

# Wellbeing Indicators and Natural Capital

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5 December, 2018

A Community on Ecosystem Service (ACES)

Washington, DC.

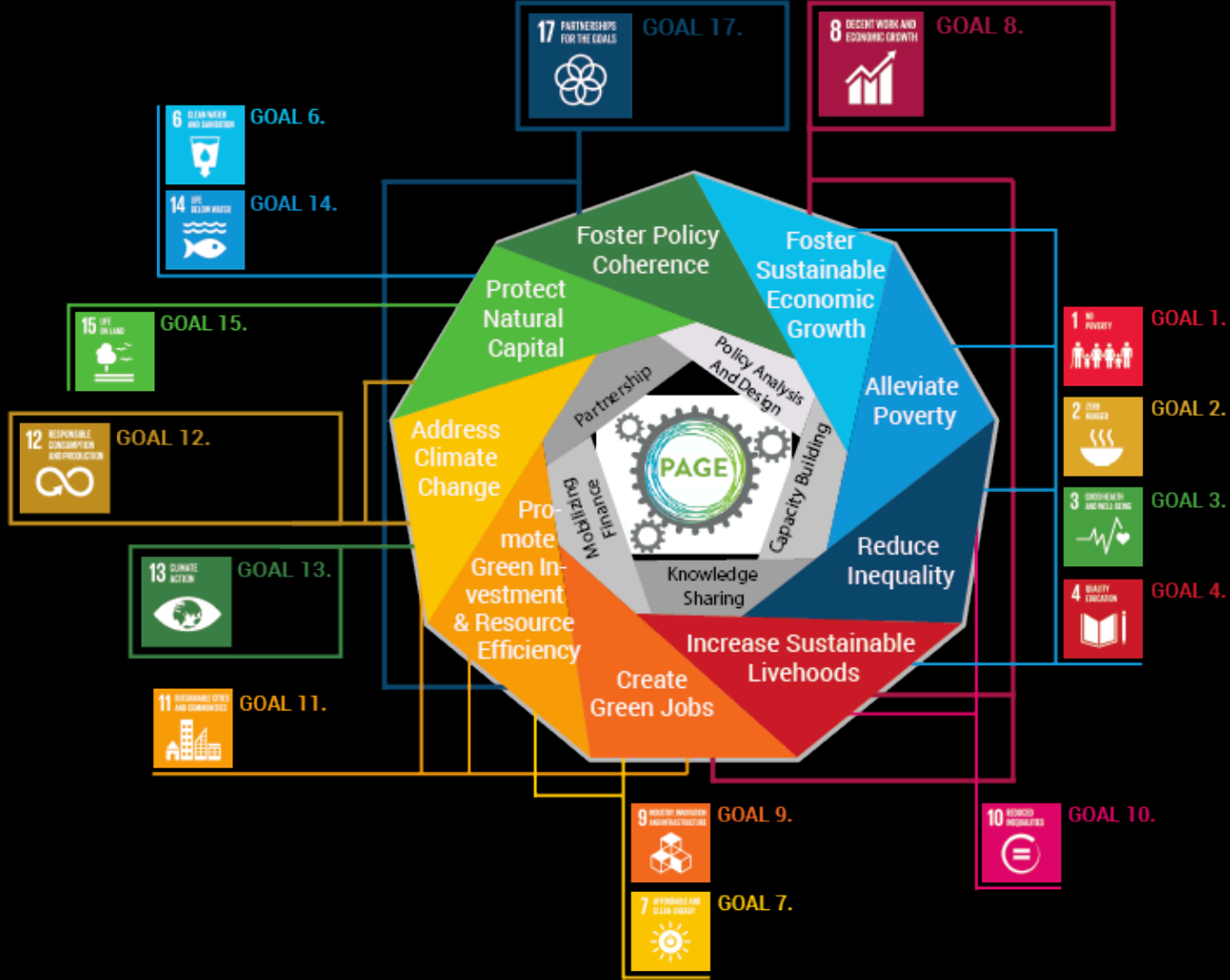


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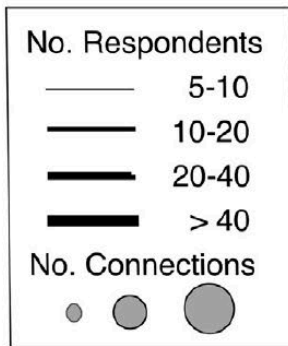
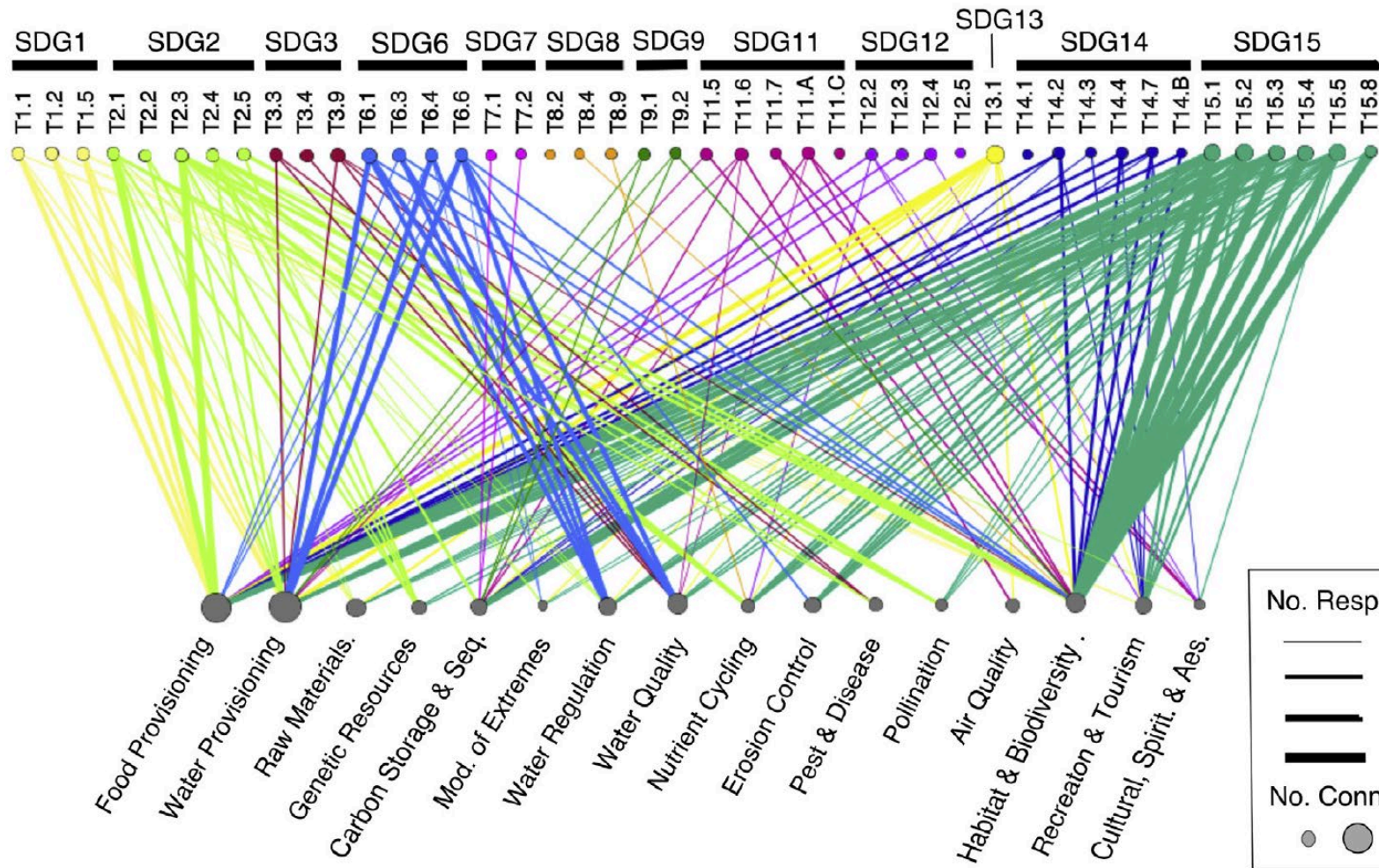


# Time to leave GDP behind

Gross domestic product is a misleading measure of national success. Countries should act now to embrace new metrics, urge **Robert Costanza** and colleagues.

