

# Cultural diversity, knowledge and entrepreneurial outcomes

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*“Strength lies in differences  
not in similarities”*

Stephen R Covey

# Content

- Economic development
- The role of knowledge
- The role of cultural diversity
- Research hypothesis
- Data and model description
- Empirical evidence
- Discussion and conclusion

# Three views on economic development

- ***The Information view*** - cities are places where ideas flow and that we expect high growing cities to be increasingly oriented around the skilled labor, because the skilled and highly qualified people specialize in ideas (Jacobs, 1969).
- ***The Consumer view*** - advocates for skilled employee coming to live and work into a city attracted to city amenities (e.g. theatres, cinemas, libraries, museums) which facilitate knowledge exchange and enrich creative class with new knowledge (E. Glaeser, R. Florida).
- ***The Reinvention view*** states that survive only by adapting their economies to new technologies (Shultz, 1964; Glaeser, 2003). Ex. Boston, USA

# Introducing Knowledge spillovers

- Knowledge spillovers derive from technology's incomplete excludability (Griliches, 1991)
- Arrow (1962) identified externalities associated with knowledge due to its non-exclusive and non-rival use
- New technological knowledge is at least partly informal, uncodified and tacit, and thus can flow more easily over short rather than long distances (Pavitt, 1984)
- Intensity of knowledge sharing increases with geographical proximity (Caniëls, 2000; Verspagen and Schoenamkers, 2000)
- High knowledge (tech-intense) industries produce more knowledge and hence more entrepreneurs (Geroski, 1995; Audretsch et. al., 2006, 2010)

# Why openness and tolerance are important ?

- contributes to talent attraction from various countries (Florida theory), including both talent settling in a city and visiting a city for business and leisure.
- connected to technology and innovation (Florida and Gates, 2001; Niebuhr, 2010; Qian et al., 2012)
- connected to entrepreneurship (Lee et al., 2004; Audretsch et al., 2010)
- connected to jobs creation (Florida, 2002; Mellander and Florida, 2011; Qian, 2010).

# Introducing cultural diversity

## **Cultural diversity at a city level facets:**

- Intra-mural culture and amenities : e.g. cinemas, theatres, museums, libraries collecting and disseminating local culture and norms (Acs et. al., 2014) but also improving better city ecosystem and amenities (Florida, 2002; Falck et. al., 2011);
- Extramural (external) culture: number tourist overnight stays per resident tourist, and Non-EU nationals as % total population (Audretsch et. al., 2010; Audretsch and Belitski, 2013).

# Important gap

- **How do entrepreneurship, survival and high vary with respect to cultural diversity and knowledge-intensive business?**

# Direct relationship

- *H1a: Knowledge-intensive industries and cultural diversity are likely to have positive impact on new business formation*
- *H1b: Knowledge-intensive industries and cultural diversity are likely to have positive impact on start-up survival.*
- *H1c: Knowledge-intensive industries are likely to have negative impact on high employment growth firms, whereas cultural diversity is likely to have no impact.*

# Moderated relationship

- *H2a: Cultural diversity increases net entry in knowledge intensive industries.*
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- *H2b: Cultural diversity increases survival in knowledge intensive industries.*
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- *H2c: Cultural diversity further facilitates the emergence of high-employment growth start-ups in knowledge intensive industries.*

# Data

- Eurostat's European Urban Audit.
- Our DVs are at industry and city level – entrepreneurial characteristics across 11 industries over the period 2005-2010 (2005-2008; 2007-2010).
- Final dataset yields 1061 observation in 60 cities across 8 European countries (Czech Republic, Denmark, Spain, Hungary, Italy, Poland, Romania and Slovakia (see Appendix A for cities and countries included in this study)).
- German, French and the UK cities were not included as the data on industries is available at the regional level only in Eurostat.

