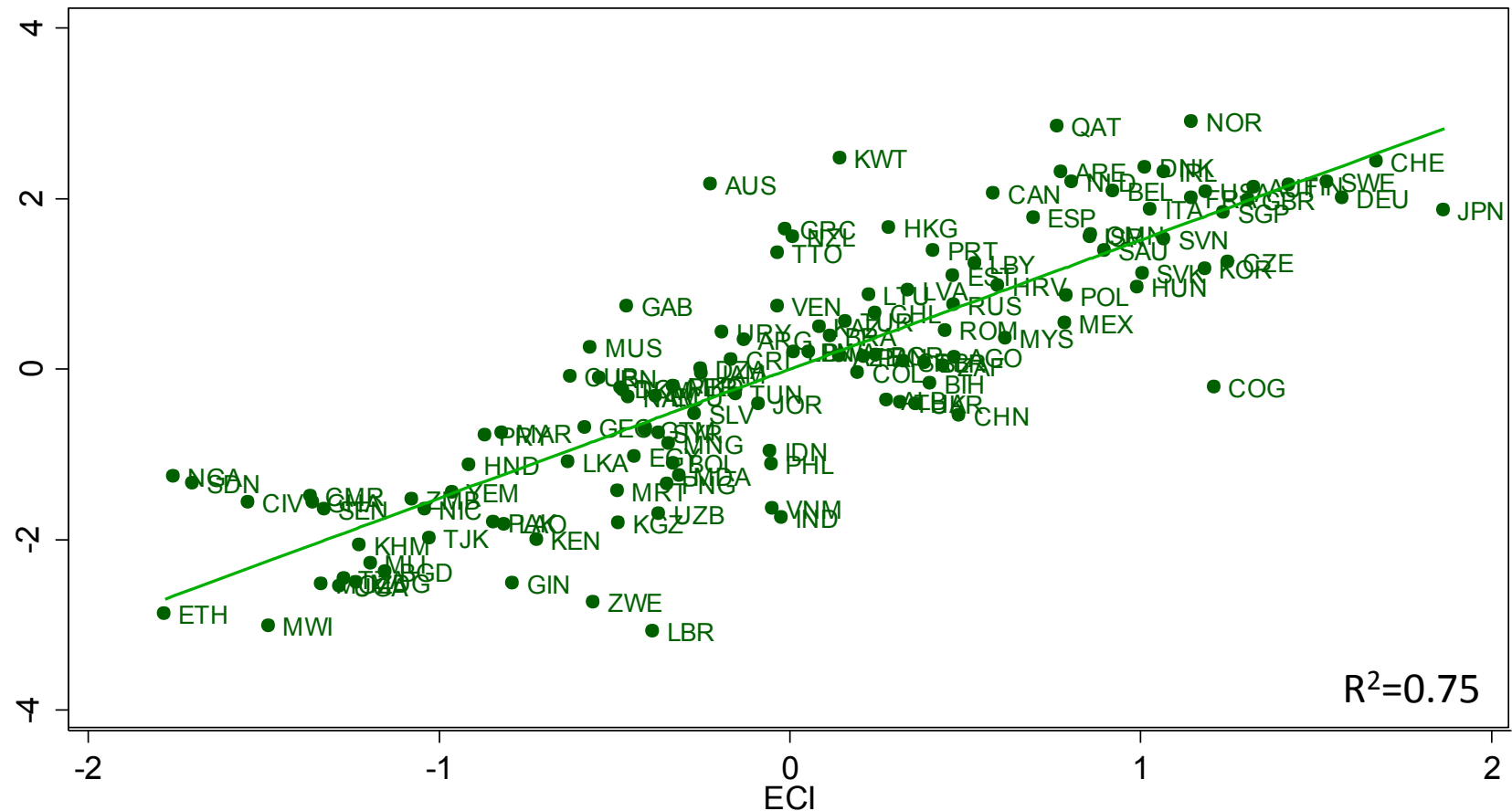
Product Code (SITC4)	Product Name	Product Community	Product Complexity Index
3330	Crude oil	Oil 	-3.00
2876	Tin ores & concentrates	Mining 	-2.63
2631	Cotton, not carded or combed	Cotton, Rice, Soy & Others 	-2.63
3345	Cocoa beans	Tropical Agriculture 	-2.61
7367	Sesame seeds	Cotton, Rice, Soy & Others 	-2.58