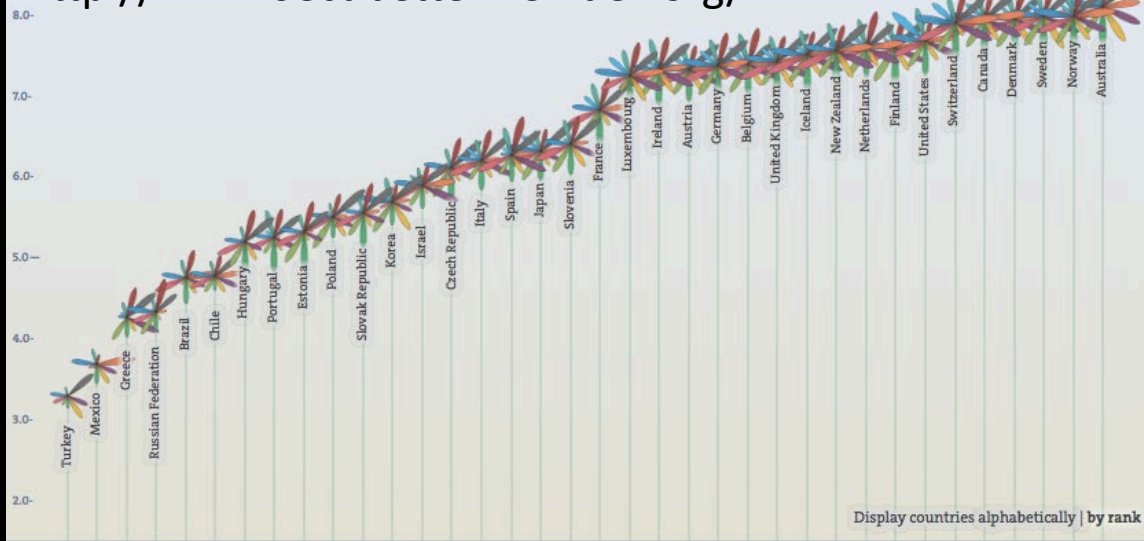






Indicator	Units	Indicators	Explanation	Area coverage	Time
Genuine Progress Indicator (GPI)	\$	26	Personal Consumption Expenditures weighted by income distribution, with volunteer and household work added and environmental and social costs subtracted.	17 countries + regions	1950-present
Genuine Savings	\$	5	Level of saving after depreciation of produced capital; investments in human capital; depletion of minerals/energy/forests; and damages from air pollutants are accounted for	140 countries	1970-2008
Inclusive Wealth	\$	8	Asset wealth including, built, human, and natural resources	20 countries	1990-2008
Australian Unity Well-Being Index	Index #	14	Annual survey of various aspects of well-being and quality of life	Australia	2001-present
World Values Survey	Index #	100's	Periodic (5 so far) survey of a broad range of social, environmental, and economic variables	73 countries	1981-2008
Gallup-Healthways Well-Being Index	Index #	39	Annual survey in six domains: live evaluation, physical health, emotional health, healthy behavior, work environment, and basic assets	50 states in US	2008-present
Gross National Happiness	Index #	33	In-person survey in nine domains: psychological well-being, standard of living, governance, health, education, community vitality, cultural diversity, time use, ecological diversity	Bhutan	2010
Human Development Index (HDI)	Index #	4	Index of GDP/person, spending on health and education, and life expectancy	177 countries	1980-present
Happy Planet Index	Index #	3	HPI = subjective well being * life expectancy / ecological footprint	153 countries	3 yrs
Canadian Index of Well-Being	Index #	80	Includes community vitality, democratic engagement, education, environment, population, leisure, living standards, and time use	Canada	1994-present
National Well-Being Index	Index #	5	proxies for built, human, natural and social capital with weights based on regression with subjective well-being	56 countries	1 yr
OECD Better Life Index	Index #	25	Includes housing, income, jobs community education, environment, civic engagement, health, life satisfaction, safety, and work-life balance	36 OECD countries	1 yr
Well-Being of Nations	Index #	63	63 indicators in 20 domains weighted and ranked	180 countries	1990-2000
Sustainable Society Index	Index #	22	22 indicators in 5 domains ranked with various weightings	150 countries	2 yrs
Ecological Footprint	global hc/person	5	Area of productive land and water required to support current lifestyle	153 countries	1960-present

<http://www.oecdbetterlifeindex.org/>



### Create Your Better Life Index

Rate the topics according to their importance to you:

	Housing	<input type="range"/>
	Income	<input type="range"/>
	Jobs	<input type="range"/>
	Community	<input type="range"/>
	Education	<input type="range"/>
	Environment	<input type="range"/>
	Civic Engagement	<input type="range"/>
	Health	<input type="range"/>
	Life Satisfaction	<input type="range"/>
	Safety	<input type="range"/>
	Work-Life Balance	<input type="range"/>

Reset Help

Gender differences

Compare with others

Share your index

## How's life?

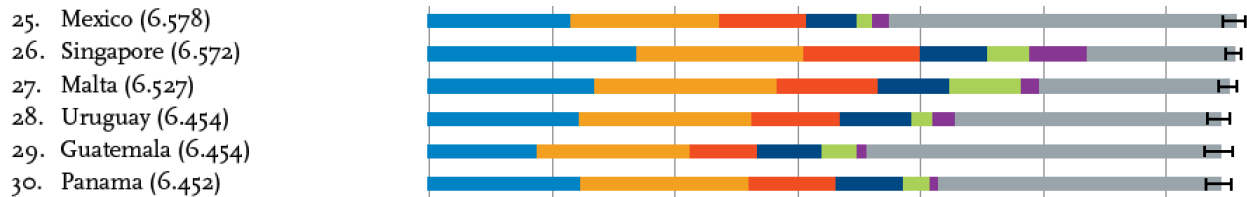
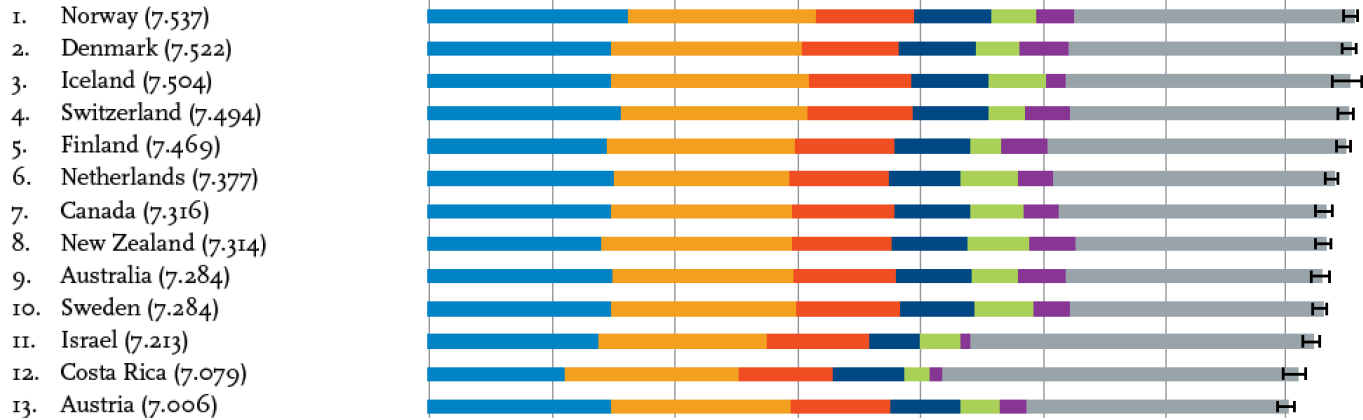
**There is more to life than the cold numbers of GDP and economic statistics** – This Index allows you to compare well-being across countries, based on 11 topics the OECD has identified as essential, in the areas of material living conditions and quality of life.

### Mapping well-being



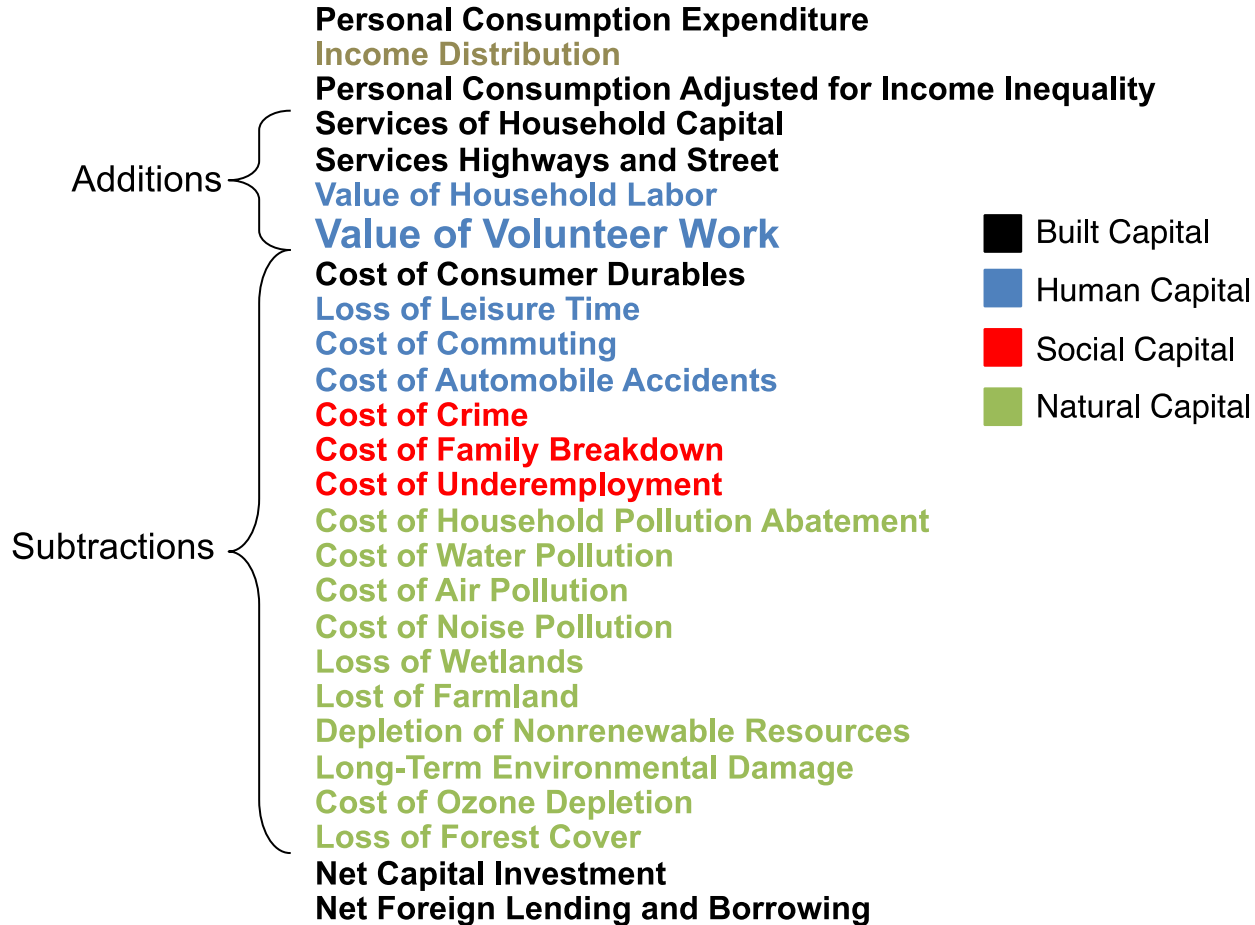
Figure 2.2: Ranking of Happiness 2014-2016 (Part I)