# A Model

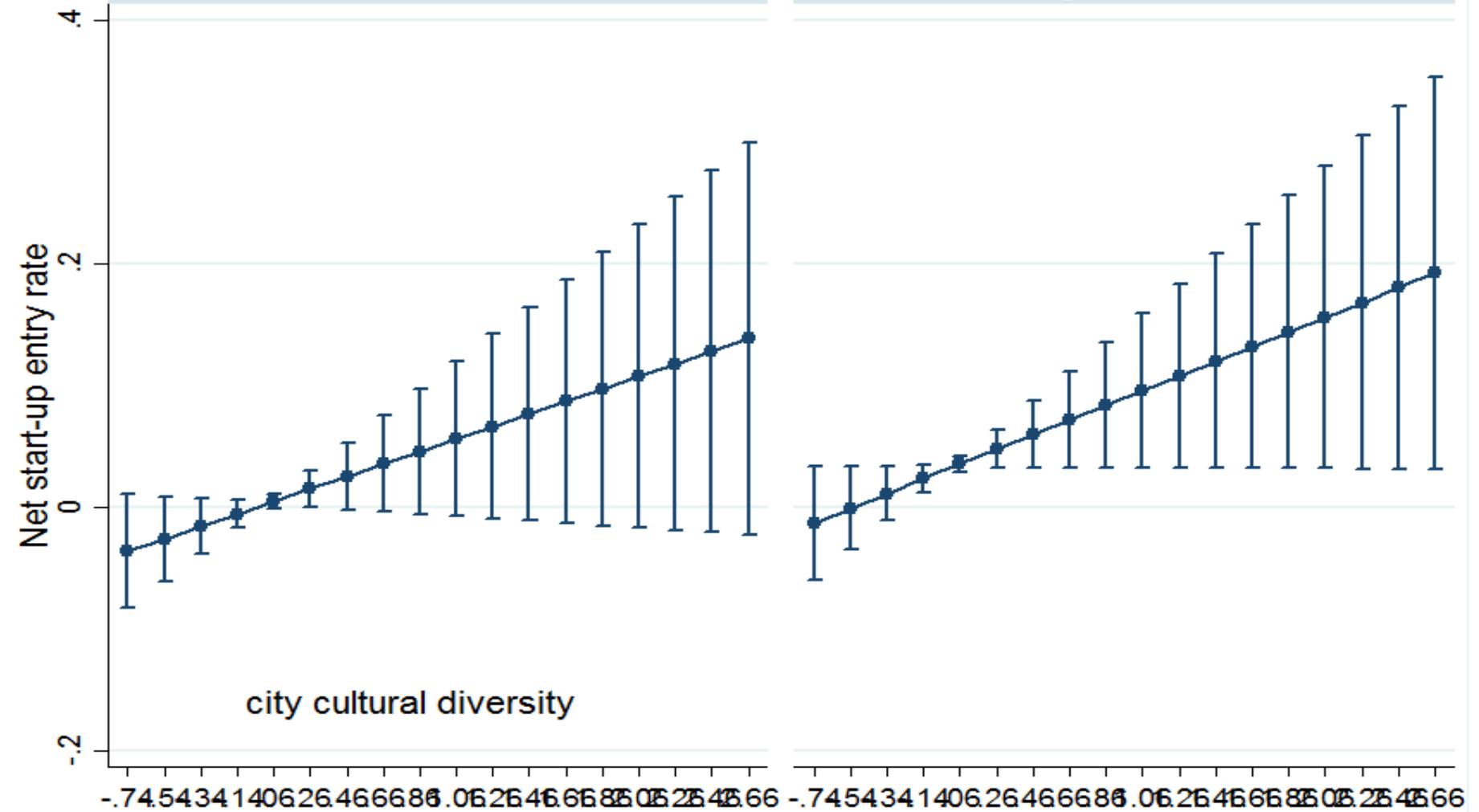
- The SURE regression model with country, city and industry fixed effects represents a system of equations in the following for