Income and Economic complexity



Income and Economic complexity

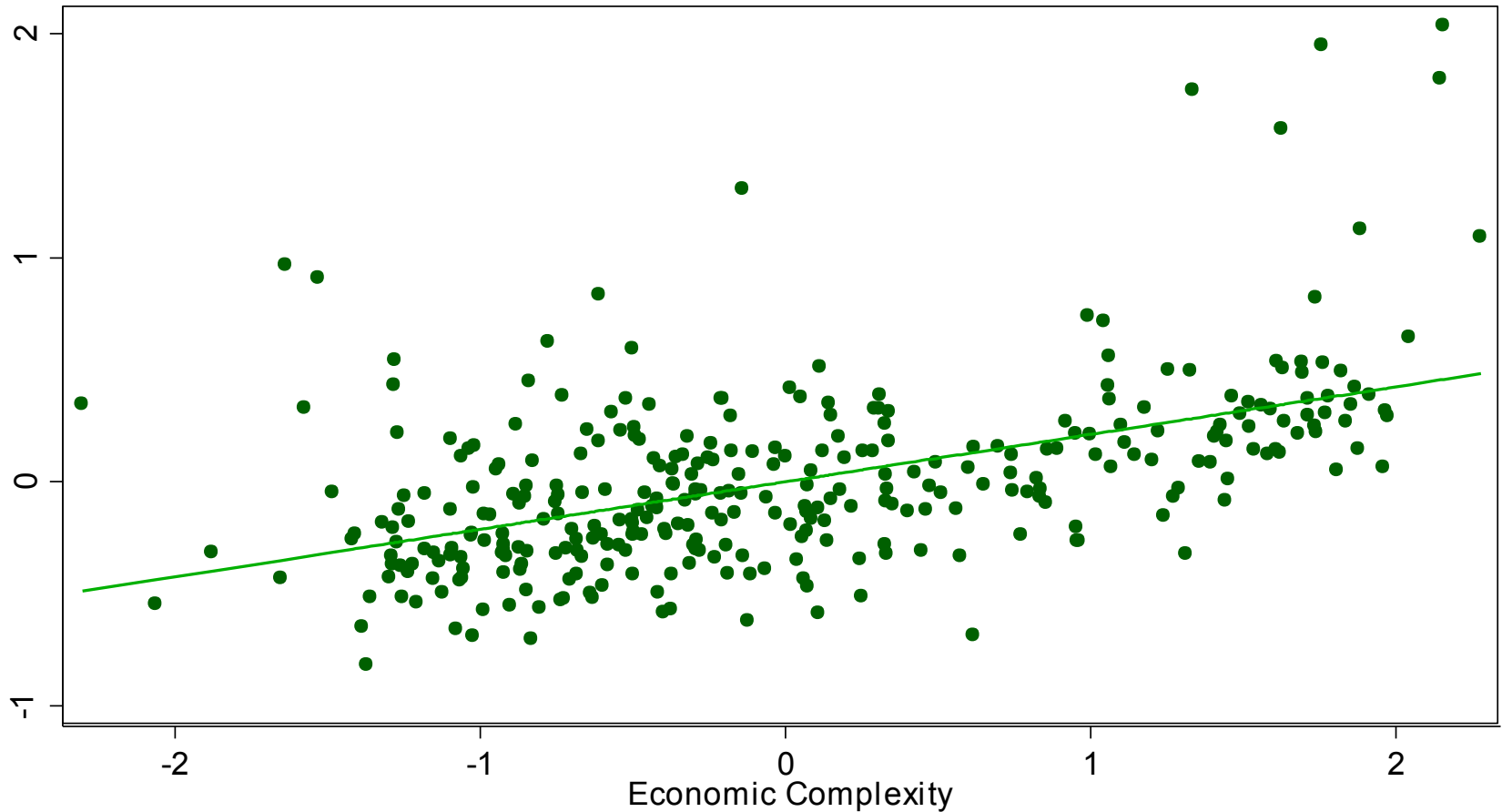
Controlling for NNRR exports per capita



We can use the same method at the sub-national level

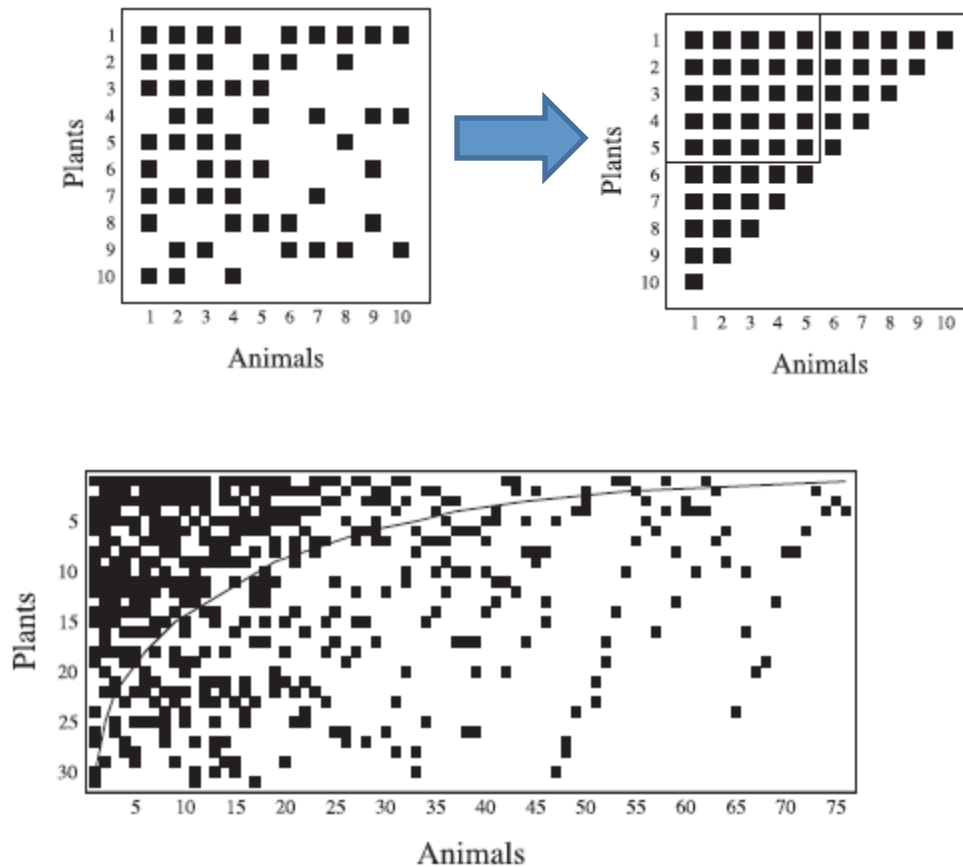
- Brazil
 - Municipalities / Social Security Data
- Chile
 - Municipalities / Tax records + Social economic surveys
- Turkey
 - Cities / Economic census
- USA
 - CBSA / County business patterns + ACS + Census