# Top 30



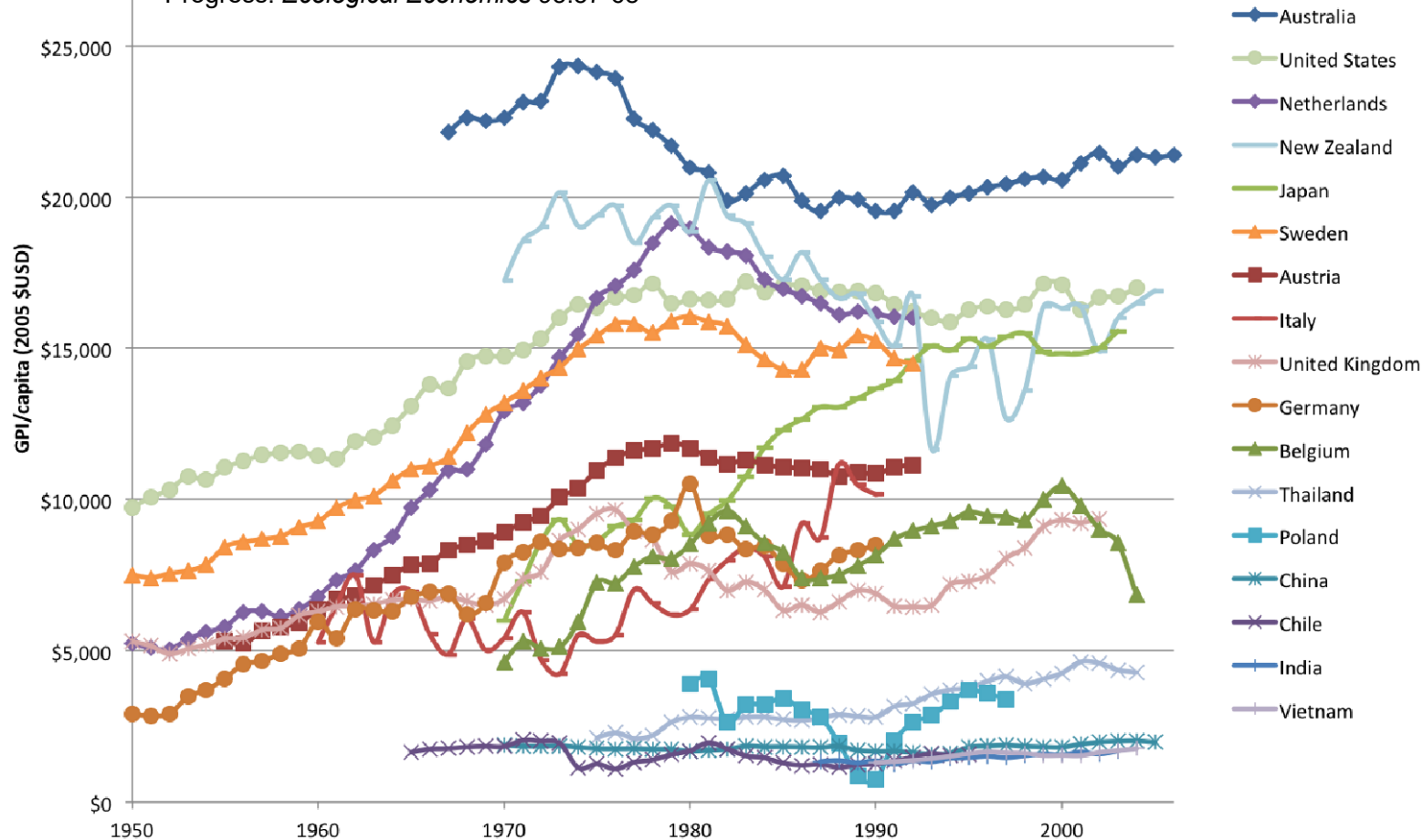


# Genuine Progress Indicator (or ISEW) by Component

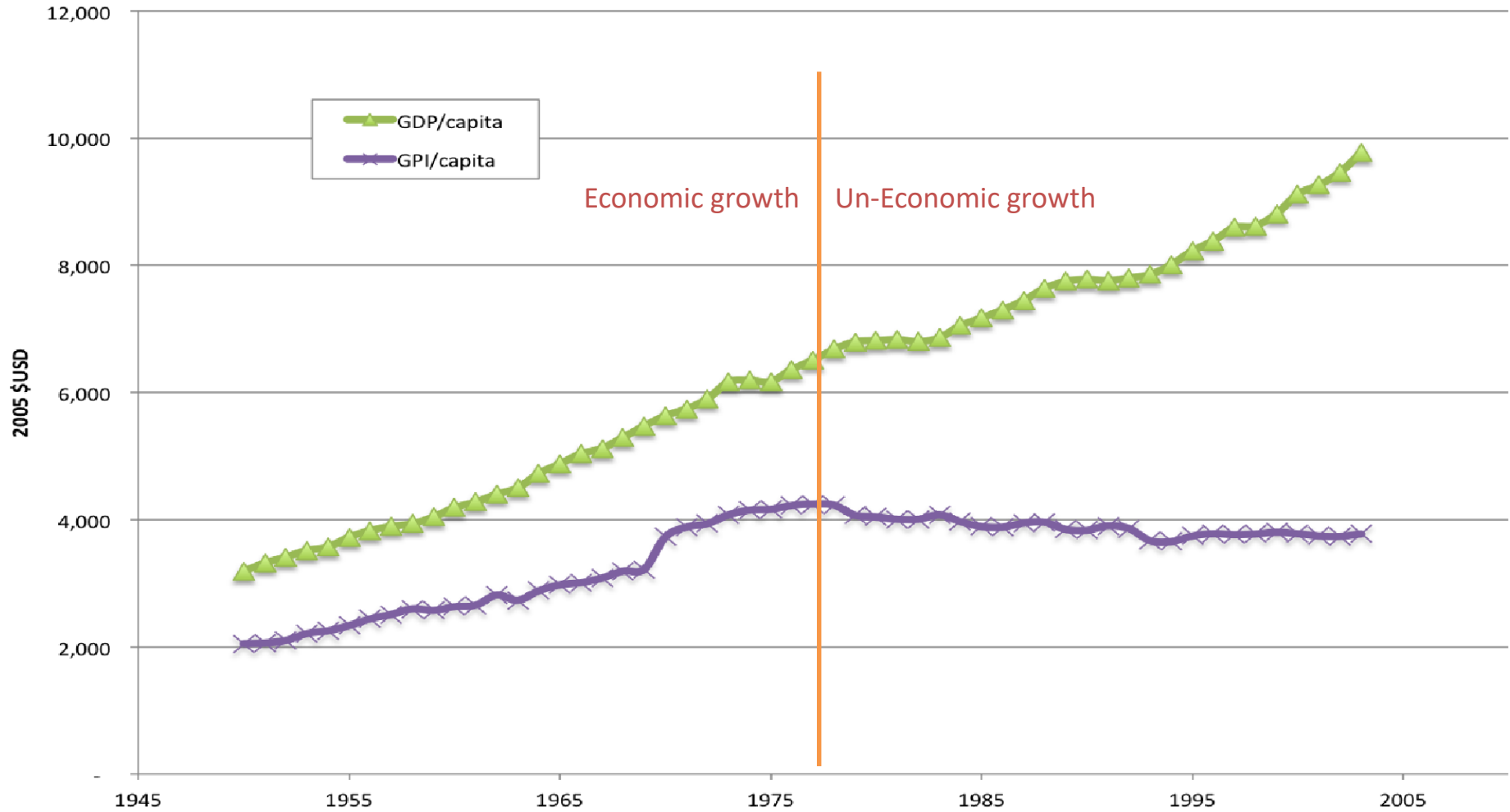


# GPI /capita for the 17 countries for which it has been estimated

From: Kubiszewski, Costanza et al. 2013. Beyond GDP: Measuring and Achieving Global Genuine Progress. *Ecological Economics* 93:57-68



# Global GPI/capita & GDP/capita



## GENERAL INFORMATION

What is the Genuine Progress Indicator?