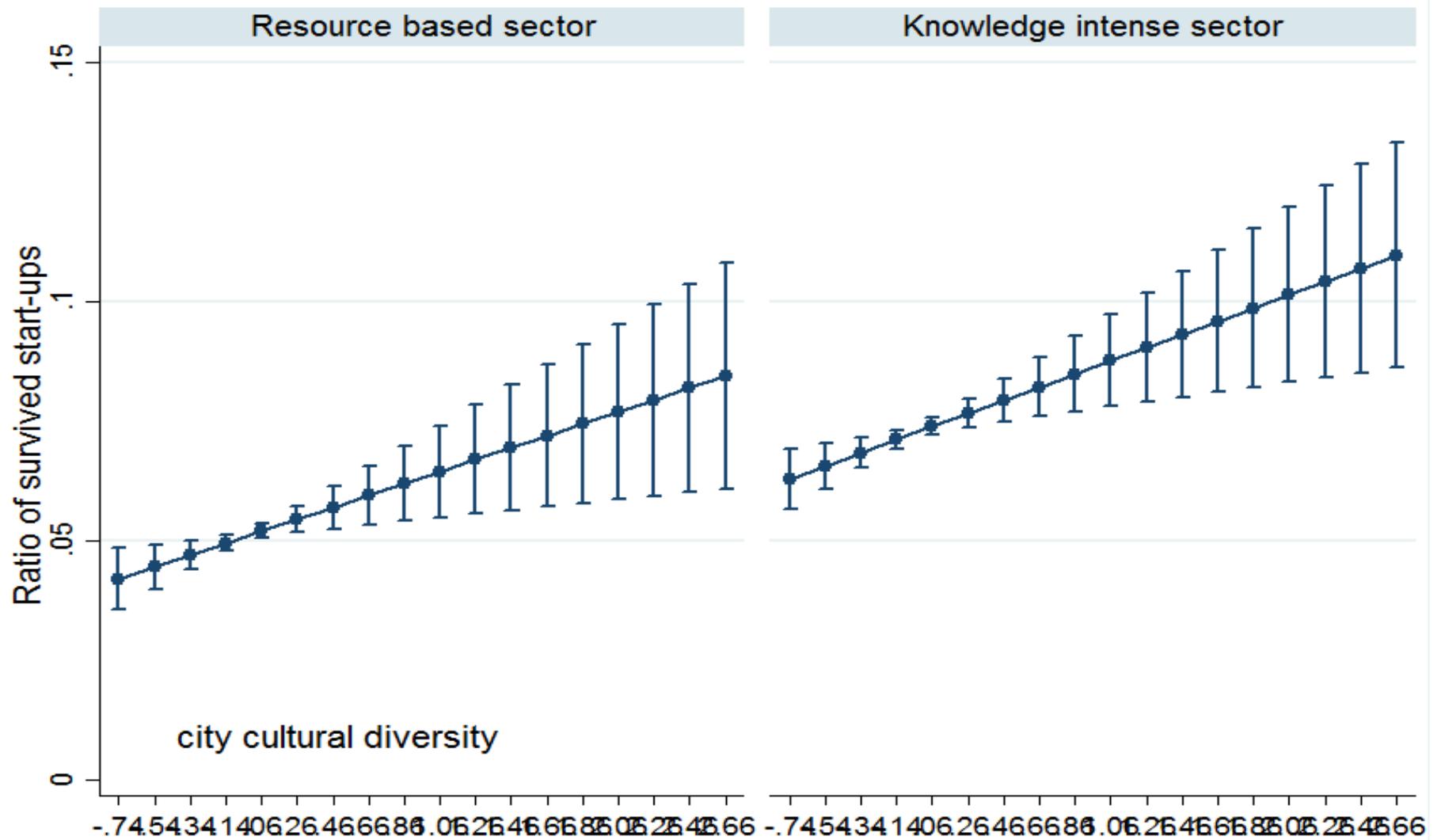
- $$\begin{cases} E_{(i,j,t,c)} = \beta_0 + \sum_{j=1}^n \beta_{11} x_{j,t,c} + \sum_{j=1}^n \beta_{12} z_{j,t,c} + \rho_{1i} + \rho_{1c} + \rho_{1j} + \lambda_{1t} + u_{1(i,j,t,c)} \\ S_{(i,j,t,c)} = \beta_0 + \sum_{j=1}^n \beta_{21} x_{j,t,c} + \sum_{j=1}^n \beta_{22} z_{j,t,c} + \rho_{2i} + \rho_{2c} + \rho_{2j} + \lambda_{2t} + u_{2(i,j,t,c)} \\ Y_{(i,j,t,c)} = \beta_0 + \sum_{j=1}^n \beta_{31} x_{j,t,c} + \sum_{j=1}^n \beta_{32} z_{j,t,c} + \rho_{3i} + \rho_{3c} + \rho_{3j} + \lambda_{2t} + u_{3(i,j,t,c)} \end{cases}$$