Chile: Income and Economic Complexity

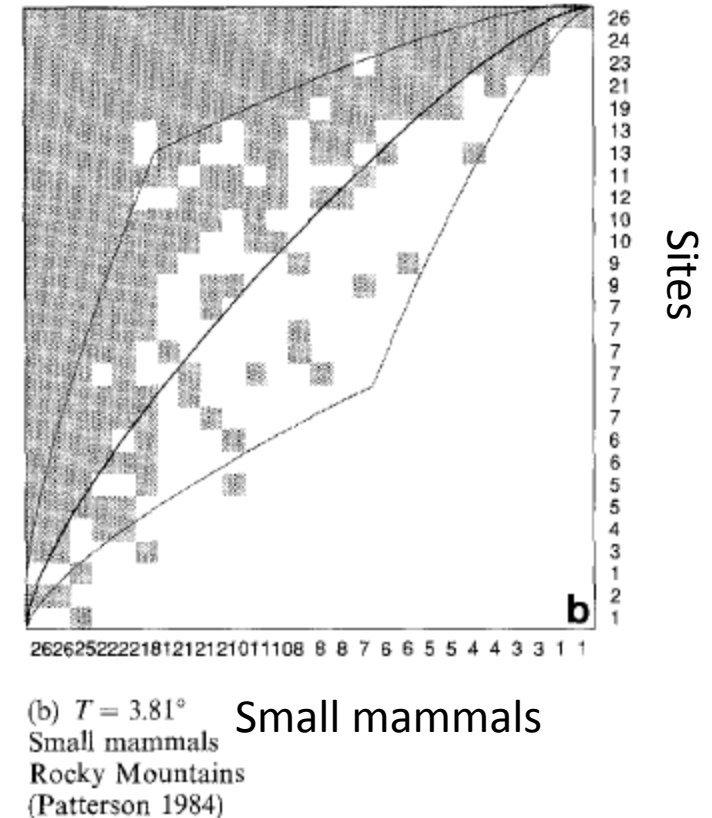


coef = .2117419, (robust) se = .02554777, t = 8.29

Nestedness

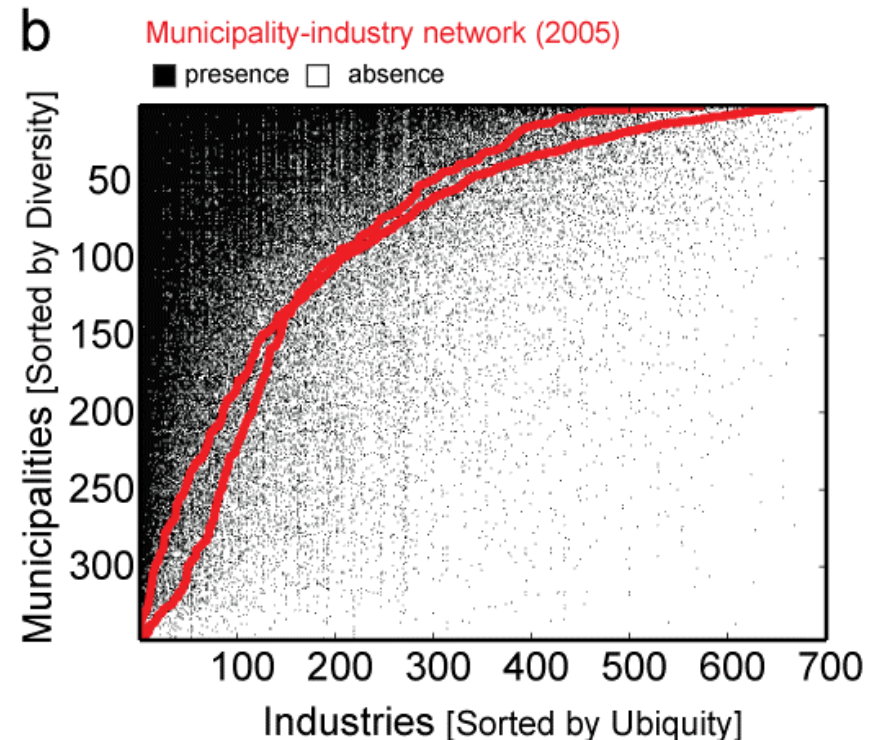
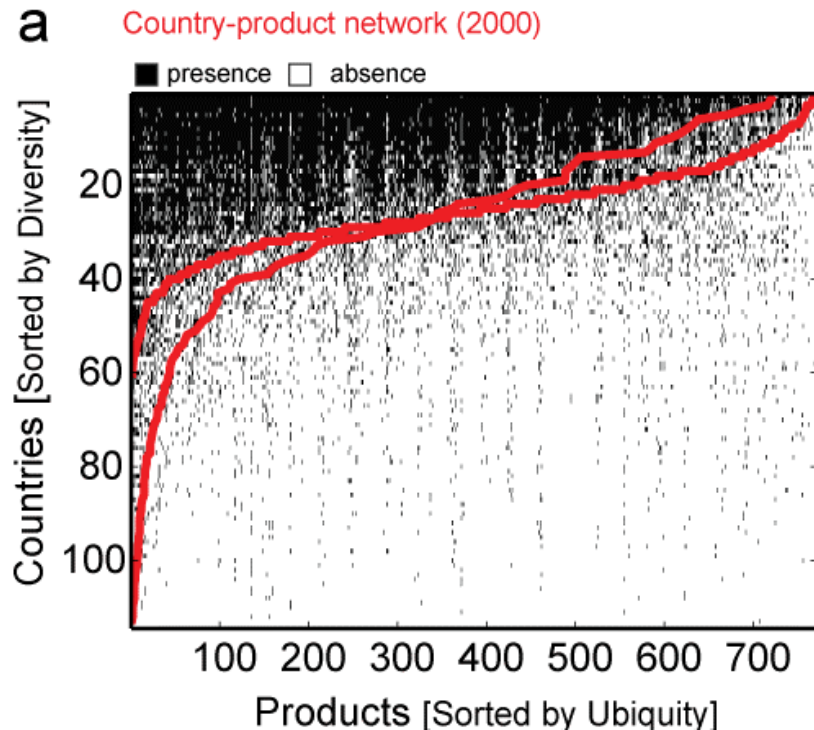