What Are The Gross Domestic/State Products?

Genuine Progress Indicator Benefits

What Are Other States Doing?

MD-GPI Background & Methodology

Other Indicators Of Social Well-Being



## Maryland's Genuine Progress Indicator

An Index for Sustainable Prosperity

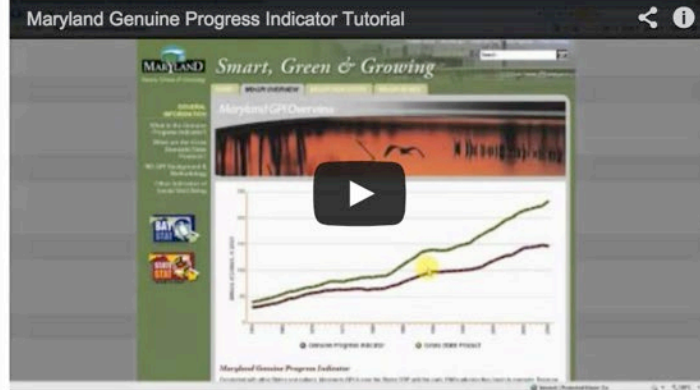
[www.dnr.maryland.gov/mdgpi/](http://www.dnr.maryland.gov/mdgpi/)

### Wealth vs. Well-Being: How Do We Measure Prosperity?

Maryland developed its Genuine Progress Indicator to measure how development activities impact long-term prosperity, both positively and negatively. Here in Maryland and across the globe, people are continually challenged by the need to find a balance between advancing economic gain and ensuring social well-being.

Traditional indicators like the Gross Domestic/State Products address only economic transactions. They do not include the environmental and social costs of what we buy, the quality of life impacts of how we live, or fully appreciate the significant contributions of our natural systems.

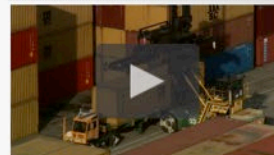
We invite you to learn how we developed our GPI, find out how Maryland is doing in 26 different indicators, and explore a model to see how policy decisions made today may affect future generations.



Governor Martin O'Malley  
Lt. Governor Anthony G. Brown



### MD GPI on PBS Newshour



### MD-GPI News

- ▶ Beyond GDP: US States Have Adopted Genuine Progress Indicators
- ▶ Baltimore's Genuine Progress Indicator Shows Healthy Economic Growth
- ▶ Implementing GPI in Vermont, Maryland and Oregon
- ▶ Forget the GDP. Some States Have Found a Better Way to Measure Our Progress
- ▶ Time to leave GDP behind
- ▶ Maryland Continues to Lead the Nation in Genuine Progress Tracking

[More News & Reports](#)

### Contact Information

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# Vermont's Genuine Progress Indicator

An Initiative of the Gund Institute for Ecological Economics at the University of Vermont

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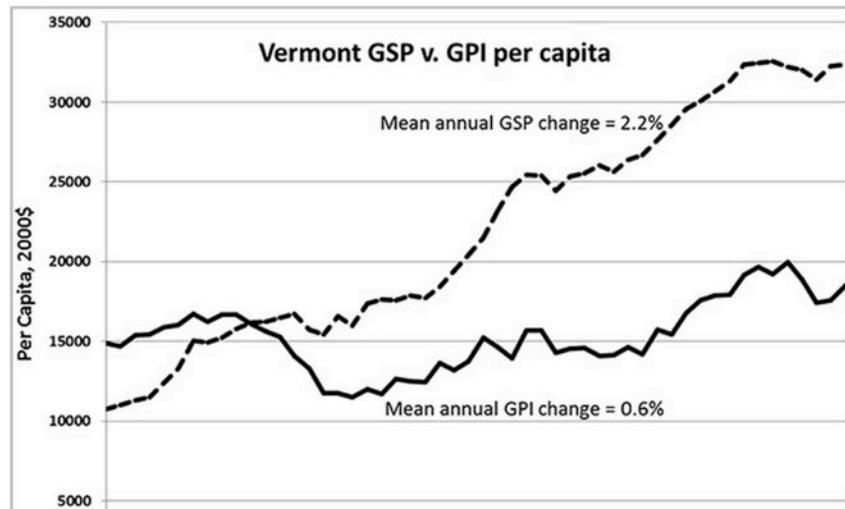
[Search](#)

## Home

Welcome to the Vermont Genuine Progress Indicator, a project led by the [Gund Institute for Ecological Economics](#) of the University of Vermont in coordination with a Data Advisory Group.

VT-GPI is a multi-dimensional measure of the benefits and costs of the Vermont economy. Enacted into law with [Act 113](#), the VT-GPI includes yearly estimates of the economic, environmental, and social performance of the Vermont economy.

Explore this website to learn about the composition of VT-GPI, long-term trends of the overall estimate and 25 sub-indicators, the application of GPI to policy and management, and ties to a growing group of state and national GPI studies.



## Blog Postings

[How the world's economic growth is actually un-economic](#)

[Beyond GDP: US states have adopted genuine progress indicators](#)

[The Guardian launches new section on "Rethinking Prosperity"](#)

[Guardian: Abolish GDP in favor of GPI](#)

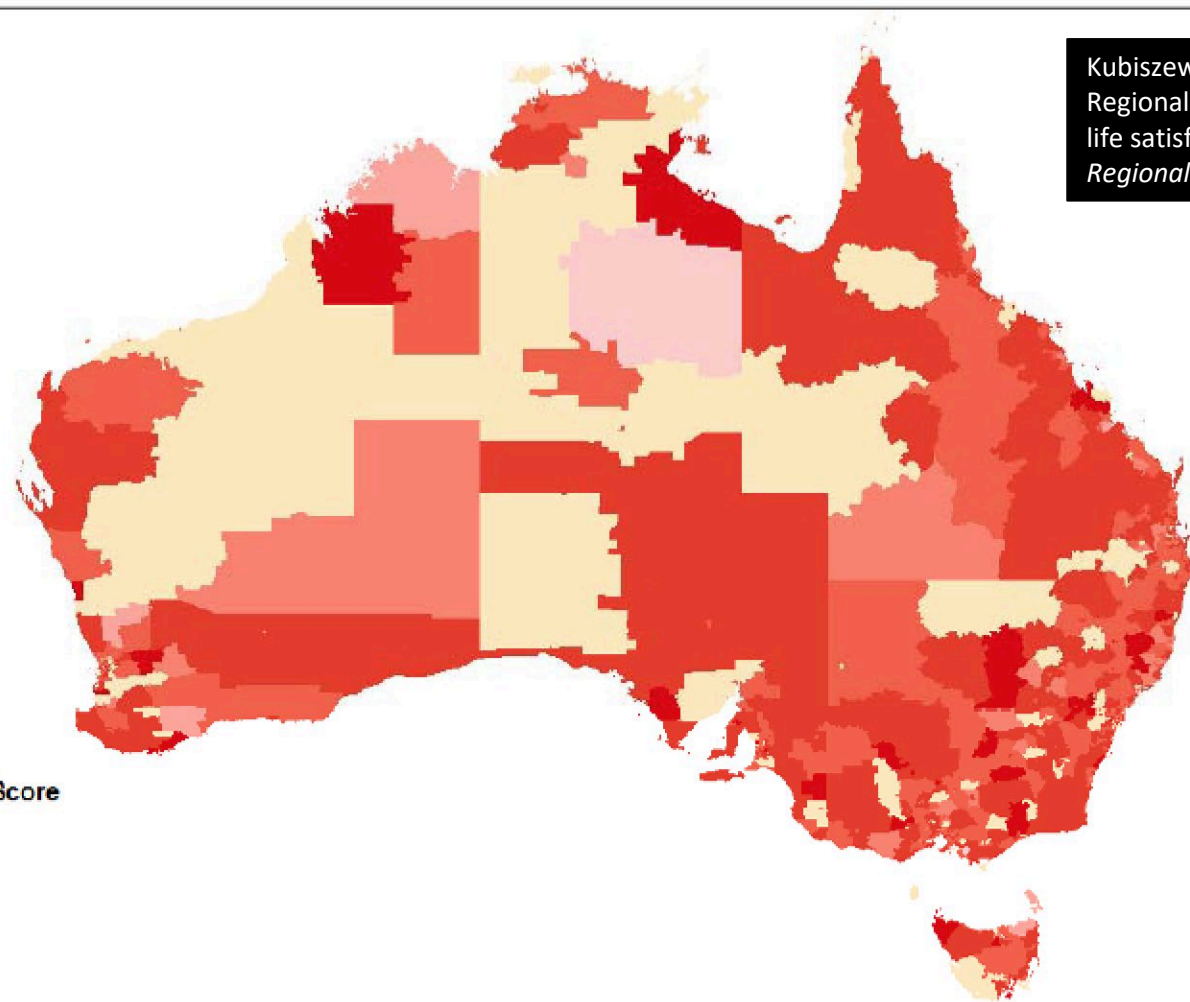
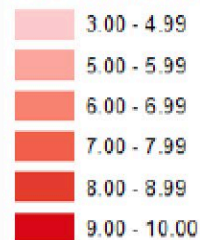
[U.S. Ranks 16th in New Social Progress Index](#)