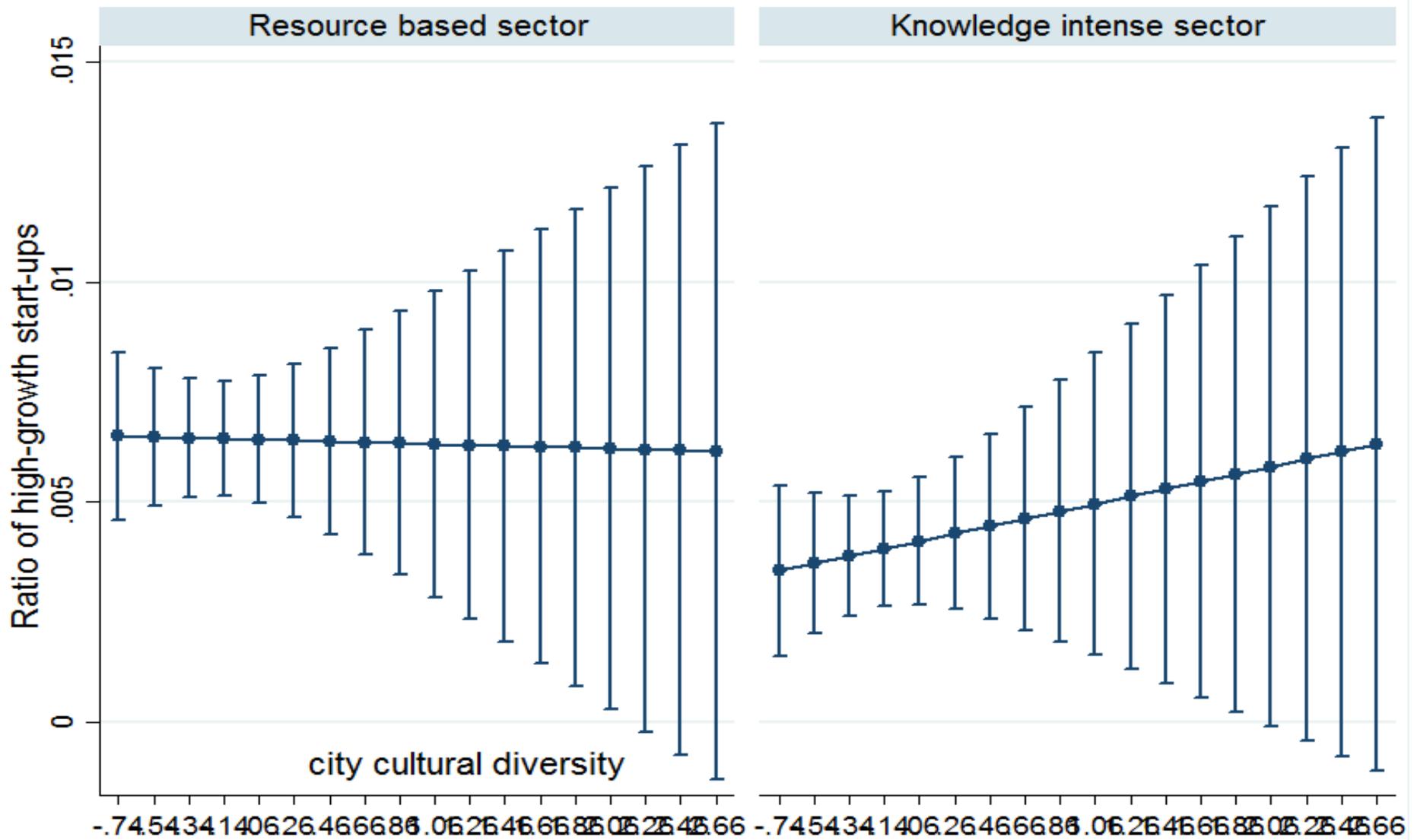
Variable	Description	Mean	St.dev	Min	Max
<b>Net entry ratio</b>	Number of start-up net entry in t to all businesses in t	0.016	0.041	-0.14	0.15
<b>Survival ratio</b>	Number enterprises born in t-3 survived to t, to all businesses in t	0.06	0.02	0.02	0.17
<b>High-growth ratio</b>	Number of high-employment growth start-ups in t to all enterprises in t	0.005	0.004	0.00	0.03
<b>Population density</b>	Population density, in logs	7.41	0.96	4.55	9.66
<b>GDP in PPP</b>	GDP in Purchasing Power Standard per capita in year 2000, in logs	9.63	0.51	8.19	10.47
<b>City culture (std item)</b>	Standardized item - city culture calculated with Cronbach alpha using items 8-13 in this table	-0.03	0.71	-0.74	4.93
<b>High-tech sector</b>	High knowledge sector dummy=1 if includes ICT, creative education, Finance and real estate, science & tech, zero otherwise	0.45	0.50	0.00	1.00
<b>Cinema</b>	Annual cinema attendance per resident	3.47	2.08	0.10	11.7
<b>Theatre</b>	The number of theatres	10.63	11.45	0.00	56.0
<b>Museum</b>	Number of museums	16.80	18.88	1	100
<b>Library</b>	Number of libraries	46.13	67.35	1.00	323
<b>Tourists</b>	Number tourist overnight stays per resident	3.19	3.73	0.40	26.1
<b>Non-nationals</b>	Non-EU nationals as % total population	2.71	3.12	0.04	12.2

Resource based sector

Knowledge intense sector







# Discussion

- Cultural diversity and knowledge embedded in entrepreneurial ecosystems (Acs et al., 2014) across countries and regions (Szerb et al., 2013) foster recognition and transformation of new knowledge and ideas into marketable products (Florida, Qian, Nathan).
- Industries rich in knowledge benefit more by local diversity (Audretsch et. al., 2010), including the inter-industry and inter-cultural knowledge exchange (Jacobs, 1969).
- Cultural diversity opens a gate to an inter-disciplinary knowledge and generates spillovers that come from various regions and industries in a way the knowledge being explored.

THANKS for listening

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