Bascompte, Jordano, Melian and Olesen 2003

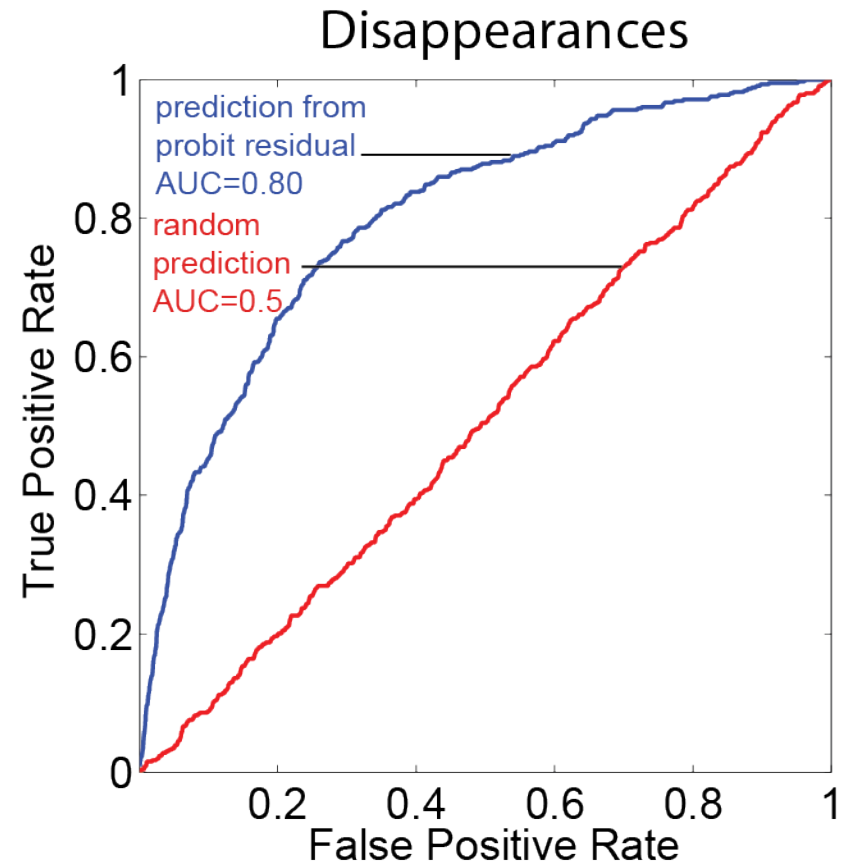
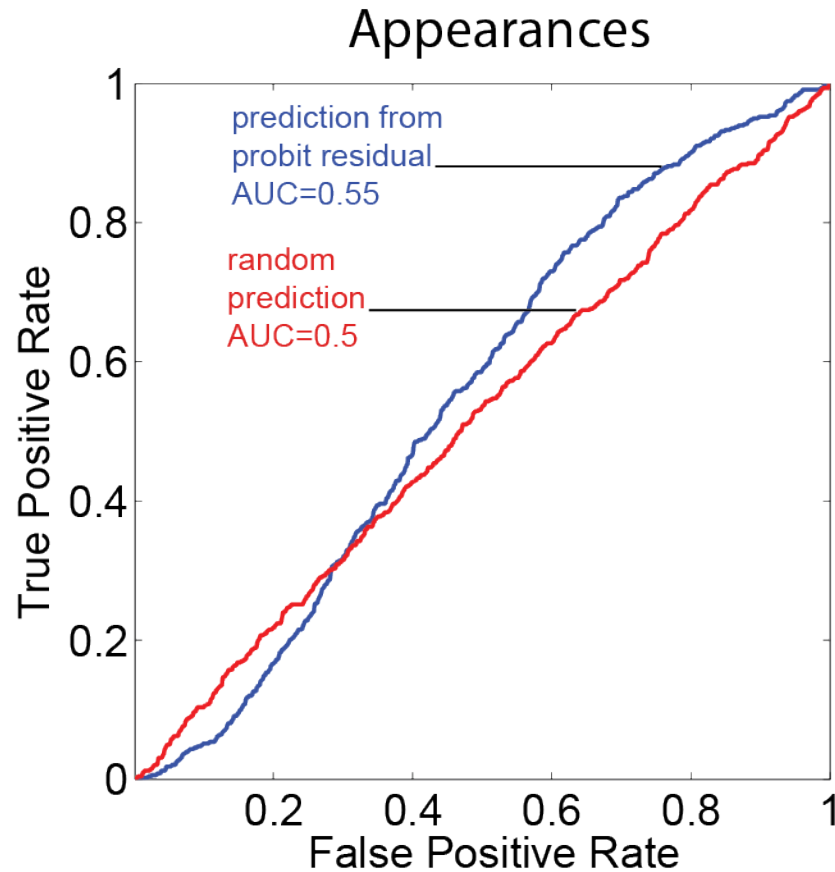