[Toward a Genuine Economy: Field Notes from the Green Mountain State](#)

[Vermont Leadership Institute discusses "Charting Progress in the Genuine Economy"](#)

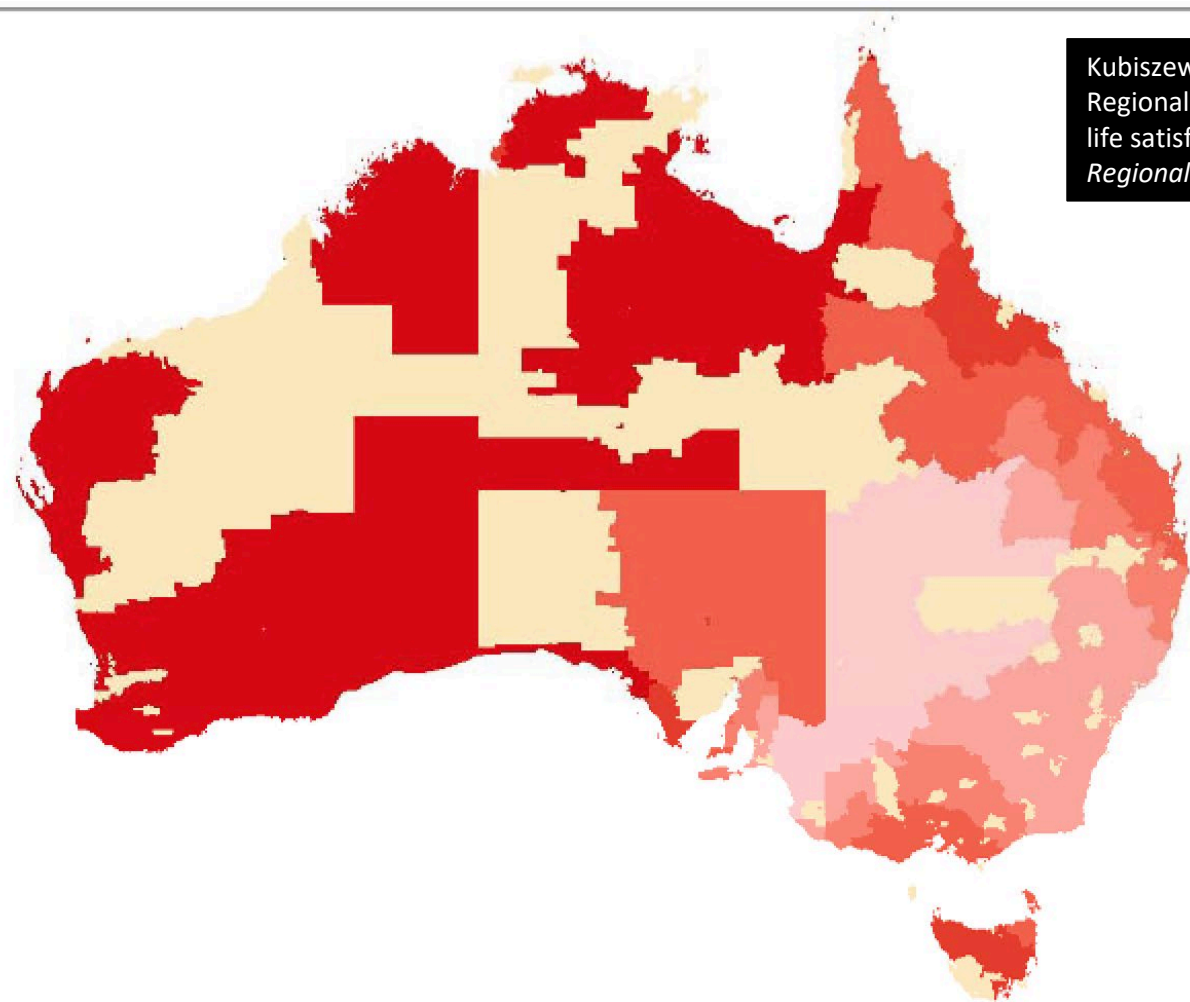
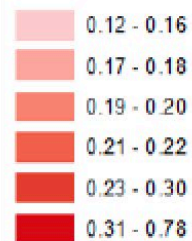
Kubiszewski, I., et al. (In Review).  
Regional variation in contributors to  
life satisfaction in Australia.  
*Regional Studies*.

**Life Satisfaction Score**



Kubiszewski, I., et al. (In Review).  
Regional variation in contributors to  
life satisfaction in Australia.  
*Regional Studies*.

**LocalR2**



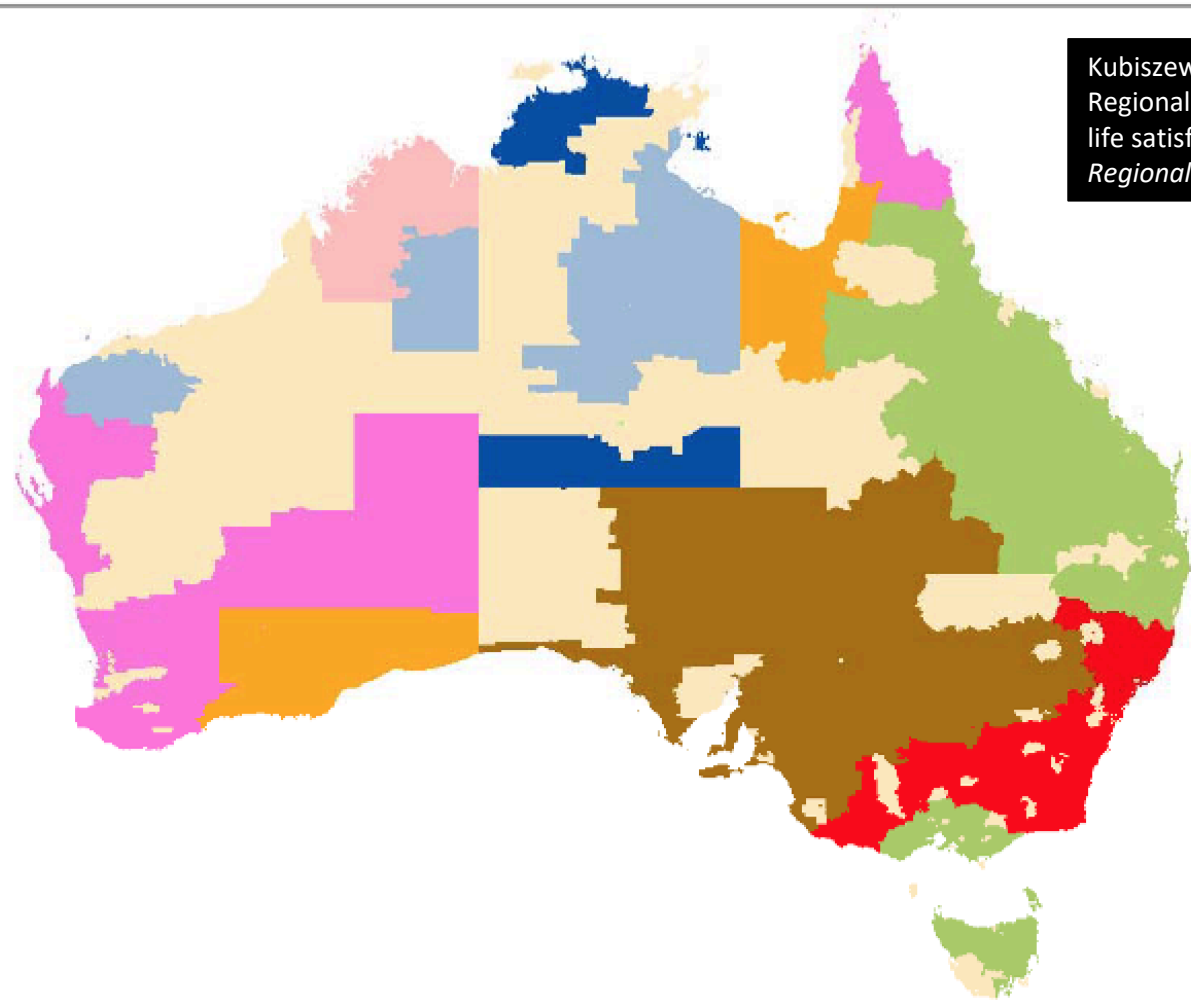
0 250 500 1,000 1,500 2,000 Kilometers



Kubiszewski, I., et al. (In Review).  
Regional variation in contributors to  
life satisfaction in Australia.  
*Regional Studies*.

**VarMaxAbsCoef**

- AgeSq
- Built
- Human\_1
- Human\_3
- Male
- NDVI
- Social\_1
- Social\_2
- dsat



0 250 500 1,000 1,500 2,000 Kilometers

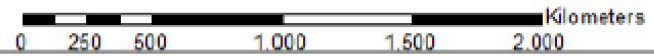
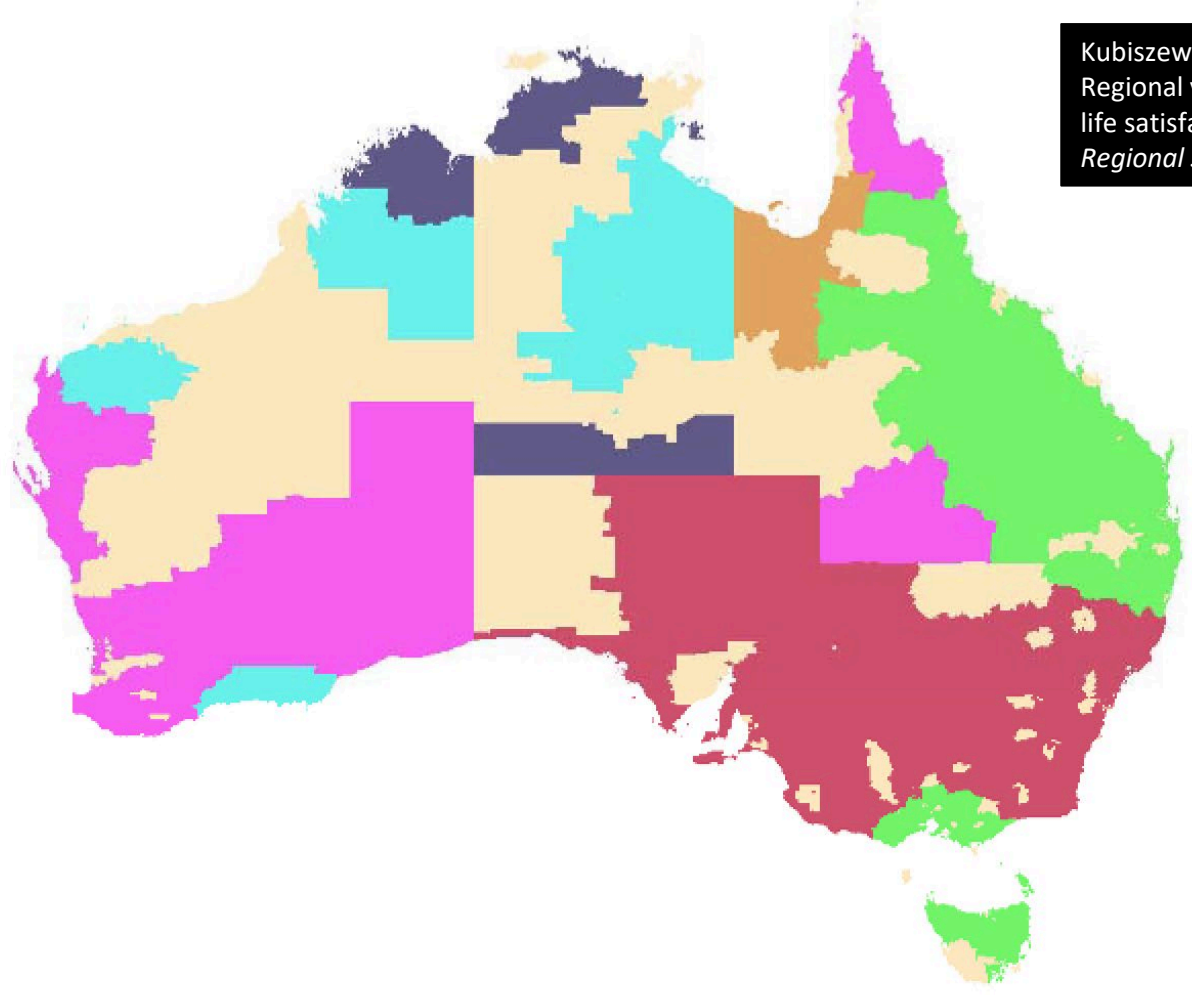




Kubiszewski, I., et al. (In Review).  
Regional variation in contributors to  
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*Regional Studies*.

**VariableMaxCoef**

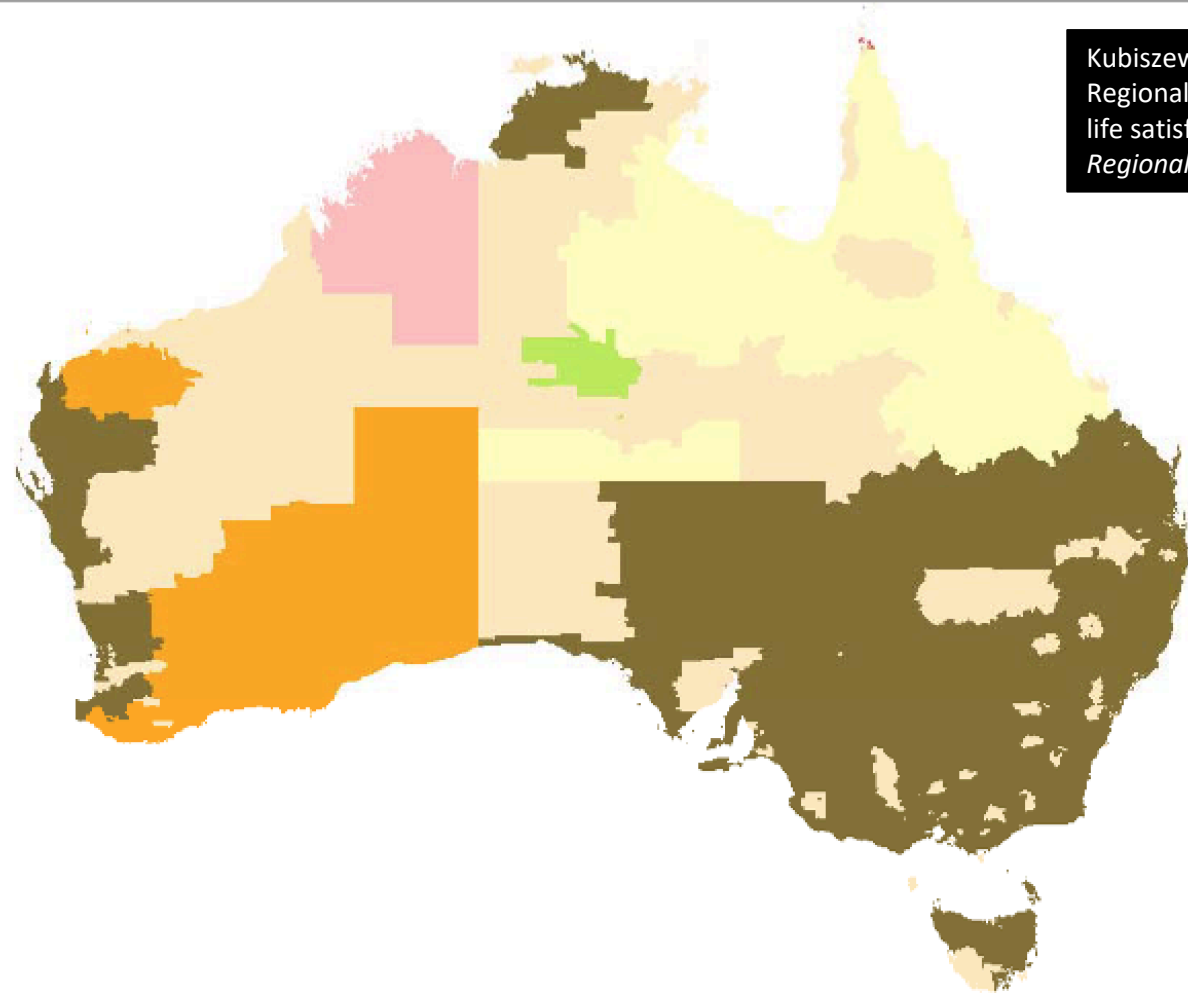
- AgeSq
- Built
- Human\_1
- Human\_3
- Male
- Social\_1



Kubiszewski, I., et al. (In Review).  
Regional variation in contributors to  
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*Regional Studies*.