Atmar and Patterson 1993

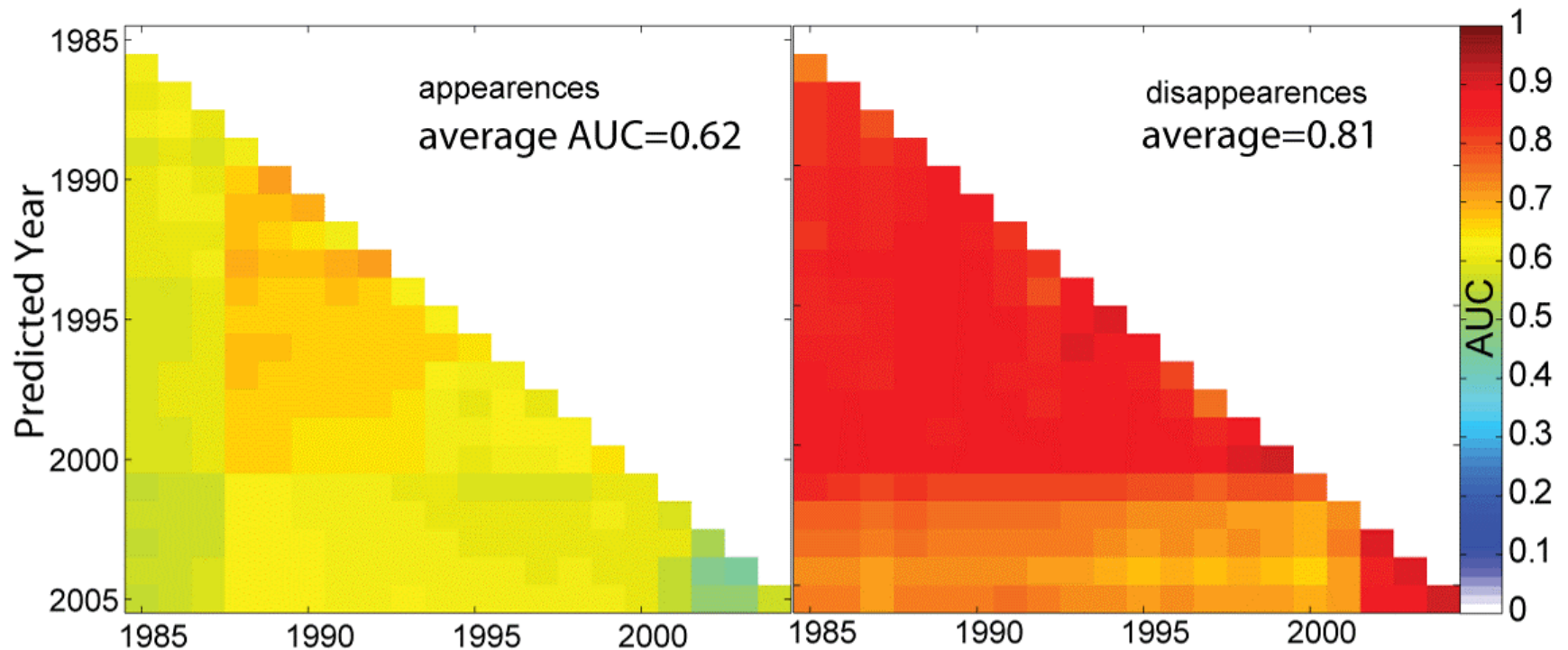
Nestedness: national and subnational data



How accurate is the prediction?



Country-Product Network: Predicting industry appearances and dissappearances over time



Thanks!