**VarMinCoef**

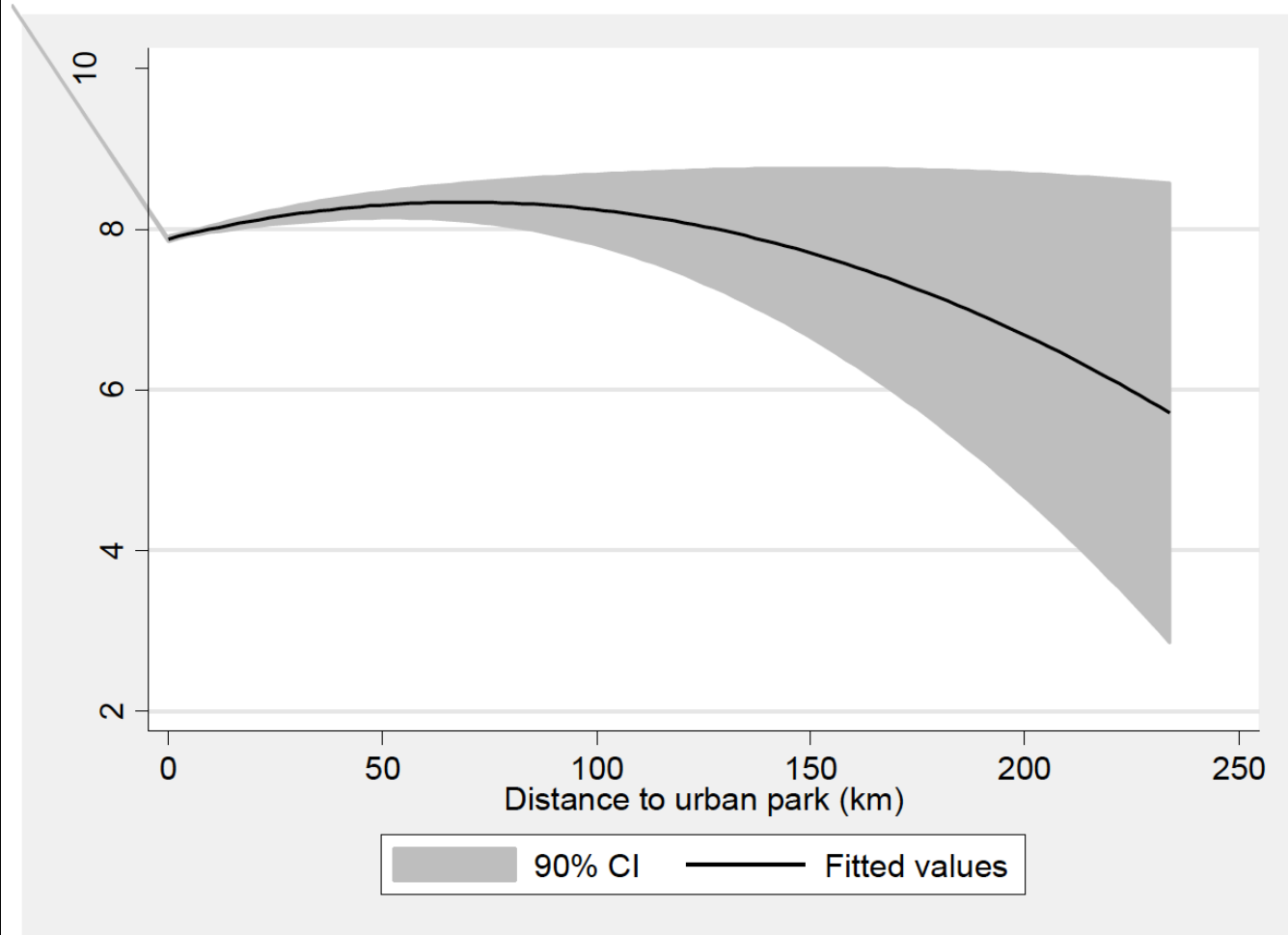
- Male
- NDVI
- No Negatives
- Social\_1
- Social\_2
- dsat



0 250 500 1,000 1,500 2,000 Kilometers



**Figure 4: Life satisfaction is an inverted 'U' shape in relation to distance to urban park**

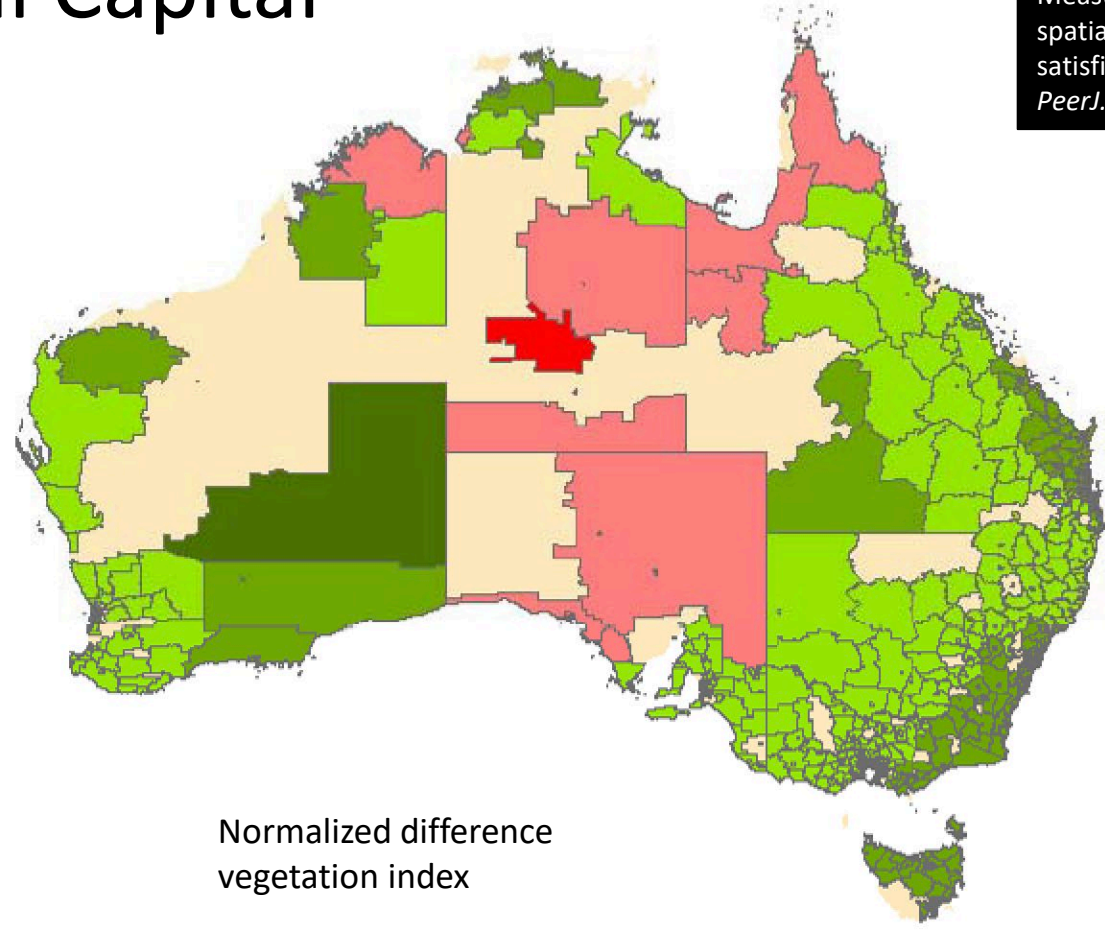


Source: Ambrey, C. L. and C. M. Fleming (2011). The influence of the natural environment and climate on life satisfaction in Australia. 55th Annual AARES National Conference. T. Nguyen. Melbourne, Australia, Griffith University.

# Natural Capital

Kubiszewski, I., et al. (In Review).  
Measuring wellbeing at different  
spatial scales for individuals  
satisfied and dissatisfied with life.  
*PeerJ*.

## Coefficients NDM



Normalized difference  
vegetation index



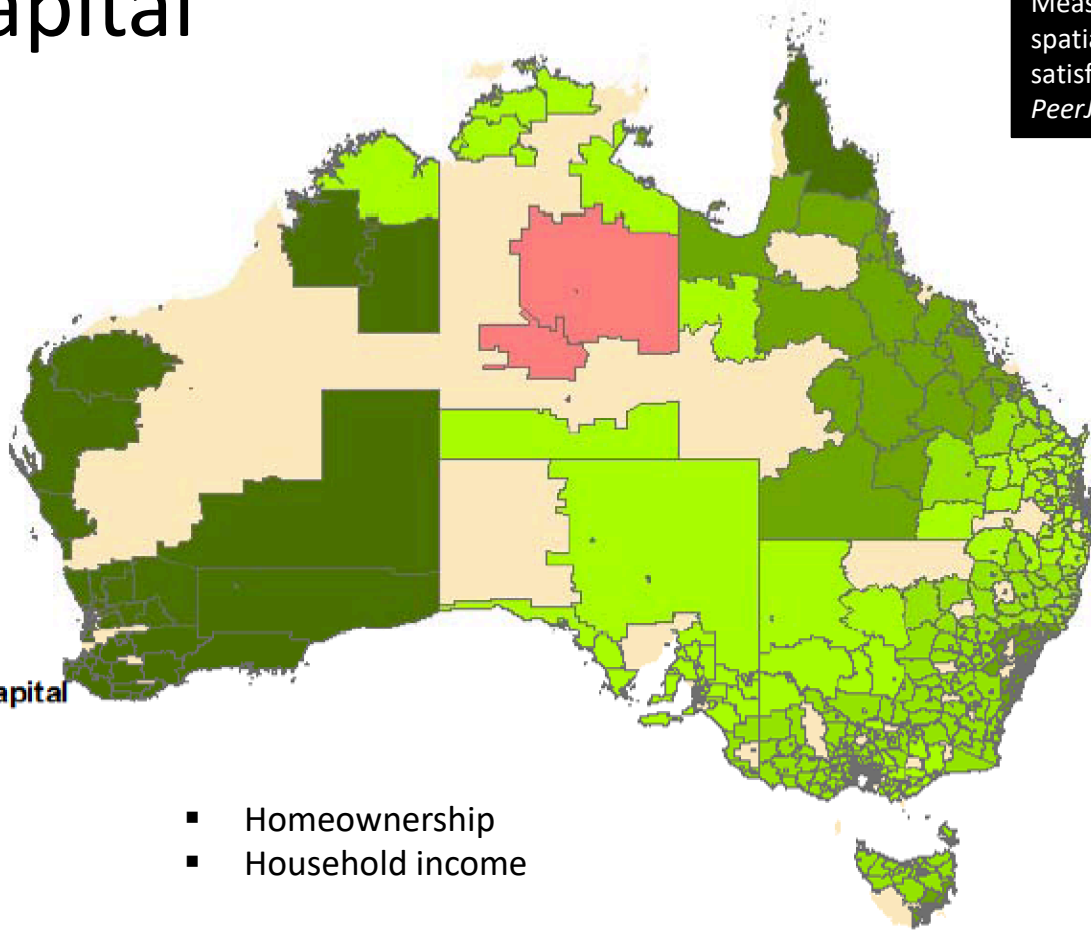
# Built Capital

Kubiszewski, I., et al. (In Review).  
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*PeerJ*.

## Coefficients Built Capital



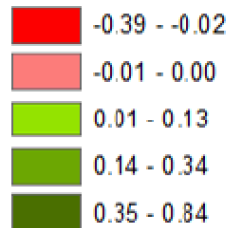
- Homeownership
- Household income



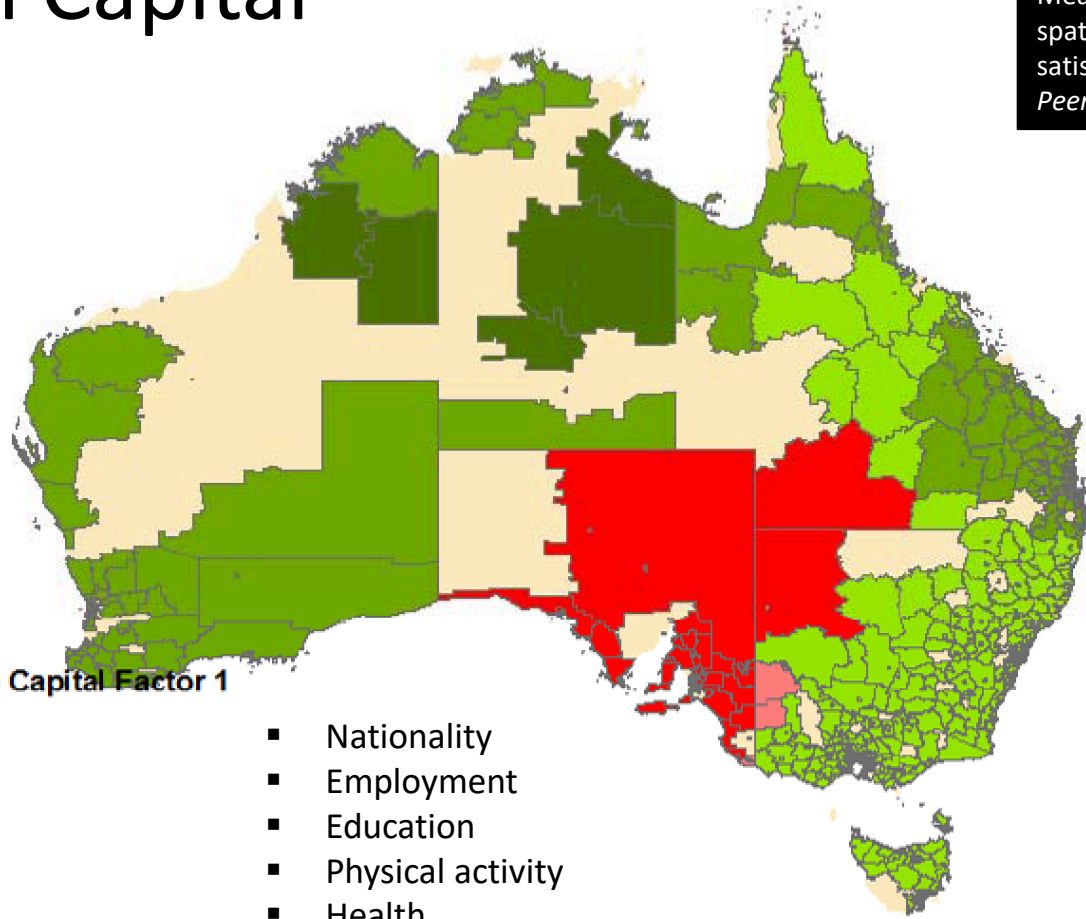
# Human Capital

Kubiszewski, I., et al. (In Review).  
Measuring wellbeing at different  
spatial scales for individuals  
satisfied and dissatisfied with life.  
*PeerJ*.

Coefficients Human Capital Factor 1



- Nationality
- Employment
- Education
- Physical activity
- Health



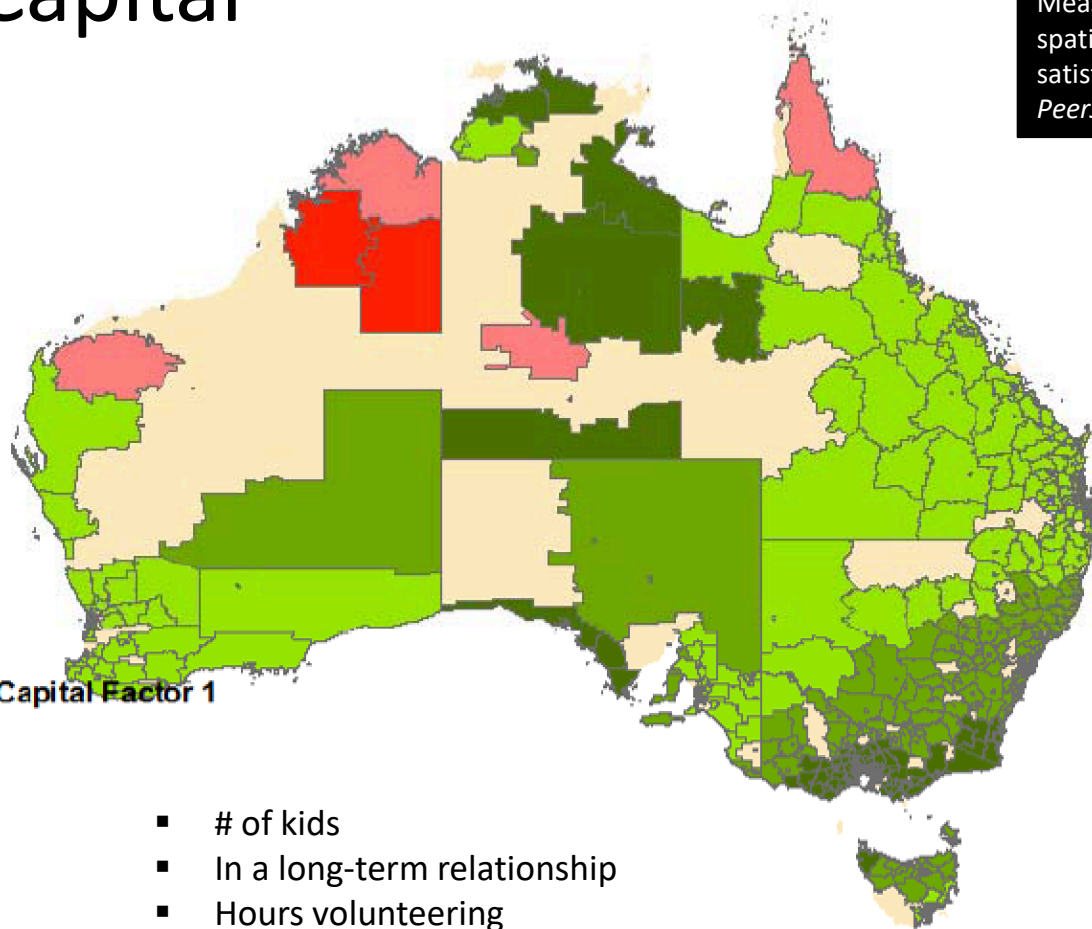
# Social Capital

Kubiszewski, I., et al. (In Review).  
Measuring wellbeing at different  
spatial scales for individuals  
satisfied and dissatisfied with life.  
*PeerJ*.

Coefficients Social Capital Factor 1



- # of kids
- In a long-term relationship
- Hours volunteering



# Thank You

The PDFs of all papers mentioned here can be found at: [Idakub.com](http://Idakub.com